

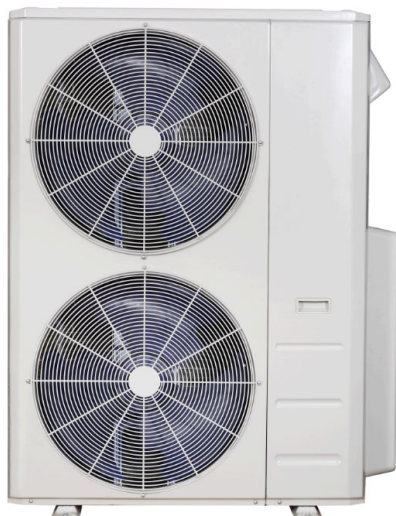
# 37MUHA Outdoor Unit Variable Speed Heat Pump Sizes 18K to 60K



## Product Data



**Fig. 1 — Sizes 18K to 48K**



**Fig. 2 — Size 60K**

**NOTE:** Images are for illustration purposes **only**. Actual models may differ slightly.

### INDUSTRY LEADING FEATURES / BENEFITS

#### Energy Efficiency

- 16.5 - 19 SEER2 / 10 - 12.5 EER2 / 9.0 - 10.3 HSPF2 IV

#### Sound

- Levels as low as 59 dB(A)

#### Design Features

- Small Footprint
- Integrated 24V and RS-485 communications

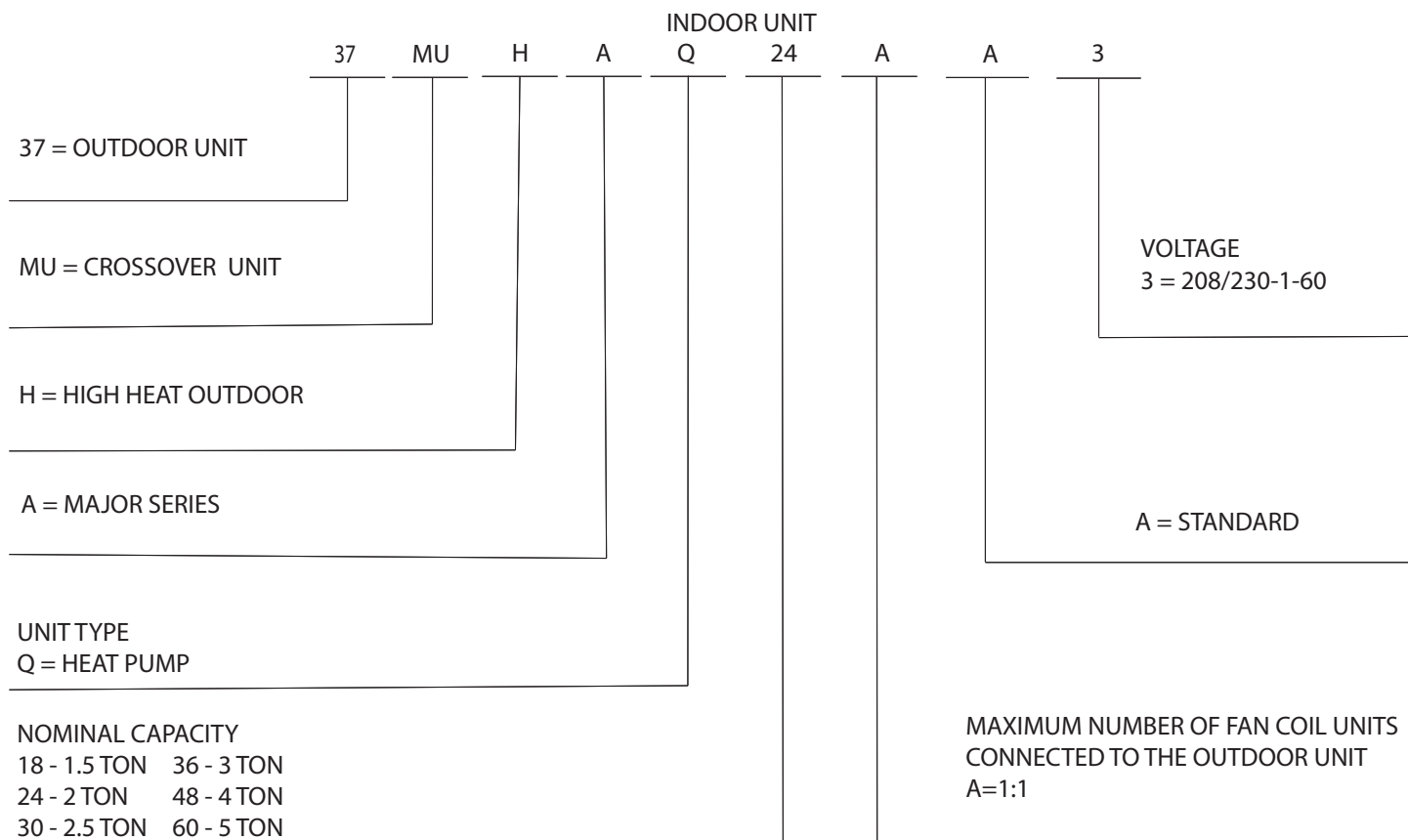
#### Reliability, Quality and Toughness

- Inverter-driven, variable speed, rotary Compressor
- Line lengths up to 213' (65 m)
- Low ambient operation on high heat models down to -22F (-30C) without the use of wind baffles
- Conventional line set sizes

**NOTE:** Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory ([www.ahridirectory.org](http://www.ahridirectory.org)) for the most up-to-date ratings information.

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## STANDARD FEATURES AND ACCESSORIES

### FEATURES

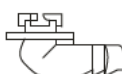
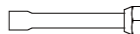
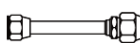
| EASE OF INSTALLATION                                  |   |
|-------------------------------------------------------|---|
| Low Voltage Controls                                  | S |
| COMFORT FEATURES                                      |   |
| Microprocessor Controls                               | S |
| Auto Restart Function                                 | S |
| Auto Changeover on Heat Pumps                         | S |
| ENERGY SAVING FEATURES                                |   |
| Inverter Driven Compressor                            | S |
| 46° F Heating Mode (Heating Setback)                  | S |
| SAFETY AND RELIABILITY                                |   |
| 3 Minute Time Delay For Compressor                    | S |
| High Compressor Discharge Temperature                 | S |
| Low Voltage Protection                                | S |
| Compressor Overload Protection                        | S |
| Compressor Over Current Protection                    | S |
| IPM Module Protection                                 | S |
| Condenser High Temperature Protection in Cooling Mode | S |
| Aluminum Hydrophilic pre-coated fins                  | S |
| EASE OF SERVICE AND MAINTENANCE                       |   |
| Diagnostics                                           | S |
| Liquid Line Pressure Taps                             | S |
| APPLICATION FLEXIBILITY                               |   |
| Crankcase Heater                                      | S |
| Multi-poise Installation                              | S |

#### Legend

S - Standard

A - Accessory

### ACCESSORIES

| NAME                                                           | IMAGE                                                                               | QUANTITY |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------|----------|
| Drain Fitting                                                  |  | 1        |
| Gasket<br>NOTE: Sizes 48K and 60K will not require the gasket. |  | 1        |
| Flare-to braze adapter                                         |  | 2        |
| 5/8 flare→3/4 flare adapter<br>(For 18K Regular Heat Series)   |  | 1        |
| 6 Foot Drain Tubing                                            |                                                                                     | 1        |

**NOTE:** The base pan is built in with multiple holes for proper draining during the defrost process. For applications where it is required to seal these holes, and re-direct the condensate drain, rubber plugs are available through RCD.

### Outdoor Units

#### Crankcase Unit

The crankcase heater is standard on all unit sizes. Heater clamps must be placed around the compressor oil sump.

#### Base pan Heater

The base pan heater is standard on all unit sizes.

DIMENSIONS

Table 1 — Dimensions and Weights

| System Size |           | 18K         | 24K          | 30K          | 36K          | 48K          | 60K           |
|-------------|-----------|-------------|--------------|--------------|--------------|--------------|---------------|
|             |           | (208/230 V) | (208/230 V)  | (208/230 V)  | (208/230 V)  | (208/230 V)  | (208/230 V)   |
| Height (H)  | in (mm)   | 26.50(673)  | 26.50(673)   | 31.89(810)   | 38.39(975)   | 38.39(975)   | 52.48(1333)   |
| Width (W)   | in (mm)   | 35.04(890)  | 35.04(890)   | 37.24(946)   | 38.58(980)   | 38.58(980)   | 37.48(952)    |
| Depth (D)   | in (mm)   | 13.46(342)  | 13.46(342)   | 16.14(410)   | 16.34(415)   | 16.34(415)   | 16.34(415)    |
| Weight -Net | lbs. (kg) | 101.41(46)  | 102.29(46.4) | 164.02(74.4) | 204.15(92.6) | 201.06(91.2) | 242.95(110.2) |

Dimensions: inches (mm)

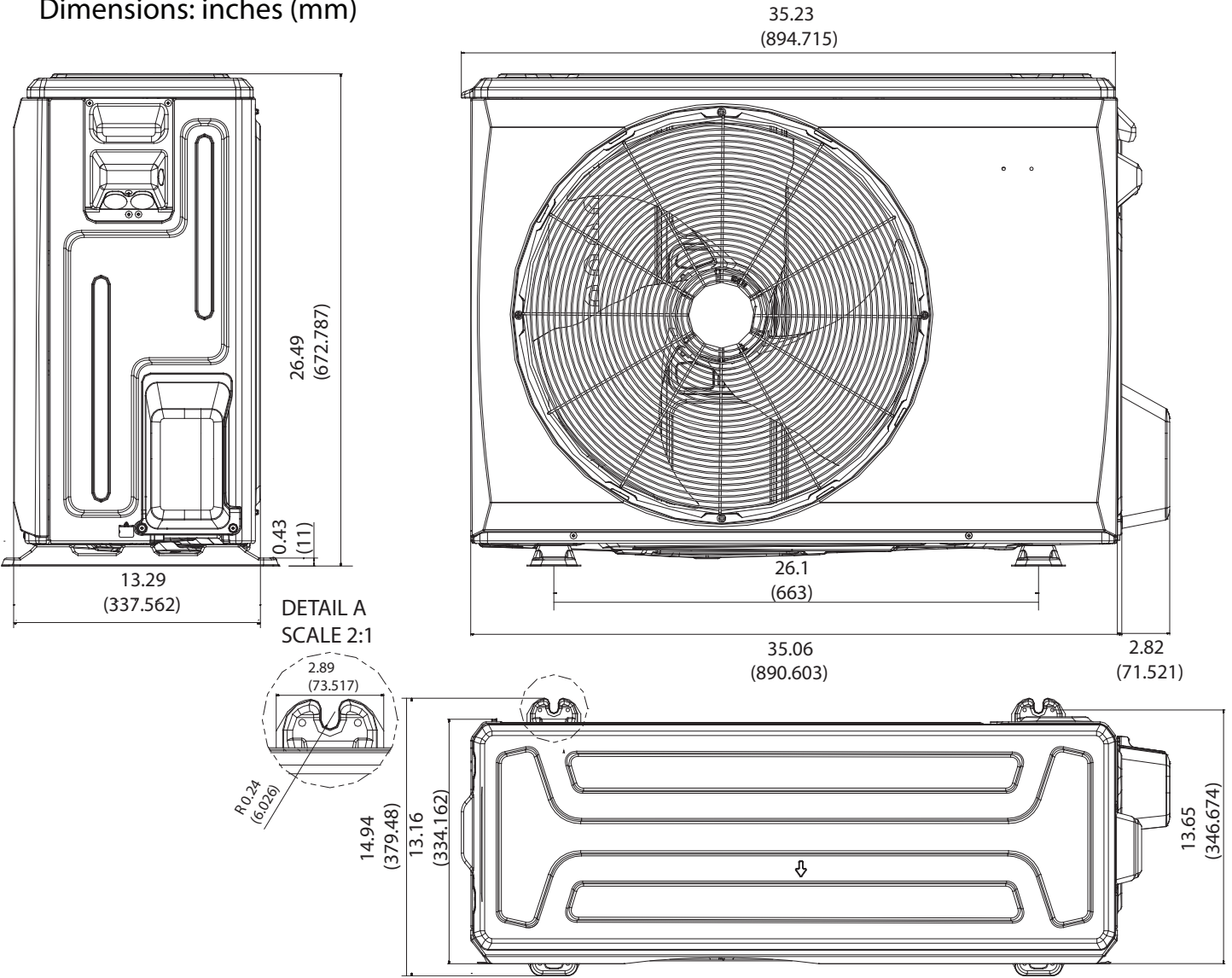


Fig. 3 — Sizes 18K / 24K

DIMENSIONS (CONT.)

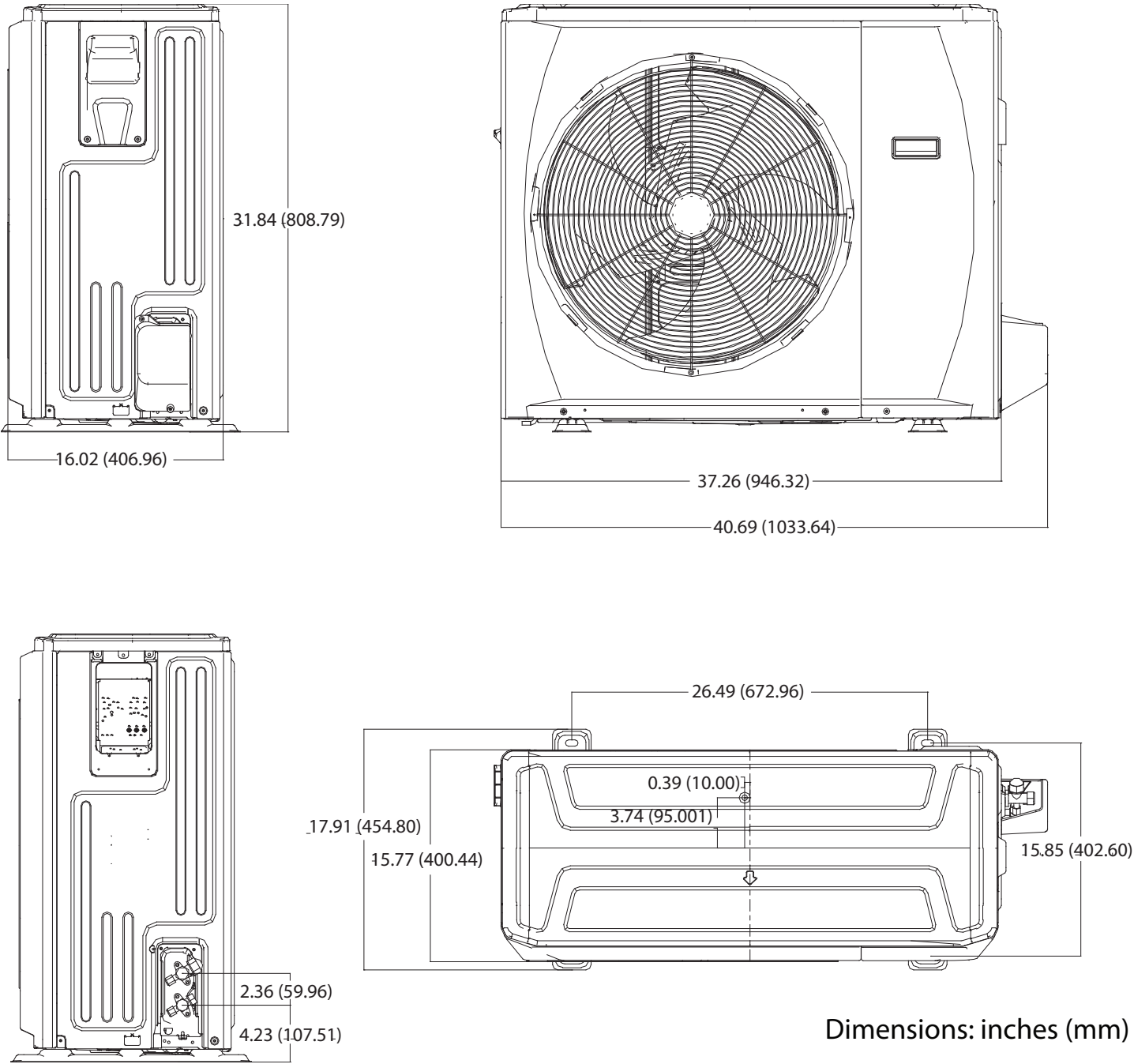
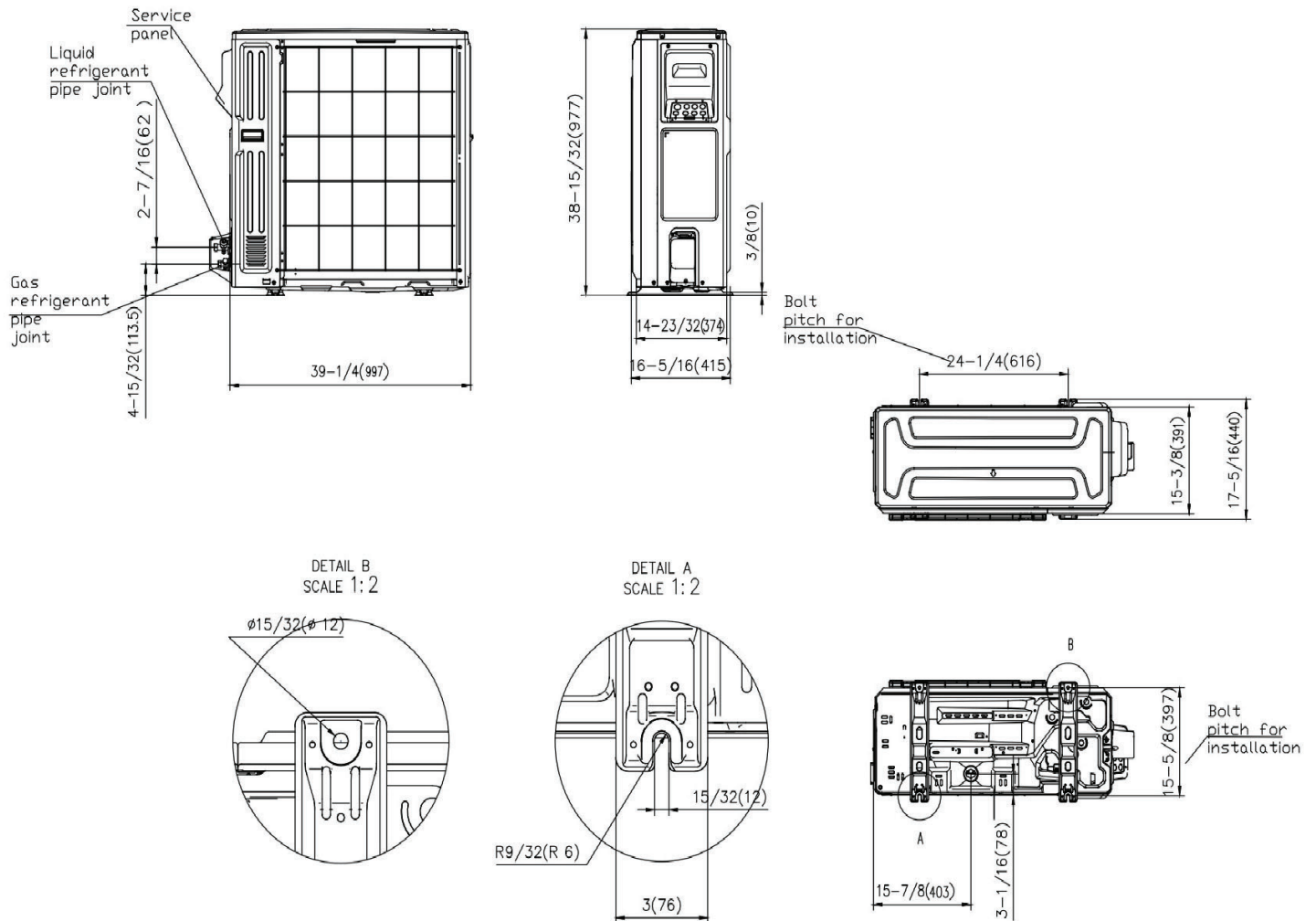


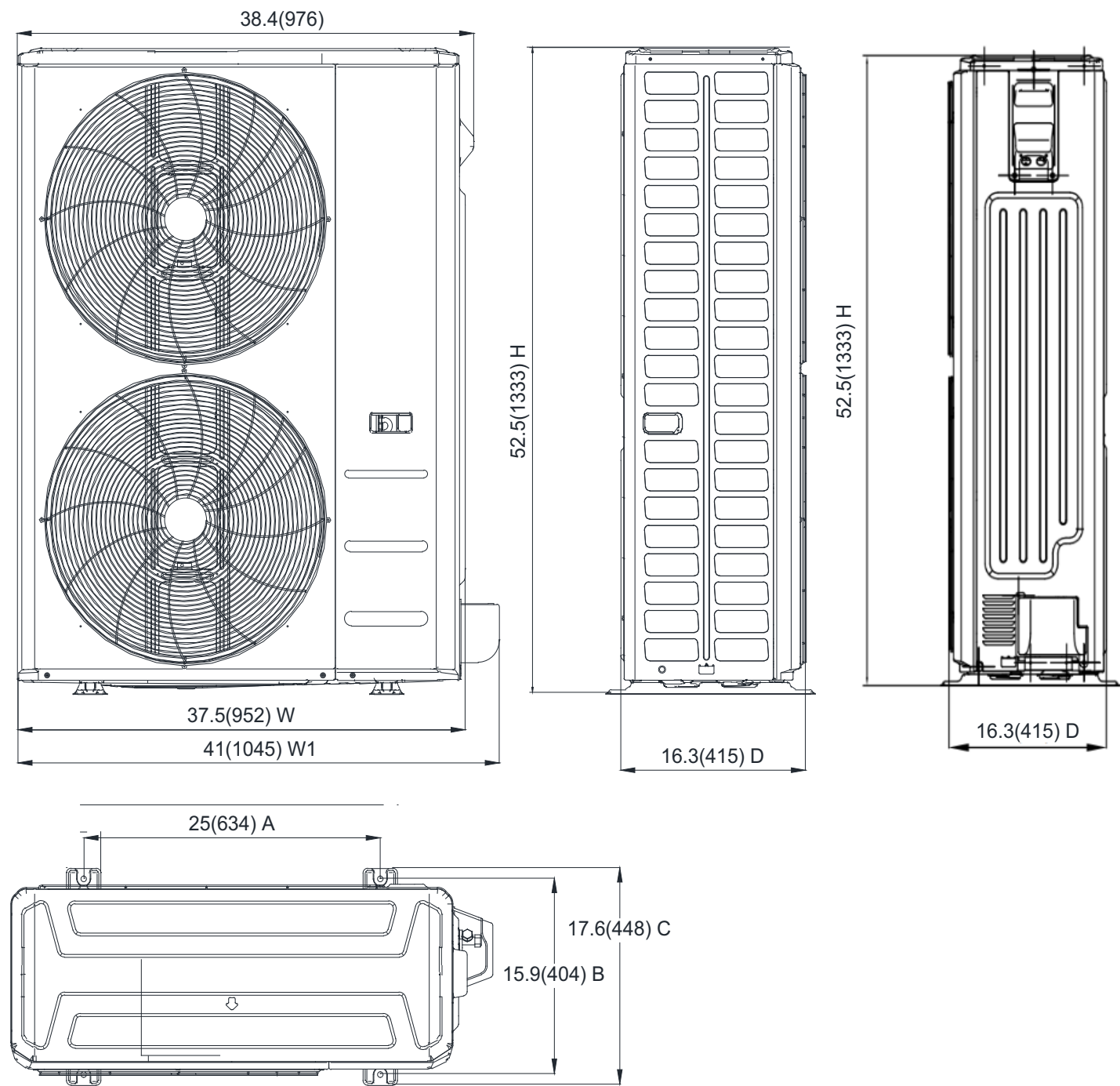
Fig. 4 —Size 30K

## DIMENSIONS (CONT.)



**Fig. 5 —Size 36K / 48K**

DIMENSIONS (CONT.)



Dimensions: inches (mm)

Fig. 6 —Sizes 60K

## CLEARANCES

### Clearances - Single Unit

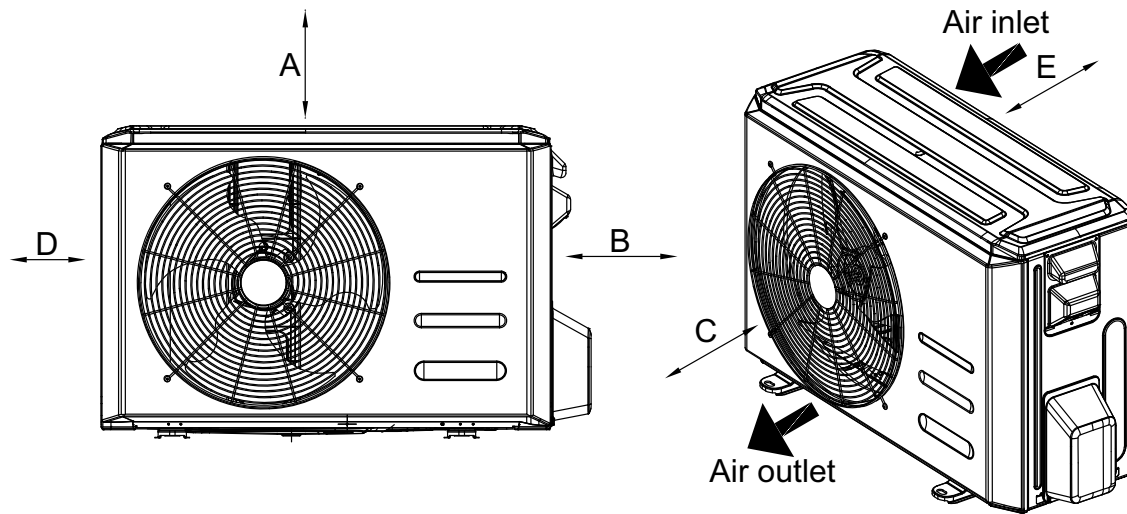


Fig. 7 — Clearances - Single Unit

Table 2 — Clearance Dimensions- Single Unit

| UNIT | MINIMUM VALUE<br>IN. (MM) |
|------|---------------------------|
| A    | 20 (508)                  |
| B    | 24 (610)                  |
| C    | 20 (508)                  |
| D    | 4 (101)                   |
| E    | 4 (101)                   |

**NOTE:** The outdoor unit must be mounted at least 2in (50mm) above the maximum anticipated snow depth.

Clearance - Multiple Units

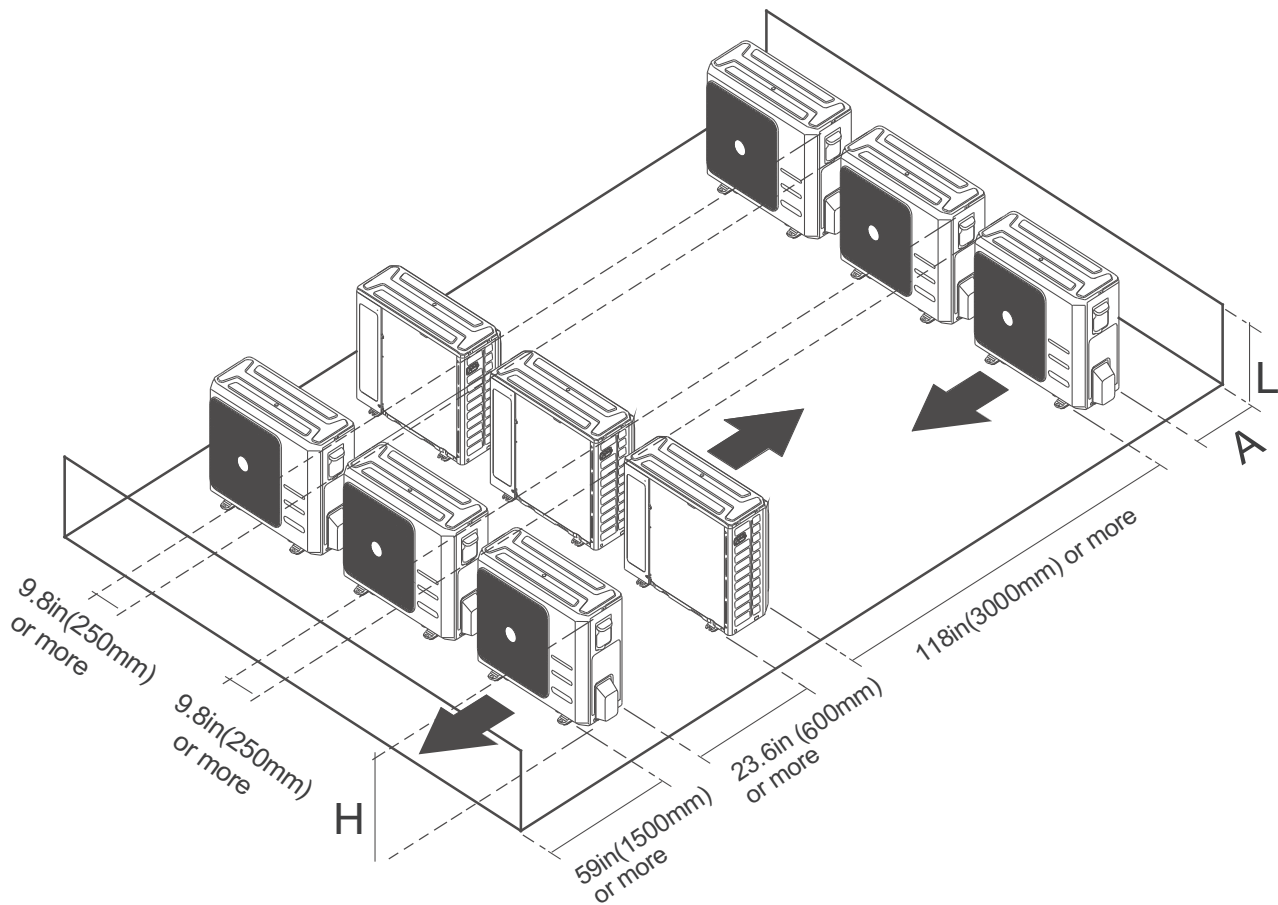


Fig. 8 —Installation Clearances for Multiple Units

Table 3 — Rows of Series Installation

|            | L                   | A                       |
|------------|---------------------|-------------------------|
| $L \leq H$ | $L \leq 1/2H$       | 9-7/8in (250mm) or more |
|            | $1/2H < L \leq H$   | 11-7/8in(300mm) or more |
| $L > H$    | Cannot be installed |                         |

DO NOT INSTALL UNIT IN THE FOLLOWING LOCATIONS

- Near an obstacle that will block air inlets and outlets.
  - In a location that is exposed to large amounts of dust.
  - Near animals or plants that will be harmed by hot air discharge.
- Near any source of combustible gas.
  - Near a public street, crowded areas, or where noise from the unit will disturb others

CAUTION

**SPECIAL CONSIDERATIONS FOR EXTREME WEATHER**

**If the unit is exposed to heavy wind:**  
Install unit so that air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier n front of the unit to protect it from extremely heavy winds.

**If the unit is frequently exposed to heavy rain or snow:**  
Build a shelter above the unit to protect it from the rain or snow. Be careful not to obstruct air flow around the unit.

## PERFORMANCE

**NOTE:** Ratings contained in this document are subject to change at any time. For AHRI ratings certificates, refer to the AHRI directory [www.ahridirectory.org](http://www.ahridirectory.org)

### Heat Pump

**Table 4: Pairing with 45MUAA**

| INDOOR MODEL        |                                         |         | 45MUAQ18XX3           | 45MUAQ24XX3           | 45MUAQ30XX3           | 45MUAQ36XX3           | 45MUAQ48XX3           | 45MUAQ60XX3           |
|---------------------|-----------------------------------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| OUTDOOR MODEL       |                                         |         | 37MUHAQ18AA3          | 37MUHAQ24AA3          | 37MUHAQ30AA3          | 37MUHAQ36AA3          | 37MUHAQ48AA3          | 37MUHAQ60AA3          |
| POWER SUPPLY        |                                         | V;Ph;Hz | 208/230V;1<br>Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;1<br>Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ |
| PERFORMANCE<br>DATA | Cooling Rated Capacity (DOE A2 - 95°F)  | Btu/h   | 18000                 | 23000                 | 30000                 | 36000                 | 48000                 | 54000                 |
|                     | Cooling Capacity Range                  | Btu/h   | 5600~22000            | 7200~27000            | 12800~39000           | 9700~42000            | 15600~51000           | 11400~56300           |
|                     | SEER2                                   | Btu/h.W | 19                    | 18.4                  | 16.9                  | 17.4                  | 16.5                  | 16                    |
|                     | EER2 (DOE A2 - 95°F)                    | Btu/h.W | 12.5                  | 11.7                  | 11.7                  | 11.7                  | 10.5                  | 10                    |
|                     | Heating Rated Capacity (DOE H12 - 47°F) | Btu/h   | 19000                 | 24000                 | 34000                 | 37000                 | 50000                 | 56000                 |
|                     | Heating Capacity Range                  | Btu/h   | 6000~22000            | 7100~30000            | 10300~38500           | 11000~48000           | 15500~57300           | 8100~64500            |
|                     | COP (DOE H12 - 47°F)                    | W/W     | 3.2                   | 3.33                  | 3.65                  | 3.6                   | 3.4                   | 3.1                   |
|                     | HSPF2 IV                                | Btu/h.W | 9.8                   | 10                    | 10                    | 10.3                  | 9.5                   | 9                     |
|                     | HSPF2 V                                 | Btu/h.W | 8                     | 8                     | 8.3                   | 8.6                   | 8                     | 8                     |
|                     | Cooling Rated Capacity (DOE B2 - 82°F)  | Btu/h   | 19400                 | 24000                 | 33000                 | 39500                 | 50000                 | 49500                 |
|                     | EER2 (DOE B2 - 82°F)                    | Btu/h.W | 16                    | 14.3                  | 15.1                  | 14.3                  | 12.5                  | 11.5                  |
|                     | Heating Rated Capacity (DOE H32 - 17°F) | Btu/h   | 15000                 | 20000                 | 23800                 | 31800                 | 37000                 | 45000                 |
|                     | COP (DOE H32 - 17°F)                    | W/W     | 2.6                   | 2.42                  | 2.77                  | 2.55                  | 2.7                   | 2.39                  |
|                     | Heating Maximum Capacity (17°F)         | Btu/h   | 21600                 | 22000                 | 37800                 | 41000                 | 48000                 | 50400                 |
|                     | Heating Rated Capacity (ODE H42 - 5°F)  | Btu/h   | 18000                 | 21600                 | 32600                 | 39000                 | 46000                 | 52000                 |
|                     | COP (DOE H42 - 5°F)                     | W/W     | 2                     | 1.87                  | 1.96                  | 1.9                   | 1.9                   | 1.8                   |
|                     | Heating Maximum Capacity (5°F)          | Btu/h   | 18000                 | 21600                 | 32600                 | 39000                 | 46000                 | 52000                 |

**Table 5: Pairing with 45MUHAQ**

| INDOOR MODEL        |                                         |         | 45MUHAQ24XX3          | 45MUHAQ24XX3          | 45MUHAQ36XX3          | 45MUHAQ36XX3          | 45MUHAQ60XX3          | 45MUHAQ60XX3          |
|---------------------|-----------------------------------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| OUTDOOR MODEL       |                                         |         | 37MUHAQ18AA3          | 37MUHAQ24AA3          | 37MUHAQ30AA3          | 37MUHAQ36AA3          | 37MUHAQ48AA3          | 37MUHAQ60AA3          |
| POWER SUPPLY        |                                         | V;Ph;Hz | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ | 208/230V;<br>1Ph;60HZ |
| PERFORMANCE<br>DATA | Cooling Rated Capacity (DOE A2 - 95°F)  | Btu/h   | 18000                 | 24000                 | 30000                 | 36000                 | 48000                 | 54000                 |
|                     | Cooling Capacity Range                  | Btu/h   | 4600~23100            | 6400~28700            | 11200~40000           | 12100~43000           | 18000~52000           | 11400~60000           |
|                     | SEER2                                   | Btu/h.W | 19                    | 18.7                  | 17.2                  | 18                    | 17.5                  | 17.5                  |
|                     | EER2 (DOE A2 - 95°F)                    | Btu/h.W | 12.5                  | 12                    | 12.1                  | 12                    | 12                    | 12                    |
|                     | Heating Rated Capacity (DOE H12 - 47°F) | Btu/h   | 18000                 | 24000                 | 33000                 | 37000                 | 48000                 | 55000                 |
|                     | Heating Capacity Range                  | Btu/h   | 5700~23100            | 6700~29100            | 9700~35800            | 11400~47000           | 13500~52000           | 8600~60000            |
|                     | COP (DOE H12 - 47°F)                    | W/W     | 3.6                   | 3.49                  | 3.54                  | 3.5                   | 3.28                  | 3.35                  |
|                     | HSPF2 IV                                | Btu/h.W | 10.2                  | 10                    | 10.8                  | 10                    | 9.5                   | 9.5                   |
|                     | HSPF2 V                                 | Btu/h.W | 8.5                   | 8.1                   | 8.8                   | 8.3                   | 7.8                   | 7.8                   |
|                     | Cooling Rated Capacity (DOE B2 - 82°F)  | Btu/h   | 19900                 | 25400                 | 30800                 | 36800                 | 46500                 | 50000                 |
|                     | EER2 (DOE B2 - 82°F)                    | Btu/h.W | 16.3                  | 14.4                  | 15.1                  | 14.2                  | 13.4                  | 13                    |
|                     | Heating Rated Capacity (DOE H32 - 17°F) | Btu/h   | 14700                 | 19000                 | 24000                 | 31000                 | 34000                 | 35000                 |
|                     | COP (DOE H32 - 17°F)                    | W/W     | 2.66                  | 2.64                  | 2.7                   | 2.5                   | 2.55                  | 2.5                   |
|                     | Heating Maximum Capacity (17°F)         | Btu/h   | 19500                 | 22800                 | 24400                 | 41500                 | 48000                 | 54000                 |
|                     | Heating Rated Capacity (ODE H42 - 5°F)  | Btu/h   | 18600                 | 20600                 | 33200                 | 37400                 | 48000                 | 54000                 |
|                     | COP (DOE H42 - 5°F)                     | W/W     | 2.12                  | 2.14                  | 1.97                  | 1.9                   | 2                     | 1.9                   |
|                     | Heating Maximum Capacity (5°F)          | Btu/h   | 18600                 | 20600                 | 33200                 | 37400                 | 48000                 | 54000                 |

HEATING AND COOLING PERFORMANCE - AIR HANDLER (37MUHA + 45MUHA)

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 1 of 9)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(F) | 60.8 (16.0)    |                |                |                |                | 64.4 (18.0)    |                |                |                |                | 67(19.4)       |                |                |                |                | 71.6(22.0)     |                |                |                |                |
|------------------|--------------------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                  |                          | ID DB(F)    | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) |
| 490              | -22 (-30.0)              | TC          | 14905          | 14925          | 14941          | 14942          | 14962          | 15803          | 15822          | 15837          | 15841          | 15859          | 16747          | 16769          | 16788          | 16791          | 16810          | 17756          | 17776          | 17795          | 17798          | 17820          |
|                  |                          | S/T         | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.77           |
|                  |                          | PI          | 0.42           | 0.43           | 0.43           | 0.43           | 0.43           | 0.45           | 0.45           | 0.45           | 0.45           | 0.45           | 0.48           | 0.48           | 0.48           | 0.48           | 0.48           | 0.51           | 0.51           | 0.51           | 0.51           | 0.51           |
|                  | -13°F<br>(-25.0°C)       | TC          | 16147          | 16169          | 16186          | 16187          | 16209          | 17120          | 17140          | 17157          | 17161          | 17181          | 18143          | 18166          | 18187          | 18190          | 18210          | 19236          | 19257          | 19278          | 19281          | 19305          |
|                  |                          | S/T         | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.78           |
|                  |                          | PI          | 0.46           | 0.46           | 0.46           | 0.46           | 0.46           | 0.49           | 0.49           | 0.49           | 0.49           | 0.49           | 0.52           | 0.52           | 0.52           | 0.52           | 0.52           | 0.55           | 0.55           | 0.55           | 0.55           | 0.55           |
|                  | -4°F<br>(-20.0°C)        | TC          | 17389          | 17412          | 17431          | 17432          | 17455          | 18437          | 18459          | 18477          | 18481          | 18503          | 19539          | 19564          | 19586          | 19589          | 19611          | 20716          | 20738          | 20761          | 20764          | 20790          |
|                  |                          | S/T         | 0.43           | 0.51           | 0.57           | 0.57           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.65           | 0.65           | 0.74           | 0.51           | 0.60           | 0.68           | 0.68           | 0.78           |
|                  |                          | PI          | 0.50           | 0.50           | 0.50           | 0.50           | 0.50           | 0.53           | 0.53           | 0.53           | 0.53           | 0.53           | 0.56           | 0.56           | 0.56           | 0.56           | 0.56           | 0.59           | 0.59           | 0.59           | 0.59           | 0.59           |
|                  | 0°F<br>(-17.8°C)         | TC          | 17941          | 17965          | 17985          | 17985          | 18010          | 19022          | 19045          | 19064          | 19067          | 19090          | 20159          | 20185          | 20207          | 20211          | 20234          | 21373          | 21397          | 21420          | 21423          | 21450          |
|                  |                          | S/T         | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.60           | 0.69           | 0.69           | 0.78           |
|                  |                          | PI          | 0.51           | 0.51           | 0.51           | 0.51           | 0.51           | 0.54           | 0.54           | 0.54           | 0.54           | 0.54           | 0.57           | 0.57           | 0.58           | 0.58           | 0.58           | 0.61           | 0.61           | 0.61           | 0.61           | 0.61           |
|                  | 5°F<br>(-15.0°C)         | TC          | 18631          | 18656          | 18676          | 18677          | 18702          | 19754          | 19777          | 19797          | 19801          | 19824          | 20934          | 20961          | 20985          | 20989          | 21012          | 22195          | 22220          | 22244          | 22247          | 22275          |
|                  |                          | S/T         | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           |
|                  |                          | PI          | 0.53           | 0.53           | 0.53           | 0.53           | 0.53           | 0.56           | 0.56           | 0.56           | 0.56           | 0.56           | 0.60           | 0.60           | 0.60           | 0.60           | 0.60           | 0.63           | 0.63           | 0.63           | 0.63           | 0.63           |
|                  | 14°F<br>(-10.0°C)        | TC          | 17757          | 17781          | 17800          | 17801          | 17825          | 18827          | 18850          | 18868          | 18872          | 18894          | 19952          | 19978          | 20000          | 20004          | 20026          | 21154          | 21177          | 21200          | 21204          | 21230          |
|                  |                          | S/T         | 0.44           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           |
|                  |                          | PI          | 0.59           | 0.60           | 0.60           | 0.60           | 0.60           | 0.63           | 0.63           | 0.63           | 0.63           | 0.63           | 0.67           | 0.67           | 0.67           | 0.67           | 0.67           | 0.71           | 0.71           | 0.71           | 0.71           | 0.71           |
|                  | 17°F<br>(-8.3°C)         | TC          | 17466          | 17489          | 17508          | 17509          | 17533          | 18518          | 18540          | 18559          | 18562          | 18584          | 19625          | 19650          | 19672          | 19676          | 19698          | 20807          | 20830          | 20853          | 20856          | 20882          |
|                  |                          | S/T         | 0.44           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           | 0.49           | 0.58           | 0.65           | 0.65           | 0.75           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           |
|                  |                          | PI          | 0.62           | 0.62           | 0.62           | 0.62           | 0.62           | 0.65           | 0.65           | 0.65           | 0.65           | 0.65           | 0.69           | 0.69           | 0.69           | 0.69           | 0.69           | 0.73           | 0.73           | 0.73           | 0.74           | 0.74           |
|                  | 23°F<br>(-5.0°C)         | TC          | 17395          | 17419          | 17438          | 17438          | 17462          | 18444          | 18466          | 18484          | 18487          | 18509          | 19546          | 19571          | 19593          | 19596          | 19618          | 20723          | 20746          | 20768          | 20772          | 20797          |
|                  |                          | S/T         | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.49           | 0.58           | 0.66           | 0.66           | 0.75           | 0.52           | 0.61           | 0.70           | 0.70           | 0.79           |
|                  |                          | PI          | 0.64           | 0.65           | 0.65           | 0.65           | 0.65           | 0.68           | 0.68           | 0.68           | 0.68           | 0.69           | 0.72           | 0.72           | 0.73           | 0.73           | 0.73           | 0.77           | 0.77           | 0.77           | 0.77           | 0.77           |
|                  | 35°F (1.7°C)             | TC          | 17254          | 17278          | 17296          | 17297          | 17320          | 18294          | 18316          | 18334          | 18338          | 18359          | 19387          | 19412          | 19434          | 19438          | 19459          | 20555          | 20578          | 20600          | 20603          | 20629          |
|                  |                          | S/T         | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.50           | 0.58           | 0.66           | 0.66           | 0.75           | 0.53           | 0.62           | 0.70           | 0.70           | 0.80           |
|                  |                          | PI          | 0.70           | 0.70           | 0.70           | 0.70           | 0.70           | 0.74           | 0.75           | 0.75           | 0.75           | 0.75           | 0.79           | 0.79           | 0.79           | 0.79           | 0.79           | 0.84           | 0.84           | 0.84           | 0.84           | 0.84           |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

**Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 2 of 9)**

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 490 | 41°F (5.0°C)   | TC  | 15893 | 15914 | 15931 | 15932 | 15953 | 16850 | 16870 | 16887 | 16890 | 16910 | 17857 | 17880 | 17900 | 17904 | 17924 | 18933 | 18954 | 18974 | 18977 | 19001 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 0.71  | 0.71  | 0.71  | 0.71  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  |
|     | 47°F (8.3°C)   | TC  | 14531 | 14550 | 14566 | 14567 | 14586 | 15407 | 15425 | 15440 | 15443 | 15461 | 16327 | 16348 | 16367 | 16370 | 16388 | 17311 | 17330 | 17349 | 17351 | 17373 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 0.72  | 0.72  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.81  | 0.81  | 0.81  | 0.82  | 0.82  | 0.86  | 0.86  | 0.86  | 0.86  | 0.87  |
|     | 50°F (10.0°C)  | TC  | 14903 | 14923 | 14939 | 14940 | 14960 | 15801 | 15820 | 15835 | 15839 | 15857 | 16745 | 16767 | 16786 | 16789 | 16807 | 17754 | 17773 | 17793 | 17795 | 17818 |
|     |                | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                | PI  | 0.74  | 0.74  | 0.74  | 0.74  | 0.74  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.84  | 0.84  | 0.84  | 0.88  | 0.88  | 0.89  | 0.89  | 0.89  |
|     | 59°F (15.0°C)  | TC  | 16019 | 16041 | 16058 | 16059 | 16080 | 16985 | 17005 | 17022 | 17025 | 17045 | 17999 | 18023 | 18043 | 18046 | 18066 | 19084 | 19105 | 19125 | 19128 | 19152 |
|     |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.84  | 0.84  | 0.85  | 0.85  | 0.85  | 0.89  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 68°F (20.0°C)  | TC  | 17135 | 17158 | 17177 | 17178 | 17201 | 18168 | 18190 | 18208 | 18211 | 18233 | 19254 | 19279 | 19300 | 19304 | 19325 | 20414 | 20436 | 20458 | 20461 | 20487 |
|     |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                | PI  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  |
|     | 77 (25.0)      | TC  | 18252 | 18276 | 18296 | 18297 | 18321 | 19352 | 19374 | 19394 | 19397 | 19420 | 20508 | 20534 | 20557 | 20561 | 20584 | 21743 | 21767 | 21791 | 21794 | 21821 |
|     |                | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                | PI  | 0.90  | 0.90  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  |
|     | 82°F (27.8)    | TC  | 18596 | 18621 | 18641 | 18642 | 18667 | 19717 | 19740 | 19760 | 19764 | 19787 | 20895 | 20922 | 20945 | 20949 | 20973 | 22154 | 22178 | 22202 | 22206 | 22233 |
|     |                | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.08  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.20  | 1.21  | 1.21  | 1.21  | 1.21  |
|     | 86°F (30.0°C)  | TC  | 18524 | 18549 | 18569 | 18570 | 18595 | 19641 | 19664 | 19684 | 19687 | 19711 | 20814 | 20841 | 20865 | 20868 | 20892 | 22068 | 22092 | 22116 | 22120 | 22147 |
|     |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                | PI  | 1.19  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.27  | 1.34  | 1.34  | 1.34  | 1.35  | 1.35  | 1.42  | 1.42  | 1.43  | 1.43  | 1.43  |
|     | 95°F (35.0)    | TC  | 18363 | 18388 | 18407 | 18408 | 18433 | 19469 | 19493 | 19512 | 19516 | 19539 | 20633 | 20659 | 20682 | 20686 | 20709 | 21876 | 21900 | 21923 | 21927 | 21954 |
|     |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                | PI  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.70  | 1.71  | 1.71  | 1.71  | 1.80  | 1.81  | 1.81  | 1.81  | 1.81  | 1.91  | 1.92  | 1.92  | 1.92  | 1.92  |
|     | 104°F (40.0°C) | TC  | 15780 | 15801 | 15818 | 15819 | 15840 | 16731 | 16751 | 16767 | 16771 | 16790 | 17730 | 17753 | 17773 | 17777 | 17796 | 18799 | 18819 | 18840 | 18843 | 18866 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.66  | 1.66  | 1.66  | 1.66  | 1.67  | 1.76  | 1.76  | 1.76  | 1.76  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.87  |

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 3 of 9)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 490 | 110°F<br>(43.0°C)  | TC  | 14230 | 14249 | 14265 | 14265 | 14284 | 15088 | 15106 | 15120 | 15123 | 15141 | 15989 | 16010 | 16028 | 16031 | 16049 | 16952 | 16971 | 16989 | 16992 | 17013 |
|     |                    | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                    | PI  | 1.54  | 1.54  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.64  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.84  |
|     | 115°F<br>(46.0°C)  | TC  | 12970 | 12987 | 13001 | 13002 | 13020 | 13752 | 13768 | 13781 | 13784 | 13801 | 14573 | 14592 | 14608 | 14611 | 14627 | 15451 | 15468 | 15485 | 15487 | 15507 |
|     |                    | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                    | PI  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  | 1.62  | 1.62  | 1.62  | 1.62  | 1.62  | 1.71  | 1.72  | 1.72  | 1.72  | 1.72  | 1.82  | 1.82  | 1.82  | 1.82  | 1.82  |
|     | 122°F<br>(50.0°C)  | TC  | 11290 | 11305 | 11317 | 11318 | 11333 | 11970 | 11984 | 11996 | 11999 | 12013 | 12685 | 12702 | 12716 | 12718 | 12733 | 13450 | 13464 | 13479 | 13481 | 13498 |
|     |                    | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.73  | 0.83  | 0.83  | 0.95  |
|     |                    | PI  | 1.50  | 1.50  | 1.51  | 1.51  | 1.51  | 1.59  | 1.60  | 1.60  | 1.60  | 1.60  | 1.69  | 1.69  | 1.69  | 1.69  | 1.69  | 1.79  | 1.79  | 1.79  | 1.79  | 1.80  |
| 530 | -22°F<br>(-30.0°C) | TC  | 15469 | 15490 | 15506 | 15507 | 15528 | 16401 | 16420 | 16437 | 16440 | 16459 | 17381 | 17403 | 17423 | 17426 | 17446 | 18428 | 18448 | 18468 | 18471 | 18494 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 0.44  | 0.44  | 0.44  | 0.44  | 0.44  | 0.47  | 0.47  | 0.47  | 0.47  | 0.47  | 0.49  | 0.50  | 0.50  | 0.50  | 0.50  | 0.52  | 0.53  | 0.53  | 0.53  | 0.53  |
|     | -13°F<br>(-25.0°C) | TC  | 16758 | 16780 | 16798 | 16799 | 16822 | 17768 | 17789 | 17806 | 17810 | 17831 | 18829 | 18854 | 18875 | 18878 | 18899 | 19964 | 19985 | 20007 | 20010 | 20035 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.48  | 0.48  | 0.48  | 0.48  | 0.48  | 0.51  | 0.51  | 0.51  | 0.51  | 0.51  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  |
|     | -4°F<br>(-20.0°C)  | TC  | 18047 | 18071 | 18091 | 18091 | 18116 | 19134 | 19157 | 19176 | 19180 | 19203 | 20278 | 20304 | 20327 | 20330 | 20353 | 21499 | 21523 | 21546 | 21550 | 21576 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.51  | 0.51  | 0.52  | 0.52  | 0.52  | 0.54  | 0.55  | 0.55  | 0.55  | 0.55  | 0.58  | 0.58  | 0.58  | 0.58  | 0.58  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  |
|     | 0°F<br>(-17.8°C)   | TC  | 18620 | 18645 | 18665 | 18666 | 18691 | 19742 | 19765 | 19785 | 19789 | 19812 | 20921 | 20949 | 20972 | 20976 | 20999 | 22182 | 22206 | 22230 | 22234 | 22261 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.53  | 0.53  | 0.53  | 0.53  | 0.53  | 0.56  | 0.56  | 0.56  | 0.56  | 0.56  | 0.60  | 0.60  | 0.60  | 0.60  | 0.60  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  |
|     | 5°F<br>(-15.0°C)   | TC  | 19336 | 19362 | 19383 | 19384 | 19410 | 20501 | 20526 | 20546 | 20550 | 20574 | 21726 | 21754 | 21779 | 21783 | 21807 | 23035 | 23060 | 23085 | 23089 | 23118 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.58  | 0.58  | 0.59  | 0.59  | 0.59  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.66  | 0.66  | 0.66  | 0.66  | 0.66  |
|     | 14°F<br>(-10.0°C)  | TC  | 18429 | 18454 | 18474 | 18474 | 18499 | 19540 | 19563 | 19582 | 19586 | 19609 | 20707 | 20734 | 20757 | 20761 | 20784 | 21955 | 21978 | 22002 | 22006 | 22033 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.65  | 0.65  | 0.66  | 0.66  | 0.66  | 0.69  | 0.69  | 0.69  | 0.69  | 0.70  | 0.73  | 0.74  | 0.74  | 0.74  | 0.74  |
|     | 17°F<br>(-8.3°C)   | TC  | 18127 | 18151 | 18171 | 18171 | 18196 | 19219 | 19242 | 19261 | 19265 | 19287 | 20367 | 20394 | 20416 | 20420 | 20443 | 21594 | 21618 | 21641 | 21645 | 21672 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  |
|     | 23°F<br>(-5.0°C)   | TC  | 18053 | 18078 | 18097 | 18098 | 18122 | 19141 | 19164 | 19183 | 19187 | 19210 | 20285 | 20311 | 20334 | 20338 | 20361 | 21507 | 21531 | 21554 | 21557 | 21584 |
|     |                    | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  |

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 4 of 9)

|     |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 530 | 35°F (1.7°C)  | TC  | 17907 | 17931 | 17951 | 17951 | 17976 | 18986 | 19009 | 19028 | 19031 | 19054 | 20121 | 20147 | 20169 | 20173 | 20196 | 21333 | 21356 | 21379 | 21383 | 21409 |
|     |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |               | PI  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.78  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  |
|     | 41°F (5.0°C)  | TC  | 16494 | 16516 | 16534 | 16535 | 16557 | 17488 | 17509 | 17526 | 17529 | 17550 | 18533 | 18557 | 18577 | 18581 | 18602 | 19649 | 19671 | 19692 | 19695 | 19720 |
|     |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |               | PI  | 0.74  | 0.74  | 0.74  | 0.74  | 0.74  | 0.78  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  |
|     | 47°F (8.3°C)  | TC  | 15081 | 15101 | 15117 | 15118 | 15138 | 15989 | 16008 | 16024 | 16027 | 16046 | 16945 | 16967 | 16986 | 16989 | 17008 | 17966 | 17985 | 18005 | 18008 | 18030 |
|     |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |               | PI  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.84  | 0.84  | 0.85  | 0.85  | 0.85  | 0.89  | 0.90  | 0.90  | 0.90  | 0.90  |
|     | 50°F (10.0°C) | TC  | 15467 | 15488 | 15504 | 15505 | 15526 | 16399 | 16418 | 16435 | 16438 | 16457 | 17379 | 17401 | 17421 | 17424 | 17443 | 18426 | 18446 | 18466 | 18469 | 18492 |
|     |               | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |               | PI  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.86  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
|     | 59°F (15.0°C) | TC  | 16625 | 16648 | 16666 | 16666 | 16689 | 17627 | 17648 | 17665 | 17669 | 17690 | 18680 | 18705 | 18725 | 18729 | 18750 | 19806 | 19827 | 19849 | 19852 | 19877 |
|     |               | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |               | PI  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.99  | 0.99  | 0.99  |
|     | 68°F (20.0°C) | TC  | 17784 | 17808 | 17827 | 17828 | 17852 | 18855 | 18878 | 18896 | 18900 | 18923 | 19982 | 20008 | 20030 | 20034 | 20056 | 21186 | 21209 | 21232 | 21235 | 21262 |
|     |               | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |               | PI  | 0.88  | 0.88  | 0.88  | 0.88  | 0.89  | 0.93  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  |
|     | 77°F (25.0°C) | TC  | 18942 | 18968 | 18988 | 18989 | 19014 | 20084 | 20107 | 20127 | 20131 | 20155 | 21284 | 21311 | 21335 | 21339 | 21363 | 22566 | 22590 | 22615 | 22619 | 22647 |
|     |               | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |               | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 82°F (27.8°C) | TC  | 19300 | 19326 | 19347 | 19347 | 19374 | 20463 | 20487 | 20507 | 20511 | 20536 | 21685 | 21714 | 21738 | 21742 | 21766 | 22992 | 23017 | 23042 | 23046 | 23074 |
|     |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  |
|     |               | PI  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.11  | 1.12  | 1.12  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  | 1.25  | 1.25  | 1.25  | 1.25  | 1.25  |
|     | 86°F (30.0°C) | TC  | 19225 | 19251 | 19272 | 19273 | 19299 | 20384 | 20408 | 20428 | 20432 | 20456 | 21602 | 21630 | 21654 | 21658 | 21682 | 22903 | 22928 | 22953 | 22957 | 22985 |
|     |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |               | PI  | 1.24  | 1.24  | 1.24  | 1.24  | 1.24  | 1.31  | 1.32  | 1.32  | 1.32  | 1.32  | 1.39  | 1.39  | 1.40  | 1.40  | 1.40  | 1.48  | 1.48  | 1.48  | 1.48  | 1.48  |
|     | 95°F (35.0°C) | TC  | 19058 | 19083 | 19104 | 19105 | 19130 | 20206 | 20230 | 20250 | 20254 | 20278 | 21413 | 21441 | 21465 | 21469 | 21493 | 22703 | 22728 | 22753 | 22756 | 22785 |
|     |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |               | PI  | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.87  | 1.88  | 1.88  | 1.88  | 1.88  | 1.99  | 1.99  | 1.99  | 1.99  | 1.99  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

**Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 5 of 9)**

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 530 | 104°F<br>(40.0°C)  | TC  | 16377 | 16399 | 16417 | 16417 | 16439 | 17364 | 17384 | 17402 | 17405 | 17426 | 18401 | 18425 | 18446 | 18449 | 18470 | 19510 | 19531 | 19552 | 19555 | 19580 |
|     |                    | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                    | PI  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  |
|     | 110°F<br>(43.0°C)  | TC  | 14768 | 14788 | 14804 | 14805 | 14825 | 15658 | 15677 | 15693 | 15696 | 15714 | 16594 | 16616 | 16634 | 16637 | 16656 | 17594 | 17613 | 17632 | 17635 | 17657 |
|     |                    | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                    | PI  | 1.60  | 1.60  | 1.60  | 1.60  | 1.61  | 1.70  | 1.70  | 1.70  | 1.70  | 1.70  | 1.80  | 1.80  | 1.80  | 1.80  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.91  |
|     | 115°F<br>(46.0°C)  | TC  | 13461 | 13479 | 13493 | 13494 | 13512 | 14272 | 14289 | 14303 | 14306 | 14323 | 15125 | 15144 | 15161 | 15164 | 15181 | 16036 | 16053 | 16071 | 16073 | 16093 |
|     |                    | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.63  | 0.74  | 0.85  | 0.85  | 0.96  |
|     |                    | PI  | 1.58  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.68  | 1.68  | 1.68  | 1.68  | 1.78  | 1.78  | 1.78  | 1.78  | 1.79  | 1.89  | 1.89  | 1.89  | 1.89  | 1.89  |
|     | 122°F<br>(50.0°C)  | TC  | 11717 | 11733 | 11745 | 11746 | 11762 | 12423 | 12438 | 12450 | 12452 | 12467 | 13165 | 13182 | 13197 | 13199 | 13214 | 13958 | 13974 | 13989 | 13991 | 14008 |
|     |                    | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                    | PI  | 1.56  | 1.56  | 1.56  | 1.56  | 1.57  | 1.65  | 1.66  | 1.66  | 1.66  | 1.66  | 1.75  | 1.75  | 1.76  | 1.76  | 1.76  | 1.86  | 1.86  | 1.86  | 1.86  | 1.86  |
| 580 | -22°F<br>(-30.0°C) | TC  | 16054 | 16076 | 16093 | 16094 | 16115 | 17021 | 17042 | 17058 | 17062 | 17082 | 18038 | 18062 | 18082 | 18085 | 18105 | 19125 | 19146 | 19167 | 19170 | 19194 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                    | PI  | 0.46  | 0.46  | 0.46  | 0.46  | 0.46  | 0.48  | 0.49  | 0.49  | 0.49  | 0.49  | 0.51  | 0.51  | 0.51  | 0.52  | 0.52  | 0.54  | 0.55  | 0.55  | 0.55  | 0.55  |
|     | -13°F<br>(-25.0°C) | TC  | 17392 | 17415 | 17434 | 17435 | 17458 | 18440 | 18462 | 18480 | 18484 | 18506 | 19542 | 19567 | 19589 | 19592 | 19614 | 20719 | 20742 | 20764 | 20767 | 20793 |
|     |                    | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                    | PI  | 0.50  | 0.50  | 0.50  | 0.50  | 0.50  | 0.53  | 0.53  | 0.53  | 0.53  | 0.53  | 0.56  | 0.56  | 0.56  | 0.56  | 0.56  | 0.59  | 0.59  | 0.59  | 0.59  | 0.59  |
|     | -4°F<br>(-20.0°C)  | TC  | 18730 | 18755 | 18775 | 18776 | 18801 | 19858 | 19882 | 19902 | 19905 | 19929 | 21045 | 21072 | 21096 | 21100 | 21123 | 22313 | 22337 | 22361 | 22365 | 22393 |
|     |                    | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                    | PI  | 0.53  | 0.53  | 0.53  | 0.53  | 0.54  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  | 0.60  | 0.60  | 0.60  | 0.60  | 0.60  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  |
|     | 0°F<br>(-17.8°C)   | TC  | 19324 | 19350 | 19371 | 19372 | 19398 | 20489 | 20513 | 20533 | 20537 | 20562 | 21713 | 21741 | 21765 | 21769 | 21794 | 23021 | 23046 | 23071 | 23075 | 23104 |
|     |                    | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                    | PI  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.58  | 0.58  | 0.58  | 0.58  | 0.59  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.66  | 0.66  | 0.66  | 0.66  | 0.66  |
|     | 5°F<br>(-15.0°C)   | TC  | 20067 | 20094 | 20116 | 20117 | 20144 | 21277 | 21302 | 21323 | 21327 | 21353 | 22548 | 22577 | 22602 | 22607 | 22632 | 23907 | 23933 | 23959 | 23962 | 23992 |
|     |                    | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  |
|     | 14°F<br>(-10.0°C)  | TC  | 19126 | 19152 | 19172 | 19173 | 19199 | 20279 | 20303 | 20323 | 20327 | 20351 | 21490 | 21518 | 21542 | 21546 | 21570 | 22785 | 22810 | 22835 | 22838 | 22867 |
|     |                    | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.77  |

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 6 of 9)

|     |                  |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 580 | 17°F<br>(-8.3°C) | TC  | 18812 | 18838 | 18858 | 18859 | 18884 | 19946 | 19970 | 19989 | 19993 | 20017 | 21138 | 21165 | 21189 | 21193 | 21216 | 22411 | 22436 | 22460 | 22464 | 22492 |
|     |                  | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                  | PI  | 0.66  | 0.66  | 0.66  | 0.66  | 0.67  | 0.70  | 0.70  | 0.70  | 0.70  | 0.71  | 0.74  | 0.75  | 0.75  | 0.75  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  |
|     | 23°F<br>(-5.0°C) | TC  | 18736 | 18762 | 18782 | 18783 | 18808 | 19866 | 19889 | 19909 | 19913 | 19936 | 21052 | 21080 | 21103 | 21107 | 21131 | 22321 | 22345 | 22369 | 22373 | 22401 |
|     |                  | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                  | PI  | 0.69  | 0.70  | 0.70  | 0.70  | 0.70  | 0.74  | 0.74  | 0.74  | 0.74  | 0.74  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  |
|     | 35°F (1.7°C)     | TC  | 18585 | 18610 | 18630 | 18631 | 18656 | 19705 | 19728 | 19747 | 19751 | 19775 | 20882 | 20909 | 20932 | 20936 | 20960 | 22140 | 22164 | 22188 | 22192 | 22219 |
|     |                  | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                  | PI  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
|     | 41°F (5.0°C)     | TC  | 17118 | 17141 | 17159 | 17160 | 17183 | 18150 | 18171 | 18189 | 18193 | 18214 | 19234 | 19259 | 19280 | 19284 | 19305 | 20393 | 20415 | 20437 | 20440 | 20466 |
|     |                  | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                  | PI  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.81  | 0.82  | 0.82  | 0.82  | 0.82  | 0.86  | 0.86  | 0.86  | 0.86  | 0.87  | 0.91  | 0.92  | 0.92  | 0.92  | 0.92  |
|     | 47°F (8.3°C)     | TC  | 15651 | 15672 | 15689 | 15690 | 15711 | 16594 | 16614 | 16630 | 16634 | 16653 | 17586 | 17609 | 17628 | 17632 | 17651 | 18645 | 18666 | 18686 | 18689 | 18712 |
|     |                  | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                  | PI  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
|     | 50°F (10.0°C)    | TC  | 16052 | 16073 | 16091 | 16092 | 16113 | 17019 | 17039 | 17056 | 17060 | 17080 | 18036 | 18060 | 18080 | 18083 | 18103 | 19123 | 19144 | 19164 | 19167 | 19191 |
|     |                  | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                  | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 59°F (15.0°C)    | TC  | 17254 | 17277 | 17296 | 17297 | 17320 | 18294 | 18316 | 18334 | 18337 | 18359 | 19387 | 19412 | 19434 | 19437 | 19459 | 20555 | 20577 | 20600 | 20603 | 20629 |
|     |                  | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                  | PI  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.97  | 0.97  | 0.97  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  |
|     | 68°F (20.0°C)    | TC  | 18456 | 18481 | 18501 | 18502 | 18527 | 19569 | 19592 | 19611 | 19615 | 19638 | 20738 | 20765 | 20788 | 20792 | 20815 | 21987 | 22011 | 22035 | 22039 | 22066 |
|     |                  | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                  | PI  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 1.03  | 1.03  | 1.03  | 1.03  | 1.03  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  |
|     | 77°F (25.0°C)    | TC  | 19659 | 19685 | 19706 | 19707 | 19734 | 20843 | 20868 | 20889 | 20893 | 20918 | 22089 | 22117 | 22142 | 22146 | 22171 | 23420 | 23445 | 23471 | 23474 | 23503 |
|     |                  | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                  | PI  | 0.97  | 0.97  | 0.98  | 0.98  | 0.98  | 1.03  | 1.03  | 1.03  | 1.03  | 1.04  | 1.09  | 1.10  | 1.10  | 1.10  | 1.10  | 1.16  | 1.16  | 1.16  | 1.16  | 1.16  |
|     | 82°F (27.8°C)    | TC  | 20030 | 20057 | 20078 | 20079 | 20106 | 21237 | 21262 | 21283 | 21287 | 21313 | 22506 | 22535 | 22560 | 22564 | 22590 | 23862 | 23888 | 23914 | 23918 | 23947 |
|     |                  | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                  | PI  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  | 1.15  | 1.16  | 1.16  | 1.16  | 1.16  | 1.22  | 1.23  | 1.23  | 1.23  | 1.23  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  |

**Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 7 of 9)**

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 580 | 86°F<br>(30.0°C)   | TC  | 19953 | 19979 | 20001 | 20002 | 20029 | 21155 | 21180 | 21201 | 21205 | 21230 | 22419 | 22448 | 22473 | 22477 | 22502 | 23770 | 23796 | 23821 | 23825 | 23855 |
|     |                    | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                    | PI  | 1.29  | 1.29  | 1.29  | 1.29  | 1.29  | 1.36  | 1.37  | 1.37  | 1.37  | 1.37  | 1.45  | 1.45  | 1.45  | 1.45  | 1.45  | 1.53  | 1.53  | 1.54  | 1.54  | 1.54  |
|     | 95°F<br>(35.0°C)   | TC  | 19778 | 19805 | 19826 | 19827 | 19854 | 20970 | 20995 | 21016 | 21020 | 21045 | 22223 | 22252 | 22277 | 22281 | 22306 | 23562 | 23588 | 23614 | 23617 | 23647 |
|     |                    | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                    | PI  | 1.73  | 1.73  | 1.73  | 1.73  | 1.74  | 1.83  | 1.84  | 1.84  | 1.84  | 1.84  | 1.94  | 1.95  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.07  | 2.07  | 2.07  |
|     | 104°F<br>(40.0°C)  | TC  | 16996 | 17019 | 17038 | 17038 | 17061 | 18021 | 18042 | 18060 | 18063 | 18085 | 19097 | 19122 | 19143 | 19147 | 19168 | 20248 | 20270 | 20292 | 20295 | 20320 |
|     |                    | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                    | PI  | 1.69  | 1.69  | 1.69  | 1.69  | 1.69  | 1.79  | 1.79  | 1.79  | 1.79  | 1.80  | 1.90  | 1.90  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.01  | 2.01  | 2.02  |
|     | 110°F<br>(43.0°C)  | TC  | 15327 | 15348 | 15364 | 15365 | 15386 | 16251 | 16270 | 16286 | 16289 | 16309 | 17222 | 17244 | 17263 | 17267 | 17286 | 18259 | 18279 | 18299 | 18302 | 18325 |
|     |                    | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                    | PI  | 1.66  | 1.66  | 1.67  | 1.67  | 1.67  | 1.76  | 1.76  | 1.77  | 1.77  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.99  |
|     | 115°F<br>(46.0°C)  | TC  | 13970 | 13989 | 14004 | 14004 | 14023 | 14812 | 14829 | 14844 | 14847 | 14865 | 15697 | 15717 | 15735 | 15738 | 15755 | 16642 | 16661 | 16679 | 16681 | 16702 |
|     |                    | S/T | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  |
|     |                    | PI  | 1.64  | 1.65  | 1.65  | 1.65  | 1.65  | 1.74  | 1.74  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.85  | 1.85  | 1.85  | 1.96  | 1.96  | 1.96  | 1.96  | 1.96  |
|     | 122°F<br>(50.0°C)  | TC  | 12160 | 12177 | 12190 | 12190 | 12207 | 12893 | 12908 | 12921 | 12924 | 12939 | 13663 | 13681 | 13696 | 13699 | 13714 | 14486 | 14502 | 14518 | 14520 | 14538 |
|     |                    | S/T | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.67  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                    | PI  | 1.62  | 1.62  | 1.62  | 1.62  | 1.62  | 1.72  | 1.72  | 1.72  | 1.72  | 1.72  | 1.82  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  |
| 620 | -22°F<br>(-30.0°C) | TC  | 16661 | 16684 | 16702 | 16702 | 16725 | 17665 | 17686 | 17704 | 17707 | 17728 | 18721 | 18745 | 18766 | 18769 | 18790 | 19849 | 19870 | 19892 | 19895 | 19920 |
|     |                    | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                    | PI  | 0.47  | 0.48  | 0.48  | 0.48  | 0.48  | 0.50  | 0.50  | 0.50  | 0.50  | 0.50  | 0.53  | 0.53  | 0.53  | 0.53  | 0.54  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  |
|     | -13°F<br>(-25.0°C) | TC  | 18050 | 18074 | 18093 | 18094 | 18119 | 19138 | 19160 | 19179 | 19183 | 19206 | 20281 | 20307 | 20330 | 20334 | 20356 | 21503 | 21526 | 21550 | 21553 | 21580 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 0.51  | 0.51  | 0.52  | 0.52  | 0.52  | 0.54  | 0.55  | 0.55  | 0.55  | 0.55  | 0.58  | 0.58  | 0.58  | 0.58  | 0.58  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  |
|     | -4°F<br>(-20.0°C)  | TC  | 19438 | 19464 | 19485 | 19486 | 19512 | 20610 | 20634 | 20654 | 20658 | 20683 | 21841 | 21869 | 21894 | 21898 | 21922 | 23157 | 23182 | 23207 | 23211 | 23240 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                    | PI  | 0.55  | 0.55  | 0.55  | 0.55  | 0.56  | 0.59  | 0.59  | 0.59  | 0.59  | 0.59  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.66  | 0.66  | 0.66  | 0.66  | 0.66  |
|     | 0°F<br>(-17.8°C)   | TC  | 20055 | 20082 | 20104 | 20105 | 20132 | 21264 | 21289 | 21310 | 21314 | 21340 | 22534 | 22564 | 22589 | 22593 | 22618 | 23892 | 23918 | 23944 | 23948 | 23978 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  |
|     | 5°F<br>(-15.0°C)   | TC  | 20827 | 20855 | 20877 | 20878 | 20906 | 22082 | 22108 | 22130 | 22134 | 22160 | 23401 | 23431 | 23458 | 23462 | 23488 | 24811 | 24838 | 24865 | 24869 | 24900 |
|     |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.59  | 0.59  | 0.59  | 0.59  | 0.60  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  |

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 8 of 9)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 620 | 14°F<br>(-10.0°C) | TC  | 19850 | 19876 | 19898 | 19899 | 19925 | 21046 | 21071 | 21092 | 21096 | 21121 | 22303 | 22332 | 22357 | 22361 | 22386 | 23647 | 23673 | 23699 | 23702 | 23732 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 0.66  | 0.67  | 0.67  | 0.67  | 0.67  | 0.70  | 0.71  | 0.71  | 0.71  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  |
|     | 17°F<br>(-8.3°C)  | TC  | 19524 | 19550 | 19571 | 19572 | 19599 | 20701 | 20725 | 20746 | 20750 | 20774 | 21937 | 21966 | 21990 | 21994 | 22019 | 23259 | 23284 | 23310 | 23313 | 23342 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                   | PI  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.78  | 0.78  | 0.78  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  |
|     | 23°F<br>(-5.0°C)  | TC  | 19445 | 19471 | 19492 | 19493 | 19520 | 20617 | 20642 | 20662 | 20666 | 20691 | 21849 | 21877 | 21902 | 21906 | 21930 | 23165 | 23190 | 23216 | 23219 | 23248 |
|     |                   | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.77  | 0.77  | 0.77  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  |
|     | 35°F (1.7°C)      | TC  | 19288 | 19314 | 19334 | 19335 | 19361 | 20450 | 20474 | 20495 | 20499 | 20523 | 21672 | 21700 | 21724 | 21728 | 21752 | 22978 | 23003 | 23028 | 23031 | 23060 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 0.78  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.84  | 0.88  | 0.88  | 0.88  | 0.88  | 0.89  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  |
|     | 41°F (5.0°C)      | TC  | 17765 | 17789 | 17809 | 17809 | 17833 | 18836 | 18858 | 18877 | 18881 | 18903 | 19961 | 19987 | 20010 | 20013 | 20036 | 21164 | 21187 | 21210 | 21214 | 21240 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.84  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 47°F (8.3°C)      | TC  | 16243 | 16265 | 16283 | 16283 | 16305 | 17222 | 17243 | 17260 | 17263 | 17283 | 18251 | 18275 | 18295 | 18299 | 18319 | 19351 | 19372 | 19393 | 19396 | 19420 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.97  | 0.97  | 0.97  |
|     | 50°F<br>(10.0°C)  | TC  | 16659 | 16682 | 16700 | 16700 | 16723 | 17663 | 17684 | 17702 | 17705 | 17726 | 18718 | 18743 | 18764 | 18767 | 18788 | 19846 | 19868 | 19889 | 19893 | 19917 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
|     | 59°F<br>(15.0°C)  | TC  | 17907 | 17931 | 17950 | 17951 | 17975 | 18986 | 19009 | 19027 | 19031 | 19054 | 20120 | 20147 | 20169 | 20173 | 20195 | 21333 | 21356 | 21379 | 21382 | 21409 |
|     |                   | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                   | PI  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  |
|     | 68°F<br>(20.0°C)  | TC  | 19155 | 19180 | 19201 | 19202 | 19228 | 20309 | 20333 | 20353 | 20357 | 20381 | 21522 | 21550 | 21574 | 21578 | 21602 | 22819 | 22844 | 22869 | 22872 | 22901 |
|     |                   | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                   | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.14  |
|     | 77°F<br>(25.0°C)  | TC  | 20402 | 20430 | 20452 | 20453 | 20480 | 21632 | 21658 | 21679 | 21683 | 21709 | 22924 | 22954 | 22980 | 22984 | 23010 | 24306 | 24332 | 24358 | 24362 | 24393 |
|     |                   | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                   | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.20  | 1.20  | 1.21  | 1.21  | 1.21  |
|     | 82°F<br>(27.8°C)  | TC  | 20788 | 20816 | 20838 | 20839 | 20867 | 22040 | 22067 | 22088 | 22093 | 22119 | 23357 | 23388 | 23414 | 23418 | 23444 | 24765 | 24791 | 24818 | 24822 | 24853 |
|     |                   | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                   | PI  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.27  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  |
|     | 86°F<br>(30.0°C)  | TC  | 20707 | 20735 | 20758 | 20758 | 20786 | 21955 | 21981 | 22003 | 22007 | 22033 | 23267 | 23297 | 23323 | 23328 | 23354 | 24669 | 24696 | 24723 | 24726 | 24757 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 1.33  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.51  | 1.59  | 1.59  | 1.59  | 1.59  | 1.60  |

Table 6: Cooling Performance - 18K 37MUHA + 45MUHA (Sheet 9 of 9)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 620 | 95°F<br>(35.0°C)  | TC  | 20527 | 20554 | 20576 | 20577 | 20605 | 21764 | 21790 | 21811 | 21815 | 21841 | 23064 | 23094 | 23120 | 23124 | 23150 | 24454 | 24480 | 24507 | 24511 | 24541 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 1.80  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.91  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  | 2.14  | 2.14  | 2.14  | 2.14  | 2.15  |
|     | 104°F<br>(40.0°C) | TC  | 17639 | 17663 | 17682 | 17683 | 17707 | 18702 | 18725 | 18743 | 18747 | 18769 | 19820 | 19846 | 19868 | 19871 | 19894 | 21014 | 21037 | 21060 | 21063 | 21089 |
|     |                   | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                   | PI  | 1.75  | 1.75  | 1.76  | 1.76  | 1.76  | 1.86  | 1.86  | 1.86  | 1.86  | 1.86  | 1.97  | 1.97  | 1.97  | 1.97  | 1.97  | 2.09  | 2.09  | 2.09  | 2.09  | 2.09  |
|     | 110°F<br>(43.0°C) | TC  | 15907 | 15928 | 15946 | 15946 | 15968 | 16866 | 16886 | 16902 | 16906 | 16926 | 17873 | 17896 | 17916 | 17920 | 17940 | 18950 | 18971 | 18991 | 18994 | 19018 |
|     |                   | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                   | PI  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  | 2.05  | 2.06  | 2.06  | 2.06  | 2.06  |
|     | 115°F<br>(46.0°C) | TC  | 14498 | 14518 | 14533 | 14534 | 14554 | 15372 | 15390 | 15406 | 15409 | 15427 | 16290 | 16312 | 16330 | 16333 | 16351 | 17272 | 17291 | 17310 | 17312 | 17334 |
|     |                   | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                   | PI  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  | 1.92  | 1.92  | 1.92  | 1.92  | 1.92  | 2.03  | 2.03  | 2.04  | 2.04  | 2.04  |
|     | 122°F<br>(50.0°C) | TC  | 12620 | 12637 | 12651 | 12651 | 12668 | 13381 | 13397 | 13410 | 13412 | 13428 | 14180 | 14199 | 14214 | 14217 | 14233 | 15035 | 15051 | 15067 | 15070 | 15088 |
|     |                   | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                   | PI  | 1.68  | 1.68  | 1.68  | 1.68  | 1.69  | 1.78  | 1.78  | 1.78  | 1.79  | 1.79  | 1.89  | 1.89  | 1.89  | 1.89  | 1.89  | 2.00  | 2.00  | 2.01  | 2.01  | 2.01  |

## Heating Performance - 18K

Table 7: Heating Performance - 18K 37MUHA + 45MUHA (Sheet 1 of 2)

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS DB °F (°C)        |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)                                    | 10523                               | 10312            | 10261            | 10141              | 10050              | 1.92                 | 1.93             | 1.94             | 1.94               | 1.95               |
|                  | -13°F (-25.0°C)                                    | 13041                               | 12780            | 12716            | 12085              | 11976              | 2.10                 | 2.12             | 2.12             | 2.13               | 2.13               |
|                  | -4°F (-20.0°C)                                     | 15150                               | 14847            | 14773            | 14040              | 13913              | 2.27                 | 2.29             | 2.29             | 2.29               | 2.30               |
|                  | 0°F (-17.8°C)                                      | 16270                               | 15945            | 15865            | 15078              | 14942              | 2.38                 | 2.40             | 2.41             | 2.41               | 2.42               |
|                  | 5°F (-15.0°C)                                      | 17670                               | 17317            | 17230            | 16375              | 16227              | 2.52                 | 2.54             | 2.55             | 2.55               | 2.56               |
|                  | 14°F (-10.0°C)                                     | 17905                               | 17547            | 17459            | 16592              | 16443              | 2.36                 | 2.38             | 2.39             | 2.39               | 2.40               |
|                  | 17°F (-8.3°C)                                      | 17983                               | 17624            | 17536            | 16665              | 16515              | 2.31                 | 2.33             | 2.33             | 2.34               | 2.35               |
|                  | 22°F (-5.6°C)                                      | 17993                               | 17633            | 17545            | 16674              | 16524              | 2.20                 | 2.22             | 2.22             | 2.23               | 2.24               |
|                  | 27°F (-2.8°C)                                      | 18002                               | 17642            | 17554            | 16683              | 16532              | 2.09                 | 2.11             | 2.11             | 2.11               | 2.12               |
|                  | 32°F (-0.0°C)                                      | 18012                               | 17652            | 17564            | 16691              | 16541              | 1.98                 | 1.99             | 2.00             | 2.00               | 2.01               |
|                  | 35°F (1.7°C)                                       | 18018                               | 17657            | 17569            | 16697              | 16547              | 1.91                 | 1.93             | 1.93             | 1.94               | 1.94               |
|                  | 37°F (2.8°C)                                       | 18549                               | 18178            | 18088            | 17189              | 17035              | 1.90                 | 1.91             | 1.92             | 1.92               | 1.93               |
|                  | 42°F (5.6°C)                                       | 19878                               | 19481            | 19383            | 18421              | 18255              | 1.86                 | 1.87             | 1.88             | 1.88               | 1.89               |
|                  | 44.6°F (7.0°C)                                     | 20410                               | 20002            | 19902            | 18914              | 18743              | 1.84                 | 1.86             | 1.86             | 1.87               | 1.87               |
|                  | 47°F (8.3°C)                                       | 21208                               | 20783            | 20679            | 19653              | 19476              | 1.82                 | 1.84             | 1.84             | 1.84               | 1.85               |
|                  | 52°F (11.1°C)                                      | 19258                               | 18873            | 18779            | 17847              | 17686              | 1.68                 | 1.69             | 1.69             | 1.70               | 1.71               |
|                  | 57°F (13.9°C)                                      | 17309                               | 16963            | 16878            | 16040              | 15896              | 1.53                 | 1.55             | 1.55             | 1.55               | 1.56               |
|                  | 59°F (15.0°C)                                      | 16530                               | 16199            | 16118            | 15318              | 15180              | 1.48                 | 1.49             | 1.49             | 1.49               | 1.50               |
|                  | 62°F (16.7°C)                                      | 15360                               | 15053            | 14978            | 14234              | 14106              | 1.39                 | 1.40             | 1.40             | 1.41               | 1.41               |
|                  | 64.4°F (18.0°C)                                    | 14581                               | 14289            | 14218            | 13512              | 13390              | 1.33                 | 1.34             | 1.34             | 1.35               | 1.35               |
| 530              | -22°F (-30.0°C)                                    | 11137                               | 10914            | 10860            | 10775              | 10678              | 1.94                 | 1.95             | 1.96             | 1.96               | 1.97               |
|                  | -13°F (-25.0°C)                                    | 13534                               | 13263            | 13197            | 12839              | 12724              | 2.12                 | 2.14             | 2.14             | 2.15               | 2.16               |
|                  | -4°F (-20.0°C)                                     | 15724                               | 15409            | 15332            | 14917              | 14782              | 2.29                 | 2.31             | 2.31             | 2.32               | 2.33               |
|                  | 0°F (-17.8°C)                                      | 16886                               | 16548            | 16465            | 16019              | 15875              | 2.41                 | 2.42             | 2.43             | 2.43               | 2.44               |
|                  | 5°F (-15.0°C)                                      | 18339                               | 17972            | 17882            | 17398              | 17241              | 2.55                 | 2.57             | 2.57             | 2.58               | 2.59               |
|                  | 14°F (-10.0°C)                                     | 18582                               | 18211            | 18120            | 17629              | 17470              | 2.39                 | 2.41             | 2.41             | 2.42               | 2.43               |
|                  | 17°F (-8.3°C)                                      | 18664                               | 18290            | 18199            | 17706              | 17547              | 2.33                 | 2.35             | 2.36             | 2.36               | 2.37               |
|                  | 22°F (-5.6°C)                                      | 18674                               | 18300            | 18209            | 17715              | 17556              | 2.22                 | 2.24             | 2.24             | 2.25               | 2.26               |
|                  | 27°F (-2.8°C)                                      | 18684                               | 18310            | 18218            | 17725              | 17565              | 2.11                 | 2.13             | 2.13             | 2.14               | 2.14               |
|                  | 32°F (-0.0°C)                                      | 18693                               | 18320            | 18228            | 17734              | 17575              | 2.00                 | 2.01             | 2.02             | 2.02               | 2.03               |
|                  | 35°F (1.7°C)                                       | 18699                               | 18325            | 18234            | 17740              | 17580              | 1.93                 | 1.95             | 1.95             | 1.96               | 1.96               |
|                  | 37°F (2.8°C)                                       | 19251                               | 18866            | 18772            | 18263              | 18099              | 1.92                 | 1.93             | 1.94             | 1.94               | 1.95               |
|                  | 42°F (5.6°C)                                       | 20630                               | 20218            | 20117            | 19572              | 19396              | 1.88                 | 1.89             | 1.90             | 1.90               | 1.91               |
|                  | 44.6°F (7.0°C)                                     | 21182                               | 20759            | 20655            | 20095              | 19914              | 1.86                 | 1.88             | 1.88             | 1.89               | 1.89               |
|                  | 47°F (8.3°C)                                       | 22010                               | 21570            | 21462            | 20880              | 20692              | 1.84                 | 1.86             | 1.86             | 1.86               | 1.87               |
|                  | 52°F (11.1°C)                                      | 19987                               | 19587            | 19489            | 18961              | 18791              | 1.69                 | 1.71             | 1.71             | 1.72               | 1.72               |
|                  | 57°F (13.9°C)                                      | 17964                               | 17605            | 17517            | 17042              | 16889              | 1.55                 | 1.56             | 1.56             | 1.57               | 1.57               |
|                  | 59°F (15.0°C)                                      | 17155                               | 16812            | 16728            | 16275              | 16128              | 1.49                 | 1.50             | 1.51             | 1.51               | 1.51               |
|                  | 62°F (16.7°C)                                      | 15941                               | 15623            | 15545            | 15123              | 14987              | 1.40                 | 1.41             | 1.42             | 1.42               | 1.43               |
|                  | 64.4°F (18.0°C)                                    | 15132                               | 14830            | 14756            | 14356              | 14227              | 1.34                 | 1.36             | 1.36             | 1.36               | 1.37               |

**Table 7: Heating Performance - 18K 37MUHA + 45MUHA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 11787 | 11551 | 11494 | 11448 | 11345 | 1.96 | 1.97 | 1.98 | 1.98 | 1.99 |
|            | -13°F (-25.0°C) | 14046 | 13765 | 13696 | 13641 | 13519 | 2.14 | 2.16 | 2.16 | 2.17 | 2.18 |
|            | -4°F (-20.0°C)  | 16318 | 15992 | 15912 | 15848 | 15706 | 2.31 | 2.33 | 2.34 | 2.34 | 2.35 |
|            | 0°F (-17.8°C)   | 17525 | 17174 | 17088 | 17020 | 16867 | 2.43 | 2.45 | 2.45 | 2.46 | 2.47 |
|            | 5°F (-15.0°C)   | 19033 | 18652 | 18559 | 18484 | 18318 | 2.57 | 2.60 | 2.60 | 2.61 | 2.62 |
|            | 14°F (-10.0°C)  | 19285 | 18900 | 18805 | 18730 | 18561 | 2.41 | 2.43 | 2.44 | 2.44 | 2.45 |
|            | 17°F (-8.3°C)   | 19370 | 18982 | 18887 | 18812 | 18643 | 2.36 | 2.38 | 2.38 | 2.39 | 2.40 |
|            | 22°F (-5.6°C)   | 19380 | 18992 | 18897 | 18822 | 18652 | 2.24 | 2.26 | 2.27 | 2.27 | 2.28 |
|            | 27°F (-2.8°C)   | 19390 | 19003 | 18908 | 18832 | 18662 | 2.13 | 2.15 | 2.15 | 2.16 | 2.17 |
|            | 32°F (-0.0°C)   | 19401 | 19013 | 18918 | 18842 | 18672 | 2.02 | 2.04 | 2.04 | 2.04 | 2.05 |
|            | 35°F (1.7°C)    | 19407 | 19019 | 18924 | 18848 | 18678 | 1.95 | 1.97 | 1.97 | 1.98 | 1.98 |
|            | 37°F (2.8°C)    | 19979 | 19580 | 19482 | 19404 | 19229 | 1.94 | 1.95 | 1.96 | 1.96 | 1.97 |
|            | 42°F (5.6°C)    | 21411 | 20983 | 20878 | 20794 | 20607 | 1.90 | 1.91 | 1.92 | 1.92 | 1.93 |
|            | 44.6°F (7.0°C)  | 21984 | 21544 | 21436 | 21350 | 21158 | 1.88 | 1.90 | 1.90 | 1.91 | 1.91 |
|            | 47°F (8.3°C)    | 22842 | 22386 | 22274 | 22185 | 21985 | 1.86 | 1.87 | 1.88 | 1.88 | 1.89 |
|            | 52°F (11.1°C)   | 20743 | 20328 | 20227 | 20146 | 19964 | 1.71 | 1.73 | 1.73 | 1.73 | 1.74 |
|            | 57°F (13.9°C)   | 18644 | 18271 | 18180 | 18107 | 17944 | 1.56 | 1.58 | 1.58 | 1.58 | 1.59 |
|            | 59°F (15.0°C)   | 17804 | 17448 | 17361 | 17291 | 17136 | 1.51 | 1.52 | 1.52 | 1.52 | 1.53 |
|            | 62°F (16.7°C)   | 16545 | 16214 | 16133 | 16068 | 15923 | 1.42 | 1.43 | 1.43 | 1.43 | 1.44 |
|            | 64.4°F (18.0°C) | 15705 | 15391 | 15314 | 15253 | 15115 | 1.36 | 1.37 | 1.37 | 1.37 | 1.38 |
| <b>620</b> | -22°F (-30.0°C) | 12233 | 11988 | 11928 | 11881 | 11774 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 |
|            | -13°F (-25.0°C) | 14577 | 14286 | 14214 | 14158 | 14030 | 2.16 | 2.18 | 2.19 | 2.19 | 2.20 |
|            | -4°F (-20.0°C)  | 16936 | 16597 | 16514 | 16448 | 16300 | 2.34 | 2.36 | 2.36 | 2.36 | 2.37 |
|            | 0°F (-17.8°C)   | 18188 | 17824 | 17735 | 17664 | 17505 | 2.45 | 2.47 | 2.48 | 2.48 | 2.49 |
|            | 5°F (-15.0°C)   | 19753 | 19358 | 19261 | 19184 | 19011 | 2.60 | 2.62 | 2.63 | 2.63 | 2.64 |
|            | 14°F (-10.0°C)  | 20015 | 19615 | 19517 | 19439 | 19264 | 2.44 | 2.46 | 2.46 | 2.47 | 2.48 |
|            | 17°F (-8.3°C)   | 20102 | 19700 | 19602 | 19524 | 19348 | 2.38 | 2.40 | 2.41 | 2.41 | 2.42 |
|            | 22°F (-5.6°C)   | 20113 | 19711 | 19612 | 19534 | 19358 | 2.27 | 2.29 | 2.29 | 2.29 | 2.30 |
|            | 27°F (-2.8°C)   | 20124 | 19721 | 19623 | 19544 | 19368 | 2.15 | 2.17 | 2.18 | 2.18 | 2.19 |
|            | 32°F (-0.0°C)   | 20135 | 19732 | 19633 | 19555 | 19379 | 2.04 | 2.06 | 2.06 | 2.06 | 2.07 |
|            | 35°F (1.7°C)    | 20141 | 19738 | 19639 | 19561 | 19385 | 1.97 | 1.99 | 1.99 | 1.99 | 2.00 |
|            | 37°F (2.8°C)    | 20735 | 20321 | 20219 | 20138 | 19957 | 1.96 | 1.97 | 1.98 | 1.98 | 1.99 |
|            | 42°F (5.6°C)    | 22221 | 21777 | 21668 | 21581 | 21387 | 1.92 | 1.93 | 1.94 | 1.94 | 1.95 |
|            | 44.6°F (7.0°C)  | 22815 | 22359 | 22247 | 22158 | 21959 | 1.90 | 1.92 | 1.92 | 1.92 | 1.93 |
|            | 47°F (8.3°C)    | 23707 | 23232 | 23116 | 23024 | 22817 | 1.88 | 1.89 | 1.90 | 1.90 | 1.91 |
|            | 52°F (11.1°C)   | 21528 | 21097 | 20992 | 20908 | 20720 | 1.73 | 1.74 | 1.75 | 1.75 | 1.76 |
|            | 57°F (13.9°C)   | 19349 | 18962 | 18867 | 18792 | 18623 | 1.58 | 1.59 | 1.60 | 1.60 | 1.61 |
|            | 59°F (15.0°C)   | 18478 | 18108 | 18018 | 17945 | 17784 | 1.52 | 1.53 | 1.54 | 1.54 | 1.55 |
|            | 62°F (16.7°C)   | 17170 | 16827 | 16743 | 16676 | 16526 | 1.43 | 1.44 | 1.45 | 1.45 | 1.45 |
|            | 64.4°F (18.0°C) | 16299 | 15973 | 15893 | 15830 | 15687 | 1.37 | 1.38 | 1.39 | 1.39 | 1.39 |

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 1 of 8)

| AIRFLOW<br>W (CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|--------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                    |                          | ID<br>DB(°F) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 629                | -22°F<br>(-30.0°C)       | TC           | 15246              | 15266              | 15283              | 15283              | 15304              | 16165              | 16184              | 16200              | 16203              | 16222              | 17130              | 17153              | 17172              | 17175              | 17194              | 18163              | 18182              | 18202              | 18205              | 18228              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.48               | 0.57               | 0.65               | 0.65               | 0.74               |
|                    |                          | PI           | 0.65               | 0.65               | 0.65               | 0.65               | 0.65               | 0.69               | 0.69               | 0.69               | 0.69               | 0.69               | 0.73               | 0.73               | 0.73               | 0.73               | 0.73               | 0.77               | 0.77               | 0.77               | 0.77               | 0.78               |
|                    | -13°F<br>(-25.0°C)       | TC           | 16516              | 16539              | 16556              | 16557              | 16579              | 17512              | 17532              | 17550              | 17553              | 17574              | 18558              | 18582              | 18603              | 18606              | 18627              | 19676              | 19697              | 19719              | 19722              | 19747              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                    |                          | PI           | 0.70               | 0.70               | 0.70               | 0.70               | 0.71               | 0.74               | 0.75               | 0.75               | 0.75               | 0.75               | 0.79               | 0.79               | 0.79               | 0.79               | 0.79               | 0.84               | 0.84               | 0.84               | 0.84               | 0.84               |
|                    | -4°F<br>(-20.0°C)        | TC           | 17787              | 17811              | 17830              | 17831              | 17855              | 18859              | 18881              | 18900              | 18903              | 18926              | 19985              | 20011              | 20034              | 20037              | 20060              | 21190              | 21213              | 21236              | 21239              | 21265              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.62               | 0.62               | 0.70               | 0.49               | 0.58               | 0.65               | 0.65               | 0.75               |
|                    |                          | PI           | 0.76               | 0.76               | 0.76               | 0.76               | 0.76               | 0.80               | 0.80               | 0.80               | 0.80               | 0.81               | 0.85               | 0.85               | 0.85               | 0.85               | 0.85               | 0.90               | 0.90               | 0.90               | 0.90               | 0.90               |
|                    | 0°F<br>(-17.8°C)         | TC           | 18351              | 18376              | 18396              | 18397              | 18422              | 19457              | 19480              | 19500              | 19504              | 19527              | 20620              | 20647              | 20670              | 20674              | 20697              | 21862              | 21886              | 21910              | 21913              | 21941              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.67               | 0.46               | 0.54               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.78               | 0.78               | 0.78               | 0.78               | 0.78               | 0.83               | 0.83               | 0.83               | 0.83               | 0.83               | 0.88               | 0.88               | 0.88               | 0.88               | 0.88               | 0.93               | 0.93               | 0.93               | 0.93               | 0.93               |
|                    | 5°F<br>(-15.0°C)         | TC           | 19057              | 19083              | 19103              | 19104              | 19130              | 20206              | 20230              | 20250              | 20254              | 20278              | 21413              | 21441              | 21465              | 21469              | 21493              | 22703              | 22728              | 22753              | 22756              | 22784              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.81               | 0.81               | 0.81               | 0.81               | 0.81               | 0.86               | 0.86               | 0.86               | 0.86               | 0.86               | 0.91               | 0.91               | 0.91               | 0.91               | 0.91               | 0.97               | 0.97               | 0.97               | 0.97               | 0.97               |
|                    | 14°F<br>(-10.0°C)        | TC           | 20172              | 20199              | 20221              | 20222              | 20249              | 21388              | 21413              | 21434              | 21439              | 21464              | 22666              | 22695              | 22720              | 22725              | 22750              | 24031              | 24057              | 24084              | 24087              | 24117              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.91               | 0.91               | 0.91               | 0.91               | 0.92               | 0.97               | 0.97               | 0.97               | 0.97               | 0.97               | 1.02               | 1.03               | 1.03               | 1.03               | 1.03               | 1.09               | 1.09               | 1.09               | 1.09               | 1.09               |
|                    | 17°F<br>(-8.3°C)         | TC           | 20544              | 20571              | 20594              | 20594              | 20622              | 21782              | 21808              | 21829              | 21833              | 21859              | 23083              | 23113              | 23139              | 23143              | 23169              | 24474              | 24501              | 24527              | 24531              | 24562              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.76               |
|                    |                          | PI           | 0.95               | 0.95               | 0.95               | 0.95               | 0.95               | 1.00               | 1.00               | 1.00               | 1.01               | 1.01               | 1.06               | 1.06               | 1.07               | 1.07               | 1.07               | 1.13               | 1.13               | 1.13               | 1.13               | 1.13               |
|                    | 23°F<br>(-5.0°C)         | TC           | 20072              | 20099              | 20121              | 20122              | 20149              | 21282              | 21307              | 21328              | 21333              | 21358              | 22554              | 22583              | 22608              | 22612              | 22638              | 23913              | 23938              | 23965              | 23968              | 23998              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 1.02               | 1.02               | 1.02               | 1.02               | 1.02               | 1.08               | 1.08               | 1.08               | 1.08               | 1.09               | 1.15               | 1.15               | 1.15               | 1.15               | 1.15               | 1.21               | 1.22               | 1.22               | 1.22               | 1.22               |
|                    | 35°F (1.7°C)             | TC           | 19130              | 19156              | 19176              | 19177              | 19203              | 20283              | 20307              | 20327              | 20331              | 20355              | 21494              | 21522              | 21546              | 21550              | 21574              | 22790              | 22814              | 22839              | 22843              | 22871              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.45               | 0.52               | 0.60               | 0.60               | 0.68               | 0.47               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 1.17               | 1.17               | 1.17               | 1.17               | 1.17               | 1.24               | 1.24               | 1.24               | 1.24               | 1.24               | 1.31               | 1.31               | 1.32               | 1.32               | 1.32               | 1.39               | 1.39               | 1.39               | 1.39               | 1.40               |
|                    | 41°F (5.0°C)             | TC           | 17615              | 17639              | 17658              | 17658              | 17682              | 18676              | 18699              | 18717              | 18721              | 18743              | 19792              | 19818              | 19840              | 19844              | 19866              | 20985              | 21008              | 21030              | 21034              | 21060              |
|                    |                          | S/T          | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.47               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 0.95               | 0.95               | 0.95               | 0.95               | 0.96               | 1.01               | 1.01               | 1.01               | 1.01               | 1.01               | 1.07               | 1.07               | 1.07               | 1.07               | 1.07               | 1.13               | 1.14               | 1.14               | 1.14               | 1.14               |
|                    | 47°F (8.3°C)             | TC           | 16100              | 16122              | 16139              | 16140              | 16161              | 17070              | 17090              | 17107              | 17111              | 17131              | 18090              | 18114              | 18134              | 18137              | 18157              | 19180              | 19201              | 19222              | 19225              | 19249              |
|                    |                          | S/T          | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.77               |
|                    |                          | PI           | 0.74               | 0.74               | 0.74               | 0.74               | 0.74               | 0.78               | 0.78               | 0.78               | 0.78               | 0.78               | 0.83               | 0.83               | 0.83               | 0.83               | 0.83               | 0.88               | 0.88               | 0.88               | 0.88               | 0.88               |

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Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 2 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | 50°F<br>(10.0°C)   | TC  | 16195 | 16217 | 16234 | 16235 | 16257 | 17171 | 17191 | 17208 | 17212 | 17232 | 18197 | 18221 | 18241 | 18244 | 18265 | 19293 | 19314 | 19335 | 19338 | 19362 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 0.75  | 0.75  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
|     | 59°F<br>(15.0°C)   | TC  | 16481 | 16503 | 16521 | 16521 | 16544 | 17474 | 17495 | 17512 | 17515 | 17536 | 18518 | 18542 | 18562 | 18566 | 18587 | 19634 | 19655 | 19676 | 19679 | 19704 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.81  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  |
|     | 68°F<br>(20.0°C)   | TC  | 16766 | 16789 | 16807 | 16808 | 16830 | 17777 | 17798 | 17815 | 17819 | 17840 | 18839 | 18863 | 18884 | 18888 | 18909 | 19974 | 19995 | 20017 | 20020 | 20045 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.02  | 1.02  | 1.02  | 1.02  |
|     | 77°F<br>(25.0°C)   | TC  | 17052 | 17075 | 17093 | 17094 | 17117 | 18079 | 18101 | 18119 | 18122 | 18144 | 19159 | 19184 | 19206 | 19209 | 19231 | 20314 | 20336 | 20358 | 20361 | 20387 |
|     |                    | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.07  | 1.07  | 1.07  | 1.07  | 1.08  |
|     | 82°F<br>(27.8°C)   | TC  | 17746 | 17770 | 17789 | 17790 | 17814 | 18815 | 18838 | 18856 | 18860 | 18882 | 19940 | 19965 | 19988 | 19991 | 20014 | 21141 | 21164 | 21187 | 21190 | 21217 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  | 1.14  | 1.14  | 1.15  | 1.15  | 1.15  | 1.21  | 1.21  | 1.21  | 1.21  | 1.22  | 1.28  | 1.29  | 1.29  | 1.29  | 1.29  |
|     | 86°F<br>(30.0°C)   | TC  | 18977 | 19003 | 19023 | 19024 | 19050 | 20121 | 20145 | 20165 | 20169 | 20193 | 21323 | 21351 | 21375 | 21379 | 21402 | 22608 | 22632 | 22657 | 22661 | 22689 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                    | PI  | 1.41  | 1.41  | 1.41  | 1.41  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.59  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.68  | 1.68  | 1.69  | 1.69  |
|     | 95°F<br>(35.0°C)   | TC  | 21748 | 21777 | 21801 | 21802 | 21831 | 23059 | 23086 | 23109 | 23113 | 23141 | 24436 | 24468 | 24495 | 24500 | 24527 | 25909 | 25937 | 25965 | 25969 | 26001 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                    | PI  | 2.16  | 2.16  | 2.17  | 2.17  | 2.17  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.44  | 2.57  | 2.58  | 2.58  | 2.58  | 2.58  |
|     | 104°F<br>(40.0°C)  | TC  | 19422 | 19448 | 19469 | 19470 | 19496 | 20593 | 20617 | 20637 | 20641 | 20666 | 21823 | 21851 | 21876 | 21880 | 21904 | 23138 | 23163 | 23188 | 23192 | 23221 |
|     |                    | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 2.14  | 2.15  | 2.15  | 2.15  | 2.15  | 2.27  | 2.28  | 2.28  | 2.28  | 2.28  | 2.41  | 2.41  | 2.41  | 2.42  | 2.42  | 2.55  | 2.56  | 2.56  | 2.56  | 2.56  |
|     | 110°F<br>(43.0°C)  | TC  | 18027 | 18051 | 18070 | 18071 | 18095 | 19113 | 19136 | 19155 | 19158 | 19181 | 20255 | 20281 | 20304 | 20308 | 20330 | 21475 | 21499 | 21522 | 21525 | 21552 |
|     |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 2.13  | 2.14  | 2.14  | 2.14  | 2.14  | 2.26  | 2.27  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.40  | 2.40  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  |
|     | 115°F<br>(46.0°C)  | TC  | 16067 | 16088 | 16106 | 16106 | 16128 | 17035 | 17055 | 17072 | 17075 | 17096 | 18053 | 18076 | 18096 | 18100 | 18120 | 19140 | 19161 | 19182 | 19185 | 19209 |
|     |                    | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                    | PI  | 1.95  | 1.95  | 1.95  | 1.95  | 1.96  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.20  | 2.20  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  |
|     | 122°F<br>(50.0°C)  | TC  | 13453 | 13471 | 13486 | 13486 | 13505 | 14264 | 14281 | 14295 | 14298 | 14315 | 15116 | 15136 | 15153 | 15156 | 15172 | 16027 | 16044 | 16062 | 16064 | 16084 |
|     |                    | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                    | PI  | 1.70  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  | 1.91  | 1.92  | 1.92  | 1.92  | 1.92  | 2.03  | 2.03  | 2.03  | 2.03  | 2.04  |
| 694 | -22°F<br>(-30.0°C) | TC  | 16064 | 16086 | 16103 | 16104 | 16125 | 17032 | 17052 | 17069 | 17072 | 17093 | 18050 | 18073 | 18093 | 18097 | 18117 | 19137 | 19158 | 19179 | 19182 | 19206 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 0.68  | 0.68  | 0.68  | 0.68  | 0.69  | 0.72  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.81  | 0.81  | 0.82  | 0.82  | 0.82  |

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Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | -13°F<br>(-25.0°C) | TC  | 17403 | 17426 | 17445 | 17446 | 17469 | 18451 | 18473 | 18491 | 18495 | 18517 | 19554 | 19579 | 19601 | 19605 | 19626 | 20732 | 20754 | 20777 | 20780 | 20806 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 0.74  | 0.74  | 0.74  | 0.74  | 0.74  | 0.78  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  |
|     | -4°F<br>(-20.0°C)  | TC  | 18741 | 18766 | 18787 | 18788 | 18813 | 19871 | 19894 | 19914 | 19918 | 19941 | 21058 | 21085 | 21109 | 21113 | 21136 | 22327 | 22351 | 22375 | 22379 | 22407 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 0°F<br>(-17.8°C)   | TC  | 19336 | 19362 | 19383 | 19384 | 19410 | 20502 | 20526 | 20546 | 20550 | 20575 | 21726 | 21755 | 21779 | 21783 | 21807 | 23035 | 23060 | 23086 | 23089 | 23118 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.82  | 0.82  | 0.82  | 0.82  | 0.83  | 0.87  | 0.87  | 0.87  | 0.87  | 0.88  | 0.92  | 0.93  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  |
|     | 5°F<br>(-15.0°C)   | TC  | 20080 | 20107 | 20129 | 20130 | 20157 | 21290 | 21315 | 21336 | 21341 | 21366 | 22562 | 22591 | 22617 | 22621 | 22646 | 23921 | 23947 | 23974 | 23977 | 24007 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.85  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  |
|     | 14°F<br>(-10.0°C)  | TC  | 21255 | 21283 | 21306 | 21307 | 21336 | 22536 | 22562 | 22585 | 22589 | 22616 | 23882 | 23913 | 23940 | 23944 | 23971 | 25321 | 25348 | 25376 | 25380 | 25412 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|     |                    | PI  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  | 1.14  | 1.15  | 1.15  | 1.15  | 1.15  |
|     | 17°F<br>(-8.3°C)   | TC  | 21646 | 21675 | 21699 | 21700 | 21729 | 22951 | 22978 | 23001 | 23005 | 23032 | 24322 | 24353 | 24381 | 24385 | 24412 | 25787 | 25815 | 25843 | 25847 | 25880 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  |
|     | 23°F<br>(-5.0°C)   | TC  | 21150 | 21178 | 21201 | 21202 | 21230 | 22424 | 22451 | 22473 | 22477 | 22504 | 23764 | 23795 | 23821 | 23826 | 23852 | 25196 | 25223 | 25251 | 25254 | 25286 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 1.07  | 1.08  | 1.08  | 1.08  | 1.08  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.21  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  |
|     | 35°F (1.7°C)       | TC  | 20156 | 20183 | 20205 | 20206 | 20233 | 21371 | 21396 | 21418 | 21422 | 21447 | 22648 | 22677 | 22703 | 22707 | 22732 | 24012 | 24039 | 24065 | 24068 | 24098 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|     |                    | PI  | 1.23  | 1.23  | 1.23  | 1.23  | 1.24  | 1.30  | 1.31  | 1.31  | 1.31  | 1.31  | 1.38  | 1.38  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.47  |
|     | 41°F (5.0°C)       | TC  | 18560 | 18585 | 18605 | 18606 | 18631 | 19679 | 19702 | 19721 | 19725 | 19749 | 20854 | 20881 | 20905 | 20909 | 20932 | 22111 | 22135 | 22159 | 22162 | 22190 |
|     |                    | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 1.00  | 1.00  | 1.01  | 1.01  | 1.01  | 1.06  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  |
|     | 47°F (8.3°C)       | TC  | 16964 | 16987 | 17005 | 17006 | 17029 | 17986 | 18007 | 18025 | 18029 | 18050 | 19061 | 19086 | 19107 | 19110 | 19132 | 20209 | 20231 | 20253 | 20256 | 20282 |
|     |                    | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.82  | 0.82  | 0.83  | 0.83  | 0.83  | 0.87  | 0.87  | 0.87  | 0.87  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
|     | 50°F<br>(10.0°C)   | TC  | 17064 | 17087 | 17105 | 17106 | 17129 | 18093 | 18114 | 18132 | 18135 | 18157 | 19173 | 19198 | 19220 | 19223 | 19245 | 20329 | 20351 | 20373 | 20376 | 20401 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.79  | 0.79  | 0.80  | 0.80  | 0.80  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 59°F<br>(15.0°C)   | TC  | 17365 | 17388 | 17407 | 17408 | 17431 | 18411 | 18433 | 18451 | 18455 | 18477 | 19511 | 19537 | 19559 | 19562 | 19584 | 20687 | 20710 | 20732 | 20735 | 20761 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 4 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | 68°F<br>(20.0°C)   | TC  | 17666 | 17690 | 17709 | 17709 | 17733 | 18730 | 18753 | 18771 | 18775 | 18797 | 19849 | 19875 | 19897 | 19901 | 19923 | 21045 | 21068 | 21091 | 21095 | 21121 |
|     |                    | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                    | PI  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  |
|     | 77°F<br>(25.0°C)   | TC  | 17967 | 17991 | 18010 | 18011 | 18035 | 19049 | 19072 | 19091 | 19095 | 19117 | 20188 | 20214 | 20236 | 20240 | 20263 | 21404 | 21427 | 21450 | 21454 | 21481 |
|     |                    | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  |
|     | 82°F<br>(27.8°C)   | TC  | 18698 | 18723 | 18744 | 18744 | 18770 | 19825 | 19849 | 19868 | 19872 | 19896 | 21010 | 21037 | 21060 | 21064 | 21088 | 22275 | 22300 | 22324 | 22327 | 22355 |
|     |                    | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                    | PI  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.20  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  | 1.35  | 1.35  | 1.36  | 1.36  | 1.36  |
|     | 86°F<br>(30.0°C)   | TC  | 19996 | 20023 | 20044 | 20045 | 20072 | 21201 | 21226 | 21247 | 21251 | 21276 | 22467 | 22497 | 22522 | 22526 | 22551 | 23821 | 23847 | 23873 | 23877 | 23906 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 1.49  | 1.49  | 1.49  | 1.49  | 1.49  | 1.58  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.67  | 1.67  | 1.68  | 1.68  | 1.77  | 1.77  | 1.78  | 1.78  | 1.78  |
|     | 95°F<br>(35.0°C)   | TC  | 22915 | 22946 | 22971 | 22972 | 23003 | 24296 | 24325 | 24349 | 24354 | 24382 | 25748 | 25781 | 25810 | 25814 | 25843 | 27299 | 27329 | 27358 | 27363 | 27397 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 2.28  | 2.28  | 2.28  | 2.28  | 2.28  | 2.41  | 2.42  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.57  | 2.71  | 2.71  | 2.72  | 2.72  | 2.72  |
|     | 104°F<br>(40.0°C)  | TC  | 20464 | 20492 | 20514 | 20515 | 20543 | 21698 | 21723 | 21745 | 21749 | 21775 | 22994 | 23024 | 23049 | 23054 | 23079 | 24379 | 24406 | 24432 | 24436 | 24467 |
|     |                    | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                    | PI  | 2.26  | 2.26  | 2.26  | 2.26  | 2.27  | 2.40  | 2.40  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.54  | 2.54  | 2.55  | 2.69  | 2.69  | 2.70  | 2.70  | 2.70  |
|     | 110°F<br>(43.0°C)  | TC  | 18994 | 19020 | 19040 | 19041 | 19067 | 20139 | 20162 | 20182 | 20186 | 20210 | 21342 | 21370 | 21393 | 21397 | 21421 | 22628 | 22652 | 22677 | 22680 | 22709 |
|     |                    | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.93  |
|     |                    | PI  | 2.25  | 2.25  | 2.25  | 2.25  | 2.26  | 2.38  | 2.39  | 2.39  | 2.39  | 2.39  | 2.53  | 2.53  | 2.53  | 2.53  | 2.54  | 2.68  | 2.68  | 2.68  | 2.69  | 2.69  |
|     | 115°F<br>(46.0°C)  | TC  | 16929 | 16952 | 16970 | 16971 | 16993 | 17949 | 17970 | 17988 | 17992 | 18013 | 19021 | 19046 | 19067 | 19071 | 19092 | 20167 | 20189 | 20211 | 20214 | 20240 |
|     |                    | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  |
|     |                    | PI  | 2.05  | 2.06  | 2.06  | 2.06  | 2.06  | 2.18  | 2.18  | 2.18  | 2.18  | 2.19  | 2.31  | 2.31  | 2.31  | 2.31  | 2.32  | 2.45  | 2.45  | 2.45  | 2.45  | 2.46  |
|     | 122°F<br>(50.0°C)  | TC  | 14175 | 14194 | 14210 | 14210 | 14229 | 15029 | 15047 | 15062 | 15065 | 15083 | 15927 | 15948 | 15966 | 15969 | 15987 | 16887 | 16905 | 16924 | 16926 | 16948 |
|     |                    | S/T | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  |
|     |                    | PI  | 1.79  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.90  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  | 2.14  | 2.14  | 2.14  | 2.14  | 2.15  |
| 759 | -22°F<br>(-30.0°C) | TC  | 16926 | 16949 | 16967 | 16968 | 16991 | 17946 | 17967 | 17985 | 17989 | 18010 | 19018 | 19043 | 19064 | 19068 | 19089 | 20164 | 20186 | 20208 | 20211 | 20236 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.77  | 0.77  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  |
|     | -13°F<br>(-25.0°C) | TC  | 18336 | 18361 | 18381 | 18382 | 18407 | 19442 | 19465 | 19484 | 19488 | 19511 | 20603 | 20630 | 20653 | 20657 | 20680 | 21844 | 21868 | 21892 | 21895 | 21923 |
|     |                    | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
|     | -4°F<br>(-20.0°C)  | TC  | 19747 | 19774 | 19795 | 19796 | 19822 | 20937 | 20962 | 20983 | 20987 | 21012 | 22188 | 22217 | 22241 | 22246 | 22270 | 23525 | 23550 | 23576 | 23580 | 23609 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                    | PI  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 759 | 0°F<br>(-17.8°C)  | TC  | 20374 | 20401 | 20423 | 20424 | 20452 | 21602 | 21627 | 21649 | 21653 | 21679 | 22892 | 22922 | 22948 | 22952 | 22977 | 24272 | 24298 | 24324 | 24328 | 24358 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.98  | 0.98  | 0.98  | 1.03  | 1.03  | 1.03  | 1.03  | 1.04  |
|     | 5°F<br>(-15.0°C)  | TC  | 21157 | 21186 | 21209 | 21210 | 21238 | 22433 | 22459 | 22481 | 22486 | 22512 | 23773 | 23804 | 23830 | 23835 | 23861 | 25205 | 25232 | 25260 | 25264 | 25295 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.08  |
|     | 14°F<br>(-10.0°C) | TC  | 22395 | 22425 | 22449 | 22450 | 22481 | 23745 | 23773 | 23796 | 23801 | 23829 | 25163 | 25196 | 25224 | 25229 | 25257 | 26680 | 26709 | 26738 | 26742 | 26775 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                   | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.07  | 1.07  | 1.08  | 1.08  | 1.08  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.21  | 1.21  | 1.21  | 1.21  | 1.21  |
|     | 17°F<br>(-8.3°C)  | TC  | 22808 | 22838 | 22863 | 22864 | 22895 | 24182 | 24211 | 24235 | 24240 | 24268 | 25627 | 25660 | 25689 | 25694 | 25722 | 27171 | 27201 | 27230 | 27234 | 27268 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.12  | 1.12  | 1.12  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  | 1.25  | 1.25  | 1.25  | 1.25  | 1.26  |
|     | 23°F<br>(-5.0°C)  | TC  | 22284 | 22314 | 22338 | 22339 | 22370 | 23627 | 23655 | 23679 | 23683 | 23712 | 25039 | 25072 | 25100 | 25104 | 25132 | 26548 | 26577 | 26606 | 26610 | 26643 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.13  | 1.13  | 1.13  | 1.14  | 1.14  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.28  | 1.28  | 1.28  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  |
|     | 35°F (1.7°C)      | TC  | 21238 | 21267 | 21289 | 21290 | 21319 | 22518 | 22545 | 22567 | 22571 | 22598 | 23863 | 23894 | 23921 | 23925 | 23952 | 25301 | 25329 | 25356 | 25360 | 25392 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  | 1.37  | 1.38  | 1.38  | 1.38  | 1.38  | 1.46  | 1.46  | 1.46  | 1.46  | 1.46  | 1.54  | 1.55  | 1.55  | 1.55  | 1.55  |
|     | 41°F (5.0°C)      | TC  | 19556 | 19582 | 19603 | 19604 | 19631 | 20735 | 20759 | 20780 | 20784 | 20808 | 21973 | 22002 | 22026 | 22031 | 22055 | 23297 | 23323 | 23348 | 23352 | 23381 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  |
|     | 47°F (8.3°C)      | TC  | 17874 | 17898 | 17917 | 17918 | 17942 | 18951 | 18974 | 18993 | 18996 | 19019 | 20084 | 20110 | 20132 | 20136 | 20158 | 21294 | 21317 | 21340 | 21343 | 21370 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.59  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                   | PI  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.98  | 0.98  | 0.98  | 0.98  |
|     | 50°F<br>(10.0°C)  | TC  | 17980 | 18004 | 18023 | 18024 | 18049 | 19063 | 19086 | 19105 | 19109 | 19131 | 20202 | 20229 | 20251 | 20255 | 20277 | 21420 | 21443 | 21466 | 21469 | 21496 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                   | PI  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
|     | 59°F<br>(15.0°C)  | TC  | 18297 | 18321 | 18341 | 18342 | 18367 | 19399 | 19422 | 19442 | 19445 | 19469 | 20558 | 20585 | 20608 | 20612 | 20635 | 21797 | 21821 | 21845 | 21848 | 21875 |
|     |                   | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                   | PI  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.95  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  |
|     | 68°F<br>(20.0°C)  | TC  | 18614 | 18639 | 18659 | 18660 | 18685 | 19736 | 19759 | 19778 | 19782 | 19806 | 20915 | 20942 | 20965 | 20969 | 20992 | 22175 | 22199 | 22223 | 22227 | 22254 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.06  | 1.06  | 1.06  | 1.06  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  |
|     | 77°F<br>(25.0°C)  | TC  | 18931 | 18956 | 18977 | 18978 | 19003 | 20072 | 20095 | 20115 | 20119 | 20143 | 21271 | 21298 | 21322 | 21326 | 21350 | 22552 | 22577 | 22602 | 22605 | 22633 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  |

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 6 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 759 | 82°F<br>(27.8°C)   | TC  | 19702 | 19728 | 19749 | 19750 | 19777 | 20889 | 20914 | 20934 | 20938 | 20963 | 22137 | 22166 | 22190 | 22194 | 22219 | 23471 | 23496 | 23522 | 23525 | 23555 |
|     |                    | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.60  | 0.70  | 0.79  | 0.79  | 0.91  |
|     |                    | PI  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.27  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  |
|     | 86°F<br>(30.0°C)   | TC  | 21069 | 21097 | 21120 | 21121 | 21149 | 22338 | 22365 | 22387 | 22391 | 22418 | 23673 | 23704 | 23730 | 23735 | 23761 | 25099 | 25127 | 25154 | 25158 | 25189 |
|     |                    | S/T | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                    | PI  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.66  | 1.66  | 1.66  | 1.67  | 1.67  | 1.76  | 1.76  | 1.76  | 1.76  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.87  |
|     | 95°F<br>(35.0°C)   | TC  | 24145 | 24177 | 24203 | 24204 | 24237 | 25600 | 25630 | 25655 | 25660 | 25691 | 27129 | 27164 | 27195 | 27200 | 27230 | 28764 | 28795 | 28826 | 28831 | 28867 |
|     |                    | S/T | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                    | PI  | 2.40  | 2.40  | 2.40  | 2.40  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  |
|     | 104°F<br>(40.0°C)  | TC  | 21562 | 21591 | 21615 | 21616 | 21645 | 22862 | 22889 | 22912 | 22916 | 22943 | 24228 | 24259 | 24286 | 24291 | 24318 | 25688 | 25716 | 25744 | 25748 | 25780 |
|     |                    | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.82  | 0.83  | 0.94  |
|     |                    | PI  | 2.38  | 2.38  | 2.39  | 2.39  | 2.39  | 2.52  | 2.53  | 2.53  | 2.53  | 2.53  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  | 2.84  | 2.84  | 2.84  | 2.84  | 2.85  |
|     | 110°F<br>(43.0°C)  | TC  | 20013 | 20040 | 20062 | 20063 | 20090 | 21219 | 21244 | 21265 | 21270 | 21295 | 22487 | 22516 | 22541 | 22546 | 22571 | 23842 | 23868 | 23894 | 23898 | 23927 |
|     |                    | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.64  | 0.75  | 0.86  | 0.86  | 0.97  |
|     |                    | PI  | 2.37  | 2.37  | 2.38  | 2.38  | 2.38  | 2.51  | 2.52  | 2.52  | 2.52  | 2.52  | 2.66  | 2.67  | 2.67  | 2.67  | 2.67  | 2.82  | 2.83  | 2.83  | 2.83  | 2.83  |
|     | 115°F<br>(46.0°C)  | TC  | 17837 | 17861 | 17880 | 17881 | 17905 | 18912 | 18935 | 18953 | 18957 | 18980 | 20042 | 20068 | 20090 | 20094 | 20117 | 21250 | 21273 | 21296 | 21299 | 21326 |
|     |                    | S/T | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                    | PI  | 2.16  | 2.17  | 2.17  | 2.17  | 2.17  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  | 2.43  | 2.44  | 2.44  | 2.44  | 2.44  | 2.58  | 2.58  | 2.58  | 2.58  | 2.59  |
|     | 122°F<br>(50.0°C)  | TC  | 14936 | 14956 | 14972 | 14973 | 14993 | 15836 | 15855 | 15870 | 15874 | 15892 | 16782 | 16804 | 16823 | 16826 | 16845 | 17793 | 17813 | 17832 | 17835 | 17857 |
|     |                    | S/T | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.73  | 0.84  | 0.84  | 0.95  | 0.66  | 0.78  | 0.89  | 0.89  | 1.00  |
|     |                    | PI  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 2.00  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.26  | 2.26  | 2.26  | 2.26  |
| 824 | -22°F<br>(-30.0°C) | TC  | 17834 | 17858 | 17877 | 17878 | 17902 | 18909 | 18931 | 18950 | 18954 | 18976 | 20039 | 20065 | 20087 | 20091 | 20113 | 21246 | 21269 | 21292 | 21296 | 21322 |
|     |                    | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                    | PI  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.81  | 0.81  | 0.81  | 0.81  | 0.85  | 0.85  | 0.85  | 0.85  | 0.86  | 0.90  | 0.90  | 0.91  | 0.91  | 0.91  |
|     | -13°F<br>(-25.0°C) | TC  | 19320 | 19346 | 19367 | 19368 | 19394 | 20485 | 20509 | 20529 | 20533 | 20558 | 21709 | 21737 | 21761 | 21765 | 21789 | 23017 | 23042 | 23067 | 23070 | 23099 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  |
|     | -4°F<br>(-20.0°C)  | TC  | 20807 | 20835 | 20857 | 20858 | 20886 | 22061 | 22087 | 22108 | 22113 | 22139 | 23379 | 23409 | 23435 | 23439 | 23465 | 24787 | 24814 | 24841 | 24845 | 24876 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                    | PI  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.06  | 1.06  | 1.06  | 1.06  |
|     | 0°F<br>(-17.8°C)   | TC  | 21467 | 21496 | 21519 | 21520 | 21549 | 22761 | 22788 | 22810 | 22815 | 22842 | 24121 | 24152 | 24179 | 24183 | 24210 | 25574 | 25602 | 25630 | 25634 | 25666 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.91  | 0.91  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 1.03  | 1.03  | 1.03  | 1.03  | 1.03  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  |
|     | 5°F<br>(-15.0°C)   | TC  | 22293 | 22323 | 22347 | 22348 | 22378 | 23636 | 23664 | 23688 | 23692 | 23720 | 25048 | 25081 | 25109 | 25114 | 25142 | 26558 | 26587 | 26615 | 26620 | 26653 |
|     |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  |

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 7 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 824 | 14°F<br>(-10.0°C) | TC  | 23597 | 23629 | 23654 | 23655 | 23687 | 25019 | 25049 | 25073 | 25078 | 25108 | 26514 | 26548 | 26578 | 26583 | 26612 | 28111 | 28142 | 28172 | 28177 | 28212 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.14  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.28  |
|     | 17°F<br>(-8.3°C)  | TC  | 24032 | 24064 | 24090 | 24091 | 24123 | 25480 | 25510 | 25535 | 25540 | 25571 | 27002 | 27037 | 27067 | 27072 | 27103 | 28629 | 28660 | 28691 | 28696 | 28732 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                   | PI  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 1.17  | 1.17  | 1.18  | 1.18  | 1.18  | 1.24  | 1.24  | 1.25  | 1.25  | 1.25  | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  |
|     | 23°F<br>(-5.0°C)  | TC  | 23480 | 23512 | 23537 | 23538 | 23570 | 24895 | 24925 | 24949 | 24954 | 24984 | 26383 | 26417 | 26446 | 26451 | 26481 | 27972 | 28003 | 28033 | 28038 | 28072 |
|     |                   | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.19  | 1.19  | 1.20  | 1.20  | 1.20  | 1.26  | 1.27  | 1.27  | 1.27  | 1.27  | 1.34  | 1.34  | 1.34  | 1.34  | 1.35  | 1.42  | 1.42  | 1.42  | 1.42  | 1.43  |
|     | 35°F (1.7°C)      | TC  | 22378 | 22408 | 22432 | 22433 | 22463 | 23726 | 23754 | 23778 | 23782 | 23811 | 25144 | 25176 | 25204 | 25209 | 25237 | 26659 | 26688 | 26717 | 26721 | 26754 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.37  | 1.37  | 1.37  | 1.37  | 1.37  | 1.45  | 1.45  | 1.45  | 1.45  | 1.45  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  |
|     | 41°F (5.0°C)      | TC  | 20605 | 20633 | 20655 | 20656 | 20684 | 21847 | 21873 | 21895 | 21899 | 21925 | 23153 | 23183 | 23208 | 23213 | 23239 | 24547 | 24574 | 24601 | 24605 | 24635 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.11  | 1.12  | 1.12  | 1.12  | 1.12  | 1.18  | 1.18  | 1.18  | 1.18  | 1.19  | 1.25  | 1.25  | 1.26  | 1.26  | 1.26  | 1.33  | 1.33  | 1.33  | 1.33  | 1.33  |
|     | 47°F (8.3°C)      | TC  | 18833 | 18859 | 18879 | 18880 | 18905 | 19968 | 19992 | 20012 | 20016 | 20039 | 21161 | 21189 | 21212 | 21216 | 21240 | 22436 | 22461 | 22485 | 22489 | 22517 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.86  | 0.86  | 0.86  | 0.86  | 0.87  | 0.91  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 1.03  | 1.03  | 1.03  | 1.03  | 1.03  |
|     | 50°F<br>(10.0°C)  | TC  | 18945 | 18970 | 18991 | 18991 | 19017 | 20086 | 20110 | 20130 | 20134 | 20158 | 21286 | 21314 | 21338 | 21342 | 21366 | 22569 | 22593 | 22618 | 22622 | 22650 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  |
|     | 59°F<br>(15.0°C)  | TC  | 19279 | 19305 | 19325 | 19326 | 19352 | 20440 | 20465 | 20485 | 20489 | 20513 | 21662 | 21690 | 21714 | 21718 | 21742 | 22967 | 22992 | 23017 | 23020 | 23049 |
|     |                   | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                   | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 68°F<br>(20.0°C)  | TC  | 19613 | 19639 | 19660 | 19661 | 19688 | 20795 | 20819 | 20840 | 20844 | 20869 | 22037 | 22066 | 22090 | 22094 | 22119 | 23365 | 23390 | 23416 | 23419 | 23448 |
|     |                   | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                   | PI  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  |
|     | 77°F<br>(25.0°C)  | TC  | 19947 | 19973 | 19995 | 19996 | 20023 | 21149 | 21174 | 21195 | 21199 | 21224 | 22412 | 22441 | 22466 | 22471 | 22496 | 23763 | 23788 | 23814 | 23818 | 23848 |
|     |                   | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                   | PI  | 1.05  | 1.05  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  | 1.18  | 1.18  | 1.19  | 1.19  | 1.19  | 1.25  | 1.26  | 1.26  | 1.26  | 1.26  |
|     | 82°F<br>(27.8°C)  | TC  | 20759 | 20787 | 20809 | 20810 | 20838 | 22010 | 22036 | 22058 | 22062 | 22088 | 23325 | 23355 | 23381 | 23385 | 23412 | 24730 | 24757 | 24784 | 24788 | 24819 |
|     |                   | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                   | PI  | 1.26  | 1.26  | 1.26  | 1.26  | 1.27  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.51  | 1.51  | 1.51  |
|     | 86°F<br>(30.0°C)  | TC  | 22199 | 22229 | 22253 | 22254 | 22284 | 23537 | 23565 | 23588 | 23593 | 23621 | 24943 | 24976 | 25004 | 25008 | 25036 | 26446 | 26475 | 26504 | 26508 | 26541 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 1.65  | 1.65  | 1.65  | 1.65  | 1.66  | 1.75  | 1.75  | 1.75  | 1.75  | 1.76  | 1.85  | 1.86  | 1.86  | 1.86  | 1.86  | 1.97  | 1.97  | 1.97  | 1.97  | 1.97  |

Table 8: Cooling Performance - 24K 37MUHA + 45MUHA (Sheet 8 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 824 | 95°F<br>(35.0°C)  | TC  | 25440 | 25474 | 25502 | 25503 | 25537 | 26973 | 27005 | 27032 | 27037 | 27069 | 28585 | 28622 | 28654 | 28659 | 28691 | 30307 | 30340 | 30373 | 30378 | 30416 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 2.53  | 2.53  | 2.53  | 2.53  | 2.54  | 2.68  | 2.68  | 2.68  | 2.69  | 2.69  | 2.84  | 2.84  | 2.85  | 2.85  | 2.85  | 3.01  | 3.01  | 3.02  | 3.02  | 3.02  |
|     | 104°F<br>(40.0°C) | TC  | 22720 | 22750 | 22775 | 22776 | 22806 | 24089 | 24117 | 24141 | 24146 | 24175 | 25528 | 25561 | 25590 | 25594 | 25623 | 27066 | 27095 | 27125 | 27129 | 27163 |
|     |                   | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                   | PI  | 2.51  | 2.51  | 2.51  | 2.51  | 2.52  | 2.66  | 2.66  | 2.66  | 2.67  | 2.67  | 2.82  | 2.82  | 2.82  | 2.83  | 2.83  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  |
|     | 110°F<br>(43.0°C) | TC  | 21087 | 21116 | 21138 | 21139 | 21168 | 22358 | 22384 | 22407 | 22411 | 22438 | 23694 | 23724 | 23751 | 23755 | 23782 | 25121 | 25149 | 25176 | 25180 | 25211 |
|     |                   | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                   | PI  | 2.50  | 2.50  | 2.50  | 2.50  | 2.51  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  | 2.81  | 2.81  | 2.81  | 2.81  | 2.82  | 2.97  | 2.98  | 2.98  | 2.98  | 2.98  |
|     | 115°F<br>(46.0°C) | TC  | 18794 | 18820 | 18840 | 18841 | 18866 | 19927 | 19951 | 19970 | 19974 | 19998 | 21118 | 21145 | 21169 | 21172 | 21196 | 22390 | 22414 | 22439 | 22442 | 22470 |
|     |                   | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                   | PI  | 2.28  | 2.28  | 2.29  | 2.29  | 2.29  | 2.42  | 2.42  | 2.42  | 2.42  | 2.43  | 2.56  | 2.57  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.72  | 2.72  | 2.73  |
|     | 122°F<br>(50.0°C) | TC  | 15737 | 15759 | 15775 | 15776 | 15797 | 16686 | 16706 | 16722 | 16725 | 16745 | 17683 | 17706 | 17725 | 17729 | 17748 | 18748 | 18768 | 18789 | 18792 | 18815 |
|     |                   | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                   | PI  | 1.99  | 2.00  | 2.00  | 2.00  | 2.00  | 2.11  | 2.11  | 2.12  | 2.12  | 2.12  | 2.24  | 2.24  | 2.24  | 2.24  | 2.25  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  |

**Table 9: Heating Performance - 24K 37MUHA + 45MUHA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                           |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|---------------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW)      |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS (DB °F)           |                  |                  |                    |                    | INDOOR CONDITIONS (DB °F) |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)        | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 629              | -22°F (-30.0°C)                                    | 10366                               | 10159            | 10108            | 10318              | 10226              | 2.40                      | 2.42             | 2.42             | 2.43               | 2.44               |
|                  | -13°F (-25.0°C)                                    | 13105                               | 12843            | 12778            | 12543              | 12430              | 2.54                      | 2.56             | 2.57             | 2.57               | 2.58               |
|                  | -4°F (-20.0°C)                                     | 15716                               | 15402            | 15325            | 15042              | 14907              | 2.55                      | 2.57             | 2.58             | 2.58               | 2.59               |
|                  | 0°F (-17.8°C)                                      | 17092                               | 16750            | 16667            | 16359              | 16212              | 2.68                      | 2.70             | 2.71             | 2.71               | 2.73               |
|                  | 5°F (-15.0°C)                                      | 18812                               | 18436            | 18344            | 18006              | 17844              | 2.85                      | 2.87             | 2.88             | 2.88               | 2.89               |
|                  | 14°F (-10.0°C)                                     | 22500                               | 22050            | 21940            | 21536              | 21342              | 1.61                      | 1.62             | 1.63             | 1.63               | 1.64               |
|                  | 17°F (-8.3°C)                                      | 23730                               | 23255            | 23139            | 22712              | 22508              | 1.20                      | 1.21             | 1.21             | 1.21               | 1.22               |
|                  | 22°F (-5.6°C)                                      | 23214                               | 22750            | 22636            | 22219              | 22019              | 1.54                      | 1.55             | 1.55             | 1.56               | 1.56               |
|                  | 27°F (-2.8°C)                                      | 22698                               | 22244            | 22133            | 21725              | 21529              | 1.88                      | 1.89             | 1.90             | 1.90               | 1.91               |
|                  | 32°F (-0.0°C)                                      | 22182                               | 21738            | 21629            | 21231              | 21040              | 2.22                      | 2.23             | 2.24             | 2.24               | 2.25               |
|                  | 35°F (1.7°C)                                       | 21872                               | 21435            | 21328            | 20934              | 20746              | 2.42                      | 2.44             | 2.44             | 2.45               | 2.46               |
|                  | 37°F (2.8°C)                                       | 22473                               | 22024            | 21914            | 21510              | 21316              | 2.41                      | 2.43             | 2.43             | 2.44               | 2.45               |
|                  | 42°F (5.6°C)                                       | 23977                               | 23497            | 23380            | 22949              | 22742              | 2.38                      | 2.40             | 2.40             | 2.41               | 2.42               |
|                  | 44.6°F (7.0°C)                                     | 24578                               | 24086            | 23966            | 23524              | 23312              | 2.37                      | 2.39             | 2.39             | 2.40               | 2.40               |
|                  | 47°F (8.3°C)                                       | 25480                               | 24970            | 24845            | 24387              | 24168              | 2.35                      | 2.37             | 2.37             | 2.38               | 2.39               |
|                  | 52°F (11.1°C)                                      | 23955                               | 23476            | 23359            | 22928              | 22722              | 2.24                      | 2.25             | 2.26             | 2.26               | 2.27               |
|                  | 57°F (13.9°C)                                      | 22430                               | 21982            | 21872            | 21469              | 21275              | 2.12                      | 2.14             | 2.14             | 2.15               | 2.16               |
|                  | 59°F (15.0°C)                                      | 21820                               | 21384            | 21277            | 20885              | 20697              | 2.08                      | 2.09             | 2.10             | 2.10               | 2.11               |
|                  | 62°F (16.7°C)                                      | 20906                               | 20488            | 20385            | 20009              | 19829              | 2.01                      | 2.03             | 2.03             | 2.03               | 2.04               |
|                  | 64.4°F (18.0°C)                                    | 20296                               | 19890            | 19790            | 19426              | 19251              | 1.96                      | 1.98             | 1.98             | 1.99               | 2.00               |
| 694              | -22°F (-30.0°C)                                    | 11138                               | 10916            | 10861            | 10952              | 10853              | 2.42                      | 2.44             | 2.45             | 2.45               | 2.46               |
|                  | -13°F (-25.0°C)                                    | 13808                               | 13532            | 13464            | 13313              | 13193              | 2.57                      | 2.59             | 2.59             | 2.60               | 2.61               |
|                  | -4°F (-20.0°C)                                     | 16560                               | 16228            | 16147            | 15966              | 15822              | 2.58                      | 2.60             | 2.60             | 2.61               | 2.62               |
|                  | 0°F (-17.8°C)                                      | 18009                               | 17649            | 17561            | 17363              | 17207              | 2.71                      | 2.73             | 2.74             | 2.74               | 2.75               |
|                  | 5°F (-15.0°C)                                      | 19822                               | 19425            | 19328            | 19111              | 18939              | 2.88                      | 2.90             | 2.91             | 2.91               | 2.92               |
|                  | 14°F (-10.0°C)                                     | 23708                               | 23234            | 23117            | 22858              | 22652              | 1.63                      | 1.64             | 1.64             | 1.65               | 1.65               |
|                  | 17°F (-8.3°C)                                      | 25003                               | 24503            | 24381            | 24107              | 23890              | 1.21                      | 1.22             | 1.22             | 1.22               | 1.23               |
|                  | 22°F (-5.6°C)                                      | 24459                               | 23970            | 23850            | 23582              | 23370              | 1.55                      | 1.56             | 1.57             | 1.57               | 1.58               |
|                  | 27°F (-2.8°C)                                      | 23916                               | 23437            | 23320            | 23058              | 22851              | 1.90                      | 1.91             | 1.91             | 1.92               | 1.93               |
|                  | 32°F (-0.0°C)                                      | 23372                               | 22905            | 22790            | 22534              | 22331              | 2.24                      | 2.26             | 2.26             | 2.27               | 2.27               |
|                  | 35°F (1.7°C)                                       | 23046                               | 22585            | 22472            | 22219              | 22019              | 2.44                      | 2.46             | 2.47             | 2.47               | 2.48               |
|                  | 37°F (2.8°C)                                       | 23679                               | 23206            | 23090            | 22830              | 22625              | 2.43                      | 2.45             | 2.46             | 2.46               | 2.47               |
|                  | 42°F (5.6°C)                                       | 25263                               | 24758            | 24634            | 24357              | 24138              | 2.40                      | 2.42             | 2.43             | 2.43               | 2.44               |
|                  | 44.6°F (7.0°C)                                     | 25897                               | 25379            | 25252            | 24968              | 24743              | 2.39                      | 2.41             | 2.41             | 2.42               | 2.43               |
|                  | 47°F (8.3°C)                                       | 26847                               | 26310            | 26178            | 25884              | 25651              | 2.37                      | 2.39             | 2.40             | 2.40               | 2.41               |
|                  | 52°F (11.1°C)                                      | 25240                               | 24736            | 24612            | 24335              | 24116              | 2.26                      | 2.28             | 2.28             | 2.29               | 2.29               |
|                  | 57°F (13.9°C)                                      | 23634                               | 23161            | 23046            | 22786              | 22581              | 2.14                      | 2.16             | 2.17             | 2.17               | 2.18               |
|                  | 59°F (15.0°C)                                      | 22991                               | 22532            | 22419            | 22167              | 21967              | 2.10                      | 2.12             | 2.12             | 2.12               | 2.13               |
|                  | 62°F (16.7°C)                                      | 22028                               | 21587            | 21479            | 21238              | 21046              | 2.03                      | 2.05             | 2.05             | 2.05               | 2.06               |
|                  | 64.4°F (18.0°C)                                    | 21385                               | 20957            | 20852            | 20618              | 20432              | 1.98                      | 2.00             | 2.00             | 2.01               | 2.02               |

**Table 9: Heating Performance - 24K 37MUHA + 45MUHA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>759</b> | -22°F (-30.0°C) | 11969 | 11729 | 11671 | 11624 | 11519 | 2.45 | 2.47 | 2.47 | 2.48 | 2.49 |
|            | -13°F (-25.0°C) | 14549 | 14258 | 14187 | 14130 | 14003 | 2.59 | 2.62 | 2.62 | 2.63 | 2.64 |
|            | -4°F (-20.0°C)  | 17448 | 17099 | 17014 | 16946 | 16793 | 2.60 | 2.62 | 2.63 | 2.63 | 2.64 |
|            | 0°F (-17.8°C)   | 18976 | 18596 | 18503 | 18429 | 18263 | 2.74 | 2.76 | 2.76 | 2.77 | 2.78 |
|            | 5°F (-15.0°C)   | 20885 | 20468 | 20365 | 20284 | 20101 | 2.91 | 2.93 | 2.93 | 2.94 | 2.95 |
|            | 14°F (-10.0°C)  | 24980 | 24480 | 24358 | 24261 | 24042 | 1.64 | 1.66 | 1.66 | 1.66 | 1.67 |
|            | 17°F (-8.3°C)   | 26345 | 25818 | 25689 | 25586 | 25356 | 1.22 | 1.23 | 1.23 | 1.24 | 1.24 |
|            | 22°F (-5.6°C)   | 25772 | 25257 | 25130 | 25030 | 24805 | 1.57 | 1.58 | 1.58 | 1.59 | 1.59 |
|            | 27°F (-2.8°C)   | 25199 | 24695 | 24572 | 24473 | 24253 | 1.91 | 1.93 | 1.93 | 1.94 | 1.95 |
|            | 32°F (-0.0°C)   | 24626 | 24134 | 24013 | 23917 | 23702 | 2.26 | 2.28 | 2.28 | 2.29 | 2.30 |
|            | 35°F (1.7°C)    | 24283 | 23797 | 23678 | 23583 | 23371 | 2.47 | 2.49 | 2.49 | 2.50 | 2.51 |
|            | 37°F (2.8°C)    | 24950 | 24451 | 24329 | 24232 | 24013 | 2.46 | 2.48 | 2.48 | 2.49 | 2.50 |
|            | 42°F (5.6°C)    | 26619 | 26086 | 25956 | 25852 | 25620 | 2.43 | 2.45 | 2.45 | 2.46 | 2.47 |
|            | 44.6°F (7.0°C)  | 27286 | 26741 | 26607 | 26501 | 26262 | 2.41 | 2.43 | 2.44 | 2.44 | 2.45 |
|            | 47°F (8.3°C)    | 28288 | 27722 | 27583 | 27473 | 27226 | 2.40 | 2.42 | 2.42 | 2.43 | 2.44 |
|            | 52°F (11.1°C)   | 26595 | 26063 | 25933 | 25829 | 25597 | 2.28 | 2.30 | 2.30 | 2.31 | 2.32 |
|            | 57°F (13.9°C)   | 24902 | 24404 | 24282 | 24185 | 23967 | 2.17 | 2.18 | 2.19 | 2.19 | 2.20 |
|            | 59°F (15.0°C)   | 24225 | 23741 | 23622 | 23527 | 23316 | 2.12 | 2.14 | 2.14 | 2.15 | 2.15 |
|            | 62°F (16.7°C)   | 23210 | 22745 | 22632 | 22541 | 22338 | 2.05 | 2.07 | 2.07 | 2.08 | 2.08 |
|            | 64.4°F (18.0°C) | 22532 | 22082 | 21971 | 21884 | 21687 | 2.00 | 2.02 | 2.02 | 2.03 | 2.04 |
| <b>824</b> | -22°F (-30.0°C) | 12611 | 12359 | 12297 | 12248 | 12137 | 2.47 | 2.49 | 2.50 | 2.50 | 2.51 |
|            | -13°F (-25.0°C) | 15330 | 15023 | 14948 | 14888 | 14754 | 2.62 | 2.64 | 2.65 | 2.65 | 2.66 |
|            | -4°F (-20.0°C)  | 18384 | 18017 | 17927 | 17855 | 17694 | 2.63 | 2.65 | 2.66 | 2.66 | 2.67 |
|            | 0°F (-17.8°C)   | 19994 | 19594 | 19496 | 19418 | 19243 | 2.76 | 2.79 | 2.79 | 2.80 | 2.81 |
|            | 5°F (-15.0°C)   | 22006 | 21566 | 21458 | 21372 | 21180 | 2.93 | 2.96 | 2.96 | 2.97 | 2.98 |
|            | 14°F (-10.0°C)  | 26320 | 25794 | 25665 | 25562 | 25332 | 1.66 | 1.67 | 1.68 | 1.68 | 1.69 |
|            | 17°F (-8.3°C)   | 27759 | 27203 | 27067 | 26959 | 26716 | 1.23 | 1.24 | 1.25 | 1.25 | 1.25 |
|            | 22°F (-5.6°C)   | 27155 | 26612 | 26479 | 26373 | 26136 | 1.58 | 1.60 | 1.60 | 1.60 | 1.61 |
|            | 27°F (-2.8°C)   | 26551 | 26020 | 25890 | 25787 | 25555 | 1.93 | 1.95 | 1.95 | 1.96 | 1.96 |
|            | 32°F (-0.0°C)   | 25948 | 25429 | 25302 | 25200 | 24974 | 2.28 | 2.30 | 2.31 | 2.31 | 2.32 |
|            | 35°F (1.7°C)    | 25586 | 25074 | 24949 | 24849 | 24625 | 2.49 | 2.51 | 2.52 | 2.52 | 2.53 |
|            | 37°F (2.8°C)    | 26289 | 25763 | 25634 | 25532 | 25302 | 2.48 | 2.50 | 2.51 | 2.51 | 2.52 |
|            | 42°F (5.6°C)    | 28047 | 27486 | 27349 | 27239 | 26994 | 2.45 | 2.47 | 2.48 | 2.48 | 2.49 |
|            | 44.6°F (7.0°C)  | 28751 | 28176 | 28035 | 27923 | 27671 | 2.44 | 2.46 | 2.46 | 2.47 | 2.48 |
|            | 47°F (8.3°C)    | 29806 | 29209 | 29063 | 28947 | 28687 | 2.42 | 2.44 | 2.45 | 2.45 | 2.46 |
|            | 52°F (11.1°C)   | 28022 | 27462 | 27324 | 27215 | 26970 | 2.30 | 2.32 | 2.33 | 2.33 | 2.34 |
|            | 57°F (13.9°C)   | 26239 | 25714 | 25585 | 25483 | 25253 | 2.19 | 2.21 | 2.21 | 2.21 | 2.22 |
|            | 59°F (15.0°C)   | 25525 | 25015 | 24890 | 24790 | 24567 | 2.14 | 2.16 | 2.16 | 2.17 | 2.18 |
|            | 62°F (16.7°C)   | 24455 | 23966 | 23846 | 23751 | 23537 | 2.07 | 2.09 | 2.09 | 2.10 | 2.10 |
|            | 64.4°F (18.0°C) | 23742 | 23267 | 23150 | 23058 | 22850 | 2.02 | 2.04 | 2.05 | 2.05 | 2.06 |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                  |                          | ID DB(°F)    | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 712              | -22°F (-30.0°C)          | TC           | 24383              | 24416              | 24442              | 24443              | 24476              | 25853              | 25883              | 25909              | 25914              | 25945              | 27397              | 27433              | 27463              | 27469              | 27499              | 29048              | 29080              | 29111              | 29116              | 29152              |
|                  |                          | S/T          | 0.39               | 0.45               | 0.51               | 0.51               | 0.59               | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               |
|                  |                          | PI           | 1.87               | 1.87               | 1.88               | 1.88               | 1.88               | 1.98               | 1.99               | 1.99               | 1.99               | 1.99               | 2.10               | 2.11               | 2.11               | 2.11               | 2.11               | 2.23               | 2.23               | 2.23               | 2.23               | 2.24               |
|                  | -13°F (-25.0°C)          | TC           | 26415              | 26451              | 26479              | 26480              | 26516              | 28007              | 28040              | 28068              | 28074              | 28107              | 29680              | 29719              | 29752              | 29758              | 29791              | 31469              | 31503              | 31537              | 31542              | 31581              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.44               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.62               | 0.62               | 0.70               |
|                  |                          | PI           | 2.03               | 2.03               | 2.03               | 2.03               | 2.03               | 2.15               | 2.15               | 2.15               | 2.15               | 2.16               | 2.28               | 2.28               | 2.28               | 2.28               | 2.29               | 2.41               | 2.42               | 2.42               | 2.42               | 2.42               |
|                  | -4°F (-20.0°C)           | TC           | 28447              | 28485              | 28516              | 28517              | 28556              | 30161              | 30197              | 30227              | 30233              | 30269              | 31963              | 32005              | 32041              | 32047              | 32082              | 33889              | 33926              | 33963              | 33968              | 34011              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.67               | 0.46               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.18               | 2.19               | 2.19               | 2.19               | 2.19               | 2.31               | 2.32               | 2.32               | 2.32               | 2.32               | 2.45               | 2.46               | 2.46               | 2.46               | 2.46               | 2.60               | 2.60               | 2.61               | 2.61               | 2.61               |
|                  | 0°F (-17.8°C)            | TC           | 29350              | 29390              | 29421              | 29423              | 29462              | 31119              | 31156              | 31187              | 31193              | 31230              | 32978              | 33021              | 33058              | 33064              | 33101              | 34965              | 35003              | 35041              | 35047              | 35090              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.25               | 2.26               | 2.26               | 2.26               | 2.26               | 2.39               | 2.39               | 2.39               | 2.39               | 2.40               | 2.53               | 2.53               | 2.54               | 2.54               | 2.54               | 2.68               | 2.69               | 2.69               | 2.69               | 2.69               |
|                  | 5°F (-15.0°C)            | TC           | 30479              | 30520              | 30553              | 30554              | 30595              | 32316              | 32354              | 32386              | 32393              | 32431              | 34247              | 34291              | 34329              | 34336              | 34374              | 36310              | 36349              | 36389              | 36395              | 36440              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.34               | 2.34               | 2.34               | 2.34               | 2.35               | 2.48               | 2.48               | 2.49               | 2.49               | 2.49               | 2.63               | 2.63               | 2.63               | 2.63               | 2.64               | 2.79               | 2.79               | 2.79               | 2.79               | 2.80               |
|                  | 14°F (-10.0°C)           | TC           | 32491              | 32534              | 32569              | 32571              | 32615              | 34449              | 34489              | 34524              | 34530              | 34571              | 36507              | 36554              | 36595              | 36602              | 36643              | 38706              | 38749              | 38791              | 38797              | 38845              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               |
|                  |                          | PI           | 1.93               | 1.93               | 1.93               | 1.93               | 1.94               | 2.05               | 2.05               | 2.05               | 2.05               | 2.05               | 2.17               | 2.17               | 2.17               | 2.17               | 2.18               | 2.30               | 2.30               | 2.30               | 2.30               | 2.31               |
|                  | 17°F (-8.3°C)            | TC           | 33161              | 33206              | 33242              | 33243              | 33288              | 35160              | 35201              | 35236              | 35243              | 35285              | 37260              | 37309              | 37350              | 37357              | 37399              | 39505              | 39548              | 39591              | 39597              | 39647              |
|                  |                          | S/T          | 0.40               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.79               | 1.80               | 1.80               | 1.80               | 1.80               | 1.90               | 1.90               | 1.91               | 1.91               | 1.91               | 2.02               | 2.02               | 2.02               | 2.02               | 2.02               | 2.14               | 2.14               | 2.14               | 2.14               | 2.14               |
|                  | 23°F (-5.0°C)            | TC           | 33474              | 33519              | 33555              | 33557              | 33602              | 35491              | 35534              | 35569              | 35576              | 35618              | 37612              | 37661              | 37703              | 37710              | 37752              | 39878              | 39921              | 39965              | 39971              | 40021              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.45               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.84               | 1.84               | 1.84               | 1.84               | 1.84               | 1.95               | 1.95               | 1.95               | 1.95               | 1.95               | 2.06               | 2.07               | 2.07               | 2.07               | 2.07               | 2.19               | 2.19               | 2.19               | 2.19               | 2.20               |
|                  | 35°F (1.7°C)             | TC           | 34100              | 34146              | 34183              | 34184              | 34230              | 36155              | 36198              | 36234              | 36241              | 36284              | 38315              | 38365              | 38408              | 38415              | 38458              | 40624              | 40668              | 40712              | 40719              | 40769              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.92               | 1.93               | 1.93               | 1.93               | 1.93               | 2.04               | 2.04               | 2.05               | 2.05               | 2.05               | 2.16               | 2.17               | 2.17               | 2.17               | 2.17               | 2.29               | 2.30               | 2.30               | 2.30               | 2.30               |
|                  | 41°F (5.0°C)             | TC           | 30781              | 30822              | 30855              | 30857              | 30898              | 32636              | 32674              | 32707              | 32713              | 32752              | 34585              | 34630              | 34669              | 34675              | 34714              | 36669              | 36709              | 36749              | 36755              | 36801              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.57               | 0.57               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.64               | 0.64               | 0.72               |
|                  |                          | PI           | 1.53               | 1.53               | 1.53               | 1.53               | 1.54               | 1.62               | 1.62               | 1.63               | 1.63               | 1.63               | 1.72               | 1.72               | 1.72               | 1.72               | 1.73               | 1.82               | 1.82               | 1.83               | 1.83               | 1.83               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 2 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 712 | 47°F (8.3°C)   | TC  | 27461 | 27498 | 27528 | 27529 | 27566 | 29116 | 29150 | 29179 | 29185 | 29220 | 30856 | 30896 | 30930 | 30936 | 30970 | 32715 | 32750 | 32786 | 32791 | 32832 |
|     |                | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.20  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  | 1.35  | 1.35  | 1.36  | 1.36  | 1.36  |
|     | 50°F (10.0°C)  | TC  | 27210 | 27247 | 27276 | 27278 | 27314 | 28850 | 28884 | 28913 | 28919 | 28953 | 30574 | 30614 | 30648 | 30653 | 30688 | 32416 | 32451 | 32486 | 32492 | 32532 |
|     |                | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 1.17  | 1.17  | 1.18  | 1.18  | 1.18  | 1.24  | 1.24  | 1.25  | 1.25  | 1.25  | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  | 1.40  | 1.40  | 1.40  | 1.40  | 1.40  |
|     | 59°F (15.0°C)  | TC  | 26458 | 26494 | 26522 | 26523 | 26559 | 28053 | 28086 | 28114 | 28119 | 28153 | 29729 | 29767 | 29800 | 29806 | 29839 | 31520 | 31554 | 31588 | 31593 | 31633 |
|     |                | S/T | 0.41  | 0.48  | 0.54  | 0.54  | 0.62  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 1.28  | 1.29  | 1.29  | 1.29  | 1.29  | 1.36  | 1.36  | 1.36  | 1.36  | 1.37  | 1.44  | 1.44  | 1.45  | 1.45  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  |
|     | 68°F (20.0°C)  | TC  | 25706 | 25741 | 25768 | 25769 | 25804 | 27255 | 27287 | 27314 | 27320 | 27352 | 28883 | 28921 | 28953 | 28959 | 28991 | 30624 | 30657 | 30690 | 30695 | 30733 |
|     |                | S/T | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                | PI  | 1.39  | 1.40  | 1.40  | 1.40  | 1.40  | 1.48  | 1.48  | 1.48  | 1.48  | 1.48  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.66  | 1.66  | 1.66  | 1.67  | 1.67  |
|     | 77°F (25.0°C)  | TC  | 24954 | 24987 | 25014 | 25015 | 25049 | 26458 | 26489 | 26515 | 26520 | 26552 | 28038 | 28075 | 28106 | 28111 | 28143 | 29728 | 29760 | 29792 | 29797 | 29834 |
|     |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                | PI  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.60  | 1.60  | 1.60  | 1.60  | 1.60  | 1.69  | 1.69  | 1.70  | 1.70  | 1.70  | 1.79  | 1.80  | 1.80  | 1.80  | 1.80  |
|     | 82°F (27.8°C)  | TC  | 25218 | 25252 | 25279 | 25280 | 25314 | 26737 | 26769 | 26795 | 26801 | 26833 | 28335 | 28372 | 28403 | 28408 | 28440 | 30042 | 30075 | 30107 | 30112 | 30150 |
|     |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                | PI  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  | 1.92  | 1.92  | 1.92  | 1.92  | 1.92  | 2.03  | 2.03  | 2.04  | 2.04  | 2.04  |
|     | 86°F (30.0°C)  | TC  | 26289 | 26324 | 26353 | 26354 | 26389 | 27873 | 27906 | 27934 | 27939 | 27972 | 29538 | 29577 | 29610 | 29615 | 29648 | 31318 | 31352 | 31386 | 31391 | 31430 |
|     |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                | PI  | 2.04  | 2.04  | 2.04  | 2.04  | 2.05  | 2.16  | 2.16  | 2.17  | 2.17  | 2.17  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.43  | 2.44  | 2.44  |
|     | 95°F (35.0°C)  | TC  | 28699 | 28738 | 28769 | 28770 | 28809 | 30429 | 30465 | 30495 | 30501 | 30537 | 32247 | 32289 | 32325 | 32331 | 32367 | 34190 | 34227 | 34264 | 34269 | 34312 |
|     |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                | PI  | 2.79  | 2.79  | 2.80  | 2.80  | 2.80  | 2.96  | 2.96  | 2.97  | 2.97  | 2.97  | 3.14  | 3.14  | 3.14  | 3.14  | 3.15  | 3.32  | 3.33  | 3.33  | 3.33  | 3.34  |
|     | 104°F (40.0°C) | TC  | 25483 | 25517 | 25545 | 25546 | 25580 | 27019 | 27051 | 27077 | 27083 | 27115 | 28633 | 28670 | 28702 | 28707 | 28739 | 30358 | 30391 | 30424 | 30429 | 30467 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 2.71  | 2.71  | 2.71  | 2.71  | 2.72  | 2.87  | 2.87  | 2.88  | 2.88  | 2.88  | 3.04  | 3.05  | 3.05  | 3.05  | 3.05  | 3.23  | 3.23  | 3.23  | 3.23  | 3.24  |
|     | 110°F (43.0°C) | TC  | 23553 | 23585 | 23610 | 23611 | 23643 | 24973 | 25002 | 25027 | 25032 | 25061 | 26465 | 26499 | 26528 | 26533 | 26563 | 28059 | 28090 | 28120 | 28124 | 28160 |
|     |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                | PI  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  | 2.82  | 2.82  | 2.82  | 2.82  | 2.83  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  | 3.17  | 3.17  | 3.17  | 3.17  | 3.18  |
|     | 115°F (46.0°C) | TC  | 19818 | 19844 | 19866 | 19867 | 19894 | 21012 | 21037 | 21058 | 21062 | 21087 | 22268 | 22296 | 22321 | 22325 | 22350 | 23609 | 23635 | 23661 | 23664 | 23694 |
|     |                | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                | PI  | 2.32  | 2.32  | 2.32  | 2.32  | 2.33  | 2.46  | 2.46  | 2.46  | 2.46  | 2.47  | 2.60  | 2.61  | 2.61  | 2.61  | 2.61  | 2.76  | 2.76  | 2.77  | 2.77  | 2.77  |
|     | 122°F (50.0°C) | TC  | 14837 | 14857 | 14873 | 14874 | 14894 | 15732 | 15750 | 15766 | 15769 | 15788 | 16672 | 16693 | 16712 | 16715 | 16734 | 17676 | 17695 | 17714 | 17717 | 17739 |
|     |                | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                | PI  | 1.86  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.98  | 2.09  | 2.10  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.23  | 2.23  | 2.23  |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | -22°F<br>(-30.0°C) | TC  | 26165 | 26200 | 26228 | 26230 | 26265 | 27742 | 27775 | 27802 | 27808 | 27841 | 29399 | 29437 | 29470 | 29476 | 29509 | 31171 | 31204 | 31238 | 31243 | 31282 |
|     |                    | S/T | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                    | PI  | 2.01  | 2.01  | 2.01  | 2.01  | 2.02  | 2.13  | 2.13  | 2.13  | 2.13  | 2.14  | 2.26  | 2.26  | 2.26  | 2.26  | 2.26  | 2.39  | 2.39  | 2.40  | 2.40  | 2.40  |
|     | -13°F<br>(-25.0°C) | TC  | 28345 | 28383 | 28414 | 28415 | 28454 | 30054 | 30089 | 30119 | 30125 | 30161 | 31849 | 31891 | 31926 | 31932 | 31968 | 33768 | 33805 | 33842 | 33847 | 33889 |
|     |                    | S/T | 0.42  | 0.49  | 0.55  | 0.56  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                    | PI  | 2.18  | 2.18  | 2.18  | 2.18  | 2.18  | 2.31  | 2.31  | 2.31  | 2.31  | 2.31  | 2.44  | 2.45  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.60  | 2.60  | 2.60  |
|     | -4°F<br>(-20.0°C)  | TC  | 30526 | 30567 | 30600 | 30601 | 30642 | 32365 | 32404 | 32436 | 32442 | 32481 | 34299 | 34344 | 34382 | 34388 | 34427 | 36366 | 36405 | 36445 | 36450 | 36496 |
|     |                    | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  |
|     |                    | PI  | 2.34  | 2.35  | 2.35  | 2.35  | 2.35  | 2.48  | 2.49  | 2.49  | 2.49  | 2.49  | 2.63  | 2.64  | 2.64  | 2.64  | 2.64  | 2.79  | 2.79  | 2.80  | 2.80  | 2.80  |
|     | 0°F (-17.8°C)      | TC  | 31495 | 31537 | 31571 | 31573 | 31615 | 33393 | 33432 | 33465 | 33472 | 33512 | 35388 | 35434 | 35473 | 35480 | 35520 | 37520 | 37561 | 37602 | 37608 | 37654 |
|     |                    | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 2.42  | 2.42  | 2.42  | 2.42  | 2.43  | 2.56  | 2.57  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.72  | 2.72  | 2.73  | 2.88  | 2.88  | 2.89  | 2.89  | 2.89  |
|     | 5°F (-15.0°C)      | TC  | 32706 | 32750 | 32785 | 32787 | 32831 | 34677 | 34718 | 34753 | 34759 | 34801 | 36749 | 36797 | 36838 | 36845 | 36886 | 38963 | 39006 | 39048 | 39054 | 39103 |
|     |                    | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 2.51  | 2.51  | 2.52  | 2.52  | 2.52  | 2.66  | 2.66  | 2.67  | 2.67  | 2.67  | 2.82  | 2.82  | 2.83  | 2.83  | 2.83  | 2.99  | 2.99  | 3.00  | 3.00  | 3.00  |
|     | 14°F<br>(-10.0°C)  | TC  | 34865 | 34912 | 34949 | 34951 | 34998 | 36966 | 37010 | 37046 | 37054 | 37098 | 39174 | 39225 | 39269 | 39276 | 39320 | 41535 | 41580 | 41625 | 41632 | 41683 |
|     |                    | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                    | PI  | 2.07  | 2.07  | 2.08  | 2.08  | 2.08  | 2.20  | 2.20  | 2.20  | 2.20  | 2.20  | 2.33  | 2.33  | 2.33  | 2.33  | 2.34  | 2.47  | 2.47  | 2.47  | 2.47  | 2.48  |
|     | 17°F (-8.3°C)      | TC  | 35584 | 35632 | 35671 | 35672 | 35720 | 37729 | 37773 | 37811 | 37818 | 37863 | 39983 | 40035 | 40079 | 40087 | 40132 | 42392 | 42438 | 42484 | 42491 | 42544 |
|     |                    | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                    | PI  | 1.92  | 1.93  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.04  | 2.05  | 2.05  | 2.16  | 2.17  | 2.17  | 2.17  | 2.17  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  |
|     | 23°F (-5.0°C)      | TC  | 35920 | 35968 | 36007 | 36009 | 36057 | 38085 | 38130 | 38168 | 38175 | 38221 | 40360 | 40413 | 40458 | 40465 | 40510 | 42792 | 42839 | 42885 | 42892 | 42945 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 1.97  | 1.97  | 1.98  | 1.98  | 1.98  | 2.09  | 2.09  | 2.09  | 2.10  | 2.10  | 2.22  | 2.22  | 2.22  | 2.22  | 2.22  | 2.35  | 2.35  | 2.35  | 2.35  | 2.36  |
|     | 35°F (1.7°C)       | TC  | 36592 | 36641 | 36681 | 36682 | 36732 | 38797 | 38843 | 38881 | 38889 | 38935 | 41115 | 41168 | 41214 | 41222 | 41268 | 43592 | 43640 | 43687 | 43694 | 43748 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.19  | 2.20  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  | 2.46  | 2.46  | 2.47  | 2.47  | 2.47  |
|     | 41°F (5.0°C)       | TC  | 33030 | 33074 | 33110 | 33111 | 33156 | 35020 | 35062 | 35096 | 35103 | 35145 | 37113 | 37161 | 37202 | 37209 | 37251 | 39349 | 39391 | 39434 | 39440 | 39490 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.64  | 1.64  | 1.65  | 1.65  | 1.65  | 1.74  | 1.74  | 1.74  | 1.75  | 1.75  | 1.84  | 1.85  | 1.85  | 1.85  | 1.85  | 1.96  | 1.96  | 1.96  | 1.96  | 1.96  |
|     | 47°F (8.3°C)       | TC  | 29468 | 29507 | 29539 | 29540 | 29580 | 31244 | 31281 | 31311 | 31318 | 31355 | 33110 | 33153 | 33190 | 33196 | 33233 | 35105 | 35143 | 35182 | 35187 | 35231 |
|     |                    | S/T | 0.43  | 0.51  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.22  | 1.22  | 1.22  | 1.22  | 1.22  | 1.29  | 1.29  | 1.29  | 1.29  | 1.30  | 1.37  | 1.37  | 1.37  | 1.37  | 1.37  | 1.45  | 1.45  | 1.45  | 1.45  | 1.46  |
|     | 50°F (10.0°C)      | TC  | 29199 | 29238 | 29269 | 29271 | 29310 | 30958 | 30995 | 31026 | 31032 | 31069 | 32808 | 32850 | 32887 | 32893 | 32930 | 34785 | 34822 | 34860 | 34866 | 34909 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.33  | 1.34  | 1.34  | 1.34  | 1.34  | 1.41  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 4 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | 59°F (15.0°C)   | TC  | 28391 | 28430 | 28460 | 28462 | 28500 | 30102 | 30138 | 30168 | 30174 | 30210 | 31901 | 31942 | 31978 | 31984 | 32020 | 33823 | 33860 | 33897 | 33902 | 33944 |
|     |                 | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                 | PI  | 1.38  | 1.38  | 1.38  | 1.38  | 1.38  | 1.46  | 1.46  | 1.46  | 1.46  | 1.47  | 1.55  | 1.55  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.65  |
|     | 68°F (20.0°C)   | TC  | 27584 | 27621 | 27651 | 27652 | 27690 | 29247 | 29281 | 29310 | 29316 | 29351 | 30994 | 31034 | 31069 | 31075 | 31109 | 32861 | 32897 | 32933 | 32938 | 32979 |
|     |                 | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.59  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.68  | 1.69  | 1.69  | 1.69  | 1.78  | 1.78  | 1.79  | 1.79  | 1.79  |
|     | 77°F (25.0°C)   | TC  | 26777 | 26813 | 26842 | 26843 | 26879 | 28391 | 28425 | 28453 | 28458 | 28492 | 30087 | 30126 | 30160 | 30165 | 30199 | 31900 | 31935 | 31969 | 31974 | 32014 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                 | PI  | 1.62  | 1.62  | 1.62  | 1.62  | 1.62  | 1.71  | 1.72  | 1.72  | 1.72  | 1.72  | 1.82  | 1.82  | 1.82  | 1.82  | 1.82  | 1.92  | 1.93  | 1.93  | 1.93  | 1.93  |
|     | 82°F (27.8°C)   | TC  | 27060 | 27097 | 27126 | 27127 | 27164 | 28691 | 28725 | 28753 | 28759 | 28793 | 30405 | 30445 | 30479 | 30484 | 30518 | 32237 | 32272 | 32307 | 32312 | 32353 |
|     |                 | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                 | PI  | 1.83  | 1.83  | 1.83  | 1.83  | 1.84  | 1.94  | 1.94  | 1.94  | 1.94  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.06  | 2.18  | 2.18  | 2.18  | 2.19  | 2.19  |
|     | 86°F (30.0°C)   | TC  | 28210 | 28248 | 28278 | 28279 | 28318 | 29910 | 29945 | 29975 | 29981 | 30016 | 31697 | 31738 | 31773 | 31779 | 31815 | 33607 | 33643 | 33680 | 33685 | 33727 |
|     |                 | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 2.19  | 2.19  | 2.19  | 2.19  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  | 2.46  | 2.46  | 2.46  | 2.47  | 2.47  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  |
|     | 95°F (35.0°C)   | TC  | 30796 | 30838 | 30871 | 30872 | 30914 | 32652 | 32691 | 32723 | 32730 | 32768 | 34603 | 34648 | 34687 | 34693 | 34732 | 36688 | 36728 | 36768 | 36773 | 36819 |
|     |                 | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 2.99  | 3.00  | 3.00  | 3.00  | 3.01  | 3.18  | 3.18  | 3.18  | 3.18  | 3.19  | 3.36  | 3.37  | 3.37  | 3.37  | 3.38  | 3.57  | 3.57  | 3.58  | 3.58  | 3.58  |
|     | 104°F (40.0°C)  | TC  | 27345 | 27382 | 27411 | 27412 | 27449 | 28993 | 29027 | 29056 | 29062 | 29096 | 30725 | 30765 | 30799 | 30805 | 30839 | 32576 | 32612 | 32647 | 32652 | 32693 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                 | PI  | 2.91  | 2.91  | 2.91  | 2.91  | 2.92  | 3.08  | 3.08  | 3.09  | 3.09  | 3.09  | 3.26  | 3.27  | 3.27  | 3.27  | 3.28  | 3.46  | 3.47  | 3.47  | 3.47  | 3.47  |
|     | 110°F (43.0°C)  | TC  | 25274 | 25308 | 25335 | 25337 | 25371 | 26797 | 26829 | 26856 | 26861 | 26893 | 28398 | 28435 | 28467 | 28472 | 28504 | 30109 | 30142 | 30175 | 30180 | 30217 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 2.85  | 2.86  | 2.86  | 2.86  | 2.86  | 3.02  | 3.03  | 3.03  | 3.03  | 3.03  | 3.20  | 3.21  | 3.21  | 3.21  | 3.22  | 3.40  | 3.40  | 3.41  | 3.41  | 3.41  |
|     | 115°F (46.0°C)  | TC  | 21266 | 21295 | 21317 | 21318 | 21347 | 22548 | 22574 | 22597 | 22601 | 22628 | 23895 | 23926 | 23952 | 23957 | 23984 | 25334 | 25362 | 25389 | 25393 | 25425 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.49  | 2.49  | 2.49  | 2.49  | 2.50  | 2.64  | 2.64  | 2.64  | 2.64  | 2.65  | 2.79  | 2.80  | 2.80  | 2.80  | 2.80  | 2.96  | 2.97  | 2.97  | 2.97  | 2.97  |
|     | 122°F (50.0°C)  | TC  | 15922 | 15943 | 15960 | 15961 | 15982 | 16881 | 16901 | 16918 | 16921 | 16941 | 17890 | 17913 | 17933 | 17936 | 17956 | 18968 | 18988 | 19009 | 19012 | 19036 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                 | PI  | 2.00  | 2.00  | 2.00  | 2.01  | 2.01  | 2.12  | 2.12  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.25  | 2.25  | 2.26  | 2.38  | 2.39  | 2.39  | 2.39  | 2.39  |
| 894 | -22°F (-30.0°C) | TC  | 28077 | 28115 | 28145 | 28146 | 28184 | 29769 | 29804 | 29834 | 29839 | 29875 | 31547 | 31588 | 31624 | 31629 | 31665 | 33448 | 33485 | 33521 | 33526 | 33568 |
|     |                 | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                 | PI  | 2.15  | 2.16  | 2.16  | 2.16  | 2.16  | 2.28  | 2.29  | 2.29  | 2.29  | 2.29  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.58  |
|     | -13°F (-25.0°C) | TC  | 30417 | 30458 | 30490 | 30492 | 30533 | 32250 | 32288 | 32320 | 32326 | 32364 | 34176 | 34221 | 34259 | 34265 | 34304 | 36236 | 36275 | 36314 | 36320 | 36365 |
|     |                 | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 2.33  | 2.34  | 2.34  | 2.34  | 2.34  | 2.47  | 2.48  | 2.48  | 2.48  | 2.48  | 2.62  | 2.63  | 2.63  | 2.63  | 2.63  | 2.78  | 2.78  | 2.79  | 2.79  | 2.79  |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | -4°F<br>(-20.0°C) | TC  | 32756 | 32800 | 32836 | 32837 | 32881 | 34730 | 34772 | 34806 | 34813 | 34854 | 36805 | 36853 | 36894 | 36901 | 36942 | 39023 | 39065 | 39108 | 39114 | 39163 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 2.51  | 2.52  | 2.52  | 2.52  | 2.52  | 2.67  | 2.67  | 2.67  | 2.67  | 2.67  | 2.82  | 2.83  | 2.83  | 2.83  | 2.83  | 2.99  | 3.00  | 3.00  | 3.00  | 3.01  |
|     | 0°F (-17.8°C)     | TC  | 33796 | 33842 | 33878 | 33880 | 33925 | 35833 | 35875 | 35911 | 35918 | 35961 | 37974 | 38023 | 38065 | 38073 | 38115 | 40262 | 40306 | 40349 | 40356 | 40406 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.59  | 2.60  | 2.60  | 2.60  | 2.60  | 2.75  | 2.75  | 2.76  | 2.76  | 2.76  | 2.91  | 2.92  | 2.92  | 2.92  | 2.92  | 3.09  | 3.09  | 3.10  | 3.10  | 3.10  |
|     | 5°F (-15.0°C)     | TC  | 35096 | 35143 | 35181 | 35183 | 35230 | 37211 | 37255 | 37292 | 37299 | 37344 | 39434 | 39486 | 39530 | 39537 | 39581 | 41810 | 41856 | 41901 | 41908 | 41960 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  | 3.03  | 3.03  | 3.03  | 3.03  | 3.04  | 3.21  | 3.21  | 3.22  | 3.22  | 3.22  |
|     | 14°F (-10.0°C)    | TC  | 37412 | 37463 | 37503 | 37505 | 37555 | 39667 | 39714 | 39753 | 39761 | 39808 | 42037 | 42092 | 42138 | 42146 | 42193 | 44570 | 44618 | 44667 | 44674 | 44729 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.22  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.36  | 2.36  | 2.50  | 2.50  | 2.50  | 2.50  | 2.51  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  |
|     | 17°F (-8.3°C)     | TC  | 38184 | 38236 | 38277 | 38279 | 38330 | 40486 | 40534 | 40574 | 40582 | 40630 | 42904 | 42960 | 43008 | 43016 | 43064 | 45490 | 45539 | 45589 | 45596 | 45652 |
|     |                   | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.19  | 2.19  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  | 2.46  | 2.46  | 2.47  | 2.47  | 2.47  |
|     | 23°F (-5.0°C)     | TC  | 38545 | 38597 | 38638 | 38640 | 38692 | 40868 | 40916 | 40957 | 40965 | 41013 | 43309 | 43366 | 43414 | 43422 | 43471 | 45919 | 45969 | 46019 | 46026 | 46083 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 2.12  | 2.12  | 2.12  | 2.12  | 2.12  | 2.24  | 2.25  | 2.25  | 2.25  | 2.25  | 2.38  | 2.38  | 2.38  | 2.38  | 2.39  | 2.52  | 2.52  | 2.53  | 2.53  | 2.53  |
|     | 35°F (1.7°C)      | TC  | 39266 | 39319 | 39361 | 39363 | 39416 | 41632 | 41681 | 41723 | 41731 | 41780 | 44119 | 44177 | 44226 | 44234 | 44283 | 46778 | 46828 | 46879 | 46887 | 46945 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 2.22  | 2.22  | 2.22  | 2.22  | 2.23  | 2.35  | 2.35  | 2.36  | 2.36  | 2.36  | 2.49  | 2.49  | 2.50  | 2.50  | 2.50  | 2.64  | 2.64  | 2.65  | 2.65  | 2.65  |
|     | 41°F (5.0°C)      | TC  | 35443 | 35491 | 35529 | 35531 | 35579 | 37579 | 37624 | 37661 | 37668 | 37713 | 39824 | 39876 | 39921 | 39928 | 39973 | 42224 | 42270 | 42316 | 42322 | 42375 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.76  | 1.76  | 1.77  | 1.77  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.99  | 2.10  | 2.10  | 2.10  | 2.10  | 2.11  |
|     | 47°F (8.3°C)      | TC  | 31621 | 31663 | 31698 | 31699 | 31742 | 33527 | 33566 | 33599 | 33606 | 33646 | 35530 | 35576 | 35615 | 35622 | 35662 | 37670 | 37711 | 37752 | 37758 | 37805 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                   | PI  | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.47  | 1.56  | 1.56  | 1.56  | 1.56  | 1.56  |
|     | 50°F (10.0°C)     | TC  | 31332 | 31374 | 31408 | 31410 | 31452 | 33220 | 33260 | 33293 | 33299 | 33339 | 35205 | 35251 | 35290 | 35297 | 35336 | 37326 | 37367 | 37408 | 37413 | 37460 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.35  | 1.35  | 1.35  | 1.35  | 1.36  | 1.43  | 1.43  | 1.43  | 1.43  | 1.44  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  |
|     | 59°F (15.0°C)     | TC  | 30466 | 30507 | 30540 | 30541 | 30582 | 32302 | 32340 | 32372 | 32379 | 32417 | 34232 | 34276 | 34315 | 34321 | 34359 | 36295 | 36334 | 36374 | 36379 | 36424 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.48  | 1.48  | 1.48  | 1.48  | 1.48  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.66  | 1.66  | 1.66  | 1.66  | 1.67  | 1.76  | 1.76  | 1.76  | 1.76  | 1.77  |
|     | 68°F (20.0°C)     | TC  | 29600 | 29640 | 29672 | 29673 | 29713 | 31384 | 31421 | 31452 | 31458 | 31496 | 33259 | 33302 | 33339 | 33345 | 33383 | 35263 | 35301 | 35339 | 35345 | 35389 |
|     |                   | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                   | PI  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.70  | 1.71  | 1.71  | 1.71  | 1.80  | 1.81  | 1.81  | 1.81  | 1.81  | 1.91  | 1.92  | 1.92  | 1.92  | 1.92  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 6 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | 77°F (25.0°C)   | TC  | 28734 | 28772 | 28803 | 28805 | 28844 | 30465 | 30502 | 30532 | 30538 | 30574 | 32286 | 32328 | 32364 | 32370 | 32406 | 34231 | 34268 | 34305 | 34311 | 34353 |
|     |                 | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.84  | 1.95  | 1.95  | 1.95  | 1.95  | 1.96  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  |
|     | 82°F (27.8°C)   | TC  | 29038 | 29077 | 29108 | 29109 | 29149 | 30788 | 30824 | 30854 | 30861 | 30897 | 32627 | 32669 | 32706 | 32712 | 32748 | 34593 | 34630 | 34668 | 34673 | 34717 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.35  |
|     | 86°F (30.0°C)   | TC  | 30271 | 30312 | 30344 | 30346 | 30387 | 32095 | 32133 | 32165 | 32172 | 32210 | 34013 | 34057 | 34095 | 34101 | 34139 | 36062 | 36101 | 36141 | 36146 | 36191 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.35  | 2.35  | 2.35  | 2.35  | 2.36  | 2.49  | 2.49  | 2.50  | 2.50  | 2.50  | 2.64  | 2.64  | 2.64  | 2.65  | 2.65  | 2.80  | 2.80  | 2.80  | 2.80  | 2.81  |
|     | 95°F (35.0°C)   | TC  | 33047 | 33091 | 33127 | 33128 | 33173 | 35038 | 35080 | 35114 | 35121 | 35163 | 37131 | 37180 | 37221 | 37228 | 37270 | 39369 | 39411 | 39454 | 39460 | 39510 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 3.21  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.41  | 3.42  | 3.42  | 3.61  | 3.62  | 3.62  | 3.62  | 3.62  | 3.83  | 3.83  | 3.84  | 3.84  | 3.84  |
|     | 104°F (40.0°C)  | TC  | 29343 | 29383 | 29414 | 29416 | 29455 | 31111 | 31148 | 31179 | 31185 | 31222 | 32970 | 33013 | 33050 | 33056 | 33093 | 34957 | 34995 | 35033 | 35038 | 35082 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                 | PI  | 3.12  | 3.12  | 3.13  | 3.13  | 3.13  | 3.31  | 3.31  | 3.31  | 3.31  | 3.32  | 3.50  | 3.51  | 3.51  | 3.51  | 3.52  | 3.71  | 3.72  | 3.72  | 3.72  | 3.73  |
|     | 110°F (43.0°C)  | TC  | 27121 | 27157 | 27187 | 27188 | 27225 | 28755 | 28789 | 28818 | 28824 | 28858 | 30473 | 30513 | 30547 | 30553 | 30587 | 32309 | 32345 | 32380 | 32385 | 32425 |
|     |                 | S/T | 0.53  | 0.62  | 0.70  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  |
|     |                 | PI  | 3.06  | 3.06  | 3.07  | 3.07  | 3.07  | 3.24  | 3.25  | 3.25  | 3.25  | 3.26  | 3.44  | 3.44  | 3.45  | 3.45  | 3.45  | 3.65  | 3.65  | 3.65  | 3.65  | 3.66  |
|     | 115°F (46.0°C)  | TC  | 22820 | 22851 | 22875 | 22876 | 22907 | 24195 | 24224 | 24248 | 24252 | 24281 | 25641 | 25674 | 25703 | 25707 | 25736 | 27186 | 27215 | 27245 | 27249 | 27283 |
|     |                 | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                 | PI  | 2.67  | 2.67  | 2.68  | 2.68  | 2.68  | 2.83  | 2.83  | 2.84  | 2.84  | 2.84  | 3.00  | 3.00  | 3.01  | 3.01  | 3.01  | 3.18  | 3.18  | 3.19  | 3.19  | 3.19  |
|     | 122°F (50.0°C)  | TC  | 17085 | 17108 | 17126 | 17127 | 17150 | 18115 | 18136 | 18154 | 18158 | 18179 | 19197 | 19222 | 19243 | 19247 | 19268 | 20354 | 20376 | 20398 | 20401 | 20426 |
|     |                 | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                 | PI  | 2.15  | 2.15  | 2.15  | 2.15  | 2.15  | 2.28  | 2.28  | 2.28  | 2.28  | 2.28  | 2.41  | 2.41  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.57  |
| 988 | -22°F (-30.0°C) | TC  | 30128 | 30169 | 30201 | 30203 | 30244 | 31944 | 31982 | 32014 | 32020 | 32058 | 33853 | 33897 | 33934 | 33941 | 33979 | 35892 | 35931 | 35970 | 35976 | 36021 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 2.31  | 2.32  | 2.32  | 2.32  | 2.32  | 2.45  | 2.45  | 2.46  | 2.46  | 2.46  | 2.60  | 2.60  | 2.60  | 2.60  | 2.61  | 2.75  | 2.76  | 2.76  | 2.76  | 2.76  |
|     | -13°F (-25.0°C) | TC  | 32639 | 32683 | 32718 | 32720 | 32764 | 34606 | 34647 | 34681 | 34688 | 34729 | 36674 | 36721 | 36762 | 36769 | 36810 | 38883 | 38926 | 38968 | 38974 | 39023 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 2.50  | 2.51  | 2.51  | 2.51  | 2.51  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  | 2.81  | 2.82  | 2.82  | 2.82  | 2.82  | 2.98  | 2.99  | 2.99  | 2.99  | 2.99  |
|     | -4°F (-20.0°C)  | TC  | 35150 | 35197 | 35235 | 35237 | 35284 | 37268 | 37312 | 37349 | 37357 | 37401 | 39495 | 39546 | 39590 | 39597 | 39642 | 41874 | 41920 | 41966 | 41972 | 42024 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 2.70  | 2.70  | 2.70  | 2.70  | 2.71  | 2.86  | 2.86  | 2.87  | 2.87  | 2.87  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  | 3.21  | 3.22  | 3.22  | 3.22  | 3.22  |
|     | 0°F (-17.8°C)   | TC  | 36266 | 36315 | 36354 | 36355 | 36404 | 38451 | 38497 | 38535 | 38542 | 38588 | 40749 | 40801 | 40847 | 40855 | 40900 | 43204 | 43251 | 43298 | 43304 | 43358 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 2.78  | 2.79  | 2.79  | 2.79  | 2.79  | 2.95  | 2.95  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.13  | 3.14  | 3.14  | 3.32  | 3.32  | 3.32  | 3.32  | 3.33  |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 7 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 5°F (-15.0°C)  | TC  | 37661 | 37711 | 37752 | 37754 | 37804 | 39930 | 39977 | 40017 | 40025 | 40072 | 42316 | 42371 | 42418 | 42426 | 42473 | 44865 | 44914 | 44963 | 44970 | 45026 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 2.89  | 2.89  | 2.90  | 2.90  | 2.90  | 3.06  | 3.07  | 3.07  | 3.07  | 3.08  | 3.25  | 3.25  | 3.26  | 3.26  | 3.26  | 3.44  | 3.45  | 3.45  | 3.45  | 3.46  |
|     | 14°F (-10.0°C) | TC  | 40146 | 40200 | 40243 | 40245 | 40300 | 42566 | 42616 | 42658 | 42666 | 42717 | 45109 | 45167 | 45218 | 45226 | 45276 | 47826 | 47878 | 47931 | 47938 | 47998 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 2.38  | 2.39  | 2.39  | 2.39  | 2.39  | 2.53  | 2.53  | 2.53  | 2.53  | 2.54  | 2.68  | 2.68  | 2.69  | 2.69  | 2.69  | 2.84  | 2.84  | 2.85  | 2.85  | 2.85  |
|     | 17°F (-8.3°C)  | TC  | 40975 | 41030 | 41074 | 41076 | 41131 | 43444 | 43495 | 43538 | 43547 | 43599 | 46040 | 46099 | 46151 | 46159 | 46211 | 48814 | 48867 | 48920 | 48927 | 48988 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                | PI  | 2.22  | 2.22  | 2.22  | 2.22  | 2.22  | 2.35  | 2.35  | 2.35  | 2.36  | 2.36  | 2.49  | 2.49  | 2.50  | 2.50  | 2.50  | 2.64  | 2.64  | 2.65  | 2.65  | 2.65  |
|     | 23°F (-5.0°C)  | TC  | 41361 | 41417 | 41462 | 41464 | 41519 | 43854 | 43906 | 43949 | 43958 | 44010 | 46474 | 46534 | 46586 | 46595 | 46647 | 49274 | 49328 | 49381 | 49389 | 49451 |
|     |                | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.27  | 2.27  | 2.28  | 2.28  | 2.28  | 2.41  | 2.41  | 2.41  | 2.41  | 2.42  | 2.55  | 2.55  | 2.56  | 2.56  | 2.56  | 2.70  | 2.71  | 2.71  | 2.71  | 2.71  |
|     | 35°F (1.7°C)   | TC  | 42135 | 42192 | 42237 | 42239 | 42296 | 44674 | 44727 | 44771 | 44780 | 44833 | 47343 | 47405 | 47458 | 47466 | 47519 | 50196 | 50250 | 50305 | 50313 | 50375 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.38  | 2.38  | 2.38  | 2.38  | 2.39  | 2.52  | 2.52  | 2.53  | 2.53  | 2.53  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  | 2.83  | 2.84  | 2.84  | 2.84  | 2.84  |
|     | 41°F (5.0°C)   | TC  | 38033 | 38084 | 38125 | 38127 | 38178 | 40325 | 40373 | 40413 | 40421 | 40469 | 42734 | 42790 | 42838 | 42846 | 42893 | 45309 | 45359 | 45408 | 45415 | 45472 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 2.00  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.26  | 2.26  | 2.26  |
|     | 47°F (8.3°C)   | TC  | 33931 | 33977 | 34014 | 34015 | 34061 | 35976 | 36019 | 36055 | 36062 | 36104 | 38126 | 38175 | 38218 | 38225 | 38268 | 40423 | 40467 | 40511 | 40517 | 40568 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.40  | 1.40  | 1.41  | 1.41  | 1.41  | 1.49  | 1.49  | 1.49  | 1.49  | 1.49  | 1.58  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.67  | 1.67  | 1.68  | 1.68  |
|     | 50°F (10.0°C)  | TC  | 33622 | 33667 | 33703 | 33705 | 33750 | 35648 | 35690 | 35725 | 35732 | 35775 | 37778 | 37827 | 37869 | 37876 | 37918 | 40054 | 40097 | 40141 | 40147 | 40197 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.45  | 1.45  | 1.45  | 1.45  | 1.45  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  |
|     | 59°F (15.0°C)  | TC  | 32692 | 32736 | 32771 | 32773 | 32817 | 34662 | 34704 | 34738 | 34745 | 34786 | 36733 | 36781 | 36822 | 36829 | 36870 | 38947 | 38989 | 39031 | 39037 | 39086 |
|     |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                | PI  | 1.59  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.68  | 1.69  | 1.69  | 1.69  | 1.78  | 1.78  | 1.79  | 1.79  | 1.79  | 1.89  | 1.89  | 1.89  | 1.89  | 1.90  |
|     | 68°F (20.0°C)  | TC  | 31763 | 31806 | 31840 | 31841 | 31884 | 33677 | 33717 | 33750 | 33757 | 33797 | 35689 | 35735 | 35775 | 35782 | 35822 | 37839 | 37881 | 37922 | 37928 | 37975 |
|     |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                | PI  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  | 2.05  | 2.06  | 2.06  | 2.06  | 2.06  |
|     | 77°F (25.0°C)  | TC  | 30833 | 30875 | 30908 | 30910 | 30951 | 32692 | 32730 | 32763 | 32769 | 32808 | 34645 | 34690 | 34728 | 34735 | 34774 | 36732 | 36772 | 36812 | 36818 | 36864 |
|     |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                | PI  | 1.86  | 1.86  | 1.86  | 1.87  | 1.87  | 1.97  | 1.97  | 1.98  | 1.98  | 1.98  | 2.09  | 2.09  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.22  | 2.22  | 2.22  |
|     | 82°F (27.8°C)  | TC  | 31159 | 31201 | 31235 | 31236 | 31278 | 33037 | 33076 | 33109 | 33116 | 33155 | 35011 | 35056 | 35096 | 35102 | 35141 | 37120 | 37161 | 37201 | 37207 | 37253 |
|     |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                | PI  | 2.11  | 2.11  | 2.11  | 2.11  | 2.12  | 2.23  | 2.24  | 2.24  | 2.24  | 2.24  | 2.37  | 2.37  | 2.37  | 2.37  | 2.38  | 2.51  | 2.51  | 2.52  | 2.52  | 2.52  |

Table 10: Cooling Performance - 30K 37MUHA + 45MUHA (Sheet 8 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 86°F (30.0°C)  | TC  | 32483 | 32527 | 32562 | 32563 | 32607 | 34441 | 34481 | 34515 | 34522 | 34563 | 36498 | 36546 | 36586 | 36593 | 36634 | 38697 | 38739 | 38782 | 38788 | 38836 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 2.52  | 2.52  | 2.53  | 2.53  | 2.53  | 2.67  | 2.67  | 2.68  | 2.68  | 2.68  | 2.83  | 2.84  | 2.84  | 2.84  | 2.84  | 3.00  | 3.01  | 3.01  | 3.01  | 3.01  |
|     | 95°F (35.0°C)  | TC  | 35461 | 35509 | 35547 | 35549 | 35597 | 37598 | 37643 | 37680 | 37688 | 37732 | 39845 | 39896 | 39941 | 39948 | 39993 | 42245 | 42291 | 42337 | 42344 | 42397 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 3.45  | 3.45  | 3.46  | 3.46  | 3.46  | 3.66  | 3.66  | 3.66  | 3.66  | 3.67  | 3.87  | 3.88  | 3.88  | 3.88  | 3.89  | 4.11  | 4.11  | 4.12  | 4.12  | 4.12  |
|     | 104°F (40.0°C) | TC  | 31487 | 31530 | 31564 | 31565 | 31607 | 33385 | 33424 | 33457 | 33464 | 33504 | 35379 | 35425 | 35465 | 35471 | 35511 | 37511 | 37552 | 37593 | 37598 | 37645 |
|     |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                | PI  | 3.35  | 3.35  | 3.35  | 3.35  | 3.36  | 3.55  | 3.55  | 3.56  | 3.56  | 3.56  | 3.76  | 3.76  | 3.77  | 3.77  | 3.77  | 3.99  | 3.99  | 3.99  | 4.00  | 4.00  |
|     | 110°F (43.0°C) | TC  | 29103 | 29142 | 29173 | 29175 | 29214 | 30857 | 30893 | 30924 | 30930 | 30966 | 32700 | 32743 | 32779 | 32785 | 32822 | 34670 | 34708 | 34746 | 34751 | 34795 |
|     |                | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                | PI  | 3.28  | 3.29  | 3.29  | 3.29  | 3.30  | 3.48  | 3.49  | 3.49  | 3.49  | 3.49  | 3.69  | 3.69  | 3.70  | 3.70  | 3.70  | 3.91  | 3.92  | 3.92  | 3.92  | 3.93  |
|     | 115°F (46.0°C) | TC  | 24487 | 24520 | 24547 | 24548 | 24581 | 25963 | 25994 | 26019 | 26025 | 26056 | 27514 | 27550 | 27581 | 27586 | 27617 | 29172 | 29204 | 29235 | 29240 | 29276 |
|     |                | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                | PI  | 2.86  | 2.87  | 2.87  | 2.87  | 2.87  | 3.04  | 3.04  | 3.04  | 3.04  | 3.05  | 3.22  | 3.22  | 3.23  | 3.23  | 3.23  | 3.41  | 3.42  | 3.42  | 3.42  | 3.42  |
|     | 122°F (50.0°C) | TC  | 18333 | 18358 | 18378 | 18379 | 18404 | 19438 | 19461 | 19481 | 19484 | 19508 | 20600 | 20626 | 20649 | 20653 | 20676 | 21841 | 21865 | 21888 | 21892 | 21919 |
|     |                | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                | PI  | 2.30  | 2.31  | 2.31  | 2.31  | 2.31  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  | 2.74  | 2.75  | 2.75  | 2.75  | 2.75  |

**Table 11: Heating Performance - 30K 37MUHA + 45MUHA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |               |                    |                    |                           |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|---------------|--------------------|--------------------|---------------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: Total Heating Capacity (BTU/hr) |                  |               |                    |                    | PI: Power Input (kW)      |                  |                  |                    |                    |
|                  |                                                    | Indoor Conditions(DB °F )           |                  |               |                    |                    | Indoor Conditions(DB °F ) |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F (21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)        | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 712              | -22°F (-30.0°C)                                    | 14805                               | 14509            | 14436         | 14840              | 14706              | 3.57                      | 3.60             | 3.60             | 3.61               | 3.63               |
|                  | -13°F (-25.0°C)                                    | 20169                               | 19765            | 19666         | 19439              | 19264              | 3.98                      | 4.01             | 4.02             | 4.03               | 4.05               |
|                  | -4°F (-20.0°C)                                     | 22618                               | 22166            | 22055         | 21800              | 21604              | 4.21                      | 4.24             | 4.25             | 4.26               | 4.28               |
|                  | 0°F (-17.8°C)                                      | 24826                               | 24329            | 24208         | 23927              | 23712              | 4.47                      | 4.50             | 4.51             | 4.52               | 4.54               |
|                  | 5°F (-15.0°C)                                      | 27585                               | 27034            | 26898         | 26587              | 26348              | 4.79                      | 4.83             | 4.84             | 4.85               | 4.87               |
|                  | 14°F (-10.0°C)                                     | 22091                               | 21649            | 21541         | 21291              | 21100              | 3.87                      | 3.90             | 3.91             | 3.92               | 3.93               |
|                  | 17°F (-8.3°C)                                      | 20259                               | 19854            | 19755         | 19526              | 19350              | 3.56                      | 3.59             | 3.60             | 3.61               | 3.62               |
|                  | 22°F (-5.6°C)                                      | 21706                               | 21272            | 21165         | 20920              | 20732              | 3.44                      | 3.47             | 3.48             | 3.49               | 3.50               |
|                  | 27°F (-2.8°C)                                      | 23152                               | 22689            | 22576         | 22315              | 22114              | 3.32                      | 3.35             | 3.36             | 3.37               | 3.38               |
|                  | 32°F (-0.0°C)                                      | 24599                               | 24107            | 23987         | 23709              | 23496              | 3.21                      | 3.23             | 3.24             | 3.24               | 3.26               |
|                  | 35°F (1.7°C)                                       | 25467                               | 24958            | 24833         | 24546              | 24325              | 3.13                      | 3.16             | 3.17             | 3.17               | 3.18               |
|                  | 37°F (2.8°C)                                       | 26168                               | 25645            | 25517         | 25221              | 24994              | 3.10                      | 3.12             | 3.13             | 3.13               | 3.15               |
|                  | 42°F (5.6°C)                                       | 27921                               | 27362            | 27225         | 26910              | 26668              | 3.00                      | 3.03             | 3.03             | 3.04               | 3.05               |
|                  | 44.6°F (7.0°C)                                     | 28622                               | 28049            | 27909         | 27586              | 27338              | 2.96                      | 2.99             | 2.99             | 3.00               | 3.01               |
|                  | 47°F (8.3°C)                                       | 29673                               | 29080            | 28934         | 28600              | 28342              | 2.91                      | 2.93             | 2.94             | 2.94               | 2.95               |
|                  | 52°F (11.1°C)                                      | 26626                               | 26093            | 25963         | 25662              | 25431              | 2.61                      | 2.63             | 2.64             | 2.64               | 2.65               |
|                  | 57°F (13.9°C)                                      | 23578                               | 23106            | 22991         | 22725              | 22520              | 2.31                      | 2.33             | 2.33             | 2.34               | 2.35               |
|                  | 59°F (15.0°C)                                      | 22359                               | 21912            | 21802         | 21550              | 21356              | 2.19                      | 2.21             | 2.21             | 2.22               | 2.23               |
|                  | 62°F (16.7°C)                                      | 20530                               | 20120            | 20019         | 19787              | 19609              | 2.01                      | 2.03             | 2.03             | 2.04               | 2.04               |
|                  | 64.4°F (18.0°C)                                    | 19311                               | 18925            | 18830         | 18612              | 18445              | 1.89                      | 1.91             | 1.91             | 1.92               | 1.92               |
| 806              | -22°F (-30.0°C)                                    | 16201                               | 15877            | 15798         | 15985              | 15841              | 3.60                      | 3.63             | 3.64             | 3.65               | 3.66               |
|                  | -13°F (-25.0°C)                                    | 21642                               | 21210            | 21103         | 20939              | 20751              | 4.02                      | 4.06             | 4.06             | 4.07               | 4.09               |
|                  | -4°F (-20.0°C)                                     | 24271                               | 23786            | 23667         | 23482              | 23271              | 4.25                      | 4.29             | 4.29             | 4.30               | 4.32               |
|                  | 0°F (-17.8°C)                                      | 26640                               | 26107            | 25977         | 25774              | 25542              | 4.51                      | 4.55             | 4.56             | 4.57               | 4.58               |
|                  | 5°F (-15.0°C)                                      | 29601                               | 29009            | 28864         | 28639              | 28381              | 4.84                      | 4.88             | 4.89             | 4.90               | 4.92               |
|                  | 14°F (-10.0°C)                                     | 23705                               | 23231            | 23115         | 22935              | 22728              | 3.91                      | 3.94             | 3.95             | 3.96               | 3.97               |
|                  | 17°F (-8.3°C)                                      | 21740                               | 21305            | 21198         | 21033              | 20844              | 3.60                      | 3.63             | 3.64             | 3.64               | 3.66               |
|                  | 22°F (-5.6°C)                                      | 23292                               | 22826            | 22712         | 22535              | 22332              | 3.48                      | 3.51             | 3.51             | 3.52               | 3.54               |
|                  | 27°F (-2.8°C)                                      | 24844                               | 24347            | 24226         | 24037              | 23821              | 3.36                      | 3.39             | 3.39             | 3.40               | 3.41               |
|                  | 32°F (-0.0°C)                                      | 26397                               | 25869            | 25739         | 25539              | 25309              | 3.24                      | 3.26             | 3.27             | 3.28               | 3.29               |
|                  | 35°F (1.7°C)                                       | 27328                               | 26781            | 26648         | 26440              | 26202              | 3.17                      | 3.19             | 3.20             | 3.20               | 3.22               |
|                  | 37°F (2.8°C)                                       | 28080                               | 27519            | 27381         | 27168              | 26923              | 3.13                      | 3.15             | 3.16             | 3.17               | 3.18               |
|                  | 42°F (5.6°C)                                       | 29961                               | 29362            | 29215         | 28987              | 28726              | 3.03                      | 3.06             | 3.06             | 3.07               | 3.08               |
|                  | 44.6°F (7.0°C)                                     | 30713                               | 30099            | 29948         | 29715              | 29448              | 2.99                      | 3.02             | 3.02             | 3.03               | 3.04               |
|                  | 47°F (8.3°C)                                       | 31842                               | 31205            | 31049         | 30807              | 30529              | 2.94                      | 2.96             | 2.97             | 2.97               | 2.98               |
|                  | 52°F (11.1°C)                                      | 28571                               | 28000            | 27860         | 27643              | 27394              | 2.64                      | 2.66             | 2.66             | 2.67               | 2.68               |
|                  | 57°F (13.9°C)                                      | 25301                               | 24795            | 24671         | 24479              | 24258              | 2.33                      | 2.35             | 2.36             | 2.36               | 2.37               |
|                  | 59°F (15.0°C)                                      | 23993                               | 23513            | 23395         | 23213              | 23004              | 2.21                      | 2.23             | 2.24             | 2.24               | 2.25               |
|                  | 62°F (16.7°C)                                      | 22030                               | 21590            | 21482         | 21314              | 21123              | 2.03                      | 2.05             | 2.05             | 2.06               | 2.07               |
|                  | 64.4°F (18.0°C)                                    | 20722                               | 20308            | 20206         | 20049              | 19868              | 1.91                      | 1.93             | 1.93             | 1.93               | 1.94               |

**Table 11: Heating Performance - 30K 37MUHA + 45MUHA (Sheet 2 of 2)**

|            |                        |       |       |       |       |       |      |      |      |      |      |
|------------|------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>894</b> | <b>-22°F (-30.0°C)</b> | 17729 | 17375 | 17288 | 17219 | 17064 | 3.64 | 3.67 | 3.68 | 3.69 | 3.70 |
|            | <b>-13°F (-25.0°C)</b> | 23224 | 22759 | 22646 | 22555 | 22352 | 4.06 | 4.10 | 4.10 | 4.11 | 4.13 |
|            | <b>-4°F (-20.0°C)</b>  | 26044 | 25524 | 25396 | 25294 | 25067 | 4.29 | 4.33 | 4.34 | 4.35 | 4.36 |
|            | <b>0°F (-17.8°C)</b>   | 28586 | 28015 | 27875 | 27763 | 27513 | 4.56 | 4.59 | 4.60 | 4.61 | 4.63 |
|            | <b>5°F (-15.0°C)</b>   | 31764 | 31129 | 30973 | 30849 | 30572 | 4.89 | 4.93 | 4.94 | 4.95 | 4.96 |
|            | <b>14°F (-10.0°C)</b>  | 25437 | 24928 | 24804 | 24705 | 24482 | 3.95 | 3.98 | 3.99 | 4.00 | 4.01 |
|            | <b>17°F (-8.3°C)</b>   | 23328 | 22862 | 22747 | 22656 | 22452 | 3.64 | 3.67 | 3.67 | 3.68 | 3.70 |
|            | <b>22°F (-5.6°C)</b>   | 24994 | 24494 | 24372 | 24274 | 24056 | 3.51 | 3.54 | 3.55 | 3.56 | 3.57 |
|            | <b>27°F (-2.8°C)</b>   | 26660 | 26126 | 25996 | 25892 | 25659 | 3.39 | 3.42 | 3.43 | 3.43 | 3.45 |
|            | <b>32°F (-0.0°C)</b>   | 28325 | 27759 | 27620 | 27510 | 27262 | 3.27 | 3.30 | 3.30 | 3.31 | 3.32 |
|            | <b>35°F (1.7°C)</b>    | 29325 | 28738 | 28595 | 28480 | 28224 | 3.20 | 3.22 | 3.23 | 3.24 | 3.25 |
|            | <b>37°F (2.8°C)</b>    | 30132 | 29529 | 29382 | 29264 | 29001 | 3.16 | 3.18 | 3.19 | 3.20 | 3.21 |
|            | <b>42°F (5.6°C)</b>    | 32150 | 31507 | 31350 | 31224 | 30943 | 3.06 | 3.09 | 3.09 | 3.10 | 3.11 |
|            | <b>44.6°F (7.0°C)</b>  | 32957 | 32298 | 32137 | 32008 | 31720 | 3.02 | 3.05 | 3.05 | 3.06 | 3.07 |
|            | <b>47°F (8.3°C)</b>    | 34168 | 33485 | 33317 | 33184 | 32885 | 2.97 | 2.99 | 3.00 | 3.00 | 3.01 |
|            | <b>52°F (11.1°C)</b>   | 30659 | 30046 | 29895 | 29776 | 29508 | 2.66 | 2.68 | 2.69 | 2.69 | 2.71 |
|            | <b>57°F (13.9°C)</b>   | 27150 | 26607 | 26474 | 26368 | 26130 | 2.36 | 2.38 | 2.38 | 2.39 | 2.40 |
|            | <b>59°F (15.0°C)</b>   | 25746 | 25231 | 25105 | 25004 | 24779 | 2.24 | 2.25 | 2.26 | 2.26 | 2.27 |
|            | <b>62°F (16.7°C)</b>   | 23640 | 23167 | 23052 | 22959 | 22753 | 2.05 | 2.07 | 2.07 | 2.08 | 2.09 |
|            | <b>64.4°F (18.0°C)</b> | 22236 | 21792 | 21683 | 21596 | 21402 | 1.93 | 1.95 | 1.95 | 1.95 | 1.96 |
| <b>988</b> | <b>-22°F (-30.0°C)</b> | 19025 | 18644 | 18551 | 18477 | 18311 | 3.68 | 3.71 | 3.72 | 3.72 | 3.74 |
|            | <b>-13°F (-25.0°C)</b> | 24921 | 24422 | 24300 | 24203 | 23985 | 4.10 | 4.14 | 4.15 | 4.15 | 4.17 |
|            | <b>-4°F (-20.0°C)</b>  | 27948 | 27389 | 27252 | 27143 | 26898 | 4.34 | 4.37 | 4.38 | 4.39 | 4.41 |
|            | <b>0°F (-17.8°C)</b>   | 30675 | 30062 | 29911 | 29792 | 29524 | 4.60 | 4.64 | 4.65 | 4.66 | 4.68 |
|            | <b>5°F (-15.0°C)</b>   | 34085 | 33403 | 33236 | 33103 | 32805 | 4.94 | 4.98 | 4.99 | 4.99 | 5.02 |
|            | <b>14°F (-10.0°C)</b>  | 27296 | 26750 | 26616 | 26510 | 26271 | 3.99 | 4.02 | 4.03 | 4.04 | 4.05 |
|            | <b>17°F (-8.3°C)</b>   | 25033 | 24532 | 24409 | 24312 | 24093 | 3.67 | 3.70 | 3.71 | 3.72 | 3.73 |
|            | <b>22°F (-5.6°C)</b>   | 26820 | 26284 | 26152 | 26048 | 25813 | 3.55 | 3.58 | 3.59 | 3.59 | 3.61 |
|            | <b>27°F (-2.8°C)</b>   | 28608 | 28036 | 27895 | 27784 | 27534 | 3.43 | 3.45 | 3.46 | 3.47 | 3.48 |
|            | <b>32°F (-0.0°C)</b>   | 30395 | 29787 | 29638 | 29520 | 29254 | 3.30 | 3.33 | 3.34 | 3.34 | 3.36 |
|            | <b>35°F (1.7°C)</b>    | 31468 | 30838 | 30684 | 30561 | 30286 | 3.23 | 3.26 | 3.26 | 3.27 | 3.28 |
|            | <b>37°F (2.8°C)</b>    | 32334 | 31687 | 31529 | 31403 | 31120 | 3.19 | 3.22 | 3.22 | 3.23 | 3.24 |
|            | <b>42°F (5.6°C)</b>    | 34499 | 33809 | 33640 | 33506 | 33204 | 3.09 | 3.12 | 3.12 | 3.13 | 3.14 |
|            | <b>44.6°F (7.0°C)</b>  | 35366 | 34658 | 34485 | 34347 | 34038 | 3.05 | 3.08 | 3.09 | 3.09 | 3.10 |
|            | <b>47°F (8.3°C)</b>    | 36665 | 35932 | 35752 | 35609 | 35288 | 3.00 | 3.02 | 3.03 | 3.03 | 3.05 |
|            | <b>52°F (11.1°C)</b>   | 32899 | 32241 | 32080 | 31952 | 31664 | 2.69 | 2.71 | 2.72 | 2.72 | 2.73 |
|            | <b>57°F (13.9°C)</b>   | 29133 | 28551 | 28408 | 28294 | 28040 | 2.38 | 2.40 | 2.41 | 2.41 | 2.42 |
|            | <b>59°F (15.0°C)</b>   | 27627 | 27075 | 26939 | 26831 | 26590 | 2.26 | 2.28 | 2.28 | 2.29 | 2.29 |
|            | <b>62°F (16.7°C)</b>   | 25368 | 24860 | 24736 | 24637 | 24415 | 2.07 | 2.09 | 2.09 | 2.10 | 2.11 |
|            | <b>64.4°F (18.0°C)</b> | 23861 | 23384 | 23267 | 23174 | 22966 | 2    | 2    | 2    | 1.97 | 1.98 |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F(16.0°C) |                |                |                |                | 64.4°F(18.0°C) |                |                |                |                | 67°F(19.4°C)   |                |                |                |                | 71.6°F(22.0°C) |                |                |                |                |
|------------------|--------------------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                  |                          | ID<br>DB(°F) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) |
| 971              | -22°F(-30.0°C)           | TC           | 27380          | 27417          | 27446          | 27447          | 27484          | 29030          | 29064          | 29093          | 29099          | 29133          | 30764          | 30804          | 30838          | 30844          | 30879          | 32618          | 32653          | 32689          | 32694          | 32734          |
|                  |                          | S/T          | 0.42           | 0.49           | 0.56           | 0.56           | 0.63           | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.50           | 0.58           | 0.66           | 0.66           | 0.75           |
|                  |                          | PI           | 1.80           | 1.80           | 1.80           | 1.80           | 1.81           | 1.91           | 1.91           | 1.91           | 1.91           | 1.91           | 2.02           | 2.02           | 2.03           | 2.03           | 2.03           | 2.14           | 2.15           | 2.15           | 2.15           | 2.15           |
|                  | -13°F(-25.0°C)           | TC           | 29661          | 29701          | 29733          | 29735          | 29775          | 31449          | 31486          | 31517          | 31523          | 31561          | 33328          | 33371          | 33408          | 33414          | 33452          | 35336          | 35374          | 35413          | 35418          | 35462          |
|                  |                          | S/T          | 0.42           | 0.49           | 0.56           | 0.56           | 0.64           | 0.44           | 0.52           | 0.59           | 0.59           | 0.68           | 0.47           | 0.55           | 0.63           | 0.63           | 0.72           | 0.50           | 0.59           | 0.67           | 0.67           | 0.76           |
|                  |                          | PI           | 1.95           | 1.95           | 1.95           | 1.95           | 1.96           | 2.07           | 2.07           | 2.07           | 2.07           | 2.07           | 2.19           | 2.19           | 2.20           | 2.20           | 2.20           | 2.32           | 2.32           | 2.33           | 2.33           | 2.33           |
|                  | -4°F(-20.0°C)            | TC           | 31943          | 31986          | 32020          | 32022          | 32065          | 33868          | 33908          | 33942          | 33948          | 33989          | 35891          | 35938          | 35978          | 35985          | 36025          | 38054          | 38095          | 38137          | 38143          | 38190          |
|                  |                          | S/T          | 0.42           | 0.50           | 0.56           | 0.56           | 0.64           | 0.45           | 0.52           | 0.60           | 0.60           | 0.68           | 0.47           | 0.56           | 0.63           | 0.63           | 0.72           | 0.50           | 0.59           | 0.67           | 0.67           | 0.76           |
|                  |                          | PI           | 2.10           | 2.10           | 2.10           | 2.10           | 2.11           | 2.23           | 2.23           | 2.23           | 2.23           | 2.23           | 2.36           | 2.36           | 2.36           | 2.36           | 2.37           | 2.50           | 2.50           | 2.51           | 2.51           | 2.51           |
|                  | 0°F(-17.8°C)             | TC           | 32957          | 33001          | 33037          | 33038          | 33083          | 34943          | 34985          | 35019          | 35026          | 35068          | 37031          | 37079          | 37120          | 37127          | 37169          | 39262          | 39305          | 39348          | 39354          | 39403          |
|                  |                          | S/T          | 0.42           | 0.50           | 0.56           | 0.56           | 0.64           | 0.45           | 0.53           | 0.60           | 0.60           | 0.68           | 0.48           | 0.56           | 0.63           | 0.63           | 0.72           | 0.50           | 0.59           | 0.67           | 0.67           | 0.77           |
|                  |                          | PI           | 2.17           | 2.17           | 2.17           | 2.17           | 2.17           | 2.30           | 2.30           | 2.30           | 2.30           | 2.30           | 2.43           | 2.44           | 2.44           | 2.44           | 2.44           | 2.58           | 2.58           | 2.59           | 2.59           | 2.59           |
|                  | 5°F(-15.0°C)             | TC           | 34225          | 34271          | 34308          | 34309          | 34355          | 36287          | 36330          | 36366          | 36373          | 36416          | 38455          | 38505          | 38548          | 38555          | 38598          | 40772          | 40816          | 40861          | 40867          | 40918          |
|                  |                          | S/T          | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           | 0.51           | 0.59           | 0.68           | 0.68           | 0.77           |
|                  |                          | PI           | 2.25           | 2.25           | 2.25           | 2.25           | 2.26           | 2.38           | 2.39           | 2.39           | 2.39           | 2.39           | 2.53           | 2.53           | 2.53           | 2.53           | 2.54           | 2.68           | 2.68           | 2.69           | 2.69           | 2.69           |
|                  | 14°F(-10.0°C)            | TC           | 30513          | 30554          | 30587          | 30589          | 30630          | 32352          | 32391          | 32423          | 32429          | 32467          | 34285          | 34330          | 34368          | 34374          | 34413          | 36351          | 36390          | 36430          | 36436          | 36481          |
|                  |                          | S/T          | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.77           |
|                  |                          | PI           | 1.41           | 1.41           | 1.41           | 1.41           | 1.41           | 1.49           | 1.49           | 1.50           | 1.50           | 1.50           | 1.58           | 1.58           | 1.59           | 1.59           | 1.59           | 1.68           | 1.68           | 1.68           | 1.68           | 1.68           |
|                  | 17°F(-8.3°C)             | TC           | 29276          | 29316          | 29347          | 29349          | 29388          | 31041          | 31077          | 31108          | 31114          | 31151          | 32895          | 32938          | 32975          | 32981          | 33018          | 34877          | 34915          | 34953          | 34958          | 35002          |
|                  |                          | S/T          | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.77           |
|                  |                          | PI           | 1.13           | 1.13           | 1.13           | 1.13           | 1.13           | 1.19           | 1.20           | 1.20           | 1.20           | 1.20           | 1.27           | 1.27           | 1.27           | 1.27           | 1.27           | 1.34           | 1.34           | 1.35           | 1.35           | 1.35           |
|                  | 23°F(-5.0°C)             | TC           | 33019          | 33063          | 33099          | 33100          | 33145          | 35009          | 35050          | 35085          | 35092          | 35133          | 37100          | 37149          | 37190          | 37197          | 37238          | 39336          | 39379          | 39421          | 39428          | 39477          |
|                  |                          | S/T          | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.46           | 0.53           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.78           |
|                  |                          | PI           | 1.56           | 1.56           | 1.56           | 1.56           | 1.56           | 1.65           | 1.65           | 1.65           | 1.65           | 1.66           | 1.75           | 1.75           | 1.75           | 1.75           | 1.75           | 1.85           | 1.86           | 1.86           | 1.86           | 1.86           |
|                  | 35°F(1.7°C)              | TC           | 40504          | 40559          | 40602          | 40604          | 40659          | 42945          | 42996          | 43038          | 43047          | 43098          | 45511          | 45570          | 45621          | 45629          | 45680          | 48253          | 48305          | 48358          | 48366          | 48426          |
|                  |                          | S/T          | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.51           | 0.60           | 0.69           | 0.69           | 0.78           |
|                  |                          | PI           | 2.41           | 2.42           | 2.42           | 2.42           | 2.42           | 2.56           | 2.56           | 2.56           | 2.56           | 2.57           | 2.71           | 2.72           | 2.72           | 2.72           | 2.72           | 2.87           | 2.88           | 2.88           | 2.88           | 2.89           |
|                  | 41°F(5.0°C)              | TC           | 36207          | 36256          | 36295          | 36296          | 36345          | 38389          | 38434          | 38472          | 38480          | 38526          | 40682          | 40735          | 40781          | 40788          | 40834          | 43134          | 43180          | 43227          | 43234          | 43288          |
|                  |                          | S/T          | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.60           | 0.69           | 0.69           | 0.78           |
|                  |                          | PI           | 2.12           | 2.12           | 2.12           | 2.12           | 2.13           | 2.25           | 2.25           | 2.25           | 2.25           | 2.25           | 2.38           | 2.38           | 2.39           | 2.39           | 2.39           | 2.52           | 2.53           | 2.53           | 2.53           | 2.53           |
|                  | 47°F(8.3°C)              | TC           | 31910          | 31952          | 31987          | 31988          | 32031          | 33833          | 33873          | 33906          | 33913          | 33953          | 35854          | 35900          | 35940          | 35947          | 35987          | 38014          | 38056          | 38097          | 38103          | 38150          |
|                  |                          | S/T          | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           |
|                  |                          | PI           | 1.82           | 1.83           | 1.83           | 1.83           | 1.83           | 1.93           | 1.93           | 1.94           | 1.94           | 1.94           | 2.05           | 2.05           | 2.05           | 2.05           | 2.06           | 2.17           | 2.17           | 2.18           | 2.18           | 2.18           |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 2 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 971  | 50°F(10.0°C)   | TC  | 31681 | 31724 | 31758 | 31760 | 31802 | 33591 | 33631 | 33664 | 33670 | 33710 | 35598 | 35644 | 35684 | 35690 | 35730 | 37742 | 37783 | 37825 | 37830 | 37878 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 1.86  | 1.86  | 1.86  | 1.86  | 1.86  | 1.97  | 1.97  | 1.97  | 1.97  | 1.98  | 2.09  | 2.09  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.22  | 2.22  | 2.22  |
|      | 59°F(15.0°C)   | TC  | 30997 | 31039 | 31072 | 31074 | 31115 | 32865 | 32904 | 32937 | 32943 | 32982 | 34829 | 34874 | 34913 | 34919 | 34958 | 36927 | 36967 | 37007 | 37013 | 37059 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|      |                | PI  | 1.96  | 1.96  | 1.96  | 1.96  | 1.97  | 2.08  | 2.08  | 2.08  | 2.08  | 2.08  | 2.20  | 2.20  | 2.21  | 2.21  | 2.21  | 2.33  | 2.34  | 2.34  | 2.34  | 2.34  |
|      | 68°F(20.0°C)   | TC  | 30313 | 30353 | 30386 | 30388 | 30428 | 32139 | 32178 | 32209 | 32216 | 32254 | 34060 | 34104 | 34142 | 34148 | 34186 | 36112 | 36151 | 36190 | 36196 | 36241 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 2.06  | 2.06  | 2.07  | 2.07  | 2.07  | 2.18  | 2.19  | 2.19  | 2.19  | 2.19  | 2.32  | 2.32  | 2.32  | 2.32  | 2.32  | 2.45  | 2.46  | 2.46  | 2.46  | 2.46  |
|      | 77°F(25.0°C)   | TC  | 29628 | 29668 | 29700 | 29701 | 29742 | 31414 | 31451 | 31482 | 31488 | 31526 | 33291 | 33334 | 33371 | 33377 | 33415 | 35296 | 35335 | 35373 | 35379 | 35423 |
|      |                | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|      |                | PI  | 2.16  | 2.17  | 2.17  | 2.17  | 2.17  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.44  | 2.44  | 2.44  | 2.58  | 2.58  | 2.58  | 2.58  | 2.59  |
|      | 82°F(27.8°C)   | TC  | 29915 | 29955 | 29987 | 29989 | 30029 | 31718 | 31755 | 31787 | 31793 | 31831 | 33613 | 33656 | 33694 | 33700 | 33738 | 35638 | 35677 | 35715 | 35721 | 35766 |
|      |                | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|      |                | PI  | 2.35  | 2.36  | 2.36  | 2.36  | 2.36  | 2.49  | 2.50  | 2.50  | 2.50  | 2.50  | 2.64  | 2.65  | 2.65  | 2.65  | 2.65  | 2.80  | 2.81  | 2.81  | 2.81  | 2.81  |
|      | 86°F(30.0°C)   | TC  | 30986 | 31027 | 31061 | 31062 | 31104 | 32853 | 32892 | 32924 | 32931 | 32970 | 34816 | 34861 | 34900 | 34906 | 34945 | 36913 | 36954 | 36994 | 37000 | 37046 |
|      |                | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|      |                | PI  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  | 2.83  | 2.84  | 2.84  | 2.84  | 2.84  | 3.00  | 3.01  | 3.01  | 3.01  | 3.01  | 3.18  | 3.19  | 3.19  | 3.19  | 3.20  |
|      | 95°F(35.0°C)   | TC  | 33395 | 33440 | 33476 | 33477 | 33522 | 35407 | 35449 | 35484 | 35491 | 35533 | 37522 | 37571 | 37613 | 37620 | 37662 | 39783 | 39827 | 39870 | 39876 | 39926 |
|      |                | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|      |                | PI  | 3.39  | 3.40  | 3.40  | 3.40  | 3.41  | 3.60  | 3.60  | 3.61  | 3.61  | 3.61  | 3.81  | 3.82  | 3.82  | 3.82  | 3.83  | 4.04  | 4.05  | 4.05  | 4.05  | 4.06  |
|      | 104°F(40.0°C)  | TC  | 31237 | 31279 | 31312 | 31314 | 31356 | 33119 | 33158 | 33191 | 33198 | 33237 | 35098 | 35143 | 35183 | 35189 | 35228 | 37213 | 37253 | 37294 | 37299 | 37346 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |                | PI  | 3.38  | 3.38  | 3.38  | 3.38  | 3.39  | 3.58  | 3.58  | 3.59  | 3.59  | 3.59  | 3.79  | 3.80  | 3.80  | 3.80  | 3.81  | 4.02  | 4.03  | 4.03  | 4.03  | 4.04  |
|      | 110°F(43.0°C)  | TC  | 29942 | 29982 | 30014 | 30016 | 30056 | 31746 | 31784 | 31815 | 31822 | 31859 | 33643 | 33687 | 33724 | 33731 | 33768 | 35670 | 35709 | 35748 | 35753 | 35798 |
|      |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |                | PI  | 3.36  | 3.37  | 3.37  | 3.37  | 3.38  | 3.57  | 3.57  | 3.57  | 3.57  | 3.58  | 3.78  | 3.78  | 3.79  | 3.79  | 3.79  | 4.01  | 4.01  | 4.02  | 4.02  | 4.02  |
|      | 115°F(46.0°C)  | TC  | 25269 | 25303 | 25330 | 25331 | 25365 | 26791 | 26823 | 26850 | 26855 | 26887 | 28392 | 28429 | 28461 | 28466 | 28498 | 30103 | 30135 | 30168 | 30173 | 30211 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 3.04  | 3.04  | 3.05  | 3.05  | 3.05  | 3.22  | 3.23  | 3.23  | 3.23  | 3.23  | 3.41  | 3.42  | 3.42  | 3.42  | 3.43  | 3.62  | 3.62  | 3.63  | 3.63  | 3.63  |
|      | 122°F(50.0°C)  | TC  | 19038 | 19063 | 19084 | 19085 | 19110 | 20185 | 20209 | 20229 | 20233 | 20257 | 21391 | 21419 | 21442 | 21446 | 21470 | 22680 | 22704 | 22729 | 22733 | 22761 |
|      |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|      |                | PI  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.76  | 2.77  | 2.77  | 2.77  | 2.77  | 2.93  | 2.93  | 2.94  | 2.94  | 2.94  | 3.10  | 3.11  | 3.11  | 3.11  | 3.12  |
| 1059 | -22°F(-30.0°C) | TC  | 28622 | 28660 | 28691 | 28692 | 28731 | 30347 | 30382 | 30413 | 30419 | 30455 | 32160 | 32201 | 32237 | 32243 | 32279 | 34097 | 34134 | 34171 | 34177 | 34219 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 1.88  | 1.88  | 1.89  | 1.89  | 1.89  | 1.99  | 2.00  | 2.00  | 2.00  | 2.00  | 2.11  | 2.12  | 2.12  | 2.12  | 2.12  | 2.24  | 2.24  | 2.25  | 2.25  | 2.25  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 3 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1059 | -13°F(-25.0°C) | TC  | 31007 | 31049 | 31082 | 31083 | 31125 | 32875 | 32914 | 32947 | 32953 | 32993 | 34840 | 34885 | 34924 | 34930 | 34969 | 36939 | 36979 | 37019 | 37025 | 37071 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|      |                | PI  | 2.04  | 2.04  | 2.04  | 2.04  | 2.05  | 2.16  | 2.16  | 2.17  | 2.17  | 2.17  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.44  |
|      | -4°F(-20.0°C)  | TC  | 33392 | 33437 | 33473 | 33474 | 33520 | 35404 | 35446 | 35481 | 35488 | 35530 | 37520 | 37568 | 37610 | 37617 | 37659 | 39780 | 39823 | 39867 | 39873 | 39923 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                | PI  | 2.19  | 2.20  | 2.20  | 2.20  | 2.20  | 2.33  | 2.33  | 2.33  | 2.33  | 2.34  | 2.47  | 2.47  | 2.47  | 2.47  | 2.47  | 2.61  | 2.62  | 2.62  | 2.62  | 2.62  |
|      | 0°F(-17.8°C)   | TC  | 34452 | 34498 | 34536 | 34537 | 34584 | 36528 | 36572 | 36608 | 36615 | 36658 | 38711 | 38761 | 38804 | 38811 | 38855 | 41043 | 41088 | 41132 | 41139 | 41190 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                | PI  | 2.26  | 2.27  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.41  | 2.41  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.70  | 2.70  | 2.70  | 2.70  | 2.71  |
|      | 5°F(-15.0°C)   | TC  | 35777 | 35825 | 35864 | 35865 | 35914 | 37933 | 37978 | 38016 | 38023 | 38068 | 40199 | 40252 | 40297 | 40304 | 40349 | 42622 | 42668 | 42714 | 42721 | 42774 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|      |                | PI  | 2.35  | 2.35  | 2.36  | 2.36  | 2.36  | 2.49  | 2.50  | 2.50  | 2.50  | 2.50  | 2.64  | 2.65  | 2.65  | 2.65  | 2.65  | 2.80  | 2.80  | 2.81  | 2.81  | 2.81  |
|      | 14°F(-10.0°C)  | TC  | 31897 | 31940 | 31975 | 31976 | 32019 | 33820 | 33860 | 33893 | 33900 | 33940 | 35840 | 35887 | 35927 | 35934 | 35974 | 38000 | 38041 | 38083 | 38088 | 38136 |
|      |                | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 1.47  | 1.47  | 1.47  | 1.48  | 1.48  | 1.56  | 1.56  | 1.56  | 1.56  | 1.57  | 1.65  | 1.66  | 1.66  | 1.66  | 1.66  | 1.75  | 1.75  | 1.76  | 1.76  | 1.76  |
|      | 17°F(-8.3°C)   | TC  | 30604 | 30645 | 30678 | 30680 | 30721 | 32449 | 32487 | 32519 | 32526 | 32564 | 34387 | 34432 | 34470 | 34477 | 34515 | 36459 | 36499 | 36539 | 36544 | 36590 |
|      |                | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  | 1.25  | 1.25  | 1.25  | 1.25  | 1.25  | 1.32  | 1.33  | 1.33  | 1.33  | 1.33  | 1.40  | 1.40  | 1.41  | 1.41  | 1.41  |
|      | 23°F(-5.0°C)   | TC  | 34517 | 34563 | 34600 | 34602 | 34649 | 36597 | 36640 | 36676 | 36684 | 36727 | 38783 | 38834 | 38877 | 38884 | 38928 | 41120 | 41165 | 41210 | 41216 | 41267 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  |
|      | 35°F(1.7°C)    | TC  | 42341 | 42398 | 42444 | 42446 | 42503 | 44893 | 44946 | 44991 | 45000 | 45053 | 47575 | 47637 | 47690 | 47699 | 47752 | 50442 | 50497 | 50552 | 50559 | 50622 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 2.52  | 2.53  | 2.53  | 2.53  | 2.53  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  | 2.83  | 2.84  | 2.84  | 2.84  | 2.85  | 3.01  | 3.01  | 3.01  | 3.01  | 3.02  |
|      | 41°F(5.0°C)    | TC  | 37849 | 37900 | 37941 | 37943 | 37994 | 40130 | 40178 | 40217 | 40225 | 40273 | 42528 | 42583 | 42630 | 42638 | 42686 | 45090 | 45139 | 45188 | 45195 | 45252 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 2.21  | 2.22  | 2.22  | 2.22  | 2.22  | 2.35  | 2.35  | 2.35  | 2.35  | 2.36  | 2.49  | 2.49  | 2.49  | 2.49  | 2.50  | 2.64  | 2.64  | 2.64  | 2.64  | 2.65  |
|      | 47°F(8.3°C)    | TC  | 33357 | 33402 | 33438 | 33439 | 33484 | 35367 | 35409 | 35444 | 35451 | 35493 | 37480 | 37529 | 37571 | 37578 | 37620 | 39739 | 39782 | 39825 | 39831 | 39881 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 1.91  | 1.91  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.03  | 2.14  | 2.14  | 2.15  | 2.15  | 2.15  | 2.27  | 2.27  | 2.27  | 2.28  | 2.28  |
|      | 50°F(10.0°C)   | TC  | 33119 | 33163 | 33199 | 33200 | 33245 | 35114 | 35156 | 35191 | 35198 | 35239 | 37212 | 37261 | 37302 | 37309 | 37351 | 39454 | 39497 | 39540 | 39546 | 39596 |
|      |                | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|      |                | PI  | 1.94  | 1.94  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.07  | 2.18  | 2.18  | 2.19  | 2.19  | 2.19  | 2.31  | 2.31  | 2.32  | 2.32  | 2.32  |
|      | 59°F(15.0°C)   | TC  | 32403 | 32447 | 32482 | 32483 | 32527 | 34356 | 34397 | 34431 | 34437 | 34478 | 36408 | 36456 | 36496 | 36503 | 36544 | 38602 | 38644 | 38686 | 38692 | 38740 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                | PI  | 2.05  | 2.05  | 2.05  | 2.05  | 2.06  | 2.17  | 2.17  | 2.18  | 2.18  | 2.18  | 2.30  | 2.30  | 2.31  | 2.31  | 2.31  | 2.44  | 2.44  | 2.44  | 2.44  | 2.45  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 4 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1059 | 68°F(20.0°C)   | TC  | 31688 | 31730 | 31765 | 31766 | 31809 | 33597 | 33637 | 33670 | 33677 | 33717 | 35605 | 35651 | 35691 | 35697 | 35737 | 37750 | 37791 | 37832 | 37838 | 37885 |
|      |                | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |                | PI  | 2.15  | 2.16  | 2.16  | 2.16  | 2.16  | 2.28  | 2.29  | 2.29  | 2.29  | 2.29  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.58  |
|      | 77°F(25.0°C)   | TC  | 30972 | 31014 | 31047 | 31049 | 31091 | 32839 | 32878 | 32910 | 32917 | 32956 | 34801 | 34846 | 34885 | 34891 | 34930 | 36898 | 36938 | 36978 | 36984 | 37030 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |                | PI  | 2.26  | 2.26  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.40  | 2.40  | 2.41  | 2.54  | 2.54  | 2.55  | 2.55  | 2.55  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  |
|      | 82°F(27.8°C)   | TC  | 31272 | 31314 | 31348 | 31349 | 31391 | 33156 | 33196 | 33229 | 33235 | 33275 | 35137 | 35183 | 35222 | 35229 | 35268 | 37254 | 37295 | 37336 | 37341 | 37388 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|      |                | PI  | 2.46  | 2.46  | 2.47  | 2.47  | 2.47  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.76  | 2.77  | 2.77  | 2.77  | 2.77  | 2.93  | 2.93  | 2.94  | 2.94  | 2.94  |
|      | 86°F(30.0°C)   | TC  | 32391 | 32435 | 32470 | 32471 | 32515 | 34343 | 34384 | 34418 | 34425 | 34465 | 36395 | 36442 | 36483 | 36490 | 36530 | 38588 | 38630 | 38672 | 38678 | 38726 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |                | PI  | 2.79  | 2.80  | 2.80  | 2.80  | 2.80  | 2.96  | 2.97  | 2.97  | 2.97  | 2.97  | 3.14  | 3.14  | 3.15  | 3.15  | 3.15  | 3.33  | 3.33  | 3.34  | 3.34  | 3.34  |
|      | 95°F(35.0°C)   | TC  | 34909 | 34956 | 34994 | 34996 | 35043 | 37013 | 37057 | 37094 | 37101 | 37145 | 39225 | 39276 | 39319 | 39327 | 39370 | 41588 | 41633 | 41678 | 41685 | 41737 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |                | PI  | 3.55  | 3.55  | 3.56  | 3.56  | 3.56  | 3.76  | 3.77  | 3.77  | 3.77  | 3.78  | 3.99  | 3.99  | 4.00  | 4.00  | 4.00  | 4.23  | 4.23  | 4.24  | 4.24  | 4.24  |
|      | 104°F(40.0°C)  | TC  | 32654 | 32698 | 32733 | 32734 | 32778 | 34621 | 34662 | 34697 | 34704 | 34745 | 36690 | 36738 | 36779 | 36785 | 36826 | 38901 | 38943 | 38985 | 38991 | 39040 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 3.53  | 3.53  | 3.54  | 3.54  | 3.54  | 3.74  | 3.75  | 3.75  | 3.75  | 3.75  | 3.96  | 3.97  | 3.97  | 3.97  | 3.98  | 4.20  | 4.21  | 4.21  | 4.21  | 4.22  |
|      | 110°F(43.0°C)  | TC  | 31300 | 31342 | 31376 | 31377 | 31420 | 33186 | 33226 | 33259 | 33265 | 33305 | 35169 | 35215 | 35254 | 35261 | 35300 | 37288 | 37329 | 37369 | 37375 | 37422 |
|      |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.82  | 0.82  | 0.94  |
|      |                | PI  | 3.52  | 3.52  | 3.52  | 3.53  | 3.53  | 3.73  | 3.73  | 3.74  | 3.74  | 3.74  | 3.95  | 3.96  | 3.96  | 3.96  | 3.97  | 4.19  | 4.19  | 4.20  | 4.20  | 4.20  |
|      | 115°F(46.0°C)  | TC  | 26415 | 26450 | 26479 | 26480 | 26516 | 28007 | 28040 | 28068 | 28073 | 28106 | 29680 | 29719 | 29752 | 29757 | 29790 | 31468 | 31502 | 31537 | 31542 | 31581 |
|      |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.73  | 0.83  | 0.83  | 0.95  |
|      |                | PI  | 3.18  | 3.18  | 3.18  | 3.18  | 3.19  | 3.37  | 3.37  | 3.38  | 3.38  | 3.38  | 3.57  | 3.57  | 3.58  | 3.58  | 3.58  | 3.78  | 3.79  | 3.79  | 3.79  | 3.80  |
|      | 122°F(50.0°C)  | TC  | 19901 | 19928 | 19949 | 19950 | 19977 | 21100 | 21125 | 21146 | 21150 | 21176 | 22361 | 22390 | 22415 | 22419 | 22444 | 23708 | 23734 | 23760 | 23764 | 23793 |
|      |                | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.81  | 0.81  | 0.92  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |                | PI  | 2.72  | 2.73  | 2.73  | 2.73  | 2.73  | 2.89  | 2.89  | 2.89  | 2.90  | 2.90  | 3.06  | 3.06  | 3.07  | 3.07  | 3.07  | 3.25  | 3.25  | 3.25  | 3.25  | 3.26  |
| 1147 | -22°F(-30.0°C) | TC  | 29920 | 29960 | 29992 | 29994 | 30034 | 31723 | 31761 | 31792 | 31798 | 31836 | 33618 | 33662 | 33700 | 33706 | 33743 | 35644 | 35683 | 35722 | 35727 | 35772 |
|      |                | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 1.97  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.09  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.22  | 2.22  | 2.34  | 2.35  | 2.35  | 2.35  | 2.35  |
|      | -13°F(-25.0°C) | TC  | 32413 | 32457 | 32492 | 32493 | 32537 | 34367 | 34407 | 34441 | 34448 | 34489 | 36420 | 36467 | 36508 | 36515 | 36555 | 38614 | 38656 | 38698 | 38704 | 38753 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                | PI  | 2.13  | 2.13  | 2.14  | 2.14  | 2.14  | 2.26  | 2.26  | 2.26  | 2.26  | 2.27  | 2.39  | 2.40  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.54  | 2.54  | 2.55  |
|      | -4°F(-20.0°C)  | TC  | 34907 | 34954 | 34991 | 34993 | 35040 | 37010 | 37054 | 37091 | 37098 | 37142 | 39221 | 39272 | 39316 | 39323 | 39367 | 41585 | 41630 | 41675 | 41682 | 41734 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                | PI  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  | 2.43  | 2.44  | 2.44  | 2.44  | 2.44  | 2.58  | 2.58  | 2.58  | 2.58  | 2.59  | 2.73  | 2.74  | 2.74  | 2.74  | 2.74  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 5 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1147 | 0°F(-17.8°C)  | TC  | 36015 | 36063 | 36102 | 36104 | 36152 | 38185 | 38230 | 38268 | 38276 | 38321 | 40467 | 40519 | 40564 | 40572 | 40617 | 42905 | 42951 | 42998 | 43005 | 43058 |
|      |               | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|      |               | PI  | 2.37  | 2.37  | 2.37  | 2.37  | 2.38  | 2.51  | 2.51  | 2.51  | 2.52  | 2.52  | 2.66  | 2.66  | 2.67  | 2.67  | 2.67  | 2.82  | 2.82  | 2.83  | 2.83  | 2.83  |
|      | 5°F(-15.0°C)  | TC  | 37400 | 37450 | 37491 | 37492 | 37543 | 39654 | 39701 | 39740 | 39748 | 39795 | 42023 | 42078 | 42124 | 42132 | 42179 | 44555 | 44603 | 44652 | 44659 | 44714 |
|      |               | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|      |               | PI  | 2.46  | 2.46  | 2.46  | 2.46  | 2.47  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.76  | 2.77  | 2.77  | 2.77  | 2.77  | 2.93  | 2.93  | 2.93  | 2.93  | 2.94  |
|      | 14°F(-10.0°C) | TC  | 33344 | 33389 | 33425 | 33427 | 33472 | 35354 | 35396 | 35431 | 35438 | 35480 | 37466 | 37515 | 37557 | 37564 | 37605 | 39724 | 39767 | 39810 | 39816 | 39866 |
|      |               | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|      |               | PI  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.64  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.84  | 1.84  | 1.84  |
|      | 17°F(-8.3°C)  | TC  | 31993 | 32036 | 32070 | 32072 | 32115 | 33921 | 33961 | 33994 | 34001 | 34041 | 35947 | 35994 | 36034 | 36041 | 36081 | 38113 | 38154 | 38196 | 38202 | 38249 |
|      |               | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|      |               | PI  | 1.23  | 1.23  | 1.23  | 1.23  | 1.24  | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  | 1.38  | 1.39  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.47  |
|      | 23°F(-5.0°C)  | TC  | 36082 | 36131 | 36170 | 36171 | 36220 | 38257 | 38302 | 38340 | 38348 | 38393 | 40543 | 40595 | 40640 | 40648 | 40693 | 42985 | 43032 | 43079 | 43086 | 43139 |
|      |               | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |               | PI  | 1.70  | 1.70  | 1.70  | 1.70  | 1.71  | 1.80  | 1.80  | 1.81  | 1.81  | 1.81  | 1.91  | 1.91  | 1.91  | 1.92  | 1.92  | 2.03  | 2.03  | 2.03  | 2.03  | 2.03  |
|      | 35°F(1.7°C)   | TC  | 44262 | 44322 | 44369 | 44371 | 44431 | 46930 | 46985 | 47032 | 47041 | 47097 | 49733 | 49798 | 49853 | 49863 | 49918 | 52730 | 52787 | 52845 | 52853 | 52919 |
|      |               | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |               | PI  | 2.64  | 2.64  | 2.64  | 2.64  | 2.65  | 2.80  | 2.80  | 2.80  | 2.80  | 2.81  | 2.96  | 2.97  | 2.97  | 2.97  | 2.97  | 3.14  | 3.15  | 3.15  | 3.15  | 3.15  |
|      | 41°F(5.0°C)   | TC  | 39566 | 39619 | 39662 | 39664 | 39717 | 41951 | 42000 | 42042 | 42050 | 42100 | 44457 | 44515 | 44564 | 44573 | 44622 | 47136 | 47187 | 47238 | 47245 | 47304 |
|      |               | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|      |               | PI  | 2.31  | 2.32  | 2.32  | 2.32  | 2.32  | 2.45  | 2.46  | 2.46  | 2.46  | 2.46  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  |
|      | 47°F(8.3°C)   | TC  | 34870 | 34917 | 34955 | 34956 | 35003 | 36972 | 37015 | 37052 | 37059 | 37103 | 39180 | 39231 | 39275 | 39282 | 39326 | 41541 | 41586 | 41632 | 41638 | 41690 |
|      |               | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|      |               | PI  | 1.99  | 1.99  | 2.00  | 2.00  | 2.00  | 2.11  | 2.11  | 2.12  | 2.12  | 2.12  | 2.24  | 2.24  | 2.24  | 2.24  | 2.25  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  |
|      | 50°F(10.0°C)  | TC  | 34621 | 34667 | 34705 | 34706 | 34753 | 36707 | 36751 | 36787 | 36794 | 36838 | 38900 | 38951 | 38994 | 39002 | 39045 | 41244 | 41289 | 41334 | 41340 | 41392 |
|      |               | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |               | PI  | 2.03  | 2.03  | 2.03  | 2.03  | 2.04  | 2.15  | 2.15  | 2.16  | 2.16  | 2.16  | 2.28  | 2.28  | 2.29  | 2.29  | 2.29  | 2.42  | 2.42  | 2.42  | 2.42  | 2.43  |
|      | 59°F(15.0°C)  | TC  | 33873 | 33919 | 33955 | 33957 | 34002 | 35914 | 35957 | 35992 | 35999 | 36042 | 38060 | 38109 | 38152 | 38159 | 38202 | 40353 | 40397 | 40441 | 40447 | 40498 |
|      |               | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |               | PI  | 2.14  | 2.14  | 2.15  | 2.15  | 2.15  | 2.27  | 2.27  | 2.27  | 2.27  | 2.28  | 2.40  | 2.41  | 2.41  | 2.41  | 2.41  | 2.55  | 2.55  | 2.56  | 2.56  | 2.56  |
|      | 68°F(20.0°C)  | TC  | 33125 | 33170 | 33205 | 33207 | 33252 | 35121 | 35163 | 35198 | 35205 | 35246 | 37220 | 37268 | 37310 | 37316 | 37358 | 39462 | 39505 | 39548 | 39554 | 39604 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 2.25  | 2.25  | 2.26  | 2.26  | 2.26  | 2.39  | 2.39  | 2.39  | 2.39  | 2.40  | 2.53  | 2.53  | 2.54  | 2.54  | 2.54  | 2.68  | 2.69  | 2.69  | 2.69  | 2.69  |
|      | 77°F(25.0°C)  | TC  | 32377 | 32421 | 32456 | 32457 | 32501 | 34328 | 34369 | 34403 | 34410 | 34451 | 36379 | 36427 | 36467 | 36474 | 36515 | 38571 | 38613 | 38655 | 38661 | 38709 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 2.36  | 2.37  | 2.37  | 2.37  | 2.37  | 2.51  | 2.51  | 2.51  | 2.51  | 2.51  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  | 2.82  | 2.82  | 2.82  | 2.82  | 2.83  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 6 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1147 | 82°F(27.8°C)   | TC  | 32690 | 32734 | 32770 | 32771 | 32815 | 34660 | 34702 | 34736 | 34743 | 34784 | 36731 | 36779 | 36820 | 36827 | 36868 | 38944 | 38987 | 39029 | 39035 | 39084 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  | 2.89  | 2.89  | 2.90  | 2.90  | 2.90  | 3.06  | 3.07  | 3.07  | 3.07  | 3.07  |
|      | 86°F(30.0°C)   | TC  | 33860 | 33906 | 33942 | 33944 | 33990 | 35901 | 35944 | 35979 | 35986 | 36029 | 38046 | 38095 | 38138 | 38145 | 38187 | 40338 | 40382 | 40426 | 40432 | 40483 |
|      |                | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|      |                | PI  | 2.92  | 2.92  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.10  | 3.10  | 3.11  | 3.28  | 3.29  | 3.29  | 3.29  | 3.29  | 3.48  | 3.48  | 3.49  | 3.49  | 3.49  |
|      | 95°F(35.0°C)   | TC  | 36493 | 36542 | 36581 | 36583 | 36632 | 38692 | 38738 | 38776 | 38784 | 38830 | 41004 | 41057 | 41103 | 41110 | 41156 | 43474 | 43522 | 43569 | 43576 | 43630 |
|      |                | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|      |                | PI  | 3.71  | 3.71  | 3.72  | 3.72  | 3.72  | 3.93  | 3.94  | 3.94  | 3.94  | 3.95  | 4.17  | 4.17  | 4.18  | 4.18  | 4.18  | 4.42  | 4.42  | 4.43  | 4.43  | 4.43  |
|      | 104°F(40.0°C)  | TC  | 34135 | 34181 | 34218 | 34219 | 34265 | 36192 | 36235 | 36271 | 36278 | 36321 | 38354 | 38404 | 38447 | 38454 | 38497 | 40665 | 40709 | 40754 | 40760 | 40811 |
|      |                | S/T | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  |
|      |                | PI  | 3.69  | 3.69  | 3.70  | 3.70  | 3.70  | 3.91  | 3.92  | 3.92  | 3.92  | 3.92  | 4.14  | 4.15  | 4.15  | 4.15  | 4.16  | 4.39  | 4.40  | 4.40  | 4.40  | 4.41  |
|      | 110°F(43.0°C)  | TC  | 32720 | 32764 | 32799 | 32801 | 32845 | 34692 | 34733 | 34767 | 34774 | 34815 | 36764 | 36812 | 36853 | 36860 | 36901 | 38980 | 39022 | 39064 | 39070 | 39119 |
|      |                | S/T | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.58  | 0.68  | 0.77  | 0.77  | 0.87  | 0.61  | 0.72  | 0.81  | 0.81  | 0.93  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  |
|      |                | PI  | 3.68  | 3.68  | 3.68  | 3.68  | 3.69  | 3.90  | 3.90  | 3.91  | 3.91  | 3.91  | 4.13  | 4.14  | 4.14  | 4.14  | 4.15  | 4.38  | 4.38  | 4.39  | 4.39  | 4.39  |
|      | 115°F(46.0°C)  | TC  | 27613 | 27650 | 27680 | 27681 | 27719 | 29277 | 29312 | 29341 | 29347 | 29381 | 31026 | 31067 | 31101 | 31107 | 31142 | 32896 | 32931 | 32967 | 32972 | 33013 |
|      |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  | 0.65  | 0.77  | 0.87  | 0.87  | 0.99  |
|      |                | PI  | 3.32  | 3.33  | 3.33  | 3.33  | 3.33  | 3.52  | 3.53  | 3.53  | 3.53  | 3.53  | 3.73  | 3.74  | 3.74  | 3.74  | 3.75  | 3.96  | 3.96  | 3.96  | 3.97  | 3.97  |
|      | 122°F(50.0°C)  | TC  | 20804 | 20832 | 20854 | 20855 | 20883 | 22058 | 22084 | 22106 | 22110 | 22136 | 23375 | 23406 | 23432 | 23436 | 23462 | 24784 | 24811 | 24838 | 24842 | 24873 |
|      |                | S/T | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.60  | 0.70  | 0.79  | 0.79  | 0.91  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  | 0.67  | 0.79  | 0.89  | 0.89  | 1.00  |
|      |                | PI  | 2.85  | 2.85  | 2.85  | 2.85  | 2.86  | 3.02  | 3.02  | 3.03  | 3.03  | 3.03  | 3.20  | 3.20  | 3.21  | 3.21  | 3.21  | 3.39  | 3.40  | 3.40  | 3.40  | 3.40  |
| 1235 | -22°F(-30.0°C) | TC  | 31277 | 31319 | 31353 | 31354 | 31397 | 33162 | 33201 | 33234 | 33241 | 33280 | 35143 | 35189 | 35228 | 35235 | 35274 | 37261 | 37301 | 37342 | 37348 | 37394 |
|      |                | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |                | PI  | 2.06  | 2.06  | 2.06  | 2.06  | 2.06  | 2.18  | 2.18  | 2.18  | 2.18  | 2.19  | 2.31  | 2.31  | 2.32  | 2.32  | 2.32  | 2.45  | 2.45  | 2.45  | 2.45  | 2.46  |
|      | -13°F(-25.0°C) | TC  | 33884 | 33929 | 33966 | 33967 | 34013 | 35926 | 35968 | 36004 | 36011 | 36054 | 38072 | 38121 | 38164 | 38171 | 38214 | 40366 | 40410 | 40454 | 40460 | 40510 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |                | PI  | 2.23  | 2.23  | 2.23  | 2.23  | 2.24  | 2.36  | 2.36  | 2.37  | 2.37  | 2.37  | 2.50  | 2.51  | 2.51  | 2.51  | 2.51  | 2.65  | 2.66  | 2.66  | 2.66  | 2.66  |
|      | -4°F(-20.0°C)  | TC  | 36490 | 36539 | 36578 | 36580 | 36629 | 38689 | 38735 | 38773 | 38781 | 38827 | 41001 | 41054 | 41100 | 41107 | 41153 | 43471 | 43518 | 43566 | 43572 | 43627 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|      |                | PI  | 2.40  | 2.40  | 2.40  | 2.40  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  |
|      | 0°F(-17.8°C)   | TC  | 37648 | 37699 | 37740 | 37741 | 37792 | 39917 | 39965 | 40004 | 40012 | 40059 | 42302 | 42357 | 42404 | 42412 | 42460 | 44851 | 44900 | 44949 | 44956 | 45012 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 2.47  | 2.48  | 2.48  | 2.48  | 2.48  | 2.62  | 2.63  | 2.63  | 2.63  | 2.63  | 2.78  | 2.78  | 2.79  | 2.79  | 2.79  | 2.95  | 2.95  | 2.95  | 2.95  | 2.96  |
|      | 5°F(-15.0°C)   | TC  | 39096 | 39149 | 39191 | 39193 | 39246 | 41453 | 41502 | 41543 | 41551 | 41600 | 43929 | 43986 | 44035 | 44043 | 44093 | 46576 | 46627 | 46677 | 46685 | 46743 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  | 2.72  | 2.73  | 2.73  | 2.73  | 2.73  | 2.89  | 2.89  | 2.89  | 2.89  | 2.90  | 3.06  | 3.06  | 3.07  | 3.07  | 3.07  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 7 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1235 | 14°F(-10.0°C) | TC  | 34857 | 34904 | 34941 | 34943 | 34990 | 36958 | 37001 | 37038 | 37045 | 37089 | 39166 | 39216 | 39260 | 39267 | 39311 | 41525 | 41571 | 41616 | 41622 | 41674 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |               | PI  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  | 1.92  | 1.92  | 1.92  | 1.92  | 1.92  |
|      | 17°F(-8.3°C)  | TC  | 33444 | 33489 | 33525 | 33526 | 33572 | 35459 | 35501 | 35536 | 35543 | 35586 | 37578 | 37627 | 37668 | 37675 | 37718 | 39842 | 39885 | 39929 | 39935 | 39985 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |               | PI  | 1.29  | 1.29  | 1.29  | 1.29  | 1.29  | 1.36  | 1.37  | 1.37  | 1.37  | 1.37  | 1.45  | 1.45  | 1.45  | 1.45  | 1.45  | 1.53  | 1.54  | 1.54  | 1.54  | 1.54  |
|      | 23°F(-5.0°C)  | TC  | 37719 | 37770 | 37811 | 37812 | 37863 | 39992 | 40040 | 40079 | 40087 | 40135 | 42382 | 42437 | 42484 | 42492 | 42539 | 44935 | 44984 | 45033 | 45040 | 45096 |
|      |               | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 1.78  | 1.78  | 1.78  | 1.78  | 1.78  | 1.88  | 1.89  | 1.89  | 1.89  | 1.89  | 2.00  | 2.00  | 2.00  | 2.00  | 2.00  | 2.12  | 2.12  | 2.12  | 2.12  | 2.12  |
|      | 35°F(1.7°C)   | TC  | 46270 | 46332 | 46382 | 46384 | 46447 | 49058 | 49116 | 49165 | 49175 | 49233 | 51989 | 52057 | 52115 | 52125 | 52183 | 55122 | 55182 | 55242 | 55250 | 55319 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  | 2.92  | 2.93  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.11  | 3.11  | 3.11  | 3.28  | 3.29  | 3.29  | 3.29  | 3.30  |
|      | 41°F(5.0°C)   | TC  | 41361 | 41417 | 41461 | 41463 | 41519 | 43854 | 43905 | 43949 | 43957 | 44010 | 46474 | 46534 | 46586 | 46594 | 46646 | 49274 | 49327 | 49381 | 49389 | 49450 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.73  | 2.73  | 2.73  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  |
|      | 47°F(8.3°C)   | TC  | 36452 | 36501 | 36540 | 36542 | 36591 | 38649 | 38694 | 38733 | 38740 | 38786 | 40958 | 41011 | 41057 | 41064 | 41110 | 43425 | 43473 | 43520 | 43527 | 43581 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.21  | 2.22  | 2.34  | 2.34  | 2.35  | 2.35  | 2.35  | 2.48  | 2.48  | 2.49  | 2.49  | 2.49  |
|      | 50°F(10.0°C)  | TC  | 36191 | 36240 | 36279 | 36281 | 36330 | 38372 | 38418 | 38456 | 38463 | 38509 | 40665 | 40718 | 40763 | 40771 | 40816 | 43115 | 43162 | 43209 | 43216 | 43269 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 2.12  | 2.12  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.25  | 2.25  | 2.26  | 2.38  | 2.39  | 2.39  | 2.39  | 2.39  | 2.53  | 2.53  | 2.53  | 2.53  | 2.54  |
|      | 59°F(15.0°C)  | TC  | 35409 | 35457 | 35495 | 35497 | 35545 | 37543 | 37588 | 37625 | 37632 | 37677 | 39786 | 39838 | 39883 | 39890 | 39934 | 42184 | 42230 | 42275 | 42282 | 42335 |
|      |               | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |               | PI  | 2.24  | 2.24  | 2.24  | 2.24  | 2.25  | 2.37  | 2.37  | 2.38  | 2.38  | 2.38  | 2.51  | 2.52  | 2.52  | 2.52  | 2.52  | 2.67  | 2.67  | 2.67  | 2.67  | 2.67  |
|      | 68°F(20.0°C)  | TC  | 34628 | 34674 | 34712 | 34713 | 34760 | 36715 | 36758 | 36794 | 36802 | 36845 | 38908 | 38959 | 39002 | 39009 | 39053 | 41252 | 41297 | 41342 | 41349 | 41400 |
|      |               | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|      |               | PI  | 2.35  | 2.36  | 2.36  | 2.36  | 2.36  | 2.50  | 2.50  | 2.50  | 2.50  | 2.50  | 2.64  | 2.65  | 2.65  | 2.65  | 2.65  | 2.80  | 2.81  | 2.81  | 2.81  | 2.81  |
|      | 77°F(25.0°C)  | TC  | 33846 | 33891 | 33928 | 33929 | 33975 | 35886 | 35928 | 35964 | 35971 | 36013 | 38030 | 38079 | 38121 | 38128 | 38171 | 40321 | 40365 | 40409 | 40415 | 40465 |
|      |               | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|      |               | PI  | 2.47  | 2.47  | 2.48  | 2.48  | 2.48  | 2.62  | 2.62  | 2.62  | 2.63  | 2.63  | 2.78  | 2.78  | 2.78  | 2.78  | 2.79  | 2.94  | 2.95  | 2.95  | 2.95  | 2.95  |
|      | 82°F(27.8°C)  | TC  | 34173 | 34219 | 34256 | 34258 | 34304 | 36233 | 36276 | 36311 | 36319 | 36362 | 38397 | 38447 | 38490 | 38497 | 38540 | 40711 | 40755 | 40800 | 40806 | 40857 |
|      |               | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|      |               | PI  | 2.69  | 2.69  | 2.69  | 2.69  | 2.70  | 2.85  | 2.85  | 2.86  | 2.86  | 2.86  | 3.02  | 3.02  | 3.03  | 3.03  | 3.03  | 3.20  | 3.21  | 3.21  | 3.21  | 3.21  |
|      | 86°F(30.0°C)  | TC  | 35396 | 35444 | 35482 | 35484 | 35532 | 37530 | 37574 | 37611 | 37619 | 37663 | 39772 | 39823 | 39868 | 39875 | 39920 | 42168 | 42214 | 42260 | 42266 | 42319 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 3.05  | 3.06  | 3.06  | 3.06  | 3.07  | 3.24  | 3.24  | 3.24  | 3.24  | 3.25  | 3.43  | 3.44  | 3.44  | 3.44  | 3.44  | 3.64  | 3.64  | 3.65  | 3.65  | 3.65  |

Table 12: Cooling Performance - 36K 37MUHA + 45MUHA (Sheet 8 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1235 | 95°F(35.0°C)  | TC  | 38148 | 38200 | 38241 | 38242 | 38294 | 40447 | 40495 | 40535 | 40543 | 40591 | 42864 | 42919 | 42967 | 42975 | 43023 | 45446 | 45496 | 45545 | 45552 | 45609 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 3.88  | 3.88  | 3.89  | 3.89  | 3.89  | 4.11  | 4.12  | 4.12  | 4.12  | 4.13  | 4.36  | 4.36  | 4.37  | 4.37  | 4.37  | 4.62  | 4.62  | 4.63  | 4.63  | 4.64  |
|      | 104°F(40.0°C) | TC  | 35683 | 35731 | 35770 | 35771 | 35820 | 37834 | 37878 | 37916 | 37923 | 37968 | 40094 | 40146 | 40191 | 40198 | 40243 | 42510 | 42556 | 42602 | 42609 | 42662 |
|      |               | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|      |               | PI  | 3.86  | 3.86  | 3.86  | 3.87  | 3.87  | 4.09  | 4.09  | 4.10  | 4.10  | 4.10  | 4.33  | 4.34  | 4.34  | 4.34  | 4.35  | 4.59  | 4.60  | 4.60  | 4.60  | 4.61  |
|      | 110°F(43.0°C) | TC  | 34204 | 34250 | 34287 | 34289 | 34335 | 36265 | 36308 | 36344 | 36351 | 36395 | 38432 | 38482 | 38525 | 38532 | 38575 | 40748 | 40792 | 40836 | 40843 | 40894 |
|      |               | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|      |               | PI  | 3.84  | 3.85  | 3.85  | 3.85  | 3.86  | 4.07  | 4.08  | 4.08  | 4.08  | 4.09  | 4.32  | 4.32  | 4.33  | 4.33  | 4.33  | 4.58  | 4.58  | 4.59  | 4.59  | 4.59  |
|      | 115°F(46.0°C) | TC  | 28866 | 28904 | 28936 | 28937 | 28976 | 30605 | 30641 | 30672 | 30678 | 30714 | 32434 | 32476 | 32512 | 32518 | 32554 | 34388 | 34425 | 34463 | 34468 | 34511 |
|      |               | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|      |               | PI  | 3.47  | 3.48  | 3.48  | 3.48  | 3.48  | 3.68  | 3.69  | 3.69  | 3.69  | 3.69  | 3.90  | 3.91  | 3.91  | 3.91  | 3.92  | 4.14  | 4.14  | 4.14  | 4.15  | 4.15  |
|      | 122°F(50.0°C) | TC  | 21748 | 21777 | 21800 | 21801 | 21831 | 23058 | 23085 | 23108 | 23113 | 23140 | 24436 | 24467 | 24495 | 24499 | 24527 | 25908 | 25936 | 25964 | 25968 | 26001 |
|      |               | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|      |               | PI  | 2.98  | 2.98  | 2.98  | 2.98  | 2.99  | 3.16  | 3.16  | 3.16  | 3.16  | 3.17  | 3.34  | 3.35  | 3.35  | 3.35  | 3.36  | 3.55  | 3.55  | 3.55  | 3.55  | 3.56  |

**Table 13: Heating Performance - 36K 37MUHA + 45MUHA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |              |              |                |                |                          |              |              |                |                |
|------------------|----------------------------------------------------|-------------------------------------|--------------|--------------|----------------|----------------|--------------------------|--------------|--------------|----------------|----------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |              |              |                |                | PI: POWER INPUT (KW)     |              |              |                |                |
|                  |                                                    | INDOOR CONDITIONS(DB °F)            |              |              |                |                | INDOOR CONDITIONS(DB °F) |              |              |                |                |
|                  |                                                    | 60.8°F(16.0°C)                      | 68°F(20.0°C) | 70°F(21.1°C) | 71.6°F(22.0°C) | 75.2°F(24.0°C) | 60.8°F(16.0°C)           | 68°F(20.0°C) | 70°F(21.1°C) | 71.6°F(22.0°C) | 75.2°F(24.0°C) |
| 971              | -22°F(-30.0°C)                                     | 23936                               | 23458        | 23340        | 23893          | 23678          | 4.98                     | 5.02         | 5.03         | 5.04           | 5.07           |
|                  | -13°F(-25.0°C)                                     | 31712                               | 31078        | 30923        | 30437          | 30163          | 5.13                     | 5.17         | 5.18         | 5.19           | 5.21           |
|                  | -4°F(-20.0°C)                                      | 33369                               | 32702        | 32538        | 32028          | 31740          | 5.09                     | 5.13         | 5.14         | 5.15           | 5.17           |
|                  | 0°F(-17.8°C)                                       | 33874                               | 33197        | 33031        | 32513          | 32220          | 5.12                     | 5.16         | 5.17         | 5.18           | 5.20           |
|                  | 5°F(-15.0°C)                                       | 34506                               | 33816        | 33647        | 33119          | 32821          | 5.15                     | 5.19         | 5.20         | 5.21           | 5.24           |
|                  | 14°F(-10.0°C)                                      | 37699                               | 36945        | 36760        | 36184          | 35858          | 5.25                     | 5.29         | 5.30         | 5.31           | 5.33           |
|                  | 17°F(-8.3°C)                                       | 38764                               | 37988        | 37798        | 37205          | 36870          | 5.28                     | 5.32         | 5.33         | 5.34           | 5.37           |
|                  | 22°F(-5.6°C)                                       | 39578                               | 38786        | 38592        | 37987          | 37645          | 5.08                     | 5.12         | 5.13         | 5.14           | 5.16           |
|                  | 27°F(-2.8°C)                                       | 40392                               | 39584        | 39386        | 38768          | 38419          | 4.87                     | 4.91         | 4.92         | 4.93           | 4.95           |
|                  | 32°F(0.0°C)                                        | 41206                               | 40382        | 40180        | 39550          | 39194          | 4.67                     | 4.70         | 4.71         | 4.72           | 4.74           |
|                  | 35°F(1.7°C)                                        | 41695                               | 40861        | 40657        | 40019          | 39659          | 4.54                     | 4.58         | 4.59         | 4.60           | 4.62           |
|                  | 37°F(2.8°C)                                        | 41799                               | 40963        | 40758        | 40119          | 39758          | 4.46                     | 4.50         | 4.50         | 4.51           | 4.53           |
|                  | 42°F(5.6°C)                                        | 42059                               | 41218        | 41012        | 40369          | 40005          | 4.25                     | 4.28         | 4.29         | 4.30           | 4.32           |
|                  | 44.6°F(7.0°C)                                      | 42164                               | 41320        | 41114        | 40469          | 40104          | 4.17                     | 4.20         | 4.21         | 4.22           | 4.23           |
|                  | 47°F(8.3°C)                                        | 42320                               | 41473        | 41266        | 40619          | 40253          | 4.04                     | 4.07         | 4.08         | 4.09           | 4.10           |
|                  | 52°F(11.1°C)                                       | 41588                               | 40756        | 40553        | 39916          | 39557          | 3.67                     | 3.70         | 3.71         | 3.71           | 3.73           |
|                  | 57°F(13.9°C)                                       | 40857                               | 40040        | 39839        | 39214          | 38861          | 3.30                     | 3.32         | 3.33         | 3.34           | 3.35           |
|                  | 59°F(15.0°C)                                       | 40564                               | 39753        | 39554        | 38933          | 38583          | 3.15                     | 3.17         | 3.18         | 3.19           | 3.20           |
|                  | 62°F(16.7°C)                                       | 40125                               | 39323        | 39126        | 38512          | 38165          | 2.93                     | 2.95         | 2.96         | 2.96           | 2.97           |
|                  | 64.4°F(18.0°C)                                     | 39833                               | 39036        | 38841        | 38231          | 37887          | 2.78                     | 2.80         | 2.81         | 2.81           | 2.82           |
| 1059             | -22°F(-30.0°C)                                     | 25518                               | 25007        | 24882        | 25125          | 24899          | 5.03                     | 5.08         | 5.09         | 5.10           | 5.12           |
|                  | -13°F(-25.0°C)                                     | 33151                               | 32488        | 32325        | 32006          | 31718          | 5.18                     | 5.22         | 5.23         | 5.24           | 5.26           |
|                  | -4°F(-20.0°C)                                      | 34883                               | 34185        | 34014        | 33679          | 33376          | 5.14                     | 5.18         | 5.19         | 5.20           | 5.22           |
|                  | 0°F(-17.8°C)                                       | 35411                               | 34703        | 34529        | 34189          | 33881          | 5.17                     | 5.21         | 5.22         | 5.23           | 5.25           |
|                  | 5°F(-15.0°C)                                       | 36071                               | 35350        | 35173        | 34826          | 34513          | 5.20                     | 5.25         | 5.26         | 5.27           | 5.29           |
|                  | 14°F(-10.0°C)                                      | 39409                               | 38621        | 38428        | 38049          | 37706          | 5.30                     | 5.34         | 5.35         | 5.37           | 5.39           |
|                  | 17°F(-8.3°C)                                       | 40522                               | 39711        | 39513        | 39123          | 38771          | 5.33                     | 5.38         | 5.39         | 5.40           | 5.42           |
|                  | 22°F(-5.6°C)                                       | 41373                               | 40546        | 40343        | 39945          | 39585          | 5.13                     | 5.17         | 5.18         | 5.19           | 5.21           |
|                  | 27°F(-2.8°C)                                       | 42224                               | 41380        | 41173        | 40767          | 40400          | 4.92                     | 4.96         | 4.97         | 4.98           | 5.00           |
|                  | 32°F(0.0°C)                                        | 43075                               | 42214        | 42003        | 41589          | 41214          | 4.71                     | 4.75         | 4.76         | 4.77           | 4.79           |
|                  | 35°F(1.7°C)                                        | 43586                               | 42714        | 42501        | 42082          | 41703          | 4.59                     | 4.63         | 4.64         | 4.65           | 4.66           |
|                  | 37°F(2.8°C)                                        | 43695                               | 42821        | 42607        | 42187          | 41807          | 4.50                     | 4.54         | 4.55         | 4.56           | 4.58           |
|                  | 42°F(5.6°C)                                        | 43967                               | 43088        | 42872        | 42450          | 42068          | 4.29                     | 4.33         | 4.34         | 4.34           | 4.36           |
|                  | 44.6°F(7.0°C)                                      | 44076                               | 43195        | 42979        | 42555          | 42172          | 4.21                     | 4.24         | 4.25         | 4.26           | 4.28           |
|                  | 47°F(8.3°C)                                        | 44239                               | 43355        | 43138        | 42712          | 42328          | 4.08                     | 4.11         | 4.12         | 4.13           | 4.15           |
|                  | 52°F(11.1°C)                                       | 43475                               | 42605        | 42392        | 41974          | 41596          | 3.71                     | 3.74         | 3.74         | 3.75           | 3.77           |
|                  | 57°F(13.9°C)                                       | 42710                               | 41856        | 41647        | 41236          | 40865          | 3.33                     | 3.36         | 3.36         | 3.37           | 3.38           |
|                  | 59°F(15.0°C)                                       | 42404                               | 41556        | 41348        | 40940          | 40572          | 3.18                     | 3.21         | 3.21         | 3.22           | 3.23           |
|                  | 62°F(16.7°C)                                       | 41945                               | 41106        | 40901        | 40497          | 40133          | 2.96                     | 2.98         | 2.98         | 2.99           | 3.00           |
|                  | 64.4°F(18.0°C)                                     | 41639                               | 40807        | 40603        | 40202          | 39840          | 2.81                     | 2.83         | 2.83         | 2.84           | 2.85           |

**Table 13: Heating Performance - 36K 37MUHA + 45MUHA (Sheet 2 of 2)**

|             |                       |       |       |       |       |       |      |      |      |      |      |
|-------------|-----------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>1147</b> | <b>-22°F(-30.0°C)</b> | 27203 | 26659 | 26526 | 26420 | 26182 | 5.09 | 5.13 | 5.14 | 5.15 | 5.17 |
|             | <b>-13°F(-25.0°C)</b> | 34655 | 33961 | 33792 | 33656 | 33354 | 5.23 | 5.28 | 5.29 | 5.30 | 5.32 |
|             | <b>-4°F(-20.0°C)</b>  | 36465 | 35736 | 35557 | 35415 | 35096 | 5.19 | 5.23 | 5.25 | 5.26 | 5.28 |
|             | <b>0°F(-17.8°C)</b>   | 37017 | 36277 | 36096 | 35951 | 35628 | 5.22 | 5.26 | 5.27 | 5.28 | 5.31 |
|             | <b>5°F(-15.0°C)</b>   | 37707 | 36953 | 36768 | 36621 | 36292 | 5.26 | 5.30 | 5.31 | 5.32 | 5.34 |
|             | <b>14°F(-10.0°C)</b>  | 41197 | 40373 | 40171 | 40010 | 39650 | 5.35 | 5.40 | 5.41 | 5.42 | 5.44 |
|             | <b>17°F(-8.3°C)</b>   | 42360 | 41513 | 41305 | 41140 | 40770 | 5.39 | 5.43 | 5.44 | 5.45 | 5.47 |
|             | <b>22°F(-5.6°C)</b>   | 43250 | 42385 | 42173 | 42004 | 41626 | 5.18 | 5.22 | 5.23 | 5.24 | 5.26 |
|             | <b>27°F(-2.8°C)</b>   | 44140 | 43257 | 43041 | 42868 | 42483 | 4.97 | 5.01 | 5.02 | 5.03 | 5.05 |
|             | <b>32°F(-0.0°C)</b>   | 45029 | 44129 | 43908 | 43733 | 43339 | 4.76 | 4.80 | 4.81 | 4.82 | 4.84 |
|             | <b>35°F(1.7°C)</b>    | 45563 | 44652 | 44429 | 44251 | 43853 | 4.64 | 4.67 | 4.68 | 4.69 | 4.71 |
|             | <b>37°F(2.8°C)</b>    | 45677 | 44764 | 44540 | 44362 | 43962 | 4.55 | 4.59 | 4.60 | 4.61 | 4.62 |
|             | <b>42°F(5.6°C)</b>    | 45962 | 45042 | 44817 | 44638 | 44236 | 4.34 | 4.37 | 4.38 | 4.39 | 4.41 |
|             | <b>44.6°F(7.0°C)</b>  | 46075 | 45154 | 44928 | 44748 | 44346 | 4.25 | 4.28 | 4.29 | 4.30 | 4.32 |
|             | <b>47°F(8.3°C)</b>    | 46246 | 45321 | 45095 | 44914 | 44510 | 4.12 | 4.15 | 4.16 | 4.17 | 4.19 |
|             | <b>52°F(11.1°C)</b>   | 45447 | 44538 | 44315 | 44138 | 43741 | 3.74 | 3.77 | 3.78 | 3.79 | 3.80 |
|             | <b>57°F(13.9°C)</b>   | 44647 | 43754 | 43536 | 43361 | 42971 | 3.36 | 3.39 | 3.40 | 3.40 | 3.42 |
|             | <b>59°F(15.0°C)</b>   | 44328 | 43441 | 43224 | 43051 | 42663 | 3.21 | 3.24 | 3.24 | 3.25 | 3.26 |
|             | <b>62°F(16.7°C)</b>   | 43848 | 42971 | 42756 | 42585 | 42202 | 2.98 | 3.01 | 3.02 | 3.02 | 3.03 |
|             | <b>64.4°F(18.0°C)</b> | 43528 | 42658 | 42444 | 42275 | 41894 | 2.83 | 2.86 | 2.86 | 2.87 | 2.88 |
| <b>1235</b> | <b>-22°F(-30.0°C)</b> | 28437 | 27869 | 27729 | 27618 | 27370 | 5.14 | 5.18 | 5.19 | 5.20 | 5.22 |
|             | <b>-13°F(-25.0°C)</b> | 36226 | 35502 | 35324 | 35183 | 34866 | 5.29 | 5.33 | 5.34 | 5.35 | 5.37 |
|             | <b>-4°F(-20.0°C)</b>  | 38120 | 37357 | 37170 | 37022 | 36688 | 5.25 | 5.29 | 5.30 | 5.31 | 5.33 |
|             | <b>0°F(-17.8°C)</b>   | 38696 | 37923 | 37733 | 37582 | 37244 | 5.27 | 5.32 | 5.33 | 5.34 | 5.36 |
|             | <b>5°F(-15.0°C)</b>   | 39418 | 38629 | 38436 | 38282 | 37938 | 5.31 | 5.35 | 5.36 | 5.37 | 5.40 |
|             | <b>14°F(-10.0°C)</b>  | 43066 | 42204 | 41993 | 41825 | 41449 | 5.41 | 5.45 | 5.46 | 5.47 | 5.50 |
|             | <b>17°F(-8.3°C)</b>   | 44281 | 43396 | 43179 | 43006 | 42619 | 5.44 | 5.49 | 5.50 | 5.51 | 5.53 |
|             | <b>22°F(-5.6°C)</b>   | 45212 | 44307 | 44086 | 43910 | 43514 | 5.23 | 5.27 | 5.28 | 5.29 | 5.32 |
|             | <b>27°F(-2.8°C)</b>   | 46142 | 45219 | 44993 | 44813 | 44410 | 5.02 | 5.06 | 5.07 | 5.08 | 5.10 |
|             | <b>32°F(-0.0°C)</b>   | 47072 | 46131 | 45900 | 45716 | 45305 | 4.81 | 4.85 | 4.86 | 4.87 | 4.89 |
|             | <b>35°F(1.7°C)</b>    | 47630 | 46678 | 46444 | 46258 | 45842 | 4.68 | 4.72 | 4.73 | 4.74 | 4.76 |
|             | <b>37°F(2.8°C)</b>    | 47749 | 46794 | 46560 | 46374 | 45957 | 4.60 | 4.63 | 4.64 | 4.65 | 4.67 |
|             | <b>42°F(5.6°C)</b>    | 48047 | 47086 | 46850 | 46663 | 46243 | 4.38 | 4.41 | 4.42 | 4.43 | 4.45 |
|             | <b>44.6°F(7.0°C)</b>  | 48166 | 47202 | 46966 | 46778 | 46357 | 4.29 | 4.33 | 4.34 | 4.34 | 4.36 |
|             | <b>47°F(8.3°C)</b>    | 48344 | 47377 | 47140 | 46952 | 46529 | 4.16 | 4.20 | 4.21 | 4.21 | 4.23 |
|             | <b>52°F(11.1°C)</b>   | 47508 | 46558 | 46325 | 46140 | 45725 | 3.78 | 3.81 | 3.82 | 3.83 | 3.84 |
|             | <b>57°F(13.9°C)</b>   | 46673 | 45739 | 45510 | 45328 | 44920 | 3.40 | 3.43 | 3.43 | 3.44 | 3.45 |
|             | <b>59°F(15.0°C)</b>   | 46338 | 45412 | 45185 | 45004 | 44599 | 3.24 | 3.27 | 3.28 | 3.28 | 3.30 |
|             | <b>62°F(16.7°C)</b>   | 45837 | 44920 | 44696 | 44517 | 44116 | 3.02 | 3.04 | 3.05 | 3.05 | 3.06 |
|             | <b>64.4°F(18.0°C)</b> | 45503 | 44593 | 44370 | 44192 | 43794 | 2.86 | 2.89 | 2.89 | 2.90 | 2.91 |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 1 of 8)

| AIRFLOW (CFM) | OUTDOOR DB °F (°C) | ID WB(°F) | 60.8°F(16.0°C) |                |                |                |                | 64.4°F(18.0°C) |                |                |                |                | 67°F(19.4°C)   |                |                |                |                | 71.6°F(22.0°C) |                |                |                |                |
|---------------|--------------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|               |                    | ID DB(°F) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) |
| 1088          | -22°F(-30.0°C)     | TC        | 28247          | 28285          | 28316          | 28317          | 28355          | 29949          | 29985          | 30014          | 30020          | 30056          | 31739          | 31780          | 31815          | 31821          | 31857          | 33651          | 33688          | 33724          | 33729          | 33771          |
|               |                    | S/T       | 0.38           | 0.45           | 0.51           | 0.51           | 0.58           | 0.40           | 0.47           | 0.54           | 0.54           | 0.61           | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           |
|               |                    | PI        | 1.15           | 1.15           | 1.15           | 1.15           | 1.15           | 1.21           | 1.22           | 1.22           | 1.22           | 1.22           | 1.29           | 1.29           | 1.29           | 1.29           | 1.29           | 1.36           | 1.37           | 1.37           | 1.37           | 1.37           |
|               | -13°F(-25.0°C)     | TC        | 30601          | 30642          | 30675          | 30677          | 30718          | 32445          | 32484          | 32516          | 32522          | 32561          | 34384          | 34428          | 34467          | 34473          | 34511          | 36455          | 36495          | 36535          | 36540          | 36586          |
|               |                    | S/T       | 0.38           | 0.45           | 0.51           | 0.51           | 0.58           | 0.41           | 0.48           | 0.54           | 0.54           | 0.62           | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.46           | 0.53           | 0.61           | 0.61           | 0.69           |
|               |                    | PI        | 1.24           | 1.24           | 1.24           | 1.24           | 1.25           | 1.32           | 1.32           | 1.32           | 1.32           | 1.32           | 1.39           | 1.40           | 1.40           | 1.40           | 1.40           | 1.48           | 1.48           | 1.48           | 1.48           | 1.48           |
|               | -4°F(-20.0°C)      | TC        | 32955          | 32999          | 33035          | 33036          | 33081          | 34941          | 34982          | 35017          | 35024          | 35065          | 37028          | 37077          | 37118          | 37125          | 37166          | 39259          | 39302          | 39345          | 39351          | 39400          |
|               |                    | S/T       | 0.38           | 0.45           | 0.51           | 0.51           | 0.59           | 0.41           | 0.48           | 0.54           | 0.54           | 0.62           | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           |
|               |                    | PI        | 1.34           | 1.34           | 1.34           | 1.34           | 1.34           | 1.42           | 1.42           | 1.42           | 1.42           | 1.42           | 1.50           | 1.50           | 1.51           | 1.51           | 1.51           | 1.59           | 1.59           | 1.60           | 1.60           | 1.60           |
|               | 0°F(-17.8°C)       | TC        | 34001          | 34047          | 34083          | 34085          | 34131          | 36050          | 36093          | 36128          | 36136          | 36179          | 38204          | 38254          | 38296          | 38303          | 38346          | 40506          | 40550          | 40594          | 40600          | 40651          |
|               |                    | S/T       | 0.39           | 0.45           | 0.51           | 0.51           | 0.59           | 0.41           | 0.48           | 0.55           | 0.55           | 0.62           | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           |
|               |                    | PI        | 1.38           | 1.38           | 1.38           | 1.38           | 1.38           | 1.46           | 1.46           | 1.47           | 1.47           | 1.47           | 1.55           | 1.55           | 1.55           | 1.55           | 1.56           | 1.64           | 1.64           | 1.65           | 1.65           | 1.65           |
|               | 5°F(-15.0°C)       | TC        | 35309          | 35356          | 35394          | 35396          | 35444          | 37437          | 37481          | 37518          | 37525          | 37570          | 39673          | 39725          | 39769          | 39777          | 39821          | 42064          | 42109          | 42155          | 42162          | 42214          |
|               |                    | S/T       | 0.39           | 0.46           | 0.52           | 0.52           | 0.59           | 0.41           | 0.48           | 0.55           | 0.55           | 0.63           | 0.44           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           |
|               |                    | PI        | 1.43           | 1.43           | 1.44           | 1.44           | 1.44           | 1.52           | 1.52           | 1.52           | 1.52           | 1.52           | 1.61           | 1.61           | 1.61           | 1.61           | 1.62           | 1.71           | 1.71           | 1.71           | 1.71           | 1.71           |
|               | 14°F(-10.0°C)      | TC        | 36392          | 36441          | 36480          | 36482          | 36531          | 38585          | 38631          | 38669          | 38677          | 38723          | 40890          | 40943          | 40989          | 40997          | 41042          | 43354          | 43401          | 43448          | 43455          | 43509          |
|               |                    | S/T       | 0.39           | 0.46           | 0.52           | 0.52           | 0.59           | 0.41           | 0.48           | 0.55           | 0.55           | 0.63           | 0.44           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           |
|               |                    | PI        | 1.92           | 1.92           | 1.92           | 1.92           | 1.93           | 2.04           | 2.04           | 2.04           | 2.04           | 2.04           | 2.16           | 2.16           | 2.16           | 2.16           | 2.17           | 2.29           | 2.29           | 2.29           | 2.29           | 2.30           |
|               | 17°F(-8.3°C)       | TC        | 36753          | 36802          | 36842          | 36844          | 36893          | 38968          | 39014          | 39053          | 39060          | 39107          | 41296          | 41350          | 41396          | 41403          | 41450          | 43784          | 43832          | 43879          | 43886          | 43941          |
|               |                    | S/T       | 0.39           | 0.46           | 0.52           | 0.52           | 0.59           | 0.41           | 0.48           | 0.55           | 0.55           | 0.63           | 0.44           | 0.51           | 0.58           | 0.58           | 0.67           | 0.46           | 0.54           | 0.62           | 0.62           | 0.71           |
|               |                    | PI        | 2.08           | 2.09           | 2.09           | 2.09           | 2.09           | 2.21           | 2.21           | 2.21           | 2.21           | 2.22           | 2.34           | 2.34           | 2.35           | 2.35           | 2.35           | 2.48           | 2.48           | 2.49           | 2.49           | 2.49           |
|               | 23°F(-5.0°C)       | TC        | 38880          | 38932          | 38974          | 38976          | 39029          | 41223          | 41272          | 41313          | 41321          | 41370          | 43686          | 43743          | 43792          | 43800          | 43849          | 46318          | 46369          | 46419          | 46426          | 46484          |
|               |                    | S/T       | 0.39           | 0.46           | 0.52           | 0.52           | 0.60           | 0.42           | 0.49           | 0.55           | 0.55           | 0.63           | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           |
|               |                    | PI        | 2.42           | 2.42           | 2.42           | 2.42           | 2.43           | 2.56           | 2.57           | 2.57           | 2.57           | 2.57           | 2.72           | 2.72           | 2.72           | 2.72           | 2.73           | 2.88           | 2.88           | 2.89           | 2.89           | 2.89           |
|               | 35°F(1.7°C)        | TC        | 43135          | 43193          | 43239          | 43241          | 43299          | 45734          | 45788          | 45833          | 45842          | 45897          | 48466          | 48529          | 48583          | 48592          | 48647          | 51387          | 51442          | 51498          | 51506          | 51571          |
|               |                    | S/T       | 0.39           | 0.46           | 0.53           | 0.53           | 0.60           | 0.42           | 0.49           | 0.56           | 0.56           | 0.63           | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.63           | 0.63           | 0.71           |
|               |                    | PI        | 3.09           | 3.10           | 3.10           | 3.10           | 3.10           | 3.28           | 3.28           | 3.29           | 3.29           | 3.29           | 3.47           | 3.48           | 3.48           | 3.48           | 3.49           | 3.68           | 3.69           | 3.69           | 3.69           | 3.70           |
|               | 41°F(5.0°C)        | TC        | 41422          | 41478          | 41522          | 41524          | 41580          | 43918          | 43970          | 44014          | 44022          | 44074          | 46542          | 46602          | 46654          | 46663          | 46715          | 49346          | 49400          | 49454          | 49461          | 49523          |
|               |                    | S/T       | 0.39           | 0.46           | 0.53           | 0.53           | 0.60           | 0.42           | 0.49           | 0.56           | 0.56           | 0.64           | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.63           | 0.63           | 0.71           |
|               |                    | PI        | 2.92           | 2.93           | 2.93           | 2.93           | 2.93           | 3.10           | 3.10           | 3.11           | 3.11           | 3.11           | 3.28           | 3.29           | 3.29           | 3.29           | 3.30           | 3.48           | 3.49           | 3.49           | 3.49           | 3.49           |
|               | 47°F(8.3°C)        | TC        | 39709          | 39763          | 39805          | 39807          | 39861          | 42102          | 42152          | 42194          | 42202          | 42252          | 44618          | 44675          | 44725          | 44734          | 44784          | 47306          | 47357          | 47409          | 47416          | 47475          |
|               |                    | S/T       | 0.40           | 0.46           | 0.53           | 0.53           | 0.60           | 0.42           | 0.49           | 0.56           | 0.56           | 0.64           | 0.44           | 0.52           | 0.59           | 0.59           | 0.68           | 0.47           | 0.55           | 0.63           | 0.63           | 0.72           |
|               |                    | PI        | 2.75           | 2.76           | 2.76           | 2.76           | 2.76           | 2.92           | 2.92           | 2.93           | 2.93           | 2.93           | 3.09           | 3.10           | 3.10           | 3.10           | 3.11           | 3.28           | 3.28           | 3.29           | 3.29           | 3.29           |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 2 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1088 | 50°F(10.0°C)   | TC  | 39061 | 39113 | 39155 | 39157 | 39210 | 41415 | 41464 | 41505 | 41513 | 41562 | 43889 | 43946 | 43995 | 44003 | 44052 | 46533 | 46584 | 46635 | 46642 | 46700 |
|      |                | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.60  | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  |
|      |                | PI  | 2.66  | 2.66  | 2.67  | 2.67  | 2.67  | 2.82  | 2.82  | 2.83  | 2.83  | 2.83  | 2.99  | 2.99  | 3.00  | 3.00  | 3.00  | 3.17  | 3.17  | 3.18  | 3.18  | 3.18  |
|      | 59°F(15.0°C)   | TC  | 37116 | 37165 | 37206 | 37207 | 37257 | 39352 | 39399 | 39438 | 39446 | 39492 | 41703 | 41758 | 41804 | 41812 | 41859 | 44216 | 44264 | 44312 | 44319 | 44374 |
|      |                | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.61  | 0.42  | 0.50  | 0.57  | 0.57  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  |
|      |                | PI  | 2.38  | 2.38  | 2.39  | 2.39  | 2.39  | 2.52  | 2.53  | 2.53  | 2.53  | 2.53  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  | 2.84  | 2.84  | 2.84  | 2.84  | 2.85  |
|      | 68°F(20.0°C)   | TC  | 35170 | 35218 | 35256 | 35257 | 35305 | 37290 | 37334 | 37371 | 37378 | 37423 | 39518 | 39569 | 39613 | 39621 | 39665 | 41899 | 41944 | 41990 | 41997 | 42049 |
|      |                | S/T | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  |
|      |                | PI  | 2.10  | 2.10  | 2.10  | 2.10  | 2.11  | 2.23  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.37  | 2.37  | 2.50  | 2.50  | 2.51  | 2.51  | 2.51  |
|      | 77°F(25.0°C)   | TC  | 33225 | 33270 | 33306 | 33307 | 33352 | 35228 | 35269 | 35304 | 35311 | 35353 | 37332 | 37381 | 37422 | 37429 | 37471 | 39582 | 39625 | 39668 | 39674 | 39723 |
|      |                | S/T | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|      |                | PI  | 1.82  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  | 2.04  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  |
|      | 82°F(27.8°C)   | TC  | 33148 | 33193 | 33229 | 33230 | 33275 | 35146 | 35188 | 35222 | 35229 | 35271 | 37246 | 37294 | 37336 | 37343 | 37384 | 39490 | 39533 | 39576 | 39582 | 39631 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|      |                | PI  | 1.95  | 1.95  | 1.95  | 1.95  | 1.96  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.19  | 2.20  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  |
|      | 86°F(30.0°C)   | TC  | 34354 | 34400 | 34437 | 34438 | 34485 | 36424 | 36467 | 36503 | 36510 | 36554 | 38600 | 38650 | 38693 | 38700 | 38744 | 40926 | 40970 | 41015 | 41021 | 41072 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|      |                | PI  | 2.41  | 2.41  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.57  | 2.71  | 2.71  | 2.72  | 2.72  | 2.72  | 2.87  | 2.88  | 2.88  | 2.88  | 2.88  |
|      | 95°F(35.0°C)   | TC  | 37065 | 37115 | 37155 | 37157 | 37207 | 39299 | 39345 | 39384 | 39392 | 39439 | 41647 | 41701 | 41747 | 41755 | 41802 | 44156 | 44204 | 44252 | 44259 | 44314 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|      |                | PI  | 3.45  | 3.46  | 3.46  | 3.46  | 3.47  | 3.66  | 3.67  | 3.67  | 3.67  | 3.67  | 3.88  | 3.89  | 3.89  | 3.89  | 3.89  | 4.11  | 4.12  | 4.12  | 4.12  | 4.13  |
|      | 104°F(40.0°C)  | TC  | 34088 | 34134 | 34171 | 34172 | 34218 | 36142 | 36185 | 36221 | 36228 | 36271 | 38302 | 38351 | 38394 | 38401 | 38444 | 40609 | 40654 | 40698 | 40704 | 40755 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 3.51  | 3.52  | 3.52  | 3.52  | 3.53  | 3.73  | 3.73  | 3.73  | 3.74  | 3.74  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  | 4.19  | 4.19  | 4.20  | 4.20  | 4.20  |
|      | 110°F(43.0°C)  | TC  | 32302 | 32345 | 32380 | 32382 | 32425 | 34249 | 34289 | 34323 | 34330 | 34371 | 36295 | 36342 | 36382 | 36389 | 36430 | 38482 | 38523 | 38565 | 38571 | 38619 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 3.55  | 3.56  | 3.56  | 3.56  | 3.56  | 3.77  | 3.77  | 3.77  | 3.77  | 3.78  | 3.99  | 4.00  | 4.00  | 4.00  | 4.01  | 4.23  | 4.24  | 4.24  | 4.24  | 4.25  |
|      | 115°F(46.0°C)  | TC  | 28421 | 28460 | 28490 | 28492 | 28530 | 30134 | 30170 | 30200 | 30206 | 30241 | 31935 | 31976 | 32012 | 32018 | 32053 | 33859 | 33895 | 33932 | 33938 | 33980 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                | PI  | 3.32  | 3.32  | 3.32  | 3.32  | 3.33  | 3.51  | 3.52  | 3.52  | 3.52  | 3.53  | 3.72  | 3.73  | 3.73  | 3.73  | 3.74  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  |
|      | 122°F(50.0°C)  | TC  | 23247 | 23279 | 23304 | 23305 | 23336 | 24648 | 24677 | 24702 | 24707 | 24736 | 26121 | 26155 | 26184 | 26189 | 26218 | 27695 | 27725 | 27755 | 27759 | 27794 |
|      |                | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|      |                | PI  | 3.00  | 3.00  | 3.01  | 3.01  | 3.01  | 3.18  | 3.19  | 3.19  | 3.19  | 3.19  | 3.37  | 3.38  | 3.38  | 3.38  | 3.38  | 3.57  | 3.58  | 3.58  | 3.58  | 3.59  |
| 1265 | -22°F(-30.0°C) | TC  | 30447 | 30488 | 30520 | 30522 | 30563 | 32281 | 32320 | 32352 | 32358 | 32396 | 34210 | 34255 | 34293 | 34299 | 34337 | 36271 | 36311 | 36350 | 36356 | 36401 |
|      |                | S/T | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  |
|      |                | PI  | 1.23  | 1.24  | 1.24  | 1.24  | 1.24  | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.48  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 3 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1265 | -13°F(-25.0°C) | TC  | 32984 | 33028 | 33064 | 33065 | 33110 | 34972 | 35013 | 35048 | 35054 | 35096 | 37061 | 37109 | 37150 | 37157 | 37199 | 39294 | 39337 | 39379 | 39386 | 39435 |
|      |                | S/T | 0.41  | 0.48  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  |
|      |                | PI  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.51  | 1.51  | 1.51  | 1.51  | 1.59  | 1.60  | 1.60  | 1.60  | 1.60  |
|      | -4°F(-20.0°C)  | TC  | 35521 | 35569 | 35607 | 35609 | 35657 | 37662 | 37706 | 37744 | 37751 | 37796 | 39912 | 39964 | 40008 | 40016 | 40060 | 42317 | 42363 | 42409 | 42415 | 42468 |
|      |                | S/T | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  |
|      |                | PI  | 1.44  | 1.44  | 1.44  | 1.44  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  | 1.62  | 1.62  | 1.62  | 1.62  | 1.62  | 1.72  | 1.72  | 1.72  | 1.72  | 1.72  |
|      | 0°F(-17.8°C)   | TC  | 36649 | 36698 | 36737 | 36739 | 36789 | 38857 | 38903 | 38942 | 38949 | 38996 | 41179 | 41232 | 41278 | 41286 | 41332 | 43660 | 43707 | 43755 | 43762 | 43816 |
|      |                | S/T | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|      |                | PI  | 1.49  | 1.49  | 1.49  | 1.49  | 1.49  | 1.58  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.67  | 1.67  | 1.67  | 1.68  | 1.77  | 1.77  | 1.77  | 1.78  | 1.78  |
|      | 5°F(-15.0°C)   | TC  | 38058 | 38109 | 38150 | 38152 | 38204 | 40352 | 40400 | 40440 | 40447 | 40496 | 42763 | 42818 | 42866 | 42874 | 42922 | 45339 | 45388 | 45438 | 45445 | 45501 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  |
|      |                | PI  | 1.54  | 1.55  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.64  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.85  |
|      | 14°F(-10.0°C)  | TC  | 39226 | 39278 | 39321 | 39323 | 39376 | 41590 | 41639 | 41680 | 41688 | 41738 | 44074 | 44132 | 44181 | 44189 | 44238 | 46730 | 46781 | 46832 | 46839 | 46897 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|      |                | PI  | 2.07  | 2.07  | 2.07  | 2.07  | 2.08  | 2.19  | 2.20  | 2.20  | 2.20  | 2.20  | 2.33  | 2.33  | 2.33  | 2.33  | 2.33  | 2.47  | 2.47  | 2.47  | 2.47  | 2.47  |
|      | 17°F(-8.3°C)   | TC  | 39615 | 39668 | 39711 | 39713 | 39766 | 42002 | 42052 | 42094 | 42102 | 42152 | 44512 | 44569 | 44619 | 44627 | 44677 | 47194 | 47245 | 47296 | 47304 | 47363 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|      |                | PI  | 2.24  | 2.25  | 2.25  | 2.25  | 2.25  | 2.38  | 2.38  | 2.38  | 2.39  | 2.39  | 2.52  | 2.53  | 2.53  | 2.53  | 2.53  | 2.67  | 2.68  | 2.68  | 2.68  | 2.68  |
|      | 23°F(-5.0°C)   | TC  | 41908 | 41964 | 42009 | 42011 | 42068 | 44433 | 44486 | 44530 | 44539 | 44591 | 47088 | 47149 | 47202 | 47210 | 47263 | 49925 | 49979 | 50034 | 50041 | 50104 |
|      |                | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|      |                | PI  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.76  | 2.77  | 2.77  | 2.77  | 2.77  | 2.93  | 2.93  | 2.94  | 2.94  | 2.94  | 3.11  | 3.11  | 3.11  | 3.11  | 3.12  |
|      | 35°F(1.7°C)    | TC  | 46493 | 46556 | 46606 | 46608 | 46671 | 49295 | 49354 | 49402 | 49412 | 49471 | 52240 | 52308 | 52366 | 52376 | 52435 | 55388 | 55448 | 55508 | 55517 | 55586 |
|      |                | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  |
|      |                | PI  | 3.33  | 3.34  | 3.34  | 3.34  | 3.35  | 3.53  | 3.54  | 3.54  | 3.54  | 3.55  | 3.74  | 3.75  | 3.75  | 3.75  | 3.76  | 3.97  | 3.97  | 3.98  | 3.98  | 3.98  |
|      | 41°F(5.0°C)    | TC  | 44647 | 44707 | 44755 | 44757 | 44818 | 47338 | 47394 | 47441 | 47450 | 47506 | 50166 | 50231 | 50287 | 50297 | 50353 | 53189 | 53247 | 53304 | 53313 | 53379 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  |
|      |                | PI  | 3.15  | 3.15  | 3.16  | 3.16  | 3.16  | 3.34  | 3.34  | 3.35  | 3.35  | 3.35  | 3.54  | 3.54  | 3.55  | 3.55  | 3.55  | 3.75  | 3.76  | 3.76  | 3.76  | 3.77  |
|      | 47°F(8.3°C)    | TC  | 42801 | 42859 | 42905 | 42907 | 42965 | 45381 | 45434 | 45479 | 45488 | 45542 | 48092 | 48154 | 48208 | 48217 | 48271 | 50989 | 51045 | 51100 | 51108 | 51172 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|      |                | PI  | 2.97  | 2.97  | 2.98  | 2.98  | 2.98  | 3.15  | 3.15  | 3.15  | 3.15  | 3.16  | 3.34  | 3.34  | 3.34  | 3.34  | 3.35  | 3.54  | 3.54  | 3.54  | 3.54  | 3.55  |
|      | 50°F(10.0°C)   | TC  | 42102 | 42159 | 42204 | 42206 | 42263 | 44640 | 44692 | 44737 | 44745 | 44799 | 47307 | 47368 | 47421 | 47430 | 47483 | 50157 | 50211 | 50266 | 50274 | 50336 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|      |                | PI  | 2.87  | 2.87  | 2.87  | 2.87  | 2.88  | 3.04  | 3.04  | 3.05  | 3.05  | 3.05  | 3.22  | 3.23  | 3.23  | 3.23  | 3.23  | 3.42  | 3.42  | 3.42  | 3.42  | 3.43  |
|      | 59°F(15.0°C)   | TC  | 40006 | 40059 | 40103 | 40104 | 40159 | 42417 | 42467 | 42509 | 42517 | 42568 | 44951 | 45009 | 45059 | 45068 | 45118 | 47659 | 47711 | 47763 | 47770 | 47830 |
|      |                | S/T | 0.43  | 0.51  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|      |                | PI  | 2.57  | 2.57  | 2.57  | 2.57  | 2.58  | 2.72  | 2.72  | 2.73  | 2.73  | 2.73  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  | 3.06  | 3.06  | 3.06  | 3.06  | 3.07  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 4 of 8)

|      |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1265 | 68°F(20.0<br>°C)   | TC  | 37909 | 37960 | 38001 | 38003 | 38054 | 40194 | 40241 | 40281 | 40289 | 40337 | 42595 | 42650 | 42698 | 42706 | 42753 | 45161 | 45211 | 45260 | 45267 | 45323 |
|      |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                    | PI  | 2.26  | 2.27  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.40  | 2.41  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.70  | 2.70  | 2.70  | 2.70  | 2.71  |
|      | 77°F(25.0<br>°C)   | TC  | 35812 | 35861 | 35899 | 35901 | 35949 | 37971 | 38016 | 38053 | 38061 | 38106 | 40239 | 40291 | 40336 | 40344 | 40389 | 42664 | 42710 | 42757 | 42763 | 42816 |
|      |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|      |                    | PI  | 1.96  | 1.96  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.08  | 2.08  | 2.09  | 2.20  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.34  |
|      | 82°F(27.8<br>°C)   | TC  | 35730 | 35778 | 35816 | 35818 | 35866 | 37883 | 37928 | 37965 | 37973 | 38018 | 40146 | 40198 | 40243 | 40251 | 40295 | 42565 | 42611 | 42658 | 42664 | 42717 |
|      |                    | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                    | PI  | 2.10  | 2.10  | 2.11  | 2.11  | 2.11  | 2.23  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.37  | 2.37  | 2.37  | 2.50  | 2.50  | 2.51  | 2.51  | 2.51  |
|      | 86°F(30.0<br>°C)   | TC  | 37029 | 37078 | 37118 | 37120 | 37170 | 39260 | 39307 | 39345 | 39353 | 39400 | 41606 | 41660 | 41706 | 41714 | 41760 | 44112 | 44160 | 44208 | 44215 | 44270 |
|      |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                    | PI  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  | 2.92  | 2.92  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.10  | 3.10  | 3.11  |
|      | 95°F(35.0<br>°C)   | TC  | 39951 | 40005 | 40048 | 40050 | 40104 | 42359 | 42409 | 42451 | 42459 | 42510 | 44890 | 44948 | 44998 | 45006 | 45057 | 47594 | 47646 | 47698 | 47705 | 47765 |
|      |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                    | PI  | 3.72  | 3.73  | 3.73  | 3.73  | 3.74  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  | 4.18  | 4.19  | 4.19  | 4.19  | 4.20  | 4.43  | 4.44  | 4.44  | 4.44  | 4.45  |
|      | 104°F(40.0<br>°C)  | TC  | 36742 | 36792 | 36832 | 36833 | 36883 | 38957 | 39003 | 39041 | 39049 | 39095 | 41284 | 41338 | 41384 | 41392 | 41438 | 43772 | 43819 | 43867 | 43874 | 43928 |
|      |                    | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |                    | PI  | 3.79  | 3.79  | 3.80  | 3.80  | 3.80  | 4.02  | 4.02  | 4.03  | 4.03  | 4.03  | 4.26  | 4.26  | 4.27  | 4.27  | 4.27  | 4.51  | 4.52  | 4.52  | 4.52  | 4.53  |
|      | 110°F(43.0<br>°C)  | TC  | 34817 | 34864 | 34902 | 34903 | 34950 | 36915 | 36959 | 36996 | 37003 | 37047 | 39121 | 39172 | 39215 | 39223 | 39266 | 41478 | 41523 | 41568 | 41575 | 41627 |
|      |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |                    | PI  | 3.83  | 3.83  | 3.84  | 3.84  | 3.84  | 4.06  | 4.06  | 4.07  | 4.07  | 4.07  | 4.30  | 4.31  | 4.31  | 4.31  | 4.32  | 4.56  | 4.57  | 4.57  | 4.57  | 4.58  |
|      | 115°F(46.0<br>°C)  | TC  | 30634 | 30676 | 30709 | 30710 | 30752 | 32481 | 32519 | 32551 | 32558 | 32596 | 34421 | 34466 | 34504 | 34511 | 34549 | 36495 | 36535 | 36575 | 36580 | 36626 |
|      |                    | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |                    | PI  | 3.57  | 3.58  | 3.58  | 3.58  | 3.59  | 3.79  | 3.79  | 3.80  | 3.80  | 3.80  | 4.02  | 4.02  | 4.02  | 4.03  | 4.03  | 4.26  | 4.26  | 4.27  | 4.27  | 4.27  |
|      | 122°F(50.0<br>°C)  | TC  | 25058 | 25091 | 25118 | 25119 | 25153 | 26568 | 26599 | 26625 | 26631 | 26662 | 28155 | 28191 | 28223 | 28228 | 28260 | 29851 | 29884 | 29916 | 29921 | 29958 |
|      |                    | S/T | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|      |                    | PI  | 3.23  | 3.24  | 3.24  | 3.24  | 3.25  | 3.43  | 3.43  | 3.44  | 3.44  | 3.44  | 3.63  | 3.64  | 3.64  | 3.64  | 3.65  | 3.85  | 3.86  | 3.86  | 3.86  | 3.87  |
| 1441 | -22°F(-30.0<br>°C) | TC  | 32817 | 32862 | 32897 | 32898 | 32943 | 34795 | 34836 | 34871 | 34878 | 34919 | 36874 | 36922 | 36963 | 36970 | 37011 | 39096 | 39138 | 39181 | 39187 | 39236 |
|      |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                    | PI  | 1.33  | 1.33  | 1.33  | 1.33  | 1.34  | 1.41  | 1.41  | 1.41  | 1.41  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  | 1.59  | 1.59  | 1.59  | 1.59  | 1.59  |
|      | -13°F(-25.0<br>°C) | TC  | 35552 | 35600 | 35638 | 35640 | 35688 | 37695 | 37739 | 37777 | 37784 | 37829 | 39947 | 39999 | 40043 | 40051 | 40095 | 42354 | 42400 | 42446 | 42452 | 42505 |
|      |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|      |                    | PI  | 1.44  | 1.44  | 1.45  | 1.45  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  | 1.62  | 1.62  | 1.62  | 1.62  | 1.63  | 1.72  | 1.72  | 1.72  | 1.72  | 1.72  |
|      | -4°F(-20.0<br>°C)  | TC  | 38287 | 38338 | 38380 | 38381 | 38433 | 40594 | 40642 | 40683 | 40691 | 40739 | 43020 | 43075 | 43124 | 43132 | 43180 | 45612 | 45661 | 45711 | 45718 | 45775 |
|      |                    | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|      |                    | PI  | 1.55  | 1.56  | 1.56  | 1.56  | 1.56  | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  | 1.74  | 1.75  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.85  | 1.85  | 1.86  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 5 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1441 | 0°F(-17.8°C)  | TC  | 39502 | 39556 | 39598 | 39600 | 39653 | 41883 | 41933 | 41974 | 41982 | 42032 | 44385 | 44443 | 44493 | 44501 | 44550 | 47060 | 47111 | 47162 | 47169 | 47228 |
|      |               | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|      |               | PI  | 1.60  | 1.60  | 1.61  | 1.61  | 1.61  | 1.70  | 1.70  | 1.70  | 1.70  | 1.70  | 1.80  | 1.80  | 1.80  | 1.80  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.92  |
|      | 5°F(-15.0°C)  | TC  | 41022 | 41077 | 41121 | 41123 | 41178 | 43494 | 43545 | 43588 | 43597 | 43649 | 46092 | 46152 | 46204 | 46212 | 46264 | 48870 | 48923 | 48976 | 48984 | 49045 |
|      |               | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |               | PI  | 1.66  | 1.67  | 1.67  | 1.67  | 1.67  | 1.76  | 1.77  | 1.77  | 1.77  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.88  | 1.98  | 1.98  | 1.99  | 1.99  | 1.99  |
|      | 14°F(-10.0°C) | TC  | 42280 | 42337 | 42383 | 42385 | 42442 | 44828 | 44881 | 44926 | 44934 | 44988 | 47506 | 47568 | 47621 | 47630 | 47683 | 50369 | 50424 | 50478 | 50486 | 50549 |
|      |               | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |               | PI  | 2.23  | 2.23  | 2.24  | 2.24  | 2.24  | 2.36  | 2.37  | 2.37  | 2.37  | 2.37  | 2.51  | 2.51  | 2.51  | 2.51  | 2.52  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  |
|      | 17°F(-8.3°C)  | TC  | 42700 | 42757 | 42803 | 42805 | 42863 | 45273 | 45327 | 45371 | 45380 | 45434 | 47978 | 48040 | 48094 | 48103 | 48156 | 50868 | 50924 | 50979 | 50987 | 51051 |
|      |               | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |               | PI  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.72  | 2.73  | 2.73  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  |
|      | 23°F(-5.0°C)  | TC  | 45171 | 45232 | 45280 | 45282 | 45344 | 47893 | 47950 | 47997 | 48007 | 48064 | 50755 | 50820 | 50877 | 50887 | 50943 | 53813 | 53871 | 53930 | 53938 | 54005 |
|      |               | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|      |               | PI  | 2.81  | 2.81  | 2.82  | 2.82  | 2.82  | 2.98  | 2.98  | 2.99  | 2.99  | 2.99  | 3.16  | 3.16  | 3.17  | 3.17  | 3.17  | 3.35  | 3.35  | 3.36  | 3.36  | 3.36  |
|      | 35°F(1.7°C)   | TC  | 50114 | 50181 | 50235 | 50237 | 50305 | 53134 | 53197 | 53249 | 53260 | 53323 | 56308 | 56381 | 56444 | 56455 | 56518 | 59701 | 59766 | 59831 | 59840 | 59915 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 3.59  | 3.60  | 3.60  | 3.60  | 3.61  | 3.81  | 3.81  | 3.82  | 3.82  | 3.82  | 4.04  | 4.04  | 4.05  | 4.05  | 4.05  | 4.28  | 4.28  | 4.29  | 4.29  | 4.29  |
|      | 41°F(5.0°C)   | TC  | 48124 | 48189 | 48240 | 48243 | 48308 | 51024 | 51084 | 51135 | 51145 | 51206 | 54072 | 54143 | 54203 | 54213 | 54274 | 57330 | 57393 | 57455 | 57464 | 57536 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 3.40  | 3.40  | 3.40  | 3.40  | 3.41  | 3.60  | 3.60  | 3.61  | 3.61  | 3.61  | 3.82  | 3.82  | 3.82  | 3.83  | 3.83  | 4.05  | 4.05  | 4.05  | 4.05  | 4.06  |
|      | 47°F(8.3°C)   | TC  | 46134 | 46196 | 46246 | 46248 | 46310 | 48914 | 48972 | 49021 | 49030 | 49088 | 51837 | 51904 | 51962 | 51971 | 52029 | 54960 | 55020 | 55080 | 55088 | 55157 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 3.20  | 3.20  | 3.21  | 3.21  | 3.21  | 3.39  | 3.40  | 3.40  | 3.40  | 3.40  | 3.59  | 3.60  | 3.60  | 3.60  | 3.61  | 3.81  | 3.82  | 3.82  | 3.82  | 3.82  |
|      | 50°F(10.0°C)  | TC  | 45381 | 45442 | 45491 | 45493 | 45554 | 48116 | 48173 | 48220 | 48230 | 48287 | 50990 | 51056 | 51113 | 51123 | 51180 | 54062 | 54121 | 54180 | 54189 | 54256 |
|      |               | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|      |               | PI  | 3.09  | 3.09  | 3.10  | 3.10  | 3.10  | 3.28  | 3.28  | 3.28  | 3.28  | 3.29  | 3.47  | 3.48  | 3.48  | 3.48  | 3.49  | 3.68  | 3.69  | 3.69  | 3.69  | 3.70  |
|      | 59°F(15.0°C)  | TC  | 43121 | 43179 | 43225 | 43227 | 43286 | 45720 | 45774 | 45819 | 45828 | 45882 | 48451 | 48514 | 48568 | 48577 | 48631 | 51370 | 51426 | 51482 | 51490 | 51554 |
|      |               | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|      |               | PI  | 2.77  | 2.77  | 2.77  | 2.77  | 2.78  | 2.93  | 2.94  | 2.94  | 2.94  | 2.94  | 3.11  | 3.11  | 3.11  | 3.11  | 3.12  | 3.29  | 3.30  | 3.30  | 3.30  | 3.31  |
|      | 68°F(20.0°C)  | TC  | 40861 | 40916 | 40960 | 40962 | 41017 | 43323 | 43375 | 43418 | 43426 | 43478 | 45912 | 45971 | 46023 | 46031 | 46083 | 48678 | 48731 | 48784 | 48792 | 48852 |
|      |               | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |               | PI  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  | 2.74  | 2.74  | 2.75  | 2.75  | 2.75  | 2.91  | 2.91  | 2.91  | 2.91  | 2.92  |
|      | 77°F(25.0°C)  | TC  | 38601 | 38653 | 38695 | 38696 | 38749 | 40927 | 40976 | 41016 | 41024 | 41073 | 43373 | 43429 | 43477 | 43485 | 43534 | 45986 | 46036 | 46086 | 46093 | 46150 |
|      |               | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.58  | 0.68  | 0.77  | 0.77  | 0.87  |
|      |               | PI  | 2.11  | 2.12  | 2.12  | 2.12  | 2.12  | 2.24  | 2.24  | 2.25  | 2.25  | 2.25  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  | 2.52  | 2.52  | 2.52  | 2.52  | 2.53  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 6 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1441 | 82°F(27.8°C)   | TC  | 38512 | 38564 | 38605 | 38607 | 38659 | 40833 | 40881 | 40921 | 40929 | 40978 | 43272 | 43328 | 43377 | 43385 | 43433 | 45879 | 45929 | 45979 | 45986 | 46044 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  |
|      |                | PI  | 2.26  | 2.27  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.41  | 2.41  | 2.41  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.70  | 2.70  | 2.70  | 2.70  | 2.71  |
|      | 86°F(30.0°C)   | TC  | 39912 | 39966 | 40009 | 40010 | 40064 | 42317 | 42367 | 42409 | 42418 | 42468 | 44845 | 44904 | 44954 | 44962 | 45012 | 47547 | 47599 | 47651 | 47658 | 47718 |
|      |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |                | PI  | 2.80  | 2.81  | 2.81  | 2.81  | 2.81  | 2.97  | 2.97  | 2.98  | 2.98  | 2.98  | 3.15  | 3.15  | 3.16  | 3.16  | 3.16  | 3.34  | 3.34  | 3.35  | 3.35  | 3.35  |
|      | 95°F(35.0°C)   | TC  | 43062 | 43120 | 43167 | 43168 | 43227 | 45657 | 45711 | 45757 | 45766 | 45820 | 48385 | 48448 | 48502 | 48511 | 48565 | 51300 | 51356 | 51412 | 51420 | 51484 |
|      |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |                | PI  | 4.01  | 4.02  | 4.02  | 4.02  | 4.03  | 4.25  | 4.26  | 4.26  | 4.26  | 4.27  | 4.51  | 4.51  | 4.52  | 4.52  | 4.52  | 4.78  | 4.79  | 4.79  | 4.79  | 4.80  |
|      | 104°F(40.0°C)  | TC  | 39604 | 39657 | 39700 | 39701 | 39755 | 41990 | 42040 | 42081 | 42090 | 42140 | 44499 | 44557 | 44606 | 44615 | 44664 | 47180 | 47231 | 47283 | 47290 | 47349 |
|      |                | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.81  | 0.81  | 0.92  |
|      |                | PI  | 4.08  | 4.09  | 4.09  | 4.09  | 4.10  | 4.33  | 4.33  | 4.34  | 4.34  | 4.34  | 4.59  | 4.59  | 4.60  | 4.60  | 4.61  | 4.86  | 4.87  | 4.88  | 4.88  | 4.88  |
|      | 110°F(43.0°C)  | TC  | 37528 | 37579 | 37619 | 37621 | 37672 | 39790 | 39837 | 39876 | 39884 | 39932 | 42167 | 42222 | 42269 | 42277 | 42324 | 44708 | 44756 | 44805 | 44812 | 44868 |
|      |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|      |                | PI  | 4.13  | 4.13  | 4.14  | 4.14  | 4.14  | 4.37  | 4.38  | 4.38  | 4.38  | 4.39  | 4.64  | 4.64  | 4.65  | 4.65  | 4.65  | 4.92  | 4.92  | 4.93  | 4.93  | 4.93  |
|      | 115°F(46.0°C)  | TC  | 33020 | 33064 | 33100 | 33101 | 33146 | 35010 | 35051 | 35086 | 35093 | 35135 | 37102 | 37150 | 37191 | 37198 | 37240 | 39337 | 39380 | 39423 | 39429 | 39478 |
|      |                | S/T | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.63  | 0.74  | 0.85  | 0.85  | 0.96  |
|      |                | PI  | 3.85  | 3.86  | 3.86  | 3.86  | 3.87  | 4.08  | 4.09  | 4.09  | 4.09  | 4.10  | 4.33  | 4.33  | 4.34  | 4.34  | 4.34  | 4.59  | 4.59  | 4.60  | 4.60  | 4.60  |
|      | 122°F(50.0°C)  | TC  | 27009 | 27045 | 27074 | 27075 | 27112 | 28636 | 28670 | 28699 | 28704 | 28738 | 30347 | 30387 | 30421 | 30426 | 30460 | 32176 | 32211 | 32246 | 32251 | 32291 |
|      |                | S/T | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|      |                | PI  | 3.49  | 3.49  | 3.49  | 3.49  | 3.50  | 3.70  | 3.70  | 3.70  | 3.70  | 3.71  | 3.92  | 3.92  | 3.93  | 3.93  | 3.93  | 4.15  | 4.16  | 4.16  | 4.16  | 4.17  |
| 1600 | -22°F(-30.0°C) | TC  | 35373 | 35420 | 35459 | 35460 | 35508 | 37505 | 37549 | 37586 | 37594 | 37638 | 39745 | 39797 | 39841 | 39849 | 39893 | 42140 | 42186 | 42232 | 42238 | 42291 |
|      |                | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |                | PI  | 1.43  | 1.44  | 1.44  | 1.44  | 1.44  | 1.52  | 1.52  | 1.52  | 1.52  | 1.53  | 1.61  | 1.61  | 1.62  | 1.62  | 1.62  | 1.71  | 1.71  | 1.71  | 1.71  | 1.72  |
|      | -13°F(-25.0°C) | TC  | 38321 | 38372 | 38413 | 38415 | 38467 | 40630 | 40678 | 40718 | 40726 | 40775 | 43057 | 43113 | 43161 | 43169 | 43218 | 45652 | 45701 | 45751 | 45758 | 45815 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |                | PI  | 1.55  | 1.56  | 1.56  | 1.56  | 1.56  | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  | 1.75  | 1.75  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.86  | 1.86  | 1.86  |
|      | -4°F(-20.0°C)  | TC  | 41268 | 41324 | 41368 | 41370 | 41426 | 43755 | 43807 | 43850 | 43859 | 43911 | 46369 | 46430 | 46481 | 46490 | 46542 | 49163 | 49217 | 49270 | 49278 | 49339 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|      |                | PI  | 1.67  | 1.68  | 1.68  | 1.68  | 1.68  | 1.77  | 1.78  | 1.78  | 1.78  | 1.78  | 1.88  | 1.88  | 1.89  | 1.89  | 1.89  | 1.99  | 2.00  | 2.00  | 2.00  | 2.00  |
|      | 0°F(-17.8°C)   | TC  | 42578 | 42636 | 42682 | 42684 | 42741 | 45144 | 45198 | 45243 | 45251 | 45305 | 47842 | 47904 | 47957 | 47966 | 48019 | 50724 | 50779 | 50834 | 50842 | 50906 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.84  | 1.84  | 1.84  | 1.94  | 1.94  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.06  |
|      | 5°F(-15.0°C)   | TC  | 44216 | 44276 | 44323 | 44325 | 44385 | 46881 | 46936 | 46983 | 46992 | 47048 | 49682 | 49746 | 49802 | 49811 | 49866 | 52675 | 52732 | 52790 | 52798 | 52864 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 1.79  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.90  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  | 2.14  | 2.14  | 2.14  | 2.14  | 2.14  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 7 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1600 | 14°F(-10.0°C) | TC  | 45572 | 45634 | 45683 | 45685 | 45747 | 48319 | 48376 | 48424 | 48433 | 48491 | 51206 | 51272 | 51329 | 51339 | 51396 | 54291 | 54350 | 54409 | 54417 | 54485 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |               | PI  | 2.40  | 2.41  | 2.41  | 2.41  | 2.41  | 2.55  | 2.55  | 2.55  | 2.55  | 2.56  | 2.70  | 2.70  | 2.71  | 2.71  | 2.71  | 2.86  | 2.87  | 2.87  | 2.87  | 2.87  |
|      | 17°F(-8.3°C)  | TC  | 46025 | 46086 | 46136 | 46138 | 46200 | 48798 | 48856 | 48904 | 48914 | 48972 | 51714 | 51781 | 51839 | 51848 | 51906 | 54829 | 54889 | 54949 | 54957 | 55026 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |               | PI  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.76  | 2.77  | 2.77  | 2.77  | 2.77  | 2.93  | 2.93  | 2.94  | 2.94  | 2.94  | 3.11  | 3.11  | 3.11  | 3.11  | 3.12  |
|      | 23°F(-5.0°C)  | TC  | 48688 | 48754 | 48806 | 48809 | 48874 | 51623 | 51684 | 51735 | 51745 | 51806 | 54707 | 54778 | 54839 | 54849 | 54910 | 58003 | 58066 | 58129 | 58138 | 58211 |
|      |               | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  | 3.21  | 3.22  | 3.22  | 3.22  | 3.22  | 3.40  | 3.41  | 3.41  | 3.41  | 3.42  | 3.61  | 3.61  | 3.62  | 3.62  | 3.62  |
|      | 35°F(1.7°C)   | TC  | 54016 | 54089 | 54147 | 54149 | 54222 | 57271 | 57339 | 57396 | 57407 | 57475 | 60693 | 60772 | 60839 | 60851 | 60919 | 64350 | 64420 | 64490 | 64500 | 64580 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 3.87  | 3.88  | 3.88  | 3.88  | 3.89  | 4.11  | 4.11  | 4.11  | 4.11  | 4.12  | 4.35  | 4.36  | 4.36  | 4.36  | 4.37  | 4.61  | 4.62  | 4.62  | 4.62  | 4.63  |
|      | 41°F(5.0°C)   | TC  | 51871 | 51941 | 51997 | 51999 | 52069 | 54997 | 55062 | 55117 | 55128 | 55193 | 58283 | 58359 | 58424 | 58435 | 58500 | 61795 | 61862 | 61929 | 61939 | 62016 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 3.66  | 3.67  | 3.67  | 3.67  | 3.67  | 3.88  | 3.89  | 3.89  | 3.89  | 3.89  | 4.11  | 4.12  | 4.12  | 4.12  | 4.13  | 4.36  | 4.37  | 4.37  | 4.37  | 4.38  |
|      | 47°F(8.3°C)   | TC  | 49726 | 49793 | 49847 | 49849 | 49916 | 52723 | 52786 | 52838 | 52848 | 52911 | 55873 | 55946 | 56008 | 56018 | 56081 | 59240 | 59304 | 59368 | 59378 | 59452 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 3.45  | 3.45  | 3.46  | 3.46  | 3.46  | 3.66  | 3.66  | 3.66  | 3.66  | 3.67  | 3.87  | 3.88  | 3.88  | 3.88  | 3.89  | 4.11  | 4.11  | 4.12  | 4.12  | 4.12  |
|      | 50°F(10.0°C)  | TC  | 48914 | 48980 | 49033 | 49035 | 49101 | 51862 | 51924 | 51975 | 51985 | 52047 | 54961 | 55032 | 55093 | 55104 | 55165 | 58272 | 58336 | 58399 | 58408 | 58481 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 3.33  | 3.34  | 3.34  | 3.34  | 3.34  | 3.53  | 3.54  | 3.54  | 3.54  | 3.54  | 3.74  | 3.75  | 3.75  | 3.75  | 3.76  | 3.97  | 3.97  | 3.98  | 3.98  | 3.98  |
|      | 59°F(15.0°C)  | TC  | 46479 | 46541 | 46591 | 46593 | 46656 | 49280 | 49338 | 49387 | 49396 | 49455 | 52224 | 52292 | 52350 | 52360 | 52418 | 55370 | 55431 | 55491 | 55500 | 55569 |
|      |               | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |               | PI  | 2.98  | 2.98  | 2.99  | 2.99  | 2.99  | 3.16  | 3.16  | 3.17  | 3.17  | 3.17  | 3.35  | 3.35  | 3.36  | 3.36  | 3.36  | 3.55  | 3.55  | 3.56  | 3.56  | 3.56  |
|      | 68°F(20.0°C)  | TC  | 44043 | 44102 | 44149 | 44151 | 44211 | 46697 | 46752 | 46798 | 46808 | 46863 | 49487 | 49551 | 49606 | 49616 | 49671 | 52469 | 52526 | 52583 | 52591 | 52656 |
|      |               | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|      |               | PI  | 2.63  | 2.63  | 2.64  | 2.64  | 2.64  | 2.79  | 2.79  | 2.79  | 2.79  | 2.80  | 2.95  | 2.96  | 2.96  | 2.96  | 2.97  | 3.13  | 3.14  | 3.14  | 3.14  | 3.14  |
|      | 77°F(25.0°C)  | TC  | 41607 | 41663 | 41708 | 41710 | 41766 | 44114 | 44167 | 44210 | 44219 | 44271 | 46750 | 46811 | 46863 | 46871 | 46924 | 49567 | 49621 | 49675 | 49682 | 49744 |
|      |               | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|      |               | PI  | 2.28  | 2.28  | 2.28  | 2.28  | 2.29  | 2.42  | 2.42  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  | 2.71  | 2.72  | 2.72  | 2.72  | 2.72  |
|      | 82°F(27.8°C)  | TC  | 41511 | 41566 | 41611 | 41613 | 41669 | 44012 | 44064 | 44108 | 44117 | 44169 | 46642 | 46702 | 46754 | 46763 | 46815 | 49452 | 49506 | 49560 | 49567 | 49629 |
|      |               | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|      |               | PI  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  | 2.74  | 2.75  | 2.75  | 2.75  | 2.75  | 2.91  | 2.91  | 2.91  | 2.91  | 2.92  |
|      | 86°F(30.0°C)  | TC  | 43020 | 43078 | 43124 | 43126 | 43184 | 45612 | 45666 | 45711 | 45720 | 45775 | 48337 | 48400 | 48454 | 48463 | 48517 | 51250 | 51306 | 51361 | 51369 | 51433 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 3.02  | 3.02  | 3.03  | 3.03  | 3.03  | 3.20  | 3.21  | 3.21  | 3.21  | 3.21  | 3.39  | 3.40  | 3.40  | 3.40  | 3.41  | 3.60  | 3.60  | 3.61  | 3.61  | 3.61  |

Table 14: Cooling Performance - 48K 37MUHA + 45MUHA (Sheet 8 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1600 | 95°F(35.0°C)  | TC  | 46415 | 46478 | 46528 | 46530 | 46593 | 49213 | 49271 | 49319 | 49329 | 49388 | 52153 | 52220 | 52279 | 52288 | 52347 | 55295 | 55355 | 55415 | 55424 | 55493 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 4.32  | 4.33  | 4.34  | 4.34  | 4.34  | 4.59  | 4.59  | 4.60  | 4.60  | 4.60  | 4.86  | 4.87  | 4.87  | 4.87  | 4.88  | 5.15  | 5.16  | 5.16  | 5.16  | 5.17  |
|      | 104°F(40.0°C) | TC  | 42687 | 42745 | 42791 | 42793 | 42850 | 45260 | 45314 | 45358 | 45367 | 45421 | 47964 | 48026 | 48080 | 48089 | 48142 | 50854 | 50909 | 50965 | 50972 | 51036 |
|      |               | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|      |               | PI  | 4.40  | 4.41  | 4.41  | 4.41  | 4.42  | 4.67  | 4.67  | 4.68  | 4.68  | 4.68  | 4.95  | 4.95  | 4.96  | 4.96  | 4.96  | 5.24  | 5.25  | 5.25  | 5.26  | 5.26  |
|      | 110°F(43.0°C) | TC  | 40451 | 40505 | 40549 | 40550 | 40605 | 42888 | 42939 | 42982 | 42990 | 43041 | 45451 | 45510 | 45560 | 45569 | 45620 | 48189 | 48242 | 48294 | 48302 | 48362 |
|      |               | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|      |               | PI  | 4.45  | 4.45  | 4.46  | 4.46  | 4.46  | 4.72  | 4.72  | 4.73  | 4.73  | 4.73  | 5.00  | 5.00  | 5.01  | 5.01  | 5.02  | 5.30  | 5.30  | 5.31  | 5.31  | 5.32  |
|      | 115°F(46.0°C) | TC  | 35591 | 35639 | 35677 | 35679 | 35727 | 37736 | 37781 | 37818 | 37825 | 37870 | 39991 | 40042 | 40087 | 40095 | 40139 | 42400 | 42446 | 42492 | 42499 | 42552 |
|      |               | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|      |               | PI  | 4.15  | 4.16  | 4.16  | 4.16  | 4.17  | 4.40  | 4.41  | 4.41  | 4.41  | 4.42  | 4.66  | 4.67  | 4.68  | 4.68  | 4.68  | 4.95  | 4.95  | 4.96  | 4.96  | 4.96  |
|      | 122°F(50.0°C) | TC  | 29112 | 29151 | 29182 | 29184 | 29223 | 30866 | 30903 | 30933 | 30939 | 30976 | 32710 | 32753 | 32789 | 32795 | 32832 | 34681 | 34719 | 34757 | 34762 | 34805 |
|      |               | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|      |               | PI  | 3.76  | 3.76  | 3.77  | 3.77  | 3.77  | 3.98  | 3.99  | 3.99  | 3.99  | 4.00  | 4.22  | 4.23  | 4.23  | 4.23  | 4.24  | 4.48  | 4.48  | 4.49  | 4.49  | 4.49  |

**Table 15: Heating Performance - 48K 37MUHA + 45MUHA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                          |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|--------------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW)     |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS(DB °F)            |                  |                  |                    |                    | INDOOR CONDITIONS(DB °F) |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)       | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 1088             | -22°F(-30.0°C)                                     | 23910                               | 23431            | 23314            | 22923              | 22716              | 5.50                     | 5.55             | 5.56             | 5.57               | 5.59               |
|                  | -13°F(-25.0°C)                                     | 29613                               | 29021            | 28876            | 27299              | 27053              | 6.04                     | 6.09             | 6.10             | 6.11               | 6.14               |
|                  | -4°F(-20.0°C)                                      | 35532                               | 34821            | 34647            | 32755              | 32460              | 5.98                     | 6.02             | 6.04             | 6.05               | 6.07               |
|                  | 0°F(-17.8°C)                                       | 37330                               | 36583            | 36400            | 34412              | 34103              | 6.16                     | 6.21             | 6.22             | 6.24               | 6.26               |
|                  | 5°F(-15.0°C)                                       | 39578                               | 38786            | 38592            | 36484              | 36156              | 6.39                     | 6.45             | 6.46             | 6.47               | 6.50               |
|                  | 14°F(-10.0°C)                                      | 39605                               | 38813            | 38619            | 36510              | 36181              | 6.35                     | 6.40             | 6.42             | 6.43               | 6.46               |
|                  | 17°F(-8.3°C)                                       | 39614                               | 38822            | 38627            | 36518              | 36189              | 6.34                     | 6.39             | 6.40             | 6.42               | 6.44               |
|                  | 22°F(-5.6°C)                                       | 40178                               | 39375            | 39178            | 37038              | 36705              | 6.21                     | 6.26             | 6.27             | 6.28               | 6.31               |
|                  | 27°F(-2.8°C)                                       | 40742                               | 39928            | 39728            | 37558              | 37220              | 6.08                     | 6.13             | 6.14             | 6.15               | 6.18               |
|                  | 32°F(-0.0°C)                                       | 41307                               | 40481            | 40278            | 38078              | 37736              | 5.95                     | 6.00             | 6.01             | 6.02               | 6.04               |
|                  | 35°F(1.7°C)                                        | 41645                               | 40812            | 40608            | 38391              | 38045              | 5.87                     | 5.92             | 5.93             | 5.94               | 5.96               |
|                  | 37°F(2.8°C)                                        | 42002                               | 41162            | 40957            | 38720              | 38371              | 5.66                     | 5.70             | 5.71             | 5.73               | 5.75               |
|                  | 42°F(5.6°C)                                        | 42895                               | 42038            | 41827            | 39543              | 39187              | 5.13                     | 5.17             | 5.18             | 5.19               | 5.21               |
|                  | 44.6°F(7.0°C)                                      | 43253                               | 42388            | 42176            | 39872              | 39514              | 4.91                     | 4.95             | 4.96             | 4.97               | 4.99               |
|                  | 47°F(8.3°C)                                        | 43788                               | 42913            | 42698            | 40366              | 40003              | 4.60                     | 4.63             | 4.64             | 4.65               | 4.67               |
|                  | 52°F(11.1°C)                                       | 41955                               | 41116            | 40910            | 38676              | 38328              | 4.09                     | 4.12             | 4.13             | 4.14               | 4.15               |
|                  | 57°F(13.9°C)                                       | 40121                               | 39319            | 39122            | 36986              | 36653              | 3.58                     | 3.61             | 3.61             | 3.62               | 3.64               |
|                  | 59°F(15.0°C)                                       | 39388                               | 38600            | 38407            | 36310              | 35983              | 3.37                     | 3.40             | 3.41             | 3.41               | 3.43               |
|                  | 62°F(16.7°C)                                       | 38288                               | 37522            | 37335            | 35296              | 34978              | 3.07                     | 3.09             | 3.10             | 3.11               | 3.12               |
|                  | 64.4°F(18.0°C)                                     | 37555                               | 36803            | 36619            | 34620              | 34308              | 2.86                     | 2.89             | 2.89             | 2.90               | 2.91               |
| 1265             | -22°F(-30.0°C)                                     | 26282                               | 25756            | 25627            | 25360              | 25132              | 5.56                     | 5.60             | 5.61             | 5.63               | 5.65               |
|                  | -13°F(-25.0°C)                                     | 31919                               | 31281            | 31124            | 30202              | 29930              | 6.10                     | 6.15             | 6.16             | 6.17               | 6.20               |
|                  | -4°F(-20.0°C)                                      | 38298                               | 37532            | 37345            | 36238              | 35912              | 6.04                     | 6.09             | 6.10             | 6.11               | 6.13               |
|                  | 0°F(-17.8°C)                                       | 40237                               | 39432            | 39235            | 38072              | 37729              | 6.22                     | 6.27             | 6.29             | 6.30               | 6.33               |
|                  | 5°F(-15.0°C)                                       | 42659                               | 41806            | 41597            | 40364              | 40001              | 6.46                     | 6.51             | 6.52             | 6.54               | 6.56               |
|                  | 14°F(-10.0°C)                                      | 42689                               | 41835            | 41626            | 40392              | 40029              | 6.42                     | 6.47             | 6.48             | 6.49               | 6.52               |
|                  | 17°F(-8.3°C)                                       | 42699                               | 41845            | 41635            | 40401              | 40038              | 6.40                     | 6.45             | 6.47             | 6.48               | 6.51               |
|                  | 22°F(-5.6°C)                                       | 43307                               | 42441            | 42228            | 40977              | 40608              | 6.27                     | 6.32             | 6.33             | 6.35               | 6.37               |
|                  | 27°F(-2.8°C)                                       | 43915                               | 43037            | 42821            | 41552              | 41178              | 6.14                     | 6.19             | 6.20             | 6.21               | 6.24               |
|                  | 32°F(-0.0°C)                                       | 44523                               | 43633            | 43415            | 42128              | 41749              | 6.01                     | 6.06             | 6.07             | 6.08               | 6.10               |
|                  | 35°F(1.7°C)                                        | 44888                               | 43990            | 43770            | 42473              | 42091              | 5.93                     | 5.98             | 5.99             | 6.00               | 6.02               |
|                  | 37°F(2.8°C)                                        | 45273                               | 44368            | 44146            | 42838              | 42452              | 5.71                     | 5.76             | 5.77             | 5.78               | 5.81               |
|                  | 42°F(5.6°C)                                        | 46236                               | 45311            | 45084            | 43748              | 43355              | 5.18                     | 5.22             | 5.23             | 5.24               | 5.26               |
|                  | 44.6°F(7.0°C)                                      | 46621                               | 45688            | 45460            | 44113              | 43716              | 4.96                     | 5.00             | 5.01             | 5.02               | 5.04               |
|                  | 47°F(8.3°C)                                        | 47198                               | 46254            | 46023            | 44659              | 44257              | 4.64                     | 4.68             | 4.69             | 4.70               | 4.72               |
|                  | 52°F(11.1°C)                                       | 45222                               | 44317            | 44096            | 42789              | 42404              | 4.13                     | 4.16             | 4.17             | 4.18               | 4.19               |
|                  | 57°F(13.9°C)                                       | 43246                               | 42381            | 42169            | 40919              | 40551              | 3.61                     | 3.64             | 3.65             | 3.66               | 3.67               |
|                  | 59°F(15.0°C)                                       | 42455                               | 41606            | 41398            | 40171              | 39810              | 3.41                     | 3.44             | 3.44             | 3.45               | 3.46               |
|                  | 62°F(16.7°C)                                       | 41269                               | 40444            | 40242            | 39049              | 38698              | 3.10                     | 3.12             | 3.13             | 3.14               | 3.15               |
|                  | 64.4°F(18.0°C)                                     | 40479                               | 39669            | 39471            | 38301              | 37956              | 2.89                     | 2.92             | 2.92             | 2.93               | 2.94               |

**Table 15: Heating Performance - 48K 37MUHA + 45MUHA (Sheet 2 of 2)**

|             |                       |       |       |       |       |       |      |      |      |      |      |
|-------------|-----------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>1441</b> | <b>-22°F(-30.0°C)</b> | 28889 | 28311 | 28170 | 28057 | 27805 | 5.61 | 5.66 | 5.67 | 5.68 | 5.71 |
|             | <b>-13°F(-25.0°C)</b> | 34405 | 33717 | 33548 | 33414 | 33113 | 6.16 | 6.21 | 6.22 | 6.23 | 6.26 |
|             | <b>-4°F(-20.0°C)</b>  | 41280 | 40455 | 40253 | 40092 | 39731 | 6.10 | 6.15 | 6.16 | 6.17 | 6.20 |
|             | <b>0°F(-17.8°C)</b>   | 43370 | 42502 | 42290 | 42121 | 41742 | 6.29 | 6.34 | 6.35 | 6.36 | 6.39 |
|             | <b>5°F(-15.0°C)</b>   | 45981 | 45062 | 44836 | 44657 | 44255 | 6.52 | 6.58 | 6.59 | 6.60 | 6.63 |
|             | <b>14°F(-10.0°C)</b>  | 46013 | 45093 | 44867 | 44688 | 44285 | 6.48 | 6.53 | 6.55 | 6.56 | 6.59 |
|             | <b>17°F(-8.3°C)</b>   | 46023 | 45103 | 44877 | 44698 | 44296 | 6.47 | 6.52 | 6.53 | 6.55 | 6.57 |
|             | <b>22°F(-5.6°C)</b>   | 46679 | 45745 | 45517 | 45335 | 44927 | 6.33 | 6.39 | 6.40 | 6.41 | 6.44 |
|             | <b>27°F(-2.8°C)</b>   | 47335 | 46388 | 46156 | 45971 | 45558 | 6.20 | 6.25 | 6.26 | 6.28 | 6.30 |
|             | <b>32°F(-0.0°C)</b>   | 47990 | 47030 | 46795 | 46608 | 46189 | 6.07 | 6.12 | 6.13 | 6.14 | 6.17 |
|             | <b>35°F(1.7°C)</b>    | 48383 | 47416 | 47179 | 46990 | 46567 | 5.99 | 6.04 | 6.05 | 6.06 | 6.09 |
|             | <b>37°F(2.8°C)</b>    | 48798 | 47823 | 47583 | 47393 | 46967 | 5.77 | 5.82 | 5.83 | 5.84 | 5.87 |
|             | <b>42°F(5.6°C)</b>    | 49836 | 48839 | 48595 | 48401 | 47965 | 5.23 | 5.27 | 5.28 | 5.29 | 5.31 |
|             | <b>44.6°F(7.0°C)</b>  | 50251 | 49246 | 49000 | 48804 | 48364 | 5.01 | 5.05 | 5.06 | 5.07 | 5.09 |
|             | <b>47°F(8.3°C)</b>    | 50873 | 49856 | 49607 | 49408 | 48964 | 4.69 | 4.73 | 4.74 | 4.75 | 4.76 |
|             | <b>52°F(11.1°C)</b>   | 48743 | 47768 | 47530 | 47339 | 46913 | 4.17 | 4.20 | 4.21 | 4.22 | 4.24 |
|             | <b>57°F(13.9°C)</b>   | 46613 | 45681 | 45452 | 45271 | 44863 | 3.65 | 3.68 | 3.69 | 3.69 | 3.71 |
|             | <b>59°F(15.0°C)</b>   | 45761 | 44846 | 44622 | 44443 | 44043 | 3.44 | 3.47 | 3.48 | 3.48 | 3.50 |
|             | <b>62°F(16.7°C)</b>   | 44483 | 43593 | 43375 | 43202 | 42813 | 3.13 | 3.16 | 3.16 | 3.17 | 3.18 |
|             | <b>64.4°F(18.0°C)</b> | 43631 | 42758 | 42544 | 42374 | 41993 | 2.92 | 2.95 | 2.95 | 2.96 | 2.97 |
| <b>1600</b> | <b>-22°F(-30.0°C)</b> | 31139 | 30516 | 30363 | 30242 | 29970 | 5.67 | 5.72 | 5.73 | 5.74 | 5.76 |
|             | <b>-13°F(-25.0°C)</b> | 37084 | 36342 | 36160 | 36016 | 35692 | 6.22 | 6.27 | 6.29 | 6.30 | 6.32 |
|             | <b>-4°F(-20.0°C)</b>  | 44495 | 43605 | 43387 | 43213 | 42825 | 6.16 | 6.21 | 6.22 | 6.23 | 6.26 |
|             | <b>0°F(-17.8°C)</b>   | 46747 | 45812 | 45583 | 45400 | 44992 | 6.35 | 6.40 | 6.41 | 6.43 | 6.45 |
|             | <b>5°F(-15.0°C)</b>   | 49562 | 48570 | 48328 | 48134 | 47701 | 6.59 | 6.64 | 6.66 | 6.67 | 6.70 |
|             | <b>14°F(-10.0°C)</b>  | 49596 | 48604 | 48361 | 48167 | 47734 | 6.55 | 6.60 | 6.61 | 6.63 | 6.65 |
|             | <b>17°F(-8.3°C)</b>   | 49607 | 48615 | 48372 | 48178 | 47745 | 6.53 | 6.59 | 6.60 | 6.61 | 6.64 |
|             | <b>22°F(-5.6°C)</b>   | 50314 | 49307 | 49061 | 48865 | 48425 | 6.40 | 6.45 | 6.46 | 6.48 | 6.50 |
|             | <b>27°F(-2.8°C)</b>   | 51020 | 50000 | 49750 | 49551 | 49105 | 6.26 | 6.31 | 6.33 | 6.34 | 6.37 |
|             | <b>32°F(-0.0°C)</b>   | 51727 | 50692 | 50439 | 50237 | 49785 | 6.13 | 6.18 | 6.19 | 6.20 | 6.23 |
|             | <b>35°F(1.7°C)</b>    | 52151 | 51108 | 50852 | 50649 | 50193 | 6.05 | 6.10 | 6.11 | 6.12 | 6.15 |
|             | <b>37°F(2.8°C)</b>    | 52598 | 51546 | 51289 | 51083 | 50624 | 5.83 | 5.88 | 5.89 | 5.90 | 5.92 |
|             | <b>42°F(5.6°C)</b>    | 53717 | 52642 | 52379 | 52170 | 51700 | 5.28 | 5.33 | 5.34 | 5.35 | 5.37 |
|             | <b>44.6°F(7.0°C)</b>  | 54164 | 53081 | 52815 | 52604 | 52131 | 5.06 | 5.11 | 5.12 | 5.13 | 5.15 |
|             | <b>47°F(8.3°C)</b>    | 54835 | 53738 | 53469 | 53256 | 52776 | 4.74 | 4.77 | 4.78 | 4.79 | 4.81 |
|             | <b>52°F(11.1°C)</b>   | 52539 | 51488 | 51231 | 51026 | 50566 | 4.21 | 4.25 | 4.25 | 4.26 | 4.28 |
|             | <b>57°F(13.9°C)</b>   | 50243 | 49238 | 48992 | 48796 | 48357 | 3.69 | 3.72 | 3.72 | 3.73 | 3.75 |
|             | <b>59°F(15.0°C)</b>   | 49324 | 48338 | 48096 | 47904 | 47473 | 3.48 | 3.50 | 3.51 | 3.52 | 3.53 |
|             | <b>62°F(16.7°C)</b>   | 47947 | 46988 | 46753 | 46566 | 46147 | 3.16 | 3.19 | 3.19 | 3.20 | 3.21 |
|             | <b>64.4°F(18.0°C)</b> | 47028 | 46088 | 45857 | 45674 | 45263 | 2.95 | 2.98 | 2.98 | 2.99 | 3.00 |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID WB(°F) | 60.8°F(16.0°C) |                |                |                |                | 64.4°F(18.0°C) |                |                |                |                | 67°F(19.4°C)   |                |                |                |                | 71.6°F(22.0°C) |                |                |                |                |
|------------------|--------------------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                  |                          | ID DB(°F) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) | 73.4°F(23.0°C) | 77.0°F(25.0°C) | 80.0°F(26.7°C) | 80.6°F(27.0°C) | 84.2°F(29.0°C) |
| 1235             | -22°F(-30.0°C)           | TC        | 32349          | 32393          | 32428          | 32429          | 32473          | 34299          | 34339          | 34373          | 34380          | 34421          | 36348          | 36395          | 36436          | 36442          | 36483          | 38538          | 38580          | 38622          | 38628          | 38676          |
|                  |                          | S/T       | 0.40           | 0.47           | 0.53           | 0.53           | 0.61           | 0.42           | 0.50           | 0.56           | 0.56           | 0.64           | 0.45           | 0.53           | 0.60           | 0.60           | 0.68           | 0.47           | 0.56           | 0.63           | 0.63           | 0.72           |
|                  |                          | PI        | 4.19           | 4.20           | 4.20           | 4.20           | 4.21           | 4.44           | 4.45           | 4.45           | 4.46           | 4.46           | 4.71           | 4.72           | 4.72           | 4.72           | 4.73           | 4.99           | 5.00           | 5.01           | 5.01           | 5.01           |
|                  | -13°F(-25.0°C)           | TC        | 35045          | 35092          | 35130          | 35131          | 35179          | 37157          | 37201          | 37238          | 37245          | 37289          | 39377          | 39428          | 39472          | 39479          | 39523          | 41749          | 41795          | 41840          | 41847          | 41899          |
|                  |                          | S/T       | 0.40           | 0.47           | 0.53           | 0.53           | 0.61           | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           |
|                  |                          | PI        | 4.54           | 4.55           | 4.55           | 4.55           | 4.56           | 4.82           | 4.82           | 4.83           | 4.83           | 4.83           | 5.10           | 5.11           | 5.12           | 5.12           | 5.12           | 5.41           | 5.42           | 5.42           | 5.42           | 5.43           |
|                  | -4°F(-20.0°C)            | TC        | 37741          | 37791          | 37832          | 37834          | 37885          | 40015          | 40062          | 40102          | 40110          | 40158          | 42406          | 42461          | 42508          | 42516          | 42564          | 44961          | 45010          | 45059          | 45066          | 45122          |
|                  |                          | S/T       | 0.40           | 0.47           | 0.54           | 0.54           | 0.61           | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           |
|                  |                          | PI        | 4.89           | 4.90           | 4.90           | 4.90           | 4.91           | 5.19           | 5.19           | 5.20           | 5.20           | 5.20           | 5.50           | 5.50           | 5.51           | 5.51           | 5.52           | 5.83           | 5.83           | 5.84           | 5.84           | 5.85           |
|                  | 0°F(-17.8°C)             | TC        | 38939          | 38991          | 39033          | 39035          | 39088          | 41285          | 41334          | 41375          | 41383          | 41432          | 43752          | 43809          | 43858          | 43866          | 43915          | 46388          | 46439          | 46489          | 46496          | 46554          |
|                  |                          | S/T       | 0.40           | 0.47           | 0.54           | 0.54           | 0.62           | 0.43           | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.64           | 0.64           | 0.73           |
|                  |                          | PI        | 5.05           | 5.05           | 5.06           | 5.06           | 5.07           | 5.35           | 5.36           | 5.36           | 5.36           | 5.37           | 5.67           | 5.68           | 5.68           | 5.68           | 5.69           | 6.01           | 6.02           | 6.02           | 6.03           | 6.03           |
|                  | 5°F(-15.0°C)             | TC        | 40436          | 40491          | 40534          | 40536          | 40591          | 42873          | 42924          | 42966          | 42975          | 43026          | 45435          | 45494          | 45544          | 45553          | 45604          | 48172          | 48225          | 48277          | 48285          | 48345          |
|                  |                          | S/T       | 0.41           | 0.48           | 0.54           | 0.54           | 0.62           | 0.43           | 0.51           | 0.57           | 0.57           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.65           | 0.65           | 0.74           |
|                  |                          | PI        | 5.24           | 5.25           | 5.25           | 5.25           | 5.26           | 5.56           | 5.56           | 5.57           | 5.57           | 5.58           | 5.89           | 5.90           | 5.90           | 5.90           | 5.91           | 6.24           | 6.25           | 6.26           | 6.26           | 6.27           |
|                  | 14°F(-10.0°C)            | TC        | 41844          | 41900          | 41945          | 41947          | 42004          | 44366          | 44418          | 44462          | 44471          | 44524          | 47016          | 47077          | 47130          | 47138          | 47191          | 49849          | 49903          | 49957          | 49965          | 50027          |
|                  |                          | S/T       | 0.41           | 0.48           | 0.54           | 0.54           | 0.62           | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           |
|                  |                          | PI        | 5.38           | 5.39           | 5.39           | 5.39           | 5.40           | 5.71           | 5.71           | 5.72           | 5.72           | 5.73           | 6.05           | 6.05           | 6.06           | 6.06           | 6.07           | 6.41           | 6.42           | 6.42           | 6.43           | 6.43           |
|                  | 17°F(-8.3°C)             | TC        | 42313          | 42370          | 42415          | 42417          | 42475          | 44863          | 44916          | 44960          | 44969          | 45023          | 47543          | 47605          | 47658          | 47667          | 47720          | 50408          | 50463          | 50518          | 50525          | 50588          |
|                  |                          | S/T       | 0.41           | 0.48           | 0.54           | 0.54           | 0.62           | 0.43           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           |
|                  |                          | PI        | 5.43           | 5.44           | 5.44           | 5.44           | 5.45           | 5.76           | 5.76           | 5.77           | 5.77           | 5.78           | 6.10           | 6.11           | 6.11           | 6.12           | 6.12           | 6.47           | 6.47           | 6.48           | 6.48           | 6.49           |
|                  | 23°F(-5.0°C)             | TC        | 43694          | 43753          | 43800          | 43802          | 43861          | 46327          | 46382          | 46428          | 46437          | 46492          | 49095          | 49159          | 49214          | 49223          | 49278          | 52053          | 52110          | 52167          | 52175          | 52240          |
|                  |                          | S/T       | 0.41           | 0.48           | 0.55           | 0.55           | 0.62           | 0.44           | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           |
|                  |                          | PI        | 5.44           | 5.45           | 5.46           | 5.46           | 5.47           | 5.77           | 5.78           | 5.78           | 5.79           | 5.79           | 6.12           | 6.13           | 6.13           | 6.13           | 6.14           | 6.49           | 6.49           | 6.50           | 6.50           | 6.51           |
|                  | 35°F(1.7°C)              | TC        | 46456          | 46519          | 46569          | 46571          | 46634          | 49256          | 49315          | 49363          | 49373          | 49432          | 52199          | 52267          | 52325          | 52335          | 52393          | 55344          | 55404          | 55465          | 55473          | 55542          |
|                  |                          | S/T       | 0.41           | 0.48           | 0.55           | 0.55           | 0.63           | 0.44           | 0.51           | 0.58           | 0.58           | 0.67           | 0.46           | 0.54           | 0.62           | 0.62           | 0.71           | 0.49           | 0.58           | 0.66           | 0.66           | 0.75           |
|                  |                          | PI        | 5.48           | 5.48           | 5.49           | 5.49           | 5.50           | 5.81           | 5.81           | 5.82           | 5.82           | 5.83           | 6.15           | 6.16           | 6.17           | 6.17           | 6.18           | 6.52           | 6.53           | 6.54           | 6.54           | 6.55           |
|                  | 41°F(5.0°C)              | TC        | 42596          | 42653          | 42699          | 42701          | 42758          | 45163          | 45216          | 45261          | 45270          | 45324          | 47861          | 47923          | 47977          | 47985          | 48039          | 50745          | 50800          | 50855          | 50863          | 50926          |
|                  |                          | S/T       | 0.41           | 0.49           | 0.55           | 0.55           | 0.63           | 0.44           | 0.51           | 0.58           | 0.58           | 0.67           | 0.46           | 0.55           | 0.62           | 0.62           | 0.71           | 0.49           | 0.58           | 0.66           | 0.66           | 0.75           |
|                  |                          | PI        | 4.13           | 4.13           | 4.14           | 4.14           | 4.14           | 4.38           | 4.38           | 4.39           | 4.39           | 4.39           | 4.64           | 4.64           | 4.65           | 4.65           | 4.66           | 4.92           | 4.92           | 4.93           | 4.93           | 4.94           |
|                  | 47°F(8.3°C)              | TC        | 38735          | 38787          | 38829          | 38830          | 38883          | 41069          | 41118          | 41158          | 41167          | 41215          | 43523          | 43579          | 43628          | 43636          | 43685          | 46145          | 46195          | 46246          | 46253          | 46310          |
|                  |                          | S/T       | 0.41           | 0.49           | 0.55           | 0.55           | 0.63           | 0.44           | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.49           | 0.58           | 0.66           | 0.66           | 0.75           |
|                  |                          | PI        | 2.78           | 2.78           | 2.79           | 2.79           | 2.79           | 2.95           | 2.95           | 2.95           | 2.95           | 2.96           | 3.12           | 3.13           | 3.13           | 3.13           | 3.13           | 3.31           | 3.31           | 3.32           | 3.32           | 3.32           |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 2 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1235 | 50°F(10.0°C)   | TC  | 39058 | 39110 | 39152 | 39154 | 39207 | 41412 | 41461 | 41502 | 41510 | 41559 | 43886 | 43943 | 43992 | 44000 | 44049 | 46530 | 46581 | 46631 | 46638 | 46697 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|      |                | PI  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  | 2.92  | 2.93  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.11  | 3.11  | 3.11  | 3.29  | 3.29  | 3.29  | 3.29  | 3.30  |
|      | 59°F(15.0°C)   | TC  | 40027 | 40080 | 40124 | 40125 | 40179 | 42439 | 42489 | 42531 | 42539 | 42590 | 44974 | 45033 | 45083 | 45091 | 45142 | 47684 | 47736 | 47788 | 47795 | 47855 |
|      |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|      |                | PI  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.85  | 2.86  | 2.86  | 2.86  | 2.86  | 3.02  | 3.03  | 3.03  | 3.03  | 3.04  | 3.21  | 3.21  | 3.21  | 3.21  | 3.22  |
|      | 68°F(20.0°C)   | TC  | 40995 | 41050 | 41095 | 41096 | 41152 | 43466 | 43517 | 43560 | 43569 | 43621 | 46063 | 46123 | 46174 | 46183 | 46234 | 48838 | 48891 | 48944 | 48952 | 49013 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|      |                | PI  | 2.63  | 2.63  | 2.63  | 2.63  | 2.64  | 2.78  | 2.79  | 2.79  | 2.79  | 2.79  | 2.95  | 2.95  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.13  | 3.14  | 3.14  |
|      | 77°F(25.0°C)   | TC  | 41964 | 42020 | 42066 | 42068 | 42124 | 44493 | 44546 | 44590 | 44598 | 44651 | 47151 | 47212 | 47265 | 47274 | 47327 | 49992 | 50047 | 50101 | 50109 | 50171 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  | 2.71  | 2.72  | 2.72  | 2.72  | 2.72  | 2.88  | 2.88  | 2.88  | 2.88  | 2.89  | 3.05  | 3.05  | 3.06  | 3.06  | 3.06  |
|      | 82°F(27.8°C)   | TC  | 42734 | 42792 | 42838 | 42840 | 42897 | 45310 | 45363 | 45408 | 45417 | 45471 | 48017 | 48079 | 48133 | 48141 | 48195 | 50910 | 50965 | 51021 | 51028 | 51092 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                | PI  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  | 3.21  | 3.21  | 3.22  | 3.22  | 3.22  | 3.40  | 3.41  | 3.41  | 3.41  | 3.42  |
|      | 86°F(30.0°C)   | TC  | 43643 | 43702 | 43749 | 43751 | 43810 | 46273 | 46328 | 46374 | 46383 | 46438 | 49038 | 49102 | 49156 | 49165 | 49220 | 51992 | 52049 | 52106 | 52114 | 52179 |
|      |                | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 3.52  | 3.52  | 3.52  | 3.52  | 3.53  | 3.73  | 3.73  | 3.74  | 3.74  | 3.74  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  | 4.19  | 4.19  | 4.20  | 4.20  | 4.20  |
|      | 95°F(35.0°C)   | TC  | 45688 | 45750 | 45799 | 45801 | 45863 | 48442 | 48499 | 48547 | 48556 | 48614 | 51336 | 51402 | 51460 | 51469 | 51527 | 54429 | 54488 | 54547 | 54556 | 54624 |
|      |                | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 5.00  | 5.00  | 5.01  | 5.01  | 5.02  | 5.30  | 5.30  | 5.31  | 5.31  | 5.32  | 5.61  | 5.62  | 5.63  | 5.63  | 5.64  | 5.95  | 5.96  | 5.97  | 5.97  | 5.97  |
|      | 104°F(40.0°C)  | TC  | 41810 | 41866 | 41911 | 41913 | 41970 | 44330 | 44382 | 44426 | 44435 | 44487 | 46978 | 47039 | 47091 | 47100 | 47153 | 49809 | 49863 | 49917 | 49925 | 49987 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |                | PI  | 4.93  | 4.93  | 4.94  | 4.94  | 4.95  | 5.22  | 5.23  | 5.24  | 5.24  | 5.24  | 5.54  | 5.54  | 5.55  | 5.55  | 5.56  | 5.87  | 5.88  | 5.88  | 5.88  | 5.89  |
|      | 110°F(43.0°C)  | TC  | 39483 | 39536 | 39579 | 39580 | 39634 | 41862 | 41912 | 41953 | 41962 | 42011 | 44363 | 44421 | 44471 | 44479 | 44528 | 47036 | 47088 | 47139 | 47146 | 47205 |
|      |                | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|      |                | PI  | 4.89  | 4.89  | 4.90  | 4.90  | 4.90  | 5.18  | 5.19  | 5.19  | 5.19  | 5.20  | 5.49  | 5.50  | 5.50  | 5.50  | 5.51  | 5.82  | 5.83  | 5.83  | 5.83  | 5.84  |
|      | 115°F(46.0°C)  | TC  | 33308 | 33353 | 33389 | 33390 | 33435 | 35315 | 35357 | 35392 | 35399 | 35441 | 37425 | 37474 | 37515 | 37522 | 37564 | 39680 | 39723 | 39766 | 39772 | 39822 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |                | PI  | 4.11  | 4.12  | 4.12  | 4.12  | 4.13  | 4.36  | 4.36  | 4.37  | 4.37  | 4.37  | 4.62  | 4.63  | 4.63  | 4.63  | 4.64  | 4.90  | 4.90  | 4.91  | 4.91  | 4.91  |
|      | 122°F(50.0°C)  | TC  | 25074 | 25108 | 25135 | 25136 | 25170 | 26585 | 26617 | 26643 | 26648 | 26680 | 28174 | 28210 | 28242 | 28247 | 28279 | 29871 | 29904 | 29936 | 29941 | 29978 |
|      |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |                | PI  | 3.08  | 3.08  | 3.09  | 3.09  | 3.09  | 3.26  | 3.27  | 3.27  | 3.27  | 3.27  | 3.46  | 3.46  | 3.47  | 3.47  | 3.47  | 3.67  | 3.67  | 3.67  | 3.67  | 3.68  |
| 1500 | -22°F(-30.0°C) | TC  | 34325 | 34371 | 34408 | 34409 | 34456 | 36393 | 36436 | 36472 | 36479 | 36523 | 38567 | 38617 | 38660 | 38668 | 38711 | 40891 | 40936 | 40980 | 40986 | 41038 |
|      |                | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|      |                | PI  | 4.45  | 4.45  | 4.46  | 4.46  | 4.47  | 4.72  | 4.72  | 4.73  | 4.73  | 4.73  | 5.00  | 5.00  | 5.01  | 5.01  | 5.02  | 5.30  | 5.31  | 5.31  | 5.31  | 5.32  |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 3 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1500 | -13°F(-25.0°C) | TC  | 37185 | 37235 | 37275 | 37277 | 37327 | 39426 | 39473 | 39512 | 39519 | 39566 | 41781 | 41836 | 41882 | 41890 | 41937 | 44299 | 44347 | 44395 | 44402 | 44457 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  |
|      |                | PI  | 4.82  | 4.83  | 4.83  | 4.83  | 4.84  | 5.11  | 5.12  | 5.12  | 5.12  | 5.13  | 5.41  | 5.42  | 5.43  | 5.43  | 5.43  | 5.74  | 5.75  | 5.75  | 5.75  | 5.76  |
|      | -4°F(-20.0°C)  | TC  | 40045 | 40099 | 40142 | 40144 | 40198 | 42459 | 42509 | 42551 | 42559 | 42610 | 44995 | 45054 | 45104 | 45112 | 45163 | 47706 | 47758 | 47810 | 47818 | 47877 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|      |                | PI  | 5.19  | 5.20  | 5.20  | 5.20  | 5.21  | 5.50  | 5.51  | 5.51  | 5.52  | 5.52  | 5.83  | 5.84  | 5.85  | 5.85  | 5.85  | 6.18  | 6.19  | 6.20  | 6.20  | 6.20  |
|      | 0°F(-17.8°C)   | TC  | 41317 | 41372 | 41417 | 41419 | 41474 | 43806 | 43858 | 43902 | 43910 | 43962 | 46424 | 46484 | 46536 | 46544 | 46596 | 49221 | 49274 | 49328 | 49336 | 49397 |
|      |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|      |                | PI  | 5.35  | 5.36  | 5.37  | 5.37  | 5.37  | 5.68  | 5.68  | 5.69  | 5.69  | 5.70  | 6.02  | 6.02  | 6.03  | 6.03  | 6.04  | 6.38  | 6.39  | 6.39  | 6.39  | 6.40  |
|      | 5°F(-15.0°C)   | TC  | 42906 | 42963 | 43010 | 43012 | 43070 | 45491 | 45545 | 45590 | 45599 | 45653 | 48209 | 48272 | 48326 | 48335 | 48389 | 51114 | 51169 | 51225 | 51233 | 51297 |
|      |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|      |                | PI  | 5.56  | 5.57  | 5.57  | 5.57  | 5.58  | 5.90  | 5.90  | 5.91  | 5.91  | 5.92  | 6.25  | 6.26  | 6.26  | 6.26  | 6.27  | 6.62  | 6.63  | 6.64  | 6.64  | 6.65  |
|      | 14°F(-10.0°C)  | TC  | 44399 | 44459 | 44507 | 44509 | 44569 | 47075 | 47130 | 47177 | 47186 | 47242 | 49887 | 49952 | 50008 | 50017 | 50073 | 52893 | 52950 | 53008 | 53016 | 53082 |
|      |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|      |                | PI  | 5.71  | 5.72  | 5.72  | 5.72  | 5.73  | 6.05  | 6.06  | 6.07  | 6.07  | 6.08  | 6.42  | 6.42  | 6.43  | 6.43  | 6.44  | 6.80  | 6.81  | 6.82  | 6.82  | 6.83  |
|      | 17°F(-8.3°C)   | TC  | 44897 | 44957 | 45006 | 45008 | 45068 | 47602 | 47659 | 47706 | 47715 | 47772 | 50446 | 50512 | 50568 | 50578 | 50634 | 53486 | 53544 | 53602 | 53611 | 53677 |
|      |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 5.76  | 5.77  | 5.77  | 5.77  | 5.78  | 6.11  | 6.11  | 6.12  | 6.12  | 6.13  | 6.47  | 6.48  | 6.49  | 6.49  | 6.50  | 6.86  | 6.87  | 6.88  | 6.88  | 6.89  |
|      | 23°F(-5.0°C)   | TC  | 46362 | 46425 | 46475 | 46477 | 46539 | 49156 | 49215 | 49263 | 49273 | 49331 | 52093 | 52161 | 52219 | 52229 | 52287 | 55232 | 55292 | 55352 | 55361 | 55430 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|      |                | PI  | 5.78  | 5.78  | 5.79  | 5.79  | 5.80  | 6.12  | 6.13  | 6.14  | 6.14  | 6.15  | 6.49  | 6.50  | 6.51  | 6.51  | 6.51  | 6.88  | 6.89  | 6.90  | 6.90  | 6.91  |
|      | 35°F(1.7°C)    | TC  | 49293 | 49360 | 49413 | 49415 | 49482 | 52264 | 52326 | 52378 | 52388 | 52450 | 55386 | 55458 | 55520 | 55531 | 55593 | 58724 | 58787 | 58851 | 58861 | 58934 |
|      |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|      |                | PI  | 5.81  | 5.82  | 5.82  | 5.82  | 5.83  | 6.16  | 6.17  | 6.17  | 6.18  | 6.18  | 6.53  | 6.54  | 6.54  | 6.55  | 6.55  | 6.92  | 6.93  | 6.94  | 6.94  | 6.95  |
|      | 41°F(5.0°C)    | TC  | 45197 | 45258 | 45306 | 45308 | 45369 | 47921 | 47977 | 48025 | 48034 | 48091 | 50784 | 50849 | 50906 | 50916 | 50972 | 53843 | 53902 | 53961 | 53969 | 54036 |
|      |                | S/T | 0.44  | 0.51  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|      |                | PI  | 4.38  | 4.39  | 4.39  | 4.39  | 4.40  | 4.64  | 4.65  | 4.65  | 4.65  | 4.66  | 4.92  | 4.93  | 4.93  | 4.93  | 4.94  | 5.22  | 5.22  | 5.23  | 5.23  | 5.24  |
|      | 47°F(8.3°C)    | TC  | 41100 | 41155 | 41200 | 41202 | 41257 | 43577 | 43629 | 43672 | 43680 | 43732 | 46181 | 46241 | 46292 | 46301 | 46352 | 48963 | 49016 | 49070 | 49077 | 49138 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                | PI  | 2.95  | 2.95  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.13  | 3.13  | 3.14  | 3.31  | 3.32  | 3.32  | 3.32  | 3.33  | 3.51  | 3.52  | 3.52  | 3.52  | 3.53  |
|      | 50°F(10.0°C)   | TC  | 41443 | 41499 | 41543 | 41545 | 41601 | 43940 | 43992 | 44036 | 44045 | 44097 | 46566 | 46626 | 46678 | 46687 | 46739 | 49371 | 49425 | 49479 | 49486 | 49548 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|      |                | PI  | 2.93  | 2.93  | 2.93  | 2.93  | 2.94  | 3.10  | 3.11  | 3.11  | 3.11  | 3.11  | 3.29  | 3.29  | 3.30  | 3.30  | 3.30  | 3.49  | 3.49  | 3.49  | 3.49  | 3.50  |
|      | 59°F(15.0°C)   | TC  | 42471 | 42528 | 42574 | 42576 | 42633 | 45030 | 45084 | 45128 | 45137 | 45191 | 47721 | 47783 | 47836 | 47845 | 47898 | 50596 | 50651 | 50706 | 50714 | 50777 |
|      |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|      |                | PI  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  | 3.03  | 3.03  | 3.03  | 3.04  | 3.04  | 3.21  | 3.21  | 3.22  | 3.22  | 3.22  | 3.40  | 3.41  | 3.41  | 3.41  | 3.41  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 4 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1500 | 68°F(20.0°C)   | TC  | 43499 | 43557 | 43604 | 43606 | 43665 | 46120 | 46175 | 46220 | 46229 | 46284 | 48875 | 48939 | 48994 | 49003 | 49057 | 51820 | 51877 | 51933 | 51941 | 52006 |
|      |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.73  | 0.83  |
|      |                | PI  | 2.79  | 2.79  | 2.79  | 2.79  | 2.80  | 2.95  | 2.96  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  | 3.32  | 3.32  | 3.33  | 3.33  | 3.33  |
|      | 77°F(25.0°C)   | TC  | 44527 | 44586 | 44634 | 44636 | 44697 | 47210 | 47266 | 47313 | 47322 | 47378 | 50030 | 50095 | 50151 | 50161 | 50217 | 53045 | 53103 | 53160 | 53169 | 53235 |
|      |                | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|      |                | PI  | 2.72  | 2.72  | 2.72  | 2.72  | 2.73  | 2.88  | 2.88  | 2.89  | 2.89  | 2.89  | 3.05  | 3.06  | 3.06  | 3.06  | 3.06  | 3.24  | 3.24  | 3.24  | 3.24  | 3.25  |
|      | 82°F(27.8°C)   | TC  | 45344 | 45405 | 45454 | 45456 | 45517 | 48076 | 48133 | 48181 | 48190 | 48248 | 50949 | 51015 | 51072 | 51081 | 51138 | 54018 | 54077 | 54136 | 54144 | 54212 |
|      |                | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|      |                | PI  | 3.03  | 3.04  | 3.04  | 3.04  | 3.04  | 3.21  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.41  | 3.41  | 3.42  | 3.61  | 3.61  | 3.62  | 3.62  | 3.62  |
|      | 86°F(30.0°C)   | TC  | 46308 | 46370 | 46420 | 46422 | 46485 | 49099 | 49157 | 49206 | 49215 | 49274 | 52032 | 52100 | 52158 | 52168 | 52226 | 55167 | 55227 | 55287 | 55296 | 55365 |
|      |                | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|      |                | PI  | 3.73  | 3.73  | 3.74  | 3.74  | 3.74  | 3.95  | 3.96  | 3.96  | 3.96  | 3.97  | 4.19  | 4.20  | 4.20  | 4.20  | 4.21  | 4.44  | 4.45  | 4.45  | 4.45  | 4.46  |
|      | 95°F(35.0°C)   | TC  | 48478 | 48543 | 48596 | 48598 | 48663 | 51400 | 51460 | 51511 | 51521 | 51583 | 54470 | 54541 | 54602 | 54612 | 54673 | 57752 | 57815 | 57878 | 57887 | 57959 |
|      |                | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|      |                | PI  | 5.30  | 5.31  | 5.31  | 5.31  | 5.32  | 5.62  | 5.63  | 5.63  | 5.63  | 5.64  | 5.96  | 5.96  | 5.97  | 5.97  | 5.98  | 6.32  | 6.32  | 6.33  | 6.33  | 6.34  |
|      | 104°F(40.0°C)  | TC  | 44363 | 44423 | 44471 | 44472 | 44532 | 47037 | 47092 | 47139 | 47148 | 47204 | 49847 | 49911 | 49967 | 49976 | 50032 | 52850 | 52907 | 52965 | 52973 | 53039 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 5.23  | 5.24  | 5.24  | 5.24  | 5.25  | 5.54  | 5.55  | 5.56  | 5.56  | 5.56  | 5.87  | 5.88  | 5.89  | 5.89  | 5.90  | 6.23  | 6.24  | 6.24  | 6.24  | 6.25  |
|      | 110°F(43.0°C)  | TC  | 41894 | 41950 | 41995 | 41997 | 42054 | 44419 | 44471 | 44515 | 44524 | 44577 | 47072 | 47134 | 47186 | 47195 | 47248 | 49909 | 49963 | 50017 | 50025 | 50087 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.76  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 5.18  | 5.19  | 5.20  | 5.20  | 5.20  | 5.50  | 5.50  | 5.51  | 5.51  | 5.52  | 5.83  | 5.83  | 5.84  | 5.84  | 5.85  | 6.18  | 6.18  | 6.19  | 6.19  | 6.20  |
|      | 115°F(46.0°C)  | TC  | 35342 | 35389 | 35427 | 35429 | 35477 | 37472 | 37516 | 37553 | 37560 | 37605 | 39710 | 39762 | 39806 | 39814 | 39858 | 42103 | 42149 | 42195 | 42201 | 42254 |
|      |                | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|      |                | PI  | 4.36  | 4.37  | 4.37  | 4.37  | 4.38  | 4.62  | 4.63  | 4.63  | 4.64  | 4.64  | 4.90  | 4.91  | 4.91  | 4.91  | 4.92  | 5.20  | 5.20  | 5.21  | 5.21  | 5.22  |
|      | 122°F(50.0°C)  | TC  | 26605 | 26641 | 26670 | 26671 | 26707 | 28209 | 28242 | 28270 | 28276 | 28309 | 29894 | 29933 | 29966 | 29972 | 30005 | 31695 | 31730 | 31764 | 31769 | 31809 |
|      |                | S/T | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|      |                | PI  | 3.27  | 3.27  | 3.27  | 3.27  | 3.28  | 3.46  | 3.47  | 3.47  | 3.47  | 3.47  | 3.67  | 3.67  | 3.68  | 3.68  | 3.68  | 3.89  | 3.89  | 3.90  | 3.90  | 3.90  |
| 1647 | -22°F(-30.0°C) | TC  | 36421 | 36469 | 36509 | 36510 | 36560 | 38615 | 38661 | 38699 | 38707 | 38753 | 40922 | 40976 | 41021 | 41029 | 41075 | 43388 | 43435 | 43483 | 43489 | 43543 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|      |                | PI  | 4.72  | 4.73  | 4.73  | 4.73  | 4.74  | 5.00  | 5.01  | 5.02  | 5.02  | 5.02  | 5.30  | 5.31  | 5.32  | 5.32  | 5.32  | 5.62  | 5.63  | 5.64  | 5.64  | 5.64  |
|      | -13°F(-25.0°C) | TC  | 39456 | 39509 | 39551 | 39553 | 39606 | 41833 | 41883 | 41924 | 41933 | 41982 | 44333 | 44390 | 44440 | 44448 | 44498 | 47004 | 47055 | 47106 | 47113 | 47172 |
|      |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 5.11  | 5.12  | 5.13  | 5.13  | 5.13  | 5.42  | 5.43  | 5.43  | 5.43  | 5.44  | 5.75  | 5.75  | 5.76  | 5.76  | 5.77  | 6.09  | 6.10  | 6.10  | 6.11  | 6.11  |
|      | -4°F(-20.0°C)  | TC  | 42491 | 42548 | 42594 | 42595 | 42653 | 45051 | 45105 | 45149 | 45158 | 45212 | 47743 | 47805 | 47858 | 47867 | 47920 | 50619 | 50674 | 50730 | 50738 | 50801 |
|      |                | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|      |                | PI  | 5.51  | 5.51  | 5.52  | 5.52  | 5.53  | 5.84  | 5.85  | 5.85  | 5.85  | 5.86  | 6.19  | 6.20  | 6.20  | 6.20  | 6.21  | 6.56  | 6.57  | 6.57  | 6.58  | 6.58  |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 5 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1647 | 0°F(-17.8°C)  | TC  | 43840 | 43898 | 43946 | 43948 | 44007 | 46481 | 46537 | 46583 | 46592 | 46647 | 49258 | 49322 | 49377 | 49387 | 49442 | 52226 | 52283 | 52340 | 52348 | 52413 |
|      |               | S/T | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|      |               | PI  | 5.68  | 5.69  | 5.70  | 5.70  | 5.70  | 6.02  | 6.03  | 6.04  | 6.04  | 6.05  | 6.38  | 6.39  | 6.40  | 6.40  | 6.41  | 6.77  | 6.78  | 6.78  | 6.78  | 6.79  |
|      | 5°F(-15.0°C)  | TC  | 45526 | 45587 | 45636 | 45638 | 45700 | 48269 | 48326 | 48374 | 48384 | 48441 | 51153 | 51219 | 51277 | 51286 | 51343 | 54235 | 54294 | 54353 | 54362 | 54429 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 5.90  | 5.91  | 5.91  | 5.91  | 5.92  | 6.26  | 6.26  | 6.27  | 6.27  | 6.28  | 6.63  | 6.64  | 6.65  | 6.65  | 6.65  | 7.03  | 7.04  | 7.04  | 7.05  | 7.05  |
|      | 14°F(-10.0°C) | TC  | 47110 | 47174 | 47224 | 47226 | 47290 | 49949 | 50008 | 50058 | 50068 | 50127 | 52933 | 53002 | 53061 | 53071 | 53130 | 56123 | 56184 | 56245 | 56254 | 56324 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 6.06  | 6.07  | 6.07  | 6.07  | 6.08  | 6.42  | 6.43  | 6.44  | 6.44  | 6.45  | 6.81  | 6.82  | 6.82  | 6.83  | 6.83  | 7.22  | 7.23  | 7.23  | 7.23  | 7.24  |
|      | 17°F(-8.3°C)  | TC  | 47638 | 47702 | 47754 | 47756 | 47820 | 50509 | 50569 | 50619 | 50629 | 50689 | 53527 | 53596 | 53656 | 53666 | 53726 | 56752 | 56814 | 56876 | 56884 | 56955 |
|      |               | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|      |               | PI  | 6.11  | 6.12  | 6.13  | 6.13  | 6.13  | 6.48  | 6.49  | 6.49  | 6.50  | 6.50  | 6.87  | 6.88  | 6.88  | 6.88  | 6.89  | 7.28  | 7.29  | 7.30  | 7.30  | 7.31  |
|      | 23°F(-5.0°C)  | TC  | 49193 | 49260 | 49313 | 49315 | 49381 | 52158 | 52220 | 52271 | 52282 | 52344 | 55274 | 55346 | 55408 | 55418 | 55480 | 58605 | 58668 | 58732 | 58741 | 58814 |
|      |               | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|      |               | PI  | 6.13  | 6.14  | 6.14  | 6.14  | 6.15  | 6.50  | 6.51  | 6.51  | 6.51  | 6.52  | 6.89  | 6.90  | 6.90  | 6.91  | 6.91  | 7.30  | 7.31  | 7.32  | 7.32  | 7.33  |
|      | 35°F(1.7°C)   | TC  | 52303 | 52374 | 52430 | 52433 | 52503 | 55455 | 55521 | 55576 | 55587 | 55653 | 58769 | 58845 | 58911 | 58921 | 58987 | 62310 | 62377 | 62445 | 62455 | 62533 |
|      |               | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|      |               | PI  | 6.17  | 6.17  | 6.18  | 6.18  | 6.19  | 6.54  | 6.54  | 6.55  | 6.55  | 6.56  | 6.93  | 6.94  | 6.94  | 6.95  | 6.95  | 7.34  | 7.35  | 7.36  | 7.36  | 7.37  |
|      | 41°F(5.0°C)   | TC  | 47957 | 48021 | 48073 | 48075 | 48140 | 50847 | 50907 | 50957 | 50967 | 51028 | 53885 | 53955 | 54015 | 54025 | 54085 | 57131 | 57193 | 57256 | 57264 | 57336 |
|      |               | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|      |               | PI  | 4.65  | 4.65  | 4.66  | 4.66  | 4.67  | 4.93  | 4.93  | 4.94  | 4.94  | 4.94  | 5.22  | 5.23  | 5.23  | 5.24  | 5.24  | 5.54  | 5.54  | 5.55  | 5.55  | 5.56  |
|      | 47°F(8.3°C)   | TC  | 43610 | 43669 | 43716 | 43718 | 43777 | 46238 | 46293 | 46339 | 46348 | 46403 | 49001 | 49064 | 49119 | 49128 | 49183 | 51953 | 52009 | 52066 | 52074 | 52139 |
|      |               | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|      |               | PI  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  | 3.32  | 3.32  | 3.33  | 3.33  | 3.33  | 3.52  | 3.52  | 3.52  | 3.53  | 3.53  | 3.73  | 3.73  | 3.74  | 3.74  | 3.74  |
|      | 50°F(10.0°C)  | TC  | 43974 | 44033 | 44080 | 44082 | 44141 | 46624 | 46679 | 46725 | 46734 | 46790 | 49409 | 49473 | 49528 | 49538 | 49593 | 52386 | 52443 | 52500 | 52508 | 52574 |
|      |               | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |               | PI  | 3.10  | 3.11  | 3.11  | 3.11  | 3.12  | 3.29  | 3.30  | 3.30  | 3.30  | 3.30  | 3.49  | 3.49  | 3.50  | 3.50  | 3.50  | 3.70  | 3.70  | 3.71  | 3.71  | 3.71  |
|      | 59°F(15.0°C)  | TC  | 45064 | 45125 | 45173 | 45175 | 45236 | 47780 | 47837 | 47884 | 47893 | 47950 | 50635 | 50700 | 50757 | 50766 | 50823 | 53685 | 53744 | 53802 | 53811 | 53878 |
|      |               | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|      |               | PI  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  | 3.21  | 3.22  | 3.22  | 3.22  | 3.22  | 3.41  | 3.41  | 3.41  | 3.41  | 3.42  | 3.61  | 3.61  | 3.62  | 3.62  | 3.62  |
|      | 68°F(20.0°C)  | TC  | 46155 | 46217 | 46267 | 46269 | 46331 | 48936 | 48994 | 49043 | 49052 | 49111 | 51860 | 51927 | 51985 | 51995 | 52053 | 54985 | 55044 | 55104 | 55113 | 55182 |
|      |               | S/T | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |               | PI  | 2.96  | 2.96  | 2.96  | 2.96  | 2.97  | 3.13  | 3.14  | 3.14  | 3.14  | 3.15  | 3.32  | 3.33  | 3.33  | 3.33  | 3.33  | 3.52  | 3.53  | 3.53  | 3.53  | 3.53  |
|      | 77°F(25.0°C)  | TC  | 47246 | 47309 | 47360 | 47362 | 47426 | 50093 | 50152 | 50202 | 50212 | 50271 | 53086 | 53154 | 53214 | 53224 | 53283 | 56284 | 56345 | 56407 | 56415 | 56486 |
|      |               | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  | 3.06  | 3.06  | 3.06  | 3.06  | 3.07  | 3.24  | 3.24  | 3.25  | 3.25  | 3.25  | 3.43  | 3.44  | 3.44  | 3.44  | 3.45  |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 6 of 8)

|      |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1647 | 82°F(27.8°C)   | TC  | 48113 | 48177 | 48229 | 48231 | 48296 | 51012 | 51073 | 51123 | 51133 | 51194 | 54060 | 54130 | 54190 | 54200 | 54261 | 57317 | 57379 | 57442 | 57451 | 57522 |
|      |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |                | PI  | 3.22  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.42  | 3.42  | 3.42  | 3.61  | 3.62  | 3.62  | 3.62  | 3.63  | 3.83  | 3.84  | 3.84  | 3.84  | 3.85  |
|      | 86°F(30.0°C)   | TC  | 49136 | 49202 | 49255 | 49257 | 49324 | 52097 | 52159 | 52210 | 52221 | 52283 | 55210 | 55281 | 55343 | 55353 | 55415 | 58536 | 58600 | 58664 | 58673 | 58746 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 3.96  | 3.96  | 3.97  | 3.97  | 3.97  | 4.20  | 4.20  | 4.21  | 4.21  | 4.21  | 4.45  | 4.45  | 4.46  | 4.46  | 4.46  | 4.71  | 4.72  | 4.72  | 4.73  | 4.73  |
|      | 95°F(35.0°C)   | TC  | 51438 | 51508 | 51563 | 51565 | 51635 | 54538 | 54603 | 54657 | 54668 | 54732 | 57797 | 57872 | 57936 | 57947 | 58012 | 61279 | 61346 | 61412 | 61422 | 61498 |
|      |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |                | PI  | 5.63  | 5.63  | 5.64  | 5.64  | 5.65  | 5.96  | 5.97  | 5.98  | 5.98  | 5.99  | 6.32  | 6.33  | 6.34  | 6.34  | 6.34  | 6.70  | 6.71  | 6.72  | 6.72  | 6.73  |
|      | 104°F(40.0°C)  | TC  | 47072 | 47135 | 47186 | 47188 | 47252 | 49909 | 49968 | 50017 | 50027 | 50086 | 52891 | 52959 | 53018 | 53028 | 53087 | 56077 | 56138 | 56199 | 56208 | 56278 |
|      |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|      |                | PI  | 5.55  | 5.56  | 5.56  | 5.56  | 5.57  | 5.88  | 5.89  | 5.89  | 5.90  | 5.90  | 6.23  | 6.24  | 6.25  | 6.25  | 6.26  | 6.61  | 6.62  | 6.62  | 6.62  | 6.63  |
|      | 110°F(43.0°C)  | TC  | 44452 | 44512 | 44560 | 44562 | 44622 | 47131 | 47187 | 47233 | 47243 | 47299 | 49947 | 50012 | 50068 | 50077 | 50133 | 52956 | 53014 | 53072 | 53080 | 53146 |
|      |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |                | PI  | 5.50  | 5.51  | 5.51  | 5.51  | 5.52  | 5.83  | 5.84  | 5.84  | 5.85  | 5.85  | 6.18  | 6.19  | 6.20  | 6.20  | 6.20  | 6.55  | 6.56  | 6.57  | 6.57  | 6.58  |
|      | 115°F(46.0°C)  | TC  | 37500 | 37550 | 37591 | 37592 | 37643 | 39760 | 39807 | 39846 | 39854 | 39901 | 42135 | 42190 | 42237 | 42245 | 42292 | 44674 | 44723 | 44771 | 44778 | 44834 |
|      |                | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.64  | 0.76  | 0.86  | 0.86  | 0.98  |
|      |                | PI  | 4.63  | 4.63  | 4.64  | 4.64  | 4.65  | 4.91  | 4.91  | 4.92  | 4.92  | 4.92  | 5.20  | 5.21  | 5.21  | 5.21  | 5.22  | 5.51  | 5.52  | 5.53  | 5.53  | 5.53  |
|      | 122°F(50.0°C)  | TC  | 28230 | 28268 | 28299 | 28300 | 28338 | 29931 | 29967 | 29996 | 30002 | 30038 | 31720 | 31761 | 31796 | 31802 | 31838 | 33631 | 33667 | 33704 | 33709 | 33751 |
|      |                | S/T | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  |
|      |                | PI  | 3.46  | 3.47  | 3.47  | 3.47  | 3.48  | 3.67  | 3.68  | 3.68  | 3.68  | 3.69  | 3.89  | 3.90  | 3.90  | 3.90  | 3.91  | 4.13  | 4.13  | 4.14  | 4.14  | 4.14  |
| 1800 | -22°F(-30.0°C) | TC  | 38645 | 38696 | 38738 | 38740 | 38792 | 40973 | 41022 | 41062 | 41071 | 41119 | 43421 | 43478 | 43526 | 43534 | 43583 | 46038 | 46088 | 46138 | 46145 | 46202 |
|      |                | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|      |                | PI  | 5.01  | 5.01  | 5.02  | 5.02  | 5.03  | 5.31  | 5.32  | 5.32  | 5.32  | 5.33  | 5.63  | 5.63  | 5.64  | 5.64  | 5.65  | 5.97  | 5.97  | 5.98  | 5.98  | 5.99  |
|      | -13°F(-25.0°C) | TC  | 41865 | 41921 | 41966 | 41968 | 42025 | 44388 | 44440 | 44484 | 44493 | 44546 | 47040 | 47101 | 47153 | 47162 | 47215 | 49874 | 49928 | 49983 | 49990 | 50053 |
|      |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|      |                | PI  | 5.43  | 5.43  | 5.44  | 5.44  | 5.45  | 5.75  | 5.76  | 5.76  | 5.77  | 5.77  | 6.10  | 6.10  | 6.11  | 6.11  | 6.12  | 6.46  | 6.47  | 6.48  | 6.48  | 6.49  |
|      | -4°F(-20.0°C)  | TC  | 45085 | 45146 | 45195 | 45197 | 45257 | 47802 | 47859 | 47906 | 47916 | 47973 | 50658 | 50724 | 50781 | 50790 | 50847 | 53710 | 53769 | 53827 | 53836 | 53903 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|      |                | PI  | 5.84  | 5.85  | 5.86  | 5.86  | 5.87  | 6.19  | 6.20  | 6.21  | 6.21  | 6.22  | 6.57  | 6.57  | 6.58  | 6.58  | 6.59  | 6.96  | 6.97  | 6.98  | 6.98  | 6.99  |
|      | 0°F(-17.8°C)   | TC  | 46517 | 46579 | 46629 | 46631 | 46694 | 49320 | 49378 | 49427 | 49437 | 49495 | 52266 | 52334 | 52393 | 52402 | 52461 | 55416 | 55476 | 55536 | 55545 | 55614 |
|      |                | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 6.03  | 6.04  | 6.04  | 6.04  | 6.05  | 6.39  | 6.40  | 6.41  | 6.41  | 6.41  | 6.77  | 6.78  | 6.79  | 6.79  | 6.80  | 7.18  | 7.19  | 7.20  | 7.20  | 7.21  |
|      | 5°F(-15.0°C)   | TC  | 48306 | 48371 | 48423 | 48425 | 48490 | 51217 | 51277 | 51328 | 51338 | 51399 | 54277 | 54347 | 54408 | 54418 | 54479 | 57547 | 57610 | 57672 | 57681 | 57753 |
|      |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |                | PI  | 6.26  | 6.27  | 6.28  | 6.28  | 6.28  | 6.64  | 6.65  | 6.65  | 6.65  | 6.66  | 7.03  | 7.04  | 7.05  | 7.05  | 7.06  | 7.46  | 7.47  | 7.47  | 7.48  | 7.48  |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 7 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1800 | 14°F(-10.0°C) | TC  | 49987 | 50054 | 50108 | 50110 | 50178 | 52999 | 53062 | 53115 | 53125 | 53188 | 56166 | 56239 | 56301 | 56312 | 56375 | 59550 | 59615 | 59679 | 59689 | 59763 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|      |               | PI  | 6.43  | 6.44  | 6.44  | 6.44  | 6.45  | 6.82  | 6.82  | 6.83  | 6.83  | 6.84  | 7.22  | 7.23  | 7.24  | 7.24  | 7.25  | 7.66  | 7.67  | 7.68  | 7.68  | 7.69  |
|      | 17°F(-8.3°C)  | TC  | 50547 | 50615 | 50670 | 50672 | 50740 | 53594 | 53657 | 53710 | 53721 | 53784 | 56795 | 56869 | 56933 | 56943 | 57007 | 60218 | 60283 | 60349 | 60358 | 60433 |
|      |               | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|      |               | PI  | 6.48  | 6.49  | 6.50  | 6.50  | 6.51  | 6.88  | 6.88  | 6.89  | 6.89  | 6.90  | 7.29  | 7.30  | 7.30  | 7.31  | 7.31  | 7.73  | 7.73  | 7.74  | 7.74  | 7.75  |
|      | 23°F(-5.0°C)  | TC  | 52197 | 52268 | 52324 | 52326 | 52397 | 55343 | 55409 | 55463 | 55474 | 55540 | 58649 | 58726 | 58791 | 58802 | 58868 | 62183 | 62251 | 62318 | 62328 | 62406 |
|      |               | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 6.50  | 6.51  | 6.52  | 6.52  | 6.53  | 6.90  | 6.90  | 6.91  | 6.91  | 6.92  | 7.31  | 7.32  | 7.33  | 7.33  | 7.33  | 7.75  | 7.76  | 7.76  | 7.77  | 7.78  |
|      | 35°F(1.7°C)   | TC  | 55497 | 55572 | 55632 | 55634 | 55709 | 58842 | 58911 | 58970 | 58981 | 59051 | 62357 | 62438 | 62508 | 62519 | 62589 | 66114 | 66186 | 66258 | 66269 | 66351 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 6.54  | 6.55  | 6.56  | 6.56  | 6.57  | 6.94  | 6.94  | 6.95  | 6.95  | 6.96  | 7.35  | 7.36  | 7.37  | 7.37  | 7.38  | 7.79  | 7.80  | 7.81  | 7.81  | 7.82  |
|      | 41°F(5.0°C)   | TC  | 50885 | 50954 | 51008 | 51011 | 51079 | 53952 | 54016 | 54069 | 54080 | 54144 | 57175 | 57249 | 57313 | 57324 | 57388 | 60620 | 60686 | 60752 | 60761 | 60837 |
|      |               | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|      |               | PI  | 4.93  | 4.94  | 4.94  | 4.94  | 4.95  | 5.23  | 5.23  | 5.24  | 5.24  | 5.25  | 5.54  | 5.55  | 5.55  | 5.56  | 5.56  | 5.87  | 5.88  | 5.89  | 5.89  | 5.90  |
|      | 47°F(8.3°C)   | TC  | 46273 | 46335 | 46385 | 46387 | 46450 | 49062 | 49120 | 49168 | 49178 | 49236 | 51993 | 52060 | 52118 | 52128 | 52186 | 55125 | 55185 | 55245 | 55254 | 55323 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 3.32  | 3.33  | 3.33  | 3.33  | 3.33  | 3.52  | 3.52  | 3.53  | 3.53  | 3.53  | 3.73  | 3.74  | 3.74  | 3.74  | 3.74  | 3.96  | 3.96  | 3.96  | 3.97  | 3.97  |
|      | 50°F(10.0°C)  | TC  | 46659 | 46721 | 46772 | 46774 | 46837 | 49471 | 49529 | 49578 | 49588 | 49647 | 52426 | 52494 | 52553 | 52563 | 52621 | 55585 | 55645 | 55706 | 55715 | 55784 |
|      |               | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|      |               | PI  | 3.29  | 3.30  | 3.30  | 3.30  | 3.31  | 3.49  | 3.50  | 3.50  | 3.50  | 3.51  | 3.70  | 3.71  | 3.71  | 3.71  | 3.72  | 3.92  | 3.93  | 3.93  | 3.93  | 3.94  |
|      | 59°F(15.0°C)  | TC  | 47816 | 47880 | 47932 | 47934 | 47999 | 50698 | 50758 | 50808 | 50818 | 50878 | 53727 | 53796 | 53856 | 53866 | 53926 | 56964 | 57026 | 57088 | 57097 | 57168 |
|      |               | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|      |               | PI  | 3.22  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.42  | 3.42  | 3.42  | 3.61  | 3.62  | 3.62  | 3.62  | 3.63  | 3.83  | 3.83  | 3.84  | 3.84  | 3.84  |
|      | 68°F(20.0°C)  | TC  | 48973 | 49039 | 49092 | 49094 | 49160 | 51925 | 51986 | 52037 | 52048 | 52110 | 55027 | 55098 | 55160 | 55170 | 55232 | 58342 | 58406 | 58469 | 58478 | 58551 |
|      |               | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|      |               | PI  | 3.14  | 3.14  | 3.14  | 3.14  | 3.15  | 3.33  | 3.33  | 3.33  | 3.33  | 3.34  | 3.52  | 3.53  | 3.53  | 3.53  | 3.54  | 3.74  | 3.74  | 3.74  | 3.75  | 3.75  |
|      | 77°F(25.0°C)  | TC  | 50131 | 50198 | 50252 | 50254 | 50322 | 53152 | 53215 | 53267 | 53278 | 53341 | 56327 | 56400 | 56463 | 56474 | 56537 | 59721 | 59786 | 59851 | 59860 | 59935 |
|      |               | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|      |               | PI  | 3.06  | 3.06  | 3.07  | 3.07  | 3.07  | 3.24  | 3.25  | 3.25  | 3.25  | 3.25  | 3.44  | 3.44  | 3.44  | 3.44  | 3.45  | 3.64  | 3.65  | 3.65  | 3.65  | 3.66  |
|      | 82°F(27.8°C)  | TC  | 51051 | 51119 | 51174 | 51177 | 51246 | 54127 | 54191 | 54245 | 54256 | 54320 | 57361 | 57435 | 57499 | 57510 | 57574 | 60817 | 60883 | 60949 | 60959 | 61035 |
|      |               | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|      |               | PI  | 3.41  | 3.42  | 3.42  | 3.42  | 3.43  | 3.62  | 3.62  | 3.63  | 3.63  | 3.63  | 3.83  | 3.84  | 3.84  | 3.84  | 3.85  | 4.07  | 4.07  | 4.07  | 4.07  | 4.08  |
|      | 86°F(30.0°C)  | TC  | 52136 | 52207 | 52263 | 52265 | 52336 | 55278 | 55344 | 55399 | 55409 | 55475 | 58581 | 58657 | 58722 | 58733 | 58799 | 62111 | 62178 | 62246 | 62255 | 62333 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 4.20  | 4.20  | 4.21  | 4.21  | 4.22  | 4.45  | 4.46  | 4.46  | 4.46  | 4.47  | 4.72  | 4.72  | 4.73  | 4.73  | 4.74  | 5.00  | 5.01  | 5.01  | 5.01  | 5.02  |

Table 16: Cooling Performance - 60K 37MUHA + 45MUHA (Sheet 8 of 8)

|      |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1800 | 95°F(35.0°C)  | TC  | 54579 | 54653 | 54712 | 54714 | 54788 | 57869 | 57937 | 57994 | 58006 | 58075 | 61326 | 61406 | 61474 | 61485 | 61554 | 65021 | 65092 | 65162 | 65173 | 65254 |
|      |               | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|      |               | PI  | 5.97  | 5.98  | 5.98  | 5.98  | 5.99  | 6.33  | 6.34  | 6.34  | 6.34  | 6.35  | 6.71  | 6.72  | 6.72  | 6.72  | 6.73  | 7.11  | 7.12  | 7.13  | 7.13  | 7.14  |
|      | 104°F(40.0°C) | TC  | 49946 | 50014 | 50067 | 50070 | 50137 | 52956 | 53019 | 53071 | 53082 | 53145 | 56120 | 56193 | 56256 | 56266 | 56329 | 59502 | 59566 | 59631 | 59640 | 59715 |
|      |               | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|      |               | PI  | 5.89  | 5.89  | 5.90  | 5.90  | 5.91  | 6.24  | 6.25  | 6.25  | 6.26  | 6.26  | 6.61  | 6.62  | 6.63  | 6.63  | 6.64  | 7.01  | 7.02  | 7.03  | 7.03  | 7.04  |
|      | 110°F(43.0°C) | TC  | 47167 | 47230 | 47281 | 47283 | 47347 | 50009 | 50068 | 50118 | 50128 | 50187 | 52997 | 53066 | 53125 | 53135 | 53194 | 56190 | 56251 | 56312 | 56321 | 56391 |
|      |               | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|      |               | PI  | 5.84  | 5.84  | 5.85  | 5.85  | 5.86  | 6.19  | 6.20  | 6.20  | 6.20  | 6.21  | 6.56  | 6.57  | 6.57  | 6.58  | 6.58  | 6.95  | 6.96  | 6.97  | 6.97  | 6.98  |
|      | 115°F(46.0°C) | TC  | 39790 | 39843 | 39886 | 39888 | 39942 | 42188 | 42238 | 42279 | 42288 | 42338 | 44708 | 44766 | 44816 | 44824 | 44874 | 47402 | 47453 | 47505 | 47512 | 47572 |
|      |               | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|      |               | PI  | 4.91  | 4.92  | 4.92  | 4.92  | 4.93  | 5.21  | 5.21  | 5.22  | 5.22  | 5.23  | 5.52  | 5.53  | 5.53  | 5.53  | 5.54  | 5.85  | 5.86  | 5.86  | 5.86  | 5.87  |
|      | 122°F(50.0°C) | TC  | 29954 | 29994 | 30027 | 30028 | 30068 | 31759 | 31797 | 31828 | 31834 | 31872 | 33657 | 33700 | 33738 | 33744 | 33782 | 35684 | 35723 | 35762 | 35768 | 35812 |
|      |               | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|      |               | PI  | 3.68  | 3.68  | 3.69  | 3.69  | 3.69  | 3.90  | 3.90  | 3.91  | 3.91  | 3.91  | 4.13  | 4.14  | 4.14  | 4.14  | 4.15  | 4.38  | 4.38  | 4.39  | 4.39  | 4.40  |

**Table 17: Heating Performance - 60K 37MUHA + 45MUHA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                          |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|--------------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW)     |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS(DB °F)            |                  |                  |                    |                    | INDOOR CONDITIONS(DB °F) |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)       | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 1235             | -22°F(-30.0°C)                                     | 30795                               | 30179            | 30028            | 30816              | 30539              | 6.21                     | 6.26             | 6.28             | 6.29               | 6.31               |
|                  | -13°F(-25.0°C)                                     | 38049                               | 37288            | 37102            | 36610              | 36281              | 6.57                     | 6.62             | 6.64             | 6.65               | 6.68               |
|                  | -4°F(-20.0°C)                                      | 42914                               | 42056            | 41846            | 41292              | 40920              | 6.96                     | 7.01             | 7.03             | 7.04               | 7.07               |
|                  | 0°F(-17.8°C)                                       | 45524                               | 44614            | 44391            | 43803              | 43409              | 7.29                     | 7.35             | 7.36             | 7.37               | 7.40               |
|                  | 5°F(-15.0°C)                                       | 48787                               | 47811            | 47572            | 46943              | 46520              | 7.70                     | 7.76             | 7.78             | 7.79               | 7.82               |
|                  | 14°F(-10.0°C)                                      | 47146                               | 46203            | 45972            | 45364              | 44955              | 6.91                     | 6.97             | 6.98             | 7.00               | 7.03               |
|                  | 17°F(-8.3°C)                                       | 46599                               | 45667            | 45439            | 44837              | 44434              | 6.65                     | 6.70             | 6.72             | 6.73               | 6.76               |
|                  | 22°F(-5.6°C)                                       | 45699                               | 44785            | 44561            | 43971              | 43576              | 6.38                     | 6.43             | 6.44             | 6.46               | 6.48               |
|                  | 27°F(-2.8°C)                                       | 44799                               | 43903            | 43684            | 43106              | 42718              | 6.11                     | 6.16             | 6.17             | 6.18               | 6.20               |
|                  | 32°F(0.0°C)                                        | 43899                               | 43021            | 42806            | 42240              | 41860              | 5.83                     | 5.88             | 5.89             | 5.90               | 5.93               |
|                  | 35°F(1.7°C)                                        | 43360                               | 42492            | 42280            | 41720              | 41345              | 5.67                     | 5.72             | 5.73             | 5.74               | 5.76               |
|                  | 37°F(2.8°C)                                        | 44667                               | 43774            | 43555            | 42979              | 42592              | 5.64                     | 5.69             | 5.70             | 5.71               | 5.73               |
|                  | 42°F(5.6°C)                                        | 47937                               | 46978            | 46743            | 46125              | 45709              | 5.57                     | 5.61             | 5.62             | 5.64               | 5.66               |
|                  | 44.6°F(7.0°C)                                      | 49245                               | 48260            | 48019            | 47383              | 46957              | 5.54                     | 5.58             | 5.60             | 5.61               | 5.63               |
|                  | 47°F(8.3°C)                                        | 51207                               | 50182            | 49932            | 49271              | 48827              | 5.50                     | 5.54             | 5.55             | 5.56               | 5.59               |
|                  | 52°F(11.1°C)                                       | 48948                               | 47969            | 47729            | 47097              | 46673              | 5.03                     | 5.07             | 5.08             | 5.09               | 5.11               |
|                  | 57°F(13.9°C)                                       | 46689                               | 45755            | 45526            | 44924              | 44519              | 4.57                     | 4.61             | 4.62             | 4.63               | 4.64               |
|                  | 59°F(15.0°C)                                       | 45785                               | 44870            | 44645            | 44054              | 43658              | 4.38                     | 4.42             | 4.43             | 4.44               | 4.46               |
|                  | 62°F(16.7°C)                                       | 44430                               | 43541            | 43324            | 42750              | 42365              | 4.11                     | 4.14             | 4.15             | 4.16               | 4.17               |
|                  | 64.4°F(18.0°C)                                     | 43526                               | 42656            | 42443            | 41881              | 41504              | 3.92                     | 3.95             | 3.96             | 3.97               | 3.98               |
| 1500             | -22°F(-30.0°C)                                     | 33323                               | 32656            | 32493            | 32850              | 32555              | 6.28                     | 6.33             | 6.34             | 6.35               | 6.38               |
|                  | -13°F(-25.0°C)                                     | 40373                               | 39565            | 39367            | 39027              | 38676              | 6.64                     | 6.69             | 6.70             | 6.72               | 6.74               |
|                  | -4°F(-20.0°C)                                      | 45535                               | 44624            | 44401            | 44018              | 43622              | 7.03                     | 7.08             | 7.10             | 7.11               | 7.14               |
|                  | 0°F(-17.8°C)                                       | 48304                               | 47338            | 47102            | 46695              | 46275              | 7.36                     | 7.42             | 7.43             | 7.45               | 7.48               |
|                  | 5°F(-15.0°C)                                       | 51766                               | 50731            | 50477            | 50042              | 49591              | 7.78                     | 7.84             | 7.86             | 7.87               | 7.90               |
|                  | 14°F(-10.0°C)                                      | 50025                               | 49025            | 48779            | 48358              | 47923              | 6.98                     | 7.04             | 7.05             | 7.07               | 7.10               |
|                  | 17°F(-8.3°C)                                       | 49445                               | 48456            | 48213            | 47797              | 47367              | 6.72                     | 6.77             | 6.79             | 6.80               | 6.83               |
|                  | 22°F(-5.6°C)                                       | 48490                               | 47520            | 47282            | 46874              | 46453              | 6.44                     | 6.49             | 6.51             | 6.52               | 6.55               |
|                  | 27°F(-2.8°C)                                       | 47535                               | 46584            | 46351            | 45951              | 45538              | 6.17                     | 6.22             | 6.23             | 6.24               | 6.27               |
|                  | 32°F(0.0°C)                                        | 46580                               | 45649            | 45420            | 45028              | 44623              | 5.89                     | 5.94             | 5.95             | 5.96               | 5.99               |
|                  | 35°F(1.7°C)                                        | 46007                               | 45087            | 44862            | 44475              | 44074              | 5.73                     | 5.77             | 5.78             | 5.80               | 5.82               |
|                  | 37°F(2.8°C)                                        | 47395                               | 46447            | 46215            | 45816              | 45404              | 5.70                     | 5.74             | 5.76             | 5.77               | 5.79               |
|                  | 42°F(5.6°C)                                        | 50864                               | 49847            | 49598            | 49170              | 48727              | 5.62                     | 5.67             | 5.68             | 5.69               | 5.72               |
|                  | 44.6°F(7.0°C)                                      | 52252                               | 51207            | 50951            | 50511              | 50057              | 5.60                     | 5.64             | 5.65             | 5.66               | 5.69               |
|                  | 47°F(8.3°C)                                        | 54333                               | 53247            | 52981            | 52523              | 52051              | 5.55                     | 5.60             | 5.61             | 5.62               | 5.64               |
|                  | 52°F(11.1°C)                                       | 51937                               | 50898            | 50643            | 50206              | 49755              | 5.08                     | 5.13             | 5.14             | 5.15               | 5.17               |
|                  | 57°F(13.9°C)                                       | 49540                               | 48549            | 48306            | 47889              | 47458              | 4.62                     | 4.65             | 4.66             | 4.67               | 4.69               |
|                  | 59°F(15.0°C)                                       | 48581                               | 47610            | 47372            | 46963              | 46540              | 4.43                     | 4.46             | 4.47             | 4.48               | 4.50               |
|                  | 62°F(16.7°C)                                       | 47143                               | 46200            | 45969            | 45573              | 45162              | 4.15                     | 4.18             | 4.19             | 4.20               | 4.22               |
|                  | 64.4°F(18.0°C)                                     | 46184                               | 45261            | 45034            | 44646              | 44244              | 3.96                     | 3.99             | 4.00             | 4.01               | 4.02               |

**Table 17: Heating Performance - 60K 37MUHA + 45MUHA (Sheet 2 of 2)**

|             |                       |       |       |       |       |       |      |      |      |      |      |
|-------------|-----------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>1647</b> | <b>-22°F(-30.0°C)</b> | 36058 | 35336 | 35160 | 35019 | 34704 | 6.34 | 6.39 | 6.40 | 6.42 | 6.44 |
|             | <b>-13°F(-25.0°C)</b> | 42838 | 41981 | 41771 | 41604 | 41230 | 6.70 | 6.76 | 6.77 | 6.78 | 6.81 |
|             | <b>-4°F(-20.0°C)</b>  | 48315 | 47349 | 47112 | 46924 | 46502 | 7.10 | 7.15 | 7.17 | 7.18 | 7.21 |
|             | <b>0°F(-17.8°C)</b>   | 51254 | 50229 | 49978 | 49778 | 49330 | 7.43 | 7.49 | 7.51 | 7.52 | 7.55 |
|             | <b>5°F(-15.0°C)</b>   | 54927 | 53829 | 53560 | 53345 | 52865 | 7.86 | 7.92 | 7.94 | 7.95 | 7.98 |
|             | <b>14°F(-10.0°C)</b>  | 53080 | 52018 | 51758 | 51551 | 51087 | 7.05 | 7.11 | 7.13 | 7.14 | 7.17 |
|             | <b>17°F(-8.3°C)</b>   | 52464 | 51415 | 51158 | 50953 | 50494 | 6.79 | 6.84 | 6.85 | 6.87 | 6.90 |
|             | <b>22°F(-5.6°C)</b>   | 51451 | 50422 | 50170 | 49969 | 49519 | 6.51 | 6.56 | 6.57 | 6.59 | 6.61 |
|             | <b>27°F(-2.8°C)</b>   | 50438 | 49429 | 49182 | 48985 | 48544 | 6.23 | 6.28 | 6.29 | 6.31 | 6.33 |
|             | <b>32°F(-0.0°C)</b>   | 49425 | 48436 | 48194 | 48001 | 47569 | 5.95 | 6.00 | 6.01 | 6.02 | 6.05 |
|             | <b>35°F(1.7°C)</b>    | 48817 | 47840 | 47601 | 47411 | 46984 | 5.78 | 5.83 | 5.84 | 5.85 | 5.88 |
|             | <b>37°F(2.8°C)</b>    | 50289 | 49283 | 49037 | 48841 | 48401 | 5.76 | 5.80 | 5.81 | 5.82 | 5.85 |
|             | <b>42°F(5.6°C)</b>    | 53970 | 52891 | 52626 | 52416 | 51944 | 5.68 | 5.73 | 5.74 | 5.75 | 5.77 |
|             | <b>44.6°F(7.0°C)</b>  | 55443 | 54334 | 54062 | 53846 | 53361 | 5.65 | 5.70 | 5.71 | 5.72 | 5.74 |
|             | <b>47°F(8.3°C)</b>    | 57651 | 56498 | 56216 | 55991 | 55487 | 5.61 | 5.65 | 5.66 | 5.68 | 5.70 |
|             | <b>52°F(11.1°C)</b>   | 55108 | 54006 | 53736 | 53521 | 53039 | 5.14 | 5.18 | 5.19 | 5.20 | 5.22 |
|             | <b>57°F(13.9°C)</b>   | 52565 | 51514 | 51256 | 51051 | 50592 | 4.66 | 4.70 | 4.71 | 4.72 | 4.74 |
|             | <b>59°F(15.0°C)</b>   | 51548 | 50517 | 50264 | 50063 | 49613 | 4.47 | 4.51 | 4.52 | 4.53 | 4.55 |
|             | <b>62°F(16.7°C)</b>   | 50022 | 49021 | 48776 | 48581 | 48144 | 4.19 | 4.22 | 4.23 | 4.24 | 4.26 |
|             | <b>64.4°F(18.0°C)</b> | 49005 | 48025 | 47784 | 47593 | 47165 | 4.00 | 4.03 | 4.04 | 4.05 | 4.07 |
| <b>1800</b> | <b>-22°F(-30.0°C)</b> | 38259 | 37494 | 37307 | 37158 | 36823 | 6.40 | 6.46 | 6.47 | 6.48 | 6.51 |
|             | <b>-13°F(-25.0°C)</b> | 45454 | 44545 | 44322 | 44145 | 43747 | 6.77 | 6.83 | 6.84 | 6.85 | 6.88 |
|             | <b>-4°F(-20.0°C)</b>  | 51266 | 50240 | 49989 | 49789 | 49341 | 7.17 | 7.23 | 7.24 | 7.26 | 7.28 |
|             | <b>0°F(-17.8°C)</b>   | 54384 | 53296 | 53030 | 52818 | 52342 | 7.51 | 7.57 | 7.59 | 7.60 | 7.63 |
|             | <b>5°F(-15.0°C)</b>   | 58281 | 57116 | 56830 | 56603 | 56094 | 7.94 | 8.00 | 8.02 | 8.03 | 8.06 |
|             | <b>14°F(-10.0°C)</b>  | 56321 | 55195 | 54919 | 54699 | 54207 | 7.13 | 7.18 | 7.20 | 7.21 | 7.24 |
|             | <b>17°F(-8.3°C)</b>   | 55668 | 54554 | 54282 | 54064 | 53578 | 6.85 | 6.91 | 6.92 | 6.94 | 6.97 |
|             | <b>22°F(-5.6°C)</b>   | 54593 | 53501 | 53233 | 53020 | 52543 | 6.57 | 6.63 | 6.64 | 6.65 | 6.68 |
|             | <b>27°F(-2.8°C)</b>   | 53518 | 52447 | 52185 | 51976 | 51508 | 6.29 | 6.34 | 6.36 | 6.37 | 6.39 |
|             | <b>32°F(-0.0°C)</b>   | 52443 | 51394 | 51137 | 50932 | 50474 | 6.01 | 6.06 | 6.07 | 6.08 | 6.11 |
|             | <b>35°F(1.7°C)</b>    | 51798 | 50762 | 50508 | 50306 | 49853 | 5.84 | 5.89 | 5.90 | 5.91 | 5.94 |
|             | <b>37°F(2.8°C)</b>    | 53360 | 52293 | 52031 | 51823 | 51357 | 5.81 | 5.86 | 5.87 | 5.88 | 5.91 |
|             | <b>42°F(5.6°C)</b>    | 57266 | 56121 | 55840 | 55617 | 55116 | 5.74 | 5.79 | 5.80 | 5.81 | 5.83 |
|             | <b>44.6°F(7.0°C)</b>  | 58828 | 57652 | 57363 | 57134 | 56620 | 5.71 | 5.76 | 5.77 | 5.78 | 5.80 |
|             | <b>47°F(8.3°C)</b>    | 61172 | 59948 | 59649 | 59410 | 58875 | 5.66 | 5.71 | 5.72 | 5.73 | 5.76 |
|             | <b>52°F(11.1°C)</b>   | 58473 | 57304 | 57017 | 56789 | 56278 | 5.19 | 5.23 | 5.24 | 5.25 | 5.27 |
|             | <b>57°F(13.9°C)</b>   | 55775 | 54659 | 54386 | 54169 | 53681 | 4.71 | 4.75 | 4.76 | 4.77 | 4.79 |
|             | <b>59°F(15.0°C)</b>   | 54695 | 53602 | 53334 | 53120 | 52642 | 4.52 | 4.56 | 4.56 | 4.57 | 4.59 |
|             | <b>62°F(16.7°C)</b>   | 53076 | 52015 | 51755 | 51548 | 51084 | 4.23 | 4.27 | 4.27 | 4.28 | 4.30 |
|             | <b>64.4°F(18.0°C)</b> | 51997 | 50957 | 50702 | 50500 | 50045 | 4.04 | 4.07 | 4.08 | 4.09 | 4.11 |

HEATING AND COOLING PERFORMANCE - AIR HANDLER (37MUHA + 45MUAA)

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 1 of 9)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(F) | 60.8 (16.0)    |                |                |                |                | 64.4 (18.0)    |                |                |                |                | 67(19.4)       |                |                |                |                | 71.6(22.0)     |                |                |                |                |
|------------------|--------------------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                  |                          | ID DB(F)    | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) | 73.4<br>(23.0) | 77.0<br>(25.0) | 80.0<br>(26.7) | 80.6<br>(27.0) | 84.2<br>(29.0) |
| 490              | -22 (-30.0)              | TC          | 15073          | 15089          | 15089          | 15110          | 15959          | 15978          | 15994          | 15997          | 16016          | 16913          | 16935          | 16954          | 16957          | 16976          | 17932          | 17951          | 17971          | 17974          | 17996          | 15073          |
|                  |                          | S/T         | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.60           | 0.60           | 0.69           | 0.48           | 0.56           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.77           | 0.50           |
|                  |                          | PI          | 0.46           | 0.46           | 0.46           | 0.46           | 0.49           | 0.49           | 0.49           | 0.49           | 0.49           | 0.51           | 0.51           | 0.52           | 0.52           | 0.52           | 0.55           | 0.55           | 0.55           | 0.55           | 0.55           | 0.46           |
|                  | -13°F<br>(-25.0°C)       | TC          | 16329          | 16346          | 16347          | 16369          | 17289          | 17310          | 17327          | 17330          | 17351          | 18322          | 18346          | 18367          | 18370          | 18391          | 19426          | 19447          | 19469          | 19472          | 19496          | 16329          |
|                  |                          | S/T         | 0.50           | 0.57           | 0.57           | 0.65           | 0.45           | 0.53           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.64           | 0.64           | 0.73           | 0.51           | 0.60           | 0.68           | 0.68           | 0.78           | 0.50           |
|                  |                          | PI          | 0.50           | 0.50           | 0.50           | 0.50           | 0.53           | 0.53           | 0.53           | 0.53           | 0.53           | 0.56           | 0.56           | 0.56           | 0.56           | 0.56           | 0.59           | 0.59           | 0.59           | 0.59           | 0.59           | 0.50           |
|                  | -4°F<br>(-20.0°C)        | TC          | 17585          | 17604          | 17604          | 17628          | 18619          | 18641          | 18660          | 18664          | 18686          | 19732          | 19757          | 19779          | 19783          | 19805          | 20921          | 20943          | 20966          | 20969          | 20996          | 17585          |
|                  |                          | S/T         | 0.51           | 0.57           | 0.57           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.69           | 0.48           | 0.57           | 0.65           | 0.65           | 0.74           | 0.51           | 0.60           | 0.68           | 0.68           | 0.78           | 0.51           |
|                  |                          | PI          | 0.53           | 0.54           | 0.54           | 0.54           | 0.57           | 0.57           | 0.57           | 0.57           | 0.57           | 0.60           | 0.60           | 0.60           | 0.60           | 0.60           | 0.64           | 0.64           | 0.64           | 0.64           | 0.64           | 0.53           |
|                  | 0°F<br>(-17.8°C)         | TC          | 18143          | 18162          | 18163          | 18188          | 19210          | 19233          | 19252          | 19256          | 19279          | 20358          | 20385          | 20407          | 20411          | 20434          | 21585          | 21608          | 21632          | 21635          | 21662          | 18143          |
|                  |                          | S/T         | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.60           | 0.69           | 0.69           | 0.78           | 0.51           |
|                  |                          | PI          | 0.55           | 0.55           | 0.55           | 0.55           | 0.58           | 0.58           | 0.59           | 0.59           | 0.59           | 0.62           | 0.62           | 0.62           | 0.62           | 0.62           | 0.66           | 0.66           | 0.66           | 0.66           | 0.66           | 0.55           |
|                  | 5°F<br>(-15.0°C)         | TC          | 18841          | 18861          | 18862          | 18887          | 19949          | 19973          | 19993          | 19997          | 20020          | 21141          | 21169          | 21192          | 21196          | 21220          | 22415          | 22439          | 22464          | 22467          | 22495          | 18841          |
|                  |                          | S/T         | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.61           | 0.61           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           | 0.51           |
|                  |                          | PI          | 0.57           | 0.57           | 0.57           | 0.57           | 0.61           | 0.61           | 0.61           | 0.61           | 0.61           | 0.64           | 0.64           | 0.64           | 0.64           | 0.64           | 0.68           | 0.68           | 0.68           | 0.68           | 0.68           | 0.57           |
|                  | 14°F<br>(-10.0°C)        | TC          | 17497          | 17516          | 17517          | 17541          | 18527          | 18549          | 18567          | 18571          | 18593          | 19634          | 19659          | 19681          | 19685          | 19707          | 20817          | 20840          | 20862          | 20865          | 20891          | 17497          |
|                  |                          | S/T         | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           | 0.49           | 0.57           | 0.65           | 0.65           | 0.74           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           | 0.51           |
|                  |                          | PI          | 0.64           | 0.64           | 0.64           | 0.64           | 0.68           | 0.68           | 0.68           | 0.68           | 0.68           | 0.72           | 0.72           | 0.72           | 0.72           | 0.72           | 0.76           | 0.77           | 0.77           | 0.77           | 0.77           | 0.64           |
|                  | 17°F<br>(-8.3°C)         | TC          | 17050          | 17068          | 17069          | 17092          | 18053          | 18074          | 18092          | 18096          | 18117          | 19132          | 19156          | 19178          | 19181          | 19203          | 20284          | 20306          | 20328          | 20332          | 20357          | 17050          |
|                  |                          | S/T         | 0.51           | 0.58           | 0.58           | 0.66           | 0.46           | 0.54           | 0.62           | 0.62           | 0.70           | 0.49           | 0.58           | 0.65           | 0.65           | 0.75           | 0.52           | 0.61           | 0.69           | 0.69           | 0.79           | 0.51           |
|                  |                          | PI          | 0.67           | 0.67           | 0.67           | 0.67           | 0.70           | 0.71           | 0.71           | 0.71           | 0.71           | 0.75           | 0.75           | 0.75           | 0.75           | 0.75           | 0.79           | 0.79           | 0.79           | 0.79           | 0.79           | 0.67           |
|                  | 23°F<br>(-5.0°C)         | TC          | 16578          | 16596          | 16597          | 16619          | 17554          | 17575          | 17592          | 17596          | 17616          | 18603          | 18627          | 18648          | 18651          | 18672          | 19724          | 19745          | 19766          | 19770          | 19794          | 16578          |
|                  |                          | S/T         | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.49           | 0.58           | 0.66           | 0.66           | 0.75           | 0.52           | 0.61           | 0.70           | 0.70           | 0.79           | 0.52           |
|                  |                          | PI          | 0.69           | 0.69           | 0.69           | 0.69           | 0.73           | 0.73           | 0.73           | 0.73           | 0.73           | 0.77           | 0.77           | 0.77           | 0.77           | 0.78           | 0.82           | 0.82           | 0.82           | 0.82           | 0.82           | 0.69           |
|                  | 35°F (1.7°C)             | TC          | 15636          | 15653          | 15653          | 15675          | 16556          | 16576          | 16592          | 16595          | 16615          | 17545          | 17568          | 17587          | 17591          | 17610          | 18602          | 18622          | 18643          | 18646          | 18669          | 15636          |
|                  |                          | S/T         | 0.52           | 0.59           | 0.59           | 0.67           | 0.47           | 0.55           | 0.62           | 0.62           | 0.71           | 0.50           | 0.58           | 0.66           | 0.66           | 0.75           | 0.53           | 0.62           | 0.70           | 0.70           | 0.80           | 0.52           |
|                  |                          | PI          | 0.73           | 0.74           | 0.74           | 0.74           | 0.78           | 0.78           | 0.78           | 0.78           | 0.78           | 0.82           | 0.83           | 0.83           | 0.83           | 0.83           | 0.87           | 0.88           | 0.88           | 0.88           | 0.88           | 0.73           |

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Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 2 of 9)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 490 | 41°F (5.0°C)   | TC  | 15994 | 16011 | 16012 | 16034 | 16935 | 16955 | 16972 | 16975 | 16996 | 17947 | 17970 | 17990 | 17994 | 18014 | 19028 | 19049 | 19070 | 19073 | 19096 | 15994 |
|     |                | S/T | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.52  |
|     |                | PI  | 0.65  | 0.65  | 0.65  | 0.65  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.74  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.65  |
|     | 47°F (8.3°C)   | TC  | 16352 | 16370 | 16371 | 16393 | 17315 | 17335 | 17352 | 17356 | 17376 | 18349 | 18373 | 18393 | 18397 | 18417 | 19455 | 19476 | 19497 | 19500 | 19524 | 16352 |
|     |                | S/T | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.52  |
|     |                | PI  | 0.57  | 0.57  | 0.57  | 0.57  | 0.60  | 0.61  | 0.61  | 0.61  | 0.61  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.57  |
|     | 50°F (10.0°C)  | TC  | 16567 | 16585 | 16586 | 16608 | 17542 | 17563 | 17580 | 17584 | 17605 | 18590 | 18614 | 18635 | 18639 | 18659 | 19710 | 19732 | 19753 | 19756 | 19781 | 16567 |
|     |                | S/T | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.52  |
|     |                | PI  | 0.60  | 0.60  | 0.60  | 0.61  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.60  |
|     | 59°F (15.0°C)  | TC  | 17212 | 17231 | 17232 | 17255 | 18225 | 18247 | 18265 | 18268 | 18290 | 19314 | 19339 | 19360 | 19364 | 19386 | 20478 | 20500 | 20522 | 20525 | 20551 | 17212 |
|     |                | S/T | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.53  |
|     |                | PI  | 0.70  | 0.70  | 0.70  | 0.70  | 0.74  | 0.74  | 0.74  | 0.74  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.84  | 0.84  | 0.84  | 0.84  | 0.70  |
|     | 68°F (20.0°C)  | TC  | 17857 | 17876 | 17877 | 17901 | 18908 | 18930 | 18949 | 18953 | 18975 | 20037 | 20064 | 20086 | 20090 | 20112 | 21245 | 21268 | 21291 | 21294 | 21321 | 17857 |
|     |                | S/T | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.54  |
|     |                | PI  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.80  |
|     | 77 (25.0)      | TC  | 18502 | 18522 | 18523 | 18548 | 19591 | 19614 | 19633 | 19637 | 19660 | 20761 | 20788 | 20811 | 20815 | 20838 | 22012 | 22036 | 22060 | 22063 | 22091 | 18502 |
|     |                | S/T | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.55  |
|     |                | PI  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 0.90  |
|     | 82°F (27.8)    | TC  | 18661 | 18682 | 18682 | 18708 | 19759 | 19783 | 19802 | 19806 | 19830 | 20940 | 20967 | 20991 | 20994 | 21018 | 22202 | 22226 | 22250 | 22253 | 22281 | 18661 |
|     |                | S/T | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.55  |
|     |                | PI  | 1.02  | 1.02  | 1.02  | 1.02  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  | 1.15  | 1.15  | 1.15  | 1.15  | 1.15  | 1.21  | 1.22  | 1.22  | 1.22  | 1.22  | 1.02  |
|     | 86°F (30.0°C)  | TC  | 18538 | 18558 | 18559 | 18584 | 19629 | 19652 | 19671 | 19675 | 19699 | 20801 | 20828 | 20852 | 20856 | 20879 | 22055 | 22079 | 22103 | 22106 | 22134 | 18538 |
|     |                | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |                | PI  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  | 1.36  | 1.36  | 1.36  | 1.36  | 1.36  | 1.44  | 1.44  | 1.44  | 1.44  | 1.44  | 1.21  |
|     | 95°F (35.0)    | TC  | 18260 | 18280 | 18280 | 18305 | 19334 | 19357 | 19376 | 19380 | 19403 | 20490 | 20516 | 20539 | 20543 | 20566 | 21724 | 21748 | 21771 | 21775 | 21802 | 18260 |
|     |                | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |                | PI  | 1.63  | 1.63  | 1.63  | 1.63  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.84  | 1.94  | 1.94  | 1.94  | 1.94  | 1.95  | 1.63  |
|     | 104°F (40.0°C) | TC  | 16220 | 16237 | 16238 | 16260 | 17174 | 17194 | 17211 | 17215 | 17235 | 18200 | 18224 | 18244 | 18247 | 18268 | 19297 | 19318 | 19339 | 19342 | 19366 | 16220 |
|     |                | S/T | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  | 0.57  |
|     |                | PI  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.82  | 1.92  | 1.92  | 1.92  | 1.92  | 1.93  | 2.03  | 2.04  | 2.04  | 2.04  | 2.04  | 1.71  |

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Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 3 of 9)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 490 | 110°F<br>(43.0°C)  | TC  | 14996 | 15012 | 15012 | 15033 | 15878 | 15897 | 15912 | 15916 | 15934 | 16826 | 16848 | 16867 | 16870 | 16889 | 17840 | 17860 | 17879 | 17882 | 17904 | 14996 |
|     |                    | S/T | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.81  | 0.81  | 0.92  | 0.60  |
|     |                    | PI  | 1.76  | 1.76  | 1.76  | 1.76  | 1.86  | 1.86  | 1.86  | 1.86  | 1.87  | 1.97  | 1.97  | 1.98  | 1.98  | 1.98  | 2.09  | 2.09  | 2.09  | 2.10  | 2.10  | 1.76  |
|     | 115°F<br>(46.0°C)  | TC  | 13789 | 13804 | 13805 | 13824 | 14601 | 14618 | 14633 | 14636 | 14653 | 15473 | 15493 | 15511 | 15513 | 15531 | 16405 | 16423 | 16441 | 16444 | 16464 | 13789 |
|     |                    | S/T | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.60  |
|     |                    | PI  | 1.69  | 1.69  | 1.69  | 1.69  | 1.78  | 1.79  | 1.79  | 1.79  | 1.79  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.01  | 2.01  | 2.01  | 1.69  |
|     | 122°F<br>(50.0°C)  | TC  | 12181 | 12195 | 12195 | 12212 | 12898 | 12914 | 12926 | 12929 | 12944 | 13669 | 13687 | 13702 | 13704 | 13720 | 14492 | 14508 | 14524 | 14526 | 14544 | 12181 |
|     |                    | S/T | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.73  | 0.83  | 0.83  | 0.95  | 0.62  |
|     |                    | PI  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.69  | 1.69  | 1.69  | 1.69  | 1.78  | 1.79  | 1.79  | 1.79  | 1.79  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 1.59  |
| 530 | -22°F<br>(-30.0°C) | TC  | 15643 | 15660 | 15660 | 15681 | 16563 | 16583 | 16599 | 16602 | 16622 | 17553 | 17576 | 17595 | 17598 | 17618 | 18610 | 18631 | 18651 | 18654 | 18677 | 15643 |
|     |                    | S/T | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.52  |
|     |                    | PI  | 0.48  | 0.48  | 0.48  | 0.48  | 0.50  | 0.50  | 0.50  | 0.50  | 0.51  | 0.53  | 0.53  | 0.53  | 0.53  | 0.54  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  | 0.48  |
|     | -13°F<br>(-25.0°C) | TC  | 16946 | 16965 | 16965 | 16988 | 17943 | 17965 | 17982 | 17986 | 18007 | 19016 | 19040 | 19061 | 19065 | 19086 | 20161 | 20183 | 20205 | 20208 | 20233 | 16946 |
|     |                    | S/T | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.52  |
|     |                    | PI  | 0.52  | 0.52  | 0.52  | 0.52  | 0.55  | 0.55  | 0.55  | 0.55  | 0.55  | 0.58  | 0.58  | 0.58  | 0.58  | 0.58  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.52  |
|     | -4°F<br>(-20.0°C)  | TC  | 18250 | 18270 | 18270 | 18295 | 19324 | 19347 | 19366 | 19370 | 19393 | 20478 | 20505 | 20528 | 20532 | 20554 | 21712 | 21736 | 21759 | 21763 | 21790 | 18250 |
|     |                    | S/T | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.53  |
|     |                    | PI  | 0.55  | 0.56  | 0.56  | 0.56  | 0.59  | 0.59  | 0.59  | 0.59  | 0.59  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.66  | 0.66  | 0.66  | 0.66  | 0.66  | 0.55  |
|     | 0°F<br>(-17.8°C)   | TC  | 18829 | 18850 | 18850 | 18876 | 19937 | 19961 | 19981 | 19984 | 20008 | 21128 | 21156 | 21179 | 21183 | 21207 | 22401 | 22426 | 22450 | 22454 | 22482 | 18829 |
|     |                    | S/T | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.53  |
|     |                    | PI  | 0.57  | 0.57  | 0.57  | 0.57  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.57  |
|     | 5°F<br>(-15.0°C)   | TC  | 19553 | 19575 | 19575 | 19602 | 20704 | 20729 | 20749 | 20753 | 20778 | 21941 | 21969 | 21994 | 21998 | 22023 | 23263 | 23288 | 23314 | 23317 | 23346 | 19553 |
|     |                    | S/T | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.53  |
|     |                    | PI  | 0.59  | 0.59  | 0.59  | 0.60  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.59  |
|     | 14°F<br>(-10.0°C)  | TC  | 18159 | 18179 | 18180 | 18204 | 19228 | 19251 | 19270 | 19274 | 19296 | 20377 | 20403 | 20426 | 20430 | 20452 | 21604 | 21628 | 21651 | 21655 | 21682 | 18159 |
|     |                    | S/T | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.53  |
|     |                    | PI  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.79  | 0.79  | 0.79  | 0.80  | 0.80  | 0.67  |
|     | 17°F<br>(-8.3°C)   | TC  | 17695 | 17714 | 17715 | 17738 | 18736 | 18758 | 18777 | 18780 | 18803 | 19855 | 19881 | 19903 | 19907 | 19929 | 21052 | 21074 | 21097 | 21101 | 21127 | 17695 |
|     |                    | S/T | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.53  |
|     |                    | PI  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.69  |
|     | 23°F<br>(-5.0°C)   | TC  | 17206 | 17224 | 17225 | 17248 | 18218 | 18240 | 18258 | 18261 | 18283 | 19306 | 19332 | 19353 | 19357 | 19378 | 20470 | 20492 | 20514 | 20517 | 20543 | 17206 |
|     |                    | S/T | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.53  |
|     |                    | PI  | 0.71  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.81  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.71  |

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 4 of 9)

|     |               |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|---------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 530 | 35°F (1.7°C)  | TC  | 16227 | 16245 | 16246 | 16268 | 17182 | 17203 | 17220 | 17223 | 17243 | 18209 | 18232 | 18253 | 18256 | 18277 | 19306 | 19327 | 19348 | 19351 | 19375 | 16227 |
|     |               | S/T | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.54  |
|     |               | PI  | 0.76  | 0.76  | 0.76  | 0.76  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.76  |
|     | 41°F (5.0°C)  | TC  | 16599 | 16617 | 16618 | 16640 | 17576 | 17597 | 17614 | 17618 | 17638 | 18626 | 18650 | 18671 | 18674 | 18695 | 19748 | 19770 | 19791 | 19794 | 19819 | 16599 |
|     |               | S/T | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.54  |
|     |               | PI  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.68  |
|     | 47°F (8.3°C)  | TC  | 16971 | 16989 | 16990 | 17013 | 17970 | 17991 | 18009 | 18012 | 18034 | 19043 | 19068 | 19089 | 19093 | 19114 | 20190 | 20212 | 20234 | 20238 | 20263 | 16971 |
|     |               | S/T | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.54  |
|     |               | PI  | 0.59  | 0.59  | 0.59  | 0.59  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.59  |
|     | 50°F (10.0°C) | TC  | 17194 | 17213 | 17213 | 17237 | 18206 | 18227 | 18245 | 18249 | 18271 | 19293 | 19319 | 19340 | 19344 | 19365 | 20456 | 20478 | 20500 | 20504 | 20529 | 17194 |
|     |               | S/T | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.54  |
|     |               | PI  | 0.63  | 0.63  | 0.63  | 0.63  | 0.66  | 0.66  | 0.66  | 0.66  | 0.67  | 0.70  | 0.70  | 0.70  | 0.70  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.63  |
|     | 59°F (15.0°C) | TC  | 17863 | 17883 | 17883 | 17908 | 18914 | 18937 | 18956 | 18959 | 18982 | 20044 | 20071 | 20093 | 20097 | 20119 | 21252 | 21275 | 21298 | 21302 | 21328 | 17863 |
|     |               | S/T | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.55  |
|     |               | PI  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.73  |
|     | 68°F (20.0°C) | TC  | 18533 | 18553 | 18553 | 18578 | 19623 | 19646 | 19666 | 19670 | 19693 | 20796 | 20823 | 20846 | 20850 | 20873 | 22048 | 22072 | 22096 | 22100 | 22127 | 18533 |
|     |               | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |               | PI  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.83  |
|     | 77°F (25.0°C) | TC  | 19202 | 19223 | 19224 | 19249 | 20332 | 20356 | 20376 | 20380 | 20404 | 21547 | 21575 | 21599 | 21603 | 21627 | 22845 | 22870 | 22895 | 22898 | 22927 | 19202 |
|     |               | S/T | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.57  |
|     |               | PI  | 0.93  | 0.93  | 0.93  | 0.93  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.04  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 0.93  |
|     | 82°F (27.8°C) | TC  | 19367 | 19388 | 19389 | 19415 | 20507 | 20531 | 20552 | 20556 | 20580 | 21732 | 21760 | 21785 | 21789 | 21813 | 23042 | 23067 | 23092 | 23095 | 23124 | 19367 |
|     |               | S/T | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  | 0.57  |
|     |               | PI  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.06  |
|     | 86°F (30.0°C) | TC  | 19239 | 19260 | 19261 | 19287 | 20371 | 20395 | 20416 | 20420 | 20444 | 21588 | 21616 | 21640 | 21644 | 21669 | 22889 | 22914 | 22939 | 22942 | 22971 | 19239 |
|     |               | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.58  |
|     |               | PI  | 1.25  | 1.26  | 1.26  | 1.26  | 1.33  | 1.33  | 1.33  | 1.33  | 1.33  | 1.41  | 1.41  | 1.41  | 1.41  | 1.41  | 1.49  | 1.49  | 1.50  | 1.50  | 1.50  | 1.25  |
|     | 95°F (35.0°C) | TC  | 18951 | 18971 | 18972 | 18998 | 20066 | 20090 | 20109 | 20113 | 20137 | 21265 | 21292 | 21316 | 21320 | 21344 | 22546 | 22570 | 22595 | 22599 | 22627 | 18951 |
|     |               | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.58  |
|     |               | PI  | 1.69  | 1.69  | 1.69  | 1.70  | 1.79  | 1.79  | 1.80  | 1.80  | 1.80  | 1.90  | 1.90  | 1.90  | 1.90  | 1.91  | 2.01  | 2.02  | 2.02  | 2.02  | 2.02  | 1.69  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 5 of 9)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 530 | 104°F<br>(40.0°C)  | TC  | 16833 | 16851 | 16852 | 16875 | 17824 | 17845 | 17863 | 17866 | 17887 | 18889 | 18913 | 18934 | 18938 | 18959 | 20027 | 20049 | 20070 | 20073 | 20098 | 16833 |
|     |                    | S/T | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.60  |
|     |                    | PI  | 1.77  | 1.78  | 1.78  | 1.78  | 1.88  | 1.88  | 1.88  | 1.88  | 1.89  | 1.99  | 1.99  | 2.00  | 2.00  | 2.00  | 2.11  | 2.11  | 2.12  | 2.12  | 2.12  | 1.77  |
|     | 110°F<br>(43.0°C)  | TC  | 15563 | 15580 | 15580 | 15601 | 16479 | 16498 | 16514 | 16518 | 16537 | 17463 | 17486 | 17505 | 17508 | 17528 | 18515 | 18535 | 18556 | 18558 | 18582 | 15563 |
|     |                    | S/T | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  | 0.62  |
|     |                    | PI  | 1.82  | 1.83  | 1.83  | 1.83  | 1.93  | 1.93  | 1.93  | 1.94  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  | 1.82  |
|     | 115°F<br>(46.0°C)  | TC  | 14311 | 14327 | 14327 | 14347 | 15153 | 15171 | 15186 | 15189 | 15207 | 16059 | 16079 | 16097 | 16100 | 16118 | 17026 | 17045 | 17063 | 17066 | 17087 | 14311 |
|     |                    | S/T | 0.63  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.63  | 0.74  | 0.85  | 0.85  | 0.96  | 0.63  |
|     |                    | PI  | 1.75  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.86  | 1.86  | 1.86  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 1.75  |
|     | 122°F<br>(50.0°C)  | TC  | 12642 | 12656 | 12656 | 12674 | 13386 | 13402 | 13415 | 13418 | 13434 | 14186 | 14204 | 14220 | 14223 | 14239 | 15041 | 15057 | 15073 | 15076 | 15095 | 12642 |
|     |                    | S/T | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  | 0.64  |
|     |                    | PI  | 1.65  | 1.65  | 1.65  | 1.65  | 1.75  | 1.75  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.86  | 1.86  | 1.86  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 1.65  |
| 580 | -22°F<br>(-30.0°C) | TC  | 16235 | 16252 | 16253 | 16275 | 17190 | 17210 | 17227 | 17231 | 17251 | 18217 | 18240 | 18261 | 18264 | 18285 | 19314 | 19335 | 19356 | 19359 | 19384 | 16235 |
|     |                    | S/T | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.54  |
|     |                    | PI  | 0.49  | 0.49  | 0.49  | 0.49  | 0.52  | 0.52  | 0.52  | 0.52  | 0.52  | 0.55  | 0.55  | 0.56  | 0.56  | 0.56  | 0.59  | 0.59  | 0.59  | 0.59  | 0.59  | 0.49  |
|     | -13°F<br>(-25.0°C) | TC  | 17587 | 17606 | 17607 | 17631 | 18622 | 18644 | 18663 | 18666 | 18689 | 19735 | 19761 | 19783 | 19786 | 19808 | 20924 | 20947 | 20969 | 20973 | 20999 | 17587 |
|     |                    | S/T | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.54  |
|     |                    | PI  | 0.53  | 0.54  | 0.54  | 0.54  | 0.57  | 0.57  | 0.57  | 0.57  | 0.57  | 0.60  | 0.60  | 0.60  | 0.60  | 0.60  | 0.64  | 0.64  | 0.64  | 0.64  | 0.64  | 0.53  |
|     | -4°F<br>(-20.0°C)  | TC  | 18940 | 18961 | 18962 | 18987 | 20055 | 20079 | 20098 | 20102 | 20126 | 21253 | 21281 | 21304 | 21308 | 21332 | 22533 | 22558 | 22583 | 22586 | 22614 | 18940 |
|     |                    | S/T | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.54  |
|     |                    | PI  | 0.58  | 0.58  | 0.58  | 0.58  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.68  | 0.69  | 0.69  | 0.69  | 0.69  | 0.58  |
|     | 0°F<br>(-17.8°C)   | TC  | 19542 | 19563 | 19564 | 19590 | 20691 | 20716 | 20736 | 20741 | 20765 | 21928 | 21956 | 21981 | 21985 | 22009 | 23249 | 23274 | 23299 | 23303 | 23332 | 19542 |
|     |                    | S/T | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.55  |
|     |                    | PI  | 0.59  | 0.59  | 0.59  | 0.60  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.59  |
|     | 5°F<br>(-15.0°C)   | TC  | 20293 | 20315 | 20316 | 20343 | 21487 | 21513 | 21534 | 21538 | 21564 | 22771 | 22801 | 22826 | 22830 | 22856 | 24143 | 24169 | 24196 | 24199 | 24229 | 20293 |
|     |                    | S/T | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.55  |
|     |                    | PI  | 0.62  | 0.62  | 0.62  | 0.62  | 0.65  | 0.65  | 0.65  | 0.65  | 0.66  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.74  | 0.74  | 0.74  | 0.62  |
|     | 14°F<br>(-10.0°C)  | TC  | 18846 | 18867 | 18868 | 18893 | 19955 | 19979 | 19999 | 20003 | 20026 | 21148 | 21175 | 21199 | 21203 | 21226 | 22422 | 22446 | 22471 | 22474 | 22502 | 18846 |
|     |                    | S/T | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  | 0.55  |
|     |                    | PI  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.74  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.82  | 0.82  | 0.83  | 0.83  | 0.83  | 0.69  |

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Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 6 of 9)

|     |                  |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 580 | 17°F<br>(-8.3°C) | TC  | 18364 | 18384 | 18385 | 18410 | 19445 | 19468 | 19487 | 19491 | 19514 | 20606 | 20633 | 20656 | 20660 | 20683 | 21848 | 21872 | 21896 | 21899 | 21926 | 18364 |
|     |                  | S/T | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.55  |
|     |                  | PI  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.81  | 0.81  | 0.81  | 0.81  | 0.85  | 0.85  | 0.85  | 0.86  | 0.86  | 0.72  |
|     | 23°F<br>(-5.0°C) | TC  | 17857 | 17876 | 17877 | 17901 | 18907 | 18930 | 18948 | 18952 | 18975 | 20037 | 20063 | 20085 | 20089 | 20111 | 21244 | 21267 | 21290 | 21294 | 21320 | 17857 |
|     |                  | S/T | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.55  |
|     |                  | PI  | 0.74  | 0.74  | 0.74  | 0.74  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.84  | 0.88  | 0.88  | 0.88  | 0.88  | 0.89  | 0.74  |
|     | 35°F (1.7°C)     | TC  | 16841 | 16859 | 16860 | 16883 | 17832 | 17853 | 17871 | 17875 | 17896 | 18898 | 18922 | 18943 | 18947 | 18968 | 20036 | 20058 | 20080 | 20083 | 20108 | 16841 |
|     |                  | S/T | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.56  |
|     |                  | PI  | 0.79  | 0.79  | 0.79  | 0.79  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.94  | 0.94  | 0.95  | 0.79  |
|     | 41°F (5.0°C)     | TC  | 17227 | 17246 | 17246 | 17270 | 18241 | 18262 | 18280 | 18284 | 18306 | 19331 | 19356 | 19377 | 19381 | 19403 | 20495 | 20518 | 20540 | 20543 | 20569 | 17227 |
|     |                  | S/T | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |                  | PI  | 0.70  | 0.70  | 0.70  | 0.71  | 0.74  | 0.75  | 0.75  | 0.75  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.70  |
|     | 47°F (8.3°C)     | TC  | 17613 | 17632 | 17633 | 17656 | 18649 | 18671 | 18690 | 18694 | 18716 | 19764 | 19789 | 19811 | 19815 | 19837 | 20954 | 20977 | 21000 | 21003 | 21029 | 17613 |
|     |                  | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |                  | PI  | 0.62  | 0.62  | 0.62  | 0.62  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.62  |
|     | 50°F<br>(10.0°C) | TC  | 17845 | 17864 | 17865 | 17889 | 18894 | 18917 | 18936 | 18939 | 18962 | 20023 | 20049 | 20072 | 20075 | 20098 | 21230 | 21253 | 21276 | 21279 | 21306 | 17845 |
|     |                  | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.56  |
|     |                  | PI  | 0.65  | 0.65  | 0.65  | 0.65  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.78  | 0.78  | 0.78  | 0.65  |
|     | 59°F<br>(15.0°C) | TC  | 18539 | 18559 | 18560 | 18585 | 19630 | 19653 | 19673 | 19677 | 19700 | 20803 | 20830 | 20853 | 20857 | 20880 | 22056 | 22080 | 22104 | 22108 | 22135 | 18539 |
|     |                  | S/T | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.57  |
|     |                  | PI  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.76  |
|     | 68°F<br>(20.0°C) | TC  | 19234 | 19254 | 19255 | 19281 | 20366 | 20390 | 20410 | 20414 | 20438 | 21582 | 21610 | 21634 | 21638 | 21663 | 22883 | 22907 | 22932 | 22936 | 22965 | 19234 |
|     |                  | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.58  |
|     |                  | PI  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 1.02  | 1.02  | 1.03  | 1.03  | 1.03  | 0.86  |
|     | 77°F<br>(25.0°C) | TC  | 19928 | 19950 | 19951 | 19978 | 21101 | 21126 | 21147 | 21151 | 21176 | 22362 | 22391 | 22416 | 22420 | 22445 | 23709 | 23735 | 23761 | 23764 | 23794 | 19928 |
|     |                  | S/T | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.59  |
|     |                  | PI  | 0.97  | 0.97  | 0.97  | 0.97  | 1.02  | 1.02  | 1.02  | 1.02  | 1.03  | 1.08  | 1.08  | 1.09  | 1.09  | 1.09  | 1.15  | 1.15  | 1.15  | 1.15  | 1.15  | 0.97  |
|     | 82°F<br>(27.8°C) | TC  | 20100 | 20122 | 20123 | 20150 | 21283 | 21308 | 21329 | 21333 | 21359 | 22554 | 22584 | 22609 | 22613 | 22638 | 23913 | 23939 | 23965 | 23969 | 23999 | 20100 |
|     |                  | S/T | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.60  |
|     |                  | PI  | 1.10  | 1.10  | 1.10  | 1.10  | 1.16  | 1.17  | 1.17  | 1.17  | 1.17  | 1.23  | 1.24  | 1.24  | 1.24  | 1.24  | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  | 1.10  |

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 7 of 9)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 580 | 86°F<br>(30.0°C)   | TC  | 19967 | 19989 | 19989 | 20016 | 21142 | 21167 | 21188 | 21192 | 21217 | 22405 | 22434 | 22459 | 22463 | 22488 | 23755 | 23781 | 23807 | 23810 | 23840 | 19967 |
|     |                    | S/T | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.60  |
|     |                    | PI  | 1.30  | 1.30  | 1.30  | 1.30  | 1.38  | 1.38  | 1.38  | 1.38  | 1.38  | 1.46  | 1.46  | 1.46  | 1.46  | 1.47  | 1.55  | 1.55  | 1.55  | 1.55  | 1.55  | 1.30  |
|     | 95°F<br>(35.0°C)   | TC  | 19668 | 19689 | 19690 | 19716 | 20825 | 20850 | 20870 | 20874 | 20899 | 22069 | 22098 | 22122 | 22127 | 22151 | 23399 | 23424 | 23450 | 23453 | 23483 | 19668 |
|     |                    | S/T | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.60  |
|     |                    | PI  | 1.76  | 1.76  | 1.76  | 1.76  | 1.86  | 1.86  | 1.86  | 1.86  | 1.87  | 1.97  | 1.97  | 1.98  | 1.98  | 1.98  | 2.09  | 2.09  | 2.09  | 2.09  | 2.10  | 1.76  |
|     | 104°F<br>(40.0°C)  | TC  | 17470 | 17489 | 17490 | 17513 | 18498 | 18520 | 18538 | 18542 | 18564 | 19603 | 19629 | 19651 | 19654 | 19676 | 20784 | 20807 | 20830 | 20833 | 20859 | 17470 |
|     |                    | S/T | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  | 0.62  |
|     |                    | PI  | 1.84  | 1.84  | 1.84  | 1.85  | 1.95  | 1.95  | 1.95  | 1.95  | 1.96  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.20  | 2.20  | 2.20  | 1.84  |
|     | 110°F<br>(43.0°C)  | TC  | 16152 | 16169 | 16170 | 16191 | 17102 | 17122 | 17139 | 17142 | 17163 | 18124 | 18147 | 18167 | 18171 | 18191 | 19216 | 19237 | 19257 | 19260 | 19284 | 16152 |
|     |                    | S/T | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  | 0.64  |
|     |                    | PI  | 1.89  | 1.89  | 1.89  | 1.90  | 2.00  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.26  | 2.26  | 2.26  | 1.89  |
|     | 115°F<br>(46.0°C)  | TC  | 14853 | 14869 | 14869 | 14889 | 15726 | 15745 | 15761 | 15764 | 15782 | 16666 | 16688 | 16706 | 16709 | 16728 | 17670 | 17689 | 17709 | 17711 | 17734 | 14853 |
|     |                    | S/T | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.65  |
|     |                    | PI  | 1.82  | 1.82  | 1.82  | 1.82  | 1.92  | 1.92  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.04  | 2.04  | 2.04  | 2.16  | 2.16  | 2.16  | 2.17  | 2.17  | 1.82  |
|     | 122°F<br>(50.0°C)  | TC  | 13121 | 13135 | 13135 | 13153 | 13893 | 13909 | 13923 | 13926 | 13942 | 14723 | 14742 | 14758 | 14761 | 14777 | 15610 | 15627 | 15644 | 15646 | 15666 | 13121 |
|     |                    | S/T | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.67  | 0.79  | 0.90  | 0.90  | 1.00  | 0.66  |
|     |                    | PI  | 1.71  | 1.72  | 1.72  | 1.72  | 1.81  | 1.82  | 1.82  | 1.82  | 1.82  | 1.92  | 1.92  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.04  | 2.04  | 2.05  | 1.71  |
| 620 | -22°F<br>(-30.0°C) | TC  | 16849 | 16867 | 16868 | 16890 | 17840 | 17861 | 17879 | 17882 | 17904 | 18906 | 18931 | 18952 | 18955 | 18976 | 20045 | 20067 | 20089 | 20092 | 20117 | 16849 |
|     |                    | S/T | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.56  |
|     |                    | PI  | 0.51  | 0.51  | 0.51  | 0.51  | 0.54  | 0.54  | 0.54  | 0.54  | 0.54  | 0.57  | 0.58  | 0.58  | 0.58  | 0.58  | 0.61  | 0.61  | 0.61  | 0.61  | 0.61  | 0.51  |
|     | -13°F<br>(-25.0°C) | TC  | 18253 | 18272 | 18273 | 18298 | 19327 | 19350 | 19369 | 19373 | 19396 | 20481 | 20508 | 20531 | 20535 | 20558 | 21716 | 21739 | 21763 | 21766 | 21793 | 18253 |
|     |                    | S/T | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.56  |
|     |                    | PI  | 0.55  | 0.56  | 0.56  | 0.56  | 0.59  | 0.59  | 0.59  | 0.59  | 0.59  | 0.62  | 0.62  | 0.62  | 0.62  | 0.62  | 0.66  | 0.66  | 0.66  | 0.66  | 0.66  | 0.55  |
|     | -4°F<br>(-20.0°C)  | TC  | 19657 | 19678 | 19679 | 19705 | 20813 | 20838 | 20859 | 20863 | 20888 | 22057 | 22086 | 22110 | 22114 | 22139 | 23386 | 23411 | 23437 | 23440 | 23470 | 19657 |
|     |                    | S/T | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.57  |
|     |                    | PI  | 0.60  | 0.60  | 0.60  | 0.60  | 0.63  | 0.63  | 0.63  | 0.63  | 0.63  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.60  |
|     | 0°F<br>(-17.8°C)   | TC  | 20281 | 20303 | 20304 | 20331 | 21474 | 21500 | 21521 | 21525 | 21551 | 22757 | 22787 | 22812 | 22816 | 22842 | 24128 | 24155 | 24181 | 24185 | 24215 | 20281 |
|     |                    | S/T | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.57  |
|     |                    | PI  | 0.62  | 0.62  | 0.62  | 0.62  | 0.65  | 0.65  | 0.65  | 0.65  | 0.65  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.74  | 0.74  | 0.62  |
|     | 5°F<br>(-15.0°C)   | TC  | 21061 | 21084 | 21085 | 21113 | 22300 | 22327 | 22349 | 22353 | 22380 | 23632 | 23663 | 23690 | 23694 | 23720 | 25056 | 25084 | 25111 | 25115 | 25146 | 21061 |
|     |                    | S/T | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.57  |
|     |                    | PI  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.64  |

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 8 of 9)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 620 | 14°F<br>(-10.0°C) | TC  | 19559 | 19580 | 19581 | 19608 | 20710 | 20735 | 20755 | 20759 | 20784 | 21948 | 21976 | 22001 | 22005 | 22029 | 23270 | 23295 | 23321 | 23324 | 23353 | 19559 |
|     |                   | S/T | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.57  |
|     |                   | PI  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.85  | 0.86  | 0.86  | 0.86  | 0.86  | 0.72  |
|     | 17°F<br>(-8.3°C)  | TC  | 19059 | 19079 | 19080 | 19106 | 20180 | 20204 | 20224 | 20228 | 20252 | 21386 | 21414 | 21438 | 21442 | 21466 | 22674 | 22699 | 22724 | 22727 | 22756 | 19059 |
|     |                   | S/T | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  | 0.57  |
|     |                   | PI  | 0.74  | 0.74  | 0.74  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.74  |
|     | 23°F<br>(-5.0°C)  | TC  | 18532 | 18552 | 18553 | 18578 | 19622 | 19646 | 19665 | 19669 | 19692 | 20795 | 20822 | 20845 | 20849 | 20872 | 22048 | 22072 | 22096 | 22099 | 22127 | 18532 |
|     |                   | S/T | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  | 0.58  |
|     |                   | PI  | 0.77  | 0.77  | 0.77  | 0.77  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.86  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.77  |
|     | 35°F (1.7°C)      | TC  | 17478 | 17497 | 17498 | 17522 | 18507 | 18529 | 18547 | 18551 | 18573 | 19613 | 19638 | 19660 | 19664 | 19686 | 20794 | 20817 | 20840 | 20843 | 20869 | 17478 |
|     |                   | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.58  |
|     |                   | PI  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.93  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  | 0.82  |
|     | 41°F (5.0°C)      | TC  | 17879 | 17898 | 17899 | 17923 | 18931 | 18953 | 18972 | 18976 | 18998 | 20062 | 20088 | 20110 | 20114 | 20137 | 21271 | 21294 | 21317 | 21320 | 21347 | 17879 |
|     |                   | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.58  |
|     |                   | PI  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.78  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.73  |
|     | 47°F (8.3°C)      | TC  | 18279 | 18299 | 18300 | 18324 | 19355 | 19378 | 19397 | 19401 | 19424 | 20511 | 20538 | 20561 | 20565 | 20587 | 21747 | 21771 | 21794 | 21798 | 21825 | 18279 |
|     |                   | S/T | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.58  |
|     |                   | PI  | 0.64  | 0.64  | 0.64  | 0.64  | 0.68  | 0.68  | 0.68  | 0.68  | 0.68  | 0.72  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.64  |
|     | 50°F<br>(10.0°C)  | TC  | 18520 | 18540 | 18540 | 18565 | 19609 | 19633 | 19652 | 19656 | 19679 | 20781 | 20808 | 20831 | 20835 | 20858 | 22033 | 22057 | 22081 | 22084 | 22112 | 18520 |
|     |                   | S/T | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.58  |
|     |                   | PI  | 0.67  | 0.68  | 0.68  | 0.68  | 0.71  | 0.72  | 0.72  | 0.72  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  | 0.80  | 0.80  | 0.80  | 0.80  | 0.81  | 0.67  |
|     | 59°F<br>(15.0°C)  | TC  | 19240 | 19261 | 19262 | 19288 | 20373 | 20397 | 20417 | 20421 | 20445 | 21590 | 21618 | 21642 | 21646 | 21670 | 22891 | 22915 | 22940 | 22944 | 22973 | 19240 |
|     |                   | S/T | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.59  |
|     |                   | PI  | 0.78  | 0.78  | 0.78  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.94  | 0.78  |
|     | 68°F<br>(20.0°C)  | TC  | 19961 | 19983 | 19984 | 20011 | 21136 | 21161 | 21182 | 21186 | 21211 | 22399 | 22428 | 22453 | 22457 | 22482 | 23748 | 23774 | 23800 | 23804 | 23833 | 19961 |
|     |                   | S/T | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.60  |
|     |                   | PI  | 0.89  | 0.89  | 0.89  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.06  | 1.06  | 1.06  | 1.06  | 1.07  | 0.89  |
|     | 77°F<br>(25.0°C)  | TC  | 20682 | 20705 | 20706 | 20733 | 21899 | 21925 | 21947 | 21951 | 21977 | 23208 | 23238 | 23264 | 23268 | 23294 | 24606 | 24633 | 24660 | 24663 | 24694 | 20682 |
|     |                   | S/T | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  | 0.61  |
|     |                   | PI  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.13  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.19  | 1.20  | 1.20  | 1.00  |
|     | 82°F<br>(27.8°C)  | TC  | 20860 | 20883 | 20884 | 20912 | 22088 | 22114 | 22136 | 22140 | 22167 | 23408 | 23438 | 23464 | 23468 | 23495 | 24818 | 24845 | 24872 | 24876 | 24907 | 20860 |
|     |                   | S/T | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  | 0.62  |
|     |                   | PI  | 1.14  | 1.14  | 1.14  | 1.14  | 1.21  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.29  | 1.36  | 1.36  | 1.36  | 1.36  | 1.36  | 1.14  |
|     | 86°F<br>(30.0°C)  | TC  | 20722 | 20745 | 20746 | 20774 | 21942 | 21968 | 21989 | 21994 | 22020 | 23253 | 23283 | 23309 | 23313 | 23339 | 24654 | 24680 | 24707 | 24711 | 24742 | 20722 |
|     |                   | S/T | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.63  |
|     |                   | PI  | 1.35  | 1.35  | 1.35  | 1.35  | 1.43  | 1.43  | 1.43  | 1.43  | 1.44  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  | 1.35  |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 18: Cooling Performance - 18K 37MUHA + 45MUAA (Sheet 9 of 9)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 620 | 95°F<br>(35.0°C)  | TC  | 20412 | 20434 | 20435 | 20462 | 21613 | 21638 | 21660 | 21664 | 21690 | 22904 | 22934 | 22959 | 22964 | 22989 | 24284 | 24310 | 24337 | 24341 | 24371 | 20412 |
|     |                   | S/T | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.63  |
|     |                   | PI  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  | 1.82  |
|     | 104°F<br>(40.0°C) | TC  | 18131 | 18151 | 18151 | 18176 | 19198 | 19221 | 19240 | 19243 | 19266 | 20345 | 20371 | 20394 | 20398 | 20421 | 21571 | 21594 | 21618 | 21621 | 21648 | 18131 |
|     |                   | S/T | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  | 0.64  |
|     |                   | PI  | 1.91  | 1.91  | 1.91  | 1.92  | 2.02  | 2.03  | 2.03  | 2.03  | 2.03  | 2.14  | 2.15  | 2.15  | 2.15  | 2.15  | 2.27  | 2.28  | 2.28  | 2.28  | 2.28  | 1.91  |
|     | 110°F<br>(43.0°C) | TC  | 16763 | 16781 | 16781 | 16804 | 17749 | 17770 | 17787 | 17791 | 17812 | 18809 | 18834 | 18855 | 18858 | 18879 | 19943 | 19964 | 19986 | 19989 | 20014 | 16763 |
|     |                   | S/T | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  | 0.67  |
|     |                   | PI  | 1.96  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.08  | 2.08  | 2.09  | 2.20  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.34  | 1.96  |
|     | 115°F<br>(46.0°C) | TC  | 15414 | 15431 | 15432 | 15453 | 16321 | 16341 | 16357 | 16360 | 16380 | 17297 | 17319 | 17338 | 17342 | 17361 | 18339 | 18359 | 18379 | 18381 | 18404 | 15414 |
|     |                   | S/T | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  | 0.67  |
|     |                   | PI  | 1.88  | 1.89  | 1.89  | 1.89  | 2.00  | 2.00  | 2.00  | 2.00  | 2.00  | 2.11  | 2.12  | 2.12  | 2.12  | 2.12  | 2.24  | 2.24  | 2.25  | 2.25  | 2.25  | 1.88  |
|     | 122°F<br>(50.0°C) | TC  | 13617 | 13632 | 13632 | 13651 | 14418 | 14435 | 14449 | 14452 | 14470 | 15280 | 15299 | 15316 | 15319 | 15336 | 16200 | 16218 | 16235 | 16238 | 16258 | 13617 |
|     |                   | S/T | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  | 0.69  |
|     |                   | PI  | 1.78  | 1.78  | 1.78  | 1.78  | 1.88  | 1.88  | 1.89  | 1.89  | 1.89  | 2.00  | 2.00  | 2.00  | 2.00  | 2.00  | 2.12  | 2.12  | 2.12  | 2.12  | 2.12  | 1.78  |

## Heating Performance - 18K 37MUHA + 45MUAA

Table 19: Heating Performance - 18K 37MUHA + 45MUAA (Sheet 1 of 2)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|--------------------------|----------------------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  |                          | TC: TOTAL HEATING CAPACITY (BTU/HR)                |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                          | INDOOR CONDITIONS DB °F (°C)                       |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                          | 60.8°F<br>(16.0°C)                                 | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)          | 9906                                               | 9707             | 9659             | 9546               | 9460               | 2.05                 | 2.06             | 2.07             | 2.07               | 2.08               |
|                  | -13°F (-25.0°C)          | 12966                                              | 12706            | 12643            | 12015              | 11907              | 2.27                 | 2.29             | 2.29             | 2.30               | 2.31               |
|                  | -4°F (-20.0°C)           | 15395                                              | 15087            | 15011            | 14266              | 14138              | 2.45                 | 2.47             | 2.48             | 2.48               | 2.49               |
|                  | 0°F (-17.8°C)            | 16631                                              | 16299            | 16217            | 15412              | 15273              | 2.56                 | 2.58             | 2.58             | 2.59               | 2.60               |
|                  | 5°F (-15.0°C)            | 18177                                              | 17814            | 17725            | 16845              | 16693              | 2.68                 | 2.71             | 2.71             | 2.72               | 2.73               |
|                  | 14°F (-10.0°C)           | 19502                                              | 19111            | 19016            | 18072              | 17909              | 2.65                 | 2.67             | 2.68             | 2.69               | 2.70               |
|                  | 17°F (-8.3°C)            | 19943                                              | 19544            | 19446            | 18481              | 18314              | 2.64                 | 2.66             | 2.67             | 2.67               | 2.69               |
|                  | 22°F (-5.6°C)            | 19335                                              | 18948            | 18854            | 17918              | 17756              | 2.44                 | 2.46             | 2.46             | 2.47               | 2.48               |
|                  | 27°F (-2.8°C)            | 18727                                              | 18353            | 18261            | 17354              | 17198              | 2.23                 | 2.25             | 2.25             | 2.26               | 2.27               |
|                  | 32°F (-0.0°C)            | 18120                                              | 17757            | 17668            | 16791              | 16640              | 2.03                 | 2.04             | 2.05             | 2.05               | 2.06               |
|                  | 35°F (1.7°C)             | 17755                                              | 17400            | 17313            | 16453              | 16305              | 1.90                 | 1.92             | 1.92             | 1.93               | 1.93               |
|                  | 37°F (2.8°C)             | 18188                                              | 17825            | 17735            | 16855              | 16703              | 1.88                 | 1.90             | 1.90             | 1.91               | 1.92               |
|                  | 42°F (5.6°C)             | 19272                                              | 18887            | 18792            | 17859              | 17699              | 1.84                 | 1.85             | 1.86             | 1.86               | 1.87               |
|                  | 44.6°F (7.0°C)           | 19706                                              | 19312            | 19215            | 18261              | 18097              | 1.82                 | 1.83             | 1.84             | 1.84               | 1.85               |
|                  | 47°F (8.3°C)             | 20356                                              | 19949            | 19849            | 18864              | 18694              | 1.79                 | 1.80             | 1.81             | 1.81               | 1.82               |
|                  | 52°F (11.1°C)            | 18515                                              | 18144            | 18054            | 17157              | 17003              | 1.63                 | 1.64             | 1.64             | 1.65               | 1.65               |
|                  | 57°F (13.9°C)            | 16673                                              | 16340            | 16258            | 15451              | 15312              | 1.46                 | 1.47             | 1.48             | 1.48               | 1.49               |
|                  | 59°F (15.0°C)            | 15937                                              | 15618            | 15540            | 14768              | 14636              | 1.40                 | 1.41             | 1.41             | 1.41               | 1.42               |
|                  | 62°F (16.7°C)            | 14832                                              | 14535            | 14463            | 13745              | 13621              | 1.30                 | 1.31             | 1.31             | 1.32               | 1.32               |
|                  | 64.4°F (18.0°C)          | 14096                                              | 13814            | 13745            | 13062              | 12945              | 1.23                 | 1.24             | 1.25             | 1.25               | 1.25               |
| 530              | -22°F (-30.0°C)          | 10484                                              | 10274            | 10223            | 10143              | 10051              | 2.07                 | 2.09             | 2.09             | 2.09               | 2.10               |
|                  | -13°F (-25.0°C)          | 13456                                              | 13187            | 13121            | 12765              | 12651              | 2.29                 | 2.31             | 2.32             | 2.32               | 2.33               |
|                  | -4°F (-20.0°C)           | 15977                                              | 15657            | 15579            | 15157              | 15021              | 2.48                 | 2.50             | 2.50             | 2.51               | 2.52               |
|                  | 0°F (-17.8°C)            | 17261                                              | 16915            | 16831            | 16375              | 16227              | 2.58                 | 2.60             | 2.61             | 2.61               | 2.62               |
|                  | 5°F (-15.0°C)            | 18865                                              | 18488            | 18395            | 17897              | 17736              | 2.71                 | 2.73             | 2.74             | 2.74               | 2.75               |
|                  | 14°F (-10.0°C)           | 20239                                              | 19834            | 19735            | 19201              | 19028              | 2.68                 | 2.70             | 2.71             | 2.71               | 2.72               |
|                  | 17°F (-8.3°C)            | 20697                                              | 20283            | 20182            | 19635              | 19458              | 2.67                 | 2.69             | 2.70             | 2.70               | 2.71               |
|                  | 22°F (-5.6°C)            | 20067                                              | 19665            | 19567            | 19037              | 18865              | 2.46                 | 2.48             | 2.49             | 2.49               | 2.50               |
|                  | 27°F (-2.8°C)            | 19436                                              | 19047            | 18952            | 18438              | 18272              | 2.25                 | 2.27             | 2.28             | 2.28               | 2.29               |
|                  | 32°F (-0.0°C)            | 18805                                              | 18429            | 18337            | 17840              | 17679              | 2.05                 | 2.06             | 2.07             | 2.07               | 2.08               |
|                  | 35°F (1.7°C)             | 18427                                              | 18058            | 17968            | 17481              | 17324              | 1.92                 | 1.94             | 1.94             | 1.95               | 1.95               |
|                  | 37°F (2.8°C)             | 18876                                              | 18499            | 18406            | 17908              | 17747              | 1.90                 | 1.92             | 1.92             | 1.93               | 1.93               |
|                  | 42°F (5.6°C)             | 20001                                              | 19601            | 19503            | 18975              | 18804              | 1.86                 | 1.87             | 1.87             | 1.88               | 1.89               |
|                  | 44.6°F (7.0°C)           | 20451                                              | 20042            | 19942            | 19402              | 19227              | 1.84                 | 1.85             | 1.86             | 1.86               | 1.87               |
|                  | 47°F (8.3°C)             | 21126                                              | 20704            | 20600            | 20042              | 19862              | 1.81                 | 1.82             | 1.83             | 1.83               | 1.84               |
|                  | 52°F (11.1°C)            | 19215                                              | 18831            | 18737            | 18229              | 18065              | 1.64                 | 1.66             | 1.66             | 1.66               | 1.67               |
|                  | 57°F (13.9°C)            | 17304                                              | 16958            | 16873            | 16416              | 16268              | 1.48                 | 1.49             | 1.49             | 1.50               | 1.50               |
|                  | 59°F (15.0°C)            | 16540                                              | 16209            | 16128            | 15691              | 15550              | 1.41                 | 1.42             | 1.43             | 1.43               | 1.43               |
|                  | 62°F (16.7°C)            | 15393                                              | 15085            | 15010            | 14603              | 14472              | 1.31                 | 1.32             | 1.33             | 1.33               | 1.33               |
|                  | 64.4°F (18.0°C)          | 14629                                              | 14336            | 14265            | 13878              | 13753              | 1.25                 | 1.26             | 1.26             | 1.26               | 1.27               |

**Table 19: Heating Performance - 18K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 11096 | 10874 | 10820 | 10776 | 10679 | 2.09 | 2.11 | 2.11 | 2.11 | 2.12 |
|            | -13°F (-25.0°C) | 13965 | 13686 | 13617 | 13563 | 13441 | 2.32 | 2.33 | 2.34 | 2.34 | 2.35 |
|            | -4°F (-20.0°C)  | 16581 | 16250 | 16169 | 16104 | 15959 | 2.50 | 2.52 | 2.53 | 2.53 | 2.54 |
|            | 0°F (-17.8°C)   | 17914 | 17555 | 17468 | 17398 | 17241 | 2.61 | 2.63 | 2.63 | 2.64 | 2.65 |
|            | 5°F (-15.0°C)   | 19579 | 19187 | 19091 | 19015 | 18844 | 2.74 | 2.76 | 2.77 | 2.77 | 2.78 |
|            | 14°F (-10.0°C)  | 21005 | 20585 | 20482 | 20400 | 20216 | 2.71 | 2.73 | 2.73 | 2.74 | 2.75 |
|            | 17°F (-8.3°C)   | 21480 | 21051 | 20945 | 20862 | 20674 | 2.70 | 2.72 | 2.72 | 2.73 | 2.74 |
|            | 22°F (-5.6°C)   | 20826 | 20409 | 20307 | 20226 | 20044 | 2.49 | 2.51 | 2.51 | 2.52 | 2.53 |
|            | 27°F (-2.8°C)   | 20171 | 19768 | 19669 | 19590 | 19414 | 2.28 | 2.30 | 2.30 | 2.31 | 2.31 |
|            | 32°F (-0.0°C)   | 19516 | 19126 | 19030 | 18954 | 18784 | 2.07 | 2.08 | 2.09 | 2.09 | 2.10 |
|            | 35°F (1.7°C)    | 19124 | 18741 | 18647 | 18573 | 18406 | 1.94 | 1.96 | 1.96 | 1.97 | 1.97 |
|            | 37°F (2.8°C)    | 19591 | 19199 | 19103 | 19026 | 18855 | 1.92 | 1.94 | 1.94 | 1.95 | 1.95 |
|            | 42°F (5.6°C)    | 20758 | 20343 | 20241 | 20160 | 19979 | 1.87 | 1.89 | 1.89 | 1.90 | 1.90 |
|            | 44.6°F (7.0°C)  | 21225 | 20800 | 20696 | 20614 | 20428 | 1.86 | 1.87 | 1.87 | 1.88 | 1.89 |
|            | 47°F (8.3°C)    | 21925 | 21487 | 21379 | 21294 | 21102 | 1.83 | 1.84 | 1.84 | 1.85 | 1.86 |
|            | 52°F (11.1°C)   | 19942 | 19543 | 19446 | 19368 | 19193 | 1.66 | 1.67 | 1.68 | 1.68 | 1.69 |
|            | 57°F (13.9°C)   | 17959 | 17600 | 17512 | 17442 | 17285 | 1.49 | 1.50 | 1.51 | 1.51 | 1.52 |
|            | 59°F (15.0°C)   | 17166 | 16822 | 16738 | 16671 | 16521 | 1.43 | 1.44 | 1.44 | 1.44 | 1.45 |
|            | 62°F (16.7°C)   | 15976 | 15656 | 15578 | 15515 | 15376 | 1.33 | 1.34 | 1.34 | 1.34 | 1.35 |
|            | 64.4°F (18.0°C) | 15182 | 14879 | 14804 | 14745 | 14612 | 1.26 | 1.27 | 1.27 | 1.27 | 1.28 |
| <b>620</b> | -22°F (-30.0°C) | 11516 | 11285 | 11229 | 11184 | 11083 | 2.11 | 2.13 | 2.13 | 2.14 | 2.14 |
|            | -13°F (-25.0°C) | 14493 | 14204 | 14133 | 14076 | 13949 | 2.34 | 2.36 | 2.36 | 2.37 | 2.38 |
|            | -4°F (-20.0°C)  | 17209 | 16865 | 16780 | 16713 | 16563 | 2.53 | 2.55 | 2.55 | 2.56 | 2.57 |
|            | 0°F (-17.8°C)   | 18591 | 18219 | 18128 | 18056 | 17893 | 2.63 | 2.66 | 2.66 | 2.67 | 2.68 |
|            | 5°F (-15.0°C)   | 20319 | 19913 | 19813 | 19734 | 19557 | 2.77 | 2.79 | 2.79 | 2.80 | 2.81 |
|            | 14°F (-10.0°C)  | 21800 | 21364 | 21257 | 21172 | 20981 | 2.73 | 2.76 | 2.76 | 2.77 | 2.78 |
|            | 17°F (-8.3°C)   | 22293 | 21847 | 21738 | 21651 | 21456 | 2.72 | 2.75 | 2.75 | 2.76 | 2.77 |
|            | 22°F (-5.6°C)   | 21614 | 21181 | 21075 | 20991 | 20802 | 2.51 | 2.53 | 2.54 | 2.54 | 2.55 |
|            | 27°F (-2.8°C)   | 20934 | 20515 | 20413 | 20331 | 20148 | 2.30 | 2.32 | 2.32 | 2.33 | 2.34 |
|            | 32°F (-0.0°C)   | 20255 | 19850 | 19750 | 19671 | 19494 | 2.09 | 2.11 | 2.11 | 2.11 | 2.12 |
|            | 35°F (1.7°C)    | 19847 | 19450 | 19353 | 19275 | 19102 | 1.96 | 1.98 | 1.98 | 1.99 | 1.99 |
|            | 37°F (2.8°C)    | 20332 | 19925 | 19825 | 19746 | 19568 | 1.94 | 1.96 | 1.96 | 1.97 | 1.97 |
|            | 42°F (5.6°C)    | 21543 | 21112 | 21007 | 20923 | 20734 | 1.89 | 1.91 | 1.91 | 1.92 | 1.92 |
|            | 44.6°F (7.0°C)  | 22028 | 21587 | 21479 | 21393 | 21201 | 1.87 | 1.89 | 1.89 | 1.90 | 1.90 |
|            | 47°F (8.3°C)    | 22755 | 22300 | 22188 | 22099 | 21901 | 1.84 | 1.86 | 1.86 | 1.87 | 1.87 |
|            | 52°F (11.1°C)   | 20697 | 20283 | 20181 | 20100 | 19920 | 1.68 | 1.69 | 1.69 | 1.70 | 1.70 |
|            | 57°F (13.9°C)   | 18638 | 18265 | 18174 | 18101 | 17939 | 1.51 | 1.52 | 1.52 | 1.53 | 1.53 |
|            | 59°F (15.0°C)   | 17815 | 17459 | 17371 | 17302 | 17146 | 1.44 | 1.45 | 1.46 | 1.46 | 1.46 |
|            | 62°F (16.7°C)   | 16580 | 16248 | 16167 | 16102 | 15957 | 1.34 | 1.35 | 1.35 | 1.36 | 1.36 |
|            | 64.4°F (18.0°C) | 15757 | 15441 | 15364 | 15303 | 15165 | 1.27 | 1.28 | 1.29 | 1.29 | 1.29 |

Cooling Performance - 24K 37MUHA + 45MUAA

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 1 of 8)

| AIRFLOW<br>W (CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|--------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                    |                          | ID<br>DB(°F) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 629                | -22°F<br>(-30.0°C)       | TC           | 15617              | 15638              | 15655              | 15655              | 15676              | 16558              | 16577              | 16594              | 16597              | 16617              | 17547              | 17570              | 17589              | 17593              | 17612              | 18604              | 18625              | 18645              | 18648              | 18671              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.48               | 0.57               | 0.65               | 0.65               | 0.74               |
|                    |                          | PI           | 0.60               | 0.60               | 0.60               | 0.60               | 0.60               | 0.64               | 0.64               | 0.64               | 0.64               | 0.64               | 0.68               | 0.68               | 0.68               | 0.68               | 0.68               | 0.72               | 0.72               | 0.72               | 0.72               | 0.72               |
|                    | -13°F<br>(-25.0°C)       | TC           | 16918              | 16941              | 16959              | 16960              | 16983              | 17938              | 17959              | 17977              | 17980              | 18002              | 19009              | 19034              | 19055              | 19059              | 19080              | 20155              | 20177              | 20199              | 20202              | 20227              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                    |                          | PI           | 0.65               | 0.65               | 0.65               | 0.65               | 0.66               | 0.69               | 0.69               | 0.69               | 0.69               | 0.69               | 0.73               | 0.73               | 0.73               | 0.74               | 0.74               | 0.78               | 0.78               | 0.78               | 0.78               | 0.78               |
|                    | -4°F<br>(-20.0°C)        | TC           | 18219              | 18244              | 18264              | 18264              | 18289              | 19317              | 19340              | 19359              | 19363              | 19386              | 20472              | 20498              | 20521              | 20525              | 20548              | 21705              | 21729              | 21752              | 21756              | 21783              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.62               | 0.62               | 0.70               | 0.49               | 0.58               | 0.65               | 0.65               | 0.75               |
|                    |                          | PI           | 0.70               | 0.70               | 0.70               | 0.70               | 0.71               | 0.75               | 0.75               | 0.75               | 0.75               | 0.75               | 0.79               | 0.79               | 0.79               | 0.79               | 0.79               | 0.84               | 0.84               | 0.84               | 0.84               | 0.84               |
|                    | 0°F<br>(-17.8°C)         | TC           | 18798              | 18823              | 18843              | 18844              | 18870              | 19931              | 19954              | 19974              | 19978              | 20002              | 21121              | 21149              | 21172              | 21176              | 21200              | 22394              | 22418              | 22443              | 22446              | 22474              |
|                    |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.67               | 0.46               | 0.54               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.73               | 0.73               | 0.73               | 0.73               | 0.73               | 0.77               | 0.77               | 0.77               | 0.77               | 0.77               | 0.81               | 0.82               | 0.82               | 0.82               | 0.82               | 0.86               | 0.86               | 0.87               | 0.87               | 0.87               |
|                    | 5°F<br>(-15.0°C)         | TC           | 19521              | 19547              | 19568              | 19569              | 19595              | 20697              | 20722              | 20742              | 20746              | 20771              | 21934              | 21962              | 21987              | 21991              | 22015              | 23255              | 23281              | 23306              | 23310              | 23339              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.75               | 0.75               | 0.75               | 0.75               | 0.76               | 0.80               | 0.80               | 0.80               | 0.80               | 0.80               | 0.85               | 0.85               | 0.85               | 0.85               | 0.85               | 0.90               | 0.90               | 0.90               | 0.90               | 0.90               |
|                    | 14°F<br>(-10.0°C)        | TC           | 19430              | 19456              | 19477              | 19478              | 19504              | 20600              | 20625              | 20645              | 20649              | 20674              | 21831              | 21860              | 21884              | 21888              | 21912              | 23147              | 23172              | 23197              | 23201              | 23230              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.75               |
|                    |                          | PI           | 0.86               | 0.86               | 0.86               | 0.86               | 0.86               | 0.91               | 0.91               | 0.91               | 0.91               | 0.91               | 0.96               | 0.96               | 0.96               | 0.96               | 0.97               | 1.02               | 1.02               | 1.02               | 1.02               | 1.02               |
|                    | 17°F<br>(-8.3°C)         | TC           | 19399              | 19425              | 19446              | 19447              | 19473              | 20568              | 20593              | 20613              | 20617              | 20641              | 21797              | 21825              | 21850              | 21854              | 21878              | 23110              | 23136              | 23161              | 23164              | 23193              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.76               |
|                    |                          | PI           | 0.89               | 0.89               | 0.89               | 0.89               | 0.89               | 0.94               | 0.95               | 0.95               | 0.95               | 0.95               | 1.00               | 1.00               | 1.00               | 1.00               | 1.00               | 1.06               | 1.06               | 1.06               | 1.06               | 1.06               |
|                    | 23°F<br>(-5.0°C)         | TC           | 19132              | 19157              | 19178              | 19179              | 19205              | 20285              | 20309              | 20329              | 20333              | 20357              | 21496              | 21524              | 21548              | 21552              | 21576              | 22792              | 22816              | 22841              | 22845              | 22873              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 0.93               | 0.93               | 0.93               | 0.93               | 0.93               | 0.99               | 0.99               | 0.99               | 0.99               | 0.99               | 1.05               | 1.05               | 1.05               | 1.05               | 1.05               | 1.11               | 1.11               | 1.11               | 1.11               | 1.11               |
|                    | 35°F (1.7°C)             | TC           | 18596              | 18621              | 18641              | 18642              | 18667              | 19717              | 19740              | 19760              | 19764              | 19787              | 20895              | 20922              | 20945              | 20949              | 20973              | 22154              | 22178              | 22202              | 22206              | 22233              |
|                    |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.45               | 0.52               | 0.60               | 0.60               | 0.68               | 0.47               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 1.01               | 1.01               | 1.01               | 1.01               | 1.02               | 1.07               | 1.07               | 1.08               | 1.08               | 1.08               | 1.14               | 1.14               | 1.14               | 1.14               | 1.14               | 1.21               | 1.21               | 1.21               | 1.21               | 1.21               |
|                    | 41°F (5.0°C)             | TC           | 18157              | 18182              | 18201              | 18202              | 18227              | 19252              | 19274              | 19293              | 19297              | 19320              | 20402              | 20428              | 20451              | 20455              | 20478              | 21631              | 21655              | 21678              | 21682              | 21709              |
|                    |                          | S/T          | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.47               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                    |                          | PI           | 0.91               | 0.91               | 0.91               | 0.91               | 0.91               | 0.96               | 0.96               | 0.96               | 0.96               | 0.97               | 1.02               | 1.02               | 1.02               | 1.02               | 1.02               | 1.08               | 1.08               | 1.08               | 1.08               | 1.09               |
|                    | 47°F (8.3°C)             | TC           | 17718              | 17742              | 17761              | 17762              | 17786              | 18786              | 18809              | 18827              | 18831              | 18853              | 19909              | 19934              | 19957              | 19960              | 19983              | 21108              | 21131              | 21154              | 21157              | 21184              |
|                    |                          | S/T          | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.77               |
|                    |                          | PI           | 0.80               | 0.80               | 0.80               | 0.80               | 0.81               | 0.85               | 0.85               | 0.85               | 0.85               | 0.85               | 0.90               | 0.90               | 0.90               | 0.90               | 0.91               | 0.96               | 0.96               | 0.96               | 0.96               | 0.96               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 2 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | 50°F<br>(10.0°C)   | TC  | 17667 | 17691 | 17710 | 17710 | 17734 | 18731 | 18754 | 18772 | 18776 | 18798 | 19851 | 19876 | 19898 | 19902 | 19924 | 21047 | 21069 | 21092 | 21096 | 21122 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 0.81  | 0.81  | 0.82  | 0.82  | 0.82  | 0.86  | 0.86  | 0.86  | 0.86  | 0.87  | 0.91  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
|     | 59°F<br>(15.0°C)   | TC  | 17512 | 17535 | 17554 | 17555 | 17579 | 18567 | 18589 | 18607 | 18611 | 18633 | 19676 | 19702 | 19724 | 19727 | 19749 | 20862 | 20884 | 20907 | 20910 | 20937 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 0.84  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
|     | 68°F<br>(20.0°C)   | TC  | 17357 | 17380 | 17399 | 17399 | 17423 | 18403 | 18424 | 18443 | 18446 | 18468 | 19502 | 19527 | 19549 | 19553 | 19575 | 20677 | 20700 | 20722 | 20725 | 20751 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.99  | 0.99  | 0.99  | 1.04  | 1.04  | 1.05  | 1.05  | 1.05  |
|     | 77°F<br>(25.0°C)   | TC  | 17201 | 17225 | 17243 | 17244 | 17267 | 18238 | 18260 | 18278 | 18281 | 18303 | 19328 | 19353 | 19374 | 19378 | 19400 | 20492 | 20515 | 20537 | 20540 | 20566 |
|     |                    | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  |
|     | 82°F<br>(27.8°C)   | TC  | 17673 | 17696 | 17715 | 17716 | 17740 | 18738 | 18760 | 18778 | 18782 | 18804 | 19857 | 19883 | 19905 | 19909 | 19931 | 21054 | 21076 | 21099 | 21103 | 21129 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  | 1.15  | 1.15  | 1.15  | 1.15  | 1.15  | 1.21  | 1.22  | 1.22  | 1.22  | 1.22  | 1.29  | 1.29  | 1.29  | 1.29  | 1.29  |
|     | 86°F<br>(30.0°C)   | TC  | 18753 | 18778 | 18798 | 18799 | 18825 | 19883 | 19907 | 19926 | 19930 | 19954 | 21071 | 21098 | 21122 | 21126 | 21149 | 22340 | 22365 | 22389 | 22393 | 22420 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                    | PI  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.51  | 1.51  | 1.51  | 1.59  | 1.59  | 1.60  | 1.60  | 1.60  | 1.69  | 1.69  | 1.69  | 1.69  | 1.69  |
|     | 95°F<br>(35.0°C)   | TC  | 21183 | 21212 | 21235 | 21236 | 21264 | 22460 | 22487 | 22509 | 22513 | 22540 | 23802 | 23833 | 23859 | 23864 | 23890 | 25236 | 25263 | 25291 | 25295 | 25326 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                    | PI  | 2.18  | 2.18  | 2.18  | 2.18  | 2.18  | 2.31  | 2.31  | 2.31  | 2.31  | 2.31  | 2.44  | 2.45  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.60  | 2.60  | 2.60  |
|     | 104°F<br>(40.0°C)  | TC  | 19827 | 19854 | 19875 | 19876 | 19903 | 21022 | 21047 | 21068 | 21072 | 21097 | 22278 | 22307 | 22332 | 22336 | 22361 | 23620 | 23646 | 23672 | 23675 | 23705 |
|     |                    | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 2.17  | 2.18  | 2.18  | 2.18  | 2.18  | 2.30  | 2.31  | 2.31  | 2.31  | 2.31  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  |
|     | 110°F<br>(43.0°C)  | TC  | 19013 | 19039 | 19059 | 19060 | 19086 | 20159 | 20183 | 20203 | 20207 | 20231 | 21364 | 21391 | 21415 | 21419 | 21443 | 22651 | 22675 | 22700 | 22704 | 22732 |
|     |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 2.17  | 2.17  | 2.18  | 2.18  | 2.18  | 2.30  | 2.31  | 2.31  | 2.31  | 2.31  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  |
|     | 115°F<br>(46.0°C)  | TC  | 16190 | 16212 | 16229 | 16230 | 16252 | 17165 | 17186 | 17203 | 17206 | 17227 | 18191 | 18215 | 18235 | 18238 | 18259 | 19287 | 19308 | 19329 | 19332 | 19356 |
|     |                    | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                    | PI  | 1.96  | 1.96  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.08  | 2.08  | 2.09  | 2.20  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.34  |
|     | 122°F<br>(50.0°C)  | TC  | 12425 | 12442 | 12455 | 12456 | 12473 | 13174 | 13190 | 13203 | 13205 | 13221 | 13961 | 13979 | 13995 | 13997 | 14013 | 14802 | 14818 | 14834 | 14837 | 14855 |
|     |                    | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                    | PI  | 1.68  | 1.68  | 1.68  | 1.68  | 1.69  | 1.78  | 1.78  | 1.78  | 1.78  | 1.79  | 1.89  | 1.89  | 1.89  | 1.89  | 1.89  | 2.00  | 2.00  | 2.00  | 2.00  | 2.01  |
| 694 | -22°F<br>(-30.0°C) | TC  | 16455 | 16477 | 16495 | 16495 | 16518 | 17446 | 17467 | 17484 | 17488 | 17508 | 18489 | 18513 | 18533 | 18537 | 18557 | 19603 | 19624 | 19645 | 19648 | 19673 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 0.63  | 0.64  | 0.64  | 0.64  | 0.64  | 0.67  | 0.67  | 0.67  | 0.67  | 0.68  | 0.71  | 0.71  | 0.71  | 0.71  | 0.72  | 0.76  | 0.76  | 0.76  | 0.76  | 0.76  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | -13°F<br>(-25.0°C) | TC  | 17826 | 17850 | 17869 | 17870 | 17894 | 18900 | 18923 | 18941 | 18945 | 18968 | 20029 | 20055 | 20078 | 20081 | 20104 | 21236 | 21259 | 21282 | 21286 | 21312 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 0.69  | 0.69  | 0.69  | 0.69  | 0.69  | 0.73  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.78  | 0.82  | 0.82  | 0.82  | 0.82  | 0.82  |
|     | -4°F<br>(-20.0°C)  | TC  | 19197 | 19223 | 19244 | 19245 | 19270 | 20354 | 20378 | 20398 | 20402 | 20427 | 21570 | 21598 | 21622 | 21626 | 21650 | 22870 | 22895 | 22920 | 22923 | 22952 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.74  | 0.74  | 0.74  | 0.74  | 0.74  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.83  | 0.83  | 0.83  | 0.83  | 0.84  | 0.88  | 0.88  | 0.88  | 0.88  | 0.89  |
|     | 0°F<br>(-17.8°C)   | TC  | 19807 | 19833 | 19855 | 19855 | 19882 | 21000 | 21025 | 21046 | 21050 | 21075 | 22255 | 22284 | 22309 | 22313 | 22338 | 23596 | 23621 | 23647 | 23651 | 23680 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.76  | 0.76  | 0.77  | 0.77  | 0.77  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  |
|     | 5°F<br>(-15.0°C)   | TC  | 20568 | 20596 | 20618 | 20619 | 20647 | 21808 | 21834 | 21855 | 21860 | 21886 | 23111 | 23141 | 23167 | 23171 | 23197 | 24503 | 24530 | 24557 | 24560 | 24591 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 0.79  | 0.79  | 0.80  | 0.80  | 0.80  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
|     | 14°F<br>(-10.0°C)  | TC  | 20472 | 20500 | 20522 | 20523 | 20550 | 21706 | 21732 | 21753 | 21757 | 21783 | 23003 | 23033 | 23058 | 23063 | 23088 | 24389 | 24415 | 24442 | 24446 | 24476 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|     |                    | PI  | 0.90  | 0.90  | 0.90  | 0.90  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  | 1.07  | 1.08  | 1.08  | 1.08  | 1.08  |
|     | 17°F<br>(-8.3°C)   | TC  | 20440 | 20468 | 20490 | 20491 | 20518 | 21672 | 21698 | 21719 | 21723 | 21749 | 22967 | 22997 | 23022 | 23026 | 23052 | 24351 | 24377 | 24404 | 24407 | 24438 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 23°F<br>(-5.0°C)   | TC  | 20158 | 20185 | 20207 | 20208 | 20235 | 21373 | 21398 | 21419 | 21424 | 21449 | 22650 | 22679 | 22705 | 22709 | 22734 | 24015 | 24041 | 24067 | 24071 | 24101 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  | 1.04  | 1.04  | 1.04  | 1.04  | 1.04  | 1.10  | 1.10  | 1.10  | 1.11  | 1.11  | 1.17  | 1.17  | 1.17  | 1.17  | 1.17  |
|     | 35°F (1.7°C)       | TC  | 19594 | 19621 | 19642 | 19643 | 19669 | 20775 | 20800 | 20820 | 20824 | 20849 | 22016 | 22045 | 22069 | 22074 | 22098 | 23343 | 23368 | 23394 | 23397 | 23426 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|     |                    | PI  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.14  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.28  |
|     | 41°F (5.0°C)       | TC  | 19132 | 19157 | 19178 | 19179 | 19205 | 20285 | 20309 | 20329 | 20333 | 20357 | 21497 | 21525 | 21549 | 21553 | 21577 | 22792 | 22817 | 22841 | 22845 | 22873 |
|     |                    | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.02  | 1.02  | 1.02  | 1.02  | 1.07  | 1.08  | 1.08  | 1.08  | 1.08  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  |
|     | 47°F (8.3°C)       | TC  | 18669 | 18694 | 18714 | 18715 | 18741 | 19794 | 19818 | 19837 | 19841 | 19865 | 20977 | 21004 | 21028 | 21032 | 21055 | 22241 | 22265 | 22289 | 22293 | 22320 |
|     |                    | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
|     | 50°F<br>(10.0°C)   | TC  | 18615 | 18640 | 18660 | 18661 | 18686 | 19737 | 19760 | 19779 | 19783 | 19807 | 20916 | 20943 | 20966 | 20970 | 20994 | 22176 | 22200 | 22224 | 22228 | 22255 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.97  | 0.97  | 0.97  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  |
|     | 59°F<br>(15.0°C)   | TC  | 18451 | 18476 | 18496 | 18497 | 18522 | 19563 | 19586 | 19606 | 19610 | 19633 | 20732 | 20759 | 20782 | 20786 | 20809 | 21981 | 22005 | 22029 | 22033 | 22060 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 4 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 629 | 68°F<br>(20.0°C)   | TC  | 18288 | 18313 | 18332 | 18333 | 18358 | 19390 | 19413 | 19432 | 19436 | 19459 | 20549 | 20575 | 20598 | 20602 | 20625 | 21787 | 21810 | 21834 | 21837 | 21865 |
|     |                    | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                    | PI  | 0.92  | 0.92  | 0.92  | 0.92  | 0.93  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  | 1.04  | 1.04  | 1.04  | 1.04  | 1.04  | 1.10  | 1.10  | 1.10  | 1.10  | 1.10  |
|     | 77°F<br>(25.0°C)   | TC  | 18125 | 18149 | 18168 | 18169 | 18194 | 19217 | 19240 | 19259 | 19262 | 19285 | 20365 | 20391 | 20414 | 20418 | 20441 | 21592 | 21615 | 21639 | 21642 | 21669 |
|     |                    | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|     |                    | PI  | 0.95  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.07  | 1.07  | 1.08  | 1.08  | 1.08  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  |
|     | 82°F<br>(27.8°C)   | TC  | 18621 | 18646 | 18666 | 18667 | 18692 | 19743 | 19767 | 19786 | 19790 | 19813 | 20923 | 20950 | 20973 | 20977 | 21001 | 22183 | 22207 | 22232 | 22235 | 22263 |
|     |                    | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                    | PI  | 1.14  | 1.14  | 1.14  | 1.14  | 1.14  | 1.21  | 1.21  | 1.21  | 1.21  | 1.21  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  | 1.36  | 1.36  | 1.36  | 1.36  | 1.36  |
|     | 86°F<br>(30.0°C)   | TC  | 19759 | 19786 | 19807 | 19808 | 19835 | 20950 | 20975 | 20996 | 21000 | 21025 | 22202 | 22230 | 22255 | 22259 | 22284 | 23539 | 23565 | 23591 | 23594 | 23624 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 1.49  | 1.50  | 1.50  | 1.50  | 1.50  | 1.58  | 1.59  | 1.59  | 1.59  | 1.59  | 1.68  | 1.68  | 1.68  | 1.68  | 1.68  | 1.78  | 1.78  | 1.78  | 1.78  | 1.79  |
|     | 95°F<br>(35.0°C)   | TC  | 22320 | 22350 | 22374 | 22375 | 22405 | 23665 | 23693 | 23717 | 23721 | 23750 | 25079 | 25112 | 25140 | 25144 | 25172 | 26590 | 26619 | 26648 | 26652 | 26685 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.44  | 2.44  | 2.44  | 2.58  | 2.58  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.74  | 2.74  | 2.74  |
|     | 104°F<br>(40.0°C)  | TC  | 20891 | 20919 | 20942 | 20943 | 20971 | 22150 | 22176 | 22198 | 22203 | 22229 | 23473 | 23504 | 23530 | 23534 | 23561 | 24888 | 24915 | 24942 | 24946 | 24977 |
|     |                    | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                    | PI  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.44  | 2.57  | 2.58  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  |
|     | 110°F<br>(43.0°C)  | TC  | 20034 | 20061 | 20082 | 20083 | 20110 | 21241 | 21266 | 21287 | 21291 | 21317 | 22510 | 22539 | 22564 | 22568 | 22594 | 23866 | 23892 | 23918 | 23922 | 23952 |
|     |                    | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.93  |
|     |                    | PI  | 2.29  | 2.29  | 2.29  | 2.29  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  |
|     | 115°F<br>(46.0°C)  | TC  | 17059 | 17082 | 17100 | 17101 | 17124 | 18087 | 18108 | 18126 | 18130 | 18151 | 19167 | 19192 | 19213 | 19217 | 19238 | 20322 | 20344 | 20366 | 20369 | 20395 |
|     |                    | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  |
|     |                    | PI  | 2.07  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.19  | 2.20  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  | 2.46  | 2.46  | 2.47  | 2.47  | 2.47  |
|     | 122°F<br>(50.0°C)  | TC  | 13092 | 13110 | 13124 | 13124 | 13142 | 13881 | 13897 | 13911 | 13914 | 13930 | 14710 | 14729 | 14746 | 14748 | 14765 | 15597 | 15614 | 15631 | 15633 | 15652 |
|     |                    | S/T | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  |
|     |                    | PI  | 1.77  | 1.77  | 1.77  | 1.77  | 1.78  | 1.88  | 1.88  | 1.88  | 1.88  | 1.88  | 1.99  | 1.99  | 1.99  | 1.99  | 2.00  | 2.11  | 2.11  | 2.11  | 2.11  | 2.11  |
| 759 | -22°F<br>(-30.0°C) | TC  | 17338 | 17361 | 17380 | 17380 | 17404 | 18383 | 18404 | 18422 | 18426 | 18448 | 19481 | 19506 | 19528 | 19531 | 19553 | 20655 | 20677 | 20700 | 20703 | 20729 |
|     |                    | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.71  | 0.71  | 0.71  | 0.71  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.80  | 0.80  | 0.80  | 0.80  | 0.80  |
|     | -13°F<br>(-25.0°C) | TC  | 18782 | 18808 | 18828 | 18829 | 18854 | 19914 | 19938 | 19958 | 19962 | 19985 | 21104 | 21132 | 21155 | 21159 | 21183 | 22376 | 22400 | 22424 | 22428 | 22456 |
|     |                    | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|     |                    | PI  | 0.72  | 0.73  | 0.73  | 0.73  | 0.73  | 0.77  | 0.77  | 0.77  | 0.77  | 0.77  | 0.81  | 0.82  | 0.82  | 0.82  | 0.82  | 0.86  | 0.86  | 0.86  | 0.87  | 0.87  |
|     | -4°F<br>(-20.0°C)  | TC  | 20227 | 20255 | 20276 | 20277 | 20305 | 21446 | 21472 | 21493 | 21497 | 21523 | 22728 | 22757 | 22782 | 22787 | 22812 | 24097 | 24123 | 24149 | 24153 | 24183 |
|     |                    | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                    | PI  | 0.78  | 0.78  | 0.78  | 0.78  | 0.78  | 0.83  | 0.83  | 0.83  | 0.83  | 0.83  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 759 | 0°F<br>(-17.8°C)  | TC  | 20869 | 20898 | 20920 | 20921 | 20949 | 22127 | 22153 | 22175 | 22180 | 22206 | 23449 | 23480 | 23506 | 23510 | 23536 | 24862 | 24889 | 24916 | 24920 | 24951 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 0.80  | 0.81  | 0.81  | 0.81  | 0.81  | 0.85  | 0.85  | 0.86  | 0.86  | 0.86  | 0.90  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  |
|     | 5°F<br>(-15.0°C)  | TC  | 21672 | 21701 | 21725 | 21726 | 21755 | 22978 | 23005 | 23028 | 23033 | 23060 | 24351 | 24383 | 24410 | 24414 | 24442 | 25818 | 25846 | 25874 | 25878 | 25911 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
|     | 14°F<br>(-10.0°C) | TC  | 21571 | 21600 | 21623 | 21624 | 21653 | 22871 | 22898 | 22920 | 22925 | 22952 | 24237 | 24269 | 24296 | 24300 | 24327 | 25697 | 25725 | 25753 | 25757 | 25789 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                   | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.14  |
|     | 17°F<br>(-8.3°C)  | TC  | 21537 | 21566 | 21589 | 21590 | 21619 | 22835 | 22862 | 22885 | 22889 | 22916 | 24199 | 24231 | 24258 | 24262 | 24289 | 25657 | 25685 | 25713 | 25717 | 25749 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  |
|     | 23°F<br>(-5.0°C)  | TC  | 21240 | 21268 | 21291 | 21292 | 21321 | 22520 | 22547 | 22569 | 22573 | 22600 | 23865 | 23896 | 23923 | 23927 | 23954 | 25303 | 25331 | 25358 | 25362 | 25394 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.03  | 1.04  | 1.04  | 1.04  | 1.04  | 1.10  | 1.10  | 1.10  | 1.10  | 1.10  | 1.16  | 1.16  | 1.16  | 1.16  | 1.17  | 1.23  | 1.23  | 1.23  | 1.23  | 1.24  |
|     | 35°F (1.7°C)      | TC  | 20646 | 20673 | 20696 | 20697 | 20725 | 21890 | 21916 | 21937 | 21942 | 21968 | 23198 | 23228 | 23254 | 23258 | 23284 | 24595 | 24622 | 24649 | 24653 | 24684 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 1.12  | 1.13  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.20  | 1.26  | 1.26  | 1.27  | 1.27  | 1.27  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  |
|     | 41°F (5.0°C)      | TC  | 20158 | 20186 | 20207 | 20208 | 20235 | 21373 | 21399 | 21420 | 21424 | 21449 | 22650 | 22680 | 22705 | 22709 | 22734 | 24015 | 24041 | 24067 | 24071 | 24101 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.14  | 1.14  | 1.14  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  |
|     | 47°F (8.3°C)      | TC  | 19671 | 19698 | 19719 | 19720 | 19746 | 20857 | 20881 | 20902 | 20906 | 20931 | 22103 | 22131 | 22156 | 22160 | 22185 | 23434 | 23460 | 23485 | 23489 | 23518 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.59  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                   | PI  | 0.89  | 0.89  | 0.89  | 0.89  | 0.89  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.06  | 1.06  | 1.06  | 1.06  | 1.07  |
|     | 50°F<br>(10.0°C)  | TC  | 19614 | 19640 | 19661 | 19662 | 19689 | 20796 | 20820 | 20841 | 20845 | 20870 | 22038 | 22067 | 22091 | 22095 | 22120 | 23366 | 23391 | 23417 | 23420 | 23450 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                   | PI  | 0.90  | 0.90  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 1.01  | 1.02  | 1.02  | 1.02  | 1.02  | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  |
|     | 59°F<br>(15.0°C)  | TC  | 19441 | 19468 | 19489 | 19489 | 19516 | 20613 | 20638 | 20658 | 20662 | 20687 | 21845 | 21873 | 21897 | 21901 | 21926 | 23161 | 23186 | 23211 | 23215 | 23244 |
|     |                   | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                   | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.05  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 68°F<br>(20.0°C)  | TC  | 19269 | 19295 | 19316 | 19317 | 19343 | 20431 | 20455 | 20475 | 20479 | 20503 | 21651 | 21679 | 21703 | 21707 | 21732 | 22956 | 22981 | 23006 | 23009 | 23038 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 0.97  | 0.97  | 0.97  | 0.97  | 0.98  | 1.03  | 1.03  | 1.03  | 1.03  | 1.03  | 1.09  | 1.09  | 1.09  | 1.09  | 1.10  | 1.16  | 1.16  | 1.16  | 1.16  | 1.16  |
|     | 77°F<br>(25.0°C)  | TC  | 19097 | 19123 | 19143 | 19144 | 19170 | 20248 | 20272 | 20292 | 20296 | 20320 | 21458 | 21486 | 21510 | 21514 | 21538 | 22751 | 22775 | 22800 | 22804 | 22832 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 6 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 759 | 82°F<br>(27.8°C)   | TC  | 19620 | 19647 | 19668 | 19669 | 19695 | 20803 | 20827 | 20848 | 20852 | 20877 | 22045 | 22074 | 22099 | 22103 | 22127 | 23374 | 23399 | 23425 | 23428 | 23457 |
|     |                    | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.60  | 0.70  | 0.79  | 0.79  | 0.91  |
|     |                    | PI  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.28  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  |
|     | 86°F<br>(30.0°C)   | TC  | 20819 | 20847 | 20870 | 20871 | 20899 | 22074 | 22100 | 22122 | 22127 | 22153 | 23393 | 23423 | 23449 | 23454 | 23480 | 24802 | 24829 | 24856 | 24860 | 24891 |
|     |                    | S/T | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                    | PI  | 1.57  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.87  | 1.88  | 1.88  | 1.88  | 1.88  |
|     | 95°F<br>(35.0°C)   | TC  | 23518 | 23550 | 23575 | 23576 | 23608 | 24935 | 24965 | 24989 | 24994 | 25024 | 26425 | 26459 | 26489 | 26494 | 26523 | 28017 | 28048 | 28078 | 28082 | 28117 |
|     |                    | S/T | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                    | PI  | 2.41  | 2.42  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  | 2.71  | 2.72  | 2.72  | 2.72  | 2.72  | 2.88  | 2.88  | 2.88  | 2.88  | 2.89  |
|     | 104°F<br>(40.0°C)  | TC  | 22012 | 22042 | 22065 | 22066 | 22096 | 23339 | 23366 | 23389 | 23394 | 23422 | 24733 | 24765 | 24793 | 24797 | 24825 | 26223 | 26252 | 26280 | 26284 | 26317 |
|     |                    | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.68  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.82  | 0.83  | 0.94  |
|     |                    | PI  | 2.41  | 2.42  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.57  | 2.71  | 2.71  | 2.72  | 2.72  | 2.72  | 2.87  | 2.88  | 2.88  | 2.88  | 2.88  |
|     | 110°F<br>(43.0°C)  | TC  | 21109 | 21137 | 21160 | 21161 | 21189 | 22381 | 22407 | 22429 | 22434 | 22460 | 23718 | 23749 | 23775 | 23780 | 23806 | 25147 | 25174 | 25202 | 25206 | 25237 |
|     |                    | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.64  | 0.75  | 0.86  | 0.86  | 0.97  |
|     |                    | PI  | 2.41  | 2.41  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.57  | 2.71  | 2.71  | 2.72  | 2.72  | 2.72  | 2.87  | 2.88  | 2.88  | 2.88  | 2.88  |
|     | 115°F<br>(46.0°C)  | TC  | 17974 | 17998 | 18018 | 18018 | 18043 | 19057 | 19080 | 19099 | 19102 | 19125 | 20196 | 20222 | 20244 | 20248 | 20271 | 21413 | 21436 | 21459 | 21463 | 21489 |
|     |                    | S/T | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                    | PI  | 2.18  | 2.18  | 2.18  | 2.18  | 2.18  | 2.31  | 2.31  | 2.31  | 2.31  | 2.32  | 2.45  | 2.45  | 2.45  | 2.45  | 2.45  | 2.59  | 2.60  | 2.60  | 2.60  | 2.60  |
|     | 122°F<br>(50.0°C)  | TC  | 13794 | 13813 | 13828 | 13829 | 13847 | 14626 | 14643 | 14658 | 14660 | 14678 | 15500 | 15520 | 15537 | 15540 | 15557 | 16433 | 16451 | 16469 | 16472 | 16492 |
|     |                    | S/T | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.73  | 0.84  | 0.84  | 0.95  | 0.66  | 0.78  | 0.89  | 0.89  | 1.00  |
|     |                    | PI  | 1.86  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.98  | 2.09  | 2.10  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.23  | 2.23  | 2.23  |
| 824 | -22°F<br>(-30.0°C) | TC  | 18268 | 18293 | 18312 | 18313 | 18338 | 19369 | 19392 | 19411 | 19415 | 19438 | 20526 | 20553 | 20576 | 20580 | 20603 | 21763 | 21787 | 21810 | 21814 | 21841 |
|     |                    | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                    | PI  | 0.70  | 0.71  | 0.71  | 0.71  | 0.71  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.79  | 0.79  | 0.79  | 0.79  | 0.79  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  |
|     | -13°F<br>(-25.0°C) | TC  | 19790 | 19817 | 19838 | 19839 | 19866 | 20983 | 21008 | 21029 | 21033 | 21058 | 22237 | 22266 | 22290 | 22295 | 22319 | 23576 | 23602 | 23628 | 23631 | 23661 |
|     |                    | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                    | PI  | 0.76  | 0.76  | 0.77  | 0.77  | 0.77  | 0.81  | 0.81  | 0.81  | 0.81  | 0.81  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  |
|     | -4°F<br>(-20.0°C)  | TC  | 21313 | 21341 | 21364 | 21365 | 21394 | 22597 | 22624 | 22646 | 22651 | 22678 | 23947 | 23978 | 24005 | 24009 | 24036 | 25390 | 25418 | 25445 | 25449 | 25481 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                    | PI  | 0.82  | 0.82  | 0.82  | 0.82  | 0.83  | 0.87  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  |
|     | 0°F<br>(-17.8°C)   | TC  | 21989 | 22019 | 22043 | 22044 | 22073 | 23315 | 23342 | 23365 | 23370 | 23398 | 24707 | 24740 | 24767 | 24772 | 24799 | 26196 | 26225 | 26253 | 26257 | 26290 |
|     |                    | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.85  | 0.85  | 0.85  | 0.85  | 0.85  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.95  | 0.95  | 0.96  | 0.96  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
|     | 5°F<br>(-15.0°C)   | TC  | 22835 | 22866 | 22890 | 22891 | 22922 | 24211 | 24240 | 24264 | 24269 | 24297 | 25658 | 25691 | 25720 | 25724 | 25753 | 27204 | 27233 | 27263 | 27267 | 27301 |
|     |                    | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                    | PI  | 0.88  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.94  | 0.94  | 0.94  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 7 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 824 | 14°F<br>(-10.0°C) | TC  | 22728 | 22759 | 22783 | 22784 | 22815 | 24098 | 24127 | 24150 | 24155 | 24184 | 25538 | 25571 | 25599 | 25604 | 25633 | 27076 | 27106 | 27135 | 27140 | 27173 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.06  | 1.06  | 1.06  | 1.06  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.20  | 1.20  | 1.20  |
|     | 17°F<br>(-8.3°C)  | TC  | 22693 | 22723 | 22748 | 22749 | 22779 | 24060 | 24089 | 24113 | 24117 | 24146 | 25498 | 25531 | 25559 | 25564 | 25593 | 27034 | 27063 | 27093 | 27097 | 27131 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                   | PI  | 1.04  | 1.04  | 1.04  | 1.04  | 1.05  | 1.10  | 1.11  | 1.11  | 1.11  | 1.11  | 1.17  | 1.17  | 1.17  | 1.17  | 1.17  | 1.24  | 1.24  | 1.24  | 1.24  | 1.25  |
|     | 23°F<br>(-5.0°C)  | TC  | 22380 | 22410 | 22434 | 22435 | 22465 | 23728 | 23756 | 23780 | 23785 | 23813 | 25146 | 25179 | 25207 | 25211 | 25240 | 26661 | 26690 | 26719 | 26723 | 26757 |
|     |                   | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  | 1.15  | 1.16  | 1.16  | 1.16  | 1.16  | 1.22  | 1.23  | 1.23  | 1.23  | 1.23  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  |
|     | 35°F (1.7°C)      | TC  | 21754 | 21783 | 21806 | 21807 | 21837 | 23065 | 23092 | 23115 | 23119 | 23147 | 24443 | 24474 | 24502 | 24506 | 24533 | 25915 | 25943 | 25972 | 25976 | 26008 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.18  | 1.19  | 1.19  | 1.19  | 1.19  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.33  | 1.33  | 1.33  | 1.33  | 1.34  | 1.41  | 1.41  | 1.41  | 1.41  | 1.42  |
|     | 41°F (5.0°C)      | TC  | 21240 | 21269 | 21292 | 21293 | 21321 | 22520 | 22547 | 22569 | 22574 | 22600 | 23866 | 23897 | 23923 | 23928 | 23954 | 25304 | 25331 | 25359 | 25363 | 25394 |
|     |                   | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                   | PI  | 1.06  | 1.06  | 1.06  | 1.06  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.27  |
|     | 47°F (8.3°C)      | TC  | 20727 | 20755 | 20777 | 20778 | 20806 | 21976 | 22002 | 22023 | 22028 | 22054 | 23289 | 23319 | 23345 | 23349 | 23375 | 24692 | 24719 | 24746 | 24749 | 24780 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 50°F<br>(10.0°C)  | TC  | 20666 | 20694 | 20716 | 20717 | 20745 | 21912 | 21938 | 21959 | 21964 | 21990 | 23221 | 23251 | 23277 | 23281 | 23307 | 24620 | 24647 | 24673 | 24677 | 24708 |
|     |                   | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                   | PI  | 0.95  | 0.95  | 0.95  | 0.95  | 0.96  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.14  | 1.14  | 1.14  |
|     | 59°F<br>(15.0°C)  | TC  | 20485 | 20512 | 20534 | 20535 | 20563 | 21719 | 21745 | 21766 | 21771 | 21797 | 23017 | 23047 | 23072 | 23077 | 23102 | 24404 | 24430 | 24457 | 24461 | 24491 |
|     |                   | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                   | PI  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  |
|     | 68°F<br>(20.0°C)  | TC  | 20303 | 20331 | 20353 | 20353 | 20381 | 21527 | 21552 | 21574 | 21578 | 21604 | 22813 | 22843 | 22868 | 22872 | 22898 | 24188 | 24214 | 24240 | 24244 | 24274 |
|     |                   | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                   | PI  | 1.02  | 1.03  | 1.03  | 1.03  | 1.03  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  | 1.15  | 1.15  | 1.15  | 1.15  | 1.15  | 1.22  | 1.22  | 1.22  | 1.22  | 1.22  |
|     | 77°F<br>(25.0°C)  | TC  | 20122 | 20149 | 20171 | 20172 | 20199 | 21335 | 21360 | 21381 | 21385 | 21410 | 22609 | 22639 | 22664 | 22668 | 22693 | 23971 | 23997 | 24024 | 24027 | 24057 |
|     |                   | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                   | PI  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.13  | 1.13  | 1.13  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.20  | 1.26  | 1.26  | 1.27  | 1.27  | 1.27  |
|     | 82°F<br>(27.8°C)  | TC  | 20673 | 20701 | 20723 | 20724 | 20752 | 21919 | 21945 | 21967 | 21971 | 21997 | 23228 | 23259 | 23285 | 23289 | 23315 | 24628 | 24655 | 24682 | 24685 | 24716 |
|     |                   | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                   | PI  | 1.26  | 1.27  | 1.27  | 1.27  | 1.27  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.43  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |
|     | 86°F<br>(30.0°C)  | TC  | 21937 | 21966 | 21990 | 21991 | 22021 | 23259 | 23286 | 23309 | 23314 | 23342 | 24648 | 24680 | 24708 | 24712 | 24740 | 26133 | 26162 | 26190 | 26194 | 26227 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 1.66  | 1.66  | 1.66  | 1.66  | 1.66  | 1.76  | 1.76  | 1.76  | 1.76  | 1.76  | 1.86  | 1.87  | 1.87  | 1.87  | 1.87  | 1.97  | 1.98  | 1.98  | 1.98  | 1.98  |

Table 20: Cooling Performance - 24K 37MUHA + 45MUAA (Sheet 8 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 824 | 95°F<br>(35.0°C)  | TC  | 24780 | 24813 | 24840 | 24841 | 24875 | 26273 | 26304 | 26330 | 26336 | 26367 | 27843 | 27879 | 27910 | 27915 | 27947 | 29521 | 29553 | 29585 | 29589 | 29626 |
|     |                   | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                   | PI  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.70  | 2.70  | 2.70  | 2.70  | 2.71  | 2.86  | 2.86  | 2.87  | 2.87  | 2.87  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  |
|     | 104°F<br>(40.0°C) | TC  | 23193 | 23224 | 23249 | 23251 | 23282 | 24591 | 24620 | 24644 | 24649 | 24679 | 26060 | 26094 | 26123 | 26128 | 26157 | 27630 | 27660 | 27691 | 27695 | 27729 |
|     |                   | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                   | PI  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.86  | 2.86  | 2.86  | 2.86  | 2.87  | 3.03  | 3.03  | 3.03  | 3.04  | 3.04  |
|     | 110°F<br>(43.0°C) | TC  | 22241 | 22271 | 22295 | 22296 | 22326 | 23582 | 23610 | 23633 | 23638 | 23666 | 24991 | 25023 | 25051 | 25056 | 25084 | 26496 | 26525 | 26554 | 26558 | 26591 |
|     |                   | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                   | PI  | 2.54  | 2.54  | 2.55  | 2.55  | 2.55  | 2.69  | 2.70  | 2.70  | 2.70  | 2.70  | 2.85  | 2.86  | 2.86  | 2.86  | 2.86  | 3.03  | 3.03  | 3.03  | 3.03  | 3.04  |
|     | 115°F<br>(46.0°C) | TC  | 18938 | 18964 | 18984 | 18985 | 19011 | 20080 | 20104 | 20123 | 20127 | 20151 | 21279 | 21307 | 21331 | 21335 | 21359 | 22562 | 22586 | 22611 | 22614 | 22642 |
|     |                   | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                   | PI  | 2.29  | 2.30  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.44  | 2.44  | 2.44  | 2.58  | 2.58  | 2.58  | 2.58  | 2.59  | 2.73  | 2.73  | 2.74  | 2.74  | 2.74  |
|     | 122°F<br>(50.0°C) | TC  | 14535 | 14554 | 14570 | 14571 | 14590 | 15411 | 15429 | 15444 | 15447 | 15466 | 16331 | 16353 | 16371 | 16374 | 16392 | 17315 | 17334 | 17353 | 17356 | 17377 |
|     |                   | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                   | PI  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.35  | 2.35  |

# Heating Performance - 24K 37MUHA + 45MUAA

**Table 21: Heating Performance - 24K 37MUHA + 45MUAA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|--------------------------|----------------------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  |                          | TC: TOTAL HEATING CAPACITY (BTU/HR)                |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                          | INDOOR CONDITIONS DB °F (°C)                       |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                          | 60.8°F<br>(16.0°C)                                 | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)          | 10199                                              | 9995             | 9945             | 10152              | 10061              | 2.38                 | 2.40             | 2.41             | 2.41               | 2.42               |
|                  | -13°F (-25.0°C)          | 12680                                              | 12426            | 12364            | 12136              | 12027              | 2.55                 | 2.57             | 2.57             | 2.58               | 2.59               |
|                  | -4°F (-20.0°C)           | 15175                                              | 14871            | 14797            | 14524              | 14393              | 2.57                 | 2.59             | 2.60             | 2.60               | 2.61               |
|                  | 0°F (-17.8°C)            | 17350                                              | 17003            | 16918            | 16606              | 16456              | 2.84                 | 2.86             | 2.87             | 2.87               | 2.89               |
|                  | 5°F (-15.0°C)            | 20068                                              | 19667            | 19569            | 19208              | 19035              | 3.18                 | 3.20             | 3.21             | 3.21               | 3.23               |
|                  | 14°F (-10.0°C)           | 21459                                              | 21030            | 20925            | 20539              | 20355              | 3.18                 | 3.21             | 3.21             | 3.22               | 3.23               |
|                  | 17°F (-8.3°C)            | 21923                                              | 21485            | 21377            | 20983              | 20794              | 3.18                 | 3.21             | 3.21             | 3.22               | 3.23               |
|                  | 22°F (-5.6°C)            | 21863                                              | 21426            | 21319            | 20926              | 20738              | 2.99                 | 3.02             | 3.02             | 3.03               | 3.04               |
|                  | 27°F (-2.8°C)            | 21803                                              | 21367            | 21261            | 20869              | 20681              | 2.80                 | 2.82             | 2.83             | 2.84               | 2.85               |
|                  | 32°F (-0.0°C)            | 21744                                              | 21309            | 21202            | 20811              | 20624              | 2.61                 | 2.63             | 2.64             | 2.64               | 2.65               |
|                  | 35°F (1.7°C)             | 21708                                              | 21274            | 21167            | 20777              | 20590              | 2.50                 | 2.52             | 2.52             | 2.53               | 2.54               |
|                  | 37°F (2.8°C)             | 22552                                              | 22101            | 21991            | 21585              | 21391              | 2.52                 | 2.54             | 2.54             | 2.55               | 2.56               |
|                  | 42°F (5.6°C)             | 24664                                              | 24170            | 24049            | 23606              | 23394              | 2.57                 | 2.59             | 2.60             | 2.60               | 2.61               |
|                  | 44.6°F (7.0°C)           | 25508                                              | 24998            | 24873            | 24415              | 24195              | 2.59                 | 2.61             | 2.62             | 2.62               | 2.63               |
|                  | 47°F (8.3°C)             | 26775                                              | 26239            | 26108            | 25627              | 25396              | 2.62                 | 2.64             | 2.65             | 2.65               | 2.66               |
|                  | 52°F (11.1°C)            | 24859                                              | 24362            | 24240            | 23793              | 23579              | 2.52                 | 2.54             | 2.54             | 2.55               | 2.56               |
|                  | 57°F (13.9°C)            | 22943                                              | 22484            | 22371            | 21959              | 21761              | 2.41                 | 2.43             | 2.44             | 2.44               | 2.45               |
|                  | 59°F (15.0°C)            | 22176                                              | 21733            | 21624            | 21225              | 21034              | 2.37                 | 2.39             | 2.39             | 2.40               | 2.41               |
|                  | 62°F (16.7°C)            | 21026                                              | 20606            | 20503            | 20125              | 19944              | 2.31                 | 2.33             | 2.33             | 2.34               | 2.35               |
|                  | 64.4°F (18.0°C)          | 20260                                              | 19855            | 19755            | 19391              | 19217              | 2.27                 | 2.29             | 2.29             | 2.29               | 2.30               |
| 530              | -22°F (-30.0°C)          | 10959                                              | 10740            | 10686            | 10775              | 10678              | 2.41                 | 2.43             | 2.43             | 2.44               | 2.45               |
|                  | -13°F (-25.0°C)          | 13360                                              | 13093            | 13028            | 12881              | 12765              | 2.57                 | 2.59             | 2.60             | 2.60               | 2.61               |
|                  | -4°F (-20.0°C)           | 15989                                              | 15669            | 15591            | 15416              | 15277              | 2.60                 | 2.62             | 2.62             | 2.63               | 2.64               |
|                  | 0°F (-17.8°C)            | 18281                                              | 17915            | 17826            | 17625              | 17467              | 2.87                 | 2.89             | 2.90             | 2.90               | 2.91               |
|                  | 5°F (-15.0°C)            | 21145                                              | 20722            | 20619            | 20387              | 20204              | 3.21                 | 3.23             | 3.24             | 3.25               | 3.26               |
|                  | 14°F (-10.0°C)           | 22611                                              | 22159            | 22048            | 21800              | 21604              | 3.21                 | 3.24             | 3.24             | 3.25               | 3.26               |
|                  | 17°F (-8.3°C)            | 23099                                              | 22637            | 22524            | 22271              | 22071              | 3.21                 | 3.24             | 3.25             | 3.25               | 3.26               |
|                  | 22°F (-5.6°C)            | 23036                                              | 22576            | 22463            | 22210              | 22010              | 3.02                 | 3.05             | 3.05             | 3.06               | 3.07               |
|                  | 27°F (-2.8°C)            | 22973                                              | 22514            | 22401            | 22150              | 21950              | 2.83                 | 2.85             | 2.86             | 2.86               | 2.88               |
|                  | 32°F (-0.0°C)            | 22910                                              | 22452            | 22340            | 22089              | 21890              | 2.64                 | 2.66             | 2.67             | 2.67               | 2.68               |
|                  | 35°F (1.7°C)             | 22873                                              | 22415            | 22303            | 22052              | 21854              | 2.52                 | 2.54             | 2.55             | 2.55               | 2.56               |
|                  | 37°F (2.8°C)             | 23762                                              | 23287            | 23171            | 22910              | 22704              | 2.54                 | 2.56             | 2.57             | 2.57               | 2.59               |
|                  | 42°F (5.6°C)             | 25987                                              | 25467            | 25340            | 25055              | 24830              | 2.60                 | 2.62             | 2.62             | 2.63               | 2.64               |
|                  | 44.6°F (7.0°C)           | 26877                                              | 26339            | 26208            | 25913              | 25680              | 2.62                 | 2.64             | 2.64             | 2.65               | 2.66               |
|                  | 47°F (8.3°C)             | 28212                                              | 27647            | 27509            | 27200              | 26955              | 2.65                 | 2.67             | 2.67             | 2.68               | 2.69               |
|                  | 52°F (11.1°C)            | 26193                                              | 25669            | 25540            | 25253              | 25026              | 2.54                 | 2.56             | 2.57             | 2.57               | 2.58               |
|                  | 57°F (13.9°C)            | 24174                                              | 23690            | 23572            | 23307              | 23097              | 2.44                 | 2.46             | 2.46             | 2.47               | 2.48               |
|                  | 59°F (15.0°C)            | 23366                                              | 22899            | 22784            | 22528              | 22325              | 2.39                 | 2.41             | 2.42             | 2.42               | 2.43               |
|                  | 62°F (16.7°C)            | 22155                                              | 21712            | 21603            | 21360              | 21168              | 2.33                 | 2.35             | 2.36             | 2.36               | 2.37               |
|                  | 64.4°F (18.0°C)          | 21347                                              | 20920            | 20816            | 20582              | 20396              | 2.29                 | 2.31             | 2.31             | 2.32               | 2.33               |

**Table 21: Heating Performance - 24K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 11776 | 11540 | 11483 | 11437 | 11334 | 2.43 | 2.45 | 2.46 | 2.46 | 2.47 |
|            | -13°F (-25.0°C) | 14077 | 13796 | 13727 | 13672 | 13549 | 2.60 | 2.62 | 2.62 | 2.63 | 2.64 |
|            | -4°F (-20.0°C)  | 16847 | 16510 | 16428 | 16362 | 16215 | 2.62 | 2.64 | 2.65 | 2.65 | 2.67 |
|            | 0°F (-17.8°C)   | 19262 | 18876 | 18782 | 18707 | 18539 | 2.90 | 2.92 | 2.93 | 2.93 | 2.94 |
|            | 5°F (-15.0°C)   | 22280 | 21834 | 21725 | 21638 | 21444 | 3.24 | 3.27 | 3.27 | 3.28 | 3.29 |
|            | 14°F (-10.0°C)  | 23824 | 23348 | 23231 | 23138 | 22930 | 3.24 | 3.27 | 3.28 | 3.28 | 3.30 |
|            | 17°F (-8.3°C)   | 24339 | 23852 | 23733 | 23638 | 23425 | 3.25 | 3.27 | 3.28 | 3.28 | 3.30 |
|            | 22°F (-5.6°C)   | 24273 | 23787 | 23668 | 23574 | 23361 | 3.05 | 3.08 | 3.08 | 3.09 | 3.10 |
|            | 27°F (-2.8°C)   | 24206 | 23722 | 23603 | 23509 | 23297 | 2.86 | 2.88 | 2.89 | 2.89 | 2.90 |
|            | 32°F (-0.0°C)   | 24140 | 23657 | 23539 | 23445 | 23234 | 2.67 | 2.69 | 2.69 | 2.70 | 2.71 |
|            | 35°F (1.7°C)    | 24100 | 23618 | 23500 | 23406 | 23195 | 2.55 | 2.57 | 2.57 | 2.58 | 2.59 |
|            | 37°F (2.8°C)    | 25038 | 24537 | 24414 | 24316 | 24098 | 2.57 | 2.59 | 2.60 | 2.60 | 2.61 |
|            | 42°F (5.6°C)    | 27382 | 26834 | 26700 | 26593 | 26354 | 2.62 | 2.64 | 2.65 | 2.65 | 2.66 |
|            | 44.6°F (7.0°C)  | 28319 | 27753 | 27614 | 27504 | 27256 | 2.64 | 2.66 | 2.67 | 2.67 | 2.68 |
|            | 47°F (8.3°C)    | 29726 | 29131 | 28985 | 28869 | 28610 | 2.67 | 2.69 | 2.70 | 2.71 | 2.72 |
|            | 52°F (11.1°C)   | 27598 | 27046 | 26911 | 26803 | 26562 | 2.57 | 2.59 | 2.59 | 2.60 | 2.61 |
|            | 57°F (13.9°C)   | 25471 | 24961 | 24837 | 24737 | 24515 | 2.46 | 2.48 | 2.49 | 2.49 | 2.50 |
|            | 59°F (15.0°C)   | 24620 | 24128 | 24007 | 23911 | 23696 | 2.42 | 2.44 | 2.44 | 2.45 | 2.46 |
|            | 62°F (16.7°C)   | 23344 | 22877 | 22762 | 22671 | 22467 | 2.36 | 2.37 | 2.38 | 2.38 | 2.39 |
|            | 64.4°F (18.0°C) | 22493 | 22043 | 21933 | 21845 | 21648 | 2.31 | 2.33 | 2.34 | 2.34 | 2.35 |
| <b>620</b> | -22°F (-30.0°C) | 12408 | 12160 | 12099 | 12051 | 11942 | 2.46 | 2.48 | 2.48 | 2.49 | 2.50 |
|            | -13°F (-25.0°C) | 14833 | 14536 | 14463 | 14406 | 14276 | 2.62 | 2.64 | 2.65 | 2.66 | 2.67 |
|            | -4°F (-20.0°C)  | 17751 | 17396 | 17309 | 17240 | 17085 | 2.65 | 2.67 | 2.68 | 2.68 | 2.69 |
|            | 0°F (-17.8°C)   | 20295 | 19889 | 19790 | 19711 | 19533 | 2.93 | 2.95 | 2.96 | 2.96 | 2.97 |
|            | 5°F (-15.0°C)   | 23476 | 23006 | 22891 | 22800 | 22594 | 3.27 | 3.30 | 3.31 | 3.31 | 3.33 |
|            | 14°F (-10.0°C)  | 25103 | 24601 | 24478 | 24380 | 24160 | 3.28 | 3.30 | 3.31 | 3.32 | 3.33 |
|            | 17°F (-8.3°C)   | 25645 | 25132 | 25007 | 24907 | 24682 | 3.28 | 3.30 | 3.31 | 3.32 | 3.33 |
|            | 22°F (-5.6°C)   | 25575 | 25064 | 24938 | 24839 | 24615 | 3.08 | 3.11 | 3.11 | 3.12 | 3.13 |
|            | 27°F (-2.8°C)   | 25505 | 24995 | 24870 | 24771 | 24548 | 2.89 | 2.91 | 2.92 | 2.92 | 2.93 |
|            | 32°F (-0.0°C)   | 25435 | 24926 | 24802 | 24703 | 24480 | 2.69 | 2.71 | 2.72 | 2.72 | 2.74 |
|            | 35°F (1.7°C)    | 25393 | 24885 | 24761 | 24662 | 24440 | 2.57 | 2.60 | 2.60 | 2.61 | 2.62 |
|            | 37°F (2.8°C)    | 26381 | 25853 | 25724 | 25621 | 25391 | 2.60 | 2.62 | 2.62 | 2.63 | 2.64 |
|            | 42°F (5.6°C)    | 28851 | 28274 | 28133 | 28020 | 27768 | 2.65 | 2.67 | 2.67 | 2.68 | 2.69 |
|            | 44.6°F (7.0°C)  | 29839 | 29242 | 29096 | 28979 | 28719 | 2.67 | 2.69 | 2.70 | 2.70 | 2.71 |
|            | 47°F (8.3°C)    | 31321 | 30694 | 30541 | 30419 | 30145 | 2.70 | 2.72 | 2.73 | 2.73 | 2.74 |
|            | 52°F (11.1°C)   | 29079 | 28498 | 28355 | 28242 | 27988 | 2.59 | 2.61 | 2.62 | 2.62 | 2.63 |
|            | 57°F (13.9°C)   | 26838 | 26301 | 26169 | 26065 | 25830 | 2.49 | 2.51 | 2.51 | 2.52 | 2.53 |
|            | 59°F (15.0°C)   | 25941 | 25422 | 25295 | 25194 | 24967 | 2.44 | 2.46 | 2.47 | 2.47 | 2.48 |
|            | 62°F (16.7°C)   | 24596 | 24104 | 23984 | 23888 | 23673 | 2.38 | 2.40 | 2.40 | 2.41 | 2.42 |
|            | 64.4°F (18.0°C) | 23700 | 23226 | 23109 | 23017 | 22810 | 2.34 | 2.36 | 2.36 | 2.36 | 2.37 |

Cooling Performance - 30K 37MUHA + 45MUAA

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                  |                          | ID DB(°F)    | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 712              | -22°F (-30.0°C)          | TC           | 21842              | 21871              | 21895              | 21896              | 21925              | 23158              | 23186              | 23209              | 23213              | 23241              | 24542              | 24574              | 24601              | 24606              | 24633              | 26021              | 26049              | 26077              | 26081              | 26114              |
|                  |                          | S/T          | 0.39               | 0.45               | 0.51               | 0.51               | 0.59               | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               |
|                  |                          | PI           | 2.34               | 2.35               | 2.35               | 2.35               | 2.35               | 2.49               | 2.49               | 2.49               | 2.49               | 2.49               | 2.63               | 2.64               | 2.64               | 2.64               | 2.64               | 2.79               | 2.80               | 2.80               | 2.80               | 2.80               |
|                  | -13°F (-25.0°C)          | TC           | 23662              | 23694              | 23719              | 23721              | 23752              | 25088              | 25118              | 25143              | 25148              | 25177              | 26587              | 26621              | 26651              | 26656              | 26686              | 28189              | 28220              | 28250              | 28255              | 28290              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.44               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.62               | 0.62               | 0.70               |
|                  |                          | PI           | 2.54               | 2.54               | 2.55               | 2.55               | 2.55               | 2.69               | 2.70               | 2.70               | 2.70               | 2.70               | 2.85               | 2.86               | 2.86               | 2.86               | 2.86               | 3.03               | 3.03               | 3.03               | 3.03               | 3.04               |
|                  | -4°F (-20.0°C)           | TC           | 25482              | 25517              | 25544              | 25545              | 25580              | 27018              | 27050              | 27077              | 27082              | 27114              | 28632              | 28669              | 28701              | 28707              | 28739              | 30357              | 30390              | 30423              | 30428              | 30466              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.67               | 0.46               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.73               | 2.74               | 2.74               | 2.74               | 2.75               | 2.90               | 2.90               | 2.91               | 2.91               | 2.91               | 3.07               | 3.08               | 3.08               | 3.08               | 3.08               | 3.26               | 3.26               | 3.27               | 3.27               | 3.27               |
|                  | 0°F (-17.8°C)            | TC           | 26291              | 26327              | 26355              | 26356              | 26392              | 27876              | 27909              | 27936              | 27942              | 27975              | 29541              | 29579              | 29612              | 29618              | 29651              | 31321              | 31355              | 31389              | 31394              | 31433              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.59               | 0.41               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.82               | 2.83               | 2.83               | 2.83               | 2.83               | 2.99               | 3.00               | 3.00               | 3.00               | 3.00               | 3.17               | 3.17               | 3.18               | 3.18               | 3.18               | 3.36               | 3.37               | 3.37               | 3.37               | 3.37               |
|                  | 5°F (-15.0°C)            | TC           | 27302              | 27339              | 27369              | 27370              | 27407              | 28948              | 28982              | 29011              | 29016              | 29051              | 30677              | 30717              | 30751              | 30757              | 30791              | 32526              | 32561              | 32596              | 32601              | 32642              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.52               | 0.52               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               |
|                  |                          | PI           | 2.93               | 2.93               | 2.94               | 2.94               | 2.94               | 3.11               | 3.11               | 3.11               | 3.11               | 3.12               | 3.29               | 3.30               | 3.30               | 3.30               | 3.30               | 3.49               | 3.49               | 3.50               | 3.50               | 3.50               |
|                  | 14°F (-10.0°C)           | TC           | 32511              | 32555              | 32590              | 32591              | 32635              | 34470              | 34511              | 34545              | 34552              | 34593              | 36530              | 36577              | 36618              | 36625              | 36666              | 38731              | 38773              | 38815              | 38821              | 38869              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               |
|                  |                          | PI           | 2.07               | 2.07               | 2.08               | 2.08               | 2.08               | 2.20               | 2.20               | 2.20               | 2.20               | 2.20               | 2.33               | 2.33               | 2.33               | 2.33               | 2.34               | 2.47               | 2.47               | 2.47               | 2.47               | 2.48               |
|                  | 17°F (-8.3°C)            | TC           | 34247              | 34293              | 34330              | 34332              | 34378              | 36311              | 36354              | 36390              | 36397              | 36440              | 38481              | 38531              | 38573              | 38581              | 38624              | 40799              | 40843              | 40888              | 40894              | 40945              |
|                  |                          | S/T          | 0.40               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.79               | 1.79               | 1.79               | 1.79               | 1.79               | 1.89               | 1.90               | 1.90               | 1.90               | 1.90               | 2.01               | 2.01               | 2.01               | 2.01               | 2.01               | 2.13               | 2.13               | 2.13               | 2.13               | 2.13               |
|                  | 23°F (-5.0°C)            | TC           | 34098              | 34144              | 34180              | 34182              | 34228              | 36153              | 36195              | 36231              | 36238              | 36281              | 38313              | 38362              | 38405              | 38412              | 38455              | 40621              | 40665              | 40709              | 40716              | 40766              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.45               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.85               | 1.85               | 1.86               | 1.86               | 1.86               | 1.96               | 1.97               | 1.97               | 1.97               | 1.97               | 2.08               | 2.08               | 2.09               | 2.09               | 2.09               | 2.21               | 2.21               | 2.21               | 2.21               | 2.21               |
|                  | 35°F (1.7°C)             | TC           | 33799              | 33844              | 33881              | 33882              | 33928              | 35835              | 35878              | 35913              | 35920              | 35963              | 37976              | 38026              | 38068              | 38075              | 38118              | 40265              | 40308              | 40352              | 40359              | 40409              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.98               | 1.99               | 1.99               | 1.99               | 1.99               | 2.10               | 2.11               | 2.11               | 2.11               | 2.11               | 2.23               | 2.23               | 2.23               | 2.23               | 2.24               | 2.36               | 2.37               | 2.37               | 2.37               | 2.37               |
|                  | 41°F (5.0°C)             | TC           | 28681              | 28719              | 28750              | 28752              | 28790              | 30409              | 30445              | 30475              | 30481              | 30517              | 32226              | 32268              | 32304              | 32310              | 32346              | 34168              | 34205              | 34242              | 34247              | 34290              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.57               | 0.57               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.64               | 0.64               | 0.72               |
|                  |                          | PI           | 1.40               | 1.40               | 1.40               | 1.40               | 1.40               | 1.48               | 1.49               | 1.49               | 1.49               | 1.49               | 1.57               | 1.57               | 1.58               | 1.58               | 1.58               | 1.67               | 1.67               | 1.67               | 1.67               | 1.67               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 2 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 712 | 47°F (8.3°C)   | TC  | 23563 | 23595 | 23620 | 23621 | 23653 | 24983 | 25013 | 25037 | 25042 | 25072 | 26476 | 26510 | 26539 | 26544 | 26574 | 28071 | 28101 | 28132 | 28136 | 28171 |
|     |                | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 0.81  | 0.82  | 0.82  | 0.82  | 0.82  | 0.86  | 0.87  | 0.87  | 0.87  | 0.87  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
|     | 50°F (10.0°C)  | TC  | 23781 | 23813 | 23839 | 23840 | 23872 | 25215 | 25244 | 25269 | 25274 | 25304 | 26721 | 26756 | 26785 | 26790 | 26820 | 28331 | 28362 | 28393 | 28397 | 28432 |
|     |                | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 0.86  | 0.86  | 0.86  | 0.86  | 0.86  | 0.91  | 0.91  | 0.91  | 0.91  | 0.91  | 0.96  | 0.96  | 0.96  | 0.96  | 0.97  | 1.02  | 1.02  | 1.02  | 1.02  | 1.02  |
|     | 59°F (15.0°C)  | TC  | 24437 | 24469 | 24496 | 24497 | 24530 | 25909 | 25940 | 25966 | 25971 | 26001 | 27457 | 27493 | 27523 | 27529 | 27559 | 29111 | 29143 | 29175 | 29179 | 29216 |
|     |                | S/T | 0.41  | 0.48  | 0.54  | 0.54  | 0.62  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 0.98  | 0.98  | 0.98  | 0.98  | 0.98  | 1.04  | 1.04  | 1.04  | 1.04  | 1.04  | 1.10  | 1.10  | 1.10  | 1.10  | 1.11  | 1.17  | 1.17  | 1.17  | 1.17  | 1.17  |
|     | 68°F (20.0°C)  | TC  | 25092 | 25125 | 25153 | 25154 | 25188 | 26604 | 26635 | 26662 | 26667 | 26699 | 28193 | 28230 | 28261 | 28267 | 28298 | 29892 | 29925 | 29957 | 29962 | 29999 |
|     |                | S/T | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                | PI  | 1.10  | 1.11  | 1.11  | 1.11  | 1.11  | 1.17  | 1.17  | 1.17  | 1.17  | 1.18  | 1.24  | 1.24  | 1.24  | 1.24  | 1.25  | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  |
|     | 77°F (25.0°C)  | TC  | 25747 | 25782 | 25809 | 25811 | 25845 | 27299 | 27331 | 27358 | 27363 | 27396 | 28930 | 28967 | 28999 | 29005 | 29037 | 30673 | 30706 | 30739 | 30744 | 30782 |
|     |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                | PI  | 1.23  | 1.23  | 1.23  | 1.23  | 1.23  | 1.30  | 1.30  | 1.31  | 1.31  | 1.31  | 1.38  | 1.38  | 1.38  | 1.38  | 1.39  | 1.46  | 1.47  | 1.47  | 1.47  | 1.47  |
|     | 82°F (27.8°C)  | TC  | 26209 | 26245 | 26273 | 26274 | 26310 | 27789 | 27822 | 27849 | 27855 | 27888 | 29449 | 29487 | 29520 | 29526 | 29559 | 31224 | 31258 | 31292 | 31296 | 31335 |
|     |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                | PI  | 1.44  | 1.45  | 1.45  | 1.45  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.54  | 1.62  | 1.62  | 1.63  | 1.63  | 1.63  | 1.72  | 1.72  | 1.72  | 1.72  | 1.73  |
|     | 86°F (30.0°C)  | TC  | 26704 | 26740 | 26769 | 26770 | 26806 | 28313 | 28347 | 28375 | 28380 | 28414 | 30005 | 30044 | 30077 | 30083 | 30116 | 31813 | 31847 | 31882 | 31887 | 31926 |
|     |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                | PI  | 1.80  | 1.80  | 1.80  | 1.80  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.03  | 2.03  | 2.03  | 2.14  | 2.15  | 2.15  | 2.15  | 2.15  |
|     | 95°F (35.0°C)  | TC  | 27816 | 27853 | 27883 | 27885 | 27922 | 29492 | 29527 | 29556 | 29562 | 29597 | 31254 | 31295 | 31330 | 31336 | 31371 | 33138 | 33174 | 33210 | 33215 | 33256 |
|     |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                | PI  | 2.60  | 2.60  | 2.60  | 2.61  | 2.61  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  | 2.92  | 2.92  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.10  | 3.10  | 3.11  |
|     | 104°F (40.0°C) | TC  | 24983 | 25017 | 25044 | 25045 | 25079 | 26489 | 26520 | 26547 | 26552 | 26583 | 28072 | 28108 | 28139 | 28145 | 28176 | 29763 | 29795 | 29828 | 29832 | 29870 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  | 2.89  | 2.89  | 2.90  | 2.90  | 2.90  | 3.06  | 3.07  | 3.07  | 3.07  | 3.07  |
|     | 110°F (43.0°C) | TC  | 23284 | 23315 | 23340 | 23341 | 23373 | 24687 | 24716 | 24741 | 24746 | 24775 | 26162 | 26196 | 26225 | 26230 | 26259 | 27738 | 27769 | 27799 | 27803 | 27838 |
|     |                | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                | PI  | 2.55  | 2.56  | 2.56  | 2.56  | 2.56  | 2.71  | 2.71  | 2.71  | 2.71  | 2.72  | 2.87  | 2.87  | 2.88  | 2.88  | 2.88  | 3.04  | 3.05  | 3.05  | 3.05  | 3.05  |
|     | 115°F (46.0°C) | TC  | 19860 | 19887 | 19909 | 19910 | 19936 | 21057 | 21082 | 21103 | 21107 | 21132 | 22315 | 22344 | 22369 | 22373 | 22398 | 23660 | 23686 | 23711 | 23715 | 23745 |
|     |                | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                | PI  | 2.31  | 2.31  | 2.31  | 2.31  | 2.32  | 2.45  | 2.45  | 2.45  | 2.45  | 2.46  | 2.59  | 2.60  | 2.60  | 2.60  | 2.60  | 2.75  | 2.75  | 2.76  | 2.76  | 2.76  |
|     | 122°F (50.0°C) | TC  | 15296 | 15316 | 15333 | 15334 | 15354 | 16218 | 16237 | 16253 | 16256 | 16275 | 17187 | 17209 | 17228 | 17231 | 17251 | 18222 | 18242 | 18262 | 18265 | 18287 |
|     |                | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                | PI  | 1.98  | 1.98  | 1.98  | 1.98  | 1.99  | 2.10  | 2.10  | 2.10  | 2.10  | 2.11  | 2.22  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.36  | 2.37  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | -22°F<br>(-30.0°C) | TC  | 23438 | 23469 | 23495 | 23496 | 23527 | 24850 | 24880 | 24904 | 24909 | 24939 | 26335 | 26369 | 26399 | 26404 | 26433 | 27922 | 27952 | 27983 | 27987 | 28022 |
|     |                    | S/T | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                    | PI  | 2.52  | 2.52  | 2.52  | 2.52  | 2.52  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  | 3.00  | 3.00  | 3.00  | 3.00  | 3.01  |
|     | -13°F<br>(-25.0°C) | TC  | 25391 | 25425 | 25453 | 25454 | 25488 | 26921 | 26953 | 26980 | 26985 | 27017 | 28530 | 28567 | 28599 | 28604 | 28636 | 30249 | 30282 | 30315 | 30319 | 30357 |
|     |                    | S/T | 0.42  | 0.49  | 0.55  | 0.56  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                    | PI  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  | 2.89  | 2.89  | 2.90  | 2.90  | 2.90  | 3.06  | 3.07  | 3.07  | 3.07  | 3.07  | 3.25  | 3.25  | 3.25  | 3.25  | 3.26  |
|     | -4°F<br>(-20.0°C)  | TC  | 27344 | 27381 | 27411 | 27412 | 27449 | 28992 | 29027 | 29055 | 29061 | 29095 | 30724 | 30764 | 30798 | 30804 | 30839 | 32575 | 32611 | 32646 | 32651 | 32692 |
|     |                    | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  |
|     |                    | PI  | 2.93  | 2.94  | 2.94  | 2.94  | 2.95  | 3.11  | 3.12  | 3.12  | 3.12  | 3.12  | 3.30  | 3.30  | 3.31  | 3.31  | 3.31  | 3.50  | 3.50  | 3.50  | 3.50  | 3.51  |
|     | 0°F (-17.8°C)      | TC  | 28212 | 28250 | 28281 | 28282 | 28320 | 29913 | 29948 | 29978 | 29983 | 30019 | 31700 | 31741 | 31776 | 31782 | 31818 | 33610 | 33646 | 33683 | 33688 | 33730 |
|     |                    | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 3.03  | 3.03  | 3.04  | 3.04  | 3.04  | 3.21  | 3.21  | 3.22  | 3.22  | 3.22  | 3.40  | 3.41  | 3.41  | 3.41  | 3.41  | 3.61  | 3.61  | 3.61  | 3.62  | 3.62  |
|     | 5°F (-15.0°C)      | TC  | 29297 | 29337 | 29368 | 29370 | 29409 | 31063 | 31100 | 31131 | 31137 | 31174 | 32919 | 32962 | 32998 | 33005 | 33041 | 34902 | 34940 | 34978 | 34984 | 35027 |
|     |                    | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 3.14  | 3.15  | 3.15  | 3.15  | 3.16  | 3.33  | 3.34  | 3.34  | 3.34  | 3.35  | 3.53  | 3.54  | 3.54  | 3.54  | 3.55  | 3.75  | 3.75  | 3.75  | 3.75  | 3.76  |
|     | 14°F<br>(-10.0°C)  | TC  | 34887 | 34934 | 34971 | 34973 | 35020 | 36989 | 37033 | 37069 | 37077 | 37121 | 39199 | 39250 | 39294 | 39301 | 39345 | 41561 | 41606 | 41651 | 41658 | 41710 |
|     |                    | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                    | PI  | 2.22  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.36  | 2.37  | 2.50  | 2.50  | 2.50  | 2.50  | 2.51  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  |
|     | 17°F (-8.3°C)      | TC  | 36750 | 36799 | 36839 | 36840 | 36890 | 38964 | 39011 | 39049 | 39057 | 39103 | 41292 | 41346 | 41392 | 41400 | 41446 | 43780 | 43828 | 43876 | 43882 | 43937 |
|     |                    | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                    | PI  | 1.92  | 1.92  | 1.92  | 1.92  | 1.92  | 2.03  | 2.03  | 2.04  | 2.04  | 2.04  | 2.15  | 2.16  | 2.16  | 2.16  | 2.16  | 2.28  | 2.29  | 2.29  | 2.29  | 2.29  |
|     | 23°F (-5.0°C)      | TC  | 36589 | 36638 | 36678 | 36680 | 36729 | 38794 | 38840 | 38879 | 38886 | 38932 | 41112 | 41165 | 41211 | 41219 | 41265 | 43589 | 43637 | 43684 | 43691 | 43745 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 1.99  | 1.99  | 1.99  | 1.99  | 1.99  | 2.11  | 2.11  | 2.11  | 2.11  | 2.11  | 2.23  | 2.24  | 2.24  | 2.24  | 2.24  | 2.37  | 2.37  | 2.37  | 2.37  | 2.38  |
|     | 35°F (1.7°C)       | TC  | 36268 | 36317 | 36356 | 36358 | 36407 | 38454 | 38500 | 38538 | 38545 | 38591 | 40751 | 40804 | 40850 | 40857 | 40903 | 43207 | 43254 | 43301 | 43308 | 43362 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 2.13  | 2.13  | 2.13  | 2.13  | 2.14  | 2.26  | 2.26  | 2.26  | 2.26  | 2.27  | 2.39  | 2.40  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.54  | 2.54  | 2.55  |
|     | 41°F (5.0°C)       | TC  | 30777 | 30818 | 30851 | 30852 | 30894 | 32631 | 32670 | 32702 | 32709 | 32747 | 34581 | 34626 | 34664 | 34671 | 34709 | 36664 | 36704 | 36744 | 36750 | 36796 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.50  | 1.50  | 1.51  | 1.51  | 1.51  | 1.59  | 1.59  | 1.60  | 1.60  | 1.60  | 1.69  | 1.69  | 1.69  | 1.69  | 1.69  | 1.79  | 1.79  | 1.79  | 1.79  | 1.80  |
|     | 47°F (8.3°C)       | TC  | 25285 | 25319 | 25346 | 25347 | 25381 | 26808 | 26840 | 26867 | 26872 | 26904 | 28410 | 28447 | 28479 | 28484 | 28516 | 30122 | 30155 | 30187 | 30192 | 30230 |
|     |                    | S/T | 0.43  | 0.51  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 0.87  | 0.88  | 0.88  | 0.88  | 0.88  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.98  | 0.98  | 0.98  | 0.99  | 0.99  | 1.04  | 1.04  | 1.04  | 1.04  | 1.05  |
|     | 50°F (10.0°C)      | TC  | 25519 | 25553 | 25581 | 25582 | 25617 | 27057 | 27089 | 27116 | 27121 | 27153 | 28673 | 28711 | 28743 | 28748 | 28780 | 30401 | 30434 | 30467 | 30472 | 30510 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.97  | 0.98  | 0.98  | 0.98  | 0.98  | 1.03  | 1.03  | 1.04  | 1.04  | 1.04  | 1.09  | 1.10  | 1.10  | 1.10  | 1.10  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 4 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | 59°F (15.0°C)   | TC  | 26222 | 26257 | 26286 | 26287 | 26322 | 27802 | 27835 | 27863 | 27868 | 27901 | 29463 | 29502 | 29535 | 29540 | 29573 | 31239 | 31273 | 31307 | 31312 | 31351 |
|     |                 | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                 | PI  | 1.05  | 1.05  | 1.05  | 1.05  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  | 1.18  | 1.18  | 1.19  | 1.19  | 1.19  | 1.25  | 1.25  | 1.26  | 1.26  | 1.26  |
|     | 68°F (20.0°C)   | TC  | 26925 | 26961 | 26990 | 26992 | 27028 | 28548 | 28582 | 28610 | 28616 | 28650 | 30253 | 30293 | 30327 | 30332 | 30366 | 32076 | 32111 | 32146 | 32151 | 32191 |
|     |                 | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.33  | 1.33  | 1.34  | 1.34  | 1.34  | 1.41  | 1.41  | 1.42  | 1.42  | 1.42  |
|     | 77°F (25.0°C)   | TC  | 27628 | 27665 | 27695 | 27697 | 27734 | 29293 | 29328 | 29357 | 29363 | 29398 | 31043 | 31084 | 31118 | 31124 | 31159 | 32914 | 32950 | 32986 | 32991 | 33032 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                 | PI  | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  | 1.40  | 1.40  | 1.40  | 1.40  | 1.40  | 1.48  | 1.48  | 1.49  | 1.49  | 1.49  | 1.57  | 1.57  | 1.57  | 1.57  | 1.58  |
|     | 82°F (27.8°C)   | TC  | 28125 | 28162 | 28193 | 28194 | 28232 | 29820 | 29855 | 29884 | 29890 | 29926 | 31601 | 31642 | 31677 | 31683 | 31719 | 33505 | 33542 | 33578 | 33583 | 33625 |
|     |                 | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                 | PI  | 1.55  | 1.55  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.65  | 1.65  | 1.65  | 1.74  | 1.74  | 1.74  | 1.75  | 1.75  | 1.85  | 1.85  | 1.85  | 1.85  | 1.85  |
|     | 86°F (30.0°C)   | TC  | 28655 | 28694 | 28725 | 28726 | 28765 | 30382 | 30418 | 30448 | 30454 | 30490 | 32197 | 32239 | 32275 | 32281 | 32317 | 34137 | 34174 | 34211 | 34217 | 34259 |
|     |                 | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 1.93  | 1.93  | 1.94  | 1.94  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  | 2.30  | 2.30  | 2.30  | 2.31  | 2.31  |
|     | 95°F (35.0°C)   | TC  | 29849 | 29889 | 29921 | 29922 | 29963 | 31647 | 31685 | 31716 | 31722 | 31760 | 33538 | 33582 | 33619 | 33625 | 33663 | 35559 | 35598 | 35636 | 35642 | 35686 |
|     |                 | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 2.79  | 2.79  | 2.80  | 2.80  | 2.80  | 2.96  | 2.96  | 2.96  | 2.96  | 2.97  | 3.13  | 3.14  | 3.14  | 3.14  | 3.14  | 3.32  | 3.33  | 3.33  | 3.33  | 3.33  |
|     | 104°F (40.0°C)  | TC  | 26809 | 26845 | 26874 | 26875 | 26911 | 28425 | 28458 | 28486 | 28492 | 28526 | 30123 | 30162 | 30196 | 30201 | 30235 | 31938 | 31973 | 32007 | 32012 | 32052 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                 | PI  | 2.76  | 2.76  | 2.77  | 2.77  | 2.77  | 2.92  | 2.93  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.11  | 3.11  | 3.11  | 3.29  | 3.29  | 3.29  | 3.29  | 3.30  |
|     | 110°F (43.0°C)  | TC  | 24985 | 25019 | 25046 | 25047 | 25081 | 26491 | 26522 | 26549 | 26554 | 26585 | 28074 | 28110 | 28142 | 28147 | 28178 | 29765 | 29798 | 29830 | 29835 | 29872 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 2.74  | 2.74  | 2.75  | 2.75  | 2.75  | 2.91  | 2.91  | 2.91  | 2.91  | 2.92  | 3.08  | 3.08  | 3.09  | 3.09  | 3.09  | 3.26  | 3.27  | 3.27  | 3.27  | 3.28  |
|     | 115°F (46.0°C)  | TC  | 21312 | 21340 | 21363 | 21364 | 21393 | 22596 | 22623 | 22645 | 22650 | 22677 | 23946 | 23977 | 24004 | 24008 | 24035 | 25389 | 25416 | 25444 | 25448 | 25480 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.48  | 2.48  | 2.48  | 2.48  | 2.49  | 2.63  | 2.63  | 2.63  | 2.63  | 2.63  | 2.78  | 2.79  | 2.79  | 2.79  | 2.79  | 2.95  | 2.95  | 2.96  | 2.96  | 2.96  |
|     | 122°F (50.0°C)  | TC  | 16414 | 16436 | 16453 | 16454 | 16476 | 17403 | 17423 | 17441 | 17444 | 17465 | 18442 | 18466 | 18487 | 18490 | 18511 | 19554 | 19575 | 19596 | 19599 | 19624 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                 | PI  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.26  | 2.26  | 2.26  | 2.39  | 2.39  | 2.39  | 2.39  | 2.40  | 2.53  | 2.53  | 2.54  | 2.54  | 2.54  |
| 894 | -22°F (-30.0°C) | TC  | 25151 | 25184 | 25212 | 25213 | 25247 | 26666 | 26698 | 26724 | 26730 | 26761 | 28259 | 28296 | 28328 | 28333 | 28365 | 29962 | 29995 | 30027 | 30032 | 30069 |
|     |                 | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                 | PI  | 2.70  | 2.70  | 2.71  | 2.71  | 2.71  | 2.86  | 2.87  | 2.87  | 2.87  | 2.87  | 3.03  | 3.04  | 3.04  | 3.04  | 3.04  | 3.22  | 3.22  | 3.22  | 3.22  | 3.23  |
|     | -13°F (-25.0°C) | TC  | 27246 | 27283 | 27312 | 27314 | 27351 | 28888 | 28923 | 28951 | 28957 | 28991 | 30614 | 30654 | 30688 | 30694 | 30728 | 32459 | 32494 | 32530 | 32535 | 32575 |
|     |                 | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 2.92  | 2.93  | 2.93  | 2.93  | 2.94  | 3.10  | 3.10  | 3.11  | 3.11  | 3.11  | 3.29  | 3.29  | 3.29  | 3.29  | 3.30  | 3.48  | 3.49  | 3.49  | 3.49  | 3.50  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | -4°F<br>(-20.0°C) | TC  | 29342 | 29382 | 29413 | 29415 | 29454 | 31111 | 31148 | 31178 | 31184 | 31221 | 32969 | 33012 | 33049 | 33055 | 33092 | 34956 | 34994 | 35032 | 35037 | 35081 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 3.15  | 3.15  | 3.16  | 3.16  | 3.16  | 3.34  | 3.34  | 3.35  | 3.35  | 3.35  | 3.54  | 3.54  | 3.55  | 3.55  | 3.55  | 3.75  | 3.76  | 3.76  | 3.76  | 3.76  |
|     | 0°F (-17.8°C)     | TC  | 30274 | 30315 | 30347 | 30349 | 30390 | 32098 | 32136 | 32168 | 32174 | 32213 | 34016 | 34060 | 34098 | 34104 | 34143 | 36066 | 36105 | 36144 | 36150 | 36195 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 3.25  | 3.25  | 3.26  | 3.26  | 3.26  | 3.44  | 3.45  | 3.45  | 3.45  | 3.46  | 3.65  | 3.66  | 3.66  | 3.66  | 3.66  | 3.87  | 3.87  | 3.88  | 3.88  | 3.88  |
|     | 5°F (-15.0°C)     | TC  | 31438 | 31481 | 31514 | 31516 | 31558 | 33333 | 33372 | 33405 | 33412 | 33452 | 35324 | 35370 | 35410 | 35416 | 35456 | 37453 | 37493 | 37534 | 37540 | 37587 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 3.37  | 3.38  | 3.38  | 3.38  | 3.39  | 3.58  | 3.58  | 3.59  | 3.59  | 3.59  | 3.79  | 3.80  | 3.80  | 3.80  | 3.81  | 4.02  | 4.02  | 4.03  | 4.03  | 4.03  |
|     | 14°F (-10.0°C)    | TC  | 37436 | 37486 | 37527 | 37528 | 37579 | 39692 | 39739 | 39778 | 39786 | 39833 | 42063 | 42118 | 42165 | 42173 | 42220 | 44598 | 44646 | 44695 | 44702 | 44757 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.39  | 2.39  | 2.39  | 2.39  | 2.39  | 2.53  | 2.53  | 2.53  | 2.54  | 2.54  | 2.68  | 2.68  | 2.69  | 2.69  | 2.69  | 2.84  | 2.85  | 2.85  | 2.85  | 2.85  |
|     | 17°F (-8.3°C)     | TC  | 39435 | 39488 | 39531 | 39532 | 39586 | 41812 | 41861 | 41903 | 41911 | 41961 | 44310 | 44367 | 44417 | 44425 | 44474 | 46979 | 47030 | 47082 | 47089 | 47148 |
|     |                   | S/T | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.06  | 2.06  | 2.06  | 2.06  | 2.06  | 2.18  | 2.18  | 2.18  | 2.19  | 2.19  | 2.31  | 2.31  | 2.32  | 2.32  | 2.32  | 2.45  | 2.45  | 2.45  | 2.46  | 2.46  |
|     | 23°F (-5.0°C)     | TC  | 39263 | 39316 | 39358 | 39360 | 39413 | 41629 | 41678 | 41720 | 41728 | 41777 | 44116 | 44173 | 44223 | 44231 | 44280 | 46774 | 46825 | 46876 | 46883 | 46942 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 2.13  | 2.14  | 2.14  | 2.14  | 2.14  | 2.26  | 2.26  | 2.27  | 2.27  | 2.27  | 2.40  | 2.40  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.55  | 2.55  | 2.55  |
|     | 35°F (1.7°C)      | TC  | 38918 | 38971 | 39013 | 39015 | 39067 | 41264 | 41313 | 41354 | 41362 | 41411 | 43729 | 43786 | 43835 | 43843 | 43892 | 46364 | 46414 | 46465 | 46472 | 46530 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 2.28  | 2.29  | 2.29  | 2.29  | 2.29  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.58  | 2.72  | 2.72  | 2.73  | 2.73  | 2.73  |
|     | 41°F (5.0°C)      | TC  | 33025 | 33070 | 33105 | 33107 | 33152 | 35016 | 35057 | 35092 | 35099 | 35140 | 37108 | 37156 | 37197 | 37204 | 37246 | 39343 | 39386 | 39429 | 39435 | 39484 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.61  | 1.61  | 1.62  | 1.62  | 1.62  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.82  | 1.82  | 1.92  | 1.92  | 1.92  | 1.92  | 1.93  |
|     | 47°F (8.3°C)      | TC  | 27132 | 27169 | 27198 | 27199 | 27236 | 28767 | 28801 | 28830 | 28836 | 28870 | 30486 | 30526 | 30560 | 30565 | 30599 | 32323 | 32358 | 32393 | 32398 | 32439 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                   | PI  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.99  | 1.00  | 1.00  | 1.00  | 1.00  | 1.05  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.12  |
|     | 50°F (10.0°C)     | TC  | 27384 | 27421 | 27450 | 27451 | 27488 | 29034 | 29068 | 29097 | 29103 | 29137 | 30769 | 30809 | 30843 | 30849 | 30883 | 32623 | 32658 | 32694 | 32699 | 32739 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 1.05  | 1.05  | 1.05  | 1.05  | 1.05  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 1.17  | 1.18  | 1.18  | 1.18  | 1.18  |
|     | 59°F (15.0°C)     | TC  | 28138 | 28176 | 28206 | 28208 | 28246 | 29834 | 29869 | 29899 | 29905 | 29940 | 31616 | 31657 | 31693 | 31699 | 31734 | 33521 | 33558 | 33594 | 33600 | 33641 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  | 1.27  | 1.27  | 1.27  | 1.27  | 1.27  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  |
|     | 68°F (20.0°C)     | TC  | 28893 | 28932 | 28963 | 28964 | 29003 | 30634 | 30670 | 30700 | 30707 | 30743 | 32464 | 32506 | 32542 | 32549 | 32585 | 34420 | 34458 | 34495 | 34500 | 34543 |
|     |                   | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                   | PI  | 1.27  | 1.27  | 1.28  | 1.28  | 1.28  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 6 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | 77°F (25.0°C)   | TC  | 29647 | 29687 | 29719 | 29720 | 29760 | 31434 | 31471 | 31502 | 31508 | 31546 | 33312 | 33355 | 33392 | 33398 | 33436 | 35319 | 35357 | 35396 | 35401 | 35445 |
|     |                 | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.51  | 1.59  | 1.59  | 1.59  | 1.59  | 1.60  | 1.69  | 1.69  | 1.69  | 1.69  | 1.69  |
|     | 82°F (27.8°C)   | TC  | 30180 | 30220 | 30253 | 30254 | 30295 | 31999 | 32036 | 32068 | 32074 | 32112 | 33910 | 33954 | 33992 | 33998 | 34036 | 35953 | 35992 | 36032 | 36037 | 36082 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 1.66  | 1.66  | 1.67  | 1.67  | 1.67  | 1.76  | 1.76  | 1.77  | 1.77  | 1.77  | 1.87  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.99  |
|     | 86°F (30.0°C)   | TC  | 30749 | 30790 | 30823 | 30825 | 30866 | 32602 | 32641 | 32673 | 32679 | 32718 | 34550 | 34595 | 34633 | 34640 | 34678 | 36632 | 36671 | 36711 | 36717 | 36763 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.07  | 2.07  | 2.08  | 2.08  | 2.08  | 2.20  | 2.20  | 2.20  | 2.20  | 2.20  | 2.33  | 2.33  | 2.33  | 2.33  | 2.34  | 2.47  | 2.47  | 2.47  | 2.47  | 2.48  |
|     | 95°F (35.0°C)   | TC  | 32030 | 32073 | 32107 | 32109 | 32152 | 33960 | 34000 | 34034 | 34040 | 34081 | 35989 | 36036 | 36076 | 36082 | 36123 | 38157 | 38199 | 38240 | 38246 | 38294 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.99  | 3.00  | 3.00  | 3.00  | 3.00  | 3.17  | 3.18  | 3.18  | 3.18  | 3.18  | 3.36  | 3.37  | 3.37  | 3.37  | 3.37  | 3.56  | 3.57  | 3.57  | 3.57  | 3.58  |
|     | 104°F (40.0°C)  | TC  | 28768 | 28807 | 28838 | 28839 | 28878 | 30502 | 30538 | 30568 | 30574 | 30610 | 32324 | 32366 | 32402 | 32408 | 32444 | 34272 | 34309 | 34346 | 34352 | 34394 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                 | PI  | 2.96  | 2.96  | 2.97  | 2.97  | 2.97  | 3.14  | 3.14  | 3.15  | 3.15  | 3.15  | 3.33  | 3.33  | 3.33  | 3.33  | 3.34  | 3.53  | 3.53  | 3.53  | 3.53  | 3.54  |
|     | 110°F (43.0°C)  | TC  | 26811 | 26847 | 26876 | 26877 | 26913 | 28427 | 28460 | 28489 | 28494 | 28528 | 30125 | 30164 | 30198 | 30203 | 30237 | 31940 | 31975 | 32010 | 32015 | 32055 |
|     |                 | S/T | 0.53  | 0.62  | 0.70  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  |
|     |                 | PI  | 2.94  | 2.94  | 2.95  | 2.95  | 2.95  | 3.12  | 3.12  | 3.12  | 3.13  | 3.13  | 3.30  | 3.31  | 3.31  | 3.31  | 3.32  | 3.50  | 3.51  | 3.51  | 3.51  | 3.52  |
|     | 115°F (46.0°C)  | TC  | 22869 | 22900 | 22924 | 22925 | 22956 | 24247 | 24276 | 24300 | 24305 | 24334 | 25696 | 25729 | 25758 | 25763 | 25791 | 27244 | 27274 | 27303 | 27308 | 27342 |
|     |                 | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                 | PI  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  | 2.82  | 2.82  | 2.82  | 2.82  | 2.83  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  | 3.17  | 3.17  | 3.17  | 3.17  | 3.18  |
|     | 122°F (50.0°C)  | TC  | 17613 | 17637 | 17656 | 17656 | 17680 | 18674 | 18697 | 18715 | 18719 | 18741 | 19790 | 19816 | 19838 | 19842 | 19864 | 20982 | 21005 | 21028 | 21031 | 21058 |
|     |                 | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                 | PI  | 2.28  | 2.28  | 2.28  | 2.29  | 2.29  | 2.42  | 2.42  | 2.42  | 2.42  | 2.43  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.72  | 2.72  | 2.73  |
| 988 | -22°F (-30.0°C) | TC  | 26988 | 27025 | 27054 | 27055 | 27091 | 28615 | 28649 | 28677 | 28683 | 28717 | 30324 | 30364 | 30398 | 30403 | 30437 | 32151 | 32186 | 32221 | 32226 | 32267 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 2.90  | 2.90  | 2.90  | 2.90  | 2.91  | 3.07  | 3.07  | 3.08  | 3.08  | 3.08  | 3.25  | 3.26  | 3.26  | 3.26  | 3.27  | 3.45  | 3.45  | 3.46  | 3.46  | 3.46  |
|     | -13°F (-25.0°C) | TC  | 29237 | 29277 | 29308 | 29310 | 29349 | 30999 | 31036 | 31067 | 31073 | 31110 | 32851 | 32894 | 32931 | 32937 | 32974 | 34831 | 34869 | 34907 | 34912 | 34956 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 3.14  | 3.14  | 3.15  | 3.15  | 3.15  | 3.33  | 3.33  | 3.33  | 3.33  | 3.34  | 3.53  | 3.53  | 3.53  | 3.53  | 3.54  | 3.74  | 3.74  | 3.75  | 3.75  | 3.75  |
|     | -4°F (-20.0°C)  | TC  | 31486 | 31529 | 31563 | 31564 | 31607 | 33384 | 33423 | 33456 | 33463 | 33503 | 35378 | 35424 | 35464 | 35470 | 35510 | 37510 | 37551 | 37592 | 37598 | 37644 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 3.38  | 3.38  | 3.39  | 3.39  | 3.39  | 3.58  | 3.59  | 3.59  | 3.59  | 3.60  | 3.80  | 3.80  | 3.81  | 3.81  | 3.81  | 4.03  | 4.03  | 4.03  | 4.04  | 4.04  |
|     | 0°F (-17.8°C)   | TC  | 32486 | 32530 | 32565 | 32566 | 32610 | 34444 | 34485 | 34519 | 34525 | 34566 | 36502 | 36549 | 36590 | 36597 | 36637 | 38701 | 38743 | 38785 | 38791 | 38839 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 3.49  | 3.49  | 3.49  | 3.50  | 3.50  | 3.70  | 3.70  | 3.70  | 3.71  | 3.71  | 3.92  | 3.92  | 3.93  | 3.93  | 3.93  | 4.15  | 4.16  | 4.16  | 4.16  | 4.17  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 7 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 5°F (-15.0°C)  | TC  | 33735 | 33781 | 33817 | 33819 | 33864 | 35769 | 35811 | 35846 | 35853 | 35896 | 37905 | 37955 | 37997 | 38004 | 38046 | 40189 | 40233 | 40277 | 40283 | 40333 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 3.62  | 3.63  | 3.63  | 3.63  | 3.63  | 3.84  | 3.84  | 3.85  | 3.85  | 3.85  | 4.07  | 4.07  | 4.08  | 4.08  | 4.08  | 4.31  | 4.32  | 4.32  | 4.32  | 4.33  |
|     | 14°F (-10.0°C) | TC  | 40171 | 40225 | 40269 | 40271 | 40325 | 42592 | 42643 | 42685 | 42693 | 42744 | 45137 | 45196 | 45246 | 45254 | 45305 | 47857 | 47909 | 47961 | 47968 | 48028 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  | 2.71  | 2.72  | 2.72  | 2.72  | 2.72  | 2.88  | 2.88  | 2.88  | 2.88  | 2.89  | 3.05  | 3.05  | 3.06  | 3.06  | 3.06  |
|     | 17°F (-8.3°C)  | TC  | 42317 | 42374 | 42419 | 42421 | 42478 | 44867 | 44920 | 44964 | 44973 | 45027 | 47547 | 47609 | 47662 | 47671 | 47724 | 50412 | 50467 | 50522 | 50530 | 50593 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                | PI  | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.35  | 2.48  | 2.48  | 2.49  | 2.49  | 2.49  | 2.63  | 2.63  | 2.63  | 2.63  | 2.64  |
|     | 23°F (-5.0°C)  | TC  | 42132 | 42189 | 42234 | 42236 | 42293 | 44671 | 44724 | 44768 | 44777 | 44830 | 47340 | 47401 | 47454 | 47463 | 47516 | 50192 | 50247 | 50301 | 50309 | 50372 |
|     |                | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.29  | 2.29  | 2.29  | 2.29  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.73  | 2.74  |
|     | 35°F (1.7°C)   | TC  | 41762 | 41818 | 41864 | 41865 | 41922 | 44279 | 44332 | 44375 | 44384 | 44437 | 46925 | 46985 | 47038 | 47047 | 47099 | 49752 | 49806 | 49860 | 49868 | 49930 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.45  | 2.45  | 2.46  | 2.46  | 2.46  | 2.60  | 2.60  | 2.60  | 2.61  | 2.61  | 2.75  | 2.76  | 2.76  | 2.76  | 2.76  | 2.92  | 2.92  | 2.93  | 2.93  | 2.93  |
|     | 41°F (5.0°C)   | TC  | 35439 | 35486 | 35524 | 35526 | 35574 | 37574 | 37619 | 37656 | 37663 | 37708 | 39819 | 39871 | 39915 | 39923 | 39967 | 42218 | 42264 | 42310 | 42317 | 42369 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 1.73  | 1.73  | 1.73  | 1.73  | 1.74  | 1.83  | 1.84  | 1.84  | 1.84  | 1.84  | 1.94  | 1.95  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.07  |
|     | 47°F (8.3°C)   | TC  | 29115 | 29154 | 29185 | 29187 | 29226 | 30869 | 30906 | 30937 | 30943 | 30979 | 32714 | 32756 | 32793 | 32799 | 32835 | 34685 | 34723 | 34760 | 34766 | 34809 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.07  | 1.07  | 1.07  | 1.07  | 1.07  | 1.13  | 1.13  | 1.13  | 1.13  | 1.14  | 1.20  | 1.20  | 1.20  | 1.20  | 1.20  |
|     | 50°F (10.0°C)  | TC  | 29385 | 29424 | 29456 | 29457 | 29497 | 31156 | 31192 | 31223 | 31229 | 31267 | 33017 | 33060 | 33097 | 33103 | 33140 | 35006 | 35044 | 35082 | 35088 | 35132 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.06  | 1.06  | 1.06  | 1.06  | 1.06  | 1.12  | 1.12  | 1.12  | 1.12  | 1.13  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.26  | 1.26  | 1.26  | 1.26  | 1.27  |
|     | 59°F (15.0°C)  | TC  | 30194 | 30235 | 30267 | 30269 | 30310 | 32014 | 32052 | 32084 | 32090 | 32128 | 33927 | 33971 | 34009 | 34015 | 34053 | 35971 | 36010 | 36049 | 36055 | 36100 |
|     |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                | PI  | 1.21  | 1.21  | 1.21  | 1.21  | 1.22  | 1.28  | 1.29  | 1.29  | 1.29  | 1.29  | 1.36  | 1.36  | 1.36  | 1.36  | 1.37  | 1.44  | 1.44  | 1.45  | 1.45  | 1.45  |
|     | 68°F (20.0°C)  | TC  | 31004 | 31046 | 31079 | 31080 | 31122 | 32872 | 32911 | 32944 | 32950 | 32989 | 34836 | 34882 | 34920 | 34927 | 34966 | 36935 | 36975 | 37016 | 37021 | 37067 |
|     |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                | PI  | 1.37  | 1.37  | 1.37  | 1.37  | 1.37  | 1.45  | 1.45  | 1.45  | 1.45  | 1.45  | 1.53  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  |
|     | 77°F (25.0°C)  | TC  | 31813 | 31856 | 31891 | 31892 | 31935 | 33731 | 33771 | 33804 | 33811 | 33851 | 35746 | 35792 | 35832 | 35839 | 35879 | 37900 | 37941 | 37982 | 37988 | 38035 |
|     |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                | PI  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  | 1.61  | 1.61  | 1.61  | 1.61  | 1.62  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.82  |
|     | 82°F (27.8°C)  | TC  | 32385 | 32429 | 32463 | 32465 | 32509 | 34337 | 34377 | 34411 | 34418 | 34459 | 36388 | 36435 | 36476 | 36483 | 36523 | 38581 | 38622 | 38665 | 38671 | 38719 |
|     |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                | PI  | 1.78  | 1.79  | 1.79  | 1.79  | 1.79  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 2.00  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  |

Table 22: Cooling Performance - 30K 37MUHA + 45MUAA (Sheet 8 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 86°F (30.0°C)  | TC  | 32996 | 33040 | 33076 | 33077 | 33122 | 34984 | 35026 | 35060 | 35067 | 35109 | 37074 | 37123 | 37164 | 37171 | 37212 | 39308 | 39351 | 39394 | 39400 | 39449 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 2.22  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.36  | 2.37  | 2.50  | 2.50  | 2.50  | 2.50  | 2.51  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  |
|     | 95°F (35.0°C)  | TC  | 34370 | 34416 | 34453 | 34455 | 34501 | 36441 | 36485 | 36521 | 36528 | 36571 | 38619 | 38669 | 38712 | 38719 | 38762 | 40945 | 40990 | 41035 | 41041 | 41092 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 3.21  | 3.22  | 3.22  | 3.22  | 3.22  | 3.40  | 3.41  | 3.41  | 3.41  | 3.42  | 3.61  | 3.61  | 3.62  | 3.62  | 3.62  | 3.83  | 3.83  | 3.83  | 3.83  | 3.84  |
|     | 104°F (40.0°C) | TC  | 30870 | 30912 | 30945 | 30946 | 30988 | 32731 | 32769 | 32802 | 32808 | 32847 | 34686 | 34731 | 34770 | 34776 | 34815 | 36776 | 36816 | 36856 | 36862 | 36908 |
|     |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                | PI  | 3.18  | 3.18  | 3.18  | 3.18  | 3.19  | 3.37  | 3.37  | 3.37  | 3.38  | 3.38  | 3.57  | 3.57  | 3.58  | 3.58  | 3.58  | 3.78  | 3.79  | 3.79  | 3.79  | 3.80  |
|     | 110°F (43.0°C) | TC  | 28770 | 28809 | 28840 | 28841 | 28880 | 30504 | 30540 | 30570 | 30576 | 30613 | 32326 | 32368 | 32404 | 32410 | 32447 | 34274 | 34311 | 34349 | 34354 | 34397 |
|     |                | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                | PI  | 3.16  | 3.16  | 3.16  | 3.16  | 3.17  | 3.35  | 3.35  | 3.35  | 3.35  | 3.36  | 3.55  | 3.55  | 3.55  | 3.55  | 3.56  | 3.76  | 3.76  | 3.77  | 3.77  | 3.77  |
|     | 115°F (46.0°C) | TC  | 24540 | 24573 | 24600 | 24601 | 24634 | 26019 | 26050 | 26075 | 26081 | 26112 | 27573 | 27609 | 27640 | 27645 | 27676 | 29235 | 29267 | 29298 | 29303 | 29339 |
|     |                | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                | PI  | 2.85  | 2.86  | 2.86  | 2.86  | 2.86  | 3.02  | 3.03  | 3.03  | 3.03  | 3.03  | 3.20  | 3.21  | 3.21  | 3.21  | 3.22  | 3.40  | 3.40  | 3.40  | 3.40  | 3.41  |
|     | 122°F (50.0°C) | TC  | 18900 | 18925 | 18946 | 18947 | 18972 | 20039 | 20063 | 20083 | 20086 | 20110 | 21236 | 21264 | 21287 | 21291 | 21315 | 22516 | 22540 | 22565 | 22568 | 22596 |
|     |                | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                | PI  | 2.45  | 2.45  | 2.45  | 2.45  | 2.46  | 2.59  | 2.60  | 2.60  | 2.60  | 2.60  | 2.75  | 2.75  | 2.76  | 2.76  | 2.76  | 2.91  | 2.92  | 2.92  | 2.92  | 2.92  |

## Heating Performance - 30K 37MUHA + 45MUAA

Table 23: Heating Performance - 30K 37MUHA + 45MUAA (Sheet 1 of 2)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|--------------------------|----------------------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  |                          | TC: TOTAL HEATING CAPACITY (BTU/HR)                |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                          | INDOOR CONDITIONS DB °F (°C)                       |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                          | 60.8°F<br>(16.0°C)                                 | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)          | 16014                                              | 15694            | 15615            | 16052              | 15907              | 3.65                 | 3.68             | 3.69             | 3.70               | 3.71               |
|                  | -13°F (-25.0°C)          | 19407                                              | 19019            | 18924            | 18705              | 18536              | 4.02                 | 4.05             | 4.06             | 4.06               | 4.08               |
|                  | -4°F (-20.0°C)           | 23397                                              | 22929            | 22814            | 22550              | 22347              | 4.23                 | 4.26             | 4.27             | 4.28               | 4.30               |
|                  | 0°F (-17.8°C)            | 25277                                              | 24772            | 24648            | 24363              | 24143              | 4.40                 | 4.43             | 4.44             | 4.45               | 4.47               |
|                  | 5°F (-15.0°C)            | 27628                                              | 27075            | 26940            | 26628              | 26388              | 4.60                 | 4.64             | 4.65             | 4.66               | 4.68               |
|                  | 14°F (-10.0°C)           | 30417                                              | 29809            | 29660            | 29316              | 29053              | 4.50                 | 4.53             | 4.54             | 4.55               | 4.57               |
|                  | 17°F (-8.3°C)            | 31347                                              | 30720            | 30566            | 30213              | 29941              | 4.46                 | 4.50             | 4.51             | 4.51               | 4.53               |
|                  | 22°F (-5.6°C)            | 29691                                              | 29098            | 28952            | 28617              | 28360              | 4.05                 | 4.08             | 4.09             | 4.10               | 4.11               |
|                  | 27°F (-2.8°C)            | 28036                                              | 27475            | 27338            | 27021              | 26778              | 3.63                 | 3.66             | 3.67             | 3.68               | 3.69               |
|                  | 32°F (-0.0°C)            | 26380                                              | 25853            | 25724            | 25426              | 25197              | 3.22                 | 3.24             | 3.25             | 3.26               | 3.27               |
|                  | 35°F (1.7°C)             | 25387                                              | 24879            | 24755            | 24469              | 24248              | 2.97                 | 2.99             | 3.00             | 3.01               | 3.02               |
|                  | 37°F (2.8°C)             | 26477                                              | 25947            | 25818            | 25519              | 25289              | 2.96                 | 2.98             | 2.99             | 2.99               | 3.01               |
|                  | 42°F (5.6°C)             | 29201                                              | 28617            | 28474            | 28144              | 27891              | 2.93                 | 2.95             | 2.96             | 2.96               | 2.97               |
|                  | 44.6°F (7.0°C)           | 30290                                              | 29684            | 29536            | 29194              | 28931              | 2.91                 | 2.94             | 2.94             | 2.95               | 2.96               |
|                  | 47°F (8.3°C)             | 31925                                              | 31286            | 31130            | 30769              | 30492              | 2.90                 | 2.92             | 2.93             | 2.93               | 2.94               |
|                  | 52°F (11.1°C)            | 28920                                              | 28342            | 28200            | 27873              | 27623              | 2.64                 | 2.66             | 2.67             | 2.67               | 2.68               |
|                  | 57°F (13.9°C)            | 25915                                              | 25397            | 25270            | 24978              | 24753              | 2.38                 | 2.40             | 2.41             | 2.41               | 2.42               |
|                  | 59°F (15.0°C)            | 24713                                              | 24219            | 24098            | 23819              | 23605              | 2.28                 | 2.30             | 2.30             | 2.31               | 2.32               |
|                  | 62°F (16.7°C)            | 22911                                              | 22452            | 22340            | 22082              | 21883              | 2.13                 | 2.14             | 2.15             | 2.15               | 2.16               |
|                  | 64.4°F (18.0°C)          | 21709                                              | 21275            | 21168            | 20923              | 20735              | 2.02                 | 2.04             | 2.04             | 2.05               | 2.06               |
| 530              | -22°F (-30.0°C)          | 17524                                              | 17174            | 17088            | 17290              | 17135              | 3.69                 | 3.72             | 3.73             | 3.74               | 3.75               |
|                  | -13°F (-25.0°C)          | 20825                                              | 20408            | 20306            | 20148              | 19967              | 4.06                 | 4.09             | 4.10             | 4.11               | 4.12               |
|                  | -4°F (-20.0°C)           | 25107                                              | 24604            | 24481            | 24291              | 24072              | 4.27                 | 4.31             | 4.32             | 4.32               | 4.34               |
|                  | 0°F (-17.8°C)            | 27124                                              | 26582            | 26449            | 26243              | 26007              | 4.44                 | 4.48             | 4.48             | 4.49               | 4.51               |
|                  | 5°F (-15.0°C)            | 29647                                              | 29054            | 28908            | 28683              | 28425              | 4.65                 | 4.69             | 4.70             | 4.71               | 4.72               |
|                  | 14°F (-10.0°C)           | 32640                                              | 31987            | 31827            | 31579              | 31295              | 4.54                 | 4.58             | 4.59             | 4.60               | 4.61               |
|                  | 17°F (-8.3°C)            | 33637                                              | 32965            | 32800            | 32544              | 32251              | 4.51                 | 4.54             | 4.55             | 4.56               | 4.58               |
|                  | 22°F (-5.6°C)            | 31861                                              | 31224            | 31068            | 30826              | 30548              | 4.09                 | 4.12             | 4.13             | 4.14               | 4.15               |
|                  | 27°F (-2.8°C)            | 30085                                              | 29483            | 29335            | 29107              | 28845              | 3.67                 | 3.70             | 3.71             | 3.71               | 3.73               |
|                  | 32°F (-0.0°C)            | 28308                                              | 27742            | 27603            | 27388              | 27142              | 3.25                 | 3.28             | 3.28             | 3.29               | 3.30               |
|                  | 35°F (1.7°C)             | 27242                                              | 26697            | 26564            | 26357              | 26120              | 3.00                 | 3.02             | 3.03             | 3.04               | 3.05               |
|                  | 37°F (2.8°C)             | 28411                                              | 27843            | 27704            | 27488              | 27241              | 2.99                 | 3.01             | 3.02             | 3.02               | 3.04               |
|                  | 42°F (5.6°C)             | 31334                                              | 30708            | 30554            | 30316              | 30043              | 2.96                 | 2.98             | 2.99             | 2.99               | 3.00               |
|                  | 44.6°F (7.0°C)           | 32504                                              | 31854            | 31694            | 31447              | 31164              | 2.94                 | 2.97             | 2.97             | 2.98               | 2.99               |
|                  | 47°F (8.3°C)             | 34257                                              | 33572            | 33404            | 33144              | 32846              | 2.93                 | 2.95             | 2.95             | 2.96               | 2.97               |
|                  | 52°F (11.1°C)            | 31033                                              | 30412            | 30260            | 30025              | 29754              | 2.67                 | 2.69             | 2.69             | 2.70               | 2.71               |
|                  | 57°F (13.9°C)            | 27809                                              | 27253            | 27116            | 26905              | 26663              | 2.41                 | 2.43             | 2.43             | 2.44               | 2.45               |
|                  | 59°F (15.0°C)            | 26519                                              | 25989            | 25859            | 25657              | 25426              | 2.30                 | 2.32             | 2.33             | 2.33               | 2.34               |
|                  | 62°F (16.7°C)            | 24585                                              | 24093            | 23973            | 23786              | 23572              | 2.15                 | 2.16             | 2.17             | 2.17               | 2.18               |
|                  | 64.4°F (18.0°C)          | 23295                                              | 22829            | 22715            | 22538              | 22335              | 2.04                 | 2.06             | 2.06             | 2.07               | 2.08               |

**Table 23: Heating Performance - 30K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 19177 | 18794 | 18700 | 18625 | 18457 | 3.73 | 3.76 | 3.77 | 3.77 | 3.79 |
|            | -13°F (-25.0°C) | 22347 | 21900 | 21790 | 21703 | 21508 | 4.10 | 4.13 | 4.14 | 4.15 | 4.16 |
|            | -4°F (-20.0°C)  | 26941 | 26402 | 26270 | 26165 | 25930 | 4.32 | 4.35 | 4.36 | 4.37 | 4.39 |
|            | 0°F (-17.8°C)   | 29106 | 28524 | 28382 | 28268 | 28014 | 4.48 | 4.52 | 4.53 | 4.54 | 4.56 |
|            | 5°F (-15.0°C)   | 31813 | 31177 | 31021 | 30897 | 30619 | 4.70 | 4.73 | 4.74 | 4.75 | 4.77 |
|            | 14°F (-10.0°C)  | 35025 | 34324 | 34153 | 34016 | 33710 | 4.59 | 4.62 | 4.63 | 4.64 | 4.66 |
|            | 17°F (-8.3°C)   | 36095 | 35373 | 35197 | 35056 | 34740 | 4.55 | 4.59 | 4.60 | 4.61 | 4.62 |
|            | 22°F (-5.6°C)   | 34189 | 33505 | 33338 | 33204 | 32906 | 4.13 | 4.16 | 4.17 | 4.18 | 4.20 |
|            | 27°F (-2.8°C)   | 32283 | 31637 | 31479 | 31353 | 31071 | 3.71 | 3.74 | 3.74 | 3.75 | 3.77 |
|            | 32°F (-0.0°C)   | 30377 | 29769 | 29620 | 29502 | 29236 | 3.28 | 3.31 | 3.32 | 3.32 | 3.34 |
|            | 35°F (1.7°C)    | 29233 | 28648 | 28505 | 28391 | 28135 | 3.03 | 3.05 | 3.06 | 3.07 | 3.08 |
|            | 37°F (2.8°C)    | 30488 | 29878 | 29728 | 29609 | 29343 | 3.02 | 3.04 | 3.05 | 3.05 | 3.07 |
|            | 42°F (5.6°C)    | 33624 | 32952 | 32787 | 32656 | 32362 | 2.99 | 3.01 | 3.02 | 3.02 | 3.03 |
|            | 44.6°F (7.0°C)  | 34879 | 34181 | 34010 | 33874 | 33569 | 2.97 | 3.00 | 3.00 | 3.01 | 3.02 |
|            | 47°F (8.3°C)    | 36761 | 36025 | 35845 | 35702 | 35381 | 2.95 | 2.98 | 2.98 | 2.99 | 3.00 |
|            | 52°F (11.1°C)   | 33301 | 32635 | 32472 | 32342 | 32051 | 2.69 | 2.71 | 2.72 | 2.73 | 2.74 |
|            | 57°F (13.9°C)   | 29841 | 29244 | 29098 | 28982 | 28721 | 2.43 | 2.45 | 2.46 | 2.46 | 2.47 |
|            | 59°F (15.0°C)   | 28457 | 27888 | 27748 | 27637 | 27389 | 2.33 | 2.34 | 2.35 | 2.35 | 2.36 |
|            | 62°F (16.7°C)   | 26381 | 25854 | 25724 | 25621 | 25391 | 2.17 | 2.19 | 2.19 | 2.19 | 2.20 |
|            | 64.4°F (18.0°C) | 24997 | 24497 | 24375 | 24277 | 24059 | 2.06 | 2.08 | 2.08 | 2.09 | 2.10 |
| <b>620</b> | -22°F (-30.0°C) | 20578 | 20167 | 20066 | 19986 | 19806 | 3.77 | 3.80 | 3.80 | 3.81 | 3.83 |
|            | -13°F (-25.0°C) | 23980 | 23500 | 23382 | 23289 | 23079 | 4.14 | 4.17 | 4.18 | 4.19 | 4.21 |
|            | -4°F (-20.0°C)  | 28910 | 28332 | 28190 | 28077 | 27824 | 4.36 | 4.39 | 4.40 | 4.41 | 4.43 |
|            | 0°F (-17.8°C)   | 31233 | 30609 | 30456 | 30334 | 30061 | 4.53 | 4.57 | 4.58 | 4.58 | 4.60 |
|            | 5°F (-15.0°C)   | 34137 | 33455 | 33287 | 33154 | 32856 | 4.74 | 4.78 | 4.79 | 4.80 | 4.82 |
|            | 14°F (-10.0°C)  | 37584 | 36832 | 36648 | 36502 | 36173 | 4.63 | 4.67 | 4.68 | 4.69 | 4.71 |
|            | 17°F (-8.3°C)   | 38733 | 37958 | 37768 | 37617 | 37279 | 4.60 | 4.63 | 4.64 | 4.65 | 4.67 |
|            | 22°F (-5.6°C)   | 36687 | 35954 | 35774 | 35631 | 35310 | 4.17 | 4.20 | 4.21 | 4.22 | 4.24 |
|            | 27°F (-2.8°C)   | 34642 | 33949 | 33779 | 33644 | 33341 | 3.74 | 3.77 | 3.78 | 3.79 | 3.80 |
|            | 32°F (-0.0°C)   | 32596 | 31944 | 31785 | 31658 | 31373 | 3.32 | 3.34 | 3.35 | 3.36 | 3.37 |
|            | 35°F (1.7°C)    | 31369 | 30742 | 30588 | 30466 | 30191 | 3.06 | 3.09 | 3.09 | 3.10 | 3.11 |
|            | 37°F (2.8°C)    | 32715 | 32061 | 31901 | 31773 | 31487 | 3.05 | 3.07 | 3.08 | 3.09 | 3.10 |
|            | 42°F (5.6°C)    | 36081 | 35359 | 35183 | 35042 | 34726 | 3.02 | 3.04 | 3.05 | 3.05 | 3.07 |
|            | 44.6°F (7.0°C)  | 37427 | 36679 | 36495 | 36349 | 36022 | 3.00 | 3.03 | 3.03 | 3.04 | 3.05 |
|            | 47°F (8.3°C)    | 39447 | 38658 | 38464 | 38311 | 37966 | 2.98 | 3.01 | 3.01 | 3.02 | 3.03 |
|            | 52°F (11.1°C)   | 35734 | 35019 | 34844 | 34705 | 34393 | 2.72 | 2.74 | 2.75 | 2.75 | 2.76 |
|            | 57°F (13.9°C)   | 32021 | 31381 | 31224 | 31099 | 30819 | 2.46 | 2.48 | 2.48 | 2.49 | 2.49 |
|            | 59°F (15.0°C)   | 30536 | 29926 | 29776 | 29657 | 29390 | 2.35 | 2.37 | 2.37 | 2.38 | 2.39 |
|            | 62°F (16.7°C)   | 28309 | 27743 | 27604 | 27494 | 27246 | 2.19 | 2.21 | 2.21 | 2.22 | 2.23 |
|            | 64.4°F (18.0°C) | 26824 | 26287 | 26156 | 26051 | 25817 | 2.08 | 2.10 | 2.11 | 2.11 | 2.12 |

Cooling Performance - 36K 37MUHA + 45MUAA

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                  |                          | ID DB(°F)    | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 712              | -22°F (-30.0°C)          | TC           | 23382              | 23413              | 23438              | 23439              | 23471              | 24791              | 24820              | 24845              | 24849              | 24879              | 26272              | 26306              | 26335              | 26340              | 26370              | 27855              | 27885              | 27915              | 27920              | 27954              |
|                  |                          | S/T          | 0.39               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               |
|                  |                          | PI           | 0.96               | 0.96               | 0.96               | 0.96               | 0.96               | 1.02               | 1.02               | 1.02               | 1.02               | 1.02               | 1.08               | 1.08               | 1.08               | 1.08               | 1.08               | 1.14               | 1.14               | 1.15               | 1.15               | 1.15               |
|                  | -13°F (-25.0°C)          | TC           | 25330              | 25364              | 25391              | 25393              | 25427              | 26857              | 26888              | 26915              | 26920              | 26952              | 28461              | 28498              | 28530              | 28535              | 28567              | 30176              | 30209              | 30242              | 30246              | 30284              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.45               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.04               | 1.04               | 1.04               | 1.04               | 1.04               | 1.10               | 1.10               | 1.10               | 1.10               | 1.11               | 1.17               | 1.17               | 1.17               | 1.17               | 1.17               | 1.24               | 1.24               | 1.24               | 1.24               | 1.24               |
|                  | -4°F (-20.0°C)           | TC           | 27279              | 27315              | 27345              | 27346              | 27383              | 28922              | 28957              | 28985              | 28991              | 29025              | 30650              | 30690              | 30724              | 30730              | 30764              | 32497              | 32533              | 32568              | 32573              | 32614              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.47               | 0.56               | 0.63               | 0.63               | 0.72               |
|                  |                          | PI           | 1.12               | 1.12               | 1.12               | 1.12               | 1.12               | 1.19               | 1.19               | 1.19               | 1.19               | 1.19               | 1.26               | 1.26               | 1.26               | 1.26               | 1.26               | 1.33               | 1.34               | 1.34               | 1.34               | 1.34               |
|                  | 0°F (-17.8°C)            | TC           | 28145              | 28182              | 28213              | 28214              | 28252              | 29841              | 29876              | 29905              | 29911              | 29947              | 31623              | 31665              | 31700              | 31706              | 31741              | 33529              | 33565              | 33602              | 33607              | 33649              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.57               | 0.57               | 0.64               | 0.45               | 0.53               | 0.60               | 0.60               | 0.68               | 0.48               | 0.56               | 0.63               | 0.64               | 0.72               |
|                  |                          | PI           | 1.15               | 1.16               | 1.16               | 1.16               | 1.16               | 1.22               | 1.23               | 1.23               | 1.23               | 1.23               | 1.30               | 1.30               | 1.30               | 1.30               | 1.30               | 1.38               | 1.38               | 1.38               | 1.38               | 1.38               |
|                  | 5°F (-15.0°C)            | TC           | 29227              | 29266              | 29298              | 29299              | 29339              | 30988              | 31025              | 31056              | 31062              | 31099              | 32840              | 32882              | 32919              | 32925              | 32962              | 34818              | 34856              | 34894              | 34900              | 34943              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               | 0.45               | 0.53               | 0.60               | 0.60               | 0.69               | 0.48               | 0.56               | 0.64               | 0.64               | 0.73               |
|                  |                          | PI           | 1.20               | 1.20               | 1.20               | 1.20               | 1.20               | 1.27               | 1.27               | 1.27               | 1.27               | 1.28               | 1.35               | 1.35               | 1.35               | 1.35               | 1.35               | 1.43               | 1.43               | 1.43               | 1.43               | 1.43               |
|                  | 14°F (-10.0°C)           | TC           | 32657              | 32701              | 32736              | 32738              | 32782              | 34625              | 34666              | 34700              | 34707              | 34748              | 36694              | 36741              | 36782              | 36789              | 36830              | 38905              | 38947              | 38989              | 38995              | 39044              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               | 0.45               | 0.53               | 0.60               | 0.60               | 0.69               | 0.48               | 0.56               | 0.64               | 0.64               | 0.73               |
|                  |                          | PI           | 1.50               | 1.50               | 1.51               | 1.51               | 1.51               | 1.59               | 1.60               | 1.60               | 1.60               | 1.60               | 1.69               | 1.69               | 1.69               | 1.69               | 1.69               | 1.79               | 1.79               | 1.79               | 1.79               | 1.80               |
|                  | 17°F (-8.3°C)            | TC           | 33800              | 33846              | 33882              | 33884              | 33929              | 35837              | 35880              | 35915              | 35922              | 35965              | 37978              | 38028              | 38070              | 38077              | 38120              | 40267              | 40310              | 40354              | 40361              | 40411              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               | 0.45               | 0.53               | 0.61               | 0.61               | 0.69               | 0.48               | 0.56               | 0.64               | 0.64               | 0.73               |
|                  |                          | PI           | 1.60               | 1.61               | 1.61               | 1.61               | 1.61               | 1.70               | 1.70               | 1.70               | 1.70               | 1.71               | 1.80               | 1.80               | 1.81               | 1.81               | 1.81               | 1.91               | 1.91               | 1.92               | 1.92               | 1.92               |
|                  | 23°F (-5.0°C)            | TC           | 34704              | 34751              | 34788              | 34790              | 34837              | 36796              | 36839              | 36876              | 36883              | 36927              | 38994              | 39045              | 39088              | 39095              | 39139              | 41343              | 41388              | 41433              | 41440              | 41491              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               | 0.46               | 0.54               | 0.61               | 0.61               | 0.69               | 0.48               | 0.57               | 0.64               | 0.64               | 0.73               |
|                  |                          | PI           | 1.89               | 1.90               | 1.90               | 1.90               | 1.90               | 2.01               | 2.01               | 2.01               | 2.01               | 2.02               | 2.13               | 2.13               | 2.13               | 2.13               | 2.14               | 2.26               | 2.26               | 2.26               | 2.26               | 2.27               |
|                  | 35°F (1.7°C)             | TC           | 36512              | 36561              | 36600              | 36602              | 36651              | 38712              | 38758              | 38796              | 38804              | 38850              | 41025              | 41078              | 41124              | 41132              | 41178              | 43497              | 43544              | 43592              | 43598              | 43653              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                  |                          | PI           | 2.48               | 2.48               | 2.48               | 2.48               | 2.49               | 2.63               | 2.63               | 2.63               | 2.63               | 2.64               | 2.78               | 2.79               | 2.79               | 2.79               | 2.79               | 2.95               | 2.95               | 2.96               | 2.96               | 2.96               |
|                  | 41°F (5.0°C)             | TC           | 32511              | 32555              | 32590              | 32591              | 32635              | 34470              | 34511              | 34545              | 34552              | 34593              | 36530              | 36577              | 36618              | 36625              | 36666              | 38731              | 38773              | 38815              | 38821              | 38869              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                  |                          | PI           | 1.96               | 1.96               | 1.96               | 1.96               | 1.97               | 2.08               | 2.08               | 2.08               | 2.08               | 2.08               | 2.20               | 2.20               | 2.21               | 2.21               | 2.21               | 2.33               | 2.34               | 2.34               | 2.34               | 2.34               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

**Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 2 of 8)**

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 712 | 47°F (8.3°C)   | TC  | 28510 | 28549 | 28579 | 28581 | 28619 | 30228 | 30264 | 30294 | 30300 | 30336 | 32034 | 32076 | 32112 | 32118 | 32154 | 33965 | 34002 | 34039 | 34044 | 34086 |
|     |                | S/T | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  |
|     |                | PI  | 1.44  | 1.44  | 1.44  | 1.44  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  | 1.62  | 1.62  | 1.62  | 1.62  | 1.63  | 1.72  | 1.72  | 1.72  | 1.72  | 1.72  |
|     | 50°F (10.0°C)  | TC  | 28640 | 28678 | 28709 | 28710 | 28749 | 30366 | 30402 | 30432 | 30438 | 30474 | 32180 | 32222 | 32258 | 32264 | 32300 | 34119 | 34156 | 34193 | 34198 | 34241 |
|     |                | S/T | 0.41  | 0.48  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  |
|     |                | PI  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  |
|     | 59°F (15.0°C)  | TC  | 29028 | 29067 | 29098 | 29100 | 29139 | 30777 | 30814 | 30844 | 30850 | 30887 | 32616 | 32658 | 32695 | 32701 | 32737 | 34581 | 34619 | 34656 | 34662 | 34705 |
|     |                | S/T | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  |
|     |                | PI  | 1.74  | 1.74  | 1.74  | 1.74  | 1.75  | 1.84  | 1.85  | 1.85  | 1.85  | 1.85  | 1.95  | 1.96  | 1.96  | 1.96  | 1.96  | 2.07  | 2.07  | 2.08  | 2.08  | 2.08  |
|     | 68°F (20.0°C)  | TC  | 29416 | 29456 | 29487 | 29489 | 29528 | 31189 | 31226 | 31257 | 31263 | 31300 | 33052 | 33095 | 33132 | 33138 | 33175 | 35044 | 35082 | 35120 | 35125 | 35169 |
|     |                | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  |
|     |                | PI  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  | 2.34  | 2.34  | 2.34  | 2.34  | 2.35  |
|     | 77°F (25.0°C)  | TC  | 29804 | 29844 | 29876 | 29878 | 29918 | 31600 | 31638 | 31669 | 31675 | 31713 | 33488 | 33532 | 33569 | 33575 | 33613 | 35506 | 35545 | 35583 | 35589 | 35633 |
|     |                | S/T | 0.43  | 0.51  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                | PI  | 2.19  | 2.19  | 2.19  | 2.19  | 2.20  | 2.32  | 2.32  | 2.32  | 2.32  | 2.33  | 2.46  | 2.46  | 2.46  | 2.46  | 2.47  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  |
|     | 82°F (27.8°C)  | TC  | 30090 | 30130 | 30163 | 30164 | 30205 | 31903 | 31941 | 31972 | 31979 | 32017 | 33809 | 33853 | 33891 | 33897 | 33935 | 35846 | 35885 | 35924 | 35930 | 35975 |
|     |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                | PI  | 2.39  | 2.40  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.54  | 2.54  | 2.55  | 2.69  | 2.69  | 2.70  | 2.70  | 2.70  | 2.85  | 2.85  | 2.86  | 2.86  | 2.86  |
|     | 86°F (30.0°C)  | TC  | 30406 | 30447 | 30480 | 30482 | 30523 | 32239 | 32277 | 32309 | 32315 | 32354 | 34165 | 34209 | 34247 | 34254 | 34292 | 36224 | 36263 | 36302 | 36308 | 36353 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 2.66  | 2.66  | 2.67  | 2.67  | 2.67  | 2.82  | 2.82  | 2.83  | 2.83  | 2.83  | 2.99  | 2.99  | 3.00  | 3.00  | 3.00  | 3.17  | 3.17  | 3.18  | 3.18  | 3.18  |
|     | 95°F (35.0°C)  | TC  | 31119 | 31161 | 31194 | 31196 | 31238 | 32994 | 33033 | 33066 | 33073 | 33112 | 34966 | 35011 | 35050 | 35057 | 35096 | 37072 | 37113 | 37153 | 37159 | 37205 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 3.26  | 3.26  | 3.27  | 3.27  | 3.27  | 3.46  | 3.46  | 3.46  | 3.46  | 3.47  | 3.66  | 3.67  | 3.67  | 3.67  | 3.68  | 3.88  | 3.89  | 3.89  | 3.89  | 3.90  |
|     | 104°F (40.0°C) | TC  | 28652 | 28691 | 28722 | 28723 | 28762 | 30379 | 30415 | 30445 | 30451 | 30487 | 32194 | 32236 | 32272 | 32278 | 32314 | 34134 | 34171 | 34208 | 34213 | 34256 |
|     |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                | PI  | 3.23  | 3.24  | 3.24  | 3.24  | 3.24  | 3.43  | 3.43  | 3.43  | 3.43  | 3.44  | 3.63  | 3.64  | 3.64  | 3.64  | 3.64  | 3.85  | 3.85  | 3.86  | 3.86  | 3.86  |
|     | 110°F (43.0°C) | TC  | 27172 | 27209 | 27238 | 27239 | 27276 | 28810 | 28844 | 28872 | 28878 | 28912 | 30531 | 30571 | 30605 | 30610 | 30644 | 32370 | 32406 | 32441 | 32446 | 32486 |
|     |                | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                | PI  | 3.21  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.42  | 3.42  | 3.42  | 3.61  | 3.62  | 3.62  | 3.62  | 3.63  | 3.83  | 3.83  | 3.84  | 3.84  | 3.84  |
|     | 115°F (46.0°C) | TC  | 23383 | 23415 | 23440 | 23441 | 23472 | 24792 | 24822 | 24846 | 24851 | 24881 | 26273 | 26308 | 26337 | 26342 | 26371 | 27857 | 27887 | 27917 | 27921 | 27956 |
|     |                | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                | PI  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  | 3.06  | 3.06  | 3.06  | 3.06  | 3.07  | 3.24  | 3.24  | 3.25  | 3.25  | 3.25  | 3.44  | 3.44  | 3.44  | 3.44  | 3.45  |
|     | 122°F (50.0°C) | TC  | 18331 | 18356 | 18376 | 18376 | 18401 | 19436 | 19459 | 19478 | 19482 | 19505 | 20597 | 20624 | 20647 | 20651 | 20674 | 21838 | 21862 | 21886 | 21889 | 21916 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 2.44  | 2.45  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.60  | 2.60  | 2.74  | 2.75  | 2.75  | 2.75  | 2.75  | 2.91  | 2.91  | 2.92  | 2.92  | 2.92  |

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | -22°F<br>(-30.0°C) | TC  | 24908 | 24941 | 24968 | 24969 | 25003 | 26409 | 26440 | 26466 | 26471 | 26503 | 27986 | 28023 | 28054 | 28059 | 28091 | 29673 | 29705 | 29737 | 29742 | 29779 |
|     |                    | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 1.02  | 1.02  | 1.02  | 1.02  | 1.03  | 1.08  | 1.08  | 1.09  | 1.09  | 1.09  | 1.15  | 1.15  | 1.15  | 1.15  | 1.15  | 1.22  | 1.22  | 1.22  | 1.22  | 1.22  |
|     | -13°F<br>(-25.0°C) | TC  | 26983 | 27020 | 27049 | 27050 | 27086 | 28609 | 28643 | 28672 | 28677 | 28711 | 30319 | 30358 | 30392 | 30397 | 30431 | 32145 | 32180 | 32215 | 32220 | 32260 |
|     |                    | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                    | PI  | 1.11  | 1.11  | 1.11  | 1.11  | 1.11  | 1.17  | 1.18  | 1.18  | 1.18  | 1.18  | 1.24  | 1.25  | 1.25  | 1.25  | 1.25  | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  |
|     | -4°F<br>(-20.0°C)  | TC  | 29059 | 29098 | 29129 | 29131 | 29170 | 30810 | 30847 | 30877 | 30883 | 30920 | 32651 | 32693 | 32730 | 32736 | 32772 | 34618 | 34656 | 34693 | 34699 | 34742 |
|     |                    | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                    | PI  | 1.19  | 1.19  | 1.20  | 1.20  | 1.20  | 1.26  | 1.27  | 1.27  | 1.27  | 1.27  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.43  |
|     | 0°F (-17.8°C)      | TC  | 29981 | 30022 | 30054 | 30055 | 30096 | 31788 | 31826 | 31857 | 31864 | 31901 | 33687 | 33731 | 33769 | 33775 | 33813 | 35717 | 35756 | 35795 | 35800 | 35845 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 1.23  | 1.23  | 1.23  | 1.23  | 1.24  | 1.30  | 1.31  | 1.31  | 1.31  | 1.31  | 1.38  | 1.38  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.47  |
|     | 5°F (-15.0°C)      | TC  | 31134 | 31176 | 31210 | 31211 | 31253 | 33011 | 33050 | 33083 | 33089 | 33128 | 34983 | 35028 | 35067 | 35074 | 35113 | 37091 | 37131 | 37172 | 37177 | 37224 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  | 1.35  | 1.36  | 1.36  | 1.36  | 1.36  | 1.44  | 1.44  | 1.44  | 1.44  | 1.44  | 1.52  | 1.52  | 1.53  | 1.53  | 1.53  |
|     | 14°F<br>(-10.0°C)  | TC  | 34788 | 34835 | 34873 | 34874 | 34921 | 36885 | 36929 | 36965 | 36972 | 37016 | 39089 | 39139 | 39183 | 39190 | 39234 | 41444 | 41489 | 41534 | 41540 | 41592 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.60  | 1.60  | 1.60  | 1.60  | 1.61  | 1.70  | 1.70  | 1.70  | 1.70  | 1.70  | 1.80  | 1.80  | 1.80  | 1.80  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.91  |
|     | 17°F (-8.3°C)      | TC  | 36006 | 36055 | 36094 | 36095 | 36144 | 38176 | 38221 | 38259 | 38267 | 38312 | 40457 | 40510 | 40555 | 40562 | 40608 | 42895 | 42941 | 42988 | 42995 | 43048 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.71  | 1.71  | 1.71  | 1.71  | 1.72  | 1.81  | 1.81  | 1.82  | 1.82  | 1.82  | 1.92  | 1.92  | 1.92  | 1.92  | 1.93  | 2.04  | 2.04  | 2.04  | 2.04  | 2.04  |
|     | 23°F (-5.0°C)      | TC  | 36969 | 37019 | 37059 | 37060 | 37110 | 39197 | 39243 | 39282 | 39290 | 39337 | 41539 | 41593 | 41639 | 41647 | 41693 | 44042 | 44090 | 44138 | 44144 | 44199 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 2.02  | 2.02  | 2.02  | 2.02  | 2.03  | 2.14  | 2.14  | 2.14  | 2.15  | 2.15  | 2.27  | 2.27  | 2.27  | 2.27  | 2.28  | 2.40  | 2.41  | 2.41  | 2.41  | 2.41  |
|     | 35°F (1.7°C)       | TC  | 38895 | 38947 | 38989 | 38991 | 39043 | 41239 | 41288 | 41328 | 41337 | 41386 | 43702 | 43759 | 43808 | 43816 | 43865 | 46336 | 46386 | 46437 | 46444 | 46502 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 2.64  | 2.64  | 2.64  | 2.64  | 2.65  | 2.80  | 2.80  | 2.80  | 2.80  | 2.81  | 2.96  | 2.97  | 2.97  | 2.97  | 2.98  | 3.14  | 3.15  | 3.15  | 3.15  | 3.15  |
|     | 41°F (5.0°C)       | TC  | 34633 | 34679 | 34717 | 34718 | 34765 | 36720 | 36763 | 36800 | 36807 | 36851 | 38914 | 38964 | 39008 | 39015 | 39059 | 41258 | 41303 | 41348 | 41355 | 41406 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 2.09  | 2.09  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.22  | 2.22  | 2.22  | 2.34  | 2.35  | 2.35  | 2.35  | 2.35  | 2.49  | 2.49  | 2.49  | 2.49  | 2.49  |
|     | 47°F (8.3°C)       | TC  | 30371 | 30412 | 30445 | 30446 | 30487 | 32201 | 32239 | 32271 | 32278 | 32316 | 34125 | 34169 | 34208 | 34214 | 34252 | 36181 | 36221 | 36260 | 36266 | 36311 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.63  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.84  |
|     | 50°F (10.0°C)      | TC  | 30509 | 30550 | 30583 | 30584 | 30625 | 32347 | 32386 | 32418 | 32424 | 32463 | 34280 | 34325 | 34363 | 34369 | 34408 | 36345 | 36385 | 36425 | 36430 | 36476 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|     |                    | PI  | 1.61  | 1.62  | 1.62  | 1.62  | 1.62  | 1.71  | 1.71  | 1.72  | 1.72  | 1.72  | 1.81  | 1.82  | 1.82  | 1.82  | 1.82  | 1.92  | 1.93  | 1.93  | 1.93  | 1.93  |

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 4 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | 59°F (15.0°C)   | TC  | 30922 | 30964 | 30997 | 30999 | 31040 | 32786 | 32825 | 32857 | 32864 | 32903 | 34745 | 34790 | 34829 | 34835 | 34874 | 36838 | 36878 | 36918 | 36924 | 36970 |
|     |                 | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                 | PI  | 1.85  | 1.86  | 1.86  | 1.86  | 1.86  | 1.96  | 1.97  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.09  | 2.09  | 2.09  | 2.21  | 2.21  | 2.21  | 2.21  | 2.22  |
|     | 68°F (20.0°C)   | TC  | 31336 | 31378 | 31412 | 31413 | 31456 | 33224 | 33264 | 33296 | 33303 | 33343 | 35209 | 35255 | 35294 | 35301 | 35340 | 37331 | 37371 | 37412 | 37418 | 37464 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                 | PI  | 2.09  | 2.09  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.22  | 2.22  | 2.23  | 2.35  | 2.35  | 2.36  | 2.36  | 2.36  | 2.49  | 2.49  | 2.50  | 2.50  | 2.50  |
|     | 77°F (25.0°C)   | TC  | 31749 | 31792 | 31826 | 31828 | 31871 | 33663 | 33703 | 33736 | 33743 | 33783 | 35674 | 35720 | 35760 | 35767 | 35807 | 37823 | 37864 | 37906 | 37912 | 37959 |
|     |                 | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                 | PI  | 2.33  | 2.33  | 2.34  | 2.34  | 2.34  | 2.47  | 2.47  | 2.48  | 2.48  | 2.48  | 2.62  | 2.62  | 2.62  | 2.63  | 2.63  | 2.78  | 2.78  | 2.78  | 2.78  | 2.79  |
|     | 82°F (27.8°C)   | TC  | 32054 | 32097 | 32131 | 32133 | 32176 | 33985 | 34026 | 34059 | 34066 | 34106 | 36016 | 36062 | 36103 | 36109 | 36150 | 38186 | 38227 | 38269 | 38275 | 38322 |
|     |                 | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 2.55  | 2.55  | 2.56  | 2.56  | 2.56  | 2.70  | 2.71  | 2.71  | 2.71  | 2.71  | 2.86  | 2.87  | 2.87  | 2.87  | 2.87  | 3.04  | 3.04  | 3.04  | 3.04  | 3.05  |
|     | 86°F (30.0°C)   | TC  | 32391 | 32434 | 32469 | 32471 | 32515 | 34343 | 34384 | 34418 | 34424 | 34465 | 36395 | 36442 | 36483 | 36489 | 36530 | 38588 | 38630 | 38672 | 38678 | 38726 |
|     |                 | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.70  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                 | PI  | 2.83  | 2.84  | 2.84  | 2.84  | 2.84  | 3.00  | 3.01  | 3.01  | 3.01  | 3.01  | 3.18  | 3.19  | 3.19  | 3.19  | 3.20  | 3.38  | 3.38  | 3.38  | 3.38  | 3.39  |
|     | 95°F (35.0°C)   | TC  | 33150 | 33195 | 33230 | 33232 | 33277 | 35148 | 35189 | 35224 | 35231 | 35273 | 37248 | 37296 | 37338 | 37344 | 37386 | 39492 | 39535 | 39578 | 39584 | 39633 |
|     |                 | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.70  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                 | PI  | 3.47  | 3.48  | 3.48  | 3.48  | 3.49  | 3.68  | 3.69  | 3.69  | 3.69  | 3.69  | 3.90  | 3.91  | 3.91  | 3.91  | 3.92  | 4.14  | 4.14  | 4.15  | 4.15  | 4.15  |
|     | 104°F (40.0°C)  | TC  | 30522 | 30563 | 30596 | 30598 | 30639 | 32362 | 32400 | 32432 | 32438 | 32477 | 34295 | 34340 | 34378 | 34384 | 34423 | 36361 | 36401 | 36440 | 36446 | 36492 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 3.44  | 3.45  | 3.45  | 3.45  | 3.46  | 3.65  | 3.65  | 3.66  | 3.66  | 3.66  | 3.87  | 3.87  | 3.88  | 3.88  | 3.88  | 4.10  | 4.11  | 4.11  | 4.11  | 4.12  |
|     | 110°F (43.0°C)  | TC  | 28945 | 28984 | 29016 | 29017 | 29056 | 30690 | 30726 | 30757 | 30763 | 30799 | 32523 | 32566 | 32602 | 32608 | 32644 | 34483 | 34521 | 34558 | 34563 | 34607 |
|     |                 | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.60  | 0.70  | 0.79  | 0.79  | 0.91  |
|     |                 | PI  | 3.42  | 3.43  | 3.43  | 3.43  | 3.44  | 3.63  | 3.64  | 3.64  | 3.64  | 3.64  | 3.85  | 3.85  | 3.86  | 3.86  | 3.86  | 4.08  | 4.08  | 4.09  | 4.09  | 4.09  |
|     | 115°F (46.0°C)  | TC  | 24909 | 24943 | 24970 | 24971 | 25004 | 26410 | 26442 | 26468 | 26473 | 26504 | 27988 | 28025 | 28056 | 28061 | 28092 | 29675 | 29707 | 29739 | 29744 | 29781 |
|     |                 | S/T | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                 | PI  | 3.07  | 3.08  | 3.08  | 3.08  | 3.08  | 3.26  | 3.26  | 3.26  | 3.26  | 3.27  | 3.45  | 3.46  | 3.46  | 3.46  | 3.46  | 3.66  | 3.66  | 3.67  | 3.67  | 3.67  |
|     | 122°F (50.0°C)  | TC  | 19527 | 19554 | 19575 | 19576 | 19602 | 20704 | 20729 | 20749 | 20753 | 20778 | 21941 | 21970 | 21994 | 21998 | 22023 | 23263 | 23289 | 23314 | 23318 | 23347 |
|     |                 | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  |
|     |                 | PI  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  | 2.92  | 2.93  | 2.93  | 2.93  | 2.93  | 3.10  | 3.10  | 3.11  | 3.11  | 3.11  |
| 894 | -22°F (-30.0°C) | TC  | 26533 | 26569 | 26597 | 26599 | 26635 | 28132 | 28165 | 28193 | 28199 | 28232 | 29813 | 29852 | 29885 | 29890 | 29924 | 31609 | 31644 | 31678 | 31683 | 31722 |
|     |                 | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 1.09  | 1.09  | 1.09  | 1.09  | 1.09  | 1.15  | 1.16  | 1.16  | 1.16  | 1.16  | 1.22  | 1.22  | 1.23  | 1.23  | 1.23  | 1.30  | 1.30  | 1.30  | 1.30  | 1.30  |
|     | -13°F (-25.0°C) | TC  | 28744 | 28783 | 28814 | 28815 | 28854 | 30477 | 30513 | 30543 | 30549 | 30585 | 32297 | 32339 | 32375 | 32381 | 32417 | 34243 | 34281 | 34318 | 34323 | 34366 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 1.18  | 1.18  | 1.18  | 1.18  | 1.18  | 1.25  | 1.25  | 1.25  | 1.25  | 1.26  | 1.33  | 1.33  | 1.33  | 1.33  | 1.33  | 1.41  | 1.41  | 1.41  | 1.41  | 1.41  |

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | -4°F<br>(-20.0°C) | TC  | 30955 | 30997 | 31030 | 31032 | 31074 | 32821 | 32860 | 32892 | 32899 | 32938 | 34782 | 34827 | 34866 | 34872 | 34911 | 36877 | 36917 | 36958 | 36963 | 37009 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 1.27  | 1.27  | 1.27  | 1.27  | 1.28  | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  | 1.51  | 1.51  | 1.52  | 1.52  | 1.52  |
|     | 0°F (-17.8°C)     | TC  | 31938 | 31981 | 32015 | 32017 | 32060 | 33863 | 33903 | 33936 | 33943 | 33983 | 35886 | 35933 | 35973 | 35979 | 36019 | 38048 | 38089 | 38131 | 38137 | 38184 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 1.31  | 1.31  | 1.31  | 1.31  | 1.32  | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.48  | 1.48  | 1.48  | 1.56  | 1.56  | 1.56  | 1.56  | 1.57  |
|     | 5°F (-15.0°C)     | TC  | 33166 | 33211 | 33247 | 33248 | 33293 | 35165 | 35207 | 35242 | 35249 | 35290 | 37266 | 37315 | 37356 | 37363 | 37405 | 39512 | 39554 | 39598 | 39604 | 39653 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                   | PI  | 1.36  | 1.36  | 1.36  | 1.36  | 1.37  | 1.44  | 1.44  | 1.45  | 1.45  | 1.45  | 1.53  | 1.53  | 1.53  | 1.53  | 1.53  | 1.62  | 1.62  | 1.62  | 1.63  | 1.63  |
|     | 14°F (-10.0°C)    | TC  | 37059 | 37109 | 37149 | 37150 | 37200 | 39292 | 39339 | 39378 | 39385 | 39432 | 41640 | 41694 | 41740 | 41748 | 41795 | 44149 | 44196 | 44245 | 44251 | 44307 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  | 1.81  | 1.81  | 1.81  | 1.81  | 1.81  | 1.92  | 1.92  | 1.92  | 1.92  | 1.92  | 2.03  | 2.03  | 2.04  | 2.04  | 2.04  |
|     | 17°F (-8.3°C)     | TC  | 38356 | 38408 | 38449 | 38451 | 38503 | 40668 | 40716 | 40756 | 40764 | 40813 | 43097 | 43153 | 43202 | 43210 | 43258 | 45694 | 45744 | 45794 | 45801 | 45858 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.82  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  |
|     | 23°F (-5.0°C)     | TC  | 39382 | 39435 | 39477 | 39479 | 39532 | 41755 | 41805 | 41846 | 41854 | 41904 | 44250 | 44307 | 44357 | 44365 | 44414 | 46916 | 46967 | 47018 | 47025 | 47084 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 2.15  | 2.15  | 2.16  | 2.16  | 2.16  | 2.28  | 2.28  | 2.28  | 2.29  | 2.29  | 2.42  | 2.42  | 2.42  | 2.42  | 2.43  | 2.56  | 2.56  | 2.57  | 2.57  | 2.57  |
|     | 35°F (1.7°C)      | TC  | 41433 | 41489 | 41534 | 41535 | 41591 | 43930 | 43982 | 44026 | 44034 | 44087 | 46555 | 46615 | 46667 | 46676 | 46728 | 49360 | 49413 | 49467 | 49475 | 49536 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 2.81  | 2.81  | 2.82  | 2.82  | 2.82  | 2.98  | 2.98  | 2.99  | 2.99  | 2.99  | 3.16  | 3.16  | 3.17  | 3.17  | 3.17  | 3.35  | 3.35  | 3.36  | 3.36  | 3.36  |
|     | 41°F (5.0°C)      | TC  | 36893 | 36943 | 36983 | 36984 | 37034 | 39117 | 39163 | 39202 | 39209 | 39256 | 41454 | 41507 | 41554 | 41561 | 41608 | 43951 | 43999 | 44047 | 44054 | 44109 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 2.22  | 2.23  | 2.23  | 2.23  | 2.23  | 2.36  | 2.36  | 2.36  | 2.36  | 2.37  | 2.50  | 2.50  | 2.50  | 2.50  | 2.51  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  |
|     | 47°F (8.3°C)      | TC  | 32353 | 32397 | 32432 | 32433 | 32477 | 34303 | 34344 | 34377 | 34384 | 34425 | 36352 | 36400 | 36440 | 36447 | 36488 | 38543 | 38585 | 38626 | 38632 | 38681 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 1.64  | 1.64  | 1.64  | 1.64  | 1.64  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.84  | 1.95  | 1.95  | 1.95  | 1.95  | 1.96  |
|     | 50°F (10.0°C)     | TC  | 32500 | 32544 | 32579 | 32580 | 32624 | 34459 | 34499 | 34533 | 34540 | 34581 | 36517 | 36565 | 36605 | 36612 | 36653 | 38718 | 38760 | 38802 | 38808 | 38856 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 1.72  | 1.72  | 1.72  | 1.72  | 1.73  | 1.82  | 1.83  | 1.83  | 1.83  | 1.83  | 1.93  | 1.94  | 1.94  | 1.94  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.06  |
|     | 59°F (15.0°C)     | TC  | 32940 | 32985 | 33020 | 33022 | 33066 | 34926 | 34967 | 35002 | 35008 | 35050 | 37012 | 37060 | 37102 | 37109 | 37150 | 39242 | 39285 | 39328 | 39334 | 39383 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                   | PI  | 1.97  | 1.98  | 1.98  | 1.98  | 1.98  | 2.09  | 2.10  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.22  | 2.22  | 2.23  | 2.35  | 2.35  | 2.36  | 2.36  | 2.36  |
|     | 68°F (20.0°C)     | TC  | 33381 | 33426 | 33462 | 33463 | 33508 | 35393 | 35435 | 35470 | 35477 | 35519 | 37507 | 37556 | 37598 | 37605 | 37647 | 39767 | 39810 | 39854 | 39860 | 39909 |
|     |                   | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                   | PI  | 2.23  | 2.23  | 2.23  | 2.23  | 2.24  | 2.36  | 2.37  | 2.37  | 2.37  | 2.37  | 2.50  | 2.51  | 2.51  | 2.51  | 2.51  | 2.65  | 2.66  | 2.66  | 2.66  | 2.66  |

**Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 6 of 8)**

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | 77°F (25.0°C)   | TC  | 33821 | 33867 | 33903 | 33905 | 33951 | 35860 | 35902 | 35938 | 35945 | 35987 | 38002 | 38051 | 38094 | 38101 | 38143 | 40292 | 40336 | 40380 | 40386 | 40436 |
|     |                 | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                 | PI  | 2.48  | 2.49  | 2.49  | 2.49  | 2.49  | 2.63  | 2.64  | 2.64  | 2.64  | 2.64  | 2.79  | 2.79  | 2.80  | 2.80  | 2.80  | 2.96  | 2.96  | 2.96  | 2.96  | 2.97  |
|     | 82°F (27.8°C)   | TC  | 34146 | 34191 | 34228 | 34230 | 34276 | 36203 | 36246 | 36282 | 36289 | 36332 | 38366 | 38416 | 38459 | 38466 | 38509 | 40678 | 40722 | 40766 | 40773 | 40824 |
|     |                 | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.72  | 2.72  | 2.72  | 2.72  | 2.73  | 2.88  | 2.88  | 2.89  | 2.89  | 2.89  | 3.05  | 3.06  | 3.06  | 3.06  | 3.06  | 3.23  | 3.24  | 3.24  | 3.24  | 3.25  |
|     | 86°F (30.0°C)   | TC  | 34505 | 34551 | 34589 | 34590 | 34637 | 36584 | 36628 | 36664 | 36671 | 36715 | 38770 | 38820 | 38864 | 38871 | 38914 | 41106 | 41151 | 41195 | 41202 | 41253 |
|     |                 | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                 | PI  | 3.02  | 3.02  | 3.03  | 3.03  | 3.03  | 3.20  | 3.20  | 3.21  | 3.21  | 3.21  | 3.39  | 3.40  | 3.40  | 3.40  | 3.40  | 3.60  | 3.60  | 3.60  | 3.60  | 3.61  |
|     | 95°F (35.0°C)   | TC  | 35313 | 35361 | 35399 | 35401 | 35448 | 37442 | 37486 | 37523 | 37530 | 37575 | 39679 | 39730 | 39774 | 39782 | 39826 | 42069 | 42115 | 42161 | 42167 | 42220 |
|     |                 | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                 | PI  | 3.70  | 3.70  | 3.71  | 3.71  | 3.71  | 3.92  | 3.93  | 3.93  | 3.93  | 3.94  | 4.16  | 4.16  | 4.17  | 4.17  | 4.17  | 4.41  | 4.41  | 4.42  | 4.42  | 4.42  |
|     | 104°F (40.0°C)  | TC  | 32514 | 32558 | 32593 | 32594 | 32638 | 34474 | 34514 | 34549 | 34555 | 34596 | 36533 | 36581 | 36621 | 36628 | 36669 | 38734 | 38777 | 38819 | 38825 | 38873 |
|     |                 | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                 | PI  | 3.67  | 3.67  | 3.68  | 3.68  | 3.68  | 3.89  | 3.89  | 3.90  | 3.90  | 3.90  | 4.12  | 4.13  | 4.13  | 4.13  | 4.14  | 4.37  | 4.37  | 4.38  | 4.38  | 4.38  |
|     | 110°F (43.0°C)  | TC  | 30835 | 30876 | 30909 | 30911 | 30952 | 32693 | 32732 | 32764 | 32770 | 32809 | 34646 | 34691 | 34730 | 34736 | 34775 | 36734 | 36773 | 36813 | 36819 | 36865 |
|     |                 | S/T | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.63  | 0.74  | 0.85  | 0.85  | 0.96  |
|     |                 | PI  | 3.65  | 3.65  | 3.66  | 3.66  | 3.66  | 3.87  | 3.87  | 3.88  | 3.88  | 3.88  | 4.10  | 4.10  | 4.11  | 4.11  | 4.11  | 4.35  | 4.35  | 4.36  | 4.36  | 4.36  |
|     | 115°F (46.0°C)  | TC  | 26535 | 26571 | 26599 | 26600 | 26636 | 28134 | 28167 | 28195 | 28201 | 28234 | 29815 | 29854 | 29887 | 29892 | 29926 | 31611 | 31646 | 31680 | 31685 | 31724 |
|     |                 | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.64  | 0.75  | 0.86  | 0.86  | 0.98  |
|     |                 | PI  | 3.27  | 3.28  | 3.28  | 3.28  | 3.28  | 3.47  | 3.47  | 3.48  | 3.48  | 3.48  | 3.68  | 3.68  | 3.69  | 3.69  | 3.69  | 3.90  | 3.90  | 3.91  | 3.91  | 3.91  |
|     | 122°F (50.0°C)  | TC  | 20802 | 20830 | 20852 | 20853 | 20881 | 22056 | 22082 | 22103 | 22108 | 22134 | 23373 | 23404 | 23430 | 23434 | 23460 | 24781 | 24808 | 24835 | 24839 | 24870 |
|     |                 | S/T | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  |
|     |                 | PI  | 2.77  | 2.77  | 2.78  | 2.78  | 2.78  | 2.94  | 2.94  | 2.94  | 2.95  | 2.95  | 3.11  | 3.12  | 3.12  | 3.12  | 3.13  | 3.30  | 3.30  | 3.31  | 3.31  | 3.31  |
| 988 | -22°F (-30.0°C) | TC  | 28265 | 28303 | 28333 | 28335 | 28373 | 29968 | 30004 | 30033 | 30039 | 30075 | 31759 | 31800 | 31835 | 31841 | 31877 | 33672 | 33709 | 33745 | 33751 | 33793 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 1.16  | 1.16  | 1.16  | 1.16  | 1.16  | 1.23  | 1.23  | 1.23  | 1.23  | 1.23  | 1.30  | 1.30  | 1.31  | 1.31  | 1.31  | 1.38  | 1.38  | 1.38  | 1.38  | 1.39  |
|     | -13°F (-25.0°C) | TC  | 30620 | 30661 | 30694 | 30696 | 30737 | 32466 | 32504 | 32536 | 32543 | 32581 | 34405 | 34450 | 34488 | 34495 | 34533 | 36478 | 36518 | 36558 | 36563 | 36609 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.33  | 1.33  | 1.34  | 1.34  | 1.34  | 1.41  | 1.41  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.50  |
|     | -4°F (-20.0°C)  | TC  | 32976 | 33020 | 33056 | 33057 | 33102 | 34963 | 35004 | 35039 | 35046 | 35087 | 37052 | 37100 | 37141 | 37148 | 37190 | 39284 | 39327 | 39370 | 39376 | 39425 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 1.35  | 1.36  | 1.36  | 1.36  | 1.36  | 1.43  | 1.44  | 1.44  | 1.44  | 1.44  | 1.52  | 1.52  | 1.52  | 1.52  | 1.53  | 1.61  | 1.61  | 1.62  | 1.62  | 1.62  |
|     | 0°F (-17.8°C)   | TC  | 34022 | 34068 | 34105 | 34106 | 34152 | 36073 | 36116 | 36151 | 36158 | 36201 | 38228 | 38278 | 38320 | 38327 | 38370 | 40531 | 40575 | 40620 | 40626 | 40676 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 1.40  | 1.40  | 1.40  | 1.40  | 1.40  | 1.48  | 1.48  | 1.48  | 1.48  | 1.49  | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  | 1.66  | 1.67  | 1.67  | 1.67  | 1.67  |

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 7 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 5°F (-15.0°C)  | TC  | 35331 | 35379 | 35417 | 35418 | 35466 | 37460 | 37505 | 37542 | 37549 | 37594 | 39698 | 39750 | 39794 | 39802 | 39846 | 42090 | 42136 | 42182 | 42188 | 42241 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 1.45  | 1.45  | 1.45  | 1.45  | 1.46  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.64  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  |
|     | 14°F (-10.0°C) | TC  | 39477 | 39531 | 39573 | 39575 | 39628 | 41857 | 41906 | 41947 | 41956 | 42006 | 44357 | 44415 | 44464 | 44473 | 44522 | 47030 | 47081 | 47132 | 47140 | 47198 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 1.82  | 1.82  | 1.82  | 1.82  | 1.82  | 1.93  | 1.93  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.05  | 2.05  | 2.05  | 2.16  | 2.17  | 2.17  | 2.17  | 2.17  |
|     | 17°F (-8.3°C)  | TC  | 40860 | 40915 | 40959 | 40960 | 41016 | 43322 | 43373 | 43416 | 43425 | 43476 | 45910 | 45970 | 46021 | 46030 | 46081 | 48676 | 48729 | 48782 | 48790 | 48851 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                | PI  | 1.94  | 1.94  | 1.94  | 1.94  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.06  | 2.18  | 2.18  | 2.18  | 2.18  | 2.19  | 2.31  | 2.31  | 2.32  | 2.32  | 2.32  |
|     | 23°F (-5.0°C)  | TC  | 41952 | 42009 | 42054 | 42056 | 42112 | 44480 | 44533 | 44577 | 44586 | 44639 | 47138 | 47199 | 47252 | 47260 | 47313 | 49978 | 50032 | 50087 | 50095 | 50157 |
|     |                | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  | 2.43  | 2.43  | 2.43  | 2.43  | 2.44  | 2.57  | 2.58  | 2.58  | 2.58  | 2.58  | 2.73  | 2.73  | 2.73  | 2.74  | 2.74  |
|     | 35°F (1.7°C)   | TC  | 44137 | 44197 | 44244 | 44246 | 44306 | 46797 | 46853 | 46899 | 46908 | 46964 | 49593 | 49657 | 49713 | 49722 | 49778 | 52581 | 52638 | 52696 | 52704 | 52769 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.99  | 3.00  | 3.00  | 3.00  | 3.01  | 3.17  | 3.18  | 3.18  | 3.18  | 3.19  | 3.36  | 3.37  | 3.37  | 3.37  | 3.38  | 3.57  | 3.57  | 3.57  | 3.57  | 3.58  |
|     | 41°F (5.0°C)   | TC  | 39301 | 39354 | 39396 | 39398 | 39451 | 41669 | 41719 | 41760 | 41768 | 41818 | 44159 | 44216 | 44266 | 44274 | 44323 | 46820 | 46871 | 46922 | 46929 | 46987 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.37  | 2.37  | 2.37  | 2.37  | 2.38  | 2.51  | 2.51  | 2.52  | 2.52  | 2.52  | 2.66  | 2.66  | 2.67  | 2.67  | 2.67  | 2.82  | 2.82  | 2.83  | 2.83  | 2.83  |
|     | 47°F (8.3°C)   | TC  | 34465 | 34511 | 34548 | 34550 | 34596 | 36542 | 36585 | 36621 | 36628 | 36672 | 38725 | 38775 | 38818 | 38826 | 38869 | 41058 | 41103 | 41147 | 41154 | 41205 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.74  | 1.74  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.85  | 1.85  | 1.85  | 1.96  | 1.96  | 1.96  | 1.96  | 1.96  | 2.08  | 2.08  | 2.08  | 2.08  | 2.08  |
|     | 50°F (10.0°C)  | TC  | 34621 | 34668 | 34705 | 34707 | 34753 | 36707 | 36751 | 36787 | 36795 | 36838 | 38901 | 38951 | 38994 | 39002 | 39045 | 41244 | 41289 | 41334 | 41341 | 41392 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.83  | 1.83  | 1.84  | 1.84  | 1.84  | 1.94  | 1.94  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.06  | 2.06  | 2.07  | 2.18  | 2.19  | 2.19  | 2.19  | 2.19  |
|     | 59°F (15.0°C)  | TC  | 35090 | 35137 | 35175 | 35177 | 35224 | 37205 | 37249 | 37286 | 37293 | 37337 | 39428 | 39479 | 39523 | 39530 | 39574 | 41803 | 41849 | 41894 | 41901 | 41953 |
|     |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                | PI  | 2.10  | 2.11  | 2.11  | 2.11  | 2.11  | 2.23  | 2.23  | 2.23  | 2.23  | 2.24  | 2.36  | 2.37  | 2.37  | 2.37  | 2.37  | 2.51  | 2.51  | 2.51  | 2.51  | 2.51  |
|     | 68°F (20.0°C)  | TC  | 35560 | 35607 | 35646 | 35647 | 35695 | 37703 | 37747 | 37784 | 37792 | 37837 | 39955 | 40007 | 40052 | 40059 | 40104 | 42362 | 42408 | 42455 | 42461 | 42514 |
|     |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                | PI  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  | 2.52  | 2.52  | 2.52  | 2.52  | 2.53  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  |
|     | 77°F (25.0°C)  | TC  | 36029 | 36077 | 36116 | 36118 | 36166 | 38200 | 38245 | 38283 | 38291 | 38336 | 40482 | 40535 | 40580 | 40588 | 40633 | 42921 | 42968 | 43015 | 43022 | 43075 |
|     |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                | PI  | 2.64  | 2.65  | 2.65  | 2.65  | 2.65  | 2.80  | 2.81  | 2.81  | 2.81  | 2.81  | 2.97  | 2.98  | 2.98  | 2.98  | 2.98  | 3.15  | 3.15  | 3.16  | 3.16  | 3.16  |
|     | 82°F (27.8°C)  | TC  | 36374 | 36423 | 36462 | 36464 | 36513 | 38566 | 38612 | 38650 | 38658 | 38703 | 40870 | 40923 | 40969 | 40976 | 41022 | 43333 | 43380 | 43427 | 43434 | 43488 |
|     |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                | PI  | 2.89  | 2.90  | 2.90  | 2.90  | 2.90  | 3.07  | 3.07  | 3.07  | 3.07  | 3.08  | 3.25  | 3.25  | 3.26  | 3.26  | 3.26  | 3.45  | 3.45  | 3.45  | 3.45  | 3.46  |

Table 24: Cooling Performance - 36K 37MUHA + 45MUAA (Sheet 8 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 86°F (30.0°C)  | TC  | 36757 | 36806 | 36846 | 36848 | 36897 | 38972 | 39018 | 39057 | 39064 | 39111 | 41300 | 41354 | 41400 | 41408 | 41454 | 43789 | 43836 | 43884 | 43891 | 43946 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 3.22  | 3.22  | 3.22  | 3.22  | 3.23  | 3.41  | 3.41  | 3.42  | 3.42  | 3.42  | 3.61  | 3.62  | 3.62  | 3.62  | 3.63  | 3.83  | 3.83  | 3.84  | 3.84  | 3.84  |
|     | 95°F (35.0°C)  | TC  | 37618 | 37669 | 37709 | 37711 | 37762 | 39885 | 39932 | 39972 | 39980 | 40027 | 42268 | 42323 | 42370 | 42378 | 42425 | 44815 | 44864 | 44912 | 44919 | 44975 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 3.94  | 3.95  | 3.95  | 3.95  | 3.96  | 4.18  | 4.18  | 4.19  | 4.19  | 4.19  | 4.43  | 4.43  | 4.44  | 4.44  | 4.44  | 4.69  | 4.70  | 4.70  | 4.71  | 4.71  |
|     | 104°F (40.0°C) | TC  | 34636 | 34683 | 34720 | 34722 | 34768 | 36724 | 36767 | 36803 | 36811 | 36854 | 38918 | 38968 | 39012 | 39019 | 39062 | 41262 | 41307 | 41352 | 41359 | 41410 |
|     |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                | PI  | 3.91  | 3.91  | 3.92  | 3.92  | 3.92  | 4.14  | 4.15  | 4.15  | 4.15  | 4.16  | 4.39  | 4.39  | 4.40  | 4.40  | 4.41  | 4.65  | 4.66  | 4.66  | 4.66  | 4.67  |
|     | 110°F (43.0°C) | TC  | 32847 | 32891 | 32927 | 32928 | 32972 | 34827 | 34868 | 34902 | 34909 | 34951 | 36907 | 36955 | 36996 | 37003 | 37044 | 39131 | 39173 | 39216 | 39222 | 39271 |
|     |                | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                | PI  | 3.89  | 3.89  | 3.90  | 3.90  | 3.90  | 4.12  | 4.13  | 4.13  | 4.13  | 4.13  | 4.37  | 4.37  | 4.38  | 4.38  | 4.38  | 4.63  | 4.63  | 4.64  | 4.64  | 4.65  |
|     | 115°F (46.0°C) | TC  | 28267 | 28305 | 28335 | 28336 | 28375 | 29970 | 30006 | 30035 | 30041 | 30077 | 31761 | 31802 | 31837 | 31843 | 31879 | 33674 | 33711 | 33748 | 33753 | 33795 |
|     |                | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                | PI  | 3.49  | 3.49  | 3.49  | 3.49  | 3.50  | 3.70  | 3.70  | 3.70  | 3.70  | 3.71  | 3.92  | 3.92  | 3.93  | 3.93  | 3.93  | 4.15  | 4.16  | 4.16  | 4.16  | 4.17  |
|     | 122°F (50.0°C) | TC  | 22160 | 22189 | 22213 | 22214 | 22244 | 23495 | 23523 | 23546 | 23551 | 23579 | 24899 | 24931 | 24959 | 24963 | 24991 | 26399 | 26428 | 26456 | 26460 | 26493 |
|     |                | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                | PI  | 2.95  | 2.96  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  | 3.32  | 3.32  | 3.33  | 3.33  | 3.33  | 3.52  | 3.52  | 3.52  | 3.53  | 3.53  |

# Heating Performance - 36K 37MUHA + 45MUAA

**Table 25: Heating Performance - 36K 37MUHA + 45MUAA (Sheet 1 of 2)**

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS DB °F (°C)        |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)                                    | 22795                               | 22339            | 22227            | 22360              | 22158              | 4.94                 | 4.98             | 4.99             | 5.00               | 5.02               |
|                  | -13°F (-25.0°C)                                    | 26211                               | 25686            | 25558            | 24721              | 24499              | 5.24                 | 5.28             | 5.29             | 5.30               | 5.32               |
|                  | -4°F (-20.0°C)                                     | 30254                               | 29649            | 29501            | 28535              | 28278              | 5.47                 | 5.51             | 5.52             | 5.53               | 5.55               |
|                  | 0°F (-17.8°C)                                      | 32470                               | 31820            | 31661            | 30625              | 30349              | 5.59                 | 5.64             | 5.65             | 5.66               | 5.68               |
|                  | 5°F (-15.0°C)                                      | 35239                               | 34534            | 34361            | 33236              | 32937              | 5.75                 | 5.79             | 5.81             | 5.82               | 5.84               |
|                  | 14°F (-10.0°C)                                     | 35343                               | 34636            | 34463            | 33335              | 33035              | 5.39                 | 5.43             | 5.44             | 5.45               | 5.47               |
|                  | 17°F (-8.3°C)                                      | 35378                               | 34670            | 34497            | 33368              | 33067              | 5.26                 | 5.31             | 5.32             | 5.33               | 5.35               |
|                  | 22°F (-5.6°C)                                      | 37148                               | 36405            | 36223            | 35037              | 34722              | 5.13                 | 5.17             | 5.18             | 5.19               | 5.21               |
|                  | 27°F (-2.8°C)                                      | 38919                               | 38140            | 37950            | 36707              | 36377              | 5.00                 | 5.04             | 5.05             | 5.06               | 5.08               |
|                  | 32°F (-0.0°C)                                      | 40689                               | 39876            | 39676            | 38377              | 38032              | 4.87                 | 4.91             | 4.92             | 4.93               | 4.95               |
|                  | 35°F (1.7°C)                                       | 41752                               | 40917            | 40712            | 39379              | 39025              | 4.79                 | 4.83             | 4.83             | 4.84               | 4.86               |
|                  | 37°F (2.8°C)                                       | 41604                               | 40772            | 40568            | 39240              | 38887              | 4.69                 | 4.73             | 4.74             | 4.74               | 4.76               |
|                  | 42°F (5.6°C)                                       | 41235                               | 40410            | 40208            | 38892              | 38542              | 4.44                 | 4.48             | 4.49             | 4.50               | 4.51               |
|                  | 44.6°F (7.0°C)                                     | 41087                               | 40266            | 40064            | 38753              | 38404              | 4.34                 | 4.38             | 4.39             | 4.40               | 4.41               |
|                  | 47°F (8.3°C)                                       | 40866                               | 40049            | 39848            | 38544              | 38197              | 4.19                 | 4.23             | 4.24             | 4.25               | 4.26               |
|                  | 52°F (11.1°C)                                      | 40028                               | 39228            | 39031            | 37754              | 37414              | 3.78                 | 3.81             | 3.82             | 3.82               | 3.84               |
|                  | 57°F (13.9°C)                                      | 39190                               | 38407            | 38215            | 36964              | 36631              | 3.36                 | 3.39             | 3.40             | 3.40               | 3.42               |
|                  | 59°F (15.0°C)                                      | 38855                               | 38078            | 37888            | 36647              | 36318              | 3.20                 | 3.22             | 3.23             | 3.24               | 3.25               |
|                  | 62°F (16.7°C)                                      | 38353                               | 37586            | 37398            | 36173              | 35848              | 2.95                 | 2.97             | 2.98             | 2.98               | 2.99               |
|                  | 64.4°F (18.0°C)                                    | 38018                               | 37257            | 37071            | 35857              | 35535              | 2.78                 | 2.80             | 2.81             | 2.81               | 2.83               |
| 530              | -22°F (-30.0°C)                                    | 24764                               | 24268            | 24147            | 24170              | 23953              | 4.99                 | 5.03             | 5.04             | 5.05               | 5.07               |
|                  | -13°F (-25.0°C)                                    | 27921                               | 27363            | 27226            | 26723              | 26482              | 5.29                 | 5.33             | 5.35             | 5.36               | 5.38               |
|                  | -4°F (-20.0°C)                                     | 32229                               | 31584            | 31426            | 30846              | 30568              | 5.52                 | 5.57             | 5.58             | 5.59               | 5.61               |
|                  | 0°F (-17.8°C)                                      | 34589                               | 33897            | 33727            | 33104              | 32806              | 5.65                 | 5.69             | 5.70             | 5.72               | 5.74               |
|                  | 5°F (-15.0°C)                                      | 37539                               | 36788            | 36604            | 35928              | 35604              | 5.81                 | 5.85             | 5.86             | 5.88               | 5.90               |
|                  | 14°F (-10.0°C)                                     | 37650                               | 36897            | 36712            | 36034              | 35710              | 5.44                 | 5.48             | 5.49             | 5.51               | 5.53               |
|                  | 17°F (-8.3°C)                                      | 37687                               | 36933            | 36748            | 36069              | 35745              | 5.32                 | 5.36             | 5.37             | 5.38               | 5.40               |
|                  | 22°F (-5.6°C)                                      | 39573                               | 38781            | 38587            | 37875              | 37534              | 5.18                 | 5.23             | 5.24             | 5.25               | 5.27               |
|                  | 27°F (-2.8°C)                                      | 41459                               | 40630            | 40426            | 39680              | 39323              | 5.05                 | 5.09             | 5.10             | 5.11               | 5.13               |
|                  | 32°F (-0.0°C)                                      | 43345                               | 42478            | 42266            | 41485              | 41111              | 4.92                 | 4.96             | 4.97             | 4.97               | 4.99               |
|                  | 35°F (1.7°C)                                       | 44477                               | 43587            | 43369            | 42568              | 42185              | 4.83                 | 4.87             | 4.88             | 4.89               | 4.91               |
|                  | 37°F (2.8°C)                                       | 44319                               | 43433            | 43216            | 42417              | 42036              | 4.74                 | 4.77             | 4.78             | 4.79               | 4.81               |
|                  | 42°F (5.6°C)                                       | 43926                               | 43048            | 42832            | 42041              | 41663              | 4.49                 | 4.52             | 4.53             | 4.54               | 4.56               |
|                  | 44.6°F (7.0°C)                                     | 43769                               | 42893            | 42679            | 41891              | 41514              | 4.39                 | 4.42             | 4.43             | 4.44               | 4.46               |
|                  | 47°F (8.3°C)                                       | 43533                               | 42662            | 42449            | 41665              | 41290              | 4.24                 | 4.27             | 4.28             | 4.29               | 4.31               |
|                  | 52°F (11.1°C)                                      | 42641                               | 41788            | 41579            | 40811              | 40443              | 3.82                 | 3.85             | 3.86             | 3.86               | 3.88               |
|                  | 57°F (13.9°C)                                      | 41748                               | 40913            | 40709            | 39957              | 39597              | 3.40                 | 3.42             | 3.43             | 3.44               | 3.45               |
|                  | 59°F (15.0°C)                                      | 41391                               | 40563            | 40361            | 39615              | 39258              | 3.23                 | 3.26             | 3.26             | 3.27               | 3.28               |
|                  | 62°F (16.7°C)                                      | 40856                               | 40039            | 39838            | 39102              | 38751              | 2.98                 | 3.00             | 3.01             | 3.01               | 3.03               |
|                  | 64.4°F (18.0°C)                                    | 40499                               | 39689            | 39490            | 38761              | 38412              | 2.81                 | 2.83             | 2.84             | 2.84               | 2.85               |

**Table 25: Heating Performance - 36K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 26902 | 26364 | 26232 | 26127 | 25892 | 5.04 | 5.08 | 5.09 | 5.10 | 5.12 |
|            | -13°F (-25.0°C) | 29743 | 29149 | 29003 | 28887 | 28627 | 5.35 | 5.39 | 5.40 | 5.41 | 5.43 |
|            | -4°F (-20.0°C)  | 34332 | 33646 | 33477 | 33343 | 33043 | 5.58 | 5.62 | 5.63 | 5.64 | 5.67 |
|            | 0°F (-17.8°C)   | 36846 | 36109 | 35929 | 35785 | 35463 | 5.70 | 5.75 | 5.76 | 5.77 | 5.80 |
|            | 5°F (-15.0°C)   | 39989 | 39189 | 38993 | 38837 | 38487 | 5.86 | 5.91 | 5.92 | 5.94 | 5.96 |
|            | 14°F (-10.0°C)  | 40107 | 39305 | 39108 | 38952 | 38601 | 5.49 | 5.54 | 5.55 | 5.56 | 5.58 |
|            | 17°F (-8.3°C)   | 40146 | 39343 | 39147 | 38990 | 38639 | 5.37 | 5.41 | 5.43 | 5.44 | 5.46 |
|            | 22°F (-5.6°C)   | 42155 | 41312 | 41106 | 40941 | 40573 | 5.24 | 5.28 | 5.29 | 5.30 | 5.32 |
|            | 27°F (-2.8°C)   | 44165 | 43281 | 43065 | 42893 | 42507 | 5.10 | 5.14 | 5.15 | 5.16 | 5.18 |
|            | 32°F (-0.0°C)   | 46174 | 45250 | 45024 | 44844 | 44440 | 4.97 | 5.01 | 5.02 | 5.03 | 5.05 |
|            | 35°F (1.7°C)    | 47379 | 46432 | 46200 | 46015 | 45601 | 4.88 | 4.92 | 4.93 | 4.94 | 4.96 |
|            | 37°F (2.8°C)    | 47212 | 46267 | 46036 | 45852 | 45439 | 4.78 | 4.82 | 4.83 | 4.84 | 4.86 |
|            | 42°F (5.6°C)    | 46793 | 45857 | 45628 | 45445 | 45036 | 4.53 | 4.57 | 4.58 | 4.59 | 4.61 |
|            | 44.6°F (7.0°C)  | 46625 | 45693 | 45464 | 45283 | 44875 | 4.43 | 4.47 | 4.48 | 4.48 | 4.50 |
|            | 47°F (8.3°C)    | 46374 | 45447 | 45219 | 45039 | 44633 | 4.28 | 4.31 | 4.32 | 4.33 | 4.35 |
|            | 52°F (11.1°C)   | 45423 | 44515 | 44292 | 44115 | 43718 | 3.86 | 3.89 | 3.89 | 3.90 | 3.92 |
|            | 57°F (13.9°C)   | 44473 | 43583 | 43365 | 43192 | 42803 | 3.43 | 3.46 | 3.47 | 3.47 | 3.49 |
|            | 59°F (15.0°C)   | 44093 | 43211 | 42995 | 42823 | 42437 | 3.26 | 3.29 | 3.29 | 3.30 | 3.31 |
|            | 62°F (16.7°C)   | 43522 | 42652 | 42438 | 42269 | 41888 | 3.01 | 3.03 | 3.04 | 3.04 | 3.06 |
|            | 64.4°F (18.0°C) | 43142 | 42279 | 42068 | 41899 | 41522 | 2.84 | 2.86 | 2.87 | 2.87 | 2.88 |
| <b>620</b> | -22°F (-30.0°C) | 28658 | 28085 | 27944 | 27833 | 27582 | 5.09 | 5.13 | 5.14 | 5.15 | 5.17 |
|            | -13°F (-25.0°C) | 31685 | 31051 | 30896 | 30772 | 30495 | 5.40 | 5.44 | 5.45 | 5.46 | 5.49 |
|            | -4°F (-20.0°C)  | 36573 | 35841 | 35662 | 35520 | 35200 | 5.63 | 5.68 | 5.69 | 5.70 | 5.72 |
|            | 0°F (-17.8°C)   | 39251 | 38466 | 38274 | 38120 | 37777 | 5.76 | 5.81 | 5.82 | 5.83 | 5.86 |
|            | 5°F (-15.0°C)   | 42598 | 41746 | 41538 | 41372 | 40999 | 5.92 | 5.97 | 5.98 | 6.00 | 6.02 |
|            | 14°F (-10.0°C)  | 42724 | 41870 | 41661 | 41494 | 41120 | 5.55 | 5.59 | 5.61 | 5.62 | 5.64 |
|            | 17°F (-8.3°C)   | 42766 | 41911 | 41701 | 41535 | 41161 | 5.43 | 5.47 | 5.48 | 5.49 | 5.51 |
|            | 22°F (-5.6°C)   | 44907 | 44009 | 43788 | 43613 | 43221 | 5.29 | 5.33 | 5.34 | 5.35 | 5.37 |
|            | 27°F (-2.8°C)   | 47047 | 46106 | 45875 | 45692 | 45281 | 5.15 | 5.19 | 5.20 | 5.21 | 5.24 |
|            | 32°F (-0.0°C)   | 49187 | 48204 | 47962 | 47771 | 47341 | 5.02 | 5.06 | 5.07 | 5.08 | 5.10 |
|            | 35°F (1.7°C)    | 50471 | 49462 | 49215 | 49018 | 48577 | 4.93 | 4.97 | 4.98 | 4.99 | 5.01 |
|            | 37°F (2.8°C)    | 50293 | 49287 | 49041 | 48845 | 48405 | 4.83 | 4.87 | 4.88 | 4.89 | 4.91 |
|            | 42°F (5.6°C)    | 49847 | 48850 | 48606 | 48411 | 47976 | 4.58 | 4.61 | 4.62 | 4.63 | 4.65 |
|            | 44.6°F (7.0°C)  | 49668 | 48675 | 48432 | 48238 | 47804 | 4.48 | 4.51 | 4.52 | 4.53 | 4.55 |
|            | 47°F (8.3°C)    | 49401 | 48413 | 48171 | 47978 | 47546 | 4.32 | 4.36 | 4.37 | 4.38 | 4.39 |
|            | 52°F (11.1°C)   | 48388 | 47420 | 47183 | 46994 | 46571 | 3.89 | 3.93 | 3.93 | 3.94 | 3.96 |
|            | 57°F (13.9°C)   | 47375 | 46428 | 46196 | 46011 | 45597 | 3.47 | 3.49 | 3.50 | 3.51 | 3.52 |
|            | 59°F (15.0°C)   | 46970 | 46031 | 45801 | 45617 | 45207 | 3.29 | 3.32 | 3.33 | 3.33 | 3.35 |
|            | 62°F (16.7°C)   | 46363 | 45435 | 45208 | 45027 | 44622 | 3.04 | 3.06 | 3.07 | 3.07 | 3.09 |
|            | 64.4°F (18.0°C) | 45958 | 45038 | 44813 | 44634 | 44232 | 2.87 | 2.89 | 2.90 | 2.90 | 2.91 |

Cooling Performance - 48K 37MUHA + 45MUAA

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                  |                          | ID DB(°F)    | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 712              | -22°F (-30.0°C)          | TC           | 31040              | 31082              | 31115              | 31117              | 31159              | 32911              | 32950              | 32982              | 32989              | 33028              | 34877              | 34922              | 34961              | 34968              | 35007              | 36978              | 37019              | 37059              | 37065              | 37111              |
|                  |                          | S/T          | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               | 0.45               | 0.53               | 0.61               | 0.61               | 0.69               | 0.48               | 0.56               | 0.64               | 0.64               | 0.73               |
|                  |                          | PI           | 1.36               | 1.36               | 1.36               | 1.36               | 1.36               | 1.44               | 1.44               | 1.44               | 1.44               | 1.44               | 1.52               | 1.53               | 1.53               | 1.53               | 1.53               | 1.62               | 1.62               | 1.62               | 1.62               | 1.62               |
|                  | -13°F (-25.0°C)          | TC           | 33627              | 33672              | 33708              | 33710              | 33755              | 35653              | 35695              | 35731              | 35738              | 35780              | 37783              | 37832              | 37875              | 37882              | 37924              | 40060              | 40103              | 40147              | 40153              | 40203              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.57               | 0.57               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.69               | 0.48               | 0.57               | 0.65               | 0.65               | 0.74               |
|                  |                          | PI           | 1.47               | 1.47               | 1.47               | 1.47               | 1.47               | 1.56               | 1.56               | 1.56               | 1.56               | 1.56               | 1.65               | 1.65               | 1.65               | 1.65               | 1.66               | 1.75               | 1.75               | 1.75               | 1.75               | 1.76               |
|                  | -4°F (-20.0°C)           | TC           | 36213              | 36262              | 36301              | 36303              | 36352              | 38396              | 38441              | 38479              | 38487              | 38533              | 40690              | 40743              | 40788              | 40796              | 40841              | 43141              | 43188              | 43235              | 43242              | 43296              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                  |                          | PI           | 1.58               | 1.58               | 1.59               | 1.59               | 1.59               | 1.68               | 1.68               | 1.68               | 1.68               | 1.68               | 1.78               | 1.78               | 1.78               | 1.78               | 1.78               | 1.88               | 1.89               | 1.89               | 1.89               | 1.89               |
|                  | 0°F (-17.8°C)            | TC           | 37363              | 37413              | 37454              | 37455              | 37506              | 39615              | 39662              | 39701              | 39709              | 39756              | 41981              | 42036              | 42083              | 42091              | 42138              | 44511              | 44559              | 44608              | 44615              | 44670              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.61               | 0.61               | 0.70               | 0.49               | 0.57               | 0.65               | 0.65               | 0.74               |
|                  |                          | PI           | 1.63               | 1.63               | 1.64               | 1.64               | 1.64               | 1.73               | 1.73               | 1.73               | 1.73               | 1.74               | 1.83               | 1.84               | 1.84               | 1.84               | 1.84               | 1.94               | 1.95               | 1.95               | 1.95               | 1.95               |
|                  | 5°F (-15.0°C)            | TC           | 38800              | 38852              | 38894              | 38896              | 38948              | 41138              | 41187              | 41228              | 41236              | 41285              | 43596              | 43653              | 43701              | 43710              | 43758              | 46223              | 46273              | 46324              | 46331              | 46388              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.66               | 0.46               | 0.54               | 0.62               | 0.62               | 0.70               | 0.49               | 0.58               | 0.65               | 0.65               | 0.75               |
|                  |                          | PI           | 1.69               | 1.70               | 1.70               | 1.70               | 1.70               | 1.80               | 1.80               | 1.80               | 1.80               | 1.80               | 1.90               | 1.91               | 1.91               | 1.91               | 1.91               | 2.02               | 2.02               | 2.02               | 2.02               | 2.03               |
|                  | 14°F (-10.0°C)           | TC           | 40223              | 40277              | 40320              | 40322              | 40376              | 42647              | 42697              | 42739              | 42748              | 42799              | 45195              | 45253              | 45304              | 45312              | 45363              | 47918              | 47970              | 48022              | 48029              | 48089              |
|                  |                          | S/T          | 0.41               | 0.48               | 0.55               | 0.55               | 0.63               | 0.44               | 0.51               | 0.58               | 0.58               | 0.67               | 0.46               | 0.54               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                  |                          | PI           | 1.63               | 1.63               | 1.63               | 1.63               | 1.64               | 1.73               | 1.73               | 1.73               | 1.73               | 1.73               | 1.83               | 1.83               | 1.84               | 1.84               | 1.84               | 1.94               | 1.94               | 1.95               | 1.95               | 1.95               |
|                  | 17°F (-8.3°C)            | TC           | 40697              | 40752              | 40796              | 40797              | 40852              | 43150              | 43201              | 43243              | 43252              | 43303              | 45727              | 45787              | 45838              | 45846              | 45898              | 48483              | 48535              | 48588              | 48596              | 48656              |
|                  |                          | S/T          | 0.41               | 0.49               | 0.55               | 0.55               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.49               | 0.58               | 0.66               | 0.66               | 0.75               |
|                  |                          | PI           | 1.61               | 1.61               | 1.61               | 1.61               | 1.61               | 1.71               | 1.71               | 1.71               | 1.71               | 1.71               | 1.81               | 1.81               | 1.81               | 1.81               | 1.81               | 1.92               | 1.92               | 1.92               | 1.92               | 1.92               |
|                  | 23°F (-5.0°C)            | TC           | 42257              | 42314              | 42359              | 42361              | 42418              | 44804              | 44857              | 44901              | 44910              | 44963              | 47480              | 47542              | 47595              | 47604              | 47657              | 50341              | 50396              | 50451              | 50459              | 50521              |
|                  |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.62               | 0.62               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.75               |
|                  |                          | PI           | 2.25               | 2.25               | 2.25               | 2.25               | 2.25               | 2.38               | 2.38               | 2.39               | 2.39               | 2.39               | 2.52               | 2.53               | 2.53               | 2.53               | 2.53               | 2.68               | 2.68               | 2.68               | 2.68               | 2.69               |
|                  | 35°F (1.7°C)             | TC           | 45377              | 45438              | 45487              | 45489              | 45551              | 48112              | 48169              | 48217              | 48226              | 48283              | 50986              | 51053              | 51110              | 51119              | 51176              | 54058              | 54117              | 54176              | 54185              | 54252              |
|                  |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.67               | 0.47               | 0.55               | 0.63               | 0.63               | 0.71               | 0.50               | 0.58               | 0.66               | 0.66               | 0.76               |
|                  |                          | PI           | 3.52               | 3.53               | 3.53               | 3.53               | 3.53               | 3.73               | 3.74               | 3.74               | 3.74               | 3.75               | 3.96               | 3.96               | 3.97               | 3.97               | 3.97               | 4.19               | 4.20               | 4.20               | 4.20               | 4.21               |
|                  | 41°F (5.0°C)             | TC           | 38318              | 38370              | 38411              | 38413              | 38465              | 40627              | 40676              | 40716              | 40724              | 40772              | 43055              | 43111              | 43159              | 43167              | 43215              | 45649              | 45698              | 45748              | 45755              | 45812              |
|                  |                          | S/T          | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               | 0.44               | 0.52               | 0.59               | 0.59               | 0.68               | 0.47               | 0.55               | 0.63               | 0.63               | 0.72               | 0.50               | 0.59               | 0.67               | 0.67               | 0.76               |
|                  |                          | PI           | 2.39               | 2.39               | 2.40               | 2.40               | 2.40               | 2.53               | 2.54               | 2.54               | 2.54               | 2.54               | 2.69               | 2.69               | 2.69               | 2.69               | 2.70               | 2.85               | 2.85               | 2.85               | 2.85               | 2.86               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 2 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 712 | 47°F (8.3°C)   | TC  | 31259 | 31301 | 31335 | 31336 | 31378 | 33143 | 33182 | 33215 | 33221 | 33261 | 35123 | 35169 | 35208 | 35214 | 35254 | 37239 | 37280 | 37320 | 37326 | 37373 |
|     |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                | PI  | 1.26  | 1.26  | 1.26  | 1.26  | 1.26  | 1.34  | 1.34  | 1.34  | 1.34  | 1.34  | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  | 1.50  | 1.50  | 1.50  | 1.50  | 1.51  |
|     | 50°F (10.0°C)  | TC  | 31515 | 31558 | 31592 | 31593 | 31636 | 33415 | 33454 | 33487 | 33494 | 33534 | 35411 | 35457 | 35496 | 35503 | 35543 | 37544 | 37585 | 37626 | 37632 | 37679 |
|     |                | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                | PI  | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.48  | 1.56  | 1.56  | 1.56  | 1.56  | 1.56  |
|     | 59°F (15.0°C)  | TC  | 32284 | 32327 | 32362 | 32364 | 32407 | 34230 | 34270 | 34304 | 34311 | 34352 | 36275 | 36322 | 36362 | 36369 | 36410 | 38460 | 38502 | 38544 | 38550 | 38598 |
|     |                | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                | PI  | 1.46  | 1.46  | 1.46  | 1.46  | 1.46  | 1.54  | 1.55  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.64  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  |
|     | 68°F (20.0°C)  | TC  | 33053 | 33097 | 33133 | 33134 | 33179 | 35045 | 35086 | 35121 | 35128 | 35170 | 37138 | 37187 | 37228 | 37235 | 37277 | 39376 | 39419 | 39462 | 39468 | 39517 |
|     |                | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                | PI  | 1.60  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.70  | 1.70  | 1.70  | 1.71  | 1.80  | 1.80  | 1.81  | 1.81  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.92  |
|     | 77°F (25.0°C)  | TC  | 33822 | 33867 | 33904 | 33905 | 33951 | 35860 | 35902 | 35938 | 35945 | 35988 | 38002 | 38052 | 38094 | 38101 | 38144 | 40292 | 40336 | 40380 | 40386 | 40436 |
|     |                | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                | PI  | 1.75  | 1.75  | 1.75  | 1.76  | 1.76  | 1.86  | 1.86  | 1.86  | 1.86  | 1.86  | 1.97  | 1.97  | 1.97  | 1.97  | 1.97  | 2.09  | 2.09  | 2.09  | 2.09  | 2.09  |
|     | 82°F (27.8°C)  | TC  | 34643 | 34690 | 34727 | 34729 | 34776 | 36731 | 36775 | 36811 | 36818 | 36862 | 38926 | 38976 | 39020 | 39027 | 39071 | 41271 | 41316 | 41361 | 41367 | 41419 |
|     |                | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                | PI  | 2.07  | 2.08  | 2.08  | 2.08  | 2.08  | 2.20  | 2.20  | 2.20  | 2.20  | 2.21  | 2.33  | 2.33  | 2.34  | 2.34  | 2.34  | 2.47  | 2.47  | 2.48  | 2.48  | 2.48  |
|     | 86°F (30.0°C)  | TC  | 35799 | 35847 | 35886 | 35887 | 35936 | 37956 | 38001 | 38039 | 38046 | 38092 | 40224 | 40276 | 40321 | 40329 | 40374 | 42648 | 42694 | 42741 | 42747 | 42800 |
|     |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                | PI  | 2.64  | 2.64  | 2.64  | 2.64  | 2.65  | 2.79  | 2.80  | 2.80  | 2.80  | 2.80  | 2.96  | 2.97  | 2.97  | 2.97  | 2.97  | 3.14  | 3.14  | 3.15  | 3.15  | 3.15  |
|     | 95°F (35.0°C)  | TC  | 38399 | 38451 | 38492 | 38494 | 38546 | 40713 | 40761 | 40802 | 40810 | 40858 | 43146 | 43202 | 43250 | 43258 | 43306 | 45745 | 45795 | 45845 | 45852 | 45909 |
|     |                | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                | PI  | 3.90  | 3.91  | 3.91  | 3.91  | 3.92  | 4.14  | 4.14  | 4.14  | 4.15  | 4.15  | 4.38  | 4.39  | 4.39  | 4.39  | 4.40  | 4.65  | 4.65  | 4.66  | 4.66  | 4.66  |
|     | 104°F (40.0°C) | TC  | 34284 | 34330 | 34367 | 34368 | 34415 | 36350 | 36393 | 36429 | 36436 | 36479 | 38521 | 38571 | 38614 | 38622 | 38665 | 40842 | 40887 | 40931 | 40938 | 40989 |
|     |                | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                | PI  | 3.74  | 3.74  | 3.74  | 3.74  | 3.75  | 3.96  | 3.97  | 3.97  | 3.97  | 3.97  | 4.20  | 4.20  | 4.21  | 4.21  | 4.21  | 4.45  | 4.45  | 4.46  | 4.46  | 4.47  |
|     | 110°F (43.0°C) | TC  | 31814 | 31857 | 31891 | 31893 | 31936 | 33732 | 33771 | 33805 | 33811 | 33852 | 35747 | 35793 | 35833 | 35840 | 35880 | 37901 | 37942 | 37983 | 37989 | 38036 |
|     |                | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                | PI  | 3.64  | 3.64  | 3.64  | 3.65  | 3.65  | 3.86  | 3.86  | 3.86  | 3.86  | 3.87  | 4.09  | 4.09  | 4.10  | 4.10  | 4.10  | 4.33  | 4.34  | 4.34  | 4.34  | 4.35  |
|     | 115°F (46.0°C) | TC  | 28015 | 28053 | 28083 | 28084 | 28122 | 29703 | 29738 | 29768 | 29774 | 29809 | 31478 | 31519 | 31554 | 31560 | 31595 | 33374 | 33411 | 33447 | 33452 | 33494 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 3.42  | 3.42  | 3.42  | 3.42  | 3.43  | 3.62  | 3.63  | 3.63  | 3.63  | 3.63  | 3.84  | 3.84  | 3.85  | 3.85  | 3.85  | 4.07  | 4.07  | 4.08  | 4.08  | 4.08  |
|     | 122°F (50.0°C) | TC  | 22949 | 22980 | 23005 | 23006 | 23037 | 24332 | 24361 | 24385 | 24390 | 24419 | 25786 | 25819 | 25848 | 25853 | 25882 | 27339 | 27369 | 27399 | 27403 | 27437 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 3.12  | 3.13  | 3.13  | 3.13  | 3.13  | 3.31  | 3.31  | 3.32  | 3.32  | 3.32  | 3.51  | 3.51  | 3.52  | 3.52  | 3.52  | 3.72  | 3.72  | 3.73  | 3.73  | 3.73  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | -22°F<br>(-30.0°C) | TC  | 32788 | 32832 | 32867 | 32869 | 32913 | 34764 | 34805 | 34839 | 34846 | 34888 | 36841 | 36889 | 36930 | 36937 | 36978 | 39061 | 39103 | 39146 | 39152 | 39200 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  |
|     |                    | PI  | 1.43  | 1.43  | 1.44  | 1.44  | 1.44  | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  | 1.61  | 1.61  | 1.61  | 1.61  | 1.62  | 1.71  | 1.71  | 1.71  | 1.71  | 1.71  |
|     | -13°F<br>(-25.0°C) | TC  | 35520 | 35568 | 35606 | 35608 | 35656 | 37661 | 37706 | 37743 | 37750 | 37795 | 39911 | 39963 | 40007 | 40015 | 40059 | 42316 | 42362 | 42408 | 42414 | 42467 |
|     |                    | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                    | PI  | 1.55  | 1.55  | 1.56  | 1.56  | 1.56  | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  | 1.74  | 1.75  | 1.75  | 1.75  | 1.75  | 1.85  | 1.85  | 1.85  | 1.85  | 1.86  |
|     | -4°F<br>(-20.0°C)  | TC  | 38253 | 38304 | 38345 | 38347 | 38399 | 40558 | 40606 | 40646 | 40654 | 40702 | 42981 | 43037 | 43085 | 43093 | 43141 | 45571 | 45620 | 45670 | 45677 | 45734 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 1.67  | 1.67  | 1.68  | 1.68  | 1.68  | 1.77  | 1.77  | 1.78  | 1.78  | 1.78  | 1.88  | 1.88  | 1.88  | 1.88  | 1.88  | 1.99  | 1.99  | 1.99  | 2.00  | 2.00  |
|     | 0°F (-17.8°C)      | TC  | 39467 | 39520 | 39563 | 39564 | 39618 | 41845 | 41895 | 41936 | 41945 | 41994 | 44346 | 44403 | 44453 | 44461 | 44510 | 47017 | 47069 | 47120 | 47127 | 47186 |
|     |                    | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  |
|     |                    | PI  | 1.72  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  | 2.05  | 2.06  | 2.06  | 2.06  | 2.06  |
|     | 5°F (-15.0°C)      | TC  | 40985 | 41040 | 41084 | 41086 | 41142 | 43455 | 43506 | 43549 | 43558 | 43610 | 46051 | 46111 | 46162 | 46171 | 46222 | 48826 | 48879 | 48932 | 48940 | 49001 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 1.79  | 1.79  | 1.79  | 1.79  | 1.80  | 1.90  | 1.90  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.02  | 2.02  | 2.02  | 2.13  | 2.14  | 2.14  | 2.14  | 2.14  |
|     | 14°F<br>(-10.0°C)  | TC  | 42488 | 42545 | 42591 | 42593 | 42650 | 45048 | 45102 | 45146 | 45155 | 45209 | 47740 | 47802 | 47855 | 47864 | 47917 | 50616 | 50671 | 50726 | 50734 | 50797 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 1.72  | 1.72  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.93  | 1.94  | 1.94  | 1.94  | 1.94  | 2.05  | 2.05  | 2.06  | 2.06  | 2.06  |
|     | 17°F (-8.3°C)      | TC  | 42989 | 43046 | 43093 | 43095 | 43153 | 45579 | 45633 | 45678 | 45687 | 45742 | 48302 | 48365 | 48419 | 48428 | 48482 | 51213 | 51268 | 51324 | 51332 | 51396 |
|     |                    | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                    | PI  | 1.70  | 1.70  | 1.70  | 1.70  | 1.71  | 1.80  | 1.80  | 1.81  | 1.81  | 1.81  | 1.91  | 1.91  | 1.91  | 1.91  | 1.92  | 2.02  | 2.03  | 2.03  | 2.03  | 2.03  |
|     | 23°F (-5.0°C)      | TC  | 44637 | 44697 | 44745 | 44747 | 44807 | 47327 | 47383 | 47429 | 47439 | 47495 | 50154 | 50219 | 50275 | 50285 | 50341 | 53176 | 53234 | 53292 | 53300 | 53366 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  | 2.52  | 2.52  | 2.52  | 2.52  | 2.52  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  |
|     | 35°F (1.7°C)       | TC  | 47933 | 47997 | 48049 | 48051 | 48116 | 50821 | 50881 | 50932 | 50942 | 51002 | 53857 | 53927 | 53988 | 53998 | 54058 | 57102 | 57165 | 57227 | 57236 | 57307 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 3.72  | 3.72  | 3.73  | 3.73  | 3.73  | 3.94  | 3.95  | 3.95  | 3.95  | 3.96  | 4.18  | 4.18  | 4.19  | 4.19  | 4.19  | 4.43  | 4.44  | 4.44  | 4.44  | 4.45  |
|     | 41°F (5.0°C)       | TC  | 40476 | 40530 | 40574 | 40576 | 40631 | 42915 | 42966 | 43008 | 43017 | 43068 | 45479 | 45538 | 45589 | 45597 | 45648 | 48219 | 48272 | 48324 | 48332 | 48392 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                    | PI  | 2.52  | 2.53  | 2.53  | 2.53  | 2.53  | 2.68  | 2.68  | 2.68  | 2.68  | 2.69  | 2.84  | 2.84  | 2.84  | 2.84  | 2.85  | 3.01  | 3.01  | 3.01  | 3.01  | 3.02  |
|     | 47°F (8.3°C)       | TC  | 33019 | 33064 | 33099 | 33101 | 33145 | 35009 | 35051 | 35085 | 35092 | 35134 | 37101 | 37149 | 37190 | 37197 | 37239 | 39336 | 39379 | 39422 | 39428 | 39477 |
|     |                    | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  |
|     |                    | PI  | 1.33  | 1.33  | 1.33  | 1.33  | 1.34  | 1.41  | 1.41  | 1.41  | 1.41  | 1.42  | 1.49  | 1.50  | 1.50  | 1.50  | 1.50  | 1.58  | 1.59  | 1.59  | 1.59  | 1.59  |
|     | 50°F (10.0°C)      | TC  | 33290 | 33335 | 33371 | 33372 | 33417 | 35296 | 35338 | 35373 | 35380 | 35422 | 37405 | 37454 | 37495 | 37502 | 37544 | 39659 | 39702 | 39745 | 39751 | 39801 |
|     |                    | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                    | PI  | 1.38  | 1.38  | 1.39  | 1.39  | 1.39  | 1.47  | 1.47  | 1.47  | 1.47  | 1.47  | 1.55  | 1.56  | 1.56  | 1.56  | 1.56  | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 4 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | 59°F (15.0°C)   | TC  | 34102 | 34148 | 34185 | 34186 | 34232 | 36157 | 36200 | 36236 | 36243 | 36286 | 38317 | 38367 | 38410 | 38417 | 38460 | 40626 | 40670 | 40714 | 40721 | 40772 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 1.54  | 1.54  | 1.54  | 1.54  | 1.54  | 1.63  | 1.63  | 1.63  | 1.63  | 1.64  | 1.73  | 1.73  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.84  | 1.84  | 1.84  |
|     | 68°F (20.0°C)   | TC  | 34914 | 34961 | 34999 | 35000 | 35047 | 37018 | 37062 | 37099 | 37106 | 37150 | 39230 | 39281 | 39325 | 39332 | 39376 | 41593 | 41639 | 41684 | 41690 | 41742 |
|     |                 | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                 | PI  | 1.69  | 1.70  | 1.70  | 1.70  | 1.70  | 1.80  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.91  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  |
|     | 77°F (25.0°C)   | TC  | 35726 | 35774 | 35813 | 35814 | 35863 | 37879 | 37924 | 37961 | 37969 | 38014 | 40142 | 40194 | 40239 | 40247 | 40292 | 42561 | 42607 | 42653 | 42660 | 42713 |
|     |                 | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                 | PI  | 1.85  | 1.85  | 1.85  | 1.85  | 1.86  | 1.96  | 1.96  | 1.97  | 1.97  | 1.97  | 2.08  | 2.08  | 2.08  | 2.08  | 2.09  | 2.20  | 2.21  | 2.21  | 2.21  | 2.21  |
|     | 82°F (27.8°C)   | TC  | 36594 | 36643 | 36683 | 36685 | 36734 | 38800 | 38846 | 38884 | 38892 | 38938 | 41118 | 41171 | 41217 | 41225 | 41271 | 43595 | 43642 | 43690 | 43697 | 43751 |
|     |                 | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                 | PI  | 2.19  | 2.19  | 2.20  | 2.20  | 2.20  | 2.32  | 2.32  | 2.33  | 2.33  | 2.33  | 2.46  | 2.46  | 2.47  | 2.47  | 2.47  | 2.61  | 2.61  | 2.61  | 2.62  | 2.62  |
|     | 86°F (30.0°C)   | TC  | 37815 | 37866 | 37907 | 37908 | 37959 | 40094 | 40141 | 40181 | 40189 | 40237 | 42489 | 42544 | 42592 | 42600 | 42647 | 45049 | 45098 | 45147 | 45154 | 45211 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 2.78  | 2.79  | 2.79  | 2.79  | 2.79  | 2.95  | 2.96  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  | 3.32  | 3.32  | 3.32  | 3.32  | 3.33  |
|     | 95°F (35.0°C)   | TC  | 40561 | 40616 | 40660 | 40662 | 40716 | 43006 | 43057 | 43099 | 43108 | 43159 | 45575 | 45634 | 45685 | 45694 | 45745 | 48321 | 48374 | 48426 | 48434 | 48494 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 4.12  | 4.13  | 4.13  | 4.13  | 4.14  | 4.37  | 4.37  | 4.38  | 4.38  | 4.38  | 4.63  | 4.64  | 4.64  | 4.64  | 4.65  | 4.91  | 4.91  | 4.92  | 4.92  | 4.93  |
|     | 104°F (40.0°C)  | TC  | 36214 | 36263 | 36302 | 36304 | 36352 | 38397 | 38442 | 38480 | 38488 | 38533 | 40691 | 40743 | 40789 | 40796 | 40842 | 43142 | 43189 | 43236 | 43243 | 43297 |
|     |                 | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  | 4.18  | 4.19  | 4.19  | 4.19  | 4.20  | 4.43  | 4.44  | 4.44  | 4.44  | 4.45  | 4.70  | 4.71  | 4.71  | 4.71  | 4.72  |
|     | 110°F (43.0°C)  | TC  | 33606 | 33651 | 33687 | 33689 | 33734 | 35631 | 35673 | 35708 | 35715 | 35758 | 37760 | 37809 | 37851 | 37858 | 37900 | 40035 | 40078 | 40122 | 40128 | 40178 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  |
|     |                 | PI  | 3.84  | 3.85  | 3.85  | 3.85  | 3.86  | 4.07  | 4.08  | 4.08  | 4.08  | 4.09  | 4.32  | 4.32  | 4.33  | 4.33  | 4.33  | 4.58  | 4.58  | 4.59  | 4.59  | 4.59  |
|     | 115°F (46.0°C)  | TC  | 29592 | 29632 | 29664 | 29665 | 29705 | 31376 | 31413 | 31444 | 31450 | 31488 | 33250 | 33293 | 33331 | 33337 | 33374 | 35254 | 35292 | 35330 | 35336 | 35380 |
|     |                 | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                 | PI  | 3.61  | 3.61  | 3.62  | 3.62  | 3.62  | 3.83  | 3.83  | 3.83  | 3.83  | 3.84  | 4.05  | 4.06  | 4.06  | 4.06  | 4.07  | 4.30  | 4.30  | 4.31  | 4.31  | 4.31  |
|     | 122°F (50.0°C)  | TC  | 24241 | 24274 | 24300 | 24301 | 24334 | 25702 | 25733 | 25758 | 25763 | 25794 | 27238 | 27273 | 27304 | 27309 | 27339 | 28879 | 28910 | 28942 | 28946 | 28982 |
|     |                 | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                 | PI  | 3.30  | 3.30  | 3.31  | 3.31  | 3.31  | 3.50  | 3.50  | 3.50  | 3.51  | 3.51  | 3.71  | 3.71  | 3.71  | 3.72  | 3.72  | 3.93  | 3.93  | 3.94  | 3.94  | 3.94  |
| 894 | -22°F (-30.0°C) | TC  | 34634 | 34681 | 34718 | 34720 | 34767 | 36722 | 36765 | 36801 | 36809 | 36852 | 38915 | 38966 | 39009 | 39017 | 39060 | 41260 | 41305 | 41350 | 41356 | 41408 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.59  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                 | PI  | 1.51  | 1.51  | 1.52  | 1.52  | 1.52  | 1.60  | 1.61  | 1.61  | 1.61  | 1.61  | 1.70  | 1.70  | 1.70  | 1.70  | 1.71  | 1.80  | 1.80  | 1.81  | 1.81  | 1.81  |
|     | -13°F (-25.0°C) | TC  | 37520 | 37571 | 37611 | 37613 | 37664 | 39782 | 39829 | 39868 | 39876 | 39923 | 42158 | 42213 | 42260 | 42268 | 42315 | 44698 | 44747 | 44796 | 44803 | 44859 |
|     |                 | S/T | 0.45  | 0.53  | 0.60  | 0.61  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                 | PI  | 1.64  | 1.64  | 1.64  | 1.64  | 1.65  | 1.74  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.85  | 1.85  | 1.85  | 1.95  | 1.95  | 1.96  | 1.96  | 1.96  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | -4°F<br>(-20.0°C) | TC  | 40407 | 40461 | 40505 | 40506 | 40561 | 42842 | 42893 | 42935 | 42943 | 42994 | 45401 | 45460 | 45511 | 45519 | 45570 | 48137 | 48189 | 48242 | 48249 | 48309 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.74  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  |
|     |                   | PI  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.87  | 1.87  | 1.88  | 1.88  | 1.88  | 1.98  | 1.99  | 1.99  | 1.99  | 1.99  | 2.10  | 2.11  | 2.11  | 2.11  | 2.11  |
|     | 0°F (-17.8°C)     | TC  | 41689 | 41745 | 41790 | 41792 | 41849 | 44202 | 44254 | 44298 | 44307 | 44359 | 46843 | 46903 | 46956 | 46964 | 47017 | 49665 | 49719 | 49773 | 49781 | 49843 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.82  | 1.82  | 1.83  | 1.83  | 1.83  | 1.93  | 1.93  | 1.94  | 1.94  | 1.94  | 2.05  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.18  |
|     | 5°F (-15.0°C)     | TC  | 43293 | 43351 | 43398 | 43400 | 43458 | 45902 | 45956 | 46002 | 46011 | 46065 | 48644 | 48707 | 48762 | 48771 | 48825 | 51575 | 51631 | 51687 | 51695 | 51760 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.89  | 1.89  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.26  | 2.26  | 2.26  | 2.26  |
|     | 14°F (-10.0°C)    | TC  | 44880 | 44941 | 44989 | 44991 | 45052 | 47585 | 47641 | 47688 | 47698 | 47754 | 50428 | 50493 | 50550 | 50559 | 50615 | 53466 | 53524 | 53583 | 53591 | 53658 |
|     |                   | S/T | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  |
|     |                   | PI  | 1.82  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  | 2.04  | 2.05  | 2.05  | 2.05  | 2.05  | 2.17  | 2.17  | 2.17  | 2.17  | 2.17  |
|     | 17°F (-8.3°C)     | TC  | 45409 | 45470 | 45519 | 45521 | 45583 | 48146 | 48203 | 48251 | 48260 | 48317 | 51022 | 51089 | 51146 | 51155 | 51212 | 54097 | 54155 | 54214 | 54223 | 54290 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                   | PI  | 1.79  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.90  | 1.91  | 1.91  | 1.91  | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  | 2.14  | 2.14  | 2.14  | 2.14  | 2.15  |
|     | 23°F (-5.0°C)     | TC  | 47150 | 47214 | 47264 | 47266 | 47330 | 49992 | 50051 | 50100 | 50110 | 50170 | 52978 | 53047 | 53106 | 53116 | 53175 | 56170 | 56231 | 56293 | 56301 | 56371 |
|     |                   | S/T | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 2.51  | 2.51  | 2.51  | 2.51  | 2.52  | 2.66  | 2.66  | 2.66  | 2.66  | 2.67  | 2.82  | 2.82  | 2.82  | 2.82  | 2.83  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  |
|     | 35°F (1.7°C)      | TC  | 50632 | 50700 | 50754 | 50757 | 50825 | 53683 | 53747 | 53800 | 53810 | 53874 | 56890 | 56964 | 57028 | 57038 | 57102 | 60318 | 60384 | 60449 | 60459 | 60534 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 3.93  | 3.93  | 3.94  | 3.94  | 3.94  | 4.17  | 4.17  | 4.17  | 4.18  | 4.18  | 4.41  | 4.42  | 4.42  | 4.43  | 4.43  | 4.68  | 4.69  | 4.69  | 4.69  | 4.70  |
|     | 41°F (5.0°C)      | TC  | 42755 | 42813 | 42859 | 42861 | 42918 | 45332 | 45385 | 45430 | 45439 | 45493 | 48040 | 48102 | 48156 | 48165 | 48219 | 50935 | 50990 | 51045 | 51053 | 51117 |
|     |                   | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                   | PI  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  | 3.00  | 3.00  | 3.00  | 3.00  | 3.01  | 3.18  | 3.18  | 3.18  | 3.18  | 3.19  |
|     | 47°F (8.3°C)      | TC  | 34879 | 34926 | 34963 | 34965 | 35012 | 36981 | 37024 | 37061 | 37068 | 37112 | 39190 | 39241 | 39285 | 39292 | 39336 | 41551 | 41596 | 41642 | 41648 | 41700 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                   | PI  | 1.41  | 1.41  | 1.41  | 1.41  | 1.41  | 1.49  | 1.49  | 1.49  | 1.49  | 1.50  | 1.58  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.68  | 1.68  | 1.68  | 1.68  |
|     | 50°F (10.0°C)     | TC  | 35165 | 35212 | 35250 | 35251 | 35299 | 37284 | 37328 | 37365 | 37372 | 37417 | 39511 | 39563 | 39607 | 39614 | 39658 | 41892 | 41937 | 41983 | 41990 | 42042 |
|     |                   | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                   | PI  | 1.46  | 1.46  | 1.46  | 1.46  | 1.47  | 1.55  | 1.55  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.65  | 1.74  | 1.74  | 1.74  | 1.74  | 1.75  |
|     | 59°F (15.0°C)     | TC  | 36022 | 36071 | 36110 | 36111 | 36160 | 38193 | 38238 | 38276 | 38284 | 38329 | 40475 | 40528 | 40573 | 40580 | 40626 | 42914 | 42960 | 43007 | 43014 | 43067 |
|     |                   | S/T | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  |
|     |                   | PI  | 1.62  | 1.63  | 1.63  | 1.63  | 1.63  | 1.72  | 1.72  | 1.73  | 1.73  | 1.73  | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  | 1.94  | 1.94  | 1.94  | 1.94  | 1.94  |
|     | 68°F (20.0°C)     | TC  | 36880 | 36930 | 36969 | 36971 | 37021 | 39103 | 39149 | 39188 | 39195 | 39242 | 41439 | 41493 | 41539 | 41547 | 41593 | 43936 | 43983 | 44031 | 44038 | 44093 |
|     |                   | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                   | PI  | 1.79  | 1.79  | 1.79  | 1.79  | 1.80  | 1.90  | 1.90  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.01  | 2.02  | 2.02  | 2.13  | 2.13  | 2.14  | 2.14  | 2.14  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 6 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | 77°F (25.0°C)   | TC  | 37738 | 37789 | 37829 | 37831 | 37882 | 40012 | 40060 | 40099 | 40107 | 40155 | 42403 | 42458 | 42505 | 42513 | 42560 | 44957 | 45006 | 45055 | 45062 | 45118 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 1.95  | 1.96  | 1.96  | 1.96  | 1.96  | 2.07  | 2.07  | 2.08  | 2.08  | 2.08  | 2.19  | 2.20  | 2.20  | 2.20  | 2.20  | 2.33  | 2.33  | 2.33  | 2.33  | 2.34  |
|     | 82°F (27.8°C)   | TC  | 38655 | 38707 | 38749 | 38750 | 38803 | 40984 | 41033 | 41073 | 41082 | 41130 | 43433 | 43489 | 43538 | 43546 | 43595 | 46050 | 46100 | 46150 | 46157 | 46215 |
|     |                 | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                 | PI  | 2.31  | 2.32  | 2.32  | 2.32  | 2.32  | 2.45  | 2.46  | 2.46  | 2.46  | 2.46  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  | 2.76  | 2.76  | 2.76  | 2.76  | 2.77  |
|     | 86°F (30.0°C)   | TC  | 39944 | 39998 | 40041 | 40043 | 40097 | 42352 | 42402 | 42444 | 42452 | 42502 | 44882 | 44940 | 44990 | 44999 | 45049 | 47586 | 47638 | 47690 | 47697 | 47756 |
|     |                 | S/T | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                 | PI  | 2.94  | 2.94  | 2.95  | 2.95  | 2.95  | 3.12  | 3.12  | 3.12  | 3.13  | 3.13  | 3.30  | 3.31  | 3.31  | 3.31  | 3.32  | 3.50  | 3.51  | 3.51  | 3.51  | 3.52  |
|     | 95°F (35.0°C)   | TC  | 42845 | 42903 | 42949 | 42951 | 43009 | 45428 | 45481 | 45526 | 45535 | 45589 | 48142 | 48204 | 48258 | 48267 | 48321 | 51042 | 51098 | 51153 | 51161 | 51225 |
|     |                 | S/T | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  |
|     |                 | PI  | 4.35  | 4.36  | 4.36  | 4.36  | 4.37  | 4.61  | 4.62  | 4.62  | 4.63  | 4.63  | 4.89  | 4.90  | 4.90  | 4.90  | 4.91  | 5.18  | 5.19  | 5.20  | 5.20  | 5.20  |
|     | 104°F (40.0°C)  | TC  | 38253 | 38305 | 38346 | 38348 | 38399 | 40559 | 40607 | 40647 | 40655 | 40703 | 42982 | 43038 | 43086 | 43094 | 43142 | 45572 | 45621 | 45671 | 45678 | 45735 |
|     |                 | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  |
|     |                 | PI  | 4.17  | 4.17  | 4.18  | 4.18  | 4.18  | 4.42  | 4.42  | 4.43  | 4.43  | 4.43  | 4.68  | 4.69  | 4.69  | 4.70  | 4.70  | 4.97  | 4.97  | 4.98  | 4.98  | 4.98  |
|     | 110°F (43.0°C)  | TC  | 35498 | 35546 | 35584 | 35586 | 35634 | 37637 | 37682 | 37719 | 37727 | 37771 | 39886 | 39938 | 39982 | 39990 | 40034 | 42289 | 42335 | 42381 | 42388 | 42441 |
|     |                 | S/T | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  | 0.60  | 0.71  | 0.80  | 0.80  | 0.92  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                 | PI  | 4.06  | 4.06  | 4.07  | 4.07  | 4.07  | 4.30  | 4.31  | 4.31  | 4.31  | 4.32  | 4.56  | 4.56  | 4.57  | 4.57  | 4.58  | 4.83  | 4.84  | 4.84  | 4.84  | 4.85  |
|     | 115°F (46.0°C)  | TC  | 31259 | 31301 | 31335 | 31336 | 31378 | 33143 | 33182 | 33215 | 33221 | 33261 | 35123 | 35168 | 35207 | 35214 | 35253 | 37239 | 37279 | 37320 | 37326 | 37372 |
|     |                 | S/T | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.81  | 0.81  | 0.93  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  |
|     |                 | PI  | 3.81  | 3.82  | 3.82  | 3.82  | 3.83  | 4.04  | 4.05  | 4.05  | 4.05  | 4.06  | 4.28  | 4.29  | 4.29  | 4.29  | 4.30  | 4.54  | 4.55  | 4.55  | 4.55  | 4.56  |
|     | 122°F (50.0°C)  | TC  | 25606 | 25641 | 25668 | 25670 | 25704 | 27150 | 27182 | 27208 | 27214 | 27246 | 28772 | 28809 | 28841 | 28846 | 28879 | 30505 | 30538 | 30571 | 30576 | 30614 |
|     |                 | S/T | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.78  | 0.88  | 0.88  | 1.00  |
|     |                 | PI  | 3.48  | 3.49  | 3.49  | 3.49  | 3.50  | 3.69  | 3.70  | 3.70  | 3.70  | 3.71  | 3.91  | 3.92  | 3.92  | 3.92  | 3.93  | 4.15  | 4.15  | 4.16  | 4.16  | 4.17  |
| 988 | -22°F (-30.0°C) | TC  | 36585 | 36634 | 36673 | 36675 | 36724 | 38789 | 38835 | 38874 | 38881 | 38927 | 41107 | 41160 | 41206 | 41214 | 41260 | 43584 | 43631 | 43678 | 43685 | 43740 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 1.60  | 1.60  | 1.60  | 1.60  | 1.60  | 1.69  | 1.70  | 1.70  | 1.70  | 1.70  | 1.80  | 1.80  | 1.80  | 1.80  | 1.80  | 1.90  | 1.91  | 1.91  | 1.91  | 1.91  |
|     | -13°F (-25.0°C) | TC  | 39633 | 39687 | 39729 | 39731 | 39785 | 42022 | 42072 | 42113 | 42121 | 42171 | 44532 | 44590 | 44640 | 44648 | 44698 | 47216 | 47267 | 47318 | 47326 | 47385 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 1.73  | 1.73  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.84  | 1.95  | 1.95  | 1.95  | 1.95  | 1.95  | 2.06  | 2.06  | 2.07  | 2.07  | 2.07  |
|     | -4°F (-20.0°C)  | TC  | 42682 | 42739 | 42785 | 42787 | 42845 | 45254 | 45308 | 45353 | 45362 | 45415 | 47958 | 48020 | 48074 | 48083 | 48136 | 50847 | 50903 | 50958 | 50966 | 51030 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 1.86  | 1.87  | 1.87  | 1.87  | 1.87  | 1.98  | 1.98  | 1.98  | 1.98  | 1.98  | 2.09  | 2.10  | 2.10  | 2.10  | 2.10  | 2.22  | 2.22  | 2.23  | 2.23  | 2.23  |
|     | 0°F (-17.8°C)   | TC  | 44037 | 44096 | 44144 | 44146 | 44205 | 46691 | 46746 | 46792 | 46802 | 46857 | 49480 | 49545 | 49600 | 49609 | 49664 | 52462 | 52519 | 52576 | 52584 | 52650 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 1.92  | 1.93  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.04  | 2.04  | 2.05  | 2.16  | 2.16  | 2.17  | 2.17  | 2.17  | 2.29  | 2.29  | 2.30  | 2.30  | 2.30  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 7 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 5°F (-15.0°C)  | TC  | 45731 | 45792 | 45842 | 45844 | 45905 | 48487 | 48544 | 48592 | 48602 | 48659 | 51383 | 51450 | 51508 | 51517 | 51575 | 54479 | 54539 | 54598 | 54606 | 54675 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 2.00  | 2.00  | 2.00  | 2.00  | 2.01  | 2.12  | 2.12  | 2.12  | 2.12  | 2.13  | 2.24  | 2.25  | 2.25  | 2.25  | 2.25  | 2.38  | 2.38  | 2.39  | 2.39  | 2.39  |
|     | 14°F (-10.0°C) | TC  | 47407 | 47471 | 47522 | 47524 | 47589 | 50264 | 50324 | 50374 | 50384 | 50443 | 53267 | 53337 | 53396 | 53406 | 53466 | 56477 | 56538 | 56600 | 56609 | 56679 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 1.92  | 1.92  | 1.93  | 1.93  | 1.93  | 2.04  | 2.04  | 2.04  | 2.04  | 2.04  | 2.16  | 2.16  | 2.16  | 2.16  | 2.17  | 2.29  | 2.29  | 2.29  | 2.29  | 2.30  |
|     | 17°F (-8.3°C)  | TC  | 47966 | 48031 | 48083 | 48085 | 48150 | 50857 | 50917 | 50968 | 50978 | 51038 | 53895 | 53965 | 54026 | 54036 | 54096 | 57143 | 57205 | 57267 | 57276 | 57347 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                | PI  | 1.90  | 1.90  | 1.90  | 1.90  | 1.90  | 2.01  | 2.01  | 2.01  | 2.01  | 2.02  | 2.13  | 2.13  | 2.14  | 2.14  | 2.14  | 2.26  | 2.26  | 2.26  | 2.26  | 2.27  |
|     | 23°F (-5.0°C)  | TC  | 49805 | 49872 | 49926 | 49928 | 49995 | 52807 | 52869 | 52921 | 52932 | 52995 | 55962 | 56034 | 56097 | 56107 | 56170 | 59333 | 59398 | 59462 | 59472 | 59546 |
|     |                | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.65  | 2.65  | 2.65  | 2.65  | 2.66  | 2.81  | 2.81  | 2.81  | 2.81  | 2.82  | 2.97  | 2.98  | 2.98  | 2.98  | 2.99  | 3.15  | 3.16  | 3.16  | 3.16  | 3.16  |
|     | 35°F (1.7°C)   | TC  | 53483 | 53555 | 53612 | 53615 | 53687 | 56706 | 56773 | 56829 | 56840 | 56908 | 60094 | 60172 | 60239 | 60250 | 60317 | 63715 | 63784 | 63853 | 63863 | 63943 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 4.15  | 4.16  | 4.16  | 4.16  | 4.17  | 4.40  | 4.41  | 4.41  | 4.41  | 4.42  | 4.66  | 4.67  | 4.67  | 4.67  | 4.68  | 4.94  | 4.95  | 4.95  | 4.96  | 4.96  |
|     | 41°F (5.0°C)   | TC  | 45163 | 45223 | 45272 | 45274 | 45335 | 47884 | 47941 | 47988 | 47998 | 48055 | 50745 | 50811 | 50868 | 50877 | 50934 | 53803 | 53861 | 53920 | 53928 | 53995 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 2.82  | 2.82  | 2.82  | 2.82  | 2.83  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  | 3.17  | 3.17  | 3.17  | 3.17  | 3.18  | 3.36  | 3.36  | 3.36  | 3.36  | 3.37  |
|     | 47°F (8.3°C)   | TC  | 36843 | 36892 | 36932 | 36934 | 36983 | 39063 | 39109 | 39148 | 39156 | 39202 | 41397 | 41451 | 41497 | 41504 | 41551 | 43891 | 43939 | 43987 | 43993 | 44048 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.48  | 1.49  | 1.49  | 1.49  | 1.49  | 1.57  | 1.58  | 1.58  | 1.58  | 1.58  | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  |
|     | 50°F (10.0°C)  | TC  | 37145 | 37195 | 37235 | 37236 | 37287 | 39383 | 39430 | 39469 | 39477 | 39523 | 41736 | 41790 | 41837 | 41845 | 41891 | 44251 | 44299 | 44347 | 44354 | 44409 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 1.54  | 1.54  | 1.55  | 1.55  | 1.55  | 1.64  | 1.64  | 1.64  | 1.64  | 1.64  | 1.73  | 1.74  | 1.74  | 1.74  | 1.74  | 1.84  | 1.84  | 1.84  | 1.84  | 1.84  |
|     | 59°F (15.0°C)  | TC  | 38051 | 38102 | 38143 | 38145 | 38196 | 40344 | 40392 | 40432 | 40440 | 40488 | 42754 | 42810 | 42857 | 42865 | 42913 | 45330 | 45380 | 45429 | 45436 | 45493 |
|     |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                | PI  | 1.72  | 1.72  | 1.72  | 1.72  | 1.72  | 1.82  | 1.82  | 1.82  | 1.82  | 1.83  | 1.93  | 1.93  | 1.93  | 1.93  | 1.94  | 2.04  | 2.05  | 2.05  | 2.05  | 2.05  |
|     | 68°F (20.0°C)  | TC  | 38957 | 39009 | 39051 | 39053 | 39106 | 41305 | 41353 | 41394 | 41403 | 41452 | 43772 | 43829 | 43878 | 43886 | 43935 | 46410 | 46460 | 46511 | 46518 | 46576 |
|     |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                | PI  | 1.89  | 1.89  | 1.89  | 1.89  | 1.90  | 2.00  | 2.01  | 2.01  | 2.01  | 2.01  | 2.12  | 2.13  | 2.13  | 2.13  | 2.13  | 2.25  | 2.25  | 2.26  | 2.26  | 2.26  |
|     | 77°F (25.0°C)  | TC  | 39863 | 39917 | 39960 | 39961 | 40015 | 42265 | 42315 | 42357 | 42365 | 42416 | 44790 | 44849 | 44899 | 44907 | 44957 | 47489 | 47541 | 47592 | 47600 | 47659 |
|     |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                | PI  | 2.06  | 2.07  | 2.07  | 2.07  | 2.07  | 2.19  | 2.19  | 2.19  | 2.19  | 2.20  | 2.32  | 2.32  | 2.32  | 2.32  | 2.33  | 2.46  | 2.46  | 2.46  | 2.46  | 2.47  |
|     | 82°F (27.8°C)  | TC  | 40832 | 40886 | 40931 | 40932 | 40988 | 43292 | 43344 | 43386 | 43395 | 43446 | 45879 | 45938 | 45990 | 45998 | 46049 | 48643 | 48696 | 48749 | 48756 | 48817 |
|     |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                | PI  | 2.44  | 2.45  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.60  | 2.60  | 2.60  | 2.75  | 2.75  | 2.75  | 2.75  | 2.76  | 2.91  | 2.91  | 2.92  | 2.92  | 2.92  |

Table 26: Cooling Performance - 48K 37MUHA + 45MUAA (Sheet 8 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 86°F (30.0°C)  | TC  | 42194 | 42250 | 42296 | 42298 | 42355 | 44736 | 44789 | 44834 | 44842 | 44896 | 47409 | 47471 | 47524 | 47532 | 47585 | 50266 | 50320 | 50375 | 50383 | 50446 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 3.11  | 3.11  | 3.11  | 3.11  | 3.12  | 3.29  | 3.30  | 3.30  | 3.30  | 3.31  | 3.49  | 3.49  | 3.50  | 3.50  | 3.50  | 3.70  | 3.70  | 3.71  | 3.71  | 3.71  |
|     | 95°F (35.0°C)  | TC  | 45258 | 45319 | 45368 | 45370 | 45431 | 47986 | 48042 | 48090 | 48099 | 48156 | 50852 | 50919 | 50975 | 50985 | 51042 | 53916 | 53975 | 54034 | 54042 | 54110 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 4.60  | 4.60  | 4.61  | 4.61  | 4.61  | 4.87  | 4.88  | 4.88  | 4.89  | 4.89  | 5.17  | 5.17  | 5.18  | 5.18  | 5.18  | 5.48  | 5.48  | 5.49  | 5.49  | 5.50  |
|     | 104°F (40.0°C) | TC  | 40407 | 40462 | 40505 | 40507 | 40562 | 42843 | 42893 | 42936 | 42944 | 42995 | 45402 | 45461 | 45512 | 45520 | 45571 | 48138 | 48190 | 48243 | 48250 | 48310 |
|     |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                | PI  | 4.40  | 4.41  | 4.41  | 4.41  | 4.42  | 4.67  | 4.67  | 4.68  | 4.68  | 4.68  | 4.95  | 4.95  | 4.96  | 4.96  | 4.97  | 5.24  | 5.25  | 5.26  | 5.26  | 5.26  |
|     | 110°F (43.0°C) | TC  | 37497 | 37547 | 37588 | 37590 | 37640 | 39757 | 39804 | 39843 | 39851 | 39898 | 42132 | 42187 | 42234 | 42242 | 42289 | 44671 | 44719 | 44768 | 44775 | 44830 |
|     |                | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                | PI  | 4.29  | 4.29  | 4.30  | 4.30  | 4.30  | 4.54  | 4.55  | 4.55  | 4.55  | 4.56  | 4.82  | 4.82  | 4.83  | 4.83  | 4.83  | 5.11  | 5.11  | 5.12  | 5.12  | 5.12  |
|     | 115°F (46.0°C) | TC  | 33019 | 33063 | 33099 | 33100 | 33145 | 35009 | 35050 | 35085 | 35092 | 35134 | 37100 | 37149 | 37190 | 37197 | 37238 | 39336 | 39379 | 39421 | 39428 | 39477 |
|     |                | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                | PI  | 4.03  | 4.03  | 4.04  | 4.04  | 4.04  | 4.27  | 4.27  | 4.28  | 4.28  | 4.28  | 4.52  | 4.53  | 4.53  | 4.54  | 4.54  | 4.80  | 4.80  | 4.81  | 4.81  | 4.81  |
|     | 122°F (50.0°C) | TC  | 27048 | 27085 | 27114 | 27115 | 27152 | 28678 | 28712 | 28741 | 28746 | 28780 | 30392 | 30431 | 30465 | 30471 | 30505 | 32223 | 32258 | 32293 | 32298 | 32338 |
|     |                | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                | PI  | 3.68  | 3.68  | 3.69  | 3.69  | 3.69  | 3.90  | 3.91  | 3.91  | 3.91  | 3.92  | 4.13  | 4.14  | 4.14  | 4.15  | 4.15  | 4.38  | 4.39  | 4.39  | 4.39  | 4.40  |

## Heating Performance - 48K 37MUHA + 45MUAA

Table 27: Heating Performance - 48K 37MUHA + 45MUAA (Sheet 1 of 2)

| AIRFLOW<br>(CFM) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                                     |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|----------------------------------------------------|-------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  | OUTDOOR<br>DB °F<br>(°C)                           | TC: TOTAL HEATING CAPACITY (BTU/HR) |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                                                    | INDOOR CONDITIONS DB °F (°C)        |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                                                    | 60.8°F<br>(16.0°C)                  | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)                                    | 21644                               | 21211            | 21105            | 19677              | 19500              | 5.50                 | 5.55             | 5.56             | 5.57               | 5.59               |
|                  | -13°F (-25.0°C)                                    | 29745                               | 29150            | 29004            | 26002              | 25768              | 5.97                 | 6.02             | 6.03             | 6.04               | 6.07               |
|                  | -4°F (-20.0°C)                                     | 35391                               | 34684            | 34510            | 30938              | 30660              | 6.16                 | 6.21             | 6.22             | 6.23               | 6.26               |
|                  | 0°F (-17.8°C)                                      | 37780                               | 37024            | 36839            | 33026              | 32729              | 6.52                 | 6.57             | 6.58             | 6.59               | 6.62               |
|                  | 5°F (-15.0°C)                                      | 40765                               | 39950            | 39750            | 35636              | 35315              | 6.96                 | 7.02             | 7.03             | 7.05               | 7.08               |
|                  | 14°F (-10.0°C)                                     | 42459                               | 41610            | 41402            | 37117              | 36783              | 6.55                 | 6.60             | 6.62             | 6.63               | 6.66               |
|                  | 17°F (-8.3°C)                                      | 43024                               | 42164            | 41953            | 37611              | 37272              | 6.41                 | 6.46             | 6.48             | 6.49               | 6.51               |
|                  | 22°F (-5.6°C)                                      | 41266                               | 40440            | 40238            | 36073              | 35749              | 6.04                 | 6.09             | 6.10             | 6.11               | 6.14               |
|                  | 27°F (-2.8°C)                                      | 39507                               | 38717            | 38523            | 34536              | 34225              | 5.67                 | 5.71             | 5.72             | 5.73               | 5.76               |
|                  | 32°F (-0.0°C)                                      | 37749                               | 36994            | 36809            | 32999              | 32702              | 5.29                 | 5.34             | 5.35             | 5.36               | 5.38               |
|                  | 35°F (1.7°C)                                       | 36693                               | 35960            | 35780            | 32077              | 31788              | 5.07                 | 5.11             | 5.12             | 5.13               | 5.15               |
|                  | 37°F (2.8°C)                                       | 38881                               | 38103            | 37913            | 33989              | 33683              | 5.06                 | 5.10             | 5.11             | 5.12               | 5.14               |
|                  | 42°F (5.6°C)                                       | 44350                               | 43463            | 43245            | 38769              | 38421              | 5.03                 | 5.07             | 5.08             | 5.09               | 5.11               |
|                  | 44.6°F (7.0°C)                                     | 46537                               | 45606            | 45378            | 40682              | 40316              | 5.01                 | 5.06             | 5.07             | 5.08               | 5.10               |
|                  | 47°F (8.3°C)                                       | 49818                               | 48822            | 48578            | 43550              | 43158              | 5.00                 | 5.04             | 5.05             | 5.06               | 5.08               |
|                  | 52°F (11.1°C)                                      | 47129                               | 46186            | 45955            | 41199              | 40828              | 4.43                 | 4.46             | 4.47             | 4.48               | 4.50               |
|                  | 57°F (13.9°C)                                      | 44439                               | 43550            | 43332            | 38847              | 38498              | 3.86                 | 3.89             | 3.90             | 3.91               | 3.92               |
|                  | 59°F (15.0°C)                                      | 43363                               | 42496            | 42283            | 37907              | 37566              | 3.63                 | 3.66             | 3.67             | 3.68               | 3.69               |
|                  | 62°F (16.7°C)                                      | 41749                               | 40914            | 40709            | 36496              | 36167              | 3.29                 | 3.32             | 3.32             | 3.33               | 3.34               |
|                  | 64.4°F (18.0°C)                                    | 40673                               | 39859            | 39660            | 35555              | 35235              | 3.06                 | 3.09             | 3.10             | 3.10               | 3.11               |
| 530              | -22°F (-30.0°C)                                    | 23315                               | 22849            | 22735            | 21909              | 21711              | 5.56                 | 5.60             | 5.61             | 5.63               | 5.65               |
|                  | -13°F (-25.0°C)                                    | 31420                               | 30791            | 30637            | 28950              | 28690              | 6.03                 | 6.08             | 6.09             | 6.10               | 6.13               |
|                  | -4°F (-20.0°C)                                     | 37384                               | 36637            | 36453            | 34446              | 34136              | 6.22                 | 6.27             | 6.28             | 6.30               | 6.32               |
|                  | 0°F (-17.8°C)                                      | 39907                               | 39109            | 38913            | 36771              | 36440              | 6.58                 | 6.63             | 6.65             | 6.66               | 6.69               |
|                  | 5°F (-15.0°C)                                      | 43061                               | 42200            | 41989            | 39677              | 39320              | 7.03                 | 7.09             | 7.10             | 7.12               | 7.15               |
|                  | 14°F (-10.0°C)                                     | 44850                               | 43953            | 43734            | 41326              | 40954              | 6.62                 | 6.67             | 6.68             | 6.70               | 6.72               |
|                  | 17°F (-8.3°C)                                      | 45447                               | 44538            | 44315            | 41875              | 41498              | 6.48                 | 6.53             | 6.54             | 6.55               | 6.58               |
|                  | 22°F (-5.6°C)                                      | 43589                               | 42718            | 42504            | 40164              | 39802              | 6.10                 | 6.15             | 6.16             | 6.17               | 6.20               |
|                  | 27°F (-2.8°C)                                      | 41732                               | 40897            | 40693            | 38452              | 38106              | 5.72                 | 5.77             | 5.78             | 5.79               | 5.82               |
|                  | 32°F (-0.0°C)                                      | 39874                               | 39077            | 38881            | 36741              | 36410              | 5.35                 | 5.39             | 5.40             | 5.41               | 5.43               |
|                  | 35°F (1.7°C)                                       | 38760                               | 37985            | 37795            | 35714              | 35392              | 5.12                 | 5.16             | 5.17             | 5.18               | 5.20               |
|                  | 37°F (2.8°C)                                       | 41070                               | 40249            | 40048            | 37843              | 37502              | 5.11                 | 5.15             | 5.16             | 5.17               | 5.19               |
|                  | 42°F (5.6°C)                                       | 46847                               | 45910            | 45681            | 43165              | 42777              | 5.08                 | 5.12             | 5.13             | 5.14               | 5.16               |
|                  | 44.6°F (7.0°C)                                     | 49158                               | 48175            | 47934            | 45295              | 44887              | 5.07                 | 5.11             | 5.12             | 5.13               | 5.15               |
|                  | 47°F (8.3°C)                                       | 52624                               | 51571            | 51313            | 48488              | 48052              | 5.05                 | 5.09             | 5.10             | 5.11               | 5.13               |
|                  | 52°F (11.1°C)                                      | 49782                               | 48787            | 48543            | 45870              | 45457              | 4.47                 | 4.51             | 4.52             | 4.53               | 4.55               |
|                  | 57°F (13.9°C)                                      | 46941                               | 46002            | 45772            | 43252              | 42863              | 3.90                 | 3.93             | 3.94             | 3.95               | 3.96               |
|                  | 59°F (15.0°C)                                      | 45805                               | 44888            | 44664            | 42205              | 41825              | 3.67                 | 3.70             | 3.71             | 3.71               | 3.73               |
|                  | 62°F (16.7°C)                                      | 44100                               | 43218            | 43002            | 40634              | 40268              | 3.32                 | 3.35             | 3.36             | 3.37               | 3.38               |
|                  | 64.4°F (18.0°C)                                    | 42963                               | 42104            | 41893            | 39587              | 39231              | 3.10                 | 3.12             | 3.13             | 3.13               | 3.15               |

**Table 27: Heating Performance - 48K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 25116 | 24614 | 24491 | 24393 | 24173 | 5.61 | 5.66 | 5.67 | 5.68 | 5.70 |
|            | -13°F (-25.0°C) | 33189 | 32525 | 32362 | 32233 | 31943 | 6.09 | 6.14 | 6.15 | 6.17 | 6.19 |
|            | -4°F (-20.0°C)  | 39489 | 38700 | 38506 | 38352 | 38007 | 6.28 | 6.33 | 6.35 | 6.36 | 6.39 |
|            | 0°F (-17.8°C)   | 42154 | 41311 | 41105 | 40940 | 40572 | 6.65 | 6.70 | 6.72 | 6.73 | 6.76 |
|            | 5°F (-15.0°C)   | 45486 | 44576 | 44353 | 44176 | 43778 | 7.10 | 7.16 | 7.18 | 7.19 | 7.22 |
|            | 14°F (-10.0°C)  | 47376 | 46428 | 46196 | 46011 | 45597 | 6.68 | 6.74 | 6.75 | 6.76 | 6.79 |
|            | 17°F (-8.3°C)   | 48006 | 47046 | 46811 | 46623 | 46204 | 6.54 | 6.59 | 6.61 | 6.62 | 6.65 |
|            | 22°F (-5.6°C)   | 46044 | 45123 | 44897 | 44718 | 44315 | 6.16 | 6.21 | 6.22 | 6.24 | 6.26 |
|            | 27°F (-2.8°C)   | 44082 | 43200 | 42984 | 42812 | 42427 | 5.78 | 5.83 | 5.84 | 5.85 | 5.87 |
|            | 32°F (-0.0°C)   | 42120 | 41277 | 41071 | 40907 | 40538 | 5.40 | 5.44 | 5.45 | 5.47 | 5.49 |
|            | 35°F (1.7°C)    | 40942 | 40123 | 39923 | 39763 | 39405 | 5.17 | 5.21 | 5.22 | 5.23 | 5.26 |
|            | 37°F (2.8°C)    | 43383 | 42515 | 42303 | 42134 | 41754 | 5.16 | 5.20 | 5.21 | 5.22 | 5.24 |
|            | 42°F (5.6°C)    | 49485 | 48495 | 48253 | 48060 | 47627 | 5.13 | 5.17 | 5.18 | 5.19 | 5.21 |
|            | 44.6°F (7.0°C)  | 51926 | 50887 | 50633 | 50430 | 49976 | 5.12 | 5.16 | 5.17 | 5.18 | 5.20 |
|            | 47°F (8.3°C)    | 55587 | 54475 | 54203 | 53986 | 53500 | 5.10 | 5.14 | 5.15 | 5.16 | 5.18 |
|            | 52°F (11.1°C)   | 52586 | 51534 | 51276 | 51071 | 50612 | 4.52 | 4.55 | 4.56 | 4.57 | 4.59 |
|            | 57°F (13.9°C)   | 49584 | 48593 | 48350 | 48156 | 47723 | 3.94 | 3.97 | 3.98 | 3.99 | 4.00 |
|            | 59°F (15.0°C)   | 48384 | 47416 | 47179 | 46990 | 46567 | 3.71 | 3.74 | 3.74 | 3.75 | 3.77 |
|            | 62°F (16.7°C)   | 46583 | 45651 | 45423 | 45241 | 44834 | 3.36 | 3.39 | 3.39 | 3.40 | 3.41 |
|            | 64.4°F (18.0°C) | 45383 | 44475 | 44253 | 44076 | 43679 | 3.13 | 3.15 | 3.16 | 3.16 | 3.18 |
| <b>620</b> | -22°F (-30.0°C) | 26530 | 26000 | 25870 | 25766 | 25534 | 5.67 | 5.72 | 5.73 | 5.74 | 5.76 |
|            | -13°F (-25.0°C) | 35058 | 34357 | 34185 | 34048 | 33742 | 6.15 | 6.20 | 6.22 | 6.23 | 6.25 |
|            | -4°F (-20.0°C)  | 41713 | 40879 | 40674 | 40512 | 40147 | 6.35 | 6.40 | 6.41 | 6.42 | 6.45 |
|            | 0°F (-17.8°C)   | 44528 | 43638 | 43419 | 43246 | 42856 | 6.72 | 6.77 | 6.78 | 6.80 | 6.82 |
|            | 5°F (-15.0°C)   | 48047 | 47086 | 46850 | 46663 | 46243 | 7.18 | 7.23 | 7.25 | 7.26 | 7.29 |
|            | 14°F (-10.0°C)  | 50044 | 49043 | 48798 | 48602 | 48165 | 6.75 | 6.80 | 6.82 | 6.83 | 6.86 |
|            | 17°F (-8.3°C)   | 50709 | 49695 | 49447 | 49249 | 48806 | 6.61 | 6.66 | 6.67 | 6.69 | 6.71 |
|            | 22°F (-5.6°C)   | 48637 | 47664 | 47426 | 47236 | 46811 | 6.22 | 6.27 | 6.29 | 6.30 | 6.32 |
|            | 27°F (-2.8°C)   | 46564 | 45633 | 45405 | 45223 | 44816 | 5.84 | 5.89 | 5.90 | 5.91 | 5.93 |
|            | 32°F (-0.0°C)   | 44491 | 43602 | 43384 | 43210 | 42821 | 5.45 | 5.50 | 5.51 | 5.52 | 5.54 |
|            | 35°F (1.7°C)    | 43248 | 42383 | 42171 | 42002 | 41624 | 5.22 | 5.27 | 5.28 | 5.29 | 5.31 |
|            | 37°F (2.8°C)    | 45826 | 44909 | 44685 | 44506 | 44106 | 5.21 | 5.25 | 5.26 | 5.28 | 5.30 |
|            | 42°F (5.6°C)    | 52272 | 51226 | 50970 | 50766 | 50309 | 5.18 | 5.22 | 5.23 | 5.24 | 5.26 |
|            | 44.6°F (7.0°C)  | 54850 | 53753 | 53484 | 53270 | 52791 | 5.17 | 5.21 | 5.22 | 5.23 | 5.25 |
|            | 47°F (8.3°C)    | 58717 | 57543 | 57255 | 57026 | 56513 | 5.15 | 5.19 | 5.20 | 5.21 | 5.23 |
|            | 52°F (11.1°C)   | 55547 | 54436 | 54164 | 53947 | 53462 | 4.56 | 4.60 | 4.61 | 4.62 | 4.64 |
|            | 57°F (13.9°C)   | 52377 | 51329 | 51072 | 50868 | 50410 | 3.98 | 4.01 | 4.02 | 4.03 | 4.04 |
|            | 59°F (15.0°C)   | 51108 | 50086 | 49836 | 49636 | 49190 | 3.74 | 3.77 | 3.78 | 3.79 | 3.80 |
|            | 62°F (16.7°C)   | 49206 | 48222 | 47981 | 47789 | 47359 | 3.39 | 3.42 | 3.43 | 3.43 | 3.45 |
|            | 64.4°F (18.0°C) | 47938 | 46979 | 46744 | 46557 | 46138 | 3.16 | 3.18 | 3.19 | 3.20 | 3.21 |

Cooling Performance - 60K 37MUHA + 45MUAA

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 1 of 8)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | ID<br>WB(°F) | 60.8°F (16.0°C)    |                    |                    |                    |                    | 64.4°F (18.0°C)    |                    |                    |                    |                    | 67°F (19.4°C)      |                    |                    |                    |                    | 71.6°F (22.0°C)    |                    |                    |                    |                    |
|------------------|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                  |                          | ID DB(°F)    | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) | 73.4°F<br>(23.0°C) | 77.0°F<br>(25.0°C) | 80.0°F<br>(26.7°C) | 80.6°F<br>(27.0°C) | 84.2°F<br>(29.0°C) |
| 712              | -22°F (-30.0°C)          | TC           | 30006              | 30046              | 30079              | 30080              | 30121              | 31814              | 31852              | 31883              | 31890              | 31928              | 33715              | 33759              | 33797              | 33803              | 33841              | 35746              | 35785              | 35824              | 35830              | 35874              |
|                  |                          | S/T          | 0.35               | 0.41               | 0.47               | 0.47               | 0.53               | 0.37               | 0.44               | 0.49               | 0.49               | 0.56               | 0.39               | 0.46               | 0.52               | 0.52               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.63               |
|                  |                          | PI           | 3.76               | 3.76               | 3.77               | 3.77               | 3.77               | 3.98               | 3.99               | 3.99               | 3.99               | 4.00               | 4.22               | 4.23               | 4.23               | 4.23               | 4.24               | 4.48               | 4.48               | 4.49               | 4.49               | 4.49               |
|                  | -13°F (-25.0°C)          | TC           | 32507              | 32550              | 32585              | 32587              | 32631              | 34466              | 34506              | 34540              | 34547              | 34588              | 36525              | 36572              | 36613              | 36620              | 36661              | 38725              | 38767              | 38810              | 38816              | 38864              |
|                  |                          | S/T          | 0.35               | 0.41               | 0.47               | 0.47               | 0.54               | 0.37               | 0.44               | 0.50               | 0.50               | 0.57               | 0.40               | 0.46               | 0.53               | 0.53               | 0.60               | 0.42               | 0.49               | 0.56               | 0.56               | 0.64               |
|                  |                          | PI           | 4.07               | 4.08               | 4.08               | 4.08               | 4.09               | 4.32               | 4.32               | 4.32               | 4.33               | 4.33               | 4.57               | 4.58               | 4.58               | 4.58               | 4.59               | 4.85               | 4.85               | 4.86               | 4.86               | 4.87               |
|                  | -4°F (-20.0°C)           | TC           | 35007              | 35054              | 35092              | 35093              | 35141              | 37117              | 37161              | 37197              | 37205              | 37249              | 39334              | 39385              | 39429              | 39437              | 39481              | 41704              | 41750              | 41795              | 41802              | 41854              |
|                  |                          | S/T          | 0.35               | 0.42               | 0.47               | 0.47               | 0.54               | 0.38               | 0.44               | 0.50               | 0.50               | 0.57               | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               |
|                  |                          | PI           | 4.38               | 4.39               | 4.39               | 4.39               | 4.40               | 4.65               | 4.65               | 4.66               | 4.66               | 4.66               | 4.92               | 4.93               | 4.94               | 4.94               | 4.94               | 5.22               | 5.23               | 5.23               | 5.23               | 5.24               |
|                  | 0°F (-17.8°C)            | TC           | 36118              | 36167              | 36206              | 36208              | 36256              | 38295              | 38340              | 38378              | 38386              | 38431              | 40583              | 40636              | 40681              | 40689              | 40734              | 43028              | 43075              | 43122              | 43129              | 43182              |
|                  |                          | S/T          | 0.36               | 0.42               | 0.47               | 0.47               | 0.54               | 0.38               | 0.44               | 0.50               | 0.50               | 0.57               | 0.40               | 0.47               | 0.53               | 0.53               | 0.61               | 0.42               | 0.50               | 0.56               | 0.56               | 0.64               |
|                  |                          | PI           | 4.52               | 4.53               | 4.53               | 4.53               | 4.54               | 4.79               | 4.80               | 4.80               | 4.81               | 4.81               | 5.08               | 5.09               | 5.09               | 5.09               | 5.10               | 5.39               | 5.39               | 5.40               | 5.40               | 5.41               |
|                  | 5°F (-15.0°C)            | TC           | 37508              | 37558              | 37598              | 37600              | 37651              | 39768              | 39815              | 39854              | 39862              | 39910              | 42144              | 42199              | 42246              | 42253              | 42301              | 44683              | 44732              | 44780              | 44787              | 44843              |
|                  |                          | S/T          | 0.36               | 0.42               | 0.48               | 0.48               | 0.54               | 0.38               | 0.44               | 0.50               | 0.50               | 0.58               | 0.40               | 0.47               | 0.53               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               |
|                  |                          | PI           | 4.70               | 4.70               | 4.71               | 4.71               | 4.71               | 4.98               | 4.98               | 4.99               | 4.99               | 5.00               | 5.28               | 5.28               | 5.29               | 5.29               | 5.30               | 5.59               | 5.60               | 5.61               | 5.61               | 5.61               |
|                  | 14°F (-10.0°C)           | TC           | 37392              | 37443              | 37483              | 37485              | 37535              | 39646              | 39693              | 39732              | 39740              | 39787              | 42014              | 42069              | 42116              | 42124              | 42171              | 44546              | 44594              | 44643              | 44650              | 44705              |
|                  |                          | S/T          | 0.36               | 0.42               | 0.48               | 0.48               | 0.54               | 0.38               | 0.45               | 0.51               | 0.51               | 0.58               | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               |
|                  |                          | PI           | 4.60               | 4.60               | 4.61               | 4.61               | 4.62               | 4.87               | 4.88               | 4.89               | 4.89               | 4.89               | 5.17               | 5.17               | 5.18               | 5.18               | 5.19               | 5.48               | 5.48               | 5.49               | 5.49               | 5.50               |
|                  | 17°F (-8.3°C)            | TC           | 37354              | 37404              | 37444              | 37446              | 37497              | 39605              | 39652              | 39691              | 39699              | 39746              | 41971              | 42026              | 42073              | 42080              | 42127              | 44500              | 44548              | 44597              | 44604              | 44659              |
|                  |                          | S/T          | 0.36               | 0.42               | 0.48               | 0.48               | 0.55               | 0.38               | 0.45               | 0.51               | 0.51               | 0.58               | 0.40               | 0.47               | 0.54               | 0.54               | 0.61               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               |
|                  |                          | PI           | 4.56               | 4.57               | 4.58               | 4.58               | 4.58               | 4.84               | 4.85               | 4.85               | 4.85               | 4.86               | 5.13               | 5.14               | 5.14               | 5.14               | 5.15               | 5.44               | 5.44               | 5.45               | 5.45               | 5.46               |
|                  | 23°F (-5.0°C)            | TC           | 36749              | 36798              | 36838              | 36840              | 36889              | 38964              | 39010              | 39048              | 39056              | 39102              | 41291              | 41345              | 41391              | 41399              | 41445              | 43779              | 43827              | 43875              | 43881              | 43936              |
|                  |                          | S/T          | 0.36               | 0.42               | 0.48               | 0.48               | 0.55               | 0.38               | 0.45               | 0.51               | 0.51               | 0.58               | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.50               | 0.57               | 0.57               | 0.65               |
|                  |                          | PI           | 4.60               | 4.61               | 4.61               | 4.61               | 4.62               | 4.88               | 4.89               | 4.89               | 4.89               | 4.90               | 5.17               | 5.18               | 5.18               | 5.19               | 5.19               | 5.48               | 5.49               | 5.50               | 5.50               | 5.50               |
|                  | 35°F (1.7°C)             | TC           | 35539              | 35587              | 35625              | 35627              | 35675              | 37681              | 37725              | 37763              | 37770              | 37815              | 39932              | 39984              | 40028              | 40036              | 40081              | 42338              | 42384              | 42430              | 42437              | 42490              |
|                  |                          | S/T          | 0.36               | 0.43               | 0.48               | 0.48               | 0.55               | 0.38               | 0.45               | 0.51               | 0.51               | 0.58               | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               |
|                  |                          | PI           | 4.68               | 4.69               | 4.69               | 4.69               | 4.70               | 4.96               | 4.97               | 4.97               | 4.97               | 4.98               | 5.26               | 5.27               | 5.27               | 5.27               | 5.28               | 5.58               | 5.58               | 5.59               | 5.59               | 5.60               |
|                  | 41°F (5.0°C)             | TC           | 35060              | 35107              | 35145              | 35147              | 35194              | 37173              | 37217              | 37254              | 37261              | 37305              | 39394              | 39445              | 39489              | 39496              | 39541              | 41768              | 41813              | 41858              | 41865              | 41917              |
|                  |                          | S/T          | 0.36               | 0.43               | 0.48               | 0.48               | 0.55               | 0.39               | 0.45               | 0.51               | 0.51               | 0.59               | 0.41               | 0.48               | 0.54               | 0.54               | 0.62               | 0.43               | 0.51               | 0.58               | 0.58               | 0.66               |
|                  |                          | PI           | 3.41               | 3.42               | 3.42               | 3.42               | 3.42               | 3.62               | 3.62               | 3.62               | 3.62               | 3.63               | 3.83               | 3.84               | 3.84               | 3.84               | 3.85               | 4.06               | 4.07               | 4.07               | 4.07               | 4.08               |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 2 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 712 | 47°F (8.3°C)   | TC  | 34581 | 34628 | 34665 | 34667 | 34714 | 36665 | 36709 | 36745 | 36752 | 36796 | 38856 | 38906 | 38950 | 38957 | 39001 | 41197 | 41242 | 41287 | 41293 | 41345 |
|     |                | S/T | 0.36  | 0.43  | 0.49  | 0.49  | 0.55  | 0.39  | 0.45  | 0.51  | 0.51  | 0.59  | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  |
|     |                | PI  | 2.14  | 2.14  | 2.15  | 2.15  | 2.15  | 2.27  | 2.27  | 2.27  | 2.28  | 2.28  | 2.41  | 2.41  | 2.41  | 2.41  | 2.41  | 2.55  | 2.55  | 2.56  | 2.56  | 2.56  |
|     | 50°F (10.0°C)  | TC  | 34524 | 34571 | 34608 | 34609 | 34656 | 36605 | 36648 | 36684 | 36692 | 36735 | 38792 | 38842 | 38885 | 38893 | 38936 | 41129 | 41174 | 41219 | 41225 | 41276 |
|     |                | S/T | 0.37  | 0.43  | 0.49  | 0.49  | 0.56  | 0.39  | 0.46  | 0.52  | 0.52  | 0.59  | 0.41  | 0.48  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  |
|     |                | PI  | 2.15  | 2.15  | 2.15  | 2.15  | 2.15  | 2.27  | 2.28  | 2.28  | 2.28  | 2.28  | 2.41  | 2.41  | 2.42  | 2.42  | 2.42  | 2.56  | 2.56  | 2.56  | 2.56  | 2.56  |
|     | 59°F (15.0°C)  | TC  | 34353 | 34399 | 34436 | 34437 | 34484 | 36423 | 36466 | 36502 | 36509 | 36553 | 38599 | 38649 | 38692 | 38699 | 38743 | 40925 | 40969 | 41014 | 41020 | 41071 |
|     |                | S/T | 0.37  | 0.43  | 0.49  | 0.49  | 0.56  | 0.39  | 0.46  | 0.52  | 0.52  | 0.59  | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  |
|     |                | PI  | 2.16  | 2.16  | 2.16  | 2.16  | 2.17  | 2.29  | 2.29  | 2.29  | 2.29  | 2.30  | 2.42  | 2.43  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.58  | 2.58  | 2.58  |
|     | 68°F (20.0°C)  | TC  | 34181 | 34227 | 34264 | 34265 | 34312 | 36241 | 36284 | 36320 | 36327 | 36370 | 38406 | 38456 | 38499 | 38506 | 38549 | 40720 | 40765 | 40809 | 40815 | 40866 |
|     |                | S/T | 0.38  | 0.44  | 0.50  | 0.50  | 0.57  | 0.40  | 0.47  | 0.53  | 0.53  | 0.61  | 0.42  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  |
|     |                | PI  | 2.17  | 2.17  | 2.18  | 2.18  | 2.18  | 2.30  | 2.30  | 2.31  | 2.31  | 2.31  | 2.44  | 2.44  | 2.45  | 2.45  | 2.45  | 2.59  | 2.59  | 2.59  | 2.59  | 2.60  |
|     | 77°F (25.0°C)  | TC  | 34010 | 34055 | 34092 | 34093 | 34139 | 36059 | 36102 | 36137 | 36145 | 36187 | 38213 | 38263 | 38306 | 38313 | 38356 | 40516 | 40560 | 40604 | 40610 | 40661 |
|     |                | S/T | 0.38  | 0.45  | 0.51  | 0.51  | 0.58  | 0.41  | 0.48  | 0.54  | 0.54  | 0.62  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  |
|     |                | PI  | 2.18  | 2.19  | 2.19  | 2.19  | 2.19  | 2.32  | 2.32  | 2.32  | 2.32  | 2.32  | 2.45  | 2.46  | 2.46  | 2.46  | 2.46  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  |
|     | 82°F (27.8°C)  | TC  | 34313 | 34359 | 34396 | 34398 | 34444 | 36381 | 36424 | 36460 | 36467 | 36511 | 38555 | 38605 | 38648 | 38655 | 38698 | 40878 | 40922 | 40966 | 40973 | 41024 |
|     |                | S/T | 0.39  | 0.45  | 0.52  | 0.52  | 0.59  | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  |
|     |                | PI  | 2.45  | 2.45  | 2.45  | 2.45  | 2.46  | 2.60  | 2.60  | 2.60  | 2.60  | 2.61  | 2.75  | 2.75  | 2.76  | 2.76  | 2.76  | 2.92  | 2.92  | 2.92  | 2.92  | 2.93  |
|     | 86°F (30.0°C)  | TC  | 35059 | 35106 | 35144 | 35146 | 35193 | 37172 | 37216 | 37253 | 37260 | 37305 | 39393 | 39444 | 39488 | 39495 | 39540 | 41767 | 41812 | 41857 | 41864 | 41916 |
|     |                | S/T | 0.39  | 0.46  | 0.52  | 0.52  | 0.60  | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  |
|     |                | PI  | 2.99  | 2.99  | 2.99  | 2.99  | 3.00  | 3.17  | 3.17  | 3.17  | 3.17  | 3.18  | 3.35  | 3.36  | 3.36  | 3.36  | 3.37  | 3.56  | 3.56  | 3.56  | 3.56  | 3.57  |
|     | 95°F (35.0°C)  | TC  | 36738 | 36788 | 36827 | 36829 | 36879 | 38952 | 38999 | 39037 | 39045 | 39091 | 41280 | 41333 | 41379 | 41387 | 41433 | 43767 | 43814 | 43862 | 43869 | 43923 |
|     |                | S/T | 0.39  | 0.46  | 0.52  | 0.52  | 0.60  | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  |
|     |                | PI  | 4.19  | 4.20  | 4.20  | 4.20  | 4.21  | 4.45  | 4.45  | 4.46  | 4.46  | 4.46  | 4.71  | 4.72  | 4.72  | 4.72  | 4.73  | 5.00  | 5.00  | 5.01  | 5.01  | 5.01  |
|     | 104°F (40.0°C) | TC  | 34519 | 34565 | 34602 | 34604 | 34651 | 36599 | 36642 | 36678 | 36686 | 36729 | 38786 | 38836 | 38879 | 38886 | 38930 | 41122 | 41167 | 41212 | 41218 | 41270 |
|     |                | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                | PI  | 4.20  | 4.20  | 4.21  | 4.21  | 4.21  | 4.45  | 4.46  | 4.46  | 4.46  | 4.47  | 4.72  | 4.72  | 4.73  | 4.73  | 4.73  | 5.00  | 5.01  | 5.01  | 5.01  | 5.02  |
|     | 110°F (43.0°C) | TC  | 33187 | 33231 | 33267 | 33269 | 33314 | 35187 | 35229 | 35263 | 35270 | 35312 | 37289 | 37337 | 37379 | 37386 | 37428 | 39536 | 39579 | 39622 | 39628 | 39677 |
|     |                | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  |
|     |                | PI  | 4.20  | 4.21  | 4.21  | 4.21  | 4.22  | 4.45  | 4.46  | 4.46  | 4.46  | 4.47  | 4.72  | 4.73  | 4.73  | 4.73  | 4.74  | 5.00  | 5.01  | 5.02  | 5.02  | 5.02  |
|     | 115°F (46.0°C) | TC  | 28662 | 28701 | 28731 | 28733 | 28771 | 30389 | 30425 | 30455 | 30461 | 30497 | 32205 | 32247 | 32283 | 32289 | 32325 | 34145 | 34182 | 34220 | 34225 | 34268 |
|     |                | S/T | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  |
|     |                | PI  | 3.72  | 3.73  | 3.73  | 3.73  | 3.74  | 3.95  | 3.95  | 3.96  | 3.96  | 3.96  | 4.18  | 4.19  | 4.19  | 4.20  | 4.20  | 4.44  | 4.44  | 4.45  | 4.45  | 4.45  |
|     | 122°F (50.0°C) | TC  | 22629 | 22659 | 22684 | 22685 | 22715 | 23993 | 24021 | 24045 | 24049 | 24078 | 25426 | 25459 | 25487 | 25492 | 25521 | 26958 | 26987 | 27017 | 27021 | 27054 |
|     |                | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                | PI  | 3.09  | 3.09  | 3.09  | 3.10  | 3.10  | 3.27  | 3.28  | 3.28  | 3.28  | 3.29  | 3.47  | 3.47  | 3.48  | 3.48  | 3.48  | 3.68  | 3.68  | 3.69  | 3.69  | 3.69  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 3 of 8)

|     |                    |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | -22°F<br>(-30.0°C) | TC  | 33247 | 33292 | 33328 | 33329 | 33374 | 35251 | 35293 | 35328 | 35335 | 35377 | 37357 | 37406 | 37447 | 37454 | 37496 | 39608 | 39651 | 39694 | 39700 | 39750 |
|     |                    | S/T | 0.39  | 0.45  | 0.52  | 0.52  | 0.59  | 0.41  | 0.48  | 0.55  | 0.55  | 0.62  | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  |
|     |                    | PI  | 4.16  | 4.17  | 4.17  | 4.17  | 4.18  | 4.41  | 4.42  | 4.42  | 4.42  | 4.43  | 4.68  | 4.68  | 4.69  | 4.69  | 4.69  | 4.96  | 4.96  | 4.97  | 4.97  | 4.98  |
|     | -13°F<br>(-25.0°C) | TC  | 36018 | 36066 | 36105 | 36107 | 36156 | 38189 | 38234 | 38272 | 38279 | 38325 | 40470 | 40523 | 40568 | 40575 | 40621 | 42909 | 42955 | 43002 | 43009 | 43062 |
|     |                    | S/T | 0.39  | 0.46  | 0.52  | 0.52  | 0.59  | 0.41  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  |
|     |                    | PI  | 4.51  | 4.52  | 4.52  | 4.52  | 4.53  | 4.78  | 4.79  | 4.79  | 4.79  | 4.80  | 5.07  | 5.07  | 5.08  | 5.08  | 5.09  | 5.37  | 5.38  | 5.38  | 5.38  | 5.39  |
|     | -4°F<br>(-20.0°C)  | TC  | 38789 | 38841 | 38883 | 38884 | 38937 | 41126 | 41175 | 41216 | 41224 | 41273 | 43583 | 43640 | 43689 | 43697 | 43745 | 46209 | 46260 | 46310 | 46317 | 46375 |
|     |                    | S/T | 0.39  | 0.46  | 0.52  | 0.52  | 0.60  | 0.42  | 0.49  | 0.55  | 0.55  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  |
|     |                    | PI  | 4.86  | 4.86  | 4.87  | 4.87  | 4.87  | 5.15  | 5.16  | 5.16  | 5.16  | 5.17  | 5.46  | 5.46  | 5.47  | 5.47  | 5.48  | 5.79  | 5.79  | 5.80  | 5.80  | 5.81  |
|     | 0°F (-17.8°C)      | TC  | 40020 | 40074 | 40117 | 40119 | 40173 | 42432 | 42482 | 42524 | 42532 | 42583 | 44967 | 45025 | 45075 | 45084 | 45134 | 47676 | 47728 | 47780 | 47787 | 47847 |
|     |                    | S/T | 0.39  | 0.46  | 0.52  | 0.52  | 0.60  | 0.42  | 0.49  | 0.56  | 0.56  | 0.63  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  |
|     |                    | PI  | 5.01  | 5.02  | 5.02  | 5.02  | 5.03  | 5.31  | 5.32  | 5.32  | 5.33  | 5.33  | 5.63  | 5.64  | 5.64  | 5.64  | 5.65  | 5.97  | 5.98  | 5.98  | 5.98  | 5.99  |
|     | 5°F (-15.0°C)      | TC  | 41559 | 41615 | 41660 | 41662 | 41718 | 44064 | 44116 | 44160 | 44168 | 44221 | 46696 | 46757 | 46809 | 46818 | 46870 | 49510 | 49564 | 49618 | 49625 | 49687 |
|     |                    | S/T | 0.40  | 0.46  | 0.53  | 0.53  | 0.60  | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  |
|     |                    | PI  | 5.20  | 5.21  | 5.22  | 5.22  | 5.22  | 5.52  | 5.52  | 5.53  | 5.53  | 5.54  | 5.85  | 5.85  | 5.86  | 5.86  | 5.87  | 6.20  | 6.21  | 6.21  | 6.21  | 6.22  |
|     | 14°F<br>(-10.0°C)  | TC  | 41432 | 41487 | 41532 | 41534 | 41590 | 43928 | 43980 | 44024 | 44033 | 44085 | 46553 | 46613 | 46665 | 46674 | 46726 | 49358 | 49411 | 49465 | 49473 | 49535 |
|     |                    | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.60  | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  |
|     |                    | PI  | 5.09  | 5.10  | 5.11  | 5.11  | 5.11  | 5.40  | 5.41  | 5.41  | 5.41  | 5.42  | 5.72  | 5.73  | 5.74  | 5.74  | 5.75  | 6.07  | 6.08  | 6.08  | 6.08  | 6.09  |
|     | 17°F (-8.3°C)      | TC  | 41389 | 41445 | 41489 | 41491 | 41547 | 43883 | 43935 | 43979 | 43987 | 44040 | 46505 | 46565 | 46617 | 46626 | 46678 | 49307 | 49361 | 49414 | 49422 | 49484 |
|     |                    | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.60  | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  |
|     |                    | PI  | 5.06  | 5.06  | 5.07  | 5.07  | 5.08  | 5.36  | 5.37  | 5.37  | 5.38  | 5.38  | 5.68  | 5.69  | 5.70  | 5.70  | 5.70  | 6.03  | 6.03  | 6.04  | 6.04  | 6.05  |
|     | 23°F (-5.0°C)      | TC  | 40719 | 40773 | 40817 | 40819 | 40874 | 43173 | 43224 | 43266 | 43275 | 43326 | 45752 | 45811 | 45862 | 45871 | 45922 | 48509 | 48561 | 48614 | 48622 | 48682 |
|     |                    | S/T | 0.40  | 0.47  | 0.53  | 0.53  | 0.61  | 0.42  | 0.50  | 0.56  | 0.56  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  |
|     |                    | PI  | 5.10  | 5.11  | 5.11  | 5.11  | 5.12  | 5.41  | 5.41  | 5.42  | 5.42  | 5.43  | 5.73  | 5.74  | 5.74  | 5.75  | 5.75  | 6.08  | 6.08  | 6.09  | 6.09  | 6.10  |
|     | 35°F (1.7°C)       | TC  | 39378 | 39431 | 39473 | 39475 | 39528 | 41751 | 41801 | 41842 | 41850 | 41900 | 44246 | 44303 | 44352 | 44361 | 44410 | 46911 | 46962 | 47014 | 47021 | 47079 |
|     |                    | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                    | PI  | 5.19  | 5.19  | 5.20  | 5.20  | 5.21  | 5.50  | 5.50  | 5.51  | 5.51  | 5.52  | 5.83  | 5.83  | 5.84  | 5.84  | 5.85  | 6.18  | 6.18  | 6.19  | 6.19  | 6.20  |
|     | 41°F (5.0°C)       | TC  | 38848 | 38900 | 38942 | 38943 | 38996 | 41189 | 41237 | 41278 | 41286 | 41335 | 43649 | 43706 | 43755 | 43763 | 43812 | 46279 | 46330 | 46380 | 46387 | 46445 |
|     |                    | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                    | PI  | 3.78  | 3.78  | 3.79  | 3.79  | 3.79  | 4.01  | 4.01  | 4.02  | 4.02  | 4.02  | 4.25  | 4.25  | 4.26  | 4.26  | 4.26  | 4.50  | 4.51  | 4.51  | 4.51  | 4.52  |
|     | 47°F (8.3°C)       | TC  | 38317 | 38369 | 38410 | 38412 | 38463 | 40626 | 40674 | 40714 | 40723 | 40771 | 43053 | 43109 | 43157 | 43165 | 43214 | 45647 | 45697 | 45747 | 45754 | 45811 |
|     |                    | S/T | 0.40  | 0.47  | 0.54  | 0.54  | 0.61  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  |
|     |                    | PI  | 2.37  | 2.38  | 2.38  | 2.38  | 2.38  | 2.51  | 2.52  | 2.52  | 2.52  | 2.52  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  |
|     | 50°F (10.0°C)      | TC  | 38254 | 38305 | 38346 | 38348 | 38400 | 40559 | 40607 | 40647 | 40655 | 40703 | 42982 | 43038 | 43086 | 43094 | 43142 | 45572 | 45621 | 45671 | 45678 | 45735 |
|     |                    | S/T | 0.41  | 0.48  | 0.54  | 0.54  | 0.62  | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  |
|     |                    | PI  | 2.38  | 2.38  | 2.38  | 2.38  | 2.39  | 2.52  | 2.52  | 2.53  | 2.53  | 2.53  | 2.67  | 2.67  | 2.68  | 2.68  | 2.68  | 2.83  | 2.83  | 2.84  | 2.84  | 2.84  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 4 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 806 | 59°F (15.0°C)   | TC  | 38064 | 38115 | 38156 | 38158 | 38209 | 40357 | 40405 | 40445 | 40453 | 40501 | 42769 | 42824 | 42872 | 42880 | 42928 | 45345 | 45395 | 45444 | 45451 | 45508 |
|     |                 | S/T | 0.41  | 0.48  | 0.54  | 0.54  | 0.62  | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  |
|     |                 | PI  | 2.39  | 2.39  | 2.40  | 2.40  | 2.40  | 2.54  | 2.54  | 2.54  | 2.54  | 2.54  | 2.69  | 2.69  | 2.69  | 2.69  | 2.70  | 2.85  | 2.85  | 2.85  | 2.86  | 2.86  |
|     | 68°F (20.0°C)   | TC  | 37873 | 37924 | 37965 | 37967 | 38018 | 40156 | 40203 | 40243 | 40251 | 40299 | 42555 | 42610 | 42658 | 42666 | 42713 | 45119 | 45168 | 45217 | 45224 | 45281 |
|     |                 | S/T | 0.42  | 0.49  | 0.56  | 0.56  | 0.64  | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.59  | 0.66  | 0.66  | 0.76  |
|     |                 | PI  | 2.41  | 2.41  | 2.41  | 2.41  | 2.41  | 2.55  | 2.55  | 2.56  | 2.56  | 2.56  | 2.70  | 2.71  | 2.71  | 2.71  | 2.71  | 2.87  | 2.87  | 2.87  | 2.87  | 2.88  |
|     | 77°F (25.0°C)   | TC  | 37683 | 37734 | 37775 | 37776 | 37827 | 39954 | 40002 | 40041 | 40049 | 40097 | 42341 | 42396 | 42444 | 42451 | 42499 | 44893 | 44941 | 44990 | 44997 | 45053 |
|     |                 | S/T | 0.42  | 0.50  | 0.57  | 0.57  | 0.64  | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  |
|     |                 | PI  | 2.42  | 2.42  | 2.43  | 2.43  | 2.43  | 2.57  | 2.57  | 2.57  | 2.57  | 2.57  | 2.72  | 2.72  | 2.73  | 2.73  | 2.73  | 2.88  | 2.89  | 2.89  | 2.89  | 2.89  |
|     | 82°F (27.8°C)   | TC  | 38020 | 38071 | 38112 | 38114 | 38165 | 40311 | 40359 | 40399 | 40407 | 40455 | 42719 | 42775 | 42822 | 42830 | 42878 | 45293 | 45342 | 45392 | 45399 | 45455 |
|     |                 | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                 | PI  | 2.71  | 2.72  | 2.72  | 2.72  | 2.72  | 2.88  | 2.88  | 2.88  | 2.88  | 2.89  | 3.05  | 3.05  | 3.06  | 3.06  | 3.06  | 3.23  | 3.24  | 3.24  | 3.24  | 3.24  |
|     | 86°F (30.0°C)   | TC  | 38847 | 38899 | 38941 | 38942 | 38995 | 41188 | 41236 | 41277 | 41285 | 41334 | 43648 | 43705 | 43754 | 43762 | 43811 | 46278 | 46329 | 46379 | 46386 | 46444 |
|     |                 | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                 | PI  | 3.31  | 3.31  | 3.32  | 3.32  | 3.32  | 3.51  | 3.51  | 3.51  | 3.52  | 3.52  | 3.72  | 3.72  | 3.73  | 3.73  | 3.73  | 3.94  | 3.95  | 3.95  | 3.95  | 3.95  |
|     | 95°F (35.0°C)   | TC  | 40707 | 40762 | 40806 | 40807 | 40862 | 43160 | 43211 | 43254 | 43262 | 43314 | 45739 | 45798 | 45849 | 45858 | 45909 | 48495 | 48547 | 48600 | 48608 | 48668 |
|     |                 | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                 | PI  | 4.65  | 4.65  | 4.66  | 4.66  | 4.66  | 4.93  | 4.93  | 4.94  | 4.94  | 4.94  | 5.22  | 5.23  | 5.23  | 5.23  | 5.24  | 5.54  | 5.54  | 5.55  | 5.55  | 5.56  |
|     | 104°F (40.0°C)  | TC  | 38247 | 38299 | 38340 | 38342 | 38394 | 40552 | 40600 | 40641 | 40649 | 40697 | 42975 | 43031 | 43079 | 43087 | 43135 | 45565 | 45614 | 45664 | 45671 | 45728 |
|     |                 | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                 | PI  | 4.65  | 4.66  | 4.66  | 4.66  | 4.67  | 4.93  | 4.94  | 4.94  | 4.94  | 4.95  | 5.23  | 5.23  | 5.24  | 5.24  | 5.25  | 5.54  | 5.55  | 5.55  | 5.55  | 5.56  |
|     | 110°F (43.0°C)  | TC  | 36772 | 36821 | 36861 | 36863 | 36912 | 38988 | 39034 | 39073 | 39080 | 39127 | 41317 | 41371 | 41417 | 41425 | 41471 | 43807 | 43854 | 43902 | 43909 | 43963 |
|     |                 | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.73  | 0.73  | 0.84  |
|     |                 | PI  | 4.65  | 4.66  | 4.67  | 4.67  | 4.67  | 4.94  | 4.94  | 4.95  | 4.95  | 4.95  | 5.23  | 5.24  | 5.24  | 5.24  | 5.25  | 5.55  | 5.55  | 5.56  | 5.56  | 5.57  |
|     | 115°F (46.0°C)  | TC  | 31758 | 31801 | 31835 | 31837 | 31879 | 33672 | 33712 | 33745 | 33752 | 33792 | 35684 | 35730 | 35770 | 35777 | 35816 | 37834 | 37875 | 37916 | 37922 | 37969 |
|     |                 | S/T | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  |
|     |                 | PI  | 4.13  | 4.13  | 4.14  | 4.14  | 4.14  | 4.37  | 4.38  | 4.38  | 4.39  | 4.39  | 4.64  | 4.64  | 4.65  | 4.65  | 4.65  | 4.92  | 4.92  | 4.93  | 4.93  | 4.93  |
|     | 122°F (50.0°C)  | TC  | 25073 | 25107 | 25134 | 25135 | 25169 | 26584 | 26616 | 26642 | 26647 | 26679 | 28173 | 28209 | 28241 | 28246 | 28277 | 29870 | 29902 | 29935 | 29940 | 29977 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 3.42  | 3.43  | 3.43  | 3.43  | 3.43  | 3.63  | 3.63  | 3.63  | 3.64  | 3.64  | 3.84  | 3.85  | 3.85  | 3.85  | 3.86  | 4.08  | 4.08  | 4.08  | 4.08  | 4.09  |
| 894 | -22°F (-30.0°C) | TC  | 36839 | 36888 | 36928 | 36930 | 36980 | 39059 | 39105 | 39144 | 39152 | 39198 | 41393 | 41446 | 41492 | 41500 | 41547 | 43887 | 43934 | 43982 | 43989 | 44044 |
|     |                 | S/T | 0.43  | 0.50  | 0.57  | 0.57  | 0.65  | 0.46  | 0.53  | 0.61  | 0.61  | 0.69  | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  |
|     |                 | PI  | 4.61  | 4.62  | 4.62  | 4.62  | 4.63  | 4.89  | 4.90  | 4.90  | 4.90  | 4.91  | 5.18  | 5.19  | 5.19  | 5.20  | 5.20  | 5.49  | 5.50  | 5.51  | 5.51  | 5.51  |
|     | -13°F (-25.0°C) | TC  | 39909 | 39962 | 40006 | 40007 | 40061 | 42314 | 42364 | 42406 | 42414 | 42465 | 44842 | 44900 | 44950 | 44959 | 45009 | 47544 | 47595 | 47647 | 47655 | 47714 |
|     |                 | S/T | 0.43  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.60  | 0.69  | 0.69  | 0.78  |
|     |                 | PI  | 5.00  | 5.00  | 5.01  | 5.01  | 5.02  | 5.30  | 5.30  | 5.31  | 5.31  | 5.32  | 5.61  | 5.62  | 5.63  | 5.63  | 5.64  | 5.95  | 5.96  | 5.97  | 5.97  | 5.97  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 5 of 8)

|     |                   |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | -4°F<br>(-20.0°C) | TC  | 42979 | 43037 | 43083 | 43085 | 43143 | 45569 | 45623 | 45668 | 45677 | 45731 | 48291 | 48354 | 48408 | 48417 | 48471 | 51201 | 51257 | 51312 | 51320 | 51384 |
|     |                   | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.61  | 0.61  | 0.70  | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                   | PI  | 5.38  | 5.39  | 5.39  | 5.39  | 5.40  | 5.71  | 5.71  | 5.72  | 5.72  | 5.73  | 6.05  | 6.05  | 6.06  | 6.06  | 6.07  | 6.41  | 6.42  | 6.42  | 6.43  | 6.43  |
|     | 0°F (-17.8°C)     | TC  | 44343 | 44403 | 44451 | 44453 | 44513 | 47015 | 47071 | 47118 | 47127 | 47183 | 49824 | 49889 | 49945 | 49954 | 50010 | 52826 | 52884 | 52941 | 52950 | 53016 |
|     |                   | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.66  | 0.46  | 0.54  | 0.62  | 0.62  | 0.70  | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  |
|     |                   | PI  | 5.55  | 5.56  | 5.57  | 5.57  | 5.57  | 5.89  | 5.89  | 5.90  | 5.90  | 5.91  | 6.24  | 6.25  | 6.25  | 6.25  | 6.26  | 6.61  | 6.62  | 6.63  | 6.63  | 6.64  |
|     | 5°F (-15.0°C)     | TC  | 46049 | 46111 | 46160 | 46162 | 46225 | 48824 | 48882 | 48930 | 48940 | 48998 | 51741 | 51808 | 51866 | 51875 | 51933 | 54858 | 54918 | 54978 | 54986 | 55055 |
|     |                   | S/T | 0.44  | 0.51  | 0.58  | 0.58  | 0.67  | 0.46  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  |
|     |                   | PI  | 5.77  | 5.77  | 5.78  | 5.78  | 5.79  | 6.11  | 6.12  | 6.13  | 6.13  | 6.13  | 6.48  | 6.49  | 6.49  | 6.49  | 6.50  | 6.87  | 6.88  | 6.88  | 6.88  | 6.89  |
|     | 14°F (-10.0°C)    | TC  | 45907 | 45969 | 46018 | 46020 | 46083 | 48674 | 48731 | 48779 | 48789 | 48847 | 51582 | 51649 | 51706 | 51716 | 51774 | 54690 | 54749 | 54809 | 54817 | 54885 |
|     |                   | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  |
|     |                   | PI  | 5.64  | 5.65  | 5.66  | 5.66  | 5.67  | 5.98  | 5.99  | 6.00  | 6.00  | 6.01  | 6.34  | 6.35  | 6.36  | 6.36  | 6.37  | 6.72  | 6.73  | 6.74  | 6.74  | 6.75  |
|     | 17°F (-8.3°C)     | TC  | 45860 | 45922 | 45971 | 45973 | 46035 | 48624 | 48681 | 48729 | 48739 | 48797 | 51529 | 51596 | 51653 | 51663 | 51720 | 54633 | 54693 | 54752 | 54761 | 54829 |
|     |                   | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.62  | 0.62  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                   | PI  | 5.60  | 5.61  | 5.62  | 5.62  | 5.63  | 5.94  | 5.95  | 5.95  | 5.96  | 5.96  | 6.30  | 6.31  | 6.31  | 6.31  | 6.32  | 6.68  | 6.68  | 6.69  | 6.69  | 6.70  |
|     | 23°F (-5.0°C)     | TC  | 45117 | 45178 | 45227 | 45229 | 45290 | 47836 | 47893 | 47940 | 47950 | 48007 | 50694 | 50760 | 50817 | 50826 | 50883 | 53749 | 53807 | 53866 | 53874 | 53941 |
|     |                   | S/T | 0.44  | 0.52  | 0.59  | 0.59  | 0.67  | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  |
|     |                   | PI  | 5.65  | 5.66  | 5.67  | 5.67  | 5.67  | 5.99  | 6.00  | 6.01  | 6.01  | 6.01  | 6.35  | 6.36  | 6.37  | 6.37  | 6.37  | 6.73  | 6.74  | 6.75  | 6.75  | 6.76  |
|     | 35°F (1.7°C)      | TC  | 43632 | 43690 | 43738 | 43739 | 43798 | 46261 | 46316 | 46362 | 46371 | 46426 | 49025 | 49089 | 49143 | 49153 | 49207 | 51979 | 52035 | 52092 | 52100 | 52165 |
|     |                   | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 5.75  | 5.75  | 5.76  | 5.76  | 5.77  | 6.09  | 6.10  | 6.11  | 6.11  | 6.11  | 6.46  | 6.46  | 6.47  | 6.47  | 6.48  | 6.85  | 6.85  | 6.86  | 6.86  | 6.87  |
|     | 41°F (5.0°C)      | TC  | 43044 | 43102 | 43148 | 43150 | 43208 | 45638 | 45692 | 45737 | 45746 | 45801 | 48365 | 48427 | 48481 | 48490 | 48545 | 51279 | 51334 | 51390 | 51398 | 51462 |
|     |                   | S/T | 0.45  | 0.52  | 0.59  | 0.59  | 0.68  | 0.47  | 0.55  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 4.19  | 4.19  | 4.20  | 4.20  | 4.20  | 4.44  | 4.44  | 4.45  | 4.45  | 4.46  | 4.70  | 4.71  | 4.72  | 4.72  | 4.72  | 4.99  | 4.99  | 5.00  | 5.00  | 5.01  |
|     | 47°F (8.3°C)      | TC  | 42456 | 42513 | 42559 | 42561 | 42618 | 45015 | 45068 | 45113 | 45122 | 45175 | 47704 | 47766 | 47819 | 47828 | 47882 | 50578 | 50633 | 50689 | 50696 | 50760 |
|     |                   | S/T | 0.45  | 0.52  | 0.60  | 0.60  | 0.68  | 0.47  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 2.63  | 2.63  | 2.63  | 2.63  | 2.64  | 2.79  | 2.79  | 2.79  | 2.79  | 2.80  | 2.95  | 2.96  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  |
|     | 50°F (10.0°C)     | TC  | 42386 | 42443 | 42489 | 42491 | 42548 | 44940 | 44994 | 45038 | 45047 | 45100 | 47625 | 47687 | 47740 | 47749 | 47802 | 50495 | 50550 | 50605 | 50613 | 50676 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.68  | 0.48  | 0.56  | 0.64  | 0.64  | 0.72  | 0.51  | 0.59  | 0.67  | 0.67  | 0.77  | 0.54  | 0.63  | 0.71  | 0.71  | 0.81  |
|     |                   | PI  | 2.63  | 2.64  | 2.64  | 2.64  | 2.64  | 2.79  | 2.80  | 2.80  | 2.80  | 2.80  | 2.96  | 2.96  | 2.97  | 2.97  | 2.97  | 3.14  | 3.14  | 3.14  | 3.14  | 3.15  |
|     | 59°F (15.0°C)     | TC  | 42175 | 42232 | 42278 | 42279 | 42336 | 44717 | 44770 | 44814 | 44823 | 44876 | 47389 | 47450 | 47503 | 47512 | 47565 | 50244 | 50298 | 50353 | 50361 | 50424 |
|     |                   | S/T | 0.45  | 0.53  | 0.60  | 0.60  | 0.69  | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  |
|     |                   | PI  | 2.65  | 2.65  | 2.66  | 2.66  | 2.66  | 2.81  | 2.81  | 2.82  | 2.82  | 2.82  | 2.98  | 2.98  | 2.98  | 2.98  | 2.99  | 3.16  | 3.16  | 3.16  | 3.16  | 3.17  |
|     | 68°F (20.0°C)     | TC  | 41965 | 42021 | 42066 | 42068 | 42125 | 44494 | 44546 | 44590 | 44599 | 44652 | 47152 | 47213 | 47266 | 47275 | 47327 | 49993 | 50047 | 50102 | 50109 | 50172 |
|     |                   | S/T | 0.46  | 0.54  | 0.62  | 0.62  | 0.71  | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.69  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  |
|     |                   | PI  | 2.67  | 2.67  | 2.67  | 2.67  | 2.68  | 2.83  | 2.83  | 2.83  | 2.83  | 2.84  | 2.99  | 3.00  | 3.00  | 3.00  | 3.01  | 3.18  | 3.18  | 3.18  | 3.18  | 3.19  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 6 of 8)

|     |                 |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 894 | 77°F (25.0°C)   | TC  | 41754 | 41810 | 41855 | 41857 | 41914 | 44270 | 44323 | 44367 | 44375 | 44428 | 46915 | 46976 | 47028 | 47037 | 47090 | 49742 | 49796 | 49850 | 49858 | 49920 |
|     |                 | S/T | 0.47  | 0.55  | 0.63  | 0.63  | 0.71  | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  |
|     |                 | PI  | 2.68  | 2.68  | 2.69  | 2.69  | 2.69  | 2.84  | 2.85  | 2.85  | 2.85  | 2.85  | 3.01  | 3.02  | 3.02  | 3.02  | 3.02  | 3.19  | 3.20  | 3.20  | 3.20  | 3.21  |
|     | 82°F (27.8°C)   | TC  | 42127 | 42183 | 42229 | 42231 | 42288 | 44665 | 44718 | 44763 | 44771 | 44825 | 47334 | 47395 | 47448 | 47457 | 47510 | 50186 | 50241 | 50295 | 50303 | 50366 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 3.01  | 3.01  | 3.01  | 3.01  | 3.02  | 3.19  | 3.19  | 3.19  | 3.19  | 3.20  | 3.38  | 3.38  | 3.39  | 3.39  | 3.39  | 3.58  | 3.59  | 3.59  | 3.59  | 3.59  |
|     | 86°F (30.0°C)   | TC  | 43043 | 43101 | 43147 | 43149 | 43207 | 45637 | 45691 | 45736 | 45745 | 45799 | 48363 | 48426 | 48480 | 48489 | 48543 | 51277 | 51333 | 51389 | 51397 | 51461 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 3.67  | 3.67  | 3.67  | 3.67  | 3.68  | 3.89  | 3.89  | 3.89  | 3.90  | 3.90  | 4.12  | 4.12  | 4.13  | 4.13  | 4.13  | 4.37  | 4.37  | 4.38  | 4.38  | 4.38  |
|     | 95°F (35.0°C)   | TC  | 45104 | 45165 | 45214 | 45216 | 45277 | 47822 | 47879 | 47926 | 47936 | 47993 | 50680 | 50745 | 50802 | 50811 | 50868 | 53733 | 53792 | 53850 | 53858 | 53926 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 5.15  | 5.16  | 5.16  | 5.16  | 5.17  | 5.46  | 5.47  | 5.47  | 5.47  | 5.48  | 5.78  | 5.79  | 5.80  | 5.80  | 5.81  | 6.13  | 6.14  | 6.15  | 6.15  | 6.16  |
|     | 104°F (40.0°C)  | TC  | 42379 | 42436 | 42482 | 42484 | 42541 | 44933 | 44986 | 45031 | 45040 | 45093 | 47618 | 47679 | 47733 | 47741 | 47795 | 50487 | 50542 | 50597 | 50604 | 50667 |
|     |                 | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                 | PI  | 5.15  | 5.16  | 5.17  | 5.17  | 5.17  | 5.46  | 5.47  | 5.48  | 5.48  | 5.48  | 5.79  | 5.80  | 5.81  | 5.81  | 5.81  | 6.14  | 6.15  | 6.15  | 6.15  | 6.16  |
|     | 110°F (43.0°C)  | TC  | 40744 | 40799 | 40843 | 40845 | 40900 | 43199 | 43251 | 43293 | 43302 | 43353 | 45780 | 45840 | 45891 | 45899 | 45951 | 48539 | 48591 | 48644 | 48652 | 48713 |
|     |                 | S/T | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.87  | 0.61  | 0.72  | 0.81  | 0.81  | 0.93  |
|     |                 | PI  | 5.16  | 5.16  | 5.17  | 5.17  | 5.18  | 5.47  | 5.48  | 5.48  | 5.48  | 5.49  | 5.80  | 5.80  | 5.81  | 5.81  | 5.82  | 6.14  | 6.15  | 6.16  | 6.16  | 6.17  |
|     | 115°F (46.0°C)  | TC  | 35189 | 35236 | 35274 | 35276 | 35323 | 37309 | 37354 | 37390 | 37398 | 37442 | 39538 | 39590 | 39634 | 39641 | 39686 | 41921 | 41966 | 42012 | 42018 | 42071 |
|     |                 | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.94  |
|     |                 | PI  | 4.57  | 4.58  | 4.58  | 4.58  | 4.59  | 4.85  | 4.85  | 4.86  | 4.86  | 4.86  | 5.14  | 5.14  | 5.15  | 5.15  | 5.16  | 5.45  | 5.45  | 5.46  | 5.46  | 5.47  |
|     | 122°F (50.0°C)  | TC  | 27782 | 27819 | 27849 | 27850 | 27888 | 29456 | 29491 | 29520 | 29526 | 29561 | 31216 | 31256 | 31291 | 31297 | 31332 | 33097 | 33133 | 33169 | 33174 | 33215 |
|     |                 | S/T | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.60  | 0.70  | 0.79  | 0.79  | 0.91  | 0.63  | 0.74  | 0.84  | 0.84  | 0.96  |
|     |                 | PI  | 3.79  | 3.80  | 3.80  | 3.80  | 3.80  | 4.02  | 4.02  | 4.03  | 4.03  | 4.03  | 4.26  | 4.26  | 4.27  | 4.27  | 4.27  | 4.52  | 4.52  | 4.53  | 4.53  | 4.53  |
| 988 | -22°F (-30.0°C) | TC  | 40818 | 40873 | 40917 | 40919 | 40974 | 43278 | 43330 | 43372 | 43381 | 43432 | 45864 | 45923 | 45975 | 45983 | 46035 | 48627 | 48680 | 48733 | 48741 | 48801 |
|     |                 | S/T | 0.48  | 0.56  | 0.63  | 0.63  | 0.72  | 0.50  | 0.59  | 0.67  | 0.67  | 0.77  | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  |
|     |                 | PI  | 5.11  | 5.12  | 5.12  | 5.12  | 5.13  | 5.42  | 5.42  | 5.43  | 5.43  | 5.44  | 5.74  | 5.75  | 5.76  | 5.76  | 5.76  | 6.09  | 6.09  | 6.10  | 6.10  | 6.11  |
|     | -13°F (-25.0°C) | TC  | 44220 | 44279 | 44327 | 44329 | 44389 | 46885 | 46940 | 46987 | 46996 | 47052 | 49686 | 49750 | 49806 | 49815 | 49871 | 52680 | 52737 | 52794 | 52802 | 52868 |
|     |                 | S/T | 0.48  | 0.56  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.77  | 0.54  | 0.63  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.76  | 0.76  | 0.87  |
|     |                 | PI  | 5.54  | 5.54  | 5.55  | 5.55  | 5.56  | 5.87  | 5.88  | 5.88  | 5.88  | 5.89  | 6.22  | 6.23  | 6.24  | 6.24  | 6.24  | 6.60  | 6.60  | 6.61  | 6.61  | 6.62  |
|     | -4°F (-20.0°C)  | TC  | 47621 | 47685 | 47737 | 47739 | 47803 | 50491 | 50551 | 50601 | 50611 | 50671 | 53508 | 53577 | 53637 | 53647 | 53707 | 56732 | 56794 | 56855 | 56864 | 56935 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.82  | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  |
|     |                 | PI  | 5.96  | 5.97  | 5.98  | 5.98  | 5.98  | 6.32  | 6.33  | 6.34  | 6.34  | 6.34  | 6.70  | 6.71  | 6.72  | 6.72  | 6.72  | 7.10  | 7.11  | 7.12  | 7.12  | 7.13  |
|     | 0°F (-17.8°C)   | TC  | 49133 | 49199 | 49252 | 49254 | 49321 | 52094 | 52156 | 52207 | 52218 | 52280 | 55207 | 55278 | 55340 | 55350 | 55412 | 58533 | 58596 | 58660 | 58669 | 58742 |
|     |                 | S/T | 0.48  | 0.57  | 0.64  | 0.64  | 0.73  | 0.51  | 0.60  | 0.68  | 0.68  | 0.78  | 0.54  | 0.64  | 0.72  | 0.72  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                 | PI  | 6.15  | 6.16  | 6.17  | 6.17  | 6.17  | 6.52  | 6.53  | 6.54  | 6.54  | 6.55  | 6.91  | 6.92  | 6.93  | 6.93  | 6.94  | 7.33  | 7.34  | 7.34  | 7.35  | 7.35  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 7 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 5°F (-15.0°C)  | TC  | 51023 | 51092 | 51147 | 51149 | 51218 | 54098 | 54162 | 54215 | 54226 | 54290 | 57330 | 57404 | 57468 | 57479 | 57543 | 60784 | 60850 | 60916 | 60926 | 61002 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 6.39  | 6.40  | 6.40  | 6.40  | 6.41  | 6.77  | 6.78  | 6.79  | 6.79  | 6.80  | 7.18  | 7.19  | 7.20  | 7.20  | 7.20  | 7.61  | 7.62  | 7.63  | 7.63  | 7.64  |
|     | 14°F (-10.0°C) | TC  | 50866 | 50935 | 50989 | 50992 | 51060 | 53932 | 53995 | 54049 | 54059 | 54124 | 57154 | 57228 | 57292 | 57302 | 57366 | 60597 | 60663 | 60729 | 60739 | 60814 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.78  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  |
|     |                | PI  | 6.25  | 6.26  | 6.27  | 6.27  | 6.28  | 6.63  | 6.64  | 6.65  | 6.65  | 6.65  | 7.03  | 7.04  | 7.04  | 7.05  | 7.05  | 7.45  | 7.46  | 7.47  | 7.47  | 7.48  |
|     | 17°F (-8.3°C)  | TC  | 50814 | 50882 | 50937 | 50939 | 51008 | 53876 | 53940 | 53993 | 54004 | 54068 | 57095 | 57169 | 57233 | 57244 | 57307 | 60535 | 60601 | 60667 | 60676 | 60752 |
|     |                | S/T | 0.49  | 0.57  | 0.65  | 0.65  | 0.74  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.78  | 0.78  | 0.88  |
|     |                | PI  | 6.21  | 6.22  | 6.22  | 6.22  | 6.23  | 6.58  | 6.59  | 6.60  | 6.60  | 6.61  | 6.98  | 6.99  | 6.99  | 7.00  | 7.00  | 7.40  | 7.41  | 7.41  | 7.41  | 7.42  |
|     | 23°F (-5.0°C)  | TC  | 49991 | 50058 | 50112 | 50114 | 50182 | 53004 | 53066 | 53119 | 53129 | 53192 | 56170 | 56243 | 56306 | 56316 | 56379 | 59555 | 59619 | 59684 | 59694 | 59768 |
|     |                | S/T | 0.49  | 0.58  | 0.65  | 0.65  | 0.75  | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.58  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 6.26  | 6.27  | 6.28  | 6.28  | 6.29  | 6.64  | 6.65  | 6.65  | 6.66  | 6.66  | 7.04  | 7.05  | 7.05  | 7.05  | 7.06  | 7.46  | 7.47  | 7.48  | 7.48  | 7.49  |
|     | 35°F (1.7°C)   | TC  | 48345 | 48410 | 48462 | 48464 | 48530 | 51259 | 51319 | 51370 | 51380 | 51441 | 54321 | 54391 | 54452 | 54462 | 54523 | 57594 | 57656 | 57719 | 57728 | 57800 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 6.37  | 6.38  | 6.38  | 6.38  | 6.39  | 6.75  | 6.76  | 6.77  | 6.77  | 6.77  | 7.15  | 7.16  | 7.17  | 7.17  | 7.18  | 7.58  | 7.59  | 7.60  | 7.60  | 7.61  |
|     | 41°F (5.0°C)   | TC  | 47694 | 47758 | 47809 | 47811 | 47876 | 50568 | 50628 | 50678 | 50688 | 50748 | 53589 | 53659 | 53719 | 53729 | 53788 | 56818 | 56880 | 56942 | 56950 | 57021 |
|     |                | S/T | 0.49  | 0.58  | 0.66  | 0.66  | 0.75  | 0.52  | 0.61  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  |
|     |                | PI  | 4.64  | 4.65  | 4.65  | 4.65  | 4.66  | 4.92  | 4.92  | 4.93  | 4.93  | 4.94  | 5.21  | 5.22  | 5.23  | 5.23  | 5.23  | 5.53  | 5.53  | 5.54  | 5.54  | 5.55  |
|     | 47°F (8.3°C)   | TC  | 47042 | 47106 | 47156 | 47159 | 47222 | 49877 | 49936 | 49986 | 49996 | 50055 | 52857 | 52926 | 52985 | 52995 | 53054 | 56042 | 56103 | 56164 | 56173 | 56243 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.75  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.65  | 0.74  | 0.74  | 0.85  | 0.59  | 0.69  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 2.91  | 2.92  | 2.92  | 2.92  | 2.92  | 3.09  | 3.09  | 3.09  | 3.09  | 3.10  | 3.27  | 3.28  | 3.28  | 3.28  | 3.28  | 3.47  | 3.47  | 3.48  | 3.48  | 3.48  |
|     | 50°F (10.0°C)  | TC  | 46965 | 47028 | 47078 | 47081 | 47144 | 49795 | 49854 | 49903 | 49913 | 49972 | 52770 | 52838 | 52897 | 52907 | 52966 | 55949 | 56010 | 56071 | 56080 | 56150 |
|     |                | S/T | 0.50  | 0.58  | 0.66  | 0.66  | 0.76  | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  |
|     |                | PI  | 2.92  | 2.92  | 2.93  | 2.93  | 2.93  | 3.09  | 3.10  | 3.10  | 3.10  | 3.10  | 3.28  | 3.28  | 3.29  | 3.29  | 3.29  | 3.48  | 3.48  | 3.48  | 3.48  | 3.49  |
|     | 59°F (15.0°C)  | TC  | 46731 | 46794 | 46844 | 46847 | 46910 | 49547 | 49606 | 49655 | 49665 | 49724 | 52508 | 52576 | 52634 | 52644 | 52703 | 55671 | 55732 | 55793 | 55801 | 55871 |
|     |                | S/T | 0.50  | 0.59  | 0.67  | 0.67  | 0.76  | 0.53  | 0.62  | 0.71  | 0.71  | 0.81  | 0.56  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  |
|     |                | PI  | 2.94  | 2.94  | 2.94  | 2.94  | 2.95  | 3.11  | 3.12  | 3.12  | 3.12  | 3.12  | 3.30  | 3.30  | 3.31  | 3.31  | 3.31  | 3.50  | 3.50  | 3.50  | 3.51  | 3.51  |
|     | 68°F (20.0°C)  | TC  | 46498 | 46560 | 46610 | 46613 | 46675 | 49300 | 49358 | 49407 | 49417 | 49476 | 52245 | 52313 | 52372 | 52381 | 52440 | 55393 | 55453 | 55514 | 55522 | 55592 |
|     |                | S/T | 0.51  | 0.60  | 0.69  | 0.69  | 0.78  | 0.54  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.61  | 0.72  | 0.82  | 0.82  | 0.93  |
|     |                | PI  | 2.95  | 2.96  | 2.96  | 2.96  | 2.96  | 3.13  | 3.13  | 3.14  | 3.14  | 3.14  | 3.32  | 3.32  | 3.33  | 3.33  | 3.33  | 3.52  | 3.52  | 3.53  | 3.53  | 3.53  |
|     | 77°F (25.0°C)  | TC  | 46264 | 46327 | 46377 | 46379 | 46441 | 49053 | 49111 | 49159 | 49169 | 49227 | 51983 | 52051 | 52109 | 52118 | 52177 | 55115 | 55175 | 55235 | 55244 | 55313 |
|     |                | S/T | 0.52  | 0.61  | 0.69  | 0.69  | 0.79  | 0.55  | 0.65  | 0.74  | 0.74  | 0.84  | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.94  |
|     |                | PI  | 2.97  | 2.97  | 2.98  | 2.98  | 2.98  | 3.15  | 3.15  | 3.16  | 3.16  | 3.16  | 3.34  | 3.34  | 3.35  | 3.35  | 3.35  | 3.54  | 3.54  | 3.55  | 3.55  | 3.55  |
|     | 82°F (27.8°C)  | TC  | 46677 | 46740 | 46791 | 46793 | 46856 | 49490 | 49549 | 49598 | 49608 | 49667 | 52447 | 52515 | 52574 | 52584 | 52642 | 55607 | 55668 | 55728 | 55737 | 55806 |
|     |                | S/T | 0.53  | 0.62  | 0.70  | 0.70  | 0.80  | 0.56  | 0.66  | 0.75  | 0.75  | 0.85  | 0.59  | 0.70  | 0.79  | 0.79  | 0.90  | 0.63  | 0.74  | 0.84  | 0.84  | 0.95  |
|     |                | PI  | 3.33  | 3.34  | 3.34  | 3.34  | 3.34  | 3.53  | 3.54  | 3.54  | 3.54  | 3.54  | 3.74  | 3.75  | 3.75  | 3.75  | 3.76  | 3.97  | 3.97  | 3.98  | 3.98  | 3.98  |

Table 28: Cooling Performance - 60K 37MUHA + 45MUAA (Sheet 8 of 8)

|     |                |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 898 | 86°F (30.0°C)  | TC  | 47693 | 47757 | 47808 | 47810 | 47875 | 50567 | 50627 | 50677 | 50687 | 50747 | 53588 | 53657 | 53717 | 53727 | 53787 | 56817 | 56878 | 56940 | 56949 | 57020 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 4.06  | 4.07  | 4.07  | 4.07  | 4.08  | 4.31  | 4.31  | 4.32  | 4.32  | 4.32  | 4.56  | 4.57  | 4.57  | 4.58  | 4.58  | 4.84  | 4.84  | 4.85  | 4.85  | 4.86  |
|     | 95°F (35.0°C)  | TC  | 49977 | 50044 | 50098 | 50100 | 50167 | 52988 | 53051 | 53104 | 53114 | 53177 | 56154 | 56227 | 56290 | 56300 | 56363 | 59538 | 59602 | 59667 | 59676 | 59751 |
|     |                | S/T | 0.53  | 0.63  | 0.71  | 0.71  | 0.81  | 0.57  | 0.66  | 0.75  | 0.75  | 0.86  | 0.60  | 0.70  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  |
|     |                | PI  | 5.70  | 5.71  | 5.72  | 5.72  | 5.73  | 6.05  | 6.06  | 6.06  | 6.06  | 6.07  | 6.41  | 6.42  | 6.43  | 6.43  | 6.43  | 6.80  | 6.80  | 6.81  | 6.81  | 6.82  |
|     | 104°F (40.0°C) | TC  | 46957 | 47020 | 47071 | 47073 | 47136 | 49787 | 49846 | 49895 | 49905 | 49964 | 52761 | 52830 | 52889 | 52899 | 52958 | 55940 | 56001 | 56062 | 56071 | 56141 |
|     |                | S/T | 0.55  | 0.64  | 0.73  | 0.73  | 0.83  | 0.58  | 0.68  | 0.77  | 0.77  | 0.88  | 0.62  | 0.72  | 0.82  | 0.82  | 0.93  | 0.65  | 0.76  | 0.87  | 0.87  | 0.99  |
|     |                | PI  | 5.71  | 5.72  | 5.72  | 5.73  | 5.73  | 6.06  | 6.06  | 6.07  | 6.07  | 6.08  | 6.42  | 6.43  | 6.43  | 6.43  | 6.44  | 6.80  | 6.81  | 6.82  | 6.82  | 6.83  |
|     | 110°F (43.0°C) | TC  | 45145 | 45206 | 45255 | 45257 | 45318 | 47866 | 47923 | 47970 | 47979 | 48036 | 50726 | 50792 | 50848 | 50858 | 50914 | 53782 | 53841 | 53899 | 53907 | 53975 |
|     |                | S/T | 0.57  | 0.67  | 0.76  | 0.76  | 0.86  | 0.60  | 0.71  | 0.80  | 0.80  | 0.91  | 0.64  | 0.75  | 0.85  | 0.85  | 0.97  | 0.68  | 0.79  | 0.90  | 0.90  | 1.00  |
|     |                | PI  | 5.72  | 5.72  | 5.73  | 5.73  | 5.74  | 6.06  | 6.07  | 6.07  | 6.07  | 6.08  | 6.42  | 6.43  | 6.44  | 6.44  | 6.45  | 6.81  | 6.82  | 6.82  | 6.82  | 6.83  |
|     | 115°F (46.0°C) | TC  | 38990 | 39042 | 39084 | 39086 | 39139 | 41340 | 41389 | 41430 | 41438 | 41487 | 43809 | 43866 | 43915 | 43923 | 43972 | 46449 | 46500 | 46550 | 46557 | 46615 |
|     |                | S/T | 0.57  | 0.67  | 0.77  | 0.77  | 0.87  | 0.61  | 0.71  | 0.81  | 0.81  | 0.92  | 0.65  | 0.76  | 0.86  | 0.86  | 0.98  | 0.68  | 0.80  | 0.91  | 0.91  | 1.00  |
|     |                | PI  | 5.07  | 5.07  | 5.08  | 5.08  | 5.09  | 5.37  | 5.38  | 5.38  | 5.38  | 5.39  | 5.69  | 5.70  | 5.71  | 5.71  | 5.71  | 6.03  | 6.04  | 6.05  | 6.05  | 6.06  |
|     | 122°F (50.0°C) | TC  | 30783 | 30824 | 30857 | 30859 | 30900 | 32638 | 32677 | 32709 | 32715 | 32754 | 34588 | 34633 | 34671 | 34678 | 34717 | 36672 | 36712 | 36752 | 36757 | 36803 |
|     |                | S/T | 0.59  | 0.69  | 0.78  | 0.78  | 0.89  | 0.62  | 0.73  | 0.83  | 0.83  | 0.95  | 0.66  | 0.77  | 0.88  | 0.88  | 1.00  | 0.70  | 0.82  | 0.93  | 0.93  | 1.00  |
|     |                | PI  | 4.20  | 4.21  | 4.21  | 4.21  | 4.22  | 4.45  | 4.46  | 4.46  | 4.46  | 4.47  | 4.72  | 4.73  | 4.73  | 4.73  | 4.74  | 5.00  | 5.01  | 5.01  | 5.02  | 5.02  |

## Heating Performance - 60K 37MUHA + 45MUAA

Table 29: Heating Performance - 60K 37MUHA + 45MUAA (Sheet 1 of 2)

| AIRFLOW<br>(CFM) | OUTDOOR<br>DB °F<br>(°C) | HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE |                  |                  |                    |                    |                      |                  |                  |                    |                    |
|------------------|--------------------------|----------------------------------------------------|------------------|------------------|--------------------|--------------------|----------------------|------------------|------------------|--------------------|--------------------|
|                  |                          | TC: TOTAL HEATING CAPACITY (BTU/HR)                |                  |                  |                    |                    | PI: POWER INPUT (KW) |                  |                  |                    |                    |
|                  |                          | INDOOR CONDITIONS DB °F (°C)                       |                  |                  |                    |                    | INDOOR CONDITIONS DB |                  |                  |                    |                    |
|                  |                          | 60.8°F<br>(16.0°C)                                 | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) | 60.8°F<br>(16.0°C)   | 68°F<br>(20.0°C) | 70°F<br>(21.1°C) | 71.6°F<br>(22.0°C) | 75.2°F<br>(24.0°C) |
| 490              | -22°F (-30.0°C)          | 22386                                              | 21938            | 21829            | 21718              | 21522              | 5.94                 | 5.99             | 6.00             | 6.01               | 6.04               |
|                  | -13°F (-25.0°C)          | 31369                                              | 30741            | 30588            | 29261              | 28998              | 6.97                 | 7.03             | 7.04             | 7.06               | 7.08               |
|                  | -4°F (-20.0°C)           | 35217                                              | 34512            | 34340            | 32851              | 32555              | 7.19                 | 7.25             | 7.26             | 7.28               | 7.31               |
|                  | 0°F (-17.8°C)            | 37734                                              | 36980            | 36795            | 35200              | 34883              | 7.53                 | 7.59             | 7.61             | 7.62               | 7.65               |
|                  | 5°F (-15.0°C)            | 40882                                              | 40064            | 39864            | 38135              | 37792              | 7.95                 | 8.02             | 8.03             | 8.05               | 8.08               |
|                  | 14°F (-10.0°C)           | 43240                                              | 42375            | 42163            | 40335              | 39972              | 7.91                 | 7.97             | 7.99             | 8.01               | 8.04               |
|                  | 17°F (-8.3°C)            | 44026                                              | 43145            | 42929            | 41068              | 40699              | 7.90                 | 7.96             | 7.98             | 7.99               | 8.03               |
|                  | 22°F (-5.6°C)            | 43133                                              | 42271            | 42059            | 40236              | 39874              | 7.39                 | 7.45             | 7.47             | 7.48               | 7.51               |
|                  | 27°F (-2.8°C)            | 42241                                              | 41397            | 41190            | 39404              | 39049              | 6.89                 | 6.95             | 6.96             | 6.98               | 7.00               |
|                  | 32°F (-0.0°C)            | 41349                                              | 40522            | 40320            | 38572              | 38224              | 6.39                 | 6.44             | 6.45             | 6.47               | 6.49               |
|                  | 35°F (1.7°C)             | 40814                                              | 39998            | 39798            | 38072              | 37730              | 6.09                 | 6.14             | 6.15             | 6.16               | 6.19               |
|                  | 37°F (2.8°C)             | 42119                                              | 41277            | 41071            | 39290              | 38936              | 6.03                 | 6.08             | 6.09             | 6.10               | 6.13               |
|                  | 42°F (5.6°C)             | 45383                                              | 44475            | 44253            | 42334              | 41953              | 5.88                 | 5.93             | 5.94             | 5.95               | 5.98               |
|                  | 44.6°F (7.0°C)           | 46688                                              | 45755            | 45526            | 43552              | 43160              | 5.82                 | 5.87             | 5.88             | 5.89               | 5.92               |
|                  | 47°F (8.3°C)             | 48646                                              | 47673            | 47435            | 45379              | 44970              | 5.73                 | 5.78             | 5.79             | 5.80               | 5.83               |
|                  | 52°F (11.1°C)            | 48190                                              | 47226            | 46990            | 44953              | 44548              | 5.24                 | 5.29             | 5.30             | 5.31               | 5.33               |
|                  | 57°F (13.9°C)            | 47734                                              | 46779            | 46545            | 44527              | 44127              | 4.75                 | 4.79             | 4.80             | 4.81               | 4.83               |
|                  | 59°F (15.0°C)            | 47552                                              | 46600            | 46367            | 44357              | 43958              | 4.56                 | 4.60             | 4.60             | 4.61               | 4.63               |
|                  | 62°F (16.7°C)            | 47278                                              | 46332            | 46101            | 44102              | 43705              | 4.26                 | 4.30             | 4.31             | 4.32               | 4.33               |
|                  | 64.4°F (18.0°C)          | 47095                                              | 46153            | 45923            | 43932              | 43536              | 4.07                 | 4.10             | 4.11             | 4.12               | 4.13               |
| 530              | -22°F (-30.0°C)          | 25295                                              | 24790            | 24666            | 24553              | 24332              | 6.00                 | 6.05             | 6.06             | 6.08               | 6.10               |
|                  | -13°F (-25.0°C)          | 34757                                              | 34062            | 33892            | 33082              | 32785              | 7.04                 | 7.10             | 7.11             | 7.13               | 7.16               |
|                  | -4°F (-20.0°C)           | 39021                                              | 38240            | 38049            | 37141              | 36807              | 7.26                 | 7.32             | 7.34             | 7.35               | 7.38               |
|                  | 0°F (-17.8°C)            | 41811                                              | 40974            | 40769            | 39796              | 39438              | 7.61                 | 7.67             | 7.68             | 7.70               | 7.73               |
|                  | 5°F (-15.0°C)            | 45298                                              | 44392            | 44170            | 43115              | 42727              | 8.03                 | 8.10             | 8.11             | 8.13               | 8.16               |
|                  | 14°F (-10.0°C)           | 47910                                              | 46952            | 46718            | 45602              | 45192              | 7.99                 | 8.06             | 8.07             | 8.09               | 8.12               |
|                  | 17°F (-8.3°C)            | 48781                                              | 47806            | 47567            | 46431              | 46013              | 7.98                 | 8.04             | 8.06             | 8.07               | 8.11               |
|                  | 22°F (-5.6°C)            | 47793                                              | 46837            | 46603            | 45490              | 45081              | 7.47                 | 7.53             | 7.54             | 7.56               | 7.59               |
|                  | 27°F (-2.8°C)            | 46804                                              | 45868            | 45639            | 44549              | 44148              | 6.96                 | 7.02             | 7.03             | 7.05               | 7.07               |
|                  | 32°F (-0.0°C)            | 45816                                              | 44900            | 44675            | 43608              | 43216              | 6.45                 | 6.51             | 6.52             | 6.53               | 6.56               |
|                  | 35°F (1.7°C)             | 45223                                              | 44318            | 44097            | 43044              | 42656              | 6.15                 | 6.20             | 6.21             | 6.22               | 6.25               |
|                  | 37°F (2.8°C)             | 46669                                              | 45736            | 45507            | 44421              | 44021              | 6.09                 | 6.14             | 6.15             | 6.16               | 6.19               |
|                  | 42°F (5.6°C)             | 50285                                              | 49280            | 49033            | 47862              | 47432              | 5.94                 | 5.99             | 6.00             | 6.01               | 6.04               |
|                  | 44.6°F (7.0°C)           | 51732                                              | 50697            | 50444            | 49239              | 48796              | 5.88                 | 5.93             | 5.94             | 5.95               | 5.98               |
|                  | 47°F (8.3°C)             | 53901                                              | 52823            | 52559            | 51304              | 50843              | 5.79                 | 5.84             | 5.85             | 5.86               | 5.89               |
|                  | 52°F (11.1°C)            | 53396                                              | 52328            | 52066            | 50823              | 50366              | 5.30                 | 5.34             | 5.35             | 5.36               | 5.38               |
|                  | 57°F (13.9°C)            | 52890                                              | 51833            | 51573            | 50342              | 49889              | 4.80                 | 4.84             | 4.85             | 4.86               | 4.88               |
|                  | 59°F (15.0°C)            | 52688                                              | 51634            | 51376            | 50150              | 49698              | 4.60                 | 4.64             | 4.65             | 4.66               | 4.68               |
|                  | 62°F (16.7°C)            | 52385                                              | 51337            | 51081            | 49861              | 49412              | 4.31                 | 4.34             | 4.35             | 4.36               | 4.38               |
|                  | 64.4°F (18.0°C)          | 52183                                              | 51139            | 50883            | 49668              | 49221              | 4.11                 | 4.14             | 4.15             | 4.16               | 4.18               |

**Table 29: Heating Performance - 60K 37MUHA + 45MUAA (Sheet 2 of 2)**

|            |                 |       |       |       |       |       |      |      |      |      |      |
|------------|-----------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| <b>580</b> | -22°F (-30.0°C) | 28583 | 28011 | 27871 | 27760 | 27510 | 6.06 | 6.11 | 6.12 | 6.14 | 6.16 |
|            | -13°F (-25.0°C) | 38512 | 37741 | 37553 | 37403 | 37066 | 7.11 | 7.17 | 7.18 | 7.20 | 7.23 |
|            | -4°F (-20.0°C)  | 43236 | 42371 | 42159 | 41991 | 41613 | 7.34 | 7.40 | 7.41 | 7.43 | 7.46 |
|            | 0°F (-17.8°C)   | 46327 | 45401 | 45174 | 44993 | 44588 | 7.68 | 7.74 | 7.76 | 7.78 | 7.81 |
|            | 5°F (-15.0°C)   | 50191 | 49187 | 48941 | 48745 | 48307 | 8.11 | 8.18 | 8.20 | 8.21 | 8.24 |
|            | 14°F (-10.0°C)  | 53086 | 52024 | 51764 | 51557 | 51093 | 8.07 | 8.14 | 8.15 | 8.17 | 8.20 |
|            | 17°F (-8.3°C)   | 54051 | 52970 | 52705 | 52494 | 52022 | 8.06 | 8.12 | 8.14 | 8.16 | 8.19 |
|            | 22°F (-5.6°C)   | 52956 | 51897 | 51637 | 51430 | 50968 | 7.54 | 7.61 | 7.62 | 7.64 | 7.67 |
|            | 27°F (-2.8°C)   | 51860 | 50823 | 50569 | 50367 | 49913 | 7.03 | 7.09 | 7.10 | 7.12 | 7.15 |
|            | 32°F (-0.0°C)   | 50765 | 49750 | 49501 | 49303 | 48859 | 6.52 | 6.57 | 6.59 | 6.60 | 6.62 |
|            | 35°F (1.7°C)    | 50108 | 49106 | 48860 | 48665 | 48227 | 6.21 | 6.26 | 6.27 | 6.29 | 6.31 |
|            | 37°F (2.8°C)    | 51711 | 50676 | 50423 | 50221 | 49769 | 6.15 | 6.20 | 6.21 | 6.23 | 6.25 |
|            | 42°F (5.6°C)    | 55717 | 54603 | 54330 | 54113 | 53626 | 6.00 | 6.05 | 6.06 | 6.07 | 6.10 |
|            | 44.6°F (7.0°C)  | 57320 | 56174 | 55893 | 55669 | 55168 | 5.94 | 5.99 | 6.00 | 6.01 | 6.04 |
|            | 47°F (8.3°C)    | 59724 | 58529 | 58237 | 58004 | 57482 | 5.85 | 5.90 | 5.91 | 5.92 | 5.94 |
|            | 52°F (11.1°C)   | 59164 | 57981 | 57691 | 57460 | 56943 | 5.35 | 5.39 | 5.40 | 5.42 | 5.44 |
|            | 57°F (13.9°C)   | 58604 | 57432 | 57145 | 56916 | 56404 | 4.85 | 4.89 | 4.90 | 4.91 | 4.93 |
|            | 59°F (15.0°C)   | 58380 | 57212 | 56926 | 56698 | 56188 | 4.65 | 4.69 | 4.70 | 4.71 | 4.73 |
|            | 62°F (16.7°C)   | 58044 | 56883 | 56598 | 56372 | 55865 | 4.35 | 4.39 | 4.40 | 4.40 | 4.42 |
|            | 64.4°F (18.0°C) | 57820 | 56663 | 56380 | 56154 | 55649 | 4.15 | 4.19 | 4.19 | 4.20 | 4.22 |
| <b>620</b> | -22°F (-30.0°C) | 31671 | 31037 | 30882 | 30758 | 30482 | 6.12 | 6.17 | 6.19 | 6.20 | 6.22 |
|            | -13°F (-25.0°C) | 42672 | 41818 | 41609 | 41443 | 41070 | 7.18 | 7.24 | 7.26 | 7.27 | 7.30 |
|            | -4°F (-20.0°C)  | 47907 | 46948 | 46714 | 46527 | 46108 | 7.41 | 7.47 | 7.49 | 7.50 | 7.53 |
|            | 0°F (-17.8°C)   | 51331 | 50305 | 50053 | 49853 | 49404 | 7.76 | 7.82 | 7.84 | 7.85 | 7.89 |
|            | 5°F (-15.0°C)   | 55613 | 54500 | 54228 | 54011 | 53525 | 8.20 | 8.26 | 8.28 | 8.29 | 8.33 |
|            | 14°F (-10.0°C)  | 58820 | 57644 | 57356 | 57126 | 56612 | 8.15 | 8.22 | 8.24 | 8.25 | 8.29 |
|            | 17°F (-8.3°C)   | 59890 | 58692 | 58398 | 58165 | 57641 | 8.14 | 8.20 | 8.22 | 8.24 | 8.27 |
|            | 22°F (-5.6°C)   | 58676 | 57503 | 57215 | 56986 | 56473 | 7.62 | 7.68 | 7.70 | 7.71 | 7.74 |
|            | 27°F (-2.8°C)   | 57462 | 56313 | 56032 | 55808 | 55305 | 7.10 | 7.16 | 7.17 | 7.19 | 7.22 |
|            | 32°F (-0.0°C)   | 56249 | 55124 | 54848 | 54629 | 54137 | 6.59 | 6.64 | 6.65 | 6.67 | 6.69 |
|            | 35°F (1.7°C)    | 55521 | 54410 | 54138 | 53922 | 53436 | 6.27 | 6.33 | 6.34 | 6.35 | 6.38 |
|            | 37°F (2.8°C)    | 57296 | 56151 | 55870 | 55646 | 55145 | 6.21 | 6.26 | 6.28 | 6.29 | 6.31 |
|            | 42°F (5.6°C)    | 61736 | 60501 | 60199 | 59958 | 59418 | 6.06 | 6.11 | 6.12 | 6.13 | 6.16 |
|            | 44.6°F (7.0°C)  | 63512 | 62242 | 61930 | 61683 | 61127 | 6.00 | 6.05 | 6.06 | 6.07 | 6.10 |
|            | 47°F (8.3°C)    | 66176 | 64852 | 64528 | 64270 | 63691 | 5.91 | 5.96 | 5.97 | 5.98 | 6.00 |
|            | 52°F (11.1°C)   | 65555 | 64244 | 63923 | 63667 | 63094 | 5.40 | 5.45 | 5.46 | 5.47 | 5.49 |
|            | 57°F (13.9°C)   | 64934 | 63636 | 63317 | 63064 | 62497 | 4.90 | 4.94 | 4.95 | 4.96 | 4.98 |
|            | 59°F (15.0°C)   | 64686 | 63392 | 63075 | 62823 | 62258 | 4.70 | 4.74 | 4.75 | 4.76 | 4.77 |
|            | 62°F (16.7°C)   | 64314 | 63027 | 62712 | 62462 | 61899 | 4.40 | 4.43 | 4.44 | 4.45 | 4.47 |
|            | 64.4°F (18.0°C) | 64066 | 62784 | 62470 | 62220 | 61660 | 4.19 | 4.23 | 4.24 | 4.24 | 4.26 |

## APPLICATION DATA

### Unit Selections

Select equipment that either matches or supports slightly more than the anticipated peak load. This provides better humidity control, fewer unit cycles, and less part-load operation.

For units used in spaces with high sensible loads, base equipment selection on unit sensible load, not on total anticipated load. Adjust for anticipated room wet bulb temperature to avoid undersizing the equipment.

### Unit Mounting (Outdoor)

Refer to the unit's installation instructions for further details.

**Unit leveling** - For reliable operation, units should be level in all planes.

**Clearance** - Minimum clearance (see Fig. 7 — on page 8, and see Fig. 8 — on page 9) must be provided for airflow. The condensing units are designed for free-flow application. Air inlets and outlets should not be restricted.

**Unit location** - A location which is convenient to installation and not exposed to strong winds. A location that can bear the weight of the outdoor unit and where the outdoor unit can be mounted in a level position.

Do not install the indoor or outdoor units in a location with special environmental conditions. For those applications, contact your sales representative.

### System Operating Conditions

#### OPERATING RANGE MIN/MAX °F / °C

All High Heat Units:

- **Cooling:** -22/130 (-30/55)
- **Heating:** -22/86 (-30/30)

**NOTE:** Without intervention, the unit may continue to run at temperatures outside of the specified operating temperatures. However, operation outside of the specified temperature range may result in decreased performance and may cause damage to the unit.

### METERING DEVICES

The metering device is located in the outdoor unit.

### DRAIN CONNECTIONS

Install drains to meet the local codes.

### REFRIGERANT LINES

#### General refrigerant line sizing:

1. The outdoor units are shipped with a full charge of R-454B refrigerant. All charges, line sizing, and capacities are based on runs of 25 ft. (7.6 m). For runs over 25 ft. (7.6 m), add 0.69 oz/ft (65 g/m) of refrigerant charge.
2. Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, do not bury more than 36-in (914 mm). Provide a minimum 6-in (152 mm) vertical rise to the service valves to prevent refrigerant migration.
3. Insulate the suction line with a minimum 3/8-in (10 mm) wall thermal pipe insulation. Follow local codes.

4. Special consideration should be given to isolating the interconnecting tubing from the building structure. Isolate the tubing so vibration or noise is not transmitted into the structure.



## CAUTION

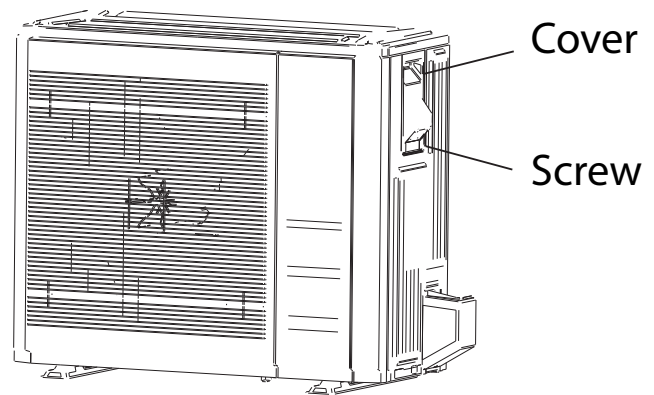
It is **REQUIRED** to flow Nitrogen while brazing the line set or line set adapter(s) for these condensing units.

## WIRING

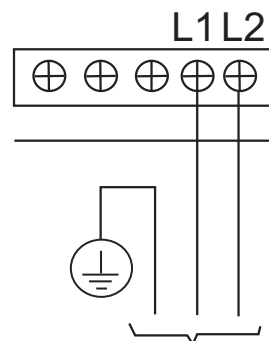
All wires must be sized per NEC (National Electrical Code) or CEC (Canadian Electrical Code) and local codes. Use Electrical Data table MCA (minimum circuit amps) and MOCP (maximum over current protection) to correctly size the wires and the disconnect fuse or breakers respectively.

### Power wiring

1. Remove the electric cover of the outdoor unit.
2. Connect the fork terminal to the terminals.
3. Match the wire labels with the labels on the terminal block.
4. Firmly screw the fork terminal of each wire to its corresponding terminal.
5. Insulate unused wires with electrical tape. Keep them away from any electrical or metal parts.
6. Reinstall the cover of the electric control box.



**Fig. 9 — Remove Electrical Cover**



**TO POWER SOURCE**

**Fig. 10 — Match Fork Terminal to Terminal Labels**

SPECIFIC WIRING METHODS

!

WARNING

Refer to the wiring nameplate for the wiring method. Do not connect 24V AC to S1 - S2, as this will damage the system.

SCENARIO 1:

This is the preferred method of control. This allows a 24 volt thermostat to be used with RS485 communication between the indoor and outdoor units. None of the 24 volt terminals in the outdoor unit can be used with this scenario. It is recommended to use 16 AWG stranded shielded cable for RS 485 communication.

- The **B** terminal and **W** terminal should not be used together at the air handler.
- **W** should only be used with a conventional thermostat for the heat demand at the air handler.
- **DS** is a reserve Terminal.

To use a 24V thermostat, Refer to the following wiring:

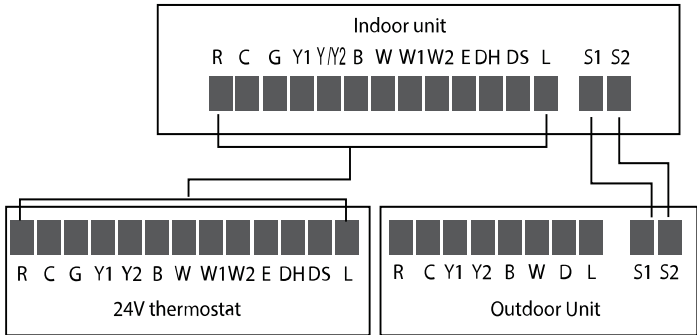


Fig. 11 —Scenario 1

SCENARIO 2 (DEFAULT):

This allows the KSACN1401AAA wired controller to be used with RS485 communication between indoor and outdoor units. It is recommended to use 16 AWG stranded shielded cable for RS 485 communication.

- None of the 24 volt terminals at the air handler or outdoor unit can be used for this scenario
- Using the 1401 wired controller allows for the system to be fully communicating.
- Refer to the 1401 wired controller Owner's Manual for wired controller operating information.

Refer to the wiring method of indoor and outdoor unit communication and wired controller as follows:

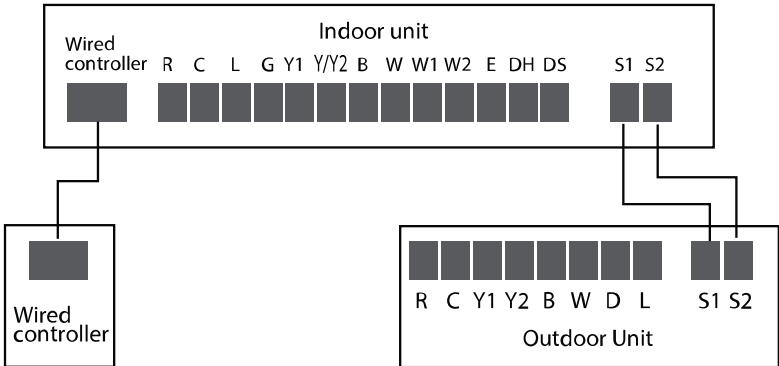


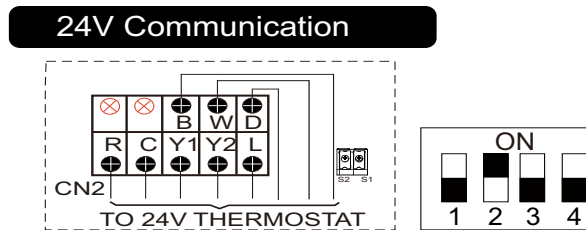
Fig. 12 —Scenario 2 (Default)

**SCENARIO 3:**

This allows a 24 volt thermostat to be used with 24 volt communication between the indoor and outdoor units. Some communication features will not be available with this method.

**NOTE:** This equipment energizes the reversing valve in heat. Ensure that the B terminal is configured at the thermostat for heat.

**NOTE:** This method can be used for a 37MUHA outdoor unit and a third party indoor unit or cased coil and gas furnace.

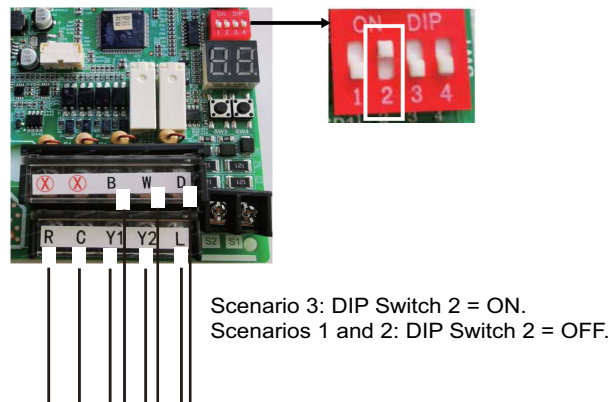


**Fig. 13 —Scenario 3 - Wiring to the Outdoor Unit**

**NOTE:** DIP switch 2 in the outdoor unit must be turned on for Scenario 3 and Crossover applications. Leave off for the other 2 scenarios.

**NOTE:** The 24 volt wire terminals in the outdoor unit should only be used for Scenario 3. S1 and S2 should only be used for Scenarios 1 and 2.

24V must never be connected to S1 – S2. All wiring must be in compliance with the above scenarios. Incorrect wiring can damage the outdoor and indoor control boards.



**Fig. 14 —24V Connection Dip Switch Setting (as shown in Fig 13)**

The SW3 button is not active.

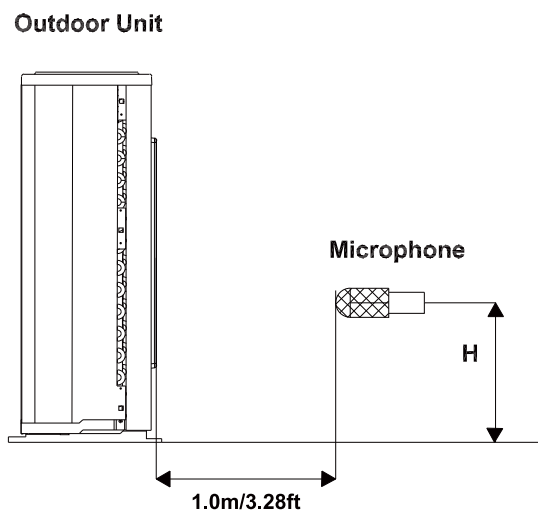
SW4 button should be used for point check inquiry and forced defrost.

**NOTE:** The use of shielded communication or thermostat wire is not required, but is recommended where separation from high voltage conductors can not be maintained, or in areas with high electrical noise. The shield must be grounded at the outdoor unit and stripped back and taped at the indoor unit. Grounding at both ends results in an increase of noise transmitted onto the signal wires.

## SOUND PRESSURE

|                              |                               |                                       |       | 37MUHAQ18AA3 | 37MUHAQ24AA3 | 37MUHAQ30AA3 | 37MUHAQ36AA3 | 37MUHAQ48AA3 | 37MUHAQ60AA3 |
|------------------------------|-------------------------------|---------------------------------------|-------|--------------|--------------|--------------|--------------|--------------|--------------|
| SOUND DATA                   |                               | OUTDOOR<br>SOUND<br>PRESSURE<br>LEVEL | dB(A) | 59           | 60           | 60.5         | 62.5         | 65           | 65           |
| ENVIRONMENTAL SPECIFICATIONS | COOLING<br>OPERATING<br>RANGE | INDOOR<br>MIN - MAX<br>DB             | °F    | 60~90        | 60~90        | 60~90        | 60~90        | 60~90        | 60~90        |
|                              |                               |                                       | (°C)  | (16?32)      | (16?32)      | (16?32)      | (16?32)      | (16?32)      | (16?32)      |
|                              |                               | INDOOR<br>MIN - MAX<br>WB             | °F    | 59-84        | 59-84        | 59-84        | 59-84        | 59-84        | 59-84        |
|                              |                               |                                       | (°C)  | (15-29)      | (15-29)      | (15-29)      | (15-29)      | (15-29)      | (15-29)      |
|                              |                               | OUTDOOR<br>MIN - MAX<br>DB            | °F    | -22~122      | -22~122      | -22~122      | -22~122      | -22~122      | -22~122      |
|                              |                               |                                       | (°C)  | (-30?50)     | (-30?50)     | (-30?50)     | (-30?50)     | (-30?50)     | (-30?50)     |
|                              | HEATING<br>OPERATING<br>RANGE | INDOOR<br>MIN - MAX<br>DB             | °F    | 32~86        | 32~86        | 32~86        | 32~86        | 32~86        | 32~86        |
|                              |                               |                                       | (°C)  | (0?30)       | (0?30)       | (0?30)       | (0?30)       | (0?30)       | (0?30)       |
|                              |                               | OUTDOOR<br>MIN - MAX<br>DB            | °F    | -22~75       | -22~75       | -22~75       | -22~75       | -22~75       | -22~75       |
|                              |                               |                                       | (°C)  | (-30?24)     | (-30?24)     | (-30?24)     | (-30?24)     | (-30?24)     | (-30?24)     |

## SOUND PRESSURE TESTING METHOD



Note:  $H = 0.5 \times \text{height of outdoor unit}$

Notes:

- Sound measured at 1.0m/3.25ft away from the center of the unit.
- Data is valid at free field condition
- Data is valid at nominal operation condition
- Reference acoustic pressure  $O_dB = 20\mu Pa$
- Sound level will vary depending on arrange off actors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

**Fig. 15 —Sound Pressure Testing Method**

SOUND PRESSURE OCTAVE TABLES

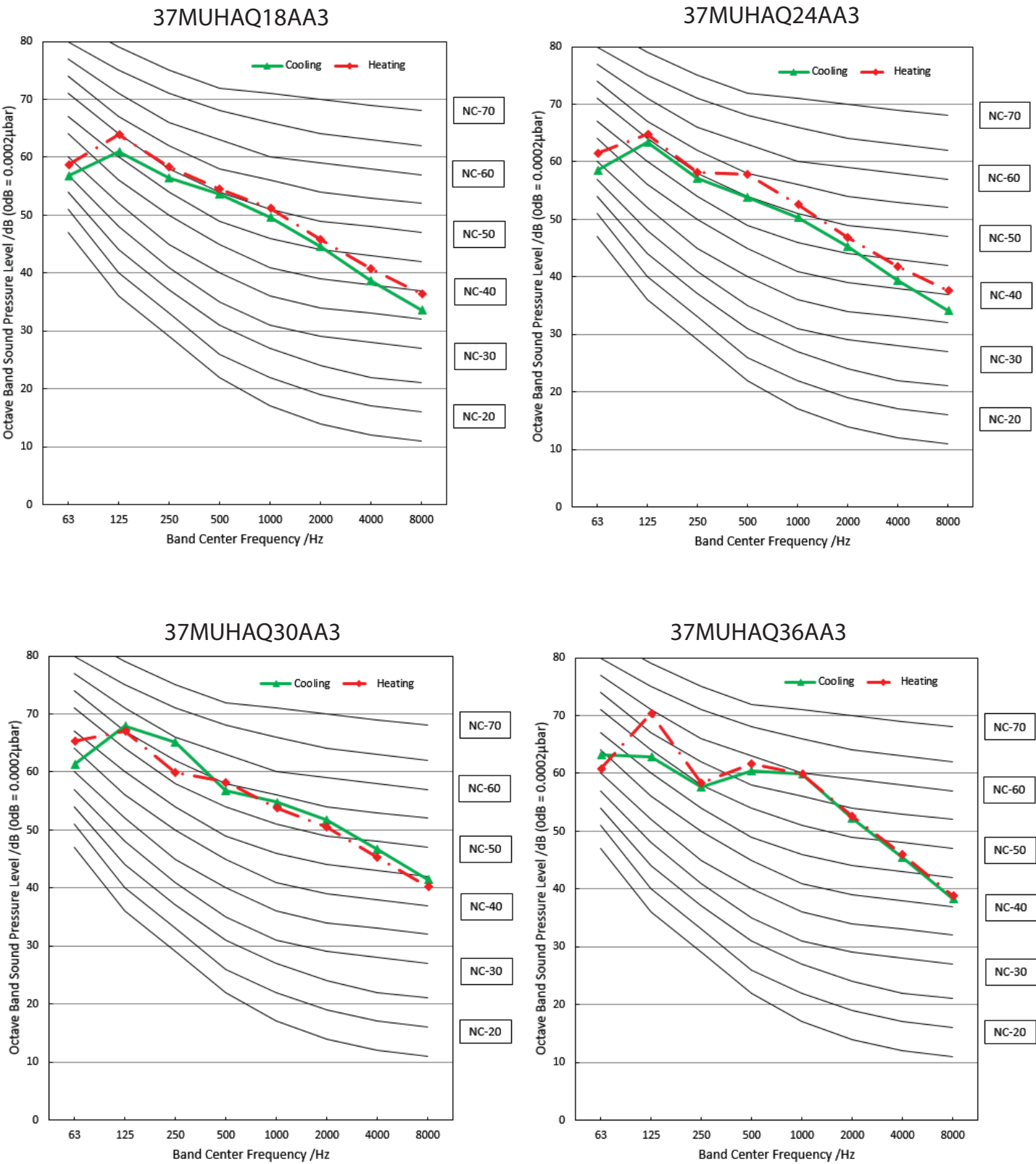


Fig. 16 — Sound Octave Bands

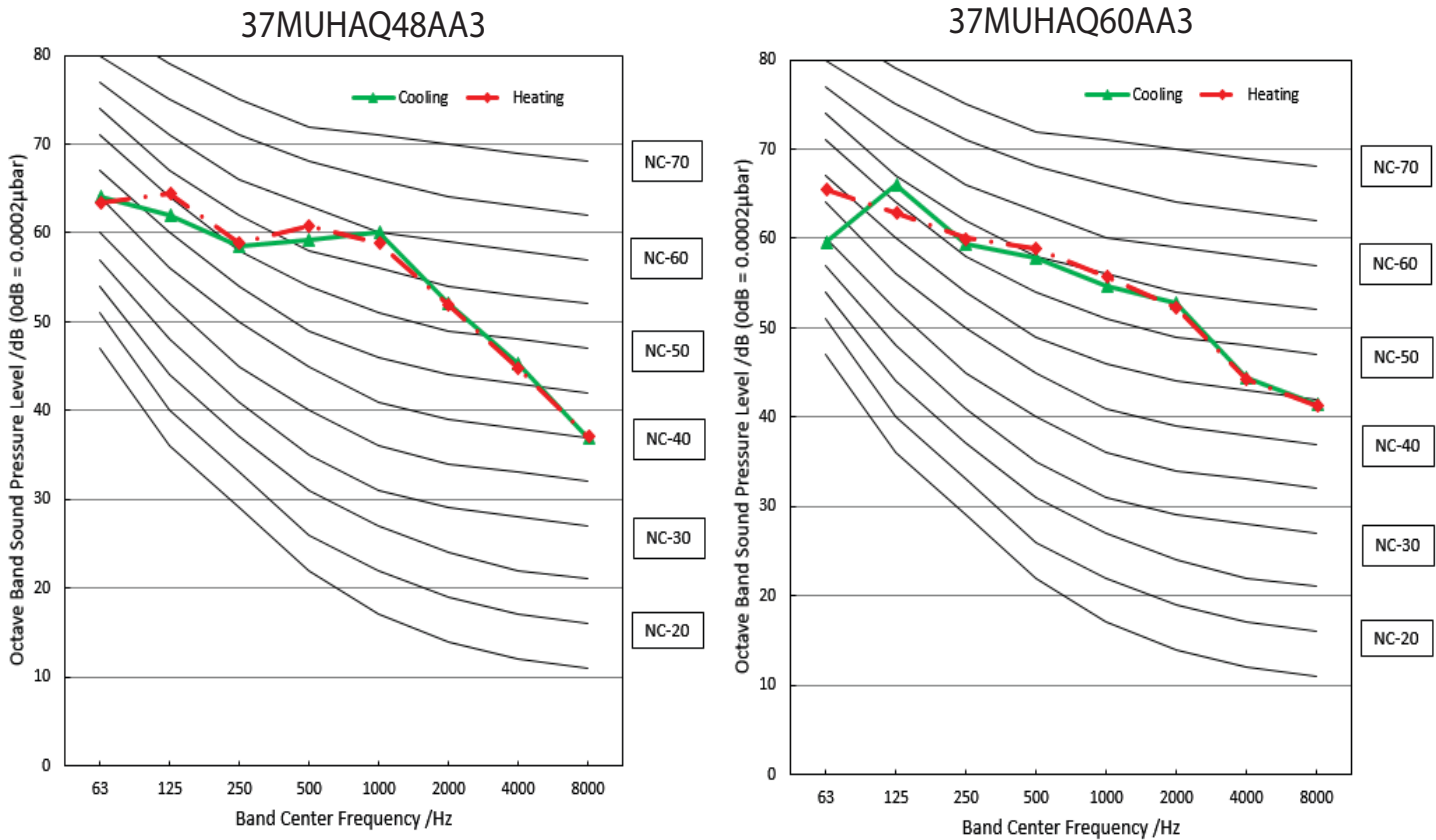


Fig. 17 —Sound Octave Bands

## CAPACITY CORRECTION FACTOR FOR REFRIGERANT LINE SIZE DIAMETER

| VAPOR LINE SIZE AND COOLING CAPACITY LOSSES |                                                 |                                     |                                      |                      |                       |                        |                        |                        |                        |                        |                        |
|---------------------------------------------|-------------------------------------------------|-------------------------------------|--------------------------------------|----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| UNIT<br>NOMINAL<br>SIZE (BTU/HR)            | MAXIMUM<br>LIQUID LINE<br>DIAMETERS<br>(IN. OD) | VAPOR LINE<br>DIAMETERS<br>(IN. OD) | COOLING CAPACITY LOSS (%)            |                      |                       |                        |                        |                        |                        |                        |                        |
|                                             |                                                 |                                     | TOTAL EQUIVALENT LINE LENGTH FT. (M) |                      |                       |                        |                        |                        |                        |                        |                        |
|                                             |                                                 |                                     | 26-50<br>(7.9-15.2)                  | 51-80<br>(15.5-24.4) | 81-100<br>(24.7-30.5) | 101-125<br>(30.8-38.1) | 126-150<br>(38.4-45.7) | 151-164<br>(46.0-50.0) | 165-213<br>(50.2-65.0) | 214-225<br>(65.3-68.6) | 226-250<br>(68.9-76.2) |
| 18000                                       | 3/8                                             | 1/2                                 | 2                                    | 4                    | 6                     | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     |
|                                             |                                                 | 5/8                                 | 1                                    | 2                    | 3                     | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     |
|                                             |                                                 | 3/4                                 | 0                                    | 1                    | 2                     | NA                     | NA                     | NA                     | NA                     | NA                     | NA                     |
| 24000                                       | 3/8                                             | 5/8                                 | 1                                    | 2                    | 3                     | 5                      | 7                      | 8                      | NA                     | NA                     | NA                     |
|                                             |                                                 | 3/4                                 | 0                                    | 1                    | 2                     | 3                      | 4                      | 4                      | NA                     | NA                     | NA                     |
|                                             |                                                 | 7/8                                 | 0                                    | 1                    | 1                     | 2                      | 2                      | 3                      | NA                     | NA                     | NA                     |
| 30000                                       | 3/8                                             | 5/8                                 | 1                                    | 2                    | 3                     | 4                      | 5                      | 5                      | NA                     | NA                     | NA                     |
|                                             |                                                 | 3/4                                 | 0                                    | 1                    | 1                     | 2                      | 2                      | 3                      | NA                     | NA                     | NA                     |
|                                             |                                                 | 7/8                                 | 0                                    | 0                    | 1                     | 1                      | 1                      | 2                      | NA                     | NA                     | NA                     |
| 36000                                       | 3/8                                             | 5/8                                 | 2                                    | 3                    | 4                     | 5                      | 7                      | 7                      | 10                     | 11                     | 12                     |
|                                             |                                                 | 3/4                                 | 1                                    | 1                    | 2                     | 2                      | 3                      | 4                      | 5                      | 5                      | 6                      |
|                                             |                                                 | 7/8                                 | 0                                    | 1                    | 1                     | 1                      | 2                      | 2                      | 3                      | 3                      | 4                      |
| 48000                                       | 3/8                                             | 3/4                                 | 1                                    | 2                    | 3                     | 4                      | 5                      | 5                      | 7                      | 8                      | 9                      |
|                                             |                                                 | 7/8                                 | 0                                    | 1                    | 1                     | 2                      | 3                      | 3                      | 4                      | 5                      | 5                      |
|                                             |                                                 | 11/8                                | 0                                    | 0                    | 0                     | 1                      | 1                      | 1                      | 2                      | 2                      | 3                      |
| 60000                                       | 3/8                                             | 3/4                                 | 1                                    | 2                    | 3                     | 4                      | 6                      | 6                      | 8                      | 9                      | 10                     |
|                                             |                                                 | 7/8                                 | 0                                    | 1                    | 2                     | 2                      | 3                      | 3                      | 5                      | 5                      | 6                      |
|                                             |                                                 | 11/8                                | 0                                    | 0                    | 0                     | 1                      | 1                      | 1                      | 2                      | 2                      | 3                      |

## CAPACITY CORRECTION FACTOR FOR HEIGHT DIFFERENCE

**EXAMPLE:** When Indoor is installed 16.4 ft higher than Outdoor, and total refrigerant pipe length is 65.6ft, then cooling capacity might drop by 4% and heating capacity might drop by 1.3% (Refer to green shading in table).

| Capacity(Btu/h)            | 18k                          |           | Pipe Length (ft/m) |         |         |         |
|----------------------------|------------------------------|-----------|--------------------|---------|---------|---------|
| Cooling                    |                              |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 |
| Height difference<br>H (m) | Indoor Upper<br>than Outdoor | 65.6/20   |                    |         | 0.941   | 0.919   |
|                            |                              | 32.8/10   |                    | 0.974   | 0.951   | 0.928   |
|                            |                              | 16.4/5    | 0.995              | 0.983   | 0.960   | 0.937   |
|                            |                              | 0         | 1.000              | 0.988   | 0.965   | 0.942   |
|                            | Outdoor Upper<br>than Indoor | -16.4/-5  | 1.000              | 0.988   | 0.965   | 0.942   |
|                            |                              | -32.8/-10 |                    | 0.988   | 0.965   | 0.942   |
|                            |                              | -65.6/-20 |                    |         | 0.965   | 0.942   |
|                            |                              |           |                    |         |         |         |
| Heating                    |                              |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 |
| Height difference<br>H (m) | Indoor Upper<br>than Outdoor | 65.6/20   |                    |         | 0.987   | 0.978   |
|                            |                              | 32.8/10   |                    | 0.996   | 0.987   | 0.978   |
|                            |                              | 16.4/5    | 1.000              | 0.996   | 0.987   | 0.978   |
|                            |                              | 0         | 1.000              | 0.996   | 0.987   | 0.978   |
|                            | Outdoor Upper<br>than Indoor | -16.4/-5  | 0.992              | 0.988   | 0.979   | 0.970   |
|                            |                              | -32.8/-10 |                    | 0.980   | 0.971   | 0.962   |
|                            |                              | -65.6/-20 |                    |         | 0.963   | 0.955   |

**Fig. 18 —Capacity Correction Factor - 18K**

| Capacity<br>(Btu/h)        | 24k                          |           | Pipe Length (ft/m) |         |         |         |          |        |
|----------------------------|------------------------------|-----------|--------------------|---------|---------|---------|----------|--------|
| Cooling                    |                              |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 | 131.2/40 | 164/50 |
| Height difference<br>H (m) | Indoor Upper<br>than Outdoor | 82/25     |                    |         |         | 0.917   | 0.898    | 0.879  |
|                            |                              | 65.6/20   |                    |         | 0.946   | 0.926   | 0.907    | 0.887  |
|                            |                              | 32.8/10   |                    | 0.975   | 0.955   | 0.936   | 0.916    | 0.896  |
|                            |                              | 16.4/5    | 0.995              | 0.985   | 0.965   | 0.945   | 0.925    | 0.905  |
|                            |                              | 0         | 1.000              | 0.990   | 0.970   | 0.950   | 0.930    | 0.910  |
|                            | Outdoor Upper<br>than Indoor | -16.4/-5  | 1.000              | 0.990   | 0.970   | 0.950   | 0.930    | 0.910  |
|                            |                              | -32.8/-10 |                    | 0.990   | 0.970   | 0.950   | 0.930    | 0.910  |
|                            |                              | -65.6/-20 |                    |         | 0.970   | 0.950   | 0.930    | 0.910  |
|                            |                              | -82/-25   |                    |         |         | 0.950   | 0.930    | 0.910  |
|                            |                              |           |                    |         |         |         |          |        |
| Heating                    |                              |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 | 131.2/40 | 164/50 |
| Height difference<br>H (m) | Indoor Upper<br>than Outdoor | 82/25     |                    |         |         | 0.984   | 0.978    | 0.972  |
|                            |                              | 65.6/20   |                    |         | 0.991   | 0.984   | 0.978    | 0.972  |
|                            |                              | 32.8/10   |                    | 0.997   | 0.991   | 0.984   | 0.978    | 0.972  |
|                            |                              | 16.4/5    | 1.000              | 0.997   | 0.991   | 0.984   | 0.978    | 0.972  |
|                            |                              | 0         | 1.000              | 0.997   | 0.991   | 0.984   | 0.978    | 0.972  |
|                            | Outdoor Upper<br>than Indoor | -16.4/-5  | 0.992              | 0.989   | 0.983   | 0.977   | 0.970    | 0.964  |
|                            |                              | -32.8/-10 |                    | 0.981   | 0.975   | 0.969   | 0.963    | 0.957  |
|                            |                              | -65.6/-20 |                    |         | 0.967   | 0.961   | 0.955    | 0.949  |
|                            |                              | -82/-25   |                    |         |         | 0.953   | 0.947    | 0.941  |

Fig. 19 —Capacity Correction Factor - 24K

| Capacity<br>(Btu/h)            | 30k                       |           | Pipe Length (ft/m) |         |         |         |          |        |
|--------------------------------|---------------------------|-----------|--------------------|---------|---------|---------|----------|--------|
| Cooling                        |                           |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 | 131.2/40 | 164/50 |
| Height difference<br><br>H (m) | Indoor Upper than Outdoor | 82/25     |                    |         |         | 0.891   | 0.862    | 0.832  |
|                                |                           | 65.6/20   |                    |         | 0.930   | 0.900   | 0.871    | 0.841  |
|                                |                           | 32.8/10   |                    | 0.970   | 0.940   | 0.910   | 0.879    | 0.849  |
|                                |                           | 16.4/5    | 0.995              | 0.980   | 0.949   | 0.919   | 0.888    | 0.858  |
|                                |                           | 0         | 1.000              | 0.985   | 0.954   | 0.923   | 0.893    | 0.862  |
|                                | Outdoor Upper than Indoor | -16.4/-5  | 1.000              | 0.985   | 0.954   | 0.923   | 0.893    | 0.862  |
|                                |                           | -32.8/-10 |                    | 0.985   | 0.954   | 0.923   | 0.893    | 0.862  |
|                                |                           | -65.6/-20 |                    |         | 0.954   | 0.923   | 0.893    | 0.862  |
|                                |                           | -82/-25   |                    |         |         | 0.923   | 0.893    | 0.862  |
|                                |                           |           |                    |         |         |         |          |        |
| Heating                        |                           |           | 24.6/7.5           | 32.8/10 | 65.6/20 | 98.4/30 | 131.2/40 | 164/50 |
| Height difference<br><br>H (m) | Indoor Upper than Outdoor | 82/25     |                    |         |         | 0.961   | 0.945    | 0.929  |
|                                |                           | 65.6/20   |                    |         | 0.976   | 0.961   | 0.945    | 0.929  |
|                                |                           | 32.8/10   |                    | 0.992   | 0.976   | 0.961   | 0.945    | 0.929  |
|                                |                           | 16.4/5    | 1.000              | 0.992   | 0.976   | 0.961   | 0.945    | 0.929  |
|                                |                           | 0         | 1.000              | 0.992   | 0.976   | 0.961   | 0.945    | 0.929  |
|                                | Outdoor Upper than Indoor | -16.4/-5  | 0.992              | 0.984   | 0.969   | 0.953   | 0.937    | 0.922  |
|                                |                           | -32.8/-10 |                    | 0.976   | 0.961   | 0.945   | 0.930    | 0.914  |
|                                |                           | -65.6/-20 |                    |         | 0.953   | 0.938   | 0.922    | 0.907  |
|                                |                           | -82/-25   |                    |         |         | 0.930   | 0.915    | 0.900  |

Fig. 20 —Capacity Correction Factor - 30K

| Capacity<br>(Btu/h)           | 36k                          |           | Pipe Length (ft/m) |         |       |          |        |        |
|-------------------------------|------------------------------|-----------|--------------------|---------|-------|----------|--------|--------|
| Cooling                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.889    | 0.851  | 0.787  |
|                               |                              | 65.6/20   |                    |         | 0.924 | 0.898    | 0.859  | 0.795  |
|                               |                              | 32.8/10   |                    | 0.959   | 0.933 | 0.907    | 0.868  | 0.803  |
|                               |                              | 16.4/5    | 0.995              | 0.969   | 0.942 | 0.916    | 0.876  | 0.811  |
|                               |                              | 0         | 1.000              | 0.974   | 0.947 | 0.921    | 0.881  | 0.815  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 1.000              | 0.974   | 0.947 | 0.921    | 0.881  | 0.815  |
|                               |                              | -32.8/-10 |                    | 0.974   | 0.947 | 0.921    | 0.881  | 0.815  |
|                               |                              | -65.6/-20 |                    |         | 0.947 | 0.921    | 0.881  | 0.815  |
|                               |                              | -30/-98.4 |                    |         |       | 0.921    | 0.881  | 0.815  |
|                               |                              |           |                    |         |       |          |        |        |
| Heating                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.964    | 0.945  | 0.915  |
|                               |                              | 65.6/20   |                    |         | 0.976 | 0.964    | 0.945  | 0.915  |
|                               |                              | 32.8/10   |                    | 0.988   | 0.976 | 0.964    | 0.945  | 0.915  |
|                               |                              | 16.4/5    | 1.000              | 0.988   | 0.976 | 0.964    | 0.945  | 0.915  |
|                               |                              | 0         | 1.000              | 0.988   | 0.976 | 0.964    | 0.945  | 0.915  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 0.992              | 0.980   | 0.968 | 0.956    | 0.938  | 0.908  |
|                               |                              | -32.8/-10 |                    | 0.972   | 0.960 | 0.948    | 0.930  | 0.900  |
|                               |                              | -65.6/-20 |                    |         | 0.952 | 0.941    | 0.923  | 0.893  |
|                               |                              | -30/-98.4 |                    |         |       | 0.933    | 0.915  | 0.886  |

Fig. 21 —Capacity Correction Factor - 36K

| Capacity<br>(Btu/h)           | 48k                          |           | Pipe Length (ft/m) |         |       |          |        |        |
|-------------------------------|------------------------------|-----------|--------------------|---------|-------|----------|--------|--------|
| Cooling                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.884    | 0.843  | 0.775  |
|                               |                              | 65.6/20   |                    |         | 0.920 | 0.893    | 0.852  | 0.783  |
|                               |                              | 32.8/10   |                    | 0.957   | 0.930 | 0.902    | 0.860  | 0.791  |
|                               |                              | 16.4/5    | 0.995              | 0.967   | 0.939 | 0.911    | 0.869  | 0.799  |
|                               |                              | 0         | 1.000              | 0.972   | 0.944 | 0.916    | 0.873  | 0.803  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 1.000              | 0.972   | 0.944 | 0.916    | 0.873  | 0.803  |
|                               |                              | -32.8/-10 |                    | 0.972   | 0.944 | 0.916    | 0.873  | 0.803  |
|                               |                              | -65.6/-20 |                    |         | 0.944 | 0.916    | 0.873  | 0.803  |
|                               |                              | -30/-98.4 |                    |         |       | 0.916    | 0.873  | 0.803  |
|                               |                              |           |                    |         |       |          |        |        |
| Heating                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.958    | 0.936  | 0.901  |
|                               |                              | 65.6/20   |                    |         | 0.972 | 0.958    | 0.936  | 0.901  |
|                               |                              | 32.8/10   |                    | 0.986   | 0.972 | 0.958    | 0.936  | 0.901  |
|                               |                              | 16.4/5    | 1.000              | 0.986   | 0.972 | 0.958    | 0.936  | 0.901  |
|                               |                              | 0         | 1.000              | 0.986   | 0.972 | 0.958    | 0.936  | 0.901  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 0.992              | 0.978   | 0.964 | 0.950    | 0.929  | 0.894  |
|                               |                              | -32.8/-10 |                    | 0.970   | 0.956 | 0.942    | 0.921  | 0.887  |
|                               |                              | -65.6/-20 |                    |         | 0.949 | 0.935    | 0.914  | 0.880  |
|                               |                              | -30/-98.4 |                    |         |       | 0.927    | 0.907  | 0.873  |

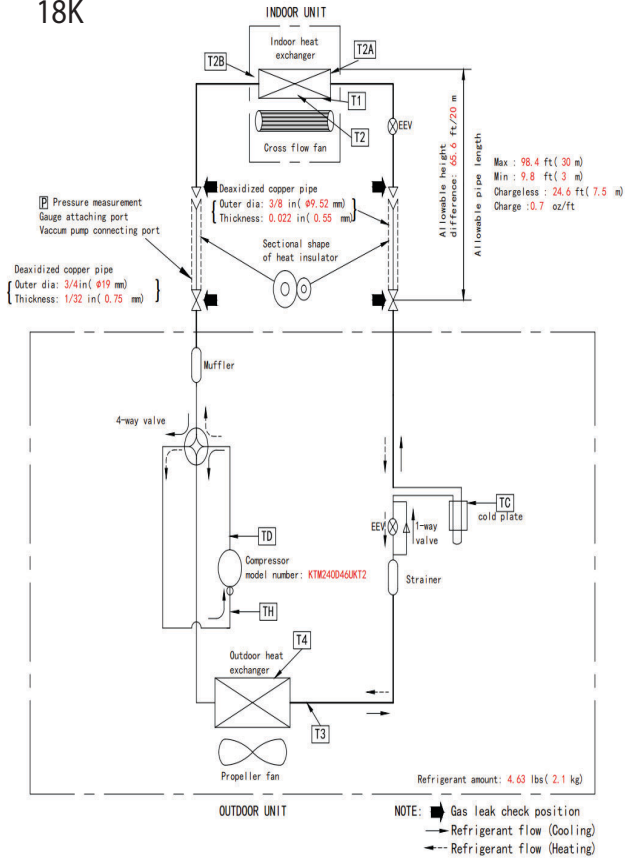
Fig. 22 — Capacity Correction Factor - 48K

| Capacity<br>(Btu/h)           | 60k                          |           | Pipe Length (ft/m) |         |       |          |        |        |
|-------------------------------|------------------------------|-----------|--------------------|---------|-------|----------|--------|--------|
| Cooling                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.870    | 0.823  | 0.743  |
|                               |                              | 65.6/20   |                    |         | 0.911 | 0.879    | 0.831  | 0.751  |
|                               |                              | 32.8/10   |                    | 0.953   | 0.920 | 0.888    | 0.840  | 0.758  |
|                               |                              | 16.4/5    | 0.995              | 0.962   | 0.930 | 0.897    | 0.848  | 0.766  |
|                               |                              | 0         | 1.000              | 0.967   | 0.934 | 0.902    | 0.852  | 0.770  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 1.000              | 0.967   | 0.934 | 0.902    | 0.852  | 0.770  |
|                               |                              | -32.8/-10 |                    | 0.967   | 0.934 | 0.902    | 0.852  | 0.770  |
|                               |                              | -65.6/-20 |                    |         | 0.934 | 0.902    | 0.852  | 0.770  |
|                               |                              | -30/-98.4 |                    |         |       | 0.902    | 0.852  | 0.770  |
|                               |                              |           |                    |         |       |          |        |        |
| Heating                       |                              |           | 24.6/7.5           | 15/49.2 | 82/25 | 35/114.8 | 164/50 | 246/75 |
| Height<br>difference<br>H (m) | Indoor Upper<br>than Outdoor | 98.4/30   |                    |         |       | 0.955    | 0.932  | 0.894  |
|                               |                              | 65.6/20   |                    |         | 0.970 | 0.955    | 0.932  | 0.894  |
|                               |                              | 32.8/10   |                    | 0.985   | 0.970 | 0.955    | 0.932  | 0.894  |
|                               |                              | 16.4/5    | 1.000              | 0.985   | 0.970 | 0.955    | 0.932  | 0.894  |
|                               |                              | 0         | 1.000              | 0.985   | 0.970 | 0.955    | 0.932  | 0.894  |
|                               | Outdoor Upper<br>than Indoor | -16.4/-5  | 0.992              | 0.977   | 0.962 | 0.947    | 0.924  | 0.887  |
|                               |                              | -32.8/-10 |                    | 0.969   | 0.954 | 0.939    | 0.917  | 0.880  |
|                               |                              | -65.6/-20 |                    |         | 0.947 | 0.932    | 0.910  | 0.873  |
|                               |                              | -30/-98.4 |                    |         |       | 0.924    | 0.902  | 0.866  |

Fig. 23 — Capacity Correction Factor - 60K

# REFRIGERANT CYCLE DIAGRAMS

18K



24K

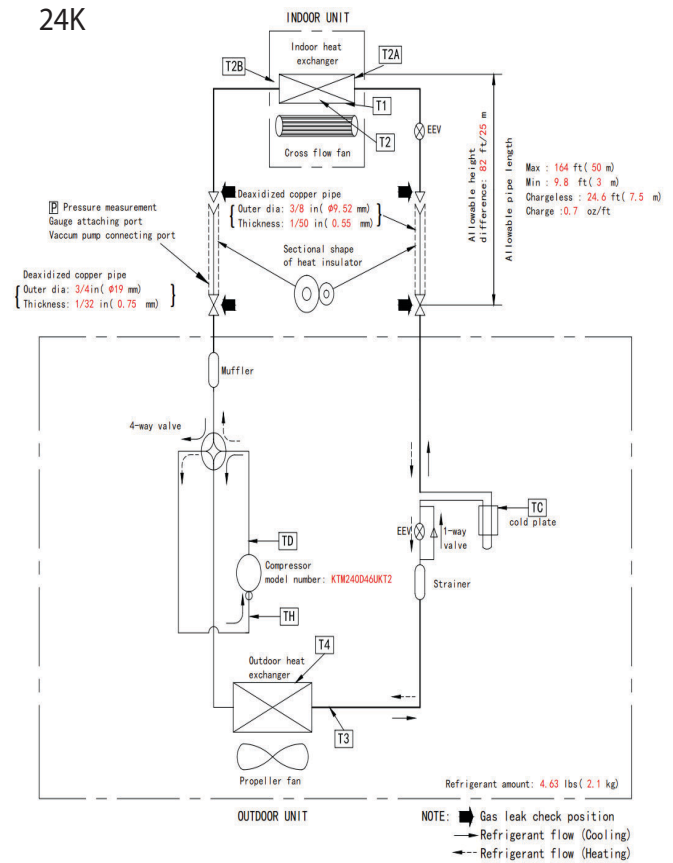
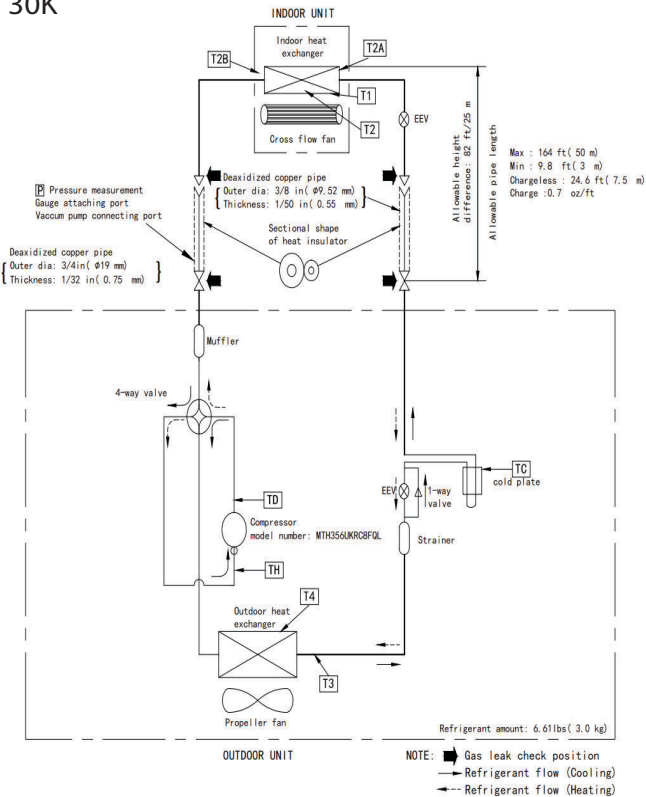


Fig. 24 —Refrigerant Cycle 18K, 24K

30K



36K

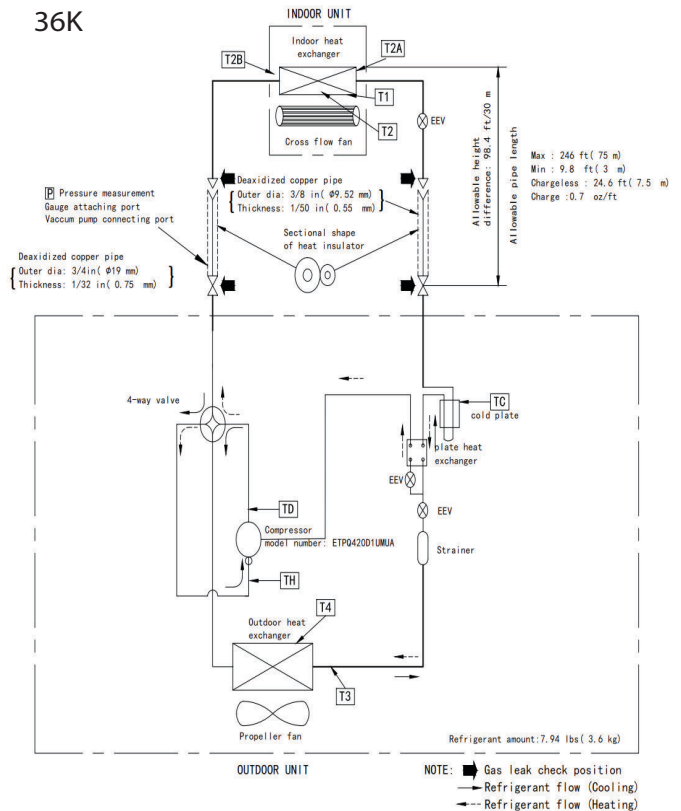
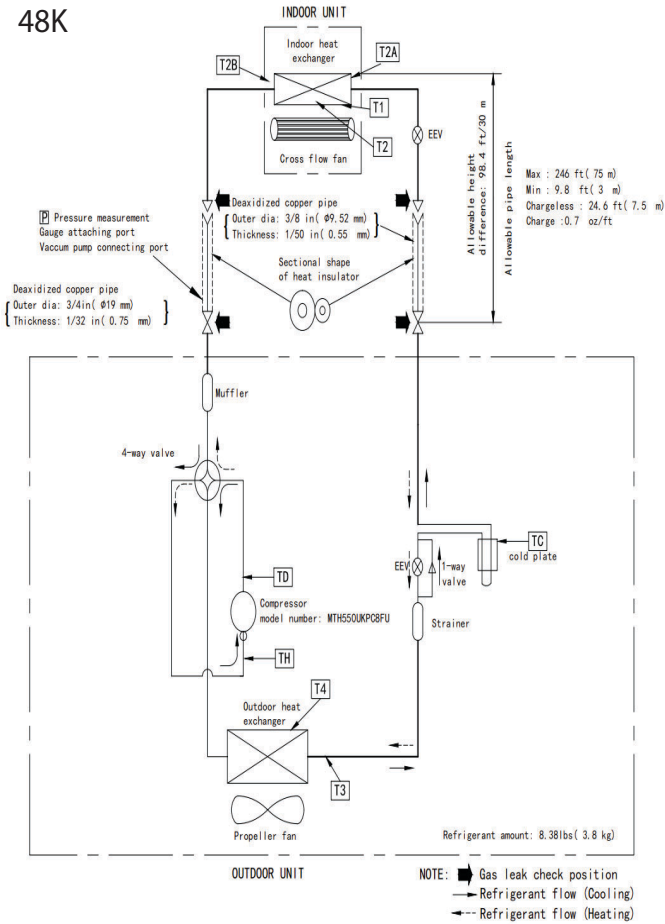


Fig. 25 —Refrigerant Cycle 30K, 36K

48K



60K

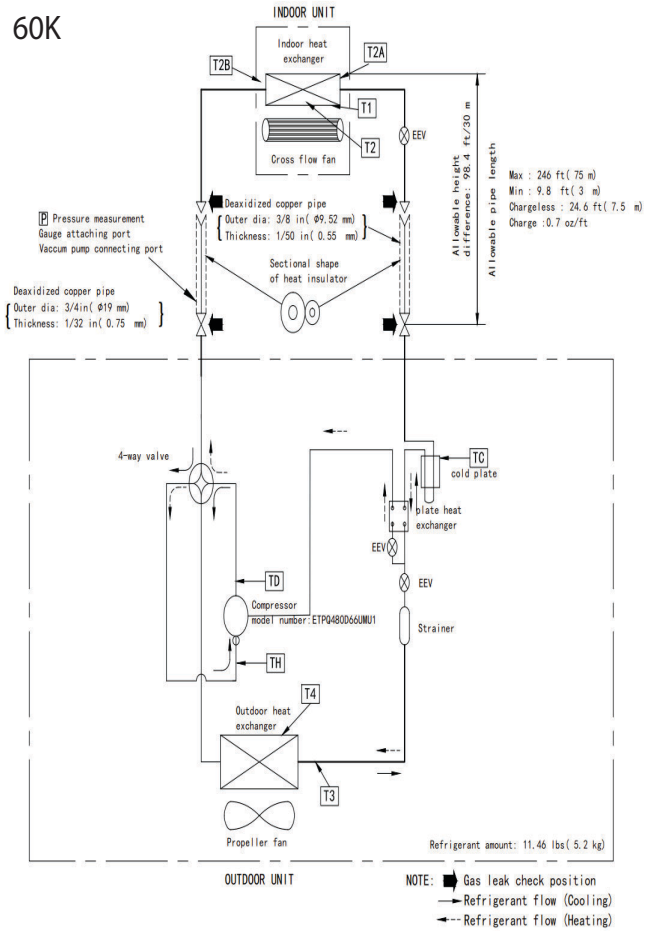


Fig. 26 — Refrigerant Cycle 48K. 60K

## ELECTRICAL DATA

| ELECTRICAL DATA                                |     |              |            |            |            |            |            |
|------------------------------------------------|-----|--------------|------------|------------|------------|------------|------------|
| OUTDOOR UNIT                                   |     | 18K          | 24K        | 30K        | 36K        | 48K        | 60K        |
| VOLTAGE                                        |     | (208/230V)   | (208/230V) | (208/230V) | (208/230V) | (208/230V) | (208/230V) |
| MINIMUM CIRCUIT AMPACITY (MCA)                 | A   | 16           | 19         | 29.5       | 29         | 38         | 40         |
| MAXIMUM OVERCURRENT PROTECTION AMPACITY (MOPA) | A   | 20           | 20         | 30         | 30         | 40         | 40         |
| VOLTAGE-PHASE-FREQUENCY                        |     | 208/230-1-60 |            |            |            |            |            |
| MAX – MIN VOLTAGE RANGE                        |     | 253-187      |            |            |            |            |            |
| COOLING (WITH AHU3 IDU)                        |     |              |            |            |            |            |            |
| RUNNING CURRENT                                | (A) | 6.6          | 9          | 11.4       | 13.4       | 20         | 23.3       |
| POWER CONSUMPTION                              | (W) | 1445         | 1965       | 2567       | 3076       | 4690       | 5400       |
| HEATING (WITH AHU3 IDU)                        |     |              |            |            |            |            |            |
| RUNNING CURRENT RANGE                          | (A) | 7.6          | 9.5        | 12.4       | 13.1       | 20.5       | 23.1       |
| POWER CONSUMPTION                              | (W) | 1740         | 2112       | 2790       | 3012       | 4750       | 5300       |

| FAN AND MOTOR SPECIFICATIONS |      |                              |                              |                              |                              |                              |                              |
|------------------------------|------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| MATERIAL                     | -    | Acrylonitrile Styrene +20%GF | Acrylonitrile Styrene +20%GF | Acrylonitrile Styrene +20%GF | Acrylonitrile Styrene +20%GF | Acrylonitrile Styrene +20%GF | Acrylonitrile Styrene +20%GF |
| TYPE                         | -    | ZL-535*133*12-3KF N          | ZL-535*133*12-3KF N          | ZL-560*139*12-3KN            | ZL-570*196*15-3N             | ZL-570*196*15-3N             | ZL-530*114-3KFN              |
| DIAMETER                     | inch | 21.1                         | 21.1                         | 22.0                         | 22.4                         | 22.4                         | 20.9                         |
|                              | mm   | 535                          | 535                          | 560                          | 570                          | 570                          | 530                          |
| HEIGHT                       | inch | 5.2                          | 5.2                          | 5.5                          | 7.7                          | 7.7                          | 4.5                          |
|                              | mm   | 133                          | 133                          | 139                          | 196                          | 196                          | 114                          |

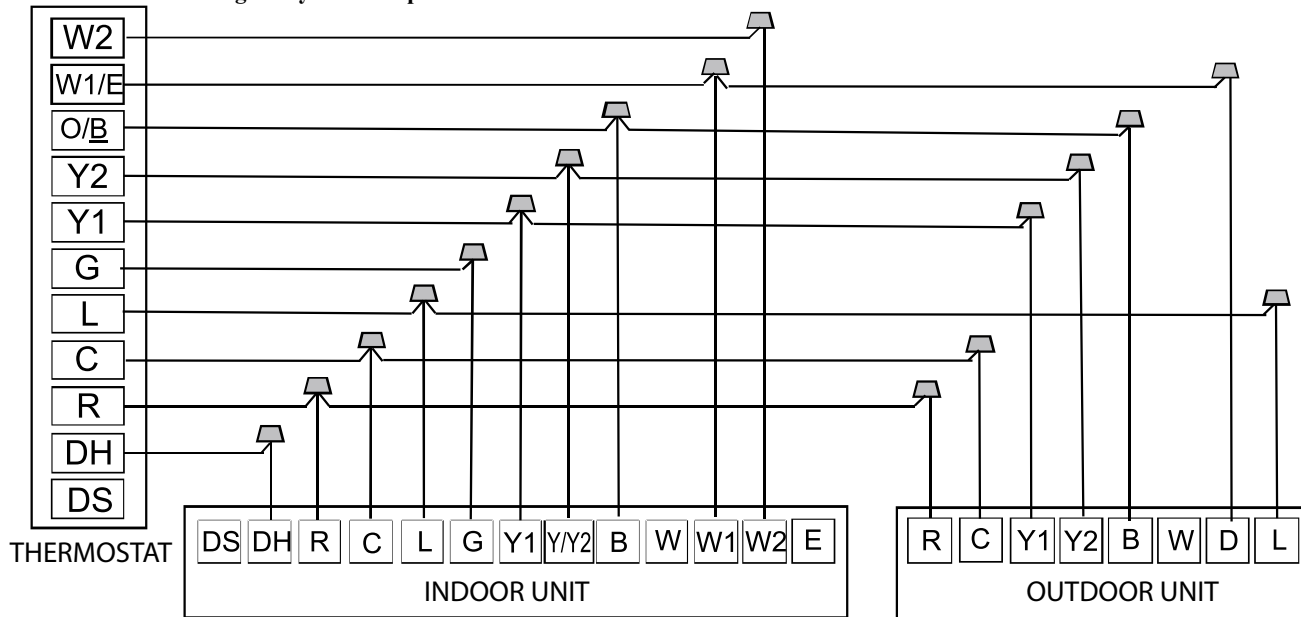
**Table 30: Terminal Function**

|           |                                    |
|-----------|------------------------------------|
| <b>R</b>  | 24V Power Connection               |
| <b>C</b>  | Common                             |
| <b>Y</b>  | 1 Low Demand                       |
| <b>Y2</b> | High Demand                        |
| <b>B</b>  | Heating Reversing Valve            |
| <b>W</b>  | Heating Control                    |
| <b>D</b>  | Defrost - (24V output signal)      |
| <b>L</b>  | System Fault - (24V output signal) |

**NOTE:** Terminal D will be energized when the outdoor unit goes into defrost mode and can be used to enable electric heat. The D terminal CANNOT be used to enable gas furnace heating during defrost. This feature is not available when the outdoor unit communicates with the indoor unit via non-polarity RS485 Communication S1-S2.

## 24V CONNECTION DIAGRAMS

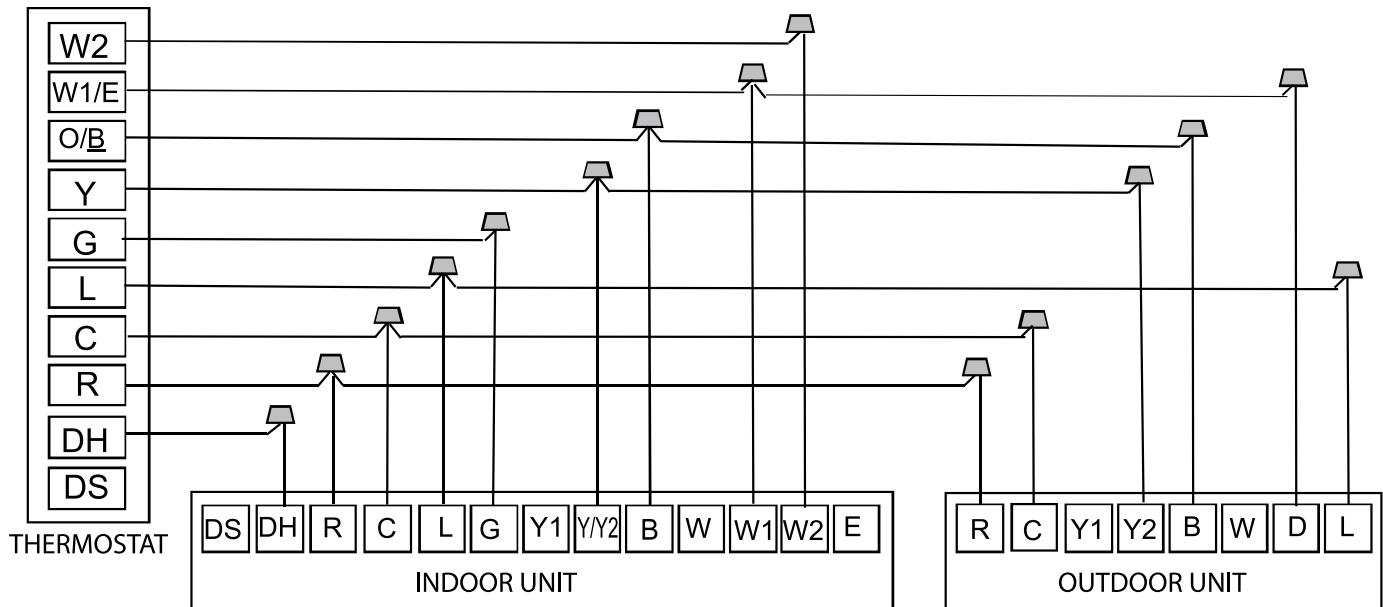
**NOTE:** The following wiring diagram are suitable for the AHU and ODU with 24V thermostat. Any 24 volt connections to the outdoor should only be reserved for Scenario 3 wiring. Scenario's 1 and 2 should use the S1 and S2 terminals at the outdoor unit. failure to observe this could result in damage to system components.



S4-2 Default on, DH Function off.  
Turn switch off to activate DH  
function

S4-4 Default on, W1 and W2 shorted  
for single stage Aux heat operation.  
Turn off to separate stages.

**Fig. 27 —Wiring for 4H and 2C thermostat**

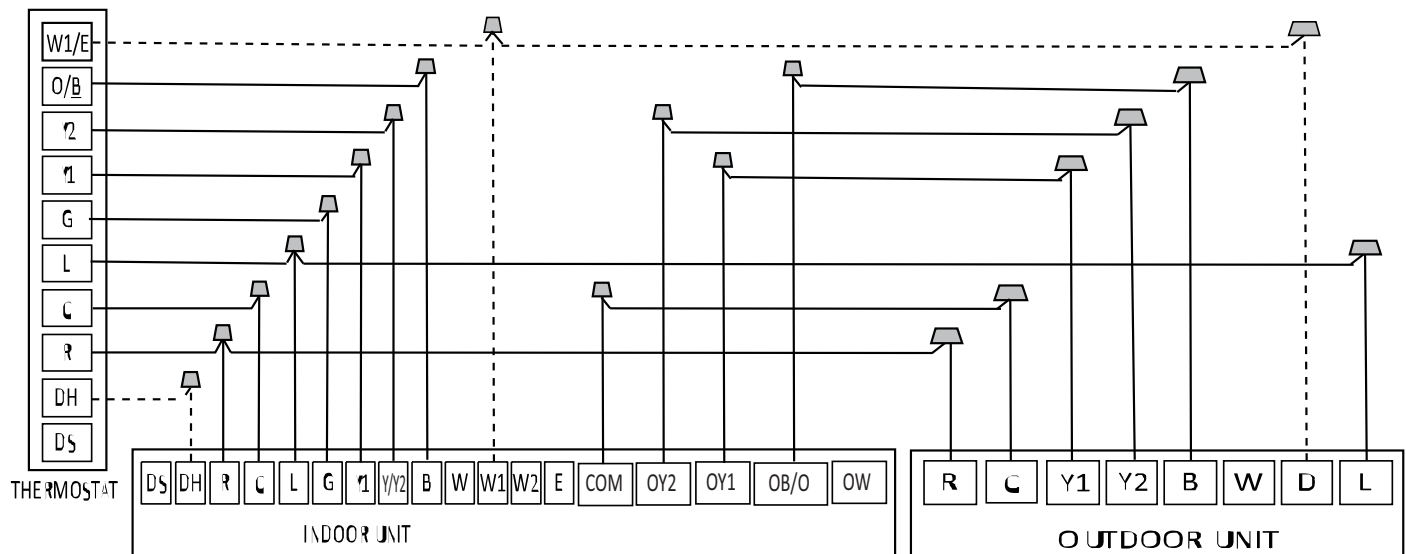


S4-2 Default on, DH Function off.  
Turn switch off to activate DH  
function

S4-4 Default on, W1 and W2 shorted  
for single stage Aux heat operation.  
Turn off to separate stages.

**Fig. 28 —Wiring for 3H and 1C thermostat**

## THERMOSTAT WIRING METHODS (CONT.)



S4-2 Default on, DH function off.  
Turn switch off to activate DH  
function.

S4-4 Default on, W1 and W2  
shorted for single stage Aux heat  
operation. Turn off to separate stages.

Fig. 29 —Wiring for 3H and 2C thermostat

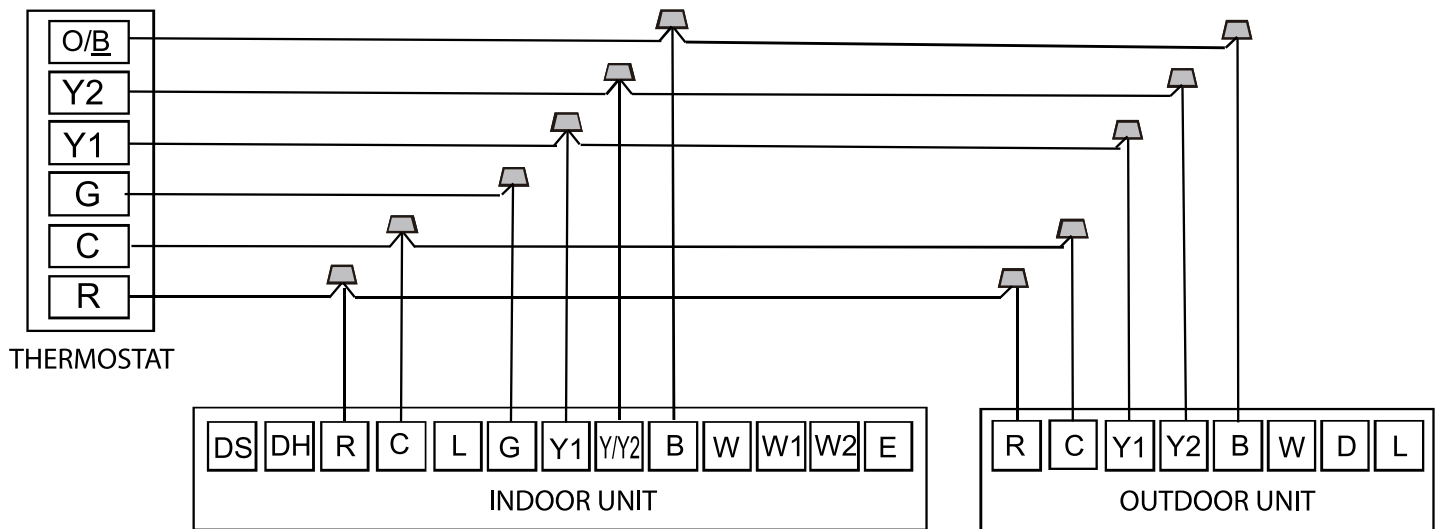
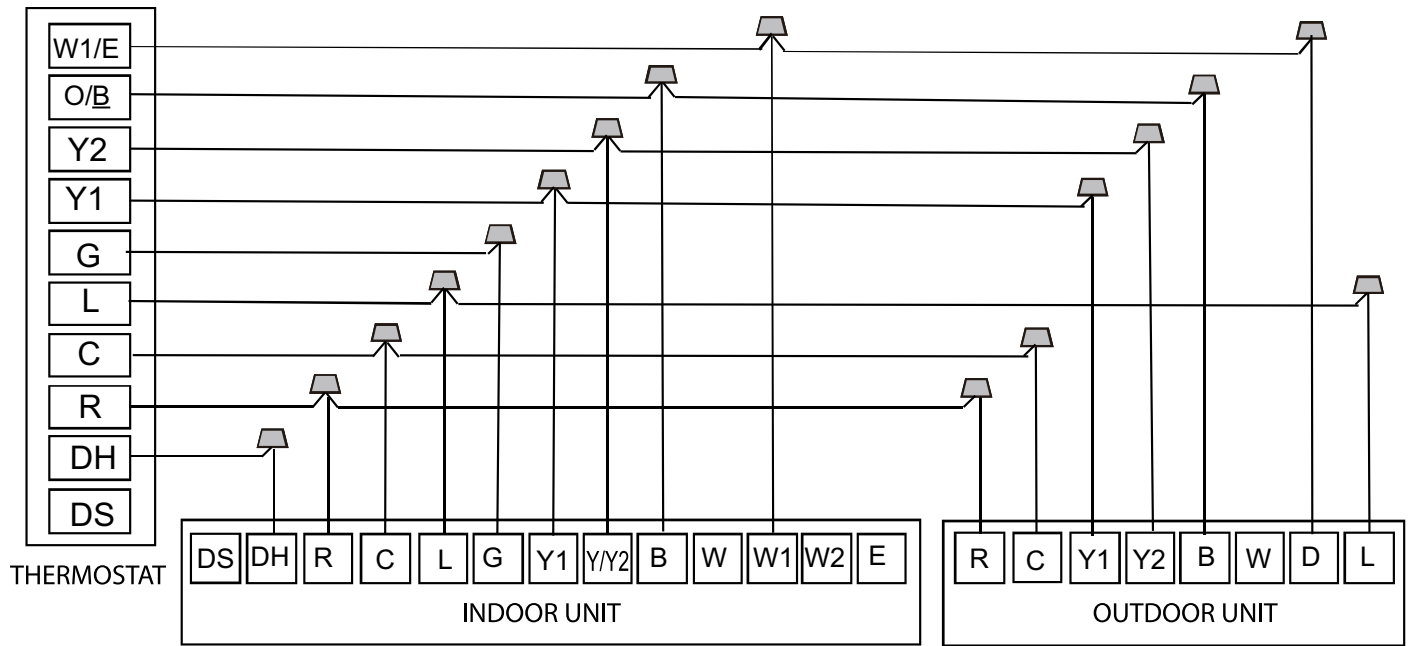


Fig. 30 —Wiring for 2H and 2C thermostat

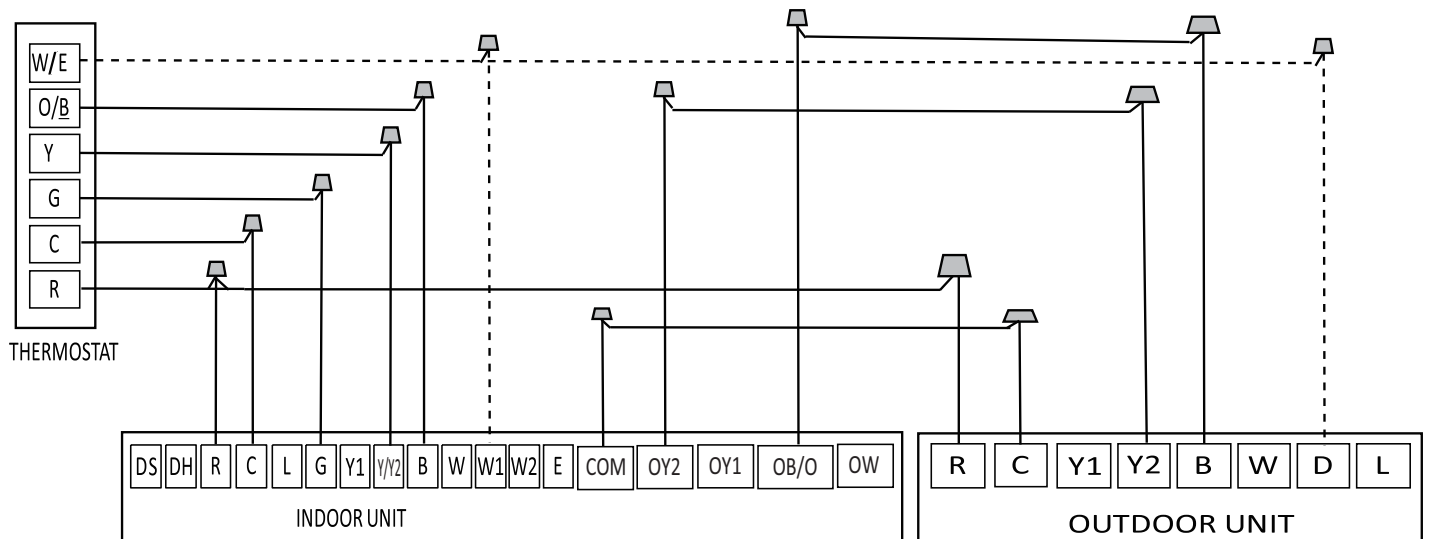
## THERMOSTAT WIRING METHODS (CONT.)



S4-2 Default on, DH Function off.  
Turn switch off to activate DH  
function

S4-4 Default on, W1 and W2 shorted  
for single stage Aux heat operation.  
Turn off to separate stages.

**Fig. 31 —Wiring for 3H and 2C thermostat**



S4-4 Default on, W1 and W2  
shorted for single stage Aux heat  
operation. Turn off to separate stages.

**Fig. 32 —Wiring for 2H and 1C thermostat**

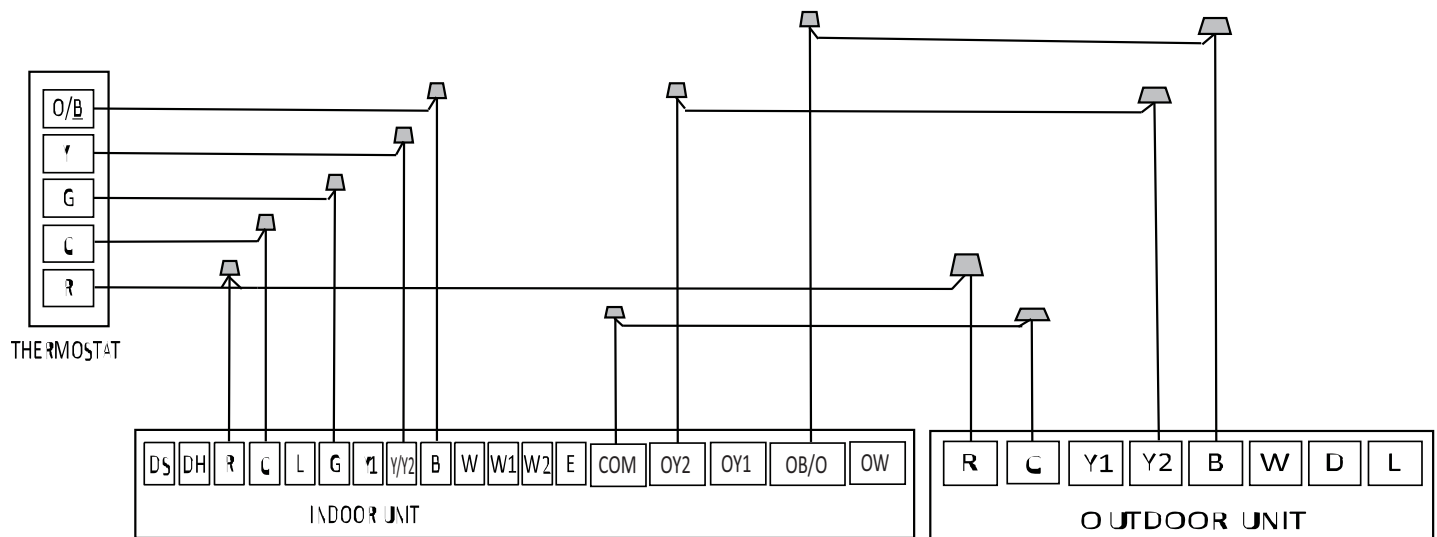


Fig. 33 —Wiring for 1H and 1C thermostat

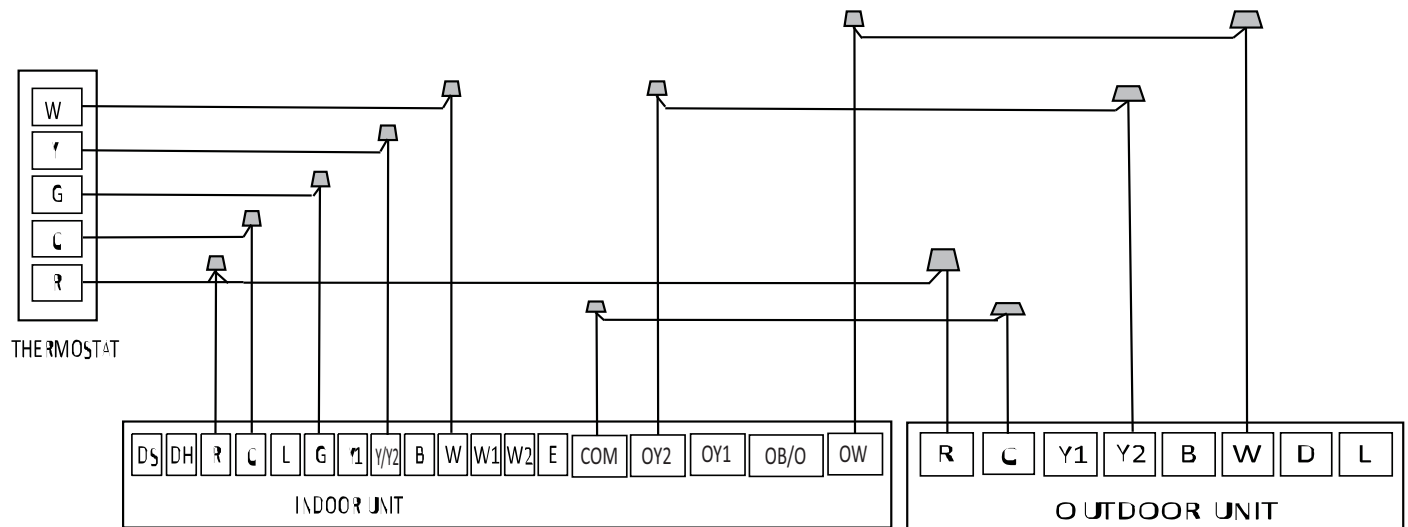


Fig. 34 —Wiring for 1H and 1C thermostat

### Control Logic

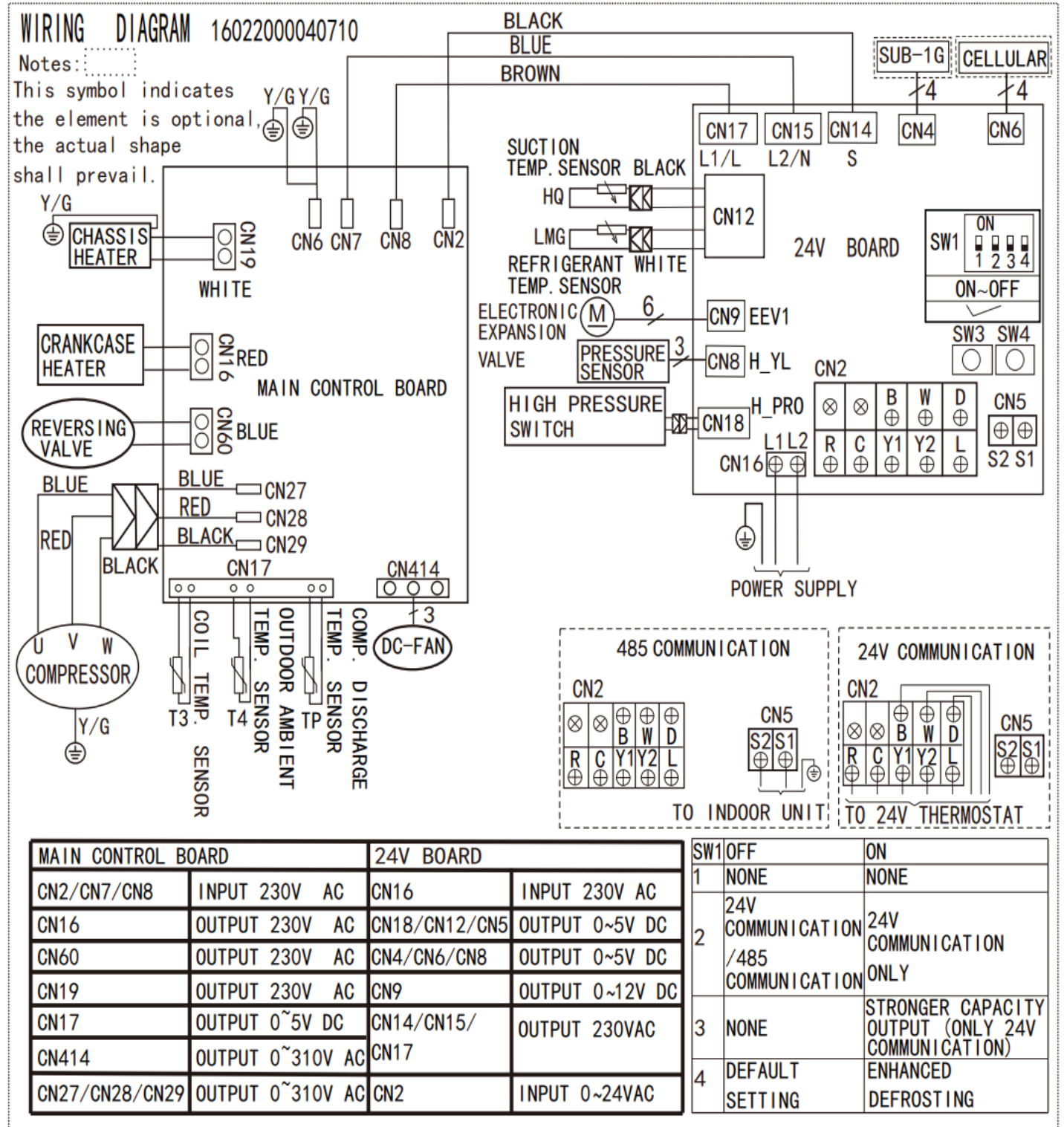
Table 31 — Indoor Unit Connector

| Connector | Purpose                 |
|-----------|-------------------------|
| R         | 24V power Connection    |
| C         | Common                  |
| Y1        | Low Cooling             |
| Y2        | High Cooling            |
| B         | Heating Reversing Valve |
| W         | Heating control         |
| D         | Defrost control         |
| L         | System Fault Signal     |

### LED Display

The control displays unit status as well as any active fault codes on the LED display. If the unit is functioning normally, the LED will be blank. When a fault code is active, the display will flash the active fault code. Please refer to the fault code table located in the troubleshooting section of the Service Manual for detailed fault code information.

# WIRING DIAGRAMS



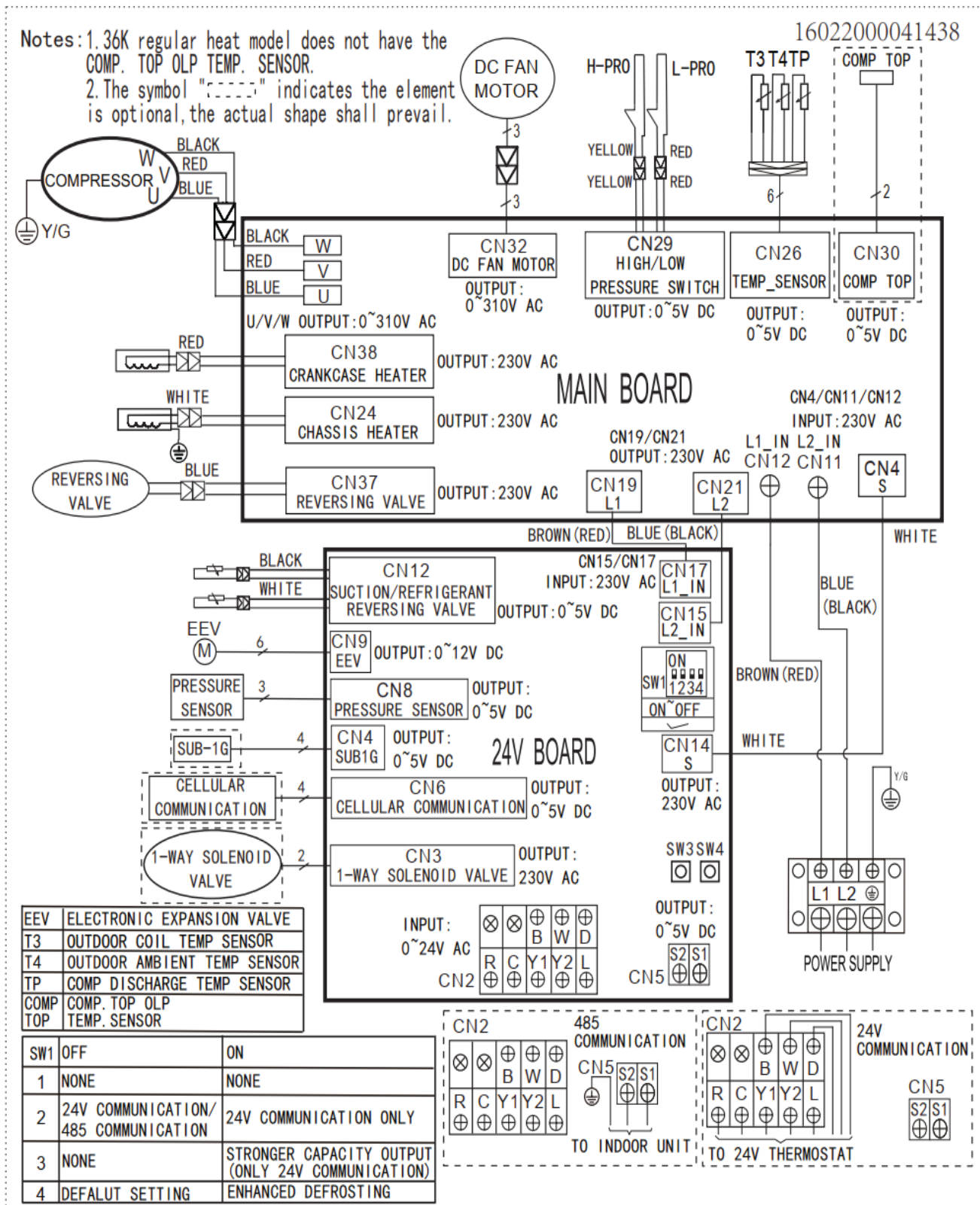
**Fig. 35 — Wiring Diagram Sizes 18K and 24K**

Note:

485 Communication only use the connection points at CN5 (S1 & S2).

24V Communication only use the connection points at CN2.

# WIRING DIAGRAMS (CONT)



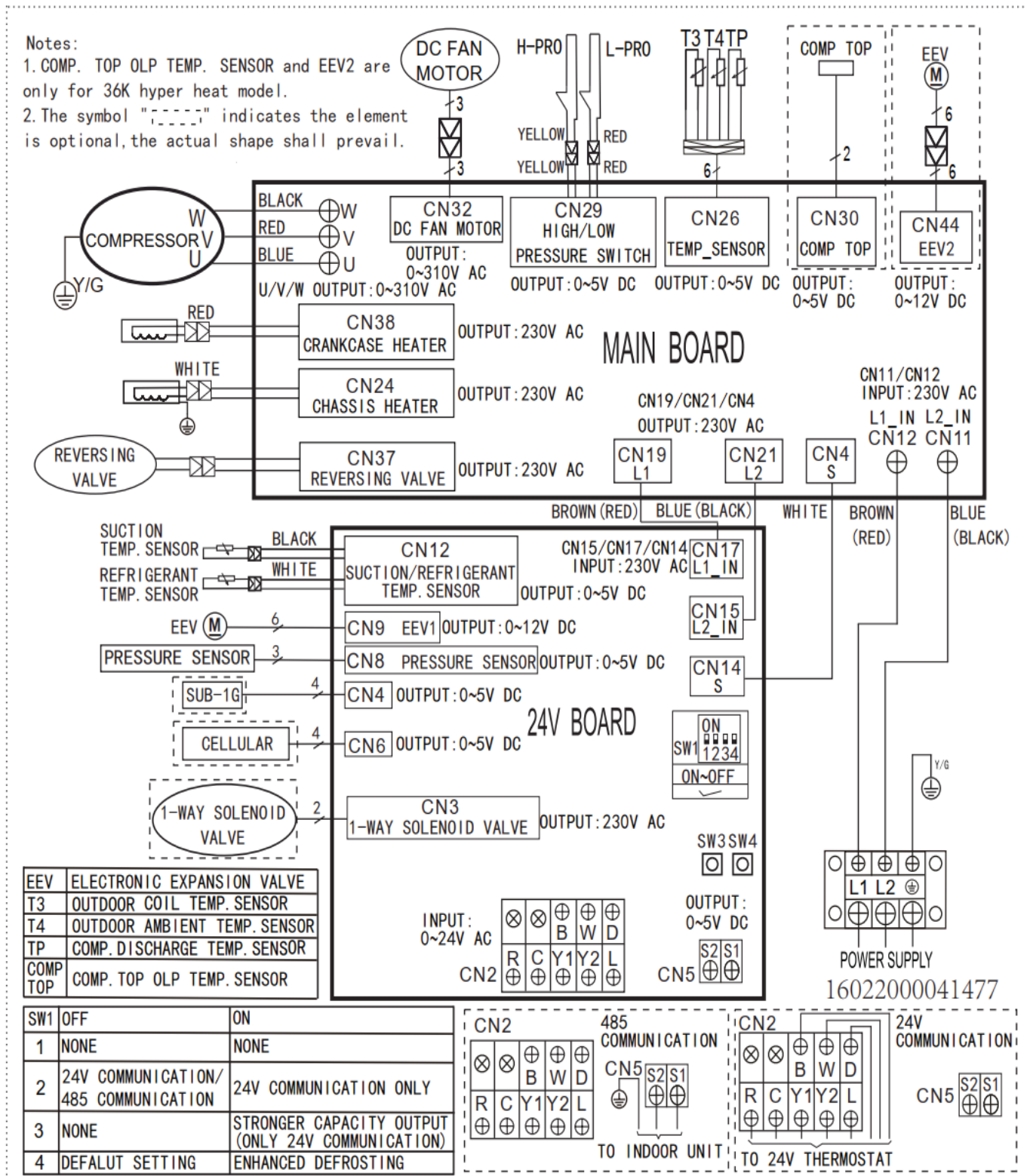
**Fig. 36 — Wiring Diagram Size 30K**

Note:

485 Communication only use the connection points at CN5 (S1 & S2).

24V Communication only use the connection points at CN2.

## WIRING DIAGRAMS (CONT)



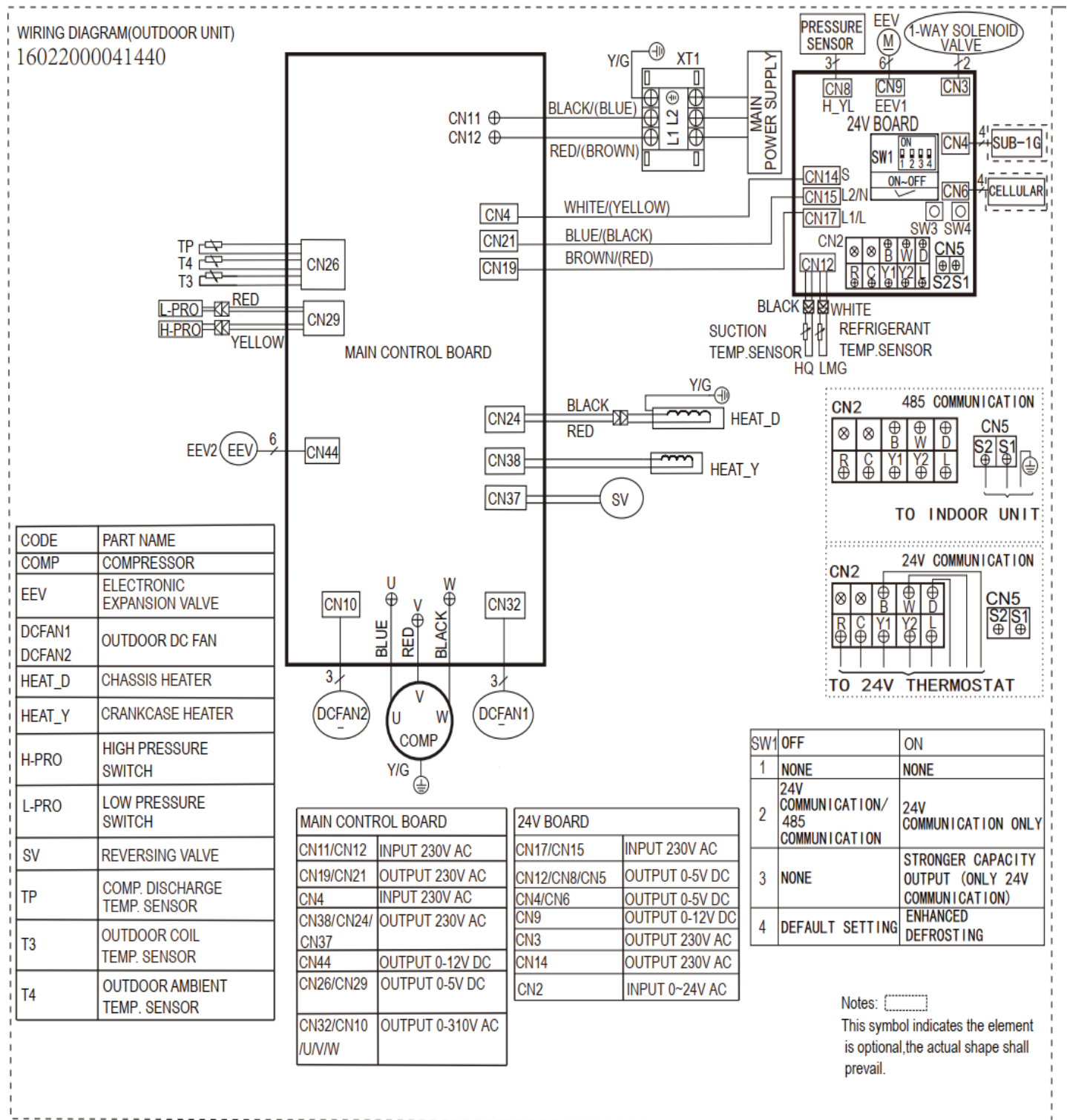
**Fig. 37 — Wiring Diagram Sizes 36K - 48K**

Note:

485 Communication only use the connection points at CN5 (S1 & S2).

24V Communication only use the connection points at CN2.

# WIRING DIAGRAMS (CONT)



**Fig. 38 — Wiring Diagram Size - 60K**

Note:

485 Communication only use the connection points at CN5 (S1 & S2).

24V Communication only use the connection points at CN2.

# GUIDE SPECIFICATIONS

## HORIZONTAL DISCHARGE SPLIT-SYSTEM HEAT PUMP

Size Range: 1-1/2 to 5 Ton Nominal Cooling and Heating Capacity  
Model Number: 37MUHA

### Part 1 - GENERAL

#### 1.01 System Description

1. Outdoor air-cooled split system compressor sections suitable for on-the-ground, rooftop, wall hung or balcony mounting. Units consist of a rotary compressor, an air-cooled coil, propeller-type draw-through outdoor fan, reversing valve (HP), accumulator (HP units), metering device(s), and a control box with integrated 24V and RS485 communication. Units discharge air horizontally as shown on the contract drawings. Units function as the outdoor component of an air-to-air heat pump system.
2. Units are to be used in a refrigeration circuit matched to residential heat pump fan coil units.

#### 1.02 Agency Listings

1. Unit construction complies with ANSI/ASHRAE 15, latest revision, and with the NEC.
2. Units are evaluated in accordance with UL standard 60335-2-40.
3. Units are listed in the CEC directory.
4. Unit cabinet is capable of withstanding 500-hour salt spray test per Federal Test Standard No. 141 (method 6061).
5. Air-cooled condenser coils are leak tested at 550 psig.

#### 1.03 Delivery, Storage, And Handling

Units are shipped in one piece and are stored and handled per unit manufacturer's recommendations.

#### 1.04 Warranty (For Inclusion By Specifying Engineer)

### Part 2 - PRODUCTS

#### 2.01 Equipment

##### A. General:

Factory assembled, single piece, air-cooled outdoor unit. Contained within the unit enclosure is all the factory wiring, piping, controls, and the compressor.

##### B. Unit Cabinet:

1. Unit cabinet is constructed of galvanized steel, bonderized and coated with a baked-enamel finish on the inside and outside.
2. Unit access panels is removable with minimal screws and provides full access to the compressor, fan, and control components.
3. The outdoor compartment is isolated and has an acoustic lining to assure quiet operation.

##### C. Fans:

1. Outdoor fans are the direct drive propeller type, and discharges air horizontally. Fans draw air through the outdoor coil.
2. Outdoor fan motors are totally enclosed, single phase motors with class E insulation and permanently lubricated ball bearings. The motor shall be protected by internal thermal overload protection.
3. The shaft has inherent corrosion resistance.
4. Fan blades are non-metallic and statically and dynamically balanced.
5. Outdoor fan openings are equipped with a PVC metal/mesh coated protection grille over the fan.

##### D. Compressor:

1. Compressor is the fully hermetic rotary type.
2. Compressor is equipped with an oil system, operating oil charge, and a motor.
3. Motor is NEMA rated class E, suitable for operation in a refrigerant atmosphere.
4. Compressor assembly is installed on rubber vibration isolators.

##### E. Outdoor Coil:

The coil is constructed of aluminum pre-coated fins mechanically bonded to seamless copper tubes, which are cleaned, dehydrated, and sealed.

##### F. Refrigeration Components:

Refrigerant circuit components include a brass external liquid line service valve with service gage port connections, a suction line service valve with a service gage connection port, service gage port connections on compressor suction and discharge lines with Schrader type fittings with brass caps, accumulator, reversing valve.

##### G. Controls and Safeties:

Operating controls and safeties are factory selected, assembled, and tested. The minimum control functions include the following:

1. Controls:
  - A time delay control sequence is provided standard through the fan coil board
  - Automatic outdoor fan motor protection.
2. Safeties:
  - System diagnostics
  - Compressor motor current and temperature overload protection
  - Outdoor fan failure protection.

##### H. Electrical Requirements:

1. Unit operates on single-phase, 60 Hz power at 208/230V for unit sizes 1.5T, 2T, 2.5T, 3T, 4T, 5T, as specified.
2. Unit electrical power has a single point connection.
3. All power and control wiring must be installed per NEC and all local electrical codes.
4. The unit has high and low voltage terminal block connections.

