

COMMERCIAL SPLIT SYSTEMS HEAT PUMP UNITS R-410A, 6 – 20 TONS

BUILT TO LAST, EASY TO INSTALL AND SERVICE

- Single stage cooling capacity control on 072 to 121 models, two stage cooling capacity control on 180 to 240 models
 - All models utilize round copper tube, aluminum plate fin condenser coils (RTPF)
 - Brass suction and liquid line service valves
 - Fully hermetic scroll compressors with crankcase heater and suction line accumulators
 - Compressors include overload protection and vibration isolation for further enhancement of quiet operation
 - Comfort Alert™ Diagnostic Board
 - LED Go-No-Go and fault code
 - Built in time guard anti-short cycle
 - Phase protection
 - Fault code retention logic
 - Low volt compressor contactor protector
 - Full perimeter base rail with built-in rigging adapters and fork truck slots
 - Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
 - Filter drier standard with each unit (shipped for field installation)
 - Direct drive permanently lubricated condenser fan motors
 - Newly designed terminal board facilitates simple safety circuit troubleshooting and simplified control box arrangement
 - All units have high pressure and loss of charge protection
 - Outdoor temperature cooling operation range up to 125°F (52°C) and down to 35°F (2°C)
 - Models with optional low ambient control provide cooling operation down to -20°F (-29°C)
 - All units factory run tested
- LIMITED WARRANTY**
- 5 Year compressor limited warranty
 - 1 Year parts limited warranty



CHS072-121



CHS240



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



| UNIT PERFORMANCE DATA ¹ – Single Circuit | | | | | | | |
|---|------------------|----------------------|-------------------|-------|------------------|---|-------------------------|
| Model Number | Cooling Circuits | COOLING | | | Total Power (KW) | Unit Dimensions H x W x L Inches [mm] | Ship Weight lb. / kg |
| | | Nominal Capacity Ton | Net Capacity BTUH | E.E.R | | | |
| CHS072*AA0A00A | 1 | 6 | 70,000 | 11.0 | 6.4 | 42-3/8" x 59-3/8" x 45-7/8" [1077 x 1508 x 1164] | 444 / 201 |
| CHS091*AA0A00A | 1 | 7.5 | 89,000 | 11.0 | 8.1 | 42-3/8" x 59-3/8" x 45-7/8" [1077 x 1508 x 1164] | 483 / 219 |
| CHS121*AA0A00A | 1 | 10 | 112,000 | 11.0 | 10.2 | 50-3/8" x 59-3/8" x 45-7/8" [1279 x 1507 x 1164] | 575 / 261 |
| UNIT PERFORMANCE DATA ¹ – Dual Circuit | | | | | | | |
| CHS180*DA0A00A | 2 | 15 | 178,000 | 10.6 | 16.8 | 50-3/8" x 86-3/8" x 45-1/8" [1279 x 2193 x 1148] | 768 / 348 |
| CHS240*DA0A00A | 2 | 20 | 222,000 | 10.7 | 20.8 | 50-3/8" x 86-3/8" x 67-1/8" [1279 x 2193 x 1704] | 1015 / 460 |

* - Indicates Unit voltage: H = 208/230-3-60, L = 460-3-60, S = 575-3-60
¹ - Above ratings are with matching size air handling unit

MODEL NUMBER NOMENCLATURE

| MODEL SERIES | C | H | S | 0 | 9 | 1 | H | A | A | 0 | A | 0 | 0 | A |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Position Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| C = R-410A Condensing Unit | | | | | | | | | | | | | | |
| H = Heat Pump Type | | | | | | | | | | | | | | |
| S = Standard ASHRAE 90.1-2010 Efficiency Efficiency | | | | | | | | | | | | | | |
| 072 = 6 Tons (Single Compressor) 091 = 7.5 Tons (Single Compressor) 121 = 10 Tons (Single Compressor) 180 = 15 Tons (Dual Compressor) 240 = 20 Tons (Dual Compressor) Nominal Cooling Capacity | | | | | | | | | | | | | | |
| H = 208/230-3-60 L = 460-3-60 S = 575-3-60 Voltage | | | | | | | | | | | | | | |
| A = Single Circuit B = Single Circuit w/ Low Ambient Control D = Dual Circuit E = Dual Circuit w/ Low Ambient Control Refrigerant System Options | | | | | | | | | | | | | | |
| A = Standard Al Fin / Copper Tube B = Pre-Coated Al Fin / Copper Tube C = E-Coat Al Fin / Copper Tube Outdoor Coil Options | | | | | | | | | | | | | | |
| 0 = None 1 = Non-powered 115v Convenience Outlet Service Options | | | | | | | | | | | | | | |
| A = None C = Non-Fused Disconnect Electrical Options | | | | | | | | | | | | | | |
| 0 = Standard Electrical Mechanical Base Unit Controls | | | | | | | | | | | | | | |
| 0 = No Options Future Use | | | | | | | | | | | | | | |
| A = Original Design | | | | | | | | | | | | | | |

AHRI CAPACITY RATINGS

Cooling

| Unit | Cooling Stages | Nom. Capacity (tons) | EER | IEER | Net Cooling Capacity (MBH) | Total Power (kW) |
|----------------------|----------------|----------------------|------|------|----------------------------|------------------|
| CHS072 / FHS072 | 1 | 6 | 11.0 | 12.6 | 70.0 | 6.4 |
| CHS091 (A,B) /FHS091 | 1 | 7.5 | 11.0 | 12.0 | 89.0 | 8.1 |
| CHS091 (D,E) /FHS091 | 2 | 7.5 | 11.0 | 12.0 | 88.0 | 8.0 |
| CHS121 / FHS120 | 1 | 10 | 11.0 | 12.0 | 112.0 | 10.2 |
| CHS180 / FHS180 | 2 | 15 | 10.6 | 11.0 | 178.0 | 16.8 |
| CHS240 / FHS240 | 2 | 20 | 10.7 | 11.0 | 222.0 | 20.8 |

High Heat at 47°F (8°C)

| Unit | Nom. Capacity (tons) | Net Heating Capacity (MBH) | Total Power (kW) | COP |
|-----------------|----------------------|----------------------------|------------------|------|
| CHS072 / FHS072 | 6 | 66.0 | 5.9 | 3.30 |
| CHS091 / FHS091 | 7.5 | 87.0 | 7.7 | 3.30 |
| CHS121 / FHS120 | 10 | 106.0 | 9.4 | 3.30 |
| CHS180 / FHS180 | 15 | 178.0 | 15.3 | 3.40 |
| CHS240 / FHS240 | 20 | 214.0 | 17.9 | 3.50 |

Low Heat at 17°F (-8°C)

| Unit | Nom. Capacity (tons) | Net Heating Capacity (MBH) | Total Power (kW) | COP |
|-----------------|----------------------|----------------------------|------------------|------|
| CHS072 / FHS072 | 6 | 39.0 | 5.2 | 2.40 |
| CHS091 / FHS091 | 7.5 | 52.0 | 6.9 | 2.40 |
| CHS121 / FHS120 | 10 | 70.0 | 9.3 | 2.40 |
| CHS180 / FHS180 | 15 | 108.0 | 13.2 | 2.40 |
| CHS240 / FHS240 | 20 | 130.0 | 15.9 | 2.40 |

LEGEND

- AHRI – Air-Conditioning, Heating and Refrigeration Institute
- ASHRAE – American Society of Heating, Refrigerating and Air Conditioning, Inc.
- EER – Energy Efficiency Ratio
- IEER – Integrated Energy Efficiency Ratio

NOTES

1. Rated in accordance with AHRI Standard.
2. Ratings are based on:
Cooling Standard: 27°C (80°F) db, 19°C (67°F) wb indoor air temp and 35°C (95°F) db outdoor air temp.
IEER Standard: 27°C (80°F) db, 19°C (67°F) wb indoor air temp and 4 various outdoor temperatures.
3. All units comply with ASHRAE 90.1 Energy Standard for minimum EER and IEER requirements.
4. All units are AHRI listed as factory defined matched combinations of specific indoor and outdoor unit components.



07 – 12 Models



16 & 25 Models



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SOUND POWER LEVELS, dB

| Unit | Cooling Stages | Outdoor Sound (dB) | | | | | | | | |
|--------|----------------|--------------------|------|------|------|------|------|------|------|------|
| | | A-Weighted | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| CHS072 | 1 | 82 | 86.4 | 86.0 | 79.2 | 80.2 | 77.6 | 72.0 | 67.9 | 62.3 |
| CHS091 | 1 & 2 | 82 | 86.8 | 85.7 | 80.3 | 80.3 | 77.7 | 72.3 | 70.2 | 65.4 |
| CHS121 | 1 | 82 | 82.8 | 81.5 | 79.2 | 79.4 | 76.2 | 72.3 | 69.4 | 64.2 |
| CHS180 | 2 | 80 | 90.3 | 81.8 | 78.0 | 76.7 | 75.2 | 70.5 | 66.4 | 61.9 |
| CHS240 | 2 | 85 | 91.0 | 85.0 | 80.0 | 86.0 | 79.0 | 73.0 | 68.0 | 63.0 |

LEGEND

dB = Decibel

NOTE: Outdoor sound data is measure in accordance with AHRI standard 270.

PHYSICAL DATA

| | CHS072 | CHS091 (A,B) | CHS091 (D,E) | CHS121 | CHS180 | CHS240 |
|---------------------------------------|----------------|----------------|------------------------|----------------|----------------|----------------|
| Refrigeration System | | | | | | |
| # Circuits / # Comp. / Type | 1 / 1 / Scroll | 1 / 1 / Scroll | 1 / 1 / Digital Scroll | 1 / 1 / Scroll | 2 / 2 / Scroll | 2 / 2 / Scroll |
| R-410A Shipping charge A/B (lbs) | 9.0 | 9.0 | 9.0 | 9.0 | 9.0/9.0 | 9.0/9.0 |
| System charge w/ fan coil * A/B (lbs) | 18 | 21 | 24 | 27 | 21 / 21 | 27 / 27 |
| High-press. Trip / Reset (psig) | 630 / 505 | 630 / 505 | 630 / 505 | 630 / 505 | 630 / 505 | 630 / 505 |
| Low-press. Trip / Reset (psig) | 27 / 44 | 27 / 44 | 27 / 44 | 27 / 44 | 27 / 44 | 27 / 44 |
| Outdoor Coil | | | | | | |
| Material – Tube / Fin | Al/Cu | Al/Cu | Al/Cu | Al/Cu | Al/Cu | Al/Cu |
| Round Tube Plate Fin Coil type | RTPF | RTPF | RTPF | RTPF | RTPF | RTPF |
| Rows / FPI | 2 / 17 | 2 / 17 | 2 / 17 | 2 / 17 | 2 / 17 | 2 / 17 |
| Total Face Area (ft2) | 17.5 | 23.0 | 28.1 | 28.1 | 47.1 | 50.1 |
| Outdoor fan / motor | | | | | | |
| Qty / Motor drive type | 2 / direct | 2 / direct | 2 / direct | 2 / direct | 3 / direct | 4 / direct |
| Motor HP / RPM | 1/4 / 1100 | 1/4 / 1100 | 1/4 / 1100 | 1/4 / 1100 | 1/4 / 1100 | 1/4 / 1100 |
| Fan diameter (in) | 22 | 22 | 22 | 22 | 22 | 22 |
| Watts (total) | 610 | 610 | 610 | 610 | 970 | 1150 |
| Piping Connections | | | | | | |
| Qty / Vapor (in. ODS) | 1 / 1 1/8 | 1 / 1 1/8 | 1 / 1 1/8 | 1 / 1 3/8 | 2 / 1 3/8 | 2 / 1 3/8 |
| Qty / Liquid (in. ODS) | 1 / 3/8 | 1 / 1/2 | 1 / 1/2 | 1 / 1/2 | 2 / 1/2 | 2 / 1/2 |

* Approximate system charge with 25 ft. piping of sizes indicated with matched FHS

OPTIONS AND ACCESSORIES

CHS

| ITEM | OPTION* | ACCESSORY† |
|--|---------|------------|
| Disconnect Switch (non-fused)*** | X | |
| Coil Protection | X | |
| Convenience Outlet Non-powered | X | |
| Louvered Hail Guard | X | X |
| Low Ambient Temperature Motormaster® Control** | X | X |
| Programmable Thermostats | | X |

* Factory–installed option

† Field–installed accessory

** Available as an option or accessory

*** Not available when unit MOCP electrical rating exceeds 80 amps

Coil Protection outdoor coil options are available to match coil protection to site conditions for optimum durability. See the table below and refer to the Application data for selection guidance. Consult a ICP representative for further information.

Low ambient temperature Motormaster® head pressure control operates in Cooling mode at outdoor temperatures below 35°F (2°C). The Motormaster control varies the speed of outdoor–fan motors to maintain correct condensing temperature down to –20°F.

115–v convenience outlet is available to provide power to electric drills, lights, and refrigerant recovery machines. This means that a separate 115–v power supply is no longer required.

Non-powered convenience outlet requires the filed installation of a general purpose 125–volt 15–A circuit powered from a source elsewhere in the building.

Non-fused disconnect switch removes power locally at the condensing unit. This switch also includes a power lockout capability to protect the service person. This lockout switch saves time and effort as the service person no longer needs to access a distant disconnect switch while servicing the unit.

Outdoor coil louvered hail guard protects outdoor units from hail and other flying debris.

ICP commercial thermostats provide 7–day programmable capability for commercial application.

Outdoor Coil Protection Applications

| Coil Protection DESCRIPTION | ENVIRONMENT | | | | | |
|-----------------------------|------------------------|--------------|------------------|----------------|------------|---------------------------------|
| | Standard Non-Corrosive | Mild Coastal | Moderate Coastal | Severe Coastal | Industrial | Combined Coastal and Industrial |
| Alum Fin / Cu Tube | X | | | | | |
| Pre-Coated Al/Cu | | X | | | | |
| E-Coated Al/Cu | | X | X | X | X | X |

FHS

| ITEM | OPTION* | ACCESSORY† |
|-----------------------------|---------|------------|
| Alternate Fan Motors | X | |
| Alternate Drives | X | |
| Prepainted Units | X | |
| CO ₂ Sensors | | X |
| Condensate Drain Trap | | X |
| Discharge Plenum | | X |
| Economizer | | X |
| Electric Heat | | X |
| Overhead Suspension Package | | X |
| Programmable Thermostats | | X |
| Return Air Grille | | X |
| Subbase | | X |
| UV-C Germicidal Lamp** | | X |

* Factory—installed option.

† Field—installed accessory

** Contact Application Engineer

Factory—installed options

Alternate fan motors and drives are available to provide the widest possible range of performance.

Prepainted steel units are available from the factory for applications that require painted units. Units are painted with American Sterling Gray color.

Field—installed accessories

CO₂ sensors can be used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO₂ level in the space exceeds the set point.

Condensate drain trap includes an overflow shutoff switch that can be wired to turn off the unit if the trap becomes plugged. Kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

Discharge plenum directs the air discharge directly into the occupied space; integral horizontal and vertical louvers enable redirection of airflow. Accessory is available unpainted or painted. Field assembly is required (only applicable for vertical application).

Economizer (enthalpy controlled) provides ventilation air and “free” cooling if outside ambient temperature and humidity are suitable. It can also be used with CO₂ sensors to help meet indoor air quality requirements.

Electric resistance heat coils have an open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard. Terminal block for single-point power connection is included.

Overhead suspension package includes necessary brackets to support units in horizontal ceiling installations.

Return-air grille provides a protective barrier over the return-air opening and gives a finished appearance to units installed in the occupied space. Accessory is available unpainted or painted.

Subbase provides a stable, raised platform and room for condensate drain trap connection for vertical floor-mounted units. Accessory is available unpainted or painted.

UV-C germicidal lamps inhibit the growth of mold and fungus, which may grow on evaporator coil and condensate pan surfaces. The use of UV-C germicidal lamps reduces the foul odors that may result from this growth of mold and fungus. It also provides a self-cleaning function for the evaporator coil and drain pan.

ACCESSORIES – CHS

| LOW AMBIENT CONTROLS | | |
|----------------------|--|--------------------------------|
| Model Number | Description | Use With Model Size |
| DALOWAMB004A00 | Low Ambient Temperature Head Pressure Controller, allows cooling operation down to -20°F by varying the speed on the condenser fan.* | 072 – 121 (208/230–3–60v only) |
| DALOWAMB005A00 | | 072 – 091 (460–3–60v only) |
| DALOWAMB009A00 | | 121 (460–3–60v only) |
| DALOWAMB006A00 | | 072 – 121 (575–3–60v only) |
| CALOWAMB024A00 | Low Ambient Temperature Head Pressure Controller, allows cooling operation down to -20°F by varying the speed on the condenser fan.* | 180 (208/230–3–60v only) |
| CALOWAMB025A00 | | 180 (460–3–60v only) |
| CALOWAMB026A00 | | 180 (575–3–60v only) |
| CALOWAMB027A00 | | 240 (208/230–3–60v only) |
| CALOWAMB028A00 | | 240 (460–3–60v only) |
| CALOWAMB029A00 | | 240 (575–3–60v only) |

* Includes variable speed motor controller, outdoor motor, and bracket.

| LOUVERED HAIL GUARDS – CONDENSER COIL | | |
|---------------------------------------|---|---------------------|
| Model Number | Description | Use With Model Size |
| CALVHLGD005A00 | Louvered Condenser Coil Hail Guard – Includes louvered panel(s) to protect condenser coil from damage and vandalism | 072 |
| CALVHLGD006A00 | | 091 |
| CALVHLGD010A00 | | 121 |
| CALVHLGD008A00 | Louvered Condenser Coil Hail Guard – Includes louvered panel(s) to protect condenser coil from damage and vandalism | 180 |
| CALVHLGD009A00 | | 240 |

| WIRED GUARDS – CONDENSER COIL | | |
|-------------------------------|---|---------------------|
| Model Number | Description | Use With Model Size |
| CAGRILLE010A00 | Wired Grille Condenser Coil Guard – Includes panel(s) to protect condenser coil from larger objects | 072 |
| CAGRILLE011A00 | | 091 |
| CAGRILLE015A00 | | 121 |

| LIQUID LINE SOLENOID VALVES (LLSV) | | |
|------------------------------------|---|--|
| Model Number** | Description | Use With Liquid Line Size |
| 1179871 | Liquid Line Solenoid Valve | 3/8" L |
| 1179872 | Liquid Line Solenoid Valve | 1/2" L |
| 1179873 | Liquid Line Solenoid Valve | 5/8" L |
| 1179874 | Liquid Line Solenoid Valve Coil | All LLSVs listed |
| 1183150 | Bi-Flow for Liquid Line Solenoid Valve Coil | Used with accessory part numbers (1179871, 1179872, 1179873) |

| BI-FLOW SIGHT GLASSES | | |
|-----------------------|-------------|---------------------------|
| Model Number** | Description | Use With Liquid Line Size |
| 1179879 | Sight Glass | 3/8" L |
| 1179878 | Sight Glass | 1/2" L |
| 1179877 | Sight Glass | 5/8" L |

†† Bushings required on all except on CHS091 with 1/2" liquid line

L – Liquid line

S – Suction Line

** Available from FAST Parts

DIMENSIONS

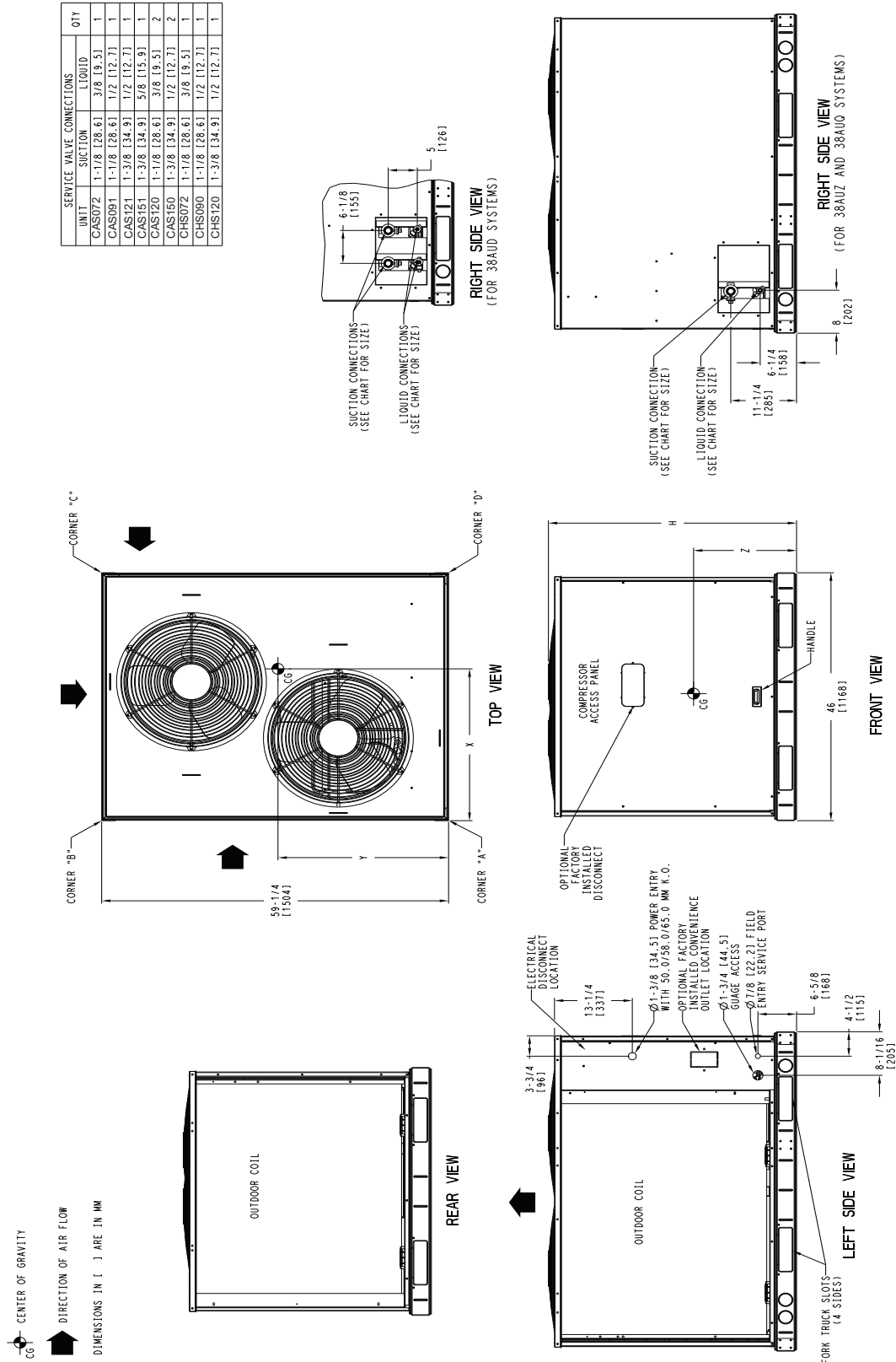


Fig. 1 - CHS072-120

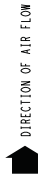
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DIMENSIONS (cont.)

NOTES:

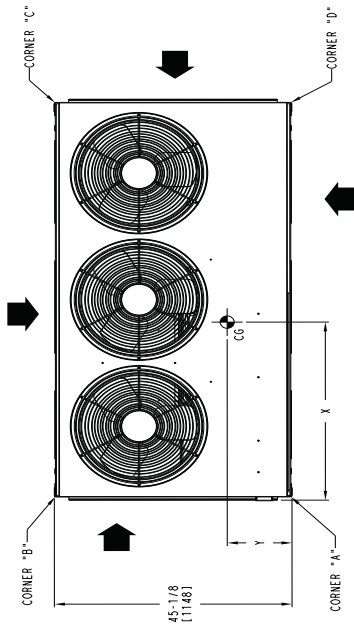
- MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY VARY):
 - FROM COMBUSTIBLE SURFACES: 0 INCHES
 - OUTDOOR COIL: FOR PROPER AIR FLOW: 36 INCHES
 - ONE SIDE: 12 INCHES THE OTHER: THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL
 - OVERHEAD: 60 INCHES, TO ASSURE PROPER OUTDOOR FAN OPERATION
 - BETWEEN UNITS: CONTROL BOX SIDE: 42 INCHES PER NEC. BETWEEN UNIT AND UNGROUND SURFACES: CONTROL BOX SIDE: 36 INCHES PER NEC.
 - BETWEEN UNIT AND CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE: 42 INCHES PER NEC.
- WITH EXCEPTION OF THE CLEARANCE FOR THE OUTDOOR COIL, BARRIAGE REQUIRES NO CLEARANCE
- UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

| UNIT | SERVICE VALVE CONNECTIONS | | QTY |
|--------|---------------------------|------------|------|
| | SUCTION | LIQUID | |
| CHS180 | 1'-3/8 (34.9) | 1/2 (12.7) | 2 EA |

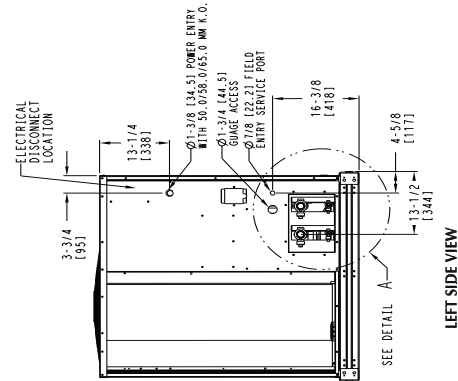
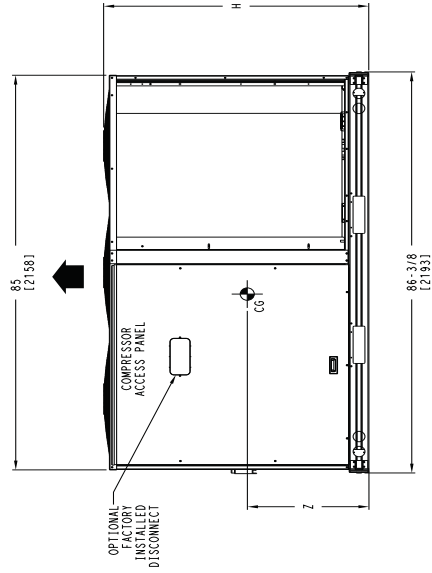


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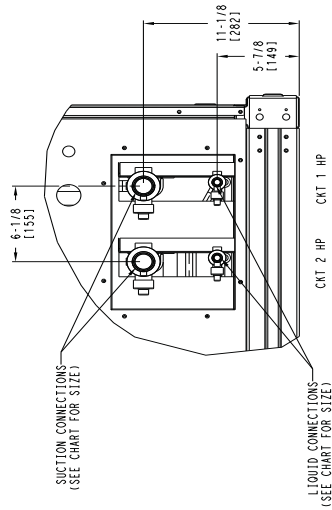
| UNIT | ELECTRICAL CHARACTERISTICS | STD. UNIT WT. LBS. KG. | CORNER A | | | CORNER B | | | CORNER C | | | CORNER D | | | CENTER OF GRAVITY | | | UNIT HEIGHT | | |
|--------|----------------------------------|-----------------------------|----------|-----|------|----------|------|-----|----------|-----|------|----------|------|------|-------------------|--------|-----|-------------|------|-----|
| | | | LBS. | KG. | LBS. | KG. | LBS. | KG. | LBS. | KG. | LBS. | KG. | LBS. | KG. | X | Y | Z | H | | |
| CHS180 | 208/230-3-60, 460-3-60, 575-3-60 | 768 348 | 238 | 107 | 183 | 83 | 153 | 69 | 196 | 89 | 39 | 190.6 | 20 | 1508 | 23 | 1584.2 | 150 | 378 | 1127 | 9.2 |



TOP VIEW



LEFT SIDE VIEW



DETAIL A
(NOTE POSITION OF CKT 1)

Fig. 2 – CHS180

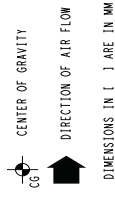
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DIMENSIONS (cont.)

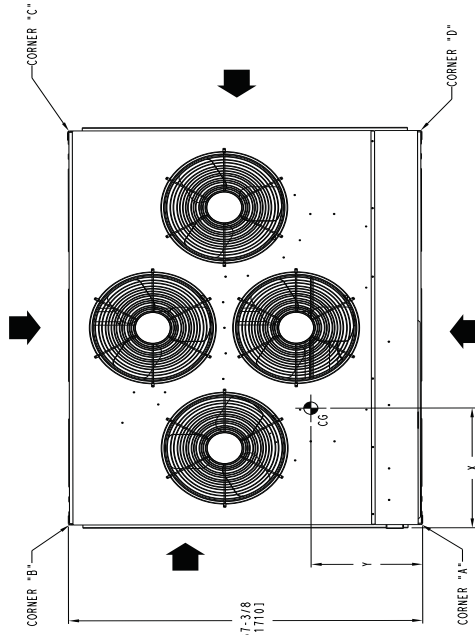
| UNIT | ELECTRICAL CHARACTERISTICS | | CENTER OF GRAVITY | | | | | | UNIT HEIGHT | | | | | | | | | |
|--------|--------------------------------|--------------------------------|-------------------|---------------|---------------|---------------|-------|-------|-------------|-------|-----|-----|----|---------|----|---------|---------|----------|
| | STD. UNIT WT. LBS. | CHARACTERISTICS | CORNER A LBS. | CORNER B LBS. | CORNER C LBS. | CORNER D LBS. | X IN. | Y IN. | Z IN. | H IN. | | | | | | | | |
| CHS240 | 208/230-3-60-460-3-60-575-3-60 | 208/230-3-60-460-3-60-575-3-60 | 1015 | 460 | 354 | 161 | 224 | 102 | 170 | 77 | 268 | 122 | 37 | (939.8) | 23 | (584.2) | 150-3/8 | (1279.2) |

- NOTES:
- MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL) TO COMBUSTIBLE SURFACES: 0 INCHES.
 - OUTDOOR COIL - FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
 - OVERHEAD: 60 INCHES. TO ASSURE PROPER OUTDOOR FAN OPERATION.
 - BETWEEN UNIT AND UNGROUND SURFACES: CONTROL BOX SIDE: 36 INCHES PER NEC.
 - BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE - 42 INCHES PER NEC.
 - WITH EXCEPTION OF THE CLEARANCE FOR THE OUTDOOR COIL OR BARACADE REQUIRES NO CLEARANCE.
 - UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

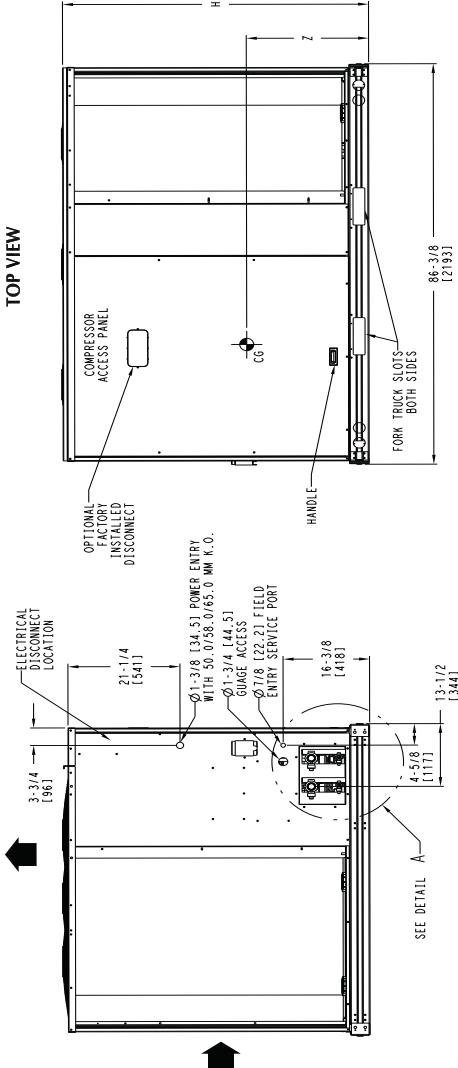
| UNIT | SERVICE VALVE CONNECTIONS | | QTY |
|--------|---------------------------|------------|------|
| | SUCTION | LIQUID | |
| CHS240 | 1-3/8 (34.9) | 1/2 (12.7) | 2 EA |



DIMENSIONS IN () ARE IN MM

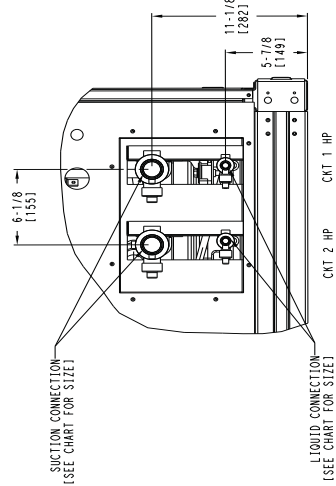


TOP VIEW



FRONT VIEW

LEFT SIDE VIEW



DETAIL A (NOTE POSITION OF CKT 1)

Fig. 3 - CHS240

C150215

PERFORMANCE DATA

CHS072 – FHS072

COOLING COMBINATION RATINGS

| | | | | Ambient Temperature | | | | | | | | | | | | | | | |
|-------------|-------------|------------|------|---------------------|------|------|---------|------|------|---------|------|------|---------|------|------|---------|------|------|------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | | 125 | | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | |
| 1800 Cfm | EA (wB) | 58 | THC | 63.5 | 63.5 | 71.3 | 61.2 | 61.2 | 68.8 | 58.8 | 58.8 | 66.1 | 56.3 | 56.3 | 63.3 | 53.5 | 53.5 | 60.2 | |
| | | | SHC | 55.7 | 63.5 | 71.3 | 53.7 | 61.2 | 68.8 | 51.6 | 58.8 | 66.1 | 49.3 | 56.3 | 63.3 | 46.9 | 53.5 | 60.2 | |
| | | 62 | THC | 66.4 | 66.4 | 68.3 | 63.5 | 63.5 | 66.8 | 60.5 | 60.5 | 65.2 | 57.3 | 57.3 | 63.5 | 54.0 | 54.0 | 61.5 | |
| | | | SHC | 50.6 | 59.5 | 68.3 | 49.2 | 58.0 | 66.8 | 47.6 | 56.4 | 65.2 | 46.0 | 54.8 | 63.5 | 44.2 | 52.9 | 61.5 | |
| | | 67 | THC | 72.8 | 72.8 | 72.8 | 69.6 | 69.6 | 69.6 | 66.3 | 66.3 | 66.3 | 62.7 | 62.7 | 62.7 | 59.0 | 59.0 | 59.0 | |
| | | | SHC | 41.6 | 50.5 | 59.4 | 40.2 | 49.1 | 58 | 38.7 | 47.6 | 56.6 | 37.2 | 46.1 | 55 | 35.6 | 44.5 | 53.4 | |
| | 72 | THC | 79.7 | 79.7 | 79.7 | 76.2 | 76.2 | 76.2 | 72.5 | 72.5 | 72.5 | 68.6 | 68.6 | 68.6 | 64.5 | 64.5 | 64.5 | | |
| | | SHC | 32.4 | 41.4 | 50.5 | 31.0 | 40.1 | 49.1 | 29.6 | 38.6 | 47.6 | 28.1 | 37.1 | 46.1 | 26.5 | 35.5 | 44.5 | | |
| | 76 | THC | - | 85.5 | 85.5 | - | 81.7 | 81.7 | - | 77.7 | 77.7 | - | 73.5 | 73.5 | - | 69.1 | 69.1 | | |
| | | SHC | - | 34.2 | 44 | - | 32.8 | 42.5 | - | 31.4 | 41 | - | 29.9 | 39.4 | - | 28.4 | 37.8 | | |
| | 2100 Cfm | EA (wB) | 58 | THC | 66.7 | 66.7 | 74.9 | 64.2 | 64.2 | 72.2 | 61.6 | 61.6 | 69.3 | 58.9 | 58.9 | 66.2 | 55.9 | 55.9 | 62.9 |
| | | | | SHC | 58.4 | 66.7 | 74.9 | 56.3 | 64.2 | 72.2 | 54.0 | 61.6 | 69.3 | 51.5 | 58.9 | 66.2 | 49.0 | 55.9 | 62.9 |
| 62 | | | THC | 68.4 | 68.4 | 74.3 | 65.4 | 65.4 | 72.6 | 62.3 | 62.3 | 70.7 | 59.0 | 59.0 | 68.8 | 55.9 | 55.9 | 65.3 | |
| | | | SHC | 54.1 | 64.2 | 74.3 | 52.5 | 62.6 | 72.6 | 50.8 | 60.8 | 70.7 | 49.1 | 59.0 | 68.8 | 46.6 | 55.9 | 65.3 | |
| 67 | | | THC | 74.8 | 74.8 | 74.8 | 71.5 | 71.5 | 71.5 | 67.9 | 67.9 | 67.9 | 64.2 | 64.2 | 64.2 | 60.3 | 60.3 | 60.3 | |
| | | | SHC | 43.9 | 54.2 | 64.4 | 42.5 | 52.7 | 63 | 41.0 | 51.2 | 61.4 | 39.4 | 49.6 | 59.9 | 37.8 | 48.0 | 58.2 | |
| 72 | | THC | 81.8 | 81.8 | 81.8 | 78.2 | 78.2 | 78.2 | 74.3 | 74.3 | 74.3 | 70.2 | 70.2 | 70.2 | 65.9 | 65.9 | 65.9 | | |
| | | SHC | 33.4 | 43.8 | 54.1 | 32.0 | 42.3 | 52.7 | 30.5 | 40.9 | 51.2 | 29.0 | 39.3 | 49.6 | 27.4 | 37.7 | 47.9 | | |
| 76 | | THC | - | 87.7 | 87.7 | - | 83.7 | 83.7 | - | 79.5 | 79.5 | - | 75.1 | 75.1 | - | 70.4 | 70.4 | | |
| | | SHC | - | 35.5 | 46.4 | - | 34.1 | 45 | - | 32.6 | 43.4 | - | 31.1 | 41.8 | - | 29.5 | 40.1 | | |
| 2400 Cfm | | EA (wB) | 58 | THC | 69.3 | 69.3 | 78.0 | 66.7 | 66.7 | 75.1 | 64.0 | 64.0 | 72.0 | 61.0 | 61.0 | 68.7 | 57.9 | 57.9 | 65.2 |
| | | | | SHC | 60.7 | 69.3 | 78.0 | 58.4 | 66.7 | 75.1 | 56.0 | 64.0 | 72.0 | 53.4 | 61.0 | 68.7 | 50.6 | 57.9 | 65.2 |
| | 62 | | THC | 70.1 | 70.1 | 79.5 | 66.9 | 66.9 | 78.0 | 64.0 | 64.0 | 74.7 | 61.0 | 61.0 | 71.3 | 57.9 | 57.9 | 67.6 | |
| | | | SHC | 57.2 | 68.3 | 79.5 | 55.7 | 66.8 | 78.0 | 53.3 | 64.0 | 74.7 | 50.8 | 61.0 | 71.3 | 48.2 | 57.9 | 67.6 | |
| | 67 | | THC | 76.4 | 76.4 | 76.4 | 72.9 | 72.9 | 72.9 | 69.2 | 69.2 | 69.2 | 65.3 | 65.3 | 65.3 | 61.2 | 61.2 | 62.7 | |
| | | | SHC | 46.1 | 57.6 | 69.1 | 44.6 | 56.1 | 67.6 | 43.1 | 54.6 | 66.1 | 41.5 | 52.9 | 64.4 | 39.8 | 51.2 | 62.7 | |
| | 72 | THC | 83.5 | 83.5 | 83.5 | 79.6 | 79.6 | 79.6 | 75.6 | 75.6 | 75.6 | 71.3 | 71.3 | 71.3 | 66.9 | 66.9 | 66.9 | | |
| | | SHC | 34.3 | 45.9 | 57.6 | 32.9 | 44.5 | 56.1 | 31.4 | 43.0 | 54.5 | 29.8 | 41.4 | 52.9 | 28.2 | 39.7 | 51.2 | | |
| | 76 | THC | - | 89.4 | 89.4 | - | 85.2 | 85.2 | - | 80.8 | 80.8 | - | 76.2 | 76.2 | - | 71.5 | 71.5 | | |
| | | SHC | - | 36.7 | 48.8 | - | 35.2 | 47.3 | - | 33.7 | 45.7 | - | 32.2 | 44.1 | - | 30.5 | 42.4 | | |
| | 2700 Cfm | EA (wB) | 58 | THC | 71.6 | 71.6 | 80.6 | 68.9 | 68.9 | 77.5 | 66.0 | 66.0 | 74.2 | 62.9 | 62.9 | 70.8 | 59.6 | 59.6 | 67.1 |
| | | | | SHC | 62.7 | 71.6 | 80.6 | 60.3 | 68.9 | 77.5 | 57.7 | 66.0 | 74.2 | 55.0 | 62.9 | 70.8 | 52.1 | 59.6 | 67.1 |
| 62 | | | THC | 71.7 | 71.7 | 83.7 | 68.9 | 68.9 | 80.4 | 66.0 | 66.0 | 77.0 | 62.8 | 62.8 | 73.4 | 59.6 | 59.6 | 69.6 | |
| | | | SHC | 59.7 | 71.7 | 83.7 | 57.3 | 68.9 | 80.4 | 54.9 | 66.0 | 77.0 | 52.3 | 62.8 | 73.4 | 49.5 | 59.6 | 69.6 | |
| 67 | | | THC | 77.6 | 77.6 | 77.6 | 74.0 | 74.0 | 74.0 | 70.2 | 70.2 | 70.5 | 66.2 | 66.2 | 68.7 | 62.0 | 62.0 | 66.9 | |
| | | | SHC | 48.1 | 60.9 | 73.6 | 46.6 | 59.4 | 72.1 | 45.0 | 57.8 | 70.5 | 43.4 | 56.1 | 68.7 | 41.7 | 54.3 | 66.9 | |
| 72 | | THC | 84.8 | 84.8 | 84.8 | 80.8 | 80.8 | 80.8 | 76.6 | 76.6 | 76.6 | 72.3 | 72.3 | 72.3 | 67.7 | 67.7 | 67.7 | | |
| | | SHC | 35.1 | 48.0 | 60.8 | 33.7 | 46.5 | 59.3 | 32.2 | 44.9 | 57.7 | 30.6 | 43.3 | 56 | 28.9 | 41.6 | 54.3 | | |
| 76 | | THC | - | 90.7 | 90.7 | - | 86.4 | 86.4 | - | 81.9 | 81.9 | - | 77.2 | 77.2 | - | 72.3 | 72.3 | | |
| | | SHC | - | 37.8 | 51.1 | - | 36.3 | 49.5 | - | 34.8 | 47.9 | - | 33.2 | 46.2 | - | 31.5 | 44.5 | | |
| 3000 Cfm | | EA (wB) | 58 | THC | 73.6 | 73.6 | 82.8 | 70.7 | 70.7 | 79.6 | 67.7 | 67.7 | 76.2 | 64.4 | 64.4 | 72.5 | 61.0 | 61.0 | 68.7 |
| | | | | SHC | 64.4 | 73.6 | 82.8 | 61.9 | 70.7 | 79.6 | 59.2 | 67.7 | 76.2 | 56.3 | 64.4 | 72.5 | 53.3 | 61.0 | 68.7 |
| | 62 | | THC | 73.6 | 73.6 | 86 | 70.7 | 70.7 | 82.6 | 67.7 | 67.7 | 79.1 | 64.4 | 64.4 | 75.3 | 61.0 | 61.0 | 71.3 | |
| | | | SHC | 61.2 | 73.6 | 86 | 58.8 | 70.7 | 82.6 | 56.3 | 67.7 | 79.1 | 53.6 | 64.4 | 75.3 | 50.7 | 61.0 | 71.3 | |
| | 67 | | THC | 78.6 | 78.6 | 78.6 | 74.9 | 74.9 | 76.3 | 71.0 | 71.0 | 74.6 | 66.9 | 66.9 | 72.8 | 62.7 | 62.7 | 70.8 | |
| | | | SHC | 50.0 | 64.0 | 77.9 | 48.5 | 62.4 | 76.3 | 46.9 | 60.8 | 74.6 | 45.2 | 59.0 | 72.8 | 43.4 | 57.1 | 70.8 | |
| | 72 | THC | 85.9 | 85.9 | 85.9 | 81.8 | 81.8 | 81.8 | 77.5 | 77.5 | 77.5 | 73.0 | 73.0 | 73.0 | 68.3 | 68.3 | 68.3 | | |
| | | SHC | 35.9 | 49.9 | 64 | 34.4 | 48.4 | 62.4 | 32.9 | 46.8 | 60.8 | 31.3 | 45.2 | 59.1 | 29.6 | 43.5 | 57.3 | | |
| | 76 | THC | - | 91.8 | 91.8 | - | 87.4 | 87.4 | - | 82.8 | 82.8 | - | 77.9 | 77.9 | - | 72.9 | 72.9 | | |
| | | SHC | - | 38.8 | 53.2 | - | 37.3 | 51.7 | - | 35.7 | 50.0 | - | 34.1 | 48.3 | - | 32.4 | 46.5 | | |

LEGEND:

THC – Total Cooling Capacity, Gross (1000 Btu/h)

SHC – Sensible Cooling Capacity, Gross (1000 Btu/h)

PERFORMANCE DATA (cont.)

CHS091 – FHS091

COOLING COMBINATION RATINGS

| | | | | Ambient Temperature | | | | | | | | | | | | | | | |
|-------------|-------------|------------|------|---------------------|------|------|---------|------|------|---------|------|------|---------|------|------|---------|------|------|------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | | 125 | | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | |
| 2250 Cfm | EA (wB) | 58 | THC | 78.7 | 78.7 | 89.2 | 76.0 | 76.0 | 86.1 | 73.1 | 73.1 | 82.8 | 70.0 | 70.0 | 79.3 | 66.6 | 66.6 | 75.4 | |
| | | | SHC | 68.3 | 78.7 | 89.2 | 66 | 76.0 | 86.1 | 63.4 | 73.1 | 82.8 | 60.7 | 70.0 | 79.3 | 57.8 | 66.6 | 75.4 | |
| | | 62 | THC | 83.6 | 83.6 | 83.6 | 80.1 | 80.1 | 81.5 | 76.3 | 76.3 | 79.7 | 72.3 | 72.3 | 77.7 | 68.0 | 68.0 | 75.6 | |
| | | | SHC | 60.9 | 72.0 | 83.2 | 59.3 | 70.4 | 81.5 | 57.5 | 68.6 | 79.7 | 55.7 | 66.7 | 77.7 | 53.6 | 64.6 | 75.6 | |
| | | 67 | THC | 91.4 | 91.4 | 91.4 | 87.6 | 87.6 | 87.6 | 83.5 | 83.5 | 83.5 | 79.1 | 79.1 | 79.1 | 74.3 | 74.3 | 74.3 | |
| | | | SHC | 49.6 | 60.8 | 72 | 48 | 59.2 | 70.4 | 46.4 | 57.5 | 68.7 | 44.6 | 55.8 | 66.9 | 42.7 | 53.9 | 65 | |
| | 72 | THC | 99.9 | 99.9 | 99.9 | 95.7 | 95.7 | 95.7 | 91.3 | 91.3 | 91.3 | 86.4 | 86.4 | 86.4 | 81.2 | 81.2 | 81.2 | | |
| | | SHC | 37.9 | 49.3 | 60.6 | 36.4 | 47.7 | 59.1 | 34.8 | 46.1 | 57.4 | 33.1 | 44.4 | 55.6 | 31.2 | 42.5 | 53.8 | | |
| | 76 | THC | - | 107 | 107 | - | 103 | 103 | - | 97.8 | 97.8 | - | 92.6 | 92.6 | - | 87.0 | 87.0 | | |
| | | SHC | - | 39.9 | 52.2 | - | 38.4 | 50.5 | - | 36.8 | 48.8 | - | 35.1 | 46.9 | - | 33.3 | 45 | | |
| | 2625 Cfm | EA (wB) | 58 | THC | 82.8 | 82.8 | 93.8 | 79.9 | 79.9 | 90.5 | 76.8 | 76.8 | 86.9 | 73.4 | 73.4 | 83.1 | 69.7 | 69.7 | 78.9 |
| | | | | SHC | 71.8 | 82.8 | 93.8 | 69.3 | 79.9 | 90.5 | 66.6 | 76.8 | 86.9 | 63.6 | 73.4 | 83.1 | 60.5 | 69.7 | 78.9 |
| 62 | | | THC | 86.1 | 86.1 | 90.7 | 82.4 | 82.4 | 88.9 | 78.5 | 78.5 | 86.9 | 74.3 | 74.3 | 84.6 | 69.9 | 69.9 | 82.3 | |
| | | | SHC | 65.3 | 78.0 | 90.7 | 63.6 | 76.2 | 88.9 | 61.7 | 74.3 | 86.9 | 59.6 | 72.1 | 84.6 | 57.5 | 69.9 | 82.3 | |
| 67 | | | THC | 94.0 | 94.0 | 94.0 | 90.0 | 90.0 | 90.0 | 85.6 | 85.6 | 85.6 | 81.0 | 81.0 | 81.0 | 76.0 | 76.0 | 76.0 | |
| | | | SHC | 52.5 | 65.3 | 78.1 | 50.9 | 63.7 | 76.5 | 49.2 | 62.0 | 74.8 | 47.4 | 60.2 | 73 | 45.5 | 58.2 | 71 | |
| 72 | | THC | 103 | 103 | 103 | 98.2 | 98.2 | 98.2 | 93.5 | 93.5 | 93.5 | 88.4 | 88.4 | 88.4 | 83.0 | 83.0 | 83.0 | | |
| | | SHC | 39.2 | 52.1 | 65.1 | 37.6 | 50.6 | 63.5 | 36 | 48.9 | 61.8 | 34.2 | 47.1 | 60 | 32.4 | 45.2 | 58.1 | | |
| 76 | | THC | - | 110 | 110 | - | 105 | 105 | - | 100 | 100 | - | 94.6 | 94.6 | - | 88.7 | 88.7 | | |
| | | SHC | - | 41.4 | 55.1 | - | 39.9 | 53.5 | - | 38.3 | 51.8 | - | 36.5 | 50 | - | 34.7 | 48 | | |
| 3000 Cfm | | EA (wB) | 58 | THC | 86.2 | 86.2 | 97.7 | 83.1 | 83.1 | 94.1 | 79.8 | 79.8 | 90.4 | 76.2 | 76.2 | 86.3 | 72.2 | 72.2 | 81.8 |
| | | | | SHC | 74.8 | 86.2 | 97.7 | 72.1 | 83.1 | 94.1 | 69.2 | 79.8 | 90.4 | 66.1 | 76.2 | 86.3 | 62.7 | 72.2 | 81.8 |
| | 62 | | THC | 88.1 | 88.1 | 97.6 | 84.4 | 84.4 | 95.5 | 80.4 | 80.4 | 93 | 76.3 | 76.3 | 89.8 | 72.3 | 72.3 | 85.1 | |
| | | | SHC | 69.3 | 83.4 | 97.6 | 67.4 | 81.4 | 95.5 | 65.3 | 79.2 | 93 | 62.8 | 76.3 | 89.8 | 59.5 | 72.3 | 85.1 | |
| | 67 | | THC | 96.0 | 96.0 | 96.0 | 91.8 | 91.8 | 91.8 | 87.3 | 87.3 | 87.3 | 82.4 | 82.4 | 82.4 | 77.3 | 77.3 | 77.3 | |
| | | | SHC | 55.2 | 69.6 | 84 | 53.6 | 68.0 | 82.4 | 51.8 | 66.2 | 80.6 | 50 | 64.4 | 78.7 | 48.1 | 62.4 | 76.8 | |
| | 72 | THC | 105 | 105 | 105 | 100 | 100 | 100 | 95.2 | 95.2 | 95.2 | 89.9 | 89.9 | 89.9 | 84.3 | 84.3 | 84.3 | | |
| | | SHC | 40.3 | 54.9 | 69.4 | 38.7 | 53.3 | 67.8 | 37.1 | 51.6 | 66.1 | 35.3 | 49.8 | 64.2 | 33.4 | 47.9 | 62.3 | | |
| | 76 | THC | - | 112 | 112 | - | 107 | 107 | - | 102 | 102 | - | 96.2 | 96.2 | - | 90.1 | 90.1 | | |
| | | SHC | - | 42.9 | 58.1 | - | 41.3 | 56.4 | - | 39.7 | 54.7 | - | 37.9 | 52.9 | - | 36.1 | 50.9 | | |
| | 3375 Cfm | EA (wB) | 58 | THC | 89.1 | 89.1 | 101 | 85.8 | 85.8 | 97.2 | 82.3 | 82.3 | 93.2 | 78.5 | 78.5 | 88.9 | 74.4 | 74.4 | 84.2 |
| | | | | SHC | 77.3 | 89.1 | 101 | 74.5 | 85.8 | 97.2 | 71.4 | 82.3 | 93.2 | 68.1 | 78.5 | 88.9 | 64.5 | 74.4 | 84.2 |
| 62 | | | THC | 90.0 | 90.0 | 104 | 86.1 | 86.1 | 101 | 82.4 | 82.4 | 96.9 | 78.5 | 78.5 | 92.4 | 74.4 | 74.4 | 87.6 | |
| | | | SHC | 72.8 | 88.1 | 104 | 70.9 | 86.1 | 101 | 67.8 | 82.4 | 96.9 | 64.7 | 78.5 | 92.4 | 61.3 | 74.4 | 87.6 | |
| 67 | | | THC | 97.6 | 97.6 | 97.6 | 93.2 | 93.2 | 93.2 | 88.6 | 88.6 | 88.6 | 83.6 | 83.6 | 84.3 | 78.2 | 78.2 | 82.2 | |
| | | | SHC | 57.8 | 73.7 | 89.7 | 56.1 | 72.1 | 88 | 54.4 | 70.3 | 86.2 | 52.5 | 68.4 | 84.3 | 50.5 | 66.3 | 82.2 | |
| 72 | | THC | 106 | 106 | 106 | 102 | 102 | 102 | 96.6 | 96.6 | 96.6 | 91.1 | 91.1 | 91.1 | 85.3 | 85.3 | 85.3 | | |
| | | SHC | 41.4 | 57.5 | 73.6 | 39.8 | 55.8 | 71.9 | 38.1 | 54.1 | 70.1 | 36.3 | 52.3 | 68.3 | 34.4 | 50.4 | 66.3 | | |
| 76 | | THC | - | 114 | 114 | - | 109 | 109 | - | 103 | 103 | - | 97.4 | 97.4 | - | 91.1 | 91.1 | | |
| | | SHC | - | 44.3 | 60.9 | - | 42.7 | 59.3 | - | 41.0 | 57.5 | - | 39.2 | 55.7 | - | 37.4 | 53.8 | | |
| 3750 Cfm | | EA (wB) | 58 | THC | 91.6 | 91.6 | 104 | 88.1 | 88.1 | 99.8 | 84.5 | 84.5 | 95.6 | 80.5 | 80.5 | 91.1 | 76.1 | 76.1 | 86.2 |
| | | | | SHC | 79.4 | 91.6 | 104 | 76.5 | 88.1 | 99.8 | 73.3 | 84.5 | 95.6 | 69.8 | 80.5 | 91.1 | 66.1 | 76.1 | 86.2 |
| | 62 | | THC | 91.7 | 91.7 | 108 | 88.2 | 88.2 | 104 | 84.5 | 84.5 | 99.5 | 80.5 | 80.5 | 94.8 | 76.2 | 76.2 | 89.7 | |
| | | | SHC | 75.5 | 91.7 | 108 | 72.6 | 88.2 | 104 | 69.6 | 84.5 | 99.5 | 66.3 | 80.5 | 94.8 | 62.7 | 76.2 | 89.7 | |
| | 67 | | THC | 98.9 | 98.9 | 98.9 | 94.4 | 94.4 | 94.4 | 89.6 | 89.6 | 91.6 | 84.5 | 84.5 | 89.6 | 79.1 | 79.1 | 87.3 | |
| | | | SHC | 60.3 | 77.8 | 95.2 | 58.6 | 76.1 | 93.5 | 56.8 | 74.2 | 91.6 | 54.9 | 72.2 | 89.6 | 52.8 | 70.0 | 87.3 | |
| | 72 | THC | 108 | 108 | 108 | 103 | 103 | 103 | 97.7 | 97.7 | 97.7 | 92.1 | 92.1 | 92.1 | 86.1 | 86.1 | 86.1 | | |
| | | SHC | 42.4 | 60.0 | 77.6 | 40.8 | 58.3 | 75.9 | 39.1 | 56.6 | 74.1 | 37.2 | 54.7 | 72.2 | 35.3 | 52.8 | 70.2 | | |
| | 76 | THC | - | 115 | 115 | - | 110 | 110 | - | 104 | 104 | - | 98.4 | 98.4 | - | 92.0 | 92.0 | | |
| | | SHC | - | 45.6 | 63.7 | - | 44.0 | 62.1 | - | 42.3 | 60.3 | - | 40.5 | 58.4 | - | 38.6 | 56.5 | | |

LEGEND:

THC – Total Cooling Capacity, Gross (1000 Btu/h)

SHC – Sensible Cooling Capacity, Gross (1000 Btu/h)

PERFORMANCE DATA (cont.)

CHS121 – FHS120

COOLING COMBINATION RATINGS

| | | | | Ambient Temperature | | | | | | | | | | | | | | |
|-------------|------------|----|-----|---------------------|------|------|---------|------|------|---------|------|------|---------|------|------|---------|------|------|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | | 125 | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 |
| 3000 Cfm | EA (wB) | 58 | THC | 103 | 103 | 116 | 99.5 | 99.5 | 112 | 95.6 | 95.6 | 108 | 91.2 | 91.2 | 103 | 86.4 | 86.4 | 97.4 |
| | | 58 | SHC | 89.9 | 103 | 116 | 86.8 | 99.5 | 112 | 83.4 | 95.6 | 108 | 79.6 | 91.2 | 103 | 75.4 | 86.4 | 97.4 |
| | | 62 | THC | 109 | 109 | 110 | 104 | 104 | 108 | 99.1 | 99.1 | 105 | 93.6 | 93.6 | 102 | 87.7 | 87.7 | 98.8 |
| | | 62 | SHC | 81.2 | 95.6 | 110 | 78.9 | 93.3 | 108 | 76.5 | 90.8 | 105 | 73.8 | 88.0 | 102 | 70.7 | 84.8 | 98.8 |
| | | 67 | THC | 119 | 119 | 119 | 114 | 114 | 114 | 108 | 108 | 108 | 102 | 102 | 102 | 95.2 | 95.2 | 95.2 |
| | | 67 | SHC | 66.9 | 81.4 | 95.9 | 64.7 | 79.2 | 93.7 | 62.4 | 76.8 | 91.3 | 59.8 | 74.2 | 88.7 | 57.0 | 71.4 | 85.9 |
| | | 72 | THC | 129 | 129 | 129 | 124 | 124 | 124 | 118 | 118 | 118 | 111 | 111 | 111 | 103 | 103 | 103 |
| | | 72 | SHC | 52.1 | 66.8 | 81.5 | 49.9 | 64.6 | 79.3 | 47.6 | 62.2 | 76.8 | 45.0 | 59.6 | 74.2 | 42.3 | 56.8 | 71.4 |
| | | 76 | THC | - | 138 | 138 | - | 132 | 132 | - | 125 | 125 | - | 118 | 118 | - | 110 | 110 |
| | | 76 | SHC | - | 54.9 | 70.8 | - | 52.7 | 68.4 | - | 50.3 | 65.8 | - | 47.7 | 63.1 | - | 45.0 | 60.2 |
| 3500 Cfm | EA (wB) | 58 | THC | 108 | 108 | 122 | 104 | 104 | 118 | 100 | 100 | 113 | 95.3 | 95.3 | 108 | 90.1 | 90.1 | 102 |
| | | 58 | SHC | 94.3 | 108 | 122 | 91.0 | 104 | 118 | 87.3 | 100 | 113 | 83.1 | 95.3 | 108 | 78.6 | 90.1 | 102 |
| | | 62 | THC | 112 | 112 | 119 | 107 | 107 | 117 | 102 | 102 | 114 | 96.1 | 96.1 | 110 | 90.2 | 90.2 | 106 |
| | | 62 | SHC | 86.7 | 103 | 119 | 84.3 | 101 | 117 | 81.7 | 97.8 | 114 | 78.6 | 94.5 | 110 | 74.8 | 90.2 | 106 |
| | | 67 | THC | 122 | 122 | 122 | 116 | 116 | 116 | 111 | 111 | 111 | 104 | 104 | 104 | 97.0 | 97.0 | 97.0 |
| | | 67 | SHC | 70.6 | 87.2 | 104 | 68.4 | 84.9 | 101 | 65.9 | 82.4 | 99 | 63.3 | 79.8 | 96.3 | 60.5 | 76.9 | 93.4 |
| | | 72 | THC | 133 | 133 | 133 | 127 | 127 | 127 | 120 | 120 | 120 | 113 | 113 | 113 | 105 | 105 | 105 |
| | | 72 | SHC | 53.7 | 70.5 | 87.2 | 51.5 | 68.2 | 84.9 | 49.0 | 65.7 | 82.4 | 46.4 | 63.1 | 79.7 | 43.7 | 60.3 | 76.9 |
| | | 76 | THC | - | 142 | 142 | - | 135 | 135 | - | 128 | 128 | - | 120 | 120 | - | 112 | 112 |
| | | 76 | SHC | - | 56.9 | 74.6 | - | 54.6 | 72.2 | - | 52.2 | 69.6 | - | 49.5 | 66.9 | - | 46.8 | 64.0 |
| 4000 Cfm | EA (wB) | 58 | THC | 112 | 112 | 127 | 108 | 108 | 122 | 104 | 104 | 117 | 98.6 | 98.6 | 111 | 93.0 | 93.0 | 105 |
| | | 58 | SHC | 98.0 | 112 | 127 | 94.4 | 108 | 122 | 90.4 | 104 | 117 | 86.0 | 98.6 | 111 | 81.1 | 93.0 | 105 |
| | | 62 | THC | 114 | 114 | 128 | 109 | 109 | 125 | 104 | 104 | 122 | 98.7 | 98.7 | 116 | 93.1 | 93.1 | 109 |
| | | 62 | SHC | 91.7 | 110 | 128 | 89.0 | 107 | 125 | 86.3 | 104 | 122 | 81.9 | 98.7 | 116 | 77.2 | 93.1 | 109 |
| | | 67 | THC | 124 | 124 | 124 | 119 | 119 | 119 | 112 | 112 | 112 | 106 | 106 | 106 | 98.3 | 98.3 | 101 |
| | | 67 | SHC | 74.1 | 92.6 | 111 | 71.8 | 90.3 | 109 | 69.3 | 87.8 | 106 | 66.6 | 85.1 | 104 | 63.7 | 82.1 | 101 |
| | | 72 | THC | 135 | 135 | 135 | 129 | 129 | 129 | 122 | 122 | 122 | 114 | 114 | 114 | 107 | 107 | 107 |
| | | 72 | SHC | 55.2 | 73.9 | 92.7 | 52.9 | 71.6 | 90.3 | 50.4 | 69.1 | 87.7 | 47.8 | 66.4 | 85 | 44.9 | 63.5 | 82.1 |
| | | 76 | THC | - | 144 | 144 | - | 137 | 137 | - | 130 | 130 | - | 122 | 122 | - | 113 | 113 |
| | | 76 | SHC | - | 58.8 | 78.3 | - | 56.4 | 75.9 | - | 53.9 | 73.3 | - | 51.3 | 70.5 | - | 48.5 | 67.6 |
| 4500 Cfm | EA (wB) | 58 | THC | 116 | 116 | 131 | 112 | 112 | 126 | 107 | 107 | 120 | 101 | 101 | 114 | 95.4 | 95.4 | 108 |
| | | 58 | SHC | 101 | 116 | 131 | 97.3 | 112 | 126 | 93.0 | 107 | 120 | 88.4 | 101 | 114 | 83.2 | 95.4 | 108 |
| | | 62 | THC | 116 | 116 | 136 | 112 | 112 | 131 | 107 | 107 | 125 | 101 | 101 | 119 | 95.5 | 95.5 | 112 |
| | | 62 | SHC | 96.6 | 116 | 136 | 92.7 | 112 | 131 | 88.6 | 107 | 125 | 84.1 | 101 | 119 | 79.2 | 95.5 | 112 |
| | | 67 | THC | 126 | 126 | 126 | 120 | 120 | 120 | 114 | 114 | 114 | 107 | 107 | 110 | 99.4 | 99.4 | 107 |
| | | 67 | SHC | 77.4 | 97.9 | 118 | 75.0 | 95.5 | 116 | 72.5 | 92.9 | 113 | 69.7 | 90.1 | 110 | 66.7 | 86.9 | 107 |
| | | 72 | THC | 137 | 137 | 137 | 130 | 130 | 130 | 123 | 123 | 123 | 116 | 116 | 116 | 108 | 108 | 108 |
| | | 72 | SHC | 56.6 | 77.2 | 97.9 | 54.2 | 74.8 | 95.5 | 51.7 | 72.3 | 92.9 | 49.0 | 69.5 | 90.1 | 46.2 | 66.6 | 87.1 |
| | | 76 | THC | - | 146 | 146 | - | 139 | 139 | - | 131 | 131 | - | 123 | 123 | - | 114 | 114 |
| | | 76 | SHC | - | 60.5 | 82.0 | - | 58.1 | 79.5 | - | 55.6 | 76.9 | - | 52.9 | 74.1 | - | 50.1 | 71.1 |
| 5000 Cfm | EA (wB) | 58 | THC | 119 | 119 | 134 | 114 | 114 | 129 | 109 | 109 | 123 | 104 | 104 | 117 | 97.4 | 97.4 | 110 |
| | | 58 | SHC | 104 | 119 | 134 | 99.7 | 114 | 129 | 95.3 | 109 | 123 | 90.4 | 104 | 117 | 85 | 97.4 | 110 |
| | | 62 | THC | 119 | 119 | 139 | 114 | 114 | 134 | 109 | 109 | 128 | 104 | 104 | 121 | 97.5 | 97.5 | 114 |
| | | 62 | SHC | 98.7 | 119 | 139 | 94.9 | 114 | 134 | 90.7 | 109 | 128 | 86.0 | 104 | 121 | 80.9 | 97.5 | 114 |
| | | 67 | THC | 128 | 128 | 128 | 122 | 122 | 123 | 115 | 115 | 120 | 108 | 108 | 117 | 100 | 100 | 113 |
| | | 67 | SHC | 80.6 | 103 | 125 | 78.1 | 101 | 123 | 75.5 | 97.7 | 120 | 72.6 | 94.7 | 117 | 69.4 | 91.4 | 113 |
| | | 72 | THC | 139 | 139 | 139 | 132 | 132 | 132 | 125 | 125 | 125 | 117 | 117 | 117 | 108 | 108 | 108 |
| | | 72 | SHC | 57.9 | 80.4 | 103 | 55.5 | 78.0 | 101 | 52.9 | 75.4 | 97.8 | 50.2 | 72.6 | 95 | 47.3 | 69.7 | 92.0 |
| | | 76 | THC | - | 148 | 148 | - | 140 | 140 | - | 132 | 132 | - | 124 | 124 | - | 115 | 115 |
| | | 76 | SHC | - | 62.2 | 85.5 | - | 59.8 | 83.0 | - | 57.2 | 80.3 | - | 54.5 | 77.5 | - | 51.6 | 74.5 |

LEGEND:

THC – Total Cooling Capacity, Gross (1000 Btu/h)

SHC – Sensible Cooling Capacity, Gross (1000 Btu/h)

PERFORMANCE DATA (cont.)

CHS180 – FHS180

COOLING COMBINATION RATINGS

| | | | | Ambient Temperature | | | | | | | | | | | | | | | |
|-------------|-------------|------------|------|---------------------|-----|------|---------|-----|------|---------|-----|------|---------|-----|------|---------|------|-----|-----|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | | 125 | | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | |
| 4500 Cfm | EA (wB) | 58 | THC | 163 | 163 | 184 | 157 | 157 | 177 | 151 | 151 | 170 | 144 | 144 | 163 | 137 | 137 | 155 | |
| | | | SHC | 142 | 163 | 184 | 137 | 157 | 177 | 132 | 151 | 170 | 126 | 144 | 163 | 120 | 137 | 155 | |
| | | 62 | THC | 171 | 171 | 174 | 164 | 164 | 170 | 156 | 156 | 167 | 148 | 148 | 162 | 139 | 139 | 158 | |
| | | | SHC | 128 | 151 | 174 | 125 | 148 | 170 | 121 | 144 | 167 | 117 | 140 | 162 | 113 | 135 | 158 | |
| | | 67 | THC | 187 | 187 | 187 | 179 | 179 | 179 | 171 | 171 | 171 | 162 | 162 | 162 | 152 | 152 | 152 | |
| | | | SHC | 106 | 129 | 152 | 102 | 125 | 148 | 98.6 | 122 | 145 | 94.9 | 118 | 141 | 90.8 | 114 | 137 | |
| | 72 | THC | 205 | 205 | 205 | 196 | 196 | 196 | 186 | 186 | 186 | 176 | 176 | 176 | 166 | 166 | 166 | | |
| | | SHC | 82.4 | 106 | 129 | 79.0 | 102 | 125 | 75.4 | 98.6 | 122 | 71.7 | 94.8 | 118 | 67.7 | 90.8 | 114 | | |
| | 76 | THC | - | 219 | 219 | - | 210 | 210 | - | 200 | 200 | - | 189 | 189 | - | 177 | 177 | | |
| | | SHC | - | 86.8 | 111 | - | 83.4 | 108 | - | 79.8 | 104 | - | 76.1 | 100 | - | 72.1 | 95.9 | | |
| | 5250 Cfm | EA (wB) | 58 | THC | 171 | 171 | 193 | 165 | 165 | 186 | 158 | 158 | 179 | 151 | 151 | 171 | 144 | 144 | 162 |
| | | | | SHC | 149 | 171 | 193 | 144 | 165 | 186 | 138 | 158 | 179 | 132 | 151 | 171 | 125 | 144 | 162 |
| 62 | | | THC | 176 | 176 | 190 | 169 | 169 | 186 | 161 | 161 | 181 | 152 | 152 | 176 | 144 | 144 | 168 | |
| | | | SHC | 138 | 164 | 190 | 134 | 160 | 186 | 130 | 156 | 181 | 125 | 151 | 176 | 119 | 144 | 168 | |
| 67 | | | THC | 192 | 192 | 192 | 184 | 184 | 184 | 175 | 175 | 175 | 165 | 165 | 165 | 155 | 155 | 155 | |
| | | | SHC | 112 | 138 | 165 | 108 | 135 | 161 | 105 | 131 | 157 | 101 | 127 | 153 | 96.6 | 123 | 149 | |
| 72 | | THC | 210 | 210 | 210 | 200 | 200 | 200 | 191 | 191 | 191 | 180 | 180 | 180 | 169 | 169 | 169 | | |
| | | SHC | 85.1 | 112 | 138 | 81.6 | 108 | 135 | 78.0 | 105 | 131 | 74.2 | 101 | 127 | 70.1 | 96.6 | 123 | | |
| 76 | | THC | - | 224 | 224 | - | 215 | 215 | - | 204 | 204 | - | 193 | 193 | - | 180 | 180 | | |
| | | SHC | - | 90.1 | 118 | - | 86.7 | 114 | - | 83.0 | 110 | - | 79.2 | 106 | - | 75.2 | 102 | | |
| 6000 Cfm | | EA (wB) | 58 | THC | 178 | 178 | 201 | 172 | 172 | 193 | 165 | 165 | 186 | 157 | 157 | 177 | 149 | 149 | 168 |
| | | | | SHC | 155 | 178 | 201 | 150 | 172 | 193 | 144 | 165 | 186 | 137 | 157 | 177 | 130 | 149 | 168 |
| | 62 | | THC | 181 | 181 | 204 | 173 | 173 | 199 | 165 | 165 | 193 | 157 | 157 | 184 | 149 | 149 | 174 | |
| | | | SHC | 146 | 175 | 204 | 142 | 170 | 199 | 137 | 165 | 193 | 130 | 157 | 184 | 124 | 149 | 174 | |
| | 67 | | THC | 196 | 196 | 196 | 187 | 187 | 187 | 178 | 178 | 178 | 168 | 168 | 168 | 157 | 157 | 161 | |
| | | | SHC | 118 | 147 | 177 | 114 | 144 | 173 | 110 | 140 | 170 | 106 | 136 | 166 | 102 | 132 | 161 | |
| | 72 | THC | 214 | 214 | 214 | 204 | 204 | 204 | 194 | 194 | 194 | 183 | 183 | 183 | 171 | 171 | 171 | | |
| | | SHC | 87.6 | 118 | 147 | 84.0 | 114 | 144 | 80.3 | 110 | 140 | 76.5 | 106 | 136 | 72.3 | 102 | 132 | | |
| | 76 | THC | - | 229 | 229 | - | 218 | 218 | - | 207 | 207 | - | 196 | 196 | - | 184 | 184 | | |
| | | SHC | - | 93.2 | 124 | - | 89.7 | 120 | - | 86.0 | 117 | - | 82.2 | 113 | - | 78.5 | 109 | | |
| | 6750 Cfm | EA (wB) | 58 | THC | 184 | 184 | 207 | 177 | 177 | 200 | 170 | 170 | 191 | 162 | 162 | 182 | 153 | 153 | 173 |
| | | | | SHC | 161 | 184 | 207 | 154 | 177 | 200 | 148 | 170 | 191 | 141 | 162 | 182 | 134 | 153 | 173 |
| 62 | | | THC | 184 | 184 | 216 | 177 | 177 | 207 | 170 | 170 | 199 | 162 | 162 | 189 | 153 | 153 | 179 | |
| | | | SHC | 153 | 184 | 216 | 147 | 177 | 207 | 141 | 170 | 199 | 134 | 162 | 189 | 127 | 153 | 179 | |
| 67 | | | THC | 199 | 199 | 199 | 190 | 190 | 190 | 180 | 180 | 181 | 170 | 170 | 177 | 159 | 159 | 173 | |
| | | | SHC | 123 | 156 | 189 | 120 | 152 | 185 | 116 | 149 | 181 | 112 | 144 | 177 | 107 | 140 | 173 | |
| 72 | | THC | 217 | 217 | 217 | 207 | 207 | 207 | 197 | 197 | 197 | 185 | 185 | 185 | 173 | 173 | 173 | | |
| | | SHC | 89.9 | 123 | 156 | 86.3 | 119 | 153 | 82.5 | 116 | 149 | 78.6 | 112 | 145 | 74.4 | 107 | 140 | | |
| 76 | | THC | - | 232 | 232 | - | 221 | 221 | - | 210 | 210 | - | 198 | 198 | - | 186 | 186 | | |
| | | SHC | - | 96.1 | 130 | - | 92.6 | 126 | - | 88.9 | 123 | - | 85.0 | 119 | - | 81.2 | 115 | | |
| 7500 Cfm | | EA (wB) | 58 | THC | 189 | 189 | 213 | 182 | 182 | 205 | 174 | 174 | 196 | 166 | 166 | 187 | 157 | 157 | 177 |
| | | | | SHC | 165 | 189 | 213 | 159 | 182 | 205 | 152 | 174 | 196 | 145 | 166 | 187 | 137 | 157 | 177 |
| | 62 | | THC | 189 | 189 | 221 | 182 | 182 | 213 | 174 | 174 | 204 | 166 | 166 | 194 | 157 | 157 | 183 | |
| | | | SHC | 157 | 189 | 221 | 151 | 182 | 213 | 144 | 174 | 204 | 138 | 166 | 194 | 130 | 157 | 183 | |
| | 67 | | THC | 202 | 202 | 202 | 192 | 192 | 197 | 182 | 182 | 193 | 172 | 172 | 188 | 161 | 161 | 183 | |
| | | | SHC | 128 | 165 | 201 | 125 | 161 | 197 | 121 | 157 | 193 | 117 | 152 | 188 | 112 | 147 | 183 | |
| | 72 | THC | 220 | 220 | 220 | 209 | 209 | 209 | 199 | 199 | 199 | 187 | 187 | 187 | 175 | 175 | 175 | | |
| | | SHC | 92.0 | 128 | 165 | 88.4 | 125 | 161 | 84.6 | 121 | 157 | 80.7 | 117 | 153 | 76.5 | 113 | 149 | | |
| | 76 | THC | - | 235 | 235 | - | 224 | 224 | - | 212 | 212 | - | 200 | 200 | - | 188 | 188 | | |
| | | SHC | - | 98.9 | 136 | - | 95.3 | 132 | - | 91.6 | 128 | - | 87.6 | 124 | - | 83.9 | 120 | | |

LEGEND:

THC – Total Cooling Capacity, Gross (1000 Btu/h)

SHC – Sensible Cooling Capacity, Gross (1000 Btu/h)

PERFORMANCE DATA (cont.)

CHS240 – FHS240

COOLING COMBINATION RATINGS

| | | | | Ambient Temperature | | | | | | | | | | | | | | | |
|--------------|-------------|------------|-----|---------------------|-----|-----|---------|-----|------|---------|-----|------|---------|-----|------|---------|-----|-----|-----|
| | | | | 85 | | | 95 | | | 105 | | | 115 | | | 125 | | | |
| | | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | EA (dB) | | | |
| | | | | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | 75 | 80 | 85 | |
| 6000 Cfm | EA (wB) | 58 | THC | 203 | 203 | 229 | 196 | 196 | 221 | 188 | 188 | 212 | 179 | 179 | 202 | 169 | 169 | 191 | |
| | | | SHC | 178 | 203 | 229 | 171 | 196 | 221 | 164 | 188 | 212 | 156 | 179 | 202 | 148 | 169 | 191 | |
| | | 62 | THC | 213 | 213 | 220 | 204 | 204 | 215 | 193 | 193 | 210 | 182 | 182 | 204 | 171 | 171 | 197 | |
| | | | SHC | 162 | 191 | 220 | 157 | 186 | 215 | 152 | 181 | 210 | 147 | 175 | 204 | 140 | 168 | 197 | |
| | | 67 | THC | 233 | 233 | 233 | 223 | 223 | 223 | 211 | 211 | 211 | 199 | 199 | 199 | 185 | 185 | 185 | |
| | | | SHC | 133 | 163 | 192 | 129 | 158 | 187 | 124 | 153 | 183 | 119 | 148 | 177 | 113 | 142 | 172 | |
| | 72 | THC | 255 | 255 | 255 | 243 | 243 | 243 | 230 | 230 | 230 | 216 | 216 | 216 | 202 | 202 | 202 | | |
| | | SHC | 104 | 133 | 163 | 99 | 129 | 158 | 94.2 | 124 | 154 | 89 | 119 | 148 | 83.6 | 113 | 143 | | |
| | 76 | THC | - | 272 | 272 | - | 260 | 260 | - | 246 | 246 | - | 231 | 231 | - | 215 | 215 | | |
| | | SHC | - | 109 | 141 | - | 105 | 136 | - | 100 | 131 | - | 94.9 | 126 | - | 89.5 | 120 | | |
| | 7000 Cfm | EA (wB) | 58 | THC | 214 | 214 | 241 | 206 | 206 | 232 | 197 | 197 | 222 | 187 | 187 | 211 | 177 | 177 | 199 |
| | | | | SHC | 186 | 214 | 241 | 180 | 206 | 232 | 172 | 197 | 222 | 164 | 187 | 211 | 154 | 177 | 199 |
| 62 | | | THC | 219 | 219 | 239 | 209 | 209 | 234 | 199 | 199 | 227 | 188 | 188 | 219 | 177 | 177 | 207 | |
| | | | SHC | 173 | 206 | 239 | 168 | 201 | 234 | 163 | 195 | 227 | 156 | 188 | 219 | 147 | 177 | 207 | |
| 67 | | | THC | 239 | 239 | 239 | 228 | 228 | 228 | 216 | 216 | 216 | 203 | 203 | 203 | 189 | 189 | 189 | |
| | | | SHC | 141 | 174 | 208 | 136 | 170 | 203 | 131 | 165 | 198 | 126 | 159 | 193 | 120 | 154 | 187 | |
| 72 | | THC | 261 | 261 | 261 | 248 | 248 | 248 | 235 | 235 | 235 | 220 | 220 | 220 | 205 | 205 | 205 | | |
| | | SHC | 107 | 141 | 175 | 102 | 136 | 170 | 97.3 | 131 | 165 | 92 | 126 | 160 | 86.5 | 120 | 154 | | |
| 76 | | THC | - | 279 | 279 | - | 265 | 265 | - | 251 | 251 | - | 235 | 235 | - | 219 | 219 | | |
| | | SHC | - | 114 | 149 | - | 109 | 144 | - | 104 | 139 | - | 98.7 | 134 | - | 93.2 | 128 | | |
| 8000 Cfm | | EA (wB) | 58 | THC | 222 | 222 | 250 | 214 | 214 | 241 | 204 | 204 | 230 | 194 | 194 | 218 | 182 | 182 | 205 |
| | | | | SHC | 194 | 222 | 250 | 186 | 214 | 241 | 178 | 204 | 230 | 169 | 194 | 218 | 159 | 182 | 205 |
| | 62 | | THC | 225 | 225 | 256 | 214 | 214 | 251 | 204 | 204 | 239 | 194 | 194 | 227 | 182 | 182 | 213 | |
| | | | SHC | 183 | 219 | 256 | 178 | 214 | 251 | 170 | 204 | 239 | 161 | 194 | 227 | 151 | 182 | 213 | |
| | 67 | | THC | 244 | 244 | 244 | 232 | 232 | 232 | 219 | 219 | 219 | 206 | 206 | 208 | 191 | 191 | 202 | |
| | | | SHC | 148 | 186 | 223 | 143 | 181 | 219 | 138 | 176 | 213 | 133 | 170 | 208 | 127 | 164 | 202 | |
| | 72 | THC | 265 | 265 | 265 | 252 | 252 | 252 | 239 | 239 | 239 | 224 | 224 | 224 | 208 | 208 | 208 | | |
| | | SHC | 110 | 148 | 186 | 105 | 143 | 181 | 100 | 138 | 176 | 94.8 | 133 | 170 | 89.2 | 127 | 165 | | |
| | 76 | THC | - | 283 | 283 | - | 270 | 270 | - | 255 | 255 | - | 239 | 239 | - | 222 | 222 | | |
| | | SHC | - | 117 | 157 | - | 113 | 152 | - | 108 | 147 | - | 102 | 141 | - | 96.8 | 136 | | |
| | 9000 Cfm | EA (wB) | 58 | THC | 229 | 229 | 258 | 220 | 220 | 248 | 210 | 210 | 236 | 199 | 199 | 224 | 187 | 187 | 211 |
| | | | | SHC | 200 | 229 | 258 | 192 | 220 | 248 | 183 | 210 | 236 | 174 | 199 | 224 | 163 | 187 | 211 |
| 62 | | | THC | 229 | 229 | 268 | 220 | 220 | 257 | 210 | 210 | 246 | 199 | 199 | 233 | 187 | 187 | 219 | |
| | | | SHC | 191 | 229 | 268 | 183 | 220 | 257 | 174 | 210 | 246 | 165 | 199 | 233 | 155 | 187 | 219 | |
| 67 | | | THC | 247 | 247 | 247 | 235 | 235 | 235 | 222 | 222 | 228 | 208 | 208 | 222 | 193 | 193 | 215 | |
| | | | SHC | 155 | 196 | 238 | 150 | 192 | 233 | 145 | 186 | 228 | 139 | 180 | 222 | 133 | 174 | 215 | |
| 72 | | THC | 269 | 269 | 269 | 256 | 256 | 256 | 241 | 241 | 241 | 226 | 226 | 226 | 210 | 210 | 210 | | |
| | | SHC | 113 | 155 | 197 | 108 | 150 | 192 | 103 | 145 | 187 | 97.4 | 139 | 181 | 91.8 | 133 | 175 | | |
| 76 | | THC | - | 287 | 287 | - | 273 | 273 | - | 258 | 258 | - | 241 | 241 | - | - | - | | |
| | | SHC | - | 121 | 165 | - | 116 | 160 | - | 111 | 154 | - | 106 | 149 | - | - | - | | |
| 10000 Cfm | | EA (wB) | 58 | THC | 235 | 235 | 265 | 225 | 225 | 254 | 215 | 215 | 242 | 203 | 203 | 229 | 191 | 191 | 215 |
| | | | | SHC | 205 | 235 | 265 | 197 | 225 | 254 | 188 | 215 | 242 | 178 | 203 | 229 | 167 | 191 | 215 |
| | 62 | | THC | 235 | 235 | 275 | 225 | 225 | 264 | 215 | 215 | 251 | 203 | 203 | 238 | 191 | 191 | 223 | |
| | | | SHC | 195 | 235 | 275 | 187 | 225 | 264 | 179 | 215 | 251 | 169 | 203 | 238 | 159 | 191 | 223 | |
| | 67 | | THC | 250 | 250 | 252 | 238 | 238 | 247 | 224 | 224 | 241 | 210 | 210 | 235 | 195 | 195 | 227 | |
| | | | SHC | 161 | 207 | 252 | 156 | 202 | 247 | 151 | 196 | 241 | 145 | 190 | 235 | 138 | 183 | 227 | |
| | 72 | THC | 272 | 272 | 272 | 258 | 258 | 258 | 244 | 244 | 244 | 228 | 228 | 228 | 212 | 212 | 212 | | |
| | | SHC | 115 | 161 | 207 | 111 | 156 | 202 | 105 | 151 | 197 | 99.9 | 146 | 191 | 94.2 | 140 | 185 | | |
| | 76 | THC | - | 290 | 290 | - | 276 | 276 | - | 260 | 260 | - | - | - | - | - | - | | |
| | | SHC | - | 125 | 172 | - | 120 | 167 | - | 115 | 161 | - | - | - | - | - | - | | |

LEGEND:

THC – Total Cooling Capacity, Gross (1000 Btu/h)

SHC – Sensible Cooling Capacity, Gross (1000 Btu/h)

PERFORMANCE DATA (cont.)

CHS072 – FHS072

HEATING COMBINATION RATINGS

| Return Air (°F db) | CFM (Standard Air) | | Temperature Air Entering Outdoor Coil (°F db at 70% rh) | | | | | | | | |
|-----------------------|-----------------------|-----|---|------|------|------|------|------|------|------|------|
| | | | -10 | 0 | 10 | 17 | 30 | 40 | 47 | 50 | 60 |
| 55 | 1800 | TH | 21.4 | 27.7 | 34.5 | 39.7 | 50.1 | 58.6 | 64.4 | 67.0 | 75.6 |
| | | THI | 19.7 | 25.5 | 31.6 | 36.2 | 43.9 | 55.9 | 64.4 | 67.0 | 75.6 |
| | | kW | 2.33 | 2.60 | 2.89 | 3.12 | 3.60 | 4.01 | 4.29 | 4.43 | 4.91 |
| | 2400 | TH | 22.0 | 28.5 | 35.5 | 40.9 | 51.6 | 60.0 | 65.6 | 68.0 | 76.3 |
| | | THI | 27.6 | 27.6 | 27.5 | 27.4 | 26.3 | 28.7 | 30.0 | 30.0 | 30.0 |
| | | kW | 2.27 | 2.51 | 2.77 | 2.96 | 3.37 | 3.70 | 3.93 | 4.04 | 4.41 |
| | 3000 | TH | 22.4 | 29.0 | 36.2 | 41.6 | 52.5 | 60.6 | 65.9 | 68.3 | 76.2 |
| | | THI | 20.6 | 26.7 | 33.1 | 37.9 | 46.0 | 57.9 | 65.9 | 68.3 | 76.2 |
| | | kW | 2.23 | 2.45 | 2.68 | 2.86 | 3.23 | 3.50 | 3.71 | 3.80 | 4.11 |
| 65 | 1800 | TH | 19.1 | 25.4 | 32.2 | 37.3 | 47.6 | 56.4 | 62.4 | 65.1 | 73.8 |
| | | THI | 17.5 | 23.3 | 29.5 | 34.0 | 41.7 | 53.9 | 62.4 | 65.1 | 73.8 |
| | | kW | 2.57 | 2.86 | 3.18 | 3.43 | 3.95 | 4.42 | 4.73 | 4.87 | 5.39 |
| | 2400 | TH | 19.6 | 26.1 | 33.2 | 38.5 | 49.2 | 58.0 | 64.0 | 66.5 | 75.0 |
| | | THI | 18.1 | 24.0 | 30.4 | 35.1 | 43.1 | 55.4 | 64.0 | 66.5 | 75.0 |
| | | kW | 2.51 | 2.78 | 3.06 | 3.28 | 3.73 | 4.11 | 4.36 | 4.48 | 4.90 |
| | 3000 | TH | 20.0 | 26.6 | 33.8 | 39.2 | 50.2 | 59.0 | 64.7 | 67.1 | 75.4 |
| | | THI | 18.4 | 24.5 | 31.0 | 35.8 | 44.0 | 56.3 | 64.7 | 67.1 | 75.4 |
| | | kW | 2.47 | 2.72 | 2.98 | 3.18 | 3.58 | 3.91 | 4.13 | 4.24 | 4.59 |
| 70 | 1800 | TH | 17.8 | 24.1 | 31.0 | 36.1 | 46.4 | 55.2 | 61.3 | 64.0 | 72.8 |
| | | THI | 16.4 | 22.2 | 28.4 | 32.9 | 40.6 | 52.7 | 61.3 | 64.0 | 72.8 |
| | | kW | 2.69 | 2.99 | 3.33 | 3.59 | 4.13 | 4.62 | 4.95 | 5.09 | 5.63 |
| | 2400 | TH | 18.4 | 24.9 | 32.0 | 37.3 | 48.0 | 57.0 | 63.0 | 65.6 | 74.2 |
| | | THI | 16.9 | 22.9 | 29.3 | 34.0 | 42.0 | 54.4 | 63.0 | 65.6 | 74.2 |
| | | kW | 2.64 | 2.91 | 3.21 | 3.44 | 3.91 | 4.32 | 4.58 | 4.70 | 5.14 |
| | 3000 | TH | 18.7 | 25.4 | 32.6 | 38.0 | 49.0 | 57.9 | 63.9 | 66.4 | 74.7 |
| | | THI | 17.2 | 23.3 | 29.8 | 34.7 | 42.9 | 55.3 | 63.9 | 66.4 | 74.7 |
| | | kW | 2.60 | 2.86 | 3.14 | 3.34 | 3.77 | 4.12 | 4.35 | 4.46 | 4.83 |
| 80 | 1800 | TH | 15.3 | 21.5 | 28.4 | 33.5 | 43.8 | 52.5 | 58.9 | 61.5 | 70.6 |
| | | THI | 14.1 | 19.8 | 26.0 | 30.6 | 38.4 | 50.1 | 58.9 | 61.5 | 70.6 |
| | | kW | 2.93 | 3.27 | 3.64 | 3.92 | 4.50 | 5.02 | 5.41 | 5.56 | 6.13 |
| | 2400 | TH | 15.8 | 22.3 | 29.4 | 34.7 | 45.3 | 54.4 | 60.8 | 63.5 | 72.4 |
| | | THI | 14.5 | 20.5 | 26.9 | 31.6 | 39.7 | 52.0 | 60.8 | 63.5 | 72.4 |
| | | kW | 2.89 | 3.19 | 3.52 | 3.77 | 4.28 | 4.73 | 5.03 | 5.16 | 5.65 |
| | 3000 | TH | 16.1 | 22.7 | 30.0 | 35.4 | 46.3 | 55.6 | 61.9 | 64.6 | 73.2 |
| | | THI | 14.8 | 20.9 | 27.5 | 32.3 | 40.6 | 53.1 | 61.9 | 64.6 | 73.2 |
| | | kW | 2.86 | 3.14 | 3.45 | 3.68 | 4.14 | 4.54 | 4.80 | 4.92 | 5.34 |

LEGEND:

TH – Total Heating Capacity, Gross (1000 Btu/h)

THI – Integrated Heating Capacity, Gross (1000 Btu/h)

kW – Total Compressor Power Motor Input

PERFORMANCE DATA (cont.)

CHS091 – FHS091

HEATING COMBINATION RATINGS

| Return Air (°F db) | CFM (Standard Air) | | Temperature Air Entering Outdoor Coil (°F db at 70% rh) | | | | | | | | |
|-----------------------|-----------------------|-----|---|------|------|------|------|------|------|------|------|
| | | | -10 | 0 | 10 | 17 | 30 | 40 | 47 | 50 | 60 |
| 55 | 2250 | TH | 31.6 | 39.6 | 47.8 | 53.8 | 66.9 | 78.2 | 86.1 | 89.6 | 101 |
| | | THI | 29.1 | 36.4 | 43.8 | 49.0 | 58.6 | 74.7 | 86.1 | 89.6 | 101 |
| | | kW | 3.83 | 4.14 | 4.45 | 4.67 | 5.18 | 5.65 | 5.96 | 6.08 | 6.53 |
| | 3000 | TH | 32.2 | 40.5 | 48.8 | 55.0 | 69.4 | 80.1 | 88.0 | 91.4 | 102 |
| | | THI | 29.7 | 37.2 | 44.7 | 50.2 | 60.8 | 76.5 | 88.0 | 91.4 | 102 |
| | | kW | 3.70 | 3.96 | 4.22 | 4.42 | 4.87 | 5.23 | 5.44 | 5.54 | 5.90 |
| | 3750 | TH | 32.6 | 40.9 | 49.4 | 55.8 | 70.3 | 81.2 | 88.8 | 92.1 | 103 |
| | | THI | 30.0 | 37.6 | 45.3 | 50.9 | 61.6 | 77.5 | 88.8 | 92.1 | 103 |
| | | kW | 3.62 | 3.86 | 4.09 | 4.26 | 4.67 | 4.97 | 5.15 | 5.23 | 5.54 |
| 65 | 2250 | TH | 29.5 | 37.4 | 45.6 | 51.4 | 63.7 | 75.8 | 83.8 | 87.4 | 98.6 |
| | | THI | 27.1 | 34.4 | 41.8 | 46.9 | 55.8 | 72.4 | 83.8 | 87.4 | 98.6 |
| | | kW | 4.24 | 4.56 | 4.90 | 5.14 | 5.65 | 6.19 | 6.55 | 6.67 | 7.15 |
| | 3000 | TH | 30.2 | 38.3 | 46.7 | 52.7 | 65.8 | 77.8 | 85.8 | 89.2 | 100 |
| | | THI | 27.7 | 35.2 | 42.8 | 48.1 | 57.7 | 74.3 | 85.8 | 89.2 | 100 |
| | | kW | 4.12 | 4.40 | 4.68 | 4.88 | 5.32 | 5.75 | 6.00 | 6.10 | 6.48 |
| | 3750 | TH | 30.6 | 38.8 | 47.3 | 53.5 | 67.3 | 78.9 | 86.7 | 90.0 | 101 |
| | | THI | 28.1 | 35.7 | 43.4 | 48.8 | 59.0 | 75.4 | 86.7 | 90.0 | 101 |
| | | kW | 4.04 | 4.29 | 4.54 | 4.72 | 5.12 | 5.50 | 5.68 | 5.77 | 6.10 |
| 70 | 2250 | TH | 28.3 | 36.2 | 44.4 | 50.3 | 62.3 | 73.7 | 82.5 | 86.2 | 97.4 |
| | | THI | 26.0 | 33.3 | 40.6 | 45.9 | 54.6 | 70.3 | 82.5 | 86.2 | 97.4 |
| | | kW | 4.45 | 4.79 | 5.14 | 5.39 | 5.91 | 6.43 | 6.87 | 6.99 | 7.48 |
| | 3000 | TH | 28.9 | 37.1 | 45.5 | 51.4 | 64.2 | 76.6 | 84.6 | 88.1 | 98.9 |
| | | THI | 26.6 | 34.1 | 41.7 | 46.9 | 56.2 | 73.1 | 84.6 | 88.1 | 98.9 |
| | | kW | 4.33 | 4.62 | 4.92 | 5.12 | 5.57 | 6.03 | 6.29 | 6.40 | 6.79 |
| | 3750 | TH | 29.4 | 37.6 | 46.2 | 52.2 | 65.5 | 77.8 | 85.6 | 89.0 | 99.6 |
| | | THI | 27.0 | 34.6 | 42.3 | 47.6 | 57.4 | 74.3 | 85.6 | 89.0 | 99.6 |
| | | kW | 4.26 | 4.52 | 4.78 | 4.97 | 5.37 | 5.77 | 5.97 | 6.06 | 6.40 |
| 80 | 2250 | TH | 25.6 | 33.6 | 41.8 | 47.7 | 59.5 | 70.2 | 79.4 | 83.6 | 95.1 |
| | | THI | 23.6 | 30.9 | 38.3 | 43.5 | 52.1 | 67.0 | 79.4 | 83.6 | 95.1 |
| | | kW | 4.89 | 5.26 | 5.64 | 5.92 | 6.47 | 6.99 | 7.49 | 7.67 | 8.19 |
| | 3000 | TH | 26.3 | 34.5 | 42.9 | 49.0 | 61.2 | 72.7 | 82.1 | 85.7 | 96.6 |
| | | THI | 24.2 | 31.7 | 39.3 | 44.7 | 53.6 | 69.5 | 82.1 | 85.7 | 96.6 |
| | | kW | 4.78 | 5.10 | 5.42 | 5.65 | 6.12 | 6.57 | 6.93 | 7.05 | 7.46 |
| | 3750 | TH | 26.7 | 35.0 | 43.6 | 49.8 | 62.3 | 74.7 | 83.3 | 86.7 | 97.3 |
| | | THI | 24.5 | 32.2 | 39.9 | 45.4 | 54.6 | 71.3 | 83.3 | 86.7 | 97.3 |
| | | kW | 4.71 | 5.00 | 5.29 | 5.50 | 5.90 | 6.33 | 6.59 | 6.69 | 7.04 |

LEGEND:

TH – Total Heating Capacity, Gross (1000 Btu/h)

THI – Integrated Heating Capacity, Gross (1000 Btu/h)

kW – Total Compressor Power Motor Input

PERFORMANCE DATA (cont.)

CHS121 – FHS120

HEATING COMBINATION RATINGS

| Return Air (°F db) | CFM (Standard Air) | | Temperature Air Entering Outdoor Coil (°F db at 70% rh) | | | | | | | | |
|-----------------------|-----------------------|-----|---|------|------|------|------|------|------|------|------|
| | | | -10 | 0 | 10 | 17 | 30 | 40 | 47 | 50 | 60 |
| 55 | 3000 | TH | 35.9 | 46.0 | 56.1 | 64.2 | 81.1 | 96.6 | 106 | 110 | 123 |
| | | THI | 33.1 | 42.3 | 51.4 | 58.5 | 71.0 | 92.3 | 106 | 110 | 123 |
| | | kW | 4.46 | 4.83 | 5.18 | 5.45 | 6.03 | 6.59 | 6.83 | 6.95 | 7.37 |
| | 4000 | TH | 36.8 | 46.8 | 57.2 | 65.4 | 83.0 | 97.9 | 107 | 110 | 123 |
| | | THI | 33.8 | 43.0 | 52.4 | 59.7 | 72.7 | 93.5 | 107 | 110 | 123 |
| | | kW | 4.34 | 4.66 | 4.96 | 5.19 | 5.67 | 6.08 | 6.28 | 6.37 | 6.70 |
| | 5000 | TH | 37.2 | 47.4 | 57.9 | 66.2 | 84.8 | 98.3 | 107 | 110 | 123 |
| | | THI | 34.2 | 43.5 | 53.0 | 60.3 | 74.3 | 93.9 | 107 | 110 | 123 |
| | | kW | 4.26 | 4.55 | 4.82 | 5.03 | 5.50 | 5.79 | 5.96 | 6.04 | 6.31 |
| 65 | 3000 | TH | 32.5 | 43.0 | 53.3 | 61.2 | 77.9 | 92.9 | 104 | 108 | 120 |
| | | THI | 29.9 | 39.5 | 48.8 | 55.9 | 68.2 | 88.7 | 104 | 108 | 120 |
| | | kW | 4.94 | 5.36 | 5.75 | 6.05 | 6.66 | 7.24 | 7.58 | 7.71 | 8.15 |
| | 4000 | TH | 33.3 | 44.0 | 54.4 | 62.5 | 79.5 | 95.7 | 105 | 108 | 121 |
| | | THI | 30.7 | 40.4 | 49.8 | 57.0 | 69.7 | 91.3 | 105 | 108 | 121 |
| | | kW | 4.83 | 5.19 | 5.52 | 5.78 | 6.29 | 6.79 | 6.99 | 7.09 | 7.44 |
| | 5000 | TH | 33.8 | 44.6 | 55.0 | 63.3 | 80.7 | 96.3 | 105 | 109 | 121 |
| | | THI | 31.1 | 41.0 | 50.4 | 57.7 | 70.7 | 92.0 | 105 | 109 | 121 |
| | | kW | 4.76 | 5.09 | 5.39 | 5.61 | 6.07 | 6.47 | 6.65 | 6.74 | 7.03 |
| 70 | 3000 | TH | 30.7 | 41.4 | 51.9 | 59.7 | 76.3 | 90.9 | 102 | 107 | 119 |
| | | THI | 28.3 | 38.0 | 47.5 | 54.4 | 66.8 | 86.8 | 102 | 107 | 119 |
| | | kW | 5.20 | 5.64 | 6.06 | 6.36 | 7.00 | 7.57 | 7.98 | 8.11 | 8.57 |
| | 4000 | TH | 31.5 | 42.3 | 52.9 | 61.0 | 78.0 | 93.5 | 104 | 107 | 120 |
| | | THI | 29.0 | 38.9 | 48.5 | 55.6 | 68.3 | 89.3 | 104 | 107 | 120 |
| | | kW | 5.09 | 5.47 | 5.83 | 6.09 | 6.62 | 7.14 | 7.38 | 7.48 | 7.84 |
| | 5000 | TH | 32.0 | 42.9 | 53.5 | 61.8 | 79.0 | 95.2 | 104 | 108 | 120 |
| | | THI | 29.4 | 39.4 | 49.1 | 56.3 | 69.2 | 90.9 | 104 | 108 | 120 |
| | | kW | 5.02 | 5.37 | 5.69 | 5.93 | 6.39 | 6.85 | 7.03 | 7.11 | 7.41 |
| 80 | 3000 | TH | 26.9 | 37.8 | 49.0 | 56.6 | 73.0 | 86.9 | 98.3 | 103 | 117 |
| | | THI | 24.8 | 34.8 | 44.9 | 51.6 | 63.9 | 83.0 | 98.3 | 103 | 117 |
| | | kW | 5.75 | 6.23 | 6.72 | 7.04 | 7.73 | 8.32 | 8.85 | 8.98 | 9.46 |
| | 4000 | TH | 27.6 | 38.7 | 50.1 | 57.8 | 74.7 | 89.4 | 101 | 105 | 118 |
| | | THI | 25.4 | 35.6 | 45.9 | 52.7 | 65.4 | 85.3 | 101 | 105 | 118 |
| | | kW | 5.65 | 6.08 | 6.49 | 6.76 | 7.35 | 7.84 | 8.21 | 8.32 | 8.69 |
| | 5000 | TH | 28.0 | 39.3 | 50.6 | 58.5 | 75.7 | 90.8 | 102 | 106 | 118 |
| | | THI | 25.8 | 36.1 | 46.3 | 53.4 | 66.3 | 86.8 | 102 | 106 | 118 |
| | | kW | 5.59 | 5.98 | 6.35 | 6.60 | 7.11 | 7.57 | 7.84 | 7.93 | 8.24 |

LEGEND:

TH – Total Heating Capacity, Gross (1000 Btu/h)

THI – Integrated Heating Capacity, Gross (1000 Btu/h)

kW – Total Compressor Power Motor Input

PERFORMANCE DATA (cont.)

CHS180 – FHS180

HEATING COMBINATION RATINGS

| Return Air (°F db) | CFM (Standard Air) | | Temperature Air Entering Outdoor Coil (°F db at 70% rh) | | | | | | | | | |
|-----------------------|-----------------------|-----|---|------|------|------|------|------|------|------|------|------|
| | | | -10 | 0 | 10 | 17 | 20 | 30 | 40 | 47 | 50 | 60 |
| 55 | 4500 | TH | 61.6 | 78.2 | 95.0 | 107 | 42 | 134 | 157 | 173 | 180 | 203 |
| | | THI | 56.7 | 71.9 | 87.1 | 97.9 | 37.8 | 117 | 150 | 173 | 180 | 203 |
| | | kW | 7.30 | 7.90 | 8.51 | 8.95 | 3.22 | 9.95 | 10.9 | 11.6 | 11.9 | 12.8 |
| | 6000 | TH | 63.1 | 80.2 | 97.5 | 110 | 43 | 140 | 161 | 178 | 185 | 207 |
| | | THI | 58.0 | 73.7 | 89.4 | 101 | 27 | 122 | 154 | 178 | 185 | 207 |
| | | kW | 7.06 | 7.57 | 8.09 | 8.47 | 3.05 | 9.39 | 10.1 | 10.6 | 10.8 | 11.6 |
| | 7500 | TH | 64.0 | 81.4 | 99.0 | 112 | 44 | 142 | 164 | 180 | 187 | 209 |
| | | THI | 58.9 | 74.8 | 90.7 | 102 | 40 | 124 | 157 | 180 | 187 | 209 |
| | | kW | 6.91 | 7.37 | 7.83 | 8.17 | 2.94 | 9.00 | 9.66 | 10.0 | 10.2 | 10.9 |
| 65 | 4500 | TH | 56.3 | 72.8 | 89.8 | 102 | 40 | 127 | 151 | 168 | 175 | 199 |
| | | THI | 51.8 | 66.9 | 82.3 | 93 | 36 | 111 | 144 | 168 | 175 | 199 |
| | | kW | 8.06 | 8.70 | 9.36 | 9.84 | 3.55 | 10.8 | 11.9 | 12.7 | 13.0 | 14.0 |
| | 6000 | TH | 58.0 | 75.0 | 92.5 | 105 | 41 | 132 | 156 | 173 | 180 | 203 |
| | | THI | 53.4 | 68.9 | 84.7 | 95.8 | 37 | 115 | 149 | 173 | 180 | 203 |
| | | kW | 7.83 | 8.38 | 8.94 | 9.34 | 3.37 | 10.2 | 11.1 | 11.7 | 11.9 | 12.7 |
| | 7500 | TH | 59.0 | 76.3 | 94.0 | 107 | 42 | 135 | 159 | 175 | 182 | 205 |
| | | THI | 54.3 | 70.1 | 86.1 | 97.5 | 37.6 | 118 | 152 | 175 | 182 | 205 |
| | | kW | 7.69 | 8.18 | 8.68 | 9.04 | 3.27 | 9.83 | 10.6 | 11.1 | 11.3 | 12.0 |
| 70 | 4500 | TH | 53.4 | 69.9 | 86.9 | 99.1 | 38.4 | 124 | 146 | 165 | 173 | 196 |
| | | THI | 49.1 | 64.2 | 79.6 | 90.4 | 34.6 | 108 | 140 | 165 | 173 | 196 |
| | | kW | 8.45 | 9.12 | 9.81 | 10.3 | 3.7 | 11.3 | 12.4 | 13.3 | 13.6 | 14.7 |
| | 6000 | TH | 55.1 | 72.1 | 89.6 | 102 | 40 | 128 | 154 | 170 | 177 | 201 |
| | | THI | 50.6 | 66.3 | 82.1 | 93.1 | 35.8 | 112 | 147 | 170 | 177 | 201 |
| | | kW | 8.23 | 8.81 | 9.39 | 9.81 | 3.54 | 10.7 | 11.6 | 12.3 | 12.5 | 13.3 |
| | 7500 | TH | 56.1 | 73.5 | 91.3 | 104 | 40 | 131 | 156 | 173 | 180 | 203 |
| | | THI | 51.6 | 67.5 | 83.6 | 95 | 36 | 115 | 149 | 173 | 180 | 203 |
| | | kW | 8.09 | 8.61 | 9.13 | 9.50 | 3.43 | 10.3 | 11.1 | 11.6 | 11.8 | 12.5 |
| 80 | 4500 | TH | 47.1 | 63.6 | 80.7 | 93.1 | 35.8 | 117 | 139 | 157 | 166 | 191 |
| | | THI | 43.3 | 58.5 | 73.9 | 84.9 | 32.3 | 103 | 133 | 157 | 166 | 191 |
| | | kW | 9.27 | 10.0 | 10.8 | 11.3 | 4.04 | 12.4 | 13.4 | 14.4 | 14.9 | 16.1 |
| | 6000 | TH | 48.7 | 65.8 | 83.4 | 96.2 | 37.0 | 121 | 145 | 164 | 172 | 196 |
| | | THI | 44.8 | 60.5 | 76.4 | 87.8 | 33.4 | 106 | 138 | 164 | 172 | 196 |
| | | kW | 9.06 | 9.70 | 10.3 | 10.8 | 3.9 | 11.7 | 12.6 | 13.5 | 13.8 | 14.6 |
| | 7500 | TH | 49.6 | 67.1 | 85.1 | 98.1 | 37.8 | 124 | 148 | 167 | 175 | 198 |
| | | THI | 45.7 | 61.7 | 77.9 | 89.5 | 34.1 | 109 | 142 | 167 | 175 | 198 |
| | | kW | 8.94 | 9.51 | 10.1 | 10.5 | 8.9 | 11.3 | 12.1 | 12.9 | 13.0 | 13.8 |

LEGEND:

TH – Total Heating Capacity, Gross (1000 Btu/h)

THI – Integrated Heating Capacity, Gross (1000 Btu/h)

kW – Total Compressor Power Motor Input

PERFORMANCE DATA (cont.)

CHS240 – FHS240

HEATING COMBINATION RATINGS

| Return Air (°F db) | CFM (Standard Air) | | Air Temperature Entering Outdoor Coil (°F) | | | | | | | | | |
|-----------------------|-----------------------|-----|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | -10 | 0 | 10 | 17 | 20 | 30 | 40 | 47 | 50 | 60 |
| 55 | 6000 | TH | 75.5 | 95.1 | 115.7 | 131.2 | 138.3 | 164.3 | 193.4 | 215.2 | 225.6 | 263.6 |
| | | THI | 69.5 | 87.4 | 106.0 | 119.7 | 124.8 | 144.0 | 184.7 | 215.2 | 225.6 | 263.6 |
| | | kW | 8.28 | 8.97 | 9.64 | 10.08 | 10.27 | 10.98 | 11.80 | 12.44 | 12.76 | 13.96 |
| | 8000 | TH | 77.0 | 96.8 | 117.7 | 133.4 | 140.6 | 167.1 | 196.7 | 218.9 | 229.5 | 268.3 |
| | | THI | 27.6 | 27.6 | 27.5 | 27.4 | 27.1 | 26.3 | 28.7 | 30.0 | 30.0 | 30.0 |
| | | kW | 8.05 | 8.65 | 9.21 | 9.58 | 9.74 | 10.35 | 11.03 | 11.56 | 11.82 | 12.81 |
| | 10000 | TH | 77.9 | 97.7 | 118.8 | 134.6 | 141.9 | 168.7 | 198.7 | 221.1 | 231.7 | 271.0 |
| | | THI | 71.6 | 89.8 | 108.8 | 122.8 | 128.0 | 147.8 | 189.7 | 221.1 | 231.7 | 271.0 |
| | | kW | 7.91 | 8.45 | 8.96 | 9.29 | 9.43 | 9.98 | 10.58 | 11.05 | 11.28 | 12.15 |
| 65 | 6000 | TH | 69.3 | 89.6 | 110.5 | 125.9 | 133.0 | 159.0 | 187.8 | 209.6 | 220.1 | 257.8 |
| | | THI | 63.7 | 82.3 | 101.2 | 114.8 | 119.9 | 139.3 | 179.4 | 209.6 | 220.1 | 257.8 |
| | | kW | 9.16 | 9.94 | 10.68 | 11.16 | 11.37 | 12.14 | 13.02 | 13.71 | 14.05 | 15.32 |
| | 8000 | TH | 70.8 | 91.3 | 112.5 | 128.2 | 135.4 | 161.9 | 191.3 | 213.5 | 224.2 | 262.8 |
| | | THI | 65.2 | 83.9 | 103.1 | 116.9 | 122.1 | 141.8 | 182.7 | 213.5 | 224.2 | 262.8 |
| | | kW | 8.93 | 9.61 | 10.24 | 10.66 | 10.83 | 11.49 | 12.23 | 12.79 | 13.07 | 14.11 |
| | 10000 | TH | 71.7 | 92.4 | 113.7 | 129.5 | 136.8 | 163.5 | 193.4 | 215.8 | 226.5 | 265.6 |
| | | THI | 66.0 | 84.9 | 104.1 | 118.1 | 123.4 | 143.2 | 184.7 | 215.8 | 226.5 | 265.6 |
| | | kW | 8.80 | 9.42 | 9.99 | 10.36 | 10.52 | 11.11 | 11.75 | 12.25 | 12.49 | 13.41 |
| 70 | 6000 | TH | 66.0 | 86.8 | 107.7 | 123.1 | 130.1 | 156.2 | 184.8 | 206.8 | 217.2 | 254.9 |
| | | THI | 60.7 | 79.8 | 98.7 | 112.3 | 117.4 | 136.8 | 176.5 | 206.8 | 217.2 | 254.9 |
| | | kW | 9.63 | 10.47 | 11.24 | 11.75 | 11.96 | 12.76 | 13.68 | 14.39 | 14.74 | 16.05 |
| | 8000 | TH | 67.5 | 88.5 | 109.8 | 125.4 | 132.6 | 159.1 | 188.5 | 210.7 | 221.3 | 259.8 |
| | | THI | 62.1 | 81.3 | 100.5 | 114.4 | 119.6 | 139.4 | 180.0 | 210.7 | 221.3 | 259.8 |
| | | kW | 9.40 | 10.13 | 10.79 | 11.22 | 11.41 | 12.09 | 12.86 | 13.44 | 13.73 | 14.80 |
| | 10000 | TH | 68.4 | 89.5 | 111.0 | 126.7 | 134.0 | 160.8 | 190.6 | 213.0 | 223.8 | 262.7 |
| | | THI | 63.0 | 82.2 | 101.6 | 115.6 | 120.9 | 140.9 | 182.0 | 213.0 | 223.8 | 262.7 |
| | | kW | 9.27 | 9.93 | 10.53 | 10.92 | 11.09 | 11.70 | 12.39 | 12.90 | 13.15 | 14.09 |
| 80 | 6000 | TH | 58.8 | 80.3 | 101.9 | 117.2 | 124.2 | 150.1 | 178.6 | 200.6 | 211.0 | 248.6 |
| | | THI | 54.1 | 73.8 | 93.4 | 106.9 | 112.0 | 131.5 | 170.6 | 200.6 | 211.0 | 248.6 |
| | | kW | 10.62 | 11.58 | 12.45 | 12.99 | 13.23 | 14.09 | 15.08 | 15.85 | 16.23 | 17.63 |
| | 8000 | TH | 60.3 | 82.2 | 104.0 | 119.6 | 126.7 | 153.2 | 182.3 | 204.7 | 215.3 | 253.7 |
| | | THI | 55.5 | 75.5 | 95.3 | 109.0 | 114.3 | 134.2 | 174.1 | 204.7 | 215.3 | 253.7 |
| | | kW | 10.40 | 11.24 | 11.99 | 12.46 | 12.66 | 13.40 | 14.24 | 14.87 | 15.17 | 16.31 |
| | 10000 | TH | 61.2 | 83.3 | 105.2 | 120.9 | 128.1 | 154.9 | 184.4 | 207.1 | 217.8 | 256.7 |
| | | THI | 56.3 | 76.6 | 96.3 | 110.3 | 115.6 | 135.7 | 176.1 | 207.1 | 217.8 | 256.7 |
| | | kW | 10.27 | 11.04 | 11.72 | 12.14 | 12.32 | 12.99 | 13.73 | 14.27 | 14.54 | 15.55 |

LEGEND:

TH – Total Heating Capacity, Gross (1000 Btu/h)

THI – Integrated Heating Capacity, Gross (1000 Btu/h)

kW – Total Compressor Power Motor Input

ELECTRICAL DATA

WITHOUT POWERED CONVENIENCE OUTLET

(Units Produced On or After 02/09/2015)

| UNIT SIZE | NOMINAL POWER SUPPLY | VOLTAGE RANGE | | COMPRESSOR | | OFM | | POWER SUPPLY | | DISCONNECT SIZE | |
|-----------|----------------------|---------------|-----|------------|-----|-----|----------|--------------|-------|-----------------|---------|
| | V-Ph-Hz | Min | Max | RLA | LRA | Qty | FLA (ea) | MCA | MOCP | FLA | LRA |
| 072 | 208/230-3-60 | 187 | 253 | 19.6 | 136 | 2 | 1.5 | 28/28 | 45/45 | 26/26 | 142/142 |
| | 460-3-60 | 414 | 506 | 8.2 | 66 | 2 | 0.9 | 12 | 20 | 11 | 70 |
| | 575-3-60 | 518 | 633 | 6.6 | 55 | 2 | 0.6 | 10 | 15 | 9 | 59 |
| 091 (A,B) | 208/230-3-60 | 187 | 253 | 25.1 | 186 | 2 | 1.5 | 35/35 | 50/50 | 32/32 | 192/192 |
| | 460-3-60 | 414 | 506 | 12.8 | 100 | 2 | 0.8 | 17.8 | 30 | 17 | 104 |
| | 575-3-60 | 518 | 633 | 10.1 | 78 | 2 | 0.7 | 14 | 20 | 13 | 82 |
| 091 (D,E) | 208/230-3-60 | 187 | 253 | 25.2 | 164 | 2 | 1.5 | 35/35 | 50/50 | 32/32 | 170/170 |
| | 460-3-60 | 414 | 506 | 12.7 | 100 | 2 | 0.8 | 18 | 30 | 16 | 104 |
| | 575-3-60 | 518 | 633 | 11.0 | 78 | 2 | 0.7 | 16 | 25 | 14 | 82 |
| 121 | 208/230-3-60 | 187 | 253 | 30.1 | 225 | 2 | 1.5 | 40.6/40.6 | 60/60 | 38/38 | 231/231 |
| | 460-3-60 | 414 | 506 | 16.7 | 114 | 2 | 0.8 | 22.5 | 30 | 21 | 118 |
| | 575-3-60 | 518 | 633 | 12.2 | 80 | 2 | 0.6 | 16.5 | 25 | 15 | 84 |

(Units Produced On or Prior to 02/08/2015)

| UNIT SIZE | NOMINAL POWER SUPPLY | VOLTAGE RANGE | | COMPRESSOR | | OFM | | POWER SUPPLY | | DISCONNECT SIZE | |
|-----------|----------------------|---------------|-----|------------|-----|-----|----------|--------------|-------|-----------------|---------|
| | V-Ph-Hz | Min | Max | RLA | LRA | Qty | FLA (ea) | MCA | MOCP | FLA | LRA |
| 072 | 208/230-3-60 | 187 | 253 | 19.0 | 123 | 2 | 1.5 | 27/27 | 45/45 | 25/25 | 129/129 |
| | 460-3-60 | 414 | 506 | 9.7 | 62 | 2 | 0.8 | 14 | 20 | 13 | 66 |
| | 575-3-60 | 518 | 633 | 7.4 | 50 | 2 | 0.7 | 11 | 15 | 10 | 54 |

| UNIT SIZE | NOMINAL POWER SUPPLY | VOLTAGE RANGE | | COMPRESSOR | | | | OFM | | POWER SUPPLY | | DISCONNECT SIZE | |
|-----------|----------------------|---------------|-----|------------|-----|-------|-----|-----|----------|--------------|---------|-----------------|---------|
| | | | | No. 1 | | No. 2 | | | | | | | |
| | V-Ph-Hz | Min | Max | RLA | LRA | RLA | LRA | Qty | FLA (ea) | MCA | MOCP | FLA | LRA |
| 180 | 208/230-3-60 | 187 | 253 | 25.0 | 164 | 25.0 | 164 | 3 | 1.5 | 60.8/60.8 | 80/80 | 63/63 | 337/337 |
| | 460-3-60 | 414 | 506 | 12.2 | 100 | 12.2 | 100 | 3 | 0.8 | 29.9 | 40 | 31 | 206 |
| | 575-3-60 | 518 | 633 | 9.7 | 78 | 9.7 | 78 | 3 | 0.7 | 23.9 | 30 | 25 | 162 |
| 240 | 208/230-3-60 | 187 | 253 | 30.1 | 225 | 30.1 | 225 | 4 | 1.5 | 73.7/73.7 | 100/100 | 76/76 | 462/462 |
| | 460-3-60 | 414 | 506 | 16.7 | 114 | 16.7 | 114 | 4 | 0.8 | 40.8 | 50 | 42 | 236 |
| | 575-3-60 | 518 | 633 | 12.2 | 80 | 12.2 | 80 | 4 | 0.7 | 30.3 | 40 | 31 | 168 |

ELECTRICAL DATA (cont.)

ELECTRIC HEATER DATA

| HEATER PART NO. CAELHEAT | SIZE | V-PH-Hz | FAN MOTOR | | | Nominal Capacity (kW) | ELECTRIC HEATER(S) Actual Capacity (kW) | | | FLA | MCA* | MOCP* | |
|-----------------------------|----------|--------------------|-----------|------|------|-----------------------|--|---------|-------|------|------|-------|----|
| | | | Hp | kW | FLA | | Stage 1 | Stage 2 | Total | | | | |
| 001A00 | 208-3-60 | | 1.3† | 0.97 | 7.6 | 5 | 3.8 | — | 3.8 | 10.4 | 22.5 | 25 | |
| | | | 2.4† | 1.79 | 11.0 | 5 | 3.8 | — | 3.8 | 10.4 | 26.8 | 35 | |
| | | | 2.4 | 1.79 | 5.2 | 5 | 3.8 | — | 3.8 | 10.4 | 19.5 | 20 | |
| | | | 2.9 | 2.16 | 7.5 | 5 | 3.8 | — | 3.8 | 10.4 | 22.4 | 25 | |
| | | | 3.7 | 2.76 | 10.2 | 5 | 3.8 | — | 3.8 | 10.4 | 25.8 | 30 | |
| | 240-3-60 | | | 1.3† | 0.97 | 7.6 | 5 | 5.0 | — | 5.0 | 12.0 | 24.5 | 25 |
| | | | | 2.4† | 1.79 | 11.0 | 5 | 5.0 | — | 5.0 | 12.0 | 28.8 | 35 |
| | | | | 2.4 | 1.79 | 5.2 | 5 | 5.0 | — | 5.0 | 12.0 | 21.5 | 25 |
| | | | | 2.9 | 2.16 | 7.5 | 5 | 5.0 | — | 5.0 | 12.0 | 24.4 | 25 |
| | | | | 3.7 | 2.76 | 10.2 | 5 | 5.0 | — | 5.0 | 12.0 | 27.8 | 30 |
| 002A00 | 480-3-60 | | 2.4 | 1.79 | 2.6 | 5 | 5.0 | — | 5.0 | 6.00 | 10.8 | 15 | |
| | | | 2.9 | 2.16 | 3.4 | 5 | 5.0 | — | 5.0 | 6.00 | 11.8 | 15 | |
| | | | 3.7 | 2.76 | 4.8 | 5 | 5.0 | — | 5.0 | 6.00 | 13.5 | 15 | |
| 003A00 | 575-3-60 | | 1.0 | 0.75 | 1.4 | 5 | 5.0 | — | 5.0 | 5.00 | 8.0 | 15 | |
| | | | 2.0 | 1.49 | 2.3 | 5 | 5.0 | — | 5.0 | 5.00 | 9.2 | 15 | |
| | | | 3.0 | 2.24 | 3.8 | 5 | 5.0 | — | 5.0 | 5.00 | 11.0 | 15 | |
| 004A00 | 208-3-60 | FHS 072— 120 | 1.3† | 0.97 | 7.6 | 10 | 7.5 | — | 7.5 | 20.8 | 35.6 | 40 | |
| | | | 2.4† | 1.79 | 11.0 | 10 | 7.5 | — | 7.5 | 20.8 | 39.8 | 40 | |
| | | | 2.4 | 1.79 | 5.2 | 10 | 7.5 | — | 7.5 | 20.8 | 32.6 | 35 | |
| | | | 2.9 | 2.16 | 7.5 | 10 | 7.5 | — | 7.5 | 20.8 | 35.4 | 40 | |
| | | | 3.7 | 2.76 | 10.2 | 10 | 7.5 | — | 7.5 | 20.8 | 38.8 | 40 | |
| | 240-3-60 | | | 1.3† | 0.97 | 7.6 | 10 | 10.0 | — | 10.0 | 24.1 | 39.6 | 40 |
| | | | | 2.4† | 1.79 | 11.0 | 10 | 10.0 | — | 10.0 | 24.1 | 43.8 | 50 |
| | | | | 2.4 | 1.79 | 5.2 | 10 | 10.0 | — | 10.0 | 24.1 | 36.6 | 40 |
| | | | | 2.9 | 2.16 | 7.5 | 10 | 10.0 | — | 10.0 | 24.1 | 39.4 | 40 |
| | | | | 3.7 | 2.76 | 10.2 | 10 | 10.0 | — | 10.0 | 24.1 | 42.8 | 50 |
| 005A00 | 480-3-60 | | 2.4 | 1.79 | 2.6 | 10 | 10.0 | — | 10.0 | 12.0 | 18.3 | 20 | |
| | | | 2.9 | 2.16 | 3.4 | 10 | 10.0 | — | 10.0 | 12.0 | 19.3 | 20 | |
| | | | 3.7 | 2.76 | 4.8 | 10 | 10.0 | — | 10.0 | 12.0 | 21.0 | 25 | |
| 006A00 | 575-3-60 | | 1.0 | 0.75 | 1.4 | 10 | 10.0 | — | 10.0 | 10.0 | 14.3 | 15 | |
| | | | 2.0 | 1.49 | 2.3 | 10 | 10.0 | — | 10.0 | 10.0 | 15.4 | 20 | |
| | | | 3.0 | 2.24 | 3.8 | 10 | 10.0 | — | 10.0 | 10.0 | 17.3 | 20 | |
| 007A00 | 208-3-60 | | 1.3† | 0.97 | 7.6 | 15 | 11.3 | — | 11.3 | 31.3 | 48.6 | 50 | |
| | | | 2.4† | 1.79 | 11.0 | 15 | 11.3 | — | 11.3 | 31.3 | 52.9 | 60 | |
| | | | 2.4 | 1.79 | 5.2 | 15 | 11.3 | — | 11.3 | 31.3 | 45.6 | 50 | |
| | | | 2.9 | 2.16 | 7.5 | 15 | 11.3 | — | 11.3 | 31.3 | 48.5 | 50 | |
| | | | 3.7 | 2.76 | 10.2 | 15 | 11.3 | — | 11.3 | 31.3 | 51.9 | 60 | |
| | 240-3-60 | | | 1.3† | 0.97 | 7.6 | 15 | 15.0 | — | 15.0 | 36.1 | 54.6 | 60 |
| | | | | 2.4† | 1.79 | 11.0 | 15 | 15.0 | — | 15.0 | 36.1 | 58.9 | 60 |
| | | | | 2.4 | 1.79 | 5.2 | 15 | 15.0 | — | 15.0 | 36.1 | 51.6 | 60 |
| | | | | 2.9 | 2.16 | 7.5 | 15 | 15.0 | — | 15.0 | 36.1 | 54.5 | 60 |
| | | | | 3.7 | 2.76 | 10.2 | 15 | 15.0 | — | 15.0 | 36.1 | 57.9 | 60 |

LEGEND

FLA — Full Load Amps

Hp — Horsepower

MCA — Minimum Circuit Amps

MOCP — Maximum Overcurrent Protection (Amps)

* Values shown are for single-point connection of electric heat accessory and air handler.

† Single-phase motors. All other motors are 3-phase.

NOTES:

- Electrical resistance heaters are rated at 240 v, 480 v, or 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.

- The following equation converts kW of heat energy to Btuh: $kW \times 3,412 = Btuh$.

- Heater contactor coils are 24 v and require 8 va holding current.

- Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.

- MCA and MOCP values apply to both standard and alternate factory-supplied motors.

- Approximate shipping weight for CAELHEAT001A00-015A00 is 55 lb (25 kg) each.

| HEATER RATING VOLTAGE | ACTUAL HEATER VOLTAGE | | | | | | | | | | |
|-----------------------|-----------------------|-------|-------|-----|-------|------|-------|-----|-------|-----|-------|
| | 200 | 208 | 230 | 240 | 400 | 440 | 460 | 480 | 550 | 575 | 600 |
| 240 | 0.694 | 0.751 | 0.918 | 1 | — | — | — | — | — | — | — |
| 480 | — | — | — | — | 0.694 | 0.84 | 0.918 | 1 | — | — | — |
| 575 | — | — | — | — | — | — | — | — | 0.915 | 1 | 1.089 |



ELECTRICAL DATA (cont.)

| HEATER PART NO. CAELHEAT | SIZE | V-PH-Hz | FAN MOTOR | | | ELECTRIC HEATER(S) | | | | | | |
|--------------------------|-------------|----------|-----------|------|------|-----------------------|----------------------|---------|-------|-------|-------|-------|
| | | | Hp | kW | FLA | Nominal Capacity (kW) | Actual Capacity (kW) | | | FLA | MCA* | MOCP* |
| | | | | | | | Stage 1 | Stage 2 | Total | | | |
| 008A00 | 480-3-60 | | 2.4 | 1.79 | 2.6 | 15 | 15.0 | — | 15.0 | 18.0 | 25.8 | 30 |
| | | | 2.9 | 2.16 | 3.4 | 15 | 15.0 | — | 15.0 | 18.0 | 26.8 | 30 |
| | | | 3.7 | 2.76 | 4.8 | 15 | 15.0 | — | 15.0 | 18.0 | 28.6 | 30 |
| 009A00 | 575-3-60 | | 1.0 | 0.75 | 1.4 | 15 | 15.0 | — | 15.0 | 15.1 | 20.6 | 25 |
| | | | 2.0 | 1.49 | 2.3 | 15 | 15.0 | — | 15.0 | 15.1 | 21.7 | 25 |
| | | | 3.0 | 2.24 | 3.8 | 15 | 15.0 | — | 15.0 | 15.1 | 23.6 | 25 |
| 010A00 | FHS 072-120 | 208-3-60 | 1.3† | 0.97 | 7.6 | 25 | 11.3 | 7.5 | 18.8 | 52.1 | 74.7 | 80 |
| | | | 2.4† | 1.79 | 11.0 | 25 | 11.3 | 7.5 | 18.8 | 52.1 | 78.9 | 80 |
| | | | 2.4 | 1.79 | 5.2 | 25 | 11.3 | 7.5 | 18.8 | 52.1 | 71.7 | 80 |
| | | 2.9 | 2.16 | 7.5 | 25 | 11.3 | 7.5 | 18.8 | 52.1 | 74.5 | 80 | |
| | | 3.7 | 2.76 | 10.2 | 25 | 11.3 | 7.5 | 18.8 | 52.1 | 77.9 | 80 | |
| | | 240-3-60 | 1.3† | 0.97 | 7.6 | 25 | 15.0 | 10.0 | 25.0 | 60.1 | 84.7 | 90 |
| | 2.4† | | 1.79 | 11.0 | 25 | 15.0 | 10.0 | 25.0 | 60.1 | 88.9 | 90 | |
| | 2.4 | | 1.79 | 5.2 | 25 | 15.0 | 10.0 | 25.0 | 60.1 | 81.7 | 90 | |
| | 011A00 | 480-3-60 | | 2.4 | 1.79 | 2.6 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 40.8 |
| 2.9 | | | | 2.16 | 3.4 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 41.8 | 50 |
| 3.7 | | | | 2.76 | 4.8 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 43.6 | 50 |
| 012A00 | 575-3-60 | | 1.0 | 0.75 | 1.4 | 25 | 15.0 | 10.0 | 25.0 | 25.1 | 33.1 | 35 |
| | | | 2.0 | 1.49 | 2.3 | 25 | 15.0 | 10.0 | 25.0 | 25.1 | 34.3 | 35 |
| | | | 3.0 | 2.24 | 3.8 | 25 | 15.0 | 10.0 | 25.0 | 25.1 | 36.1 | 40 |
| 013A00 | FHS 091,120 | 208-3-60 | 2.4† | 1.79 | 11.0 | 35 | 15.0 | 11.3 | 26.3 | 73.0 | 105.0 | 110 |
| | | | 2.4 | 1.79 | 5.2 | 35 | 15.0 | 11.3 | 26.3 | 73.0 | 97.7 | 100 |
| | | 2.9 | 2.16 | 7.5 | 35 | 15.0 | 11.3 | 26.3 | 73.0 | 100.6 | 110 | |
| | | 3.7 | 2.76 | 10.2 | 35 | 15.0 | 11.3 | 26.3 | 73.0 | 104.0 | 110 | |
| | 240-3-60 | 2.4† | 1.79 | 11.0 | 35 | 20.0 | 15.0 | 35.0 | 84.2 | 119.0 | 125 | |
| | | 2.4 | 1.79 | 5.2 | 35 | 20.0 | 15.0 | 35.0 | 84.2 | 111.7 | 125 | |
| 014A00 | 480-3-60 | | 2.4 | 1.79 | 2.6 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 55.9 | 60 |
| | | | 2.9 | 2.16 | 3.4 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 56.9 | 60 |
| | | | 3.7 | 2.76 | 4.8 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 58.6 | 60 |
| 015A00 | 575-3-60 | | 2.0 | 1.49 | 2.3 | 35 | 20.0 | 15.0 | 35.0 | 35.1 | 46.8 | 50 |
| | | | 3.0 | 2.24 | 3.8 | 35 | 20.0 | 15.0 | 35.0 | 35.1 | 48.7 | 50 |

LEGEND

FLA — Full Load Amps

Hp — Horsepower

MCA — Minimum Circuit Amps

MOCP — Maximum Overcurrent Protection (Amps)

* Values shown are for single-point connection of electric heat accessory and air handler.

† Single-phase motors. All other motors are 3-phase.

NOTES:

1. Electrical resistance heaters are rated at 240 v, 480 v, or 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.

| HEATER RATING VOLTAGE | ACTUAL HEATER VOLTAGE | | | | | | | | | | |
|-----------------------|-----------------------|-------|-------|-----|-------|------|-------|-----|-------|-----|-------|
| | 200 | 208 | 230 | 240 | 400 | 440 | 460 | 480 | 550 | 575 | 600 |
| 240 | 0.694 | 0.751 | 0.918 | 1 | — | — | — | — | — | — | — |
| 480 | — | — | — | — | 0.694 | 0.84 | 0.918 | 1 | — | — | — |
| 575 | — | — | — | — | — | — | — | — | 0.915 | 1 | 1.089 |

2. The following equation converts kW of heat energy to Btuh: kW x 3,412 = Btuh.
3. Heater contactor coils are 24 v and require 8 va holding current.
4. Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.
5. MCA and MOCP values apply to both standard and alternate factory-supplied motors.
6. Approximate shipping weight for CAELHEAT001A00-015A00 is 55 lb (25 kg) each.



ELECTRICAL DATA (cont.)

| HEATER PART NO. CAELHEAT | SIZE | V-PH-Hz | FAN MOTOR | | | ELECTRIC HEATER(S) | | | | | MCA* | MOCP* |
|--------------------------|----------|--------------------|-----------|------|------|-----------------------|----------------------|---------|-------|------|------|-------|
| | | | | | | Nominal Capacity (kW) | Actual Capacity (kW) | | | FLA | | |
| | | | Hp | kW | FLA | | Stage 1 | Stage 2 | Total | | | |
| 016A00 | 208-3-60 | 2.9 | 2.16 | 7.5 | 10 | 7.5 | — | 7.5 | 20.8 | 35.4 | 40 | |
| | | 3.7 | 2.76 | 10.2 | 10 | 7.5 | — | 7.5 | 20.8 | 38.8 | 40 | |
| | | 5.0 | 3.73 | 14.6 | 10 | 7.5 | — | 7.5 | 20.8 | 41.3 | 50 | |
| | | 7.5 | 5.59 | 21.5 | 10 | 7.5 | — | 7.5 | 20.8 | 52.9 | 60 | |
| | 240-3-60 | 2.9 | 2.16 | 7.5 | 10 | 10.0 | — | 10.0 | 24.1 | 39.4 | 40 | |
| | | 3.7 | 2.76 | 10.2 | 10 | 10.0 | — | 10.0 | 24.1 | 42.8 | 50 | |
| | | 5.0 | 3.73 | 12.8 | 10 | 10.0 | — | 10.0 | 24.1 | 46.1 | 50 | |
| | | 7.5 | 5.59 | 19.4 | 10 | 10.0 | — | 10.0 | 24.1 | 54.4 | 60 | |
| | 240-3-50 | 2.9 | 2.16 | 7.5 | 10 | 10.0 | — | 10.0 | 24.1 | 39.4 | 40 | |
| | | 5.0 | 3.73 | 13.2 | 10 | 10.0 | — | 10.0 | 24.1 | 46.6 | 50 | |
| | | 7.5 | 5.59 | 19.8 | 10 | 10.0 | — | 10.0 | 24.1 | 54.8 | 60 | |
| | 017A00 | 480-3-60 | 2.9 | 2.16 | 3.4 | 10 | 10.0 | — | 10.0 | 12.0 | 19.3 | 20 |
| 3.7 | | | 2.76 | 4.8 | 10 | 10.0 | — | 10.0 | 12.0 | 21.0 | 25 | |
| 5.0 | | | 3.73 | 6.4 | 10 | 10.0 | — | 10.0 | 12.0 | 23.0 | 25 | |
| 7.5 | | | 5.59 | 9.7 | 10 | 10.0 | — | 10.0 | 12.0 | 27.2 | 30 | |
| 400-3-50 | | 2.9 | 2.16 | 3.4 | 10 | 6.9 | — | 6.9 | 10.0 | 16.8 | 20 | |
| | | 5.0 | 3.73 | 7.6 | 10 | 6.9 | — | 6.9 | 10.0 | 22.0 | 25 | |
| | | 7.5 | 5.59 | 11.4 | 10 | 6.9 | — | 6.9 | 10.0 | 26.8 | 35 | |
| 018A00 | | FHS 180, 240 | 575-3-60 | 3.0 | 2.24 | 3.8 | 10 | 10.0 | — | 10.0 | 10.0 | 17.3 |
| | 5.0 | | | 3.73 | 5.1 | 10 | 10.0 | — | 10.0 | 10.0 | 19.6 | 20 |
| | 7.5 | | | 5.59 | 7.8 | 10 | 10.0 | — | 10.0 | 10.0 | 22.1 | 25 |
| 019A00 | 208-3-60 | 2.9 | 2.16 | 7.5 | 20 | 14.9 | — | 14.9 | 41.5 | 51.2 | 70 | |
| | | 3.7 | 2.76 | 10.2 | 20 | 14.9 | — | 14.9 | 41.5 | 64.6 | 70 | |
| | | 5.0 | 3.73 | 14.6 | 20 | 14.9 | — | 14.9 | 41.5 | 70.1 | 80 | |
| | | 7.5 | 5.59 | 21.5 | 20 | 14.9 | — | 14.9 | 41.5 | 78.7 | 80 | |
| | 240-3-60 | 2.9 | 2.16 | 7.5 | 20 | 19.9 | — | 19.9 | 47.9 | 69.2 | 70 | |
| | | 3.7 | 2.76 | 10.2 | 20 | 19.9 | — | 19.9 | 47.9 | 72.6 | 80 | |
| | | 5.0 | 3.73 | 12.8 | 20 | 19.9 | — | 19.9 | 47.9 | 75.8 | 80 | |
| | | 7.5 | 5.59 | 19.4 | 20 | 19.9 | — | 19.9 | 47.9 | 84.1 | 80 | |
| | 240-3-50 | 2.9 | 2.16 | 7.5 | 20 | 19.9 | — | 19.9 | 47.9 | 69.2 | 70 | |
| | | 5.0 | 3.73 | 13.2 | 20 | 19.9 | — | 19.9 | 47.9 | 76.3 | 80 | |
| | | 7.5 | 5.59 | 19.8 | 20 | 19.9 | — | 19.9 | 47.9 | 84.6 | 90 | |
| | 020A00 | 480-3-60 | 2.9 | 2.16 | 3.4 | 20 | 20.0 | — | 20.0 | 24.1 | 34.3 | 35 |
| 3.7 | | | 2.76 | 4.8 | 20 | 20.0 | — | 20.0 | 24.1 | 36.1 | 40 | |
| 5.0 | | | 3.73 | 6.4 | 20 | 20.0 | — | 20.0 | 24.1 | 39.1 | 40 | |
| 7.5 | | | 5.59 | 9.7 | 20 | 20.0 | — | 20.0 | 24.1 | 43.2 | 50 | |
| 400-3-50 | | 2.9 | 2.16 | 3.4 | 20 | 13.9 | — | 13.9 | 20.0 | 29.3 | 30 | |
| | | 5.0 | 3.73 | 7.6 | 20 | 13.9 | — | 13.9 | 20.0 | 45.1 | 50 | |
| | | 7.5 | 5.59 | 11.4 | 20 | 13.9 | — | 13.9 | 20.0 | 49.2 | 50 | |

LEGEND

FLA — Full Load Amps

Hp — Horsepower

MCA — Minimum Circuit Amps

MOCP — Maximum Overcurrent Protection (Amps)

* Values shown are for single-point connection of electric heat accessory and air handler.

† Single-phase motors. All other motors are 3-phase.

NOTES:

1. Electrical resistance heaters are rated at 240 v, 480 v, or 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.

2. The following equation converts kW of heat energy to Btuh: kW x 3,412 = Btuh.
3. Heater contactor coils are 24 v and require 8 va holding current.
4. Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.
5. MCA and MOCP values apply to both standard and alternate factory-supplied motors.
6. Approximate shipping weight for CAELHEAT001A00-015A00 is 55 lb (25 kg) each.

| HEATER RATING VOLTAGE | ACTUAL HEATER VOLTAGE | | | | | | | | | | |
|-----------------------|-----------------------|-------|-------|-----|-------|------|-------|-----|-------|-----|-------|
| | 200 | 208 | 230 | 240 | 400 | 440 | 460 | 480 | 550 | 575 | 600 |
| 240 | 0.694 | 0.751 | 0.918 | 1 | — | — | — | — | — | — | — |
| 480 | — | — | — | — | 0.694 | 0.84 | 0.918 | 1 | — | — | — |
| 575 | — | — | — | — | — | — | — | — | 0.915 | 1 | 1.089 |



ELECTRICAL DATA (cont.)

| HEATER PART NO. CAELHEAT | SIZE | V-PH-Hz | FAN MOTOR | | | ELECTRIC HEATER(S) | | | | | MCA* | MOCP* |
|--------------------------|----------|----------|-----------|------|------|-----------------------|----------------------|---------|-------|-------|------|-------|
| | | | | | | Nominal Capacity (kW) | Actual Capacity (kW) | | | FLA | | |
| | | | Hp | kW | FLA | | Stage 1 | Stage 2 | Total | | | |
| 021A00 | 575-3-60 | 3.0 | 2.24 | 3.8 | 20 | 20.0 | — | 20.0 | 20.1 | 29.9 | 30 | |
| | | 5.0 | 3.73 | 5.1 | 20 | 20.0 | — | 20.0 | 20.1 | 31.5 | 35 | |
| | | 7.5 | 5.59 | 7.8 | 20 | 20.0 | — | 20.0 | 20.1 | 34.9 | 35 | |
| 022A00 | 208-3-60 | 2.9 | 2.16 | 7.5 | 30 | 15.0 | 7.5 | 22.5 | 62.5 | 87.5 | 90 | |
| | | 3.7 | 2.76 | 10.2 | 30 | 15.0 | 7.5 | 22.5 | 62.5 | 90.9 | 100 | |
| | | 5.0 | 3.73 | 14.6 | 30 | 15.0 | 7.5 | 22.5 | 62.5 | 96.4 | 100 | |
| | | 7.5 | 5.59 | 21.5 | 30 | 15.0 | 7.5 | 22.5 | 62.5 | 105.0 | 110 | |
| | 240-3-60 | 2.9 | 2.16 | 7.5 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 99.6 | 100 | |
| | | 3.7 | 2.76 | 10.2 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 103.0 | 110 | |
| | | 5.0 | 3.73 | 12.8 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 106.2 | 110 | |
| | | 7.5 | 5.59 | 19.4 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 114.5 | 125 | |
| | 240-3-50 | 2.9 | 2.16 | 7.5 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 99.6 | 100 | |
| | | 5.0 | 3.73 | 13.2 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 106.7 | 110 | |
| | | 7.5 | 5.59 | 19.8 | 30 | 20.0 | 10.0 | 30.0 | 72.2 | 115.0 | 125 | |
| | 023A00 | 480-3-60 | 2.9 | 2.16 | 3.4 | 30 | 20.0 | 10.0 | 30.0 | 36.1 | 49.4 | 50 |
| 3.7 | | | 2.76 | 4.8 | 30 | 20.0 | 10.0 | 30.0 | 36.1 | 51.1 | 60 | |
| 5.0 | | | 3.73 | 6.4 | 30 | 20.0 | 10.0 | 30.0 | 36.1 | 53.1 | 60 | |
| 7.5 | | | 5.59 | 9.7 | 30 | 20.0 | 10.0 | 30.0 | 36.1 | 57.2 | 60 | |
| 400-3-50 | 2.9 | 2.16 | 3.4 | 30 | 13.9 | 6.9 | 20.8 | 30.1 | 41.8 | 50 | | |
| | 5.0 | 3.73 | 7.6 | 30 | 13.9 | 6.9 | 20.8 | 30.1 | 47.1 | 50 | | |
| | 7.5 | 5.59 | 11.4 | 30 | 13.9 | 6.9 | 20.8 | 30.1 | 51.8 | 60 | | |
| 024A00 | 575-3-60 | 3.0 | 2.24 | 3.8 | 30 | 20.0 | 10.0 | 30.0 | 30.1 | 42.4 | 50 | |
| | | 5.0 | 3.73 | 5.1 | 30 | 20.0 | 10.0 | 30.0 | 30.1 | 44.0 | 50 | |
| | | 7.5 | 5.59 | 7.8 | 30 | 20.0 | 10.0 | 30.0 | 30.1 | 47.4 | 50 | |
| 025A00 | 208-3-60 | 3.7 | 2.76 | 10.2 | 50 | 22.6 | 15.0 | 37.6 | 104.3 | 143.1 | 150 | |
| | | 5.0 | 3.73 | 14.6 | 50 | 22.6 | 15.0 | 37.6 | 104.3 | 148.6 | 150 | |
| | | 7.5 | 5.59 | 21.5 | 50 | 22.6 | 15.0 | 37.6 | 104.3 | 157.2 | 175 | |
| | 240-3-60 | 3.7 | 2.76 | 10.2 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 163.1 | 175 | |
| | | 5.0 | 3.73 | 12.8 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 166.4 | 175 | |
| | | 7.5 | 5.59 | 19.4 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 174.6 | 200 | |
| | 240-3-50 | 2.9 | 2.16 | 7.5 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 159.7 | 175 | |
| | | 5.0 | 3.73 | 13.2 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 166.9 | 175 | |
| | | 7.5 | 5.59 | 19.8 | 50 | 30.0 | 20.0 | 50.0 | 120.3 | 175.1 | 200 | |
| 026A00 | 480-3-60 | 3.7 | 2.76 | 4.8 | 50 | 30.0 | 20.0 | 50.0 | 60.1 | 81.2 | 90 | |
| | | 5.0 | 3.73 | 6.4 | 50 | 30.0 | 20.0 | 50.0 | 60.1 | 83.2 | 90 | |
| | | 7.5 | 5.59 | 9.7 | 50 | 30.0 | 20.0 | 50.0 | 60.1 | 87.3 | 90 | |
| | 400-3-50 | 2.9 | 2.16 | 3.4 | 50 | 20.8 | 13.9 | 34.7 | 50.1 | 66.9 | 70 | |
| | | 5.0 | 3.73 | 7.6 | 50 | 20.8 | 13.9 | 34.7 | 50.1 | 72.1 | 80 | |
| | | 7.5 | 5.59 | 11.4 | 50 | 20.8 | 13.9 | 34.7 | 50.1 | 76.9 | 80 | |
| 027A00 | 575-3-60 | 3.0 | 2.24 | 3.8 | 50 | 30.0 | 20.0 | 50.0 | 50.2 | 67.5 | 70 | |
| | | 5.0 | 3.73 | 5.1 | 50 | 30.0 | 20.0 | 50.0 | 50.2 | 69.1 | 70 | |
| | | 7.5 | 5.59 | 7.8 | 50 | 30.0 | 20.0 | 50.0 | 50.2 | 72.5 | 80 | |

LEGEND

FLA — Full Load Amps

Hp — Horsepower

MCA — Minimum Circuit Amps

MOCP — Maximum Overcurrent Protection (Amps)

* Values shown are for single-point connection of electric heat accessory and air handler.

† Single-phase motors. All other motors are 3-phase.

NOTES:

1. Electrical resistance heaters are rated at 240 v, 480 v, or 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.

2. The following equation converts kW of heat energy to Btuh: kW x 3,412 = Btuh.
3. Heater contactor coils are 24 v and require 8 va holding current.
4. Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.
5. MCA and MOCP values apply to both standard and alternate factory-supplied motors.
6. Approximate shipping weight for CAELHEAT001A00-015A00 is 55 lb (25 kg) each.

| HEATER RATING VOLTAGE | ACTUAL HEATER VOLTAGE | | | | | | | | | | |
|-----------------------|-----------------------|-------|-------|-----|-------|------|-------|-----|-------|-----|-------|
| | 200 | 208 | 230 | 240 | 400 | 440 | 460 | 480 | 550 | 575 | 600 |
| 240 | 0.694 | 0.751 | 0.918 | 1 | — | — | — | — | — | — | — |
| 480 | — | — | — | — | 0.694 | 0.84 | 0.918 | 1 | — | — | — |
| 575 | — | — | — | — | — | — | — | — | 0.915 | 1 | 1.089 |



TYPICAL PIPING AND WIRING

HORIZONTAL INSTALLATION

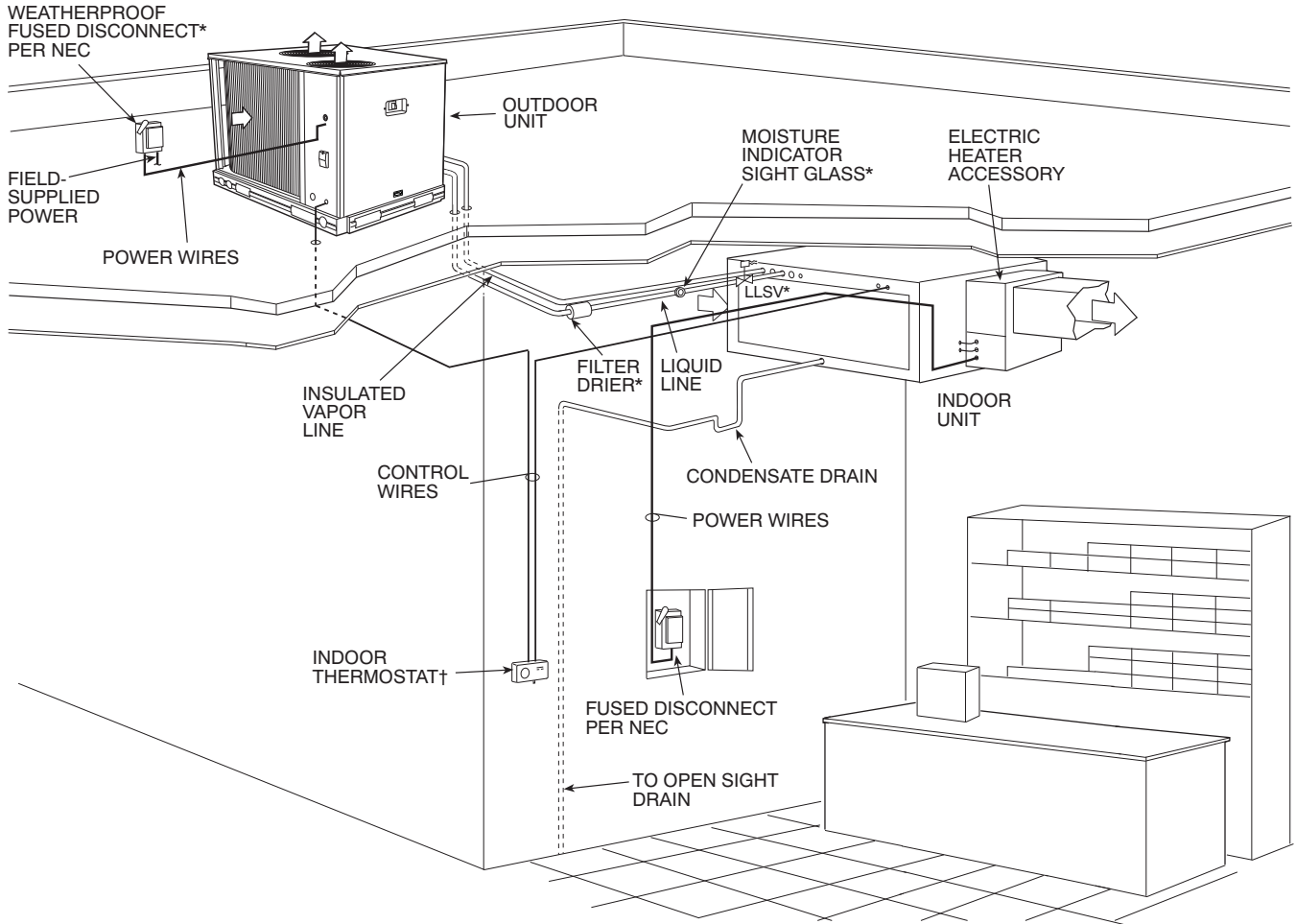
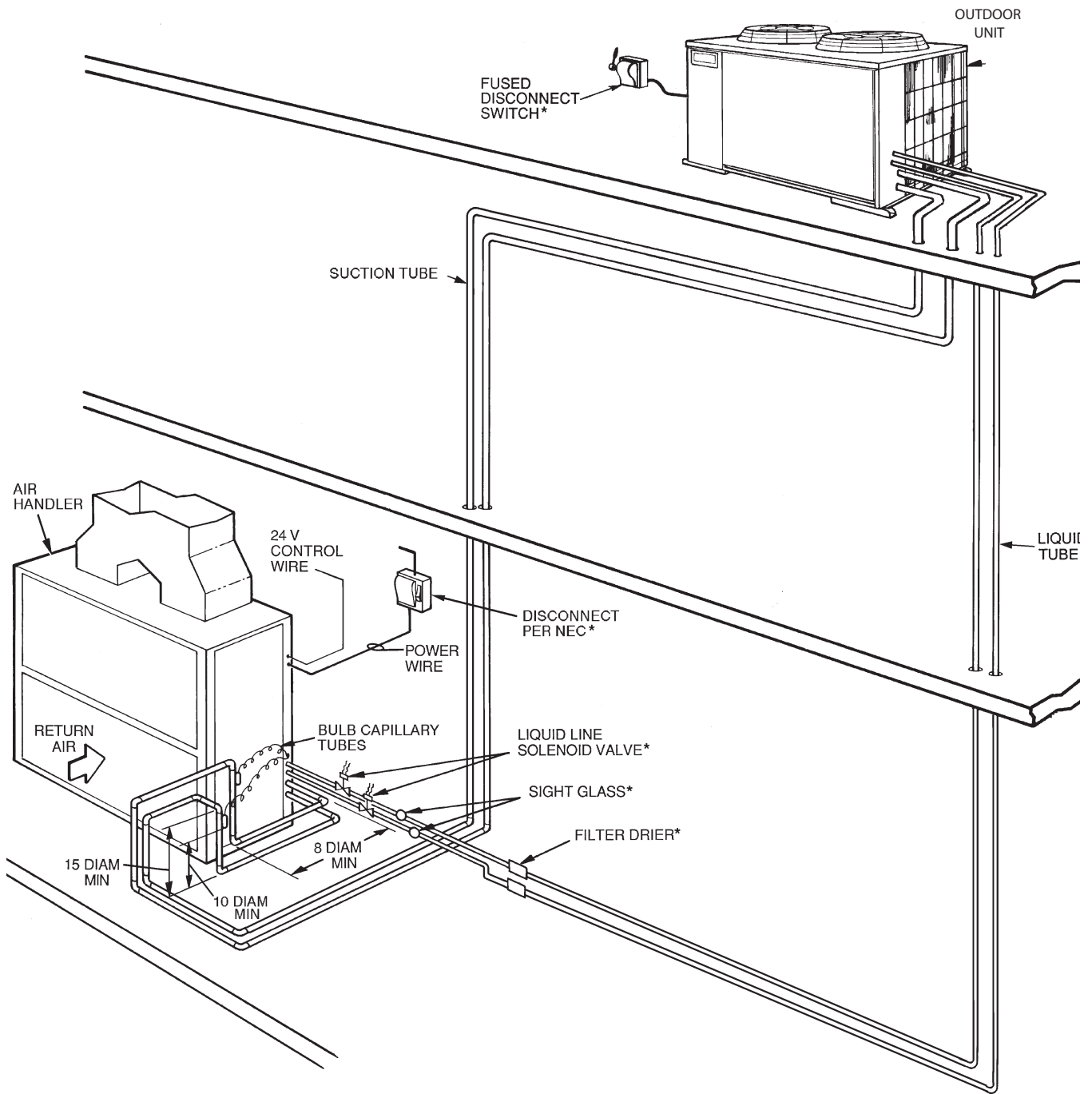


Fig. 4 - Horizontal Installation

C09054

TYPICAL PIPING AND WIRING (cont.)



C150196

Fig. 5 – Rooftop Installation

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation.
4. Liquid line solenoid valve (solenoid drop control) is recommended to prevent refrigerant migration to the compressor.
5. Internal factory-supplied TXVs not shown.

TYPICAL WIRING SCHEMATIC

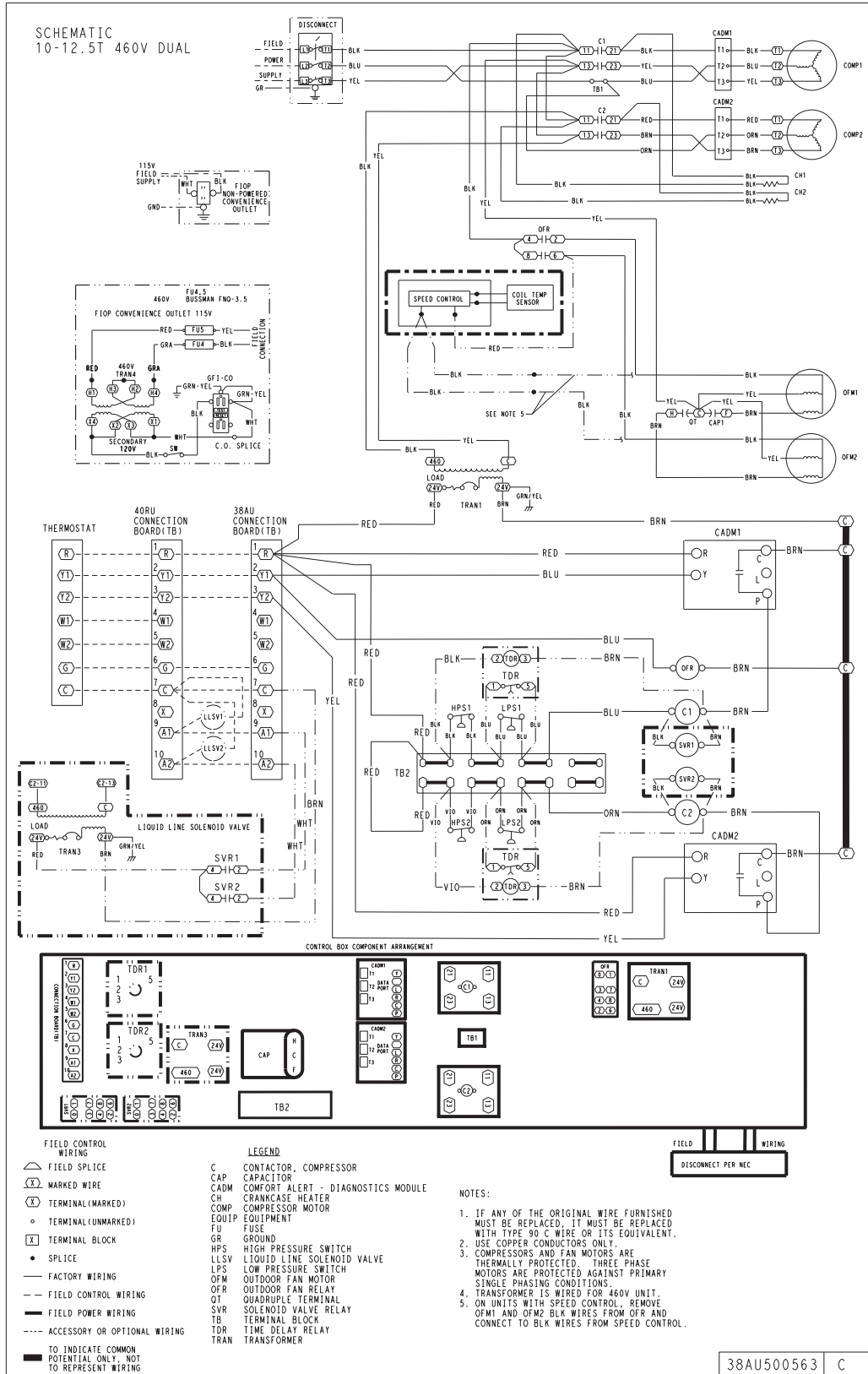


Fig. 6 - CHS072-121 UNITS 230-3-60

C10132

TYPICAL WIRING SCHEMATIC (cont.)

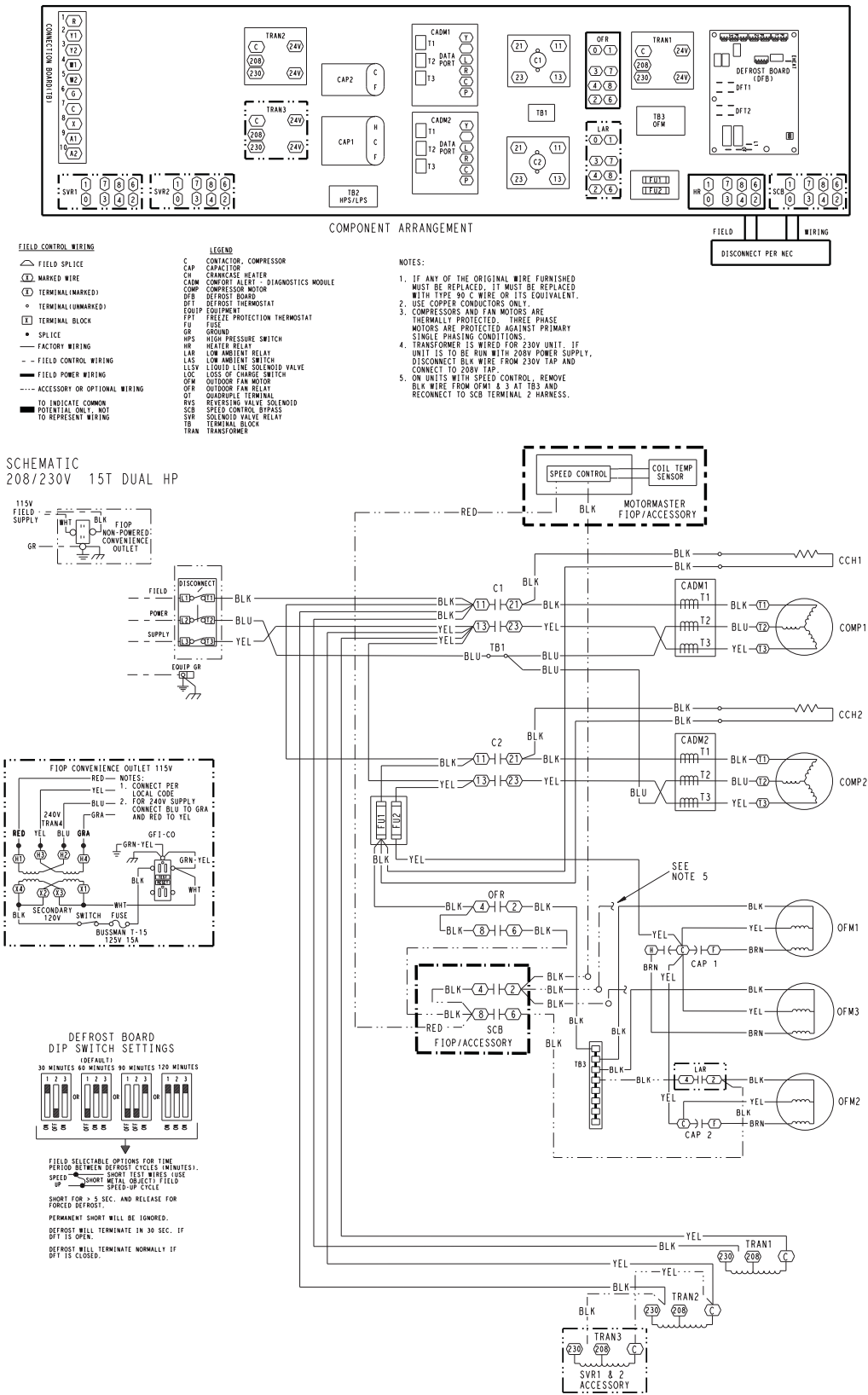


Fig. 7 – CHS180 Power Schematic (208/230–3–60)

C10786

TYPICAL WIRING SCHEMATIC (cont.)

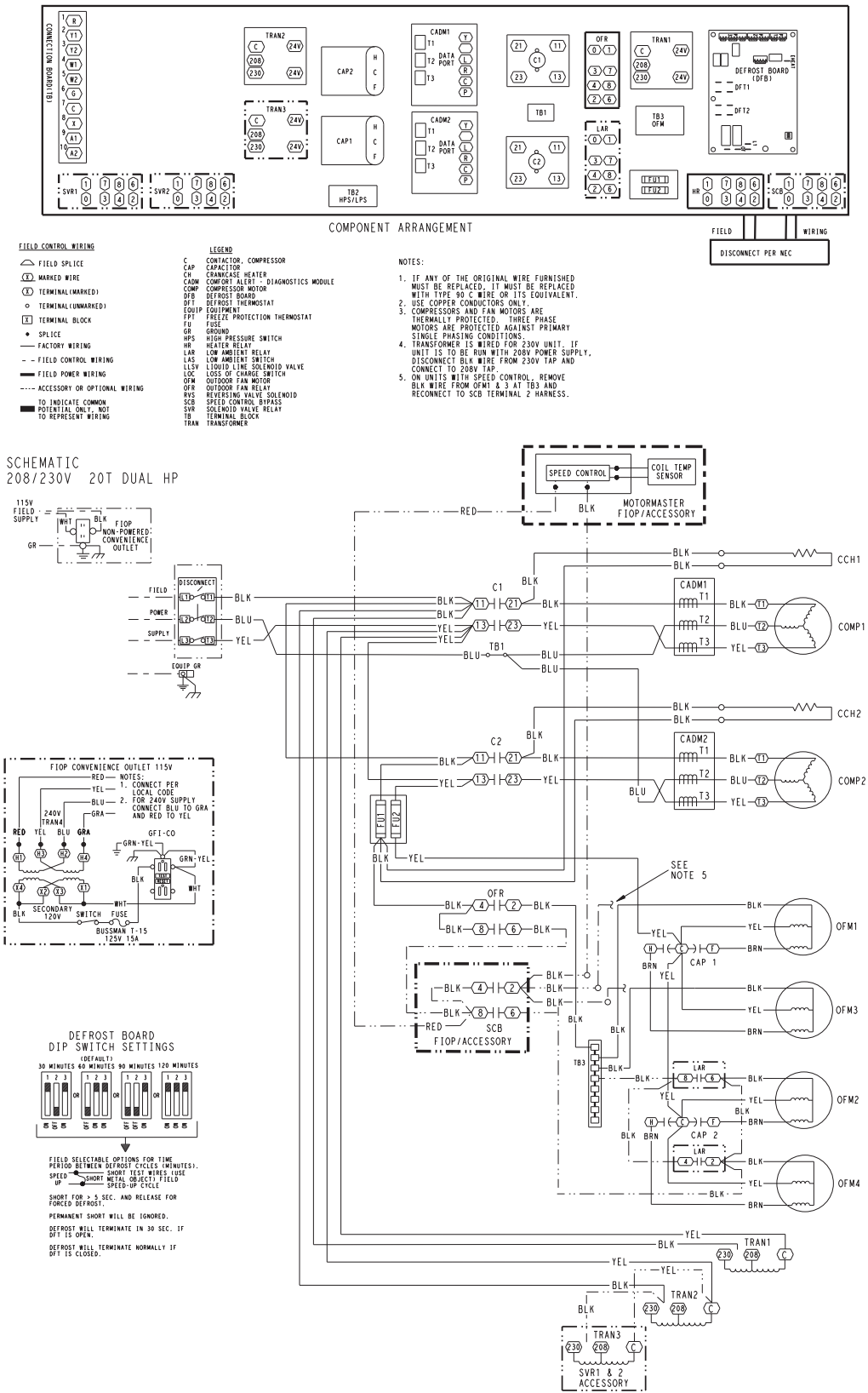
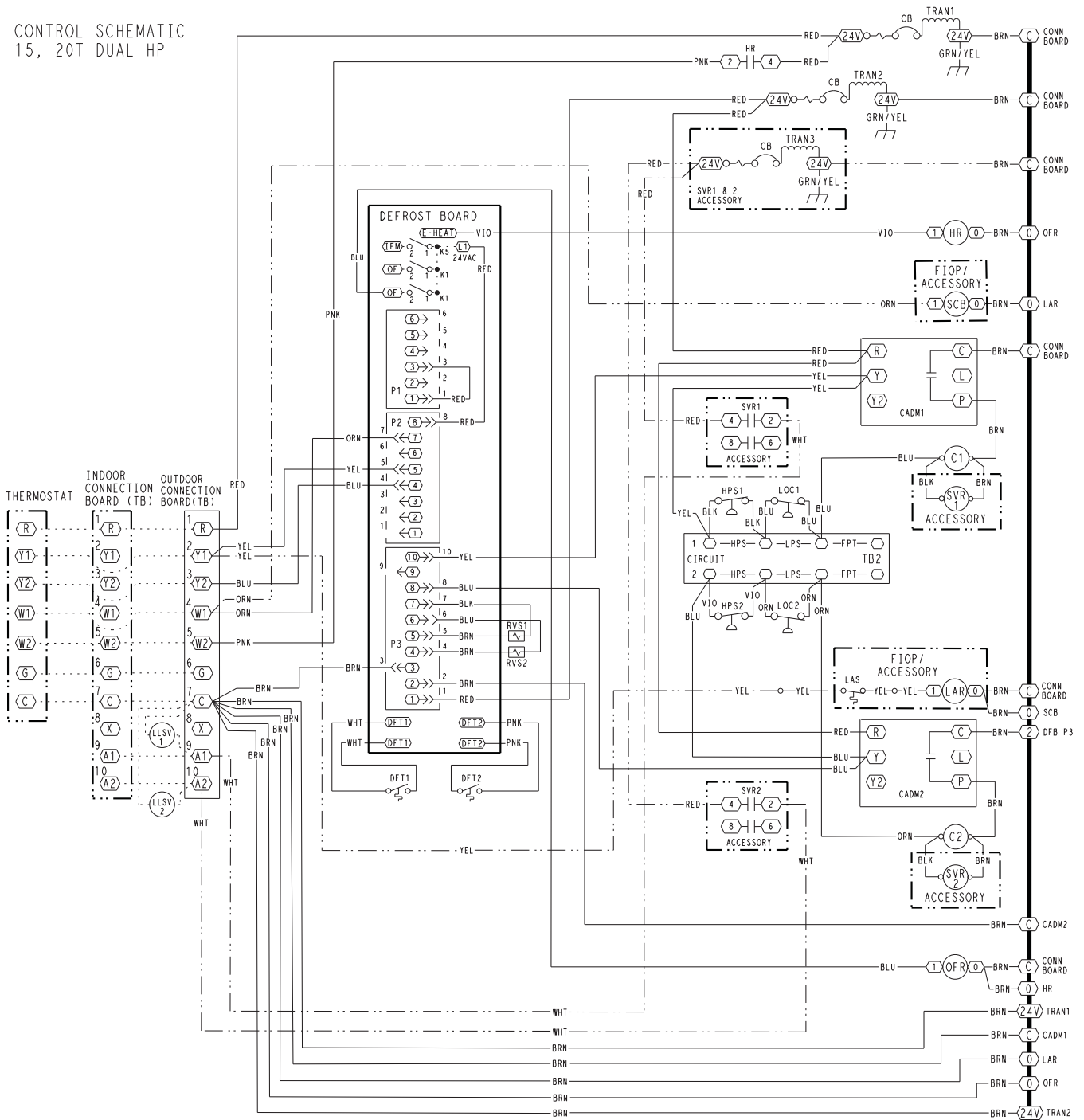


Fig. 8 – CHS240 Power Schematic (208/230–3–60 shown)

C10787

TYPICAL WIRING SCHEMATIC (cont.)

CONTROL SCHEMATIC
15, 20T DUAL HP



C10788

Fig. 9 – CHS180 / 240 Control Schematic

CHS072-121 Piping Recommendations (Single-Circuit Unit)

| R-410A | Equivalent Length | | | | | |
|--------------------------------|--|-----------|-------|--------|---------|-----------|
| | Ft | 0-38 | 38-75 | 75-113 | 113-150 | |
| Model | Length Linear | 0-25 | 25-50 | 50-75 | 75-100 | |
| Nominal Capacity | Length Equiv | 0-38 | 38-75 | 75-113 | 113-115 | |
| CHS072 | Liquid Line | 3/8 | 3/8 | 3/8 | 1/2 | 3/8 1/2 |
| | Max Lift | | | | | |
| | Cool | 25 | 50 | 48 | 75 | 39 100 |
| | Heat | 25 | 50 | 46 | 60 | 31 60 |
| | Suction Line | 7/8 | 7/8 | 1-1/8 | 1-1/8 | |
| | Charge (lbs) | 17.8 | 18.8 | 20.3 | 22.6 | 21.4 24.5 |
| CHS091 (A,B) | Liquid Line | 1/2 | 1/2 | 1/2 | 1/2 | |
| | Max Lift | | | | | |
| | Cool | 25 | 50 | 75 | 100 | |
| | Heat | 25 | 50 | 60 | 60 | |
| | Suction Line | 7/8 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | |
| | Charge (lbs) | 20.9 | 23.0 | 24.9 | 26.8 | |
| CHS091 (D, E) | Liquid Line | 1/2 | 1/2 | 1/2 | 1/2 | |
| | Max Lift | | | | | |
| | Cool | 25 | 50 | 75 | 100 | |
| | Heat | 25 | 50 | 50 | 60 | |
| | Suction Line | 7/8 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | |
| | Charge (lbs) | 23.9 | 26.0 | 27.9 | 29.8 | |
| CHS121 | Liquid Line | 1/2 | 1/2 | 1/2 | 1/2 5/8 | |
| | Max Lift | | | | | |
| | Cool | 25 | 50 | 75 | 85 100 | |
| | Heat | 25 | 50 | 60 | 60 60 | |
| | Suction Line | 7/8 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | 1-3/8 |
| | Charge (lbs) | 26.8 | 28.8 | 30.7 | 33.4 | 37.2 |
| Legend: | | | | | | |
| Length Equiv | Equivalent tubing length, including effects of refrigeration specialties devices | | | | | |
| Liquid Line | Tubing size, inches OD. | | | | | |
| Max Lift Cooling Heating | Maximum liquid lift at maximum permitted liquid line pressure drop <ul style="list-style-type: none"> • Indoor unit ABOVE outdoor unit • Indoor unit BELOW outdoor unit | | | | | |
| Suction Line | Tube size, inches OD | | | | | |
| Charge | Charge Quantity, lbs. Calculated for both liquid line sizes (where applicable), but only with large suction line size (where applicable) | | | | | |
| NOTE: | Commercial Heat Pump Split Systems are limited to 100 linear feet of separation. | | | | | |

CHS180–240 Piping Recommendations (Two-Circuit Unit)

| R-410A | Equivalent Length | | | | | |
|------------------|--|-----------|-----------|---------|-------------|---------|
| | Length Equiv | 0-38 | 38-75 | 75-113 | 113-150 | 150-188 |
| Model | Length Lin | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 |
| Nominal Capacity | Length Lin | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 |
| CHS180 | Liquid Line | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| | Max Lift | | | | | |
| | Cool | 25 | 50 | 75 | 100 | 125 |
| | Heat | 25 | 50 | 60 | 60 | 60 |
| | Vapor Line | 1 1/8 | 1 1/8 | 1 1/8 | 1 1/8 | 1 1/8 |
| Charge ea. (lbs) | 20.9 | 22.8 | 24.8 | 26.6 | 28.6 | |
| CHS240 | Liquid Line | 1/2 | 1/2 5/8 | 1/2 5/8 | 5/8 | 5/8 |
| | Max Lift | | | | | |
| | Cool | 25 | 37 50 | 24 51 | 48 | 63 |
| | Heat | 25 | 50 50 | 60 60 | 60 | 60 |
| | Vapor Line | 1 1/8 | 1 1/8 | 1 1/8 | 1 1/8 1 3/8 | 1 3/8 |
| Charge ea. (lbs) | 26.9 | 28.8 30.7 | 30.7 33.6 | 37.1 | 40.2 | |
| Legend: | | | | | | |
| Length Equiv | Equivalent tubing length, including effects of refrigeration specialties devices | | | | | |
| Linear Lin | Typical linear tubing length, Feet (50% added to linear to define Equivalent Length for this table) | | | | | |
| Liquid Line | Tubing size, inches OD. | | | | | |
| Max Lift | Maximum liquid lift (indoor unit ABOVE outdoor unit only), at maximum permitted liquid line pressure drop — <ul style="list-style-type: none"> • Linear Length Less than 100 ft: Minimum 2.0°F subcooling entering TXV • Linear Length Greater than 100 ft: Minimum 0.5°F subcooling entering TXV | | | | | |
| Vapor Line | Tube size, inches OD | | | | | |
| Charge | Charge Quantity, lbs. Calculated for both liquid line sizes (where applicable), but only with larger suction line size (where applicable) | | | | | |
| NOTE: | Commercial Heat Pump Split Systems are limited to 100 linear feet of separation. | | | | | |

APPLICATION DATA

REFRIGERANT LINE SIZING — Consider the length of the piping required between the outdoor and indoor units. The maximum allowable line length is 100 ft (30.5 m). See Maximum Vertical Separation Table below. Refrigerant vapor piping should be insulated

IMPORTANT: A refrigerant receiver is not provided with the unit. Do not install a receiver.

INSTALL FILTER DRIER(S) AND MOISTURE INDICATOR(S) — Every unit MUST have a bi-directional filter drier in the liquid line. Locate the filter drier at the indoor unit, close to the evaporator coil thermal expansion valve (TXV) inlets.

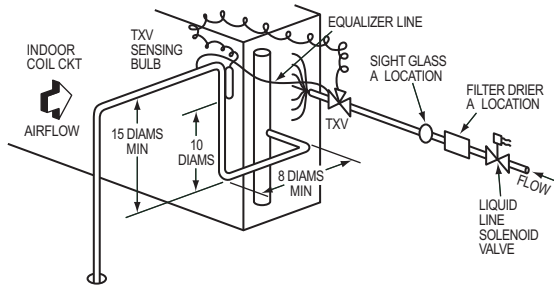
CHS units include one (two on 180 and 240 size models) R-410A-duty filter drier, shipped in cartons attached to the unit base pan. Remove the filter drier and prepare to install in the liquid line at the evaporator coil. Do not remove connection fitting plugs until ready to connect and braze the filter drier into the liquid line position.

Installation of liquid line moisture indicating sight glass in each circuit is recommended. Locate the sight glass(es) between the outlet of the filter drier and the TXV inlet.

Refer to Refrigerant Specialties Part Numbers Table for recommendations on refrigeration specialties.

Select the filter drier for maximum unit capacity and minimum pressure drop. Complete the refrigerant piping from the indoor unit to the outdoor unit before opening the liquid and suction lines at the outdoor unit.

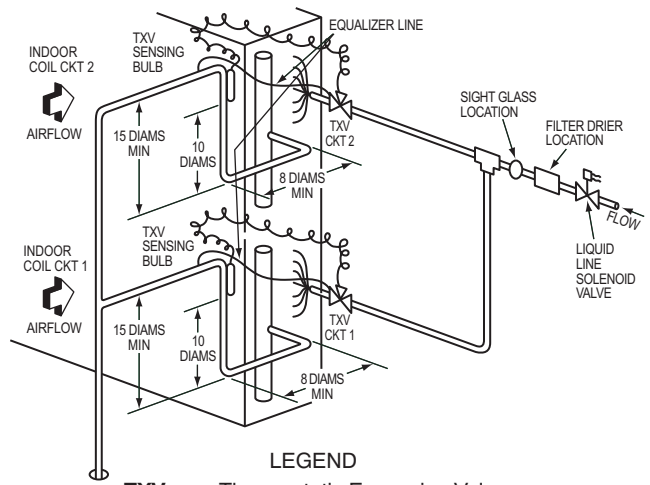
INSTALL LIQUID LINE SOLENOID VALVE — It is recommended that a bi-directional solenoid valve be placed in the main liquid line (see Figs. 10 & 12) between the outdoor unit and the indoor coil. Locate the solenoid valve at the end of the liquid line, near the outdoor unit connections, with flow direction arrow pointed at the outdoor unit. Refer to Refrigerant Specialties Part Numbers Table below. (A liquid line solenoid valve is required when the liquid line length exceeds 75 ft [23 m].) This valve prevents refrigerant migration (which causes oil dilution) to the compressor during the off cycle, at low outdoor ambient temperatures. Wire the solenoid according to the unit label diagram.



LEGEND
TXV — Thermostatic Expansion Valve

C10133

Fig. 10 – Location of Sight Glass(es) and Filter Driers (typical CHS / FHS size 072 & 091 system)



LEGEND
TXV — Thermostatic Expansion Valve

A10134

Fig. 11 – Location of Sight Glass(es) and Filter Driers (typical CHS / FHS size 120 system)

Refrigerant Specialties Part Numbers

| LIQUID LINE SIZE (in.) | LIQUID LINE SOLENOID VALVE (LLSV) | SOLENOID COIL | SIGHT GLASS |
|------------------------|-----------------------------------|---------------|-------------|
| 3/8 | 1179871 plus 1179874 biflow kit | 1179874 | 1179877 |
| 1/2 | 1179872 plus 1179874 biflow kit | 1179874 | 1179877 |
| 5/8 | 1179873 plus 1179874 biflow kit | 1179874 | 1179878 |

GUIDE SPECIFICATIONS – CHS072–240

Split System Heat Pump Outdoor Unit with R–410A Refrigerant

HVAC Guide Specifications — Section 15678

Size Range: **66,000 to 214,000 Btuh Heating**
6 to 20 Nominal Tons Cooling

ICP Model Numbers: **CHS072 thru 240**

Part 1 — General

1.01 SYSTEM DESCRIPTION

- A. Outdoor–mounted, electrically controlled, air–cooled split system heat pump suitable for on–the–ground or rooftop installation. Unit shall consist of a scroll air–conditioning compressor assembly, an air–cooled coil, propeller–type condenser fans, and a control box. Unit shall discharge supply air upward as shown on contract drawings. Unit shall function as the outdoor component of an air to air electric heat pump system.
- B. Unit must be designed with a R–410A refrigerant circuit to match Packaged Heat Pump Air Handling Unit(s), FHS for matched systems approved by the manufacturer.

1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with AHRI Standard 340/360.
- B. Unit construction shall comply with ANSI/ASHRAE 15 safety code latest revision and comply with NEC.
- C. Unit shall be constructed in accordance with UL 1995 standard and shall carry the UL and UL, Canada label for sizes 072–121 and ETL for 180 and 240 models.
- D. Unit cabinet shall be capable of withstanding 500–hour salt spray exposure per ASTM B117 (scribed specimen).
- E. Air–cooled outdoor coils shall be leak tested at 150 psig and pressure tested at 650 psig and qualified to UL burst test at 1980 psig.
- F. Unit shall be manufactured in a facility registered to ISO 9001:2000 manufacturing quality standard.

1.03 DELIVERY, STORAGE AND HANDLING

Unit shall be shipped as single package only, and shall be stored and handled according to 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 split system heat pump. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor, holding charge R–410A, and special features required prior to field start–up.
- B. Unit Cabinet:
 - 6. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a pre–painted baked enamel finish.
 - 7. A heavy–gauge roll–formed perimeter base rail with forklift slots and lifting holes shall be provided to facilitate rigging.
- C. Fans:
 - 1. Condenser fans shall be direct driven, propeller type, discharging air vertically upward.
 - 2. Fan blades shall be balanced.
 - 3. Condenser fan discharge openings shall be equipped with PVC coated steel wire safety guards.
 - 4. Condenser fan and motor shaft shall be corrosion resistant.
- D. Compressor:
 - 1. Compressor shall be of the hermetic scroll type.
 - 2. Compressor shall be mounted on rubber grommets.
 - 3. Compressor shall include overload protection.
 - 4. Compressors shall be equipped with a crankcase heater.
 - 5. Compressor shall be equipped with internal high discharge temperature protection.

E. Coil:

1. Coil shall be air-cooled and circuited for sub cooling during cooling mode of operation.
2. Coil shall be constructed of aluminum fins (copper fins optional) mechanically bonded to internally grooved seamless copper tubes which are then cleaned, dehydrated, and sealed.

F. Refrigeration Components and Operation:

1. Refrigeration circuit components shall include liquid line service valve, suction line service valve, a full charge of compressor oil, holding charge of refrigerant, and loose shipped refrigerant filter drier (one per circuit).
2. Precision-sized suction line accumulator on each refrigerant circuit shall protect from oil being removed from the scroll compressor rotating orbiter and plate during the activation of the defrost mode and switching back and forth from cooling and heating operations.
3. Unit shall be capable of starting and running up to 125°F (52°C) and down to 35°F (2°C) ambient outdoor temperature.
4. Unit shall operate at +/- 10% from rated voltage

G. Controls and Safeties:

1. Minimum control functions shall include:

- a. Control wire terminal blocks.
- b. Compressor lockout on auto-reset safety until reset from thermostat.
- c. Except for CHS091 (D,E) models, each unit shall utilize the Comfort Alert™ Diagnostic Board that provides:

- (1.) System Pressure Trip fault code indication
- (2.) Short Cycling fault code indication
- (3.) Locked Rotor fault code indication
- (4.) Open Circuit fault code indication
- (5.) Reverse Phase 3 fault code indication
- (6.) Welded Contactor fault code indication
- (7.) Low Voltage fault code indication
- (8.) Anti-short cycle protection
- (9.) Phase reversal protection

2. On CHS091 (D,E) models, the two stage digital scroll compressor is controlled by a discharge solenoid and digital timer to control the stages of compression. At part load the solenoid is closed and opens at intervals which equal desired stage of compression.

3. Minimum safety devices which are equipped with automatic reset (after resetting first at thermostat), shall include:

- a. High discharge pressure protection switch.
- b. Loss-of-charge protection switch.

H. Electrical Requirements:

1. Unit electrical power shall be single-point connection.
2. Unit control circuit shall contain a 75VA – 24-v transformer for unit control.

I. Special Features:

1. Unit-Mounted, Non-Fused Disconnect Switch: (Not available when unit MOCP electrical rating exceeds 80 amps)

Switch shall be factory-installed and internally mounted. NEC and UL-approved non-fused switch shall provide unit power shutoff. Switch shall be accessible from outside the unit and shall provide power off lockout capability.

2. Convenience Outlet:

- a. Non-Powered convenience outlet.

- (1.) Outlet shall be powered from a separate 115/120v power source.
- (2.) A transformer shall not be included.
- (3.) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
- (4.) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
- (5.) Outlet shall be accessible from outside the unit.
- (6.) Outlet shall include a field-installed "Wet in Use" cover.

3. Low–Ambient Temperature Control:

A low–ambient temperature control shall be available as a factory–installed option or as a field–installed accessory. This low–ambient control shall regulate speed of the condenser–fan motors in response to the saturated condensing temperature of the unit. The control shall maintain correct condensing pressure at outdoor temperatures down to –20° F (–29° C).

4. Optional Outdoor Coil Materials:

a. Pre–Coated Aluminum–Fin Coils:

Coils shall have a durable epoxy–phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy–phenolic barrier shall minimize galvanic action between dissimilar metals.

b. E–Coated Aluminum–Fin Coils:

Coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss requirements of 60° of 65 to 90% per ASTM D523–89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363–92A and cross hatch adhesion of 4B–5B per ASTM D3359–93. Impact resistance shall be up to 160 in./lb (ASTM D2794–93). Humidity and water immersion resistance shall be up to a minimum of 1000 and 250 hours respectively (ASTM D2247–92 and ASTM D870–92). Corrosion durability shall be confirmed through testing to no less than 1000 hours salt spray per ASTM B117–90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.

5. Louvered Hail Guard Package:

Louvered hail guard package shall protect coils against damage from hail and other flying debris.