38VMH-1P (036-060)
Outdoor Unit for
Single Phase Variable Refrigerant Flow (VRF) Heat Pump Systems

Engineering Data Book

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Specifications

Table 1 —Data Table

MODEL NAME			38VMB036HDS3-1	38VMB048HDS3-1	38VMB060HDS3-1
Power Source			208/230V-1Ph-60Hz		
Capacity Cooling *1		Btu/h	36,000	48,000	60,000
Capacity Heating *2		Btu/h	40,000	52,500	66,000
EER/SEER (Ducted)		Btu/Wh	11.90/18.10	9.80/18.00	9.30/18.20
EER/SEER (Non-Ducted)		Btu/Wh	12.10/19.20	11.00/19.20	9.50/18.60
COP (Ducted)			3.01	3.08	2.96
COP (Non-Ducted)			3.22	3.08	2.99
HSPF (Ducted)			10.30	10.50	10.10
HSPF (Non-Ducted)			11.00	10.50	10.20
MCA			36	38	40
Recommended Fuse Size			40	40	45
Fan	Type		Propeller Fan x 2		
	Air Flow Rate	CFM	4100		
Fan Motor	Type x Qty		Brushless DC Motor x 2		
	Output	W	90+90		
	FLA	A	1.2+1.2		
Heat Exchanger			Inner Groove Copper Tube and Hydrophilic Aluminum fin		
Dimensions (H×W×D)		H (in.)	52-1/4		
		W (in.)	35-1/2		
		D (in.)	15-3/4		
Net Weight		Lbs	220.0		
Sound pressure level		dB(A)	58.70	60.10	60.70
Piping Connections	Liquid Side	in.	3/8		
	Suction Side	in.	5/8		3/4
Temp. Range of Cooling	Indoor	WB	59~75°F (15~23.9°C)		
	Outdoor	DB	5~118°F (-15~48°C)		
Temp. Range of Heating	Indoor	DB	54~86°F (12.2~30°C)		
	Outdoor	WB	-13~64°F (-25~17.8°C)		
Compressor	Type x Qty		Hermetically Sealed Rotary Type x 1		
	Lubricant		Ester Oil VG74		
	Crankcase	W	32		
Refrigerant	Type		R410A		
	Factory Charge	Lbs	8.6		
Protection Devices	Pressure Protection		High Pressure Switch and Low Pressure Switch		
	Compressor / Fan		Overheat protection and Thermal Switch		
	Inverter		Overheat and Overcurrent Protection		
IDU connectable	Total capacity		50-130%		
	Quantity (MAX unit numbers)		5	7	9

NOTES:

1. Nominal cooling capacity are based on the following condition:
   Return air temperature: 80°FDB, 67°FWB
   Outdoor temperature: 95°FDB
2. Nominal heating capacity are based on the following condition:
   Return air temperature: 70°FDB
   Outdoor temperature: 47°FDB, 43°FWB
3. MCA – Minimum Circuit Amps

Dimensions

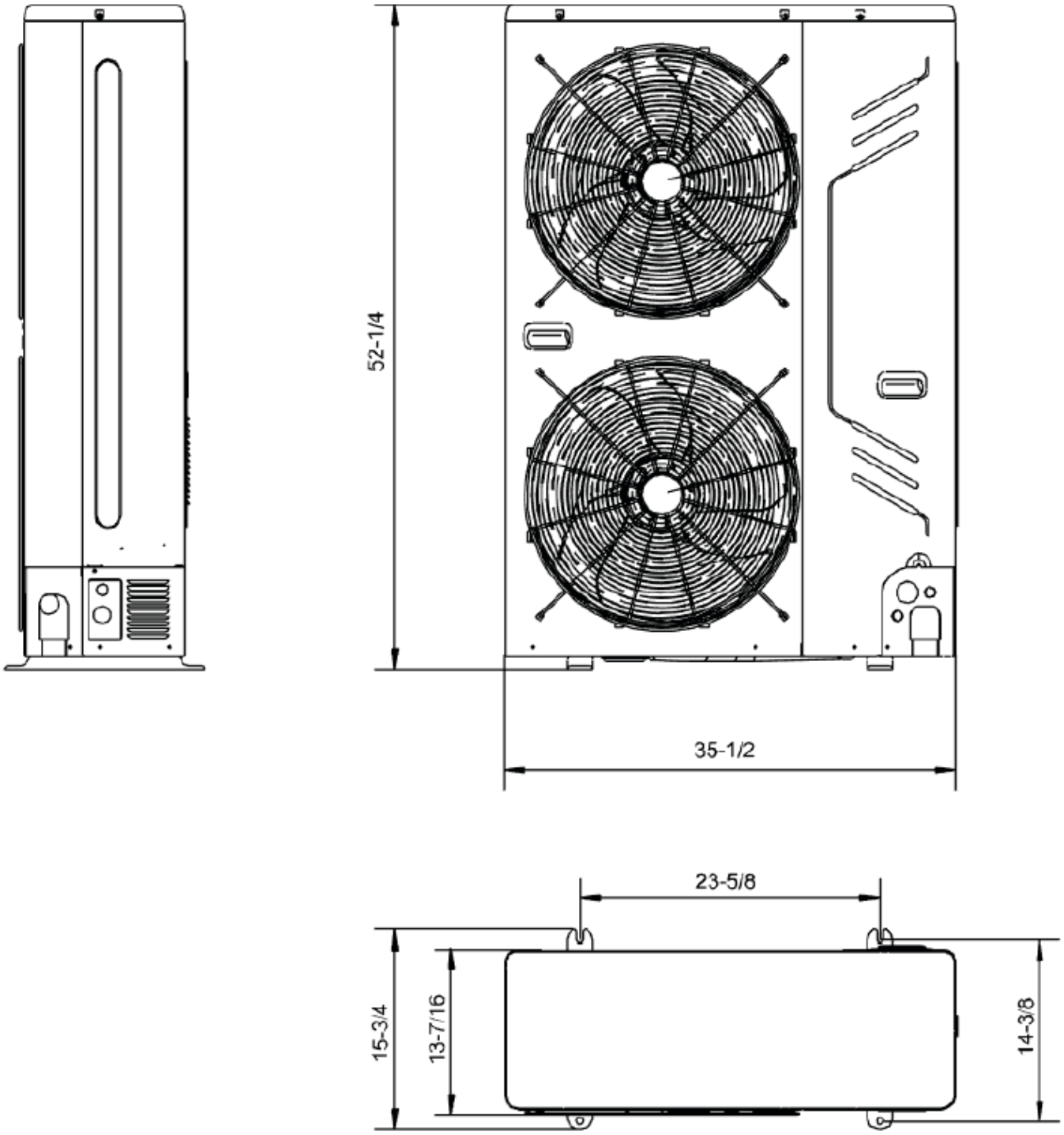


Fig. 1 —38VMB036-60

NOTE: All dimensions are shown in inches.

PIPING DESIGN

Maximum operating pressure of an R410A system is 650psi, and refrigerant piping should be able to withstand this pressure.

Case 1

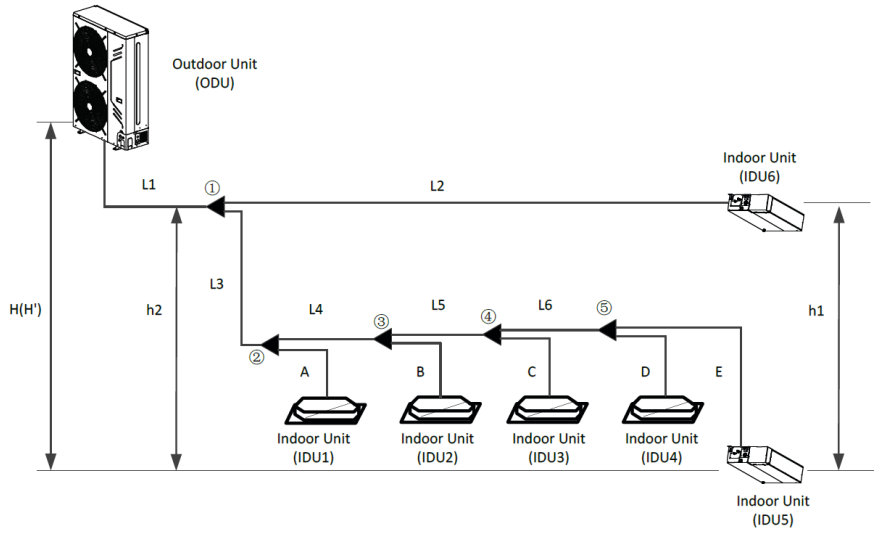


Fig. 2 —Piping Design (Case 1)

- Bends in the piping cause pressure loss during transportation of the refrigerant, so fewer bends will increase the performance.
- The equivalent length of each bend is 1.64 ft.
- The equivalent length of each Y-Joint is 1.64 ft.
- Total "downstream indoor capacity" is the total capacity of all the IDUs connected downstream.
  For example, Y-joint ⑤ is connected with IDU4 and IDU5 (40VMF009A--3 + 40VMM007A--3), which has a downstream indoor capacity of 16K (Capacity index 9 + 7 = 16).
- The pipe length difference from the first branch to each IDU must not exceed 65 ft.
- For example, the distance from IDU1 to the first branch is L3 + A, the distance from IDU6 to the first branch is L2, while the distance from IDU5 to the first branch is L3 + L4 + L5 + L6 + E, so make sure that |L2 - (L3 + A)|, |L2 - (L3 + L4 + L5 + L6 + E)| and |(L3 + L4 + L5 + L6 + E) - (L3 + A)| are all less than 65 ft.

Table 2 —Piping Length

Unit: ft

ITEM	PIPING in the FIGURE	MAX. LENGTH	EQUIVELENT LENGTH
Total piping length	L1 + L2 + L3 + L4 + L5 + L6 + A + B + C + D + E	492 *1	-
Maximum distance from ODU to farthest IDU	L1 + L3 + L4 + L5 + L6 + E	296	328
First branch to farthest IDU	L3 + L4 + L5 + L6 + E	131	-
Height between ODU and IDU(ODU above IDU)	H	164	-
Height between ODU and IDU(ODU below IDU)	H'	131	-
Height between IDU and IDU	h1	49	-
Height between first branch to IDU	h2	49	-

*1 If only one IDU connects to the ODU, the total piping length must not exceed 328 ft.

Table 3 —Selection of "L1"

MODEL	SUCTION PIPE	LIQUID PIPE
38VMB036HDS3-1	5/8 *	3/8
38VMB048HDS3-1		
38VMB060HDS3-1	3/4 *	

*When the length "L1" is greater than 230ft, the suction pipe should be increased from 5/8 to 3/4, or from 3/4 to 7/8. The pipe adapter must be as close as possible to the ODU.

Table 4 —Selection of L2~L6, A, B, C, D, E

DOWNSTREAM INDOOR CAPACITY (KBTU/H)	SUCTION PIPE	LIQUID PIPE
Capacity≤15K	1/2	1/4
15K<Capacity≤78K	5/8	3/8

Case 2

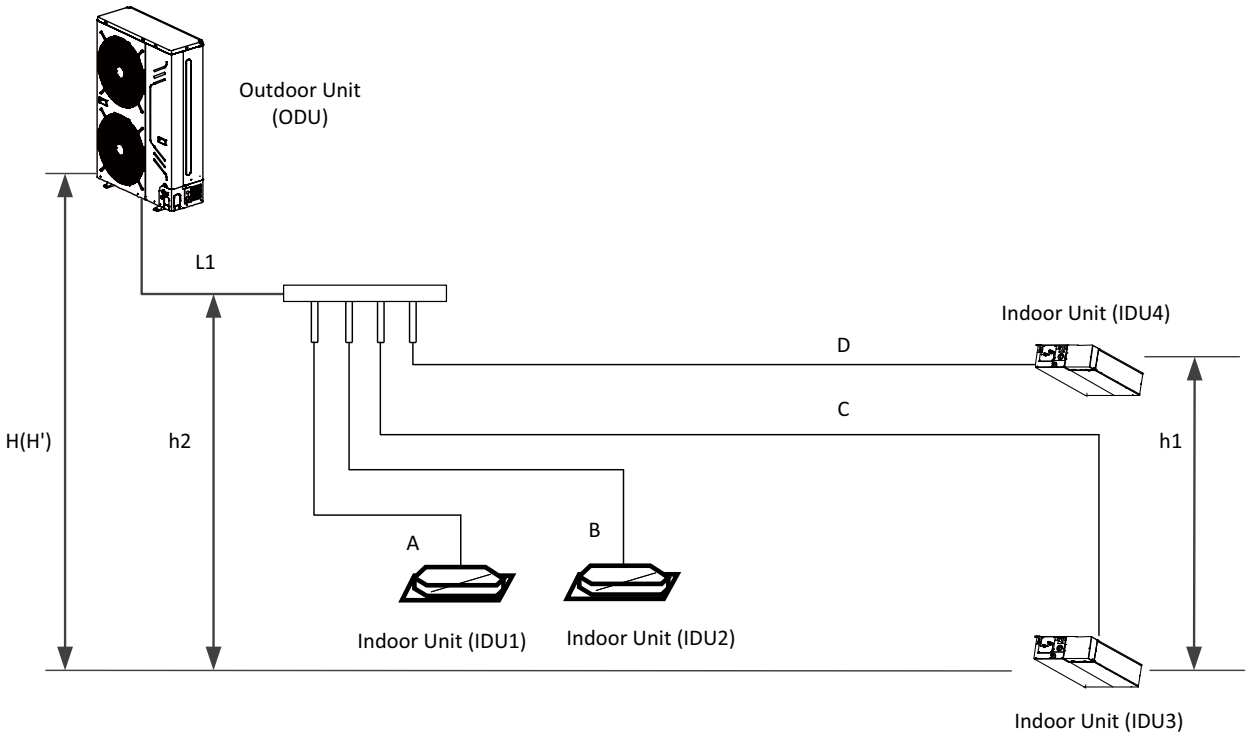


Fig. 3 —Piping Design (Case 2)

- Bends in piping cause pressure loss during transportation of refrigerant, so fewer bends will increase performance.
- The equivalent length of each bend is 1.64 ft.
- The equivalent length header is 1.64 ft.
- The pipe length difference between each IDU must not exceed 49 ft.

Table 5 —Piping Length

Unit: ft

ITEM	PIPING in the FIGURE	MAX. LENGTH	EQUIVALENT LENGTH
Total piping length	L1 + A + B + C + D	492	-
Maximum distance from ODU to farthest IDU	L1 + A, L1 + B, L1 + C, L1 + D	296	328
First branch (Header) to farthest IDU	A, B, C, D	131	-
Height between ODU and IDU(ODU above IDU)	H	164	-
Height between ODU and IDU(ODU below IDU)	H’	131	-
Height between IDU and IDU	h1	49	-
Height between first branch (header) and IDU	h2	49	-

Table 6 —Selection of “L1”

MODEL	SUCTION PIPE	LIQUID PIPE
38VMB036HDS3-1	5/8 *	3/8
38VMB048HDS3-1		
38VMB060HDS3-1	3/4 *	

*When the length of “L1” is greater than 230 ft, the suction pipe should be increased from 5/8 to 3/4, or from 3/4 to 7/8. The pipe adapter must be as close as possible to the ODU.

Table 7 —Selection of A~D

DOWNSTREAM INDOOR CAPACITY (KBTU/H)	SUCTION PIPE	LIQUID PIPE
Capacity ≤ 15K	1/2	1/4
15K < Capacity ≤ 78K	5/8	3/8

Case 3

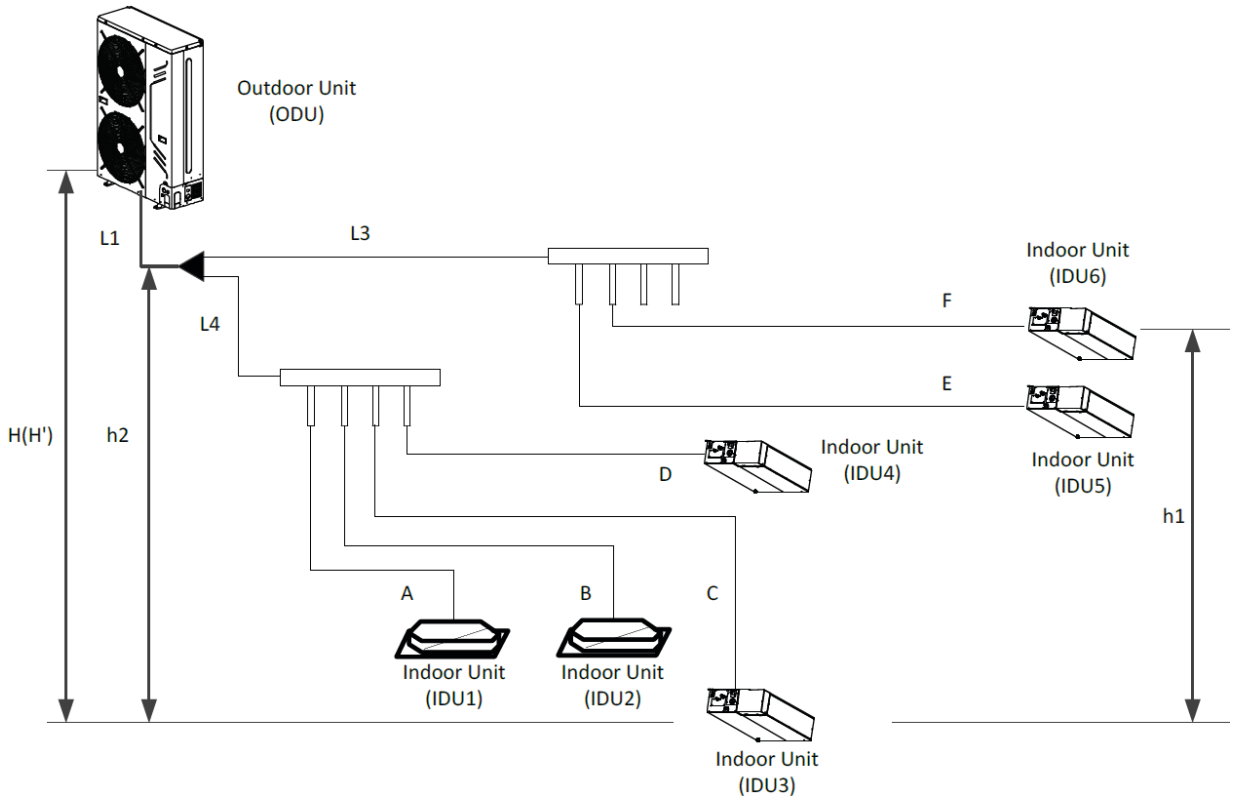


Fig. 4 —Piping Design (Case 3)

- Bends in the piping cause pressure loss during transportation of refrigerant, so fewer bends will increase performance.
- The equivalent length of each bend is 1.64 ft.
- The equivalent length of each Y-Joint or header is 1.64 ft.
- Total "downstream indoor capacity" is the total capacity of all the IDUs connected downstream.
- The pipe length difference from the first branch to each IDU must not exceed 49 ft.

Table 8 —Piping Length

Unit: ft

ITEM	PIPING in the FIGURE	MAX. LENGTH	EQUIVALENT LENGTH
Total piping length	L1 + L3 + L4 + A + B + C + D + E + F	492	-
Maximum distance from ODU to farthest IDU	L1 + L4 + A, L1 + L4 + B, L1 + L4 + C, L1 + L4 + D, L1 + L3 + E, L1 + L3 + F	296	328
First branch to farthest IDU	L4 + A, L4 + B, L4 + C, L4 + D, L3 + E, L3+F	131	-
Height between ODU and IDU(ODU above IDU)	H	164	-
Height between ODU and IDU(ODU below IDU)	H'	131	-
Height between IDU and IDU	h1	49	-
Height between first branch and IDU	h2	49	-

Table 9 —Selection of "L1"

MODEL	SUCTION PIPE	LIQUID PIPE
38VMB036HDS3-1	5/8 *	3/8
38VMB048HDS3-1		
38VMB060HDS3-1	3/4 *	

*When the length of "L1" is greater than 230 ft, the suction pipe should be increased from 5/8 to 3/4 or from 3/4 to 7/8. The pipe adapter must be as close as possible to the ODU.

Table 10 —Selection of L3~4, A~F

DOWNSTREAM INDOOR CAPACITY (KBTU/H)	SUCTION PIPE	LIQUID PIPE
Capacity ≤ 15K	1/2	1/4
15K < Capacity ≤ 78K	5/8	3/8

Case 4

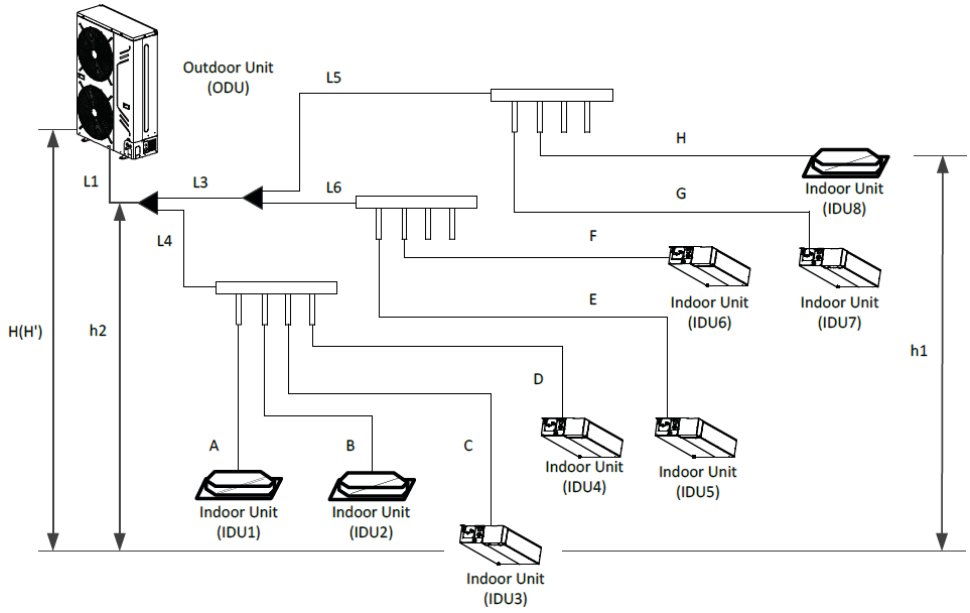


Fig. 5 —Piping Design (Case 4)

- Bends in piping cause pressure loss during transportation of refrigerant, so fewer bends will increase performance.
- The equivalent length of each bend is 1.64 ft.
- The equivalent length of each Y-Joint or header is 1.64 ft.
- Total "downstream indoor capacity" is the total capacity of all the IDUs connected downstream.
- The pipe length difference from the first branch to each IDU must not exceed 49 ft.

Table 11 —Piping Length

Unit: ft

ITEM	PIPING in the FIGURE	MAX. LENGTH	EQUIVALENT LENGTH
Total piping length	L1 + L3 + L4 + L5 + L6 + A + B + C + D + E + F + G + H	492	
Maximum distance from ODU to farthest IDU	L1 + L4 + A, L1 + L4 + B, L1 + L4 + C, L1 + L4 + D, L1 + L3 + L6 + E, L1 + L3 + L6 + F L1 + L3 + L5 + G, L1 + L3 + L5 + H	296	328
First branch to farthest IDU	L4 + A, L4 + B, L4 + C, L4 + D, L3 + L6 + E, L3 + L6 + F, L3 + L5 + G, L3 + L5 + H	131	
Height between ODU and IDU (ODU above IDU)	H	164	
Height between ODU and IDU (ODU below IDU)	H'	131	
Height between IDU and IDU	h1	49	
Height between first branch and IDU	h2	49	

Table 12 —Selection of "L1"

MODEL	SUCTION PIPE	LIQUID PIPE
38VMB036HDS3-1	5/8 *	3/8
38VMB048HDS3-1		
38VMB060HDS3-1	3/4 *	

* When the length of "L1" is greater than 230 ft, the suction pipe should be increased from 5/8 to 3/4 or from 3/4 to 7/8. The pipe adapter must be as close as possible to the ODU.

Table 13 —Selection of L3~5, A~F

DOWNSTREAM INDOOR CAPACITY (KBTU/H)	SUCTION PIPE	LIQUID PIPE
Capacity ≤ 15K	1/2	1/4
15K < Capacity ≤ 78K	5/8	3/8

Case 5

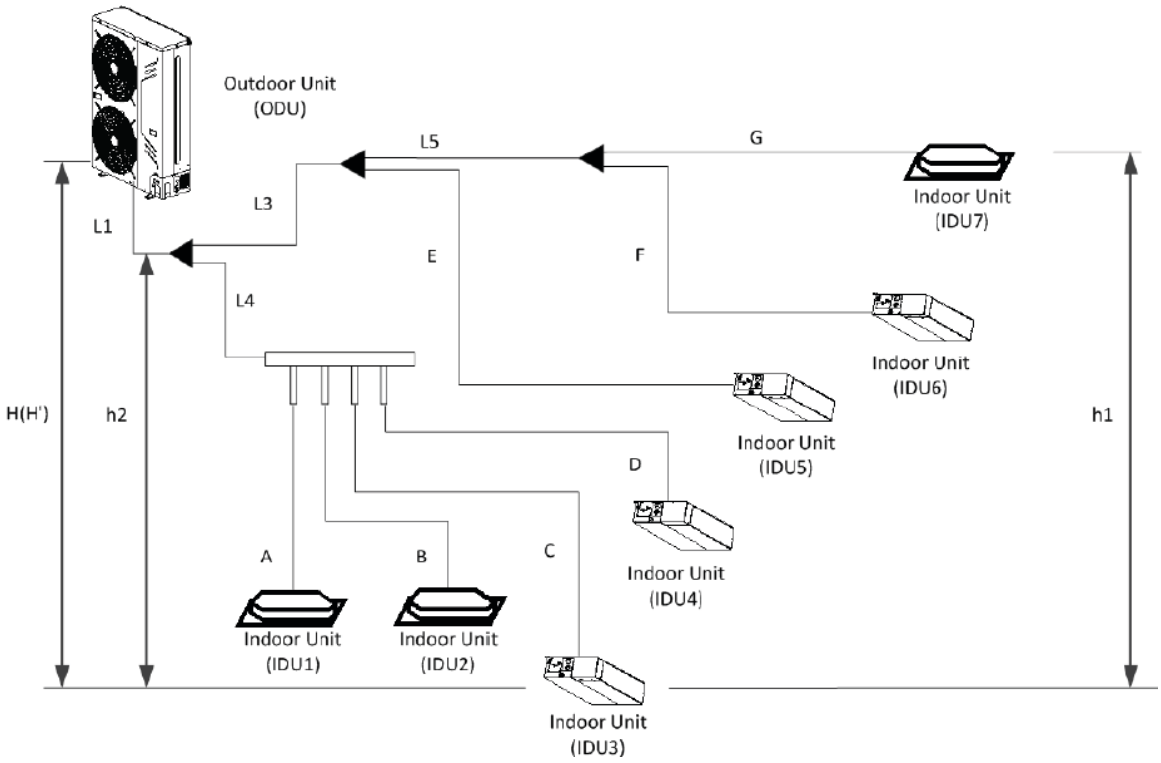


Fig. 6 —Piping Design (Case 5)

- Bends in piping cause pressure loss during transportation of refrigerant, so fewer bends will increase performance.
- The equivalent length of each bend is 1.64 ft.
- The equivalent length of each Y-Joint or header is 1.64 ft.
- Total "downstream indoor capacity" is the total capacity of all the IDUs connected downstream.
- The pipe length difference from first branch to each IDU must not exceed 49 ft.

Table 14 —Piping Length

Unit: ft

ITEM	PIPING in the FIGURE	MAX. LENGTH	EQUIVALENT LENGTH
Total piping length	L1 + L3 + L4 + L5 + A + B + C + D + E + F + G	492	-
Maximum distance from ODU to farthest IDU	L1 + L4 + A, L1 + L4 + B, L1 + L4 + C, L1 + L4 + D, L1 + L3 + E, L1 + L3 + L5 + F L1 + L3 + L5 + G	296	328
First branch to farthest IDU	L4 + A, L4 + B, L4 + C, L4 + D, L3 + E, L3 + L5 + F, L3 + L5 + G	131	-
Height between ODU and IDU (ODU above IDU)	H	164	-
Height between ODU and IDU (ODU below IDU)	H'	131	-
Height between IDU and IDU	h1	49	-
Height between first branch and IDU	h2	49	-

Table 15 —Selection of "L1"

MODEL	SUCTION PIPE	LIQUID PIPE
38VMB036HDS3-1	5/8 *	3/8
38VMB048HDS3-1		
38VMB060HDS3-1	3/4 *	

*When the length of "L1" is greater than 230 ft, the suction pipe should be increased from 5/8 to 3/4 or from 3/4 to 7/8. The pipe adapter must be as close as possible to the ODU.

Table 16 —Selection of L3~5, A~F

DOWNSTREAM INDOOR CAPACITY (KBTU/H)	SUCTION PIPE	LIQUID PIPE
Capacity ≤ 15K	1/2	1/4
15K < Capacity ≤ 78K	5/8	3/8

REFRIGERANT CHARGE CALCULATION

Based on the field-installed refrigerant pipe and system layout, additional refrigerant charge may be required. Add additional refrigerant based on the calculation below.

R*: Amount of additional refrigerant to be charged

$$R^* = [\text{Total Length (ft) of liquid piping size at Ø7/8 in.}] \times 0.255 + [\text{Total Length (ft) of liquid piping size at Ø3/4 in.}] \times 0.181 + [\text{Total Length (ft) of liquid piping size at Ø5/8 in.}] \times 0.120 + [\text{Total Length (ft) of liquid piping size at Ø1/2 in.}] \times 0.080 + [\text{Total Length (ft) o liquid piping size a Ø3/8 in.}] \times 0.040 + [\text{Total Length (ft) of liquid piping size at Ø1/4 in.}] \times 0.015 + \text{(lb/ft)}$$

IDU Model	Charged Amount per Unit
40VMF012~036A--3	1.10
40VMM012~036A--3	1.10
Others	0

+

Y-Joints or Headers Number in Liquid Side
x0.22 (lbs/item)

NOTE: Regardless of the total amount calculated by the formula above, maximum additional refrigerant charge must not exceed 22.0 lbs for system.

ELECTRICAL WIRING DIAGRAMS

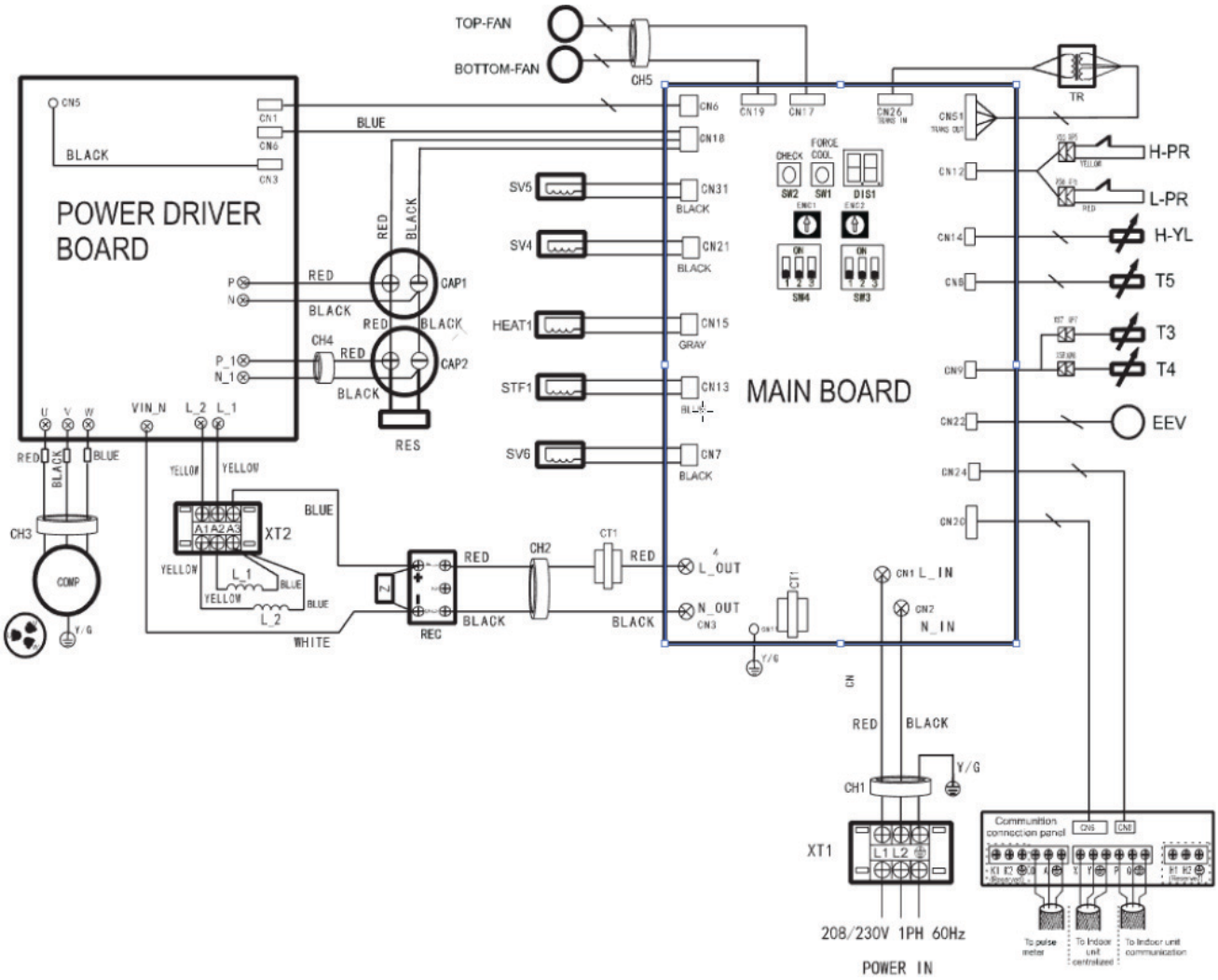


Fig. 7 —Wiring Diagram

Table 17 —Error Code for ODU

ERROR CODE	DESCRIPTION	ERROR CODE	DESCRIPTION
E2	Communication error between IDU and ODU	**P8**	Typhoon protection
E4	T3 or T4 temperature sensor	**PE**	High indoor coin temperature
E5	Power voltage protection	**PP**	Wet compression protection
E6	DC fan error	**F1**	DC bus voltage is too low for 5 seconds
E7	Discharge temperature sensor error	**H0**	Communication error between power driver board and main board
E9	EEPROM error	**H4**	L0 or L1 error more than 3 times in 60 minutes
E.9.	Mismatched main chip with EEPROM	**L0**	Fault in compressor module
EA	DC fans stay at zone A for more than 5 minutes in heating mode (T3 > 75°F)	**L1**	DC bus under voltage protection
Eb	E6 error more than 2 times in 10 minutes	**L2**	DC bus over voltage protection
P1	High pressure protection	**L4**	Compressor MCE error
P2	Low pressure protection	**L5**	Low compressor speed (reserved)
P3	Input current overload	**L7**	Compressor wrong phase protection (reserved)
P4	Discharge temperature (T5) protection	**L8**	Compressor speed difference in one second more than 15mph.
P5	Condenser temperature (T3) protection	**L9**	Compressor speed difference between setting speed and running speed more than 15mph.

Table 18 —Components

CODE	COMPONENT	CODE	COMPONENT
COMP	Compressor	**L-2**	PFC Inductor
CAP1 CAP2	Capacitor	**REC**	Rectifier
CT1	AC Current Sensor	**RES**	Resistor
CH1-CH6	Magnetic Ring	**STF1**	4-Way Valve
EEV	Electronic Expansion Valve	**SV4-SV6**	Solenoid Valve
TOP-FAN BOTTOM-FAN	Outdoor Fan Motor (DC)	**T3**	Condenser Temperature Sensor
HEAT1	Crankcase Heater	**T4**	Outdoor Ambient Temperature Sensor
H-YL	High Pressure Sensor	**T5**	Comp. Discharge Temperature Sensor
H-PR	High Pressure Switch	**XT1, XT2**	Block Terminal
L-PR	Low Pressure Switch	**TR**	Transformer
L_1	PFC Inductor	**Z**	Voltage Dependent Resistor

Table 19 —Switches 1 and 2

	SW1 button on PCB is for force cooling mode. Press once to enter the force cooling mode and press twice to exit the force cooling mode.
	SW2 button is the query button. The LED will display the parameter values by the number of pushes per SW2 query instructions.

Table 20 —Display

NUMBER	DISPLAY CONTENT	NUMBER	DISPLAY CONTENT
0	Normal display	**11**	1/10 of DC bus voltage
1	Operating mode	**12**	T2A average temperature (IDU)
2	Operating fan speed	**13**	Total number of IDUs
3	The total capacity requirements of the IDU	**14**	Number of operating IDUs
4	The capacity requirements of the revised external unit	**15**	Model
5	T3 (Condenser temperature)	**16**	Discharge pressure
6	T4 (Outdoor temperature)	**17**	Saturation temperature of the discharge pressure
7	T5 (Comp. discharge temperature)	**18**	Priority mode
8	The surface temperature of the radiator	**19**	Version of the program
9	Opening of EEV	**20**	Last fault of protection code
10	Unit current	**21**	Display “—“ (end of menu)

Table 21 —Switches 3 and 4

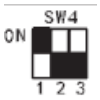
SW3 FUNCTION DEFINITION		SW4 FUNCTION DEFINITION	
	Heating priority mode		Automatic addressing
	Cooling priority mode		Non-automatic addressing (factory default)
	First running priority mode		Clear IDU address
	Heating mode only		Fahrenheit temperature (factory default)
	Cooling mode only		Celsius temperature

Table 22 —ECNC1 and 2

ENC1 FUNCTION DEFINITION (factory use only)		ENC2 FUNCTION DEFINITION	
	For factory use only		ODU network address dial-up Only 0-7 used

REFRIGERANT CIRCUIT DIAGRAMS

Table 23 —Components

NAME	SYMBOL	MAJOR FUNCTION
Inverter compressor	INV	Used to vary the refrigerant flow rate by adjusting the frequency based on capacity requirement
Oil separator	O/S	Used to separate oil from high pressure gas refrigerant, which is pumped out from compressor
4-way valve	ST1	Switches the operation mode between heating and cooling
Heat exchanger	HEX	Transfers heat with outside surroundings
Inverter fan	FAN	Regulates the heat exchanger capacity by adjusting rotating speeds
Electronic expansion valve	EEV	Used to adjust refrigerant flow rate
Gas/liquid separator	ACC	Used to separate gas refrigerant to prevent liquid slugging
Solenoid valve	SV4	Used to control the amount of oil from the oil separator back to the Inverter compressor
	SV5	Bypass hot gas from compressor discharge in heating mode
	SV6	Used to cool down compressor by spraying liquid refrigerant when discharge temp. is larger than 199°F
Thermistor	T3	Used to detect pipe temperature on heat exchanger
	T4	Used to detect ambient temperature
	T5	Used to detect discharge pipe temperature
Fusible plug	FP	This plug melts at a temperature of 158°F to 167°F when fire occurs
High pressure sensor	P-Sensor	Used to detect high pressure
High pressure switch	HPS	Prevents abnormal increase of high pressure, which activates at 638 psi and shuts down compressor
Low pressure switch	LPS	Prevents abnormal decrease of low pressure, which activates at 20.3 psi and shuts down compressor

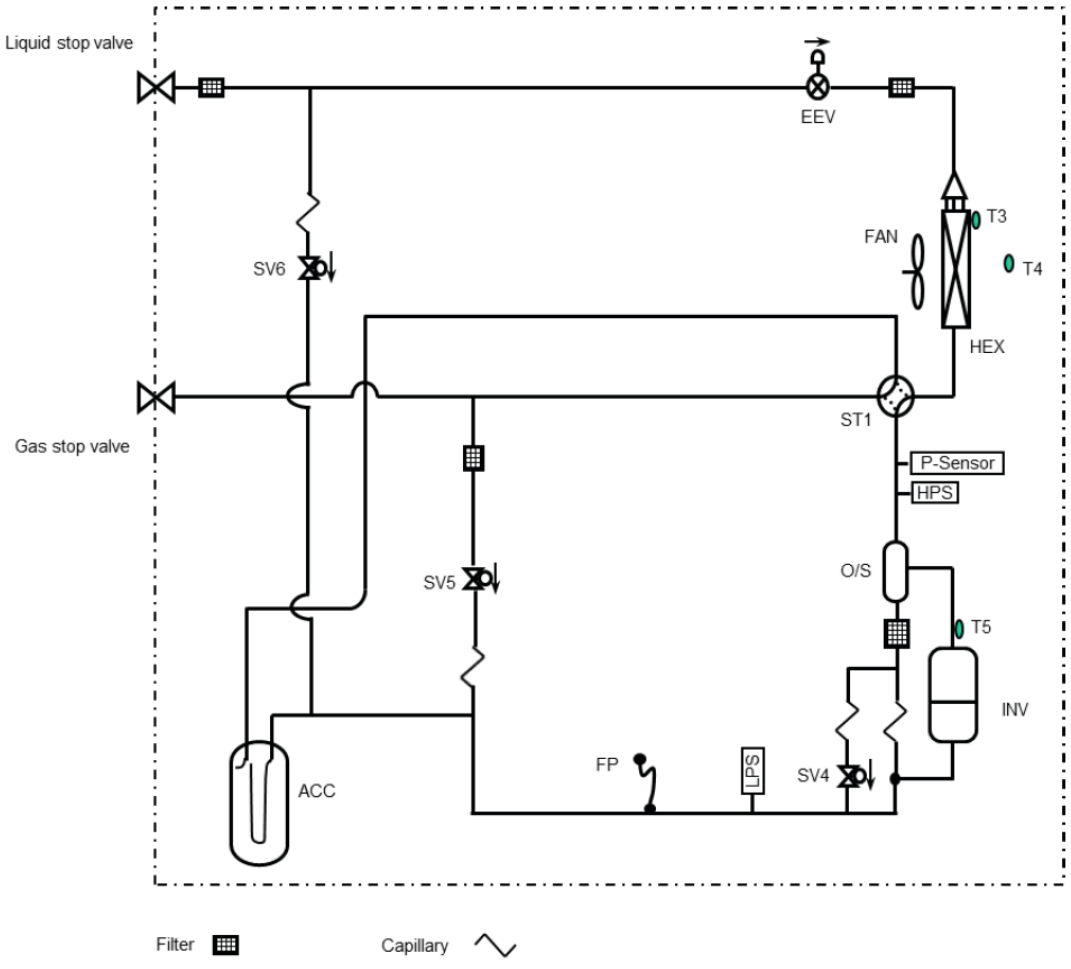


Fig. 8 —Refrigerant Circuit Diagram

Field Wiring

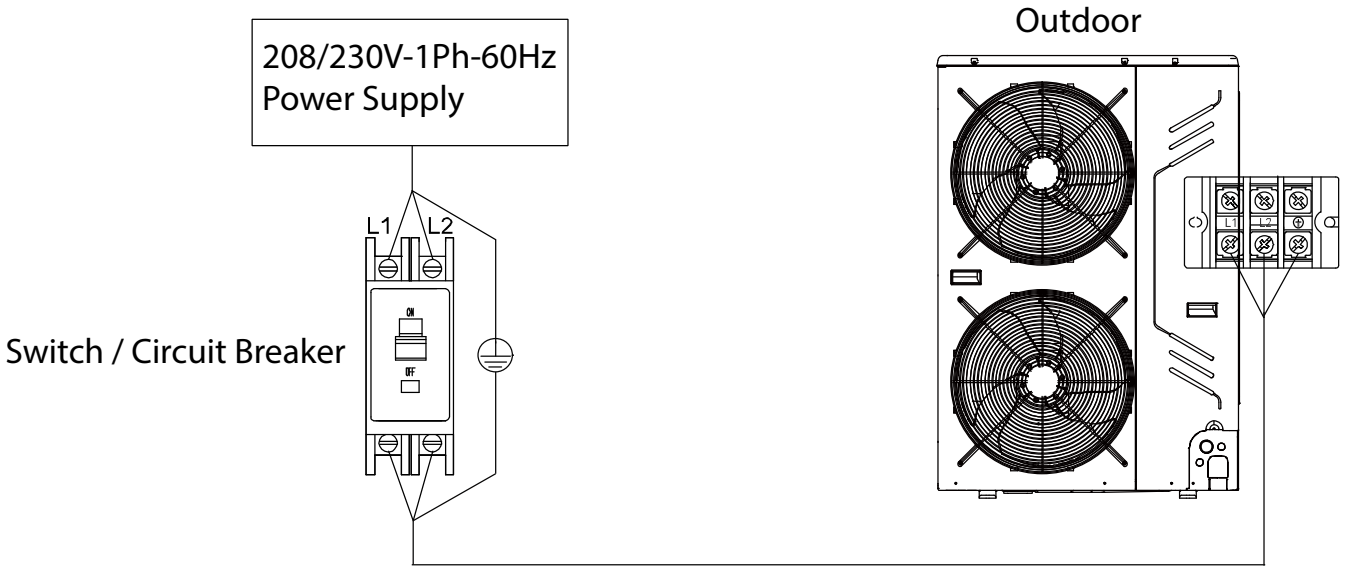
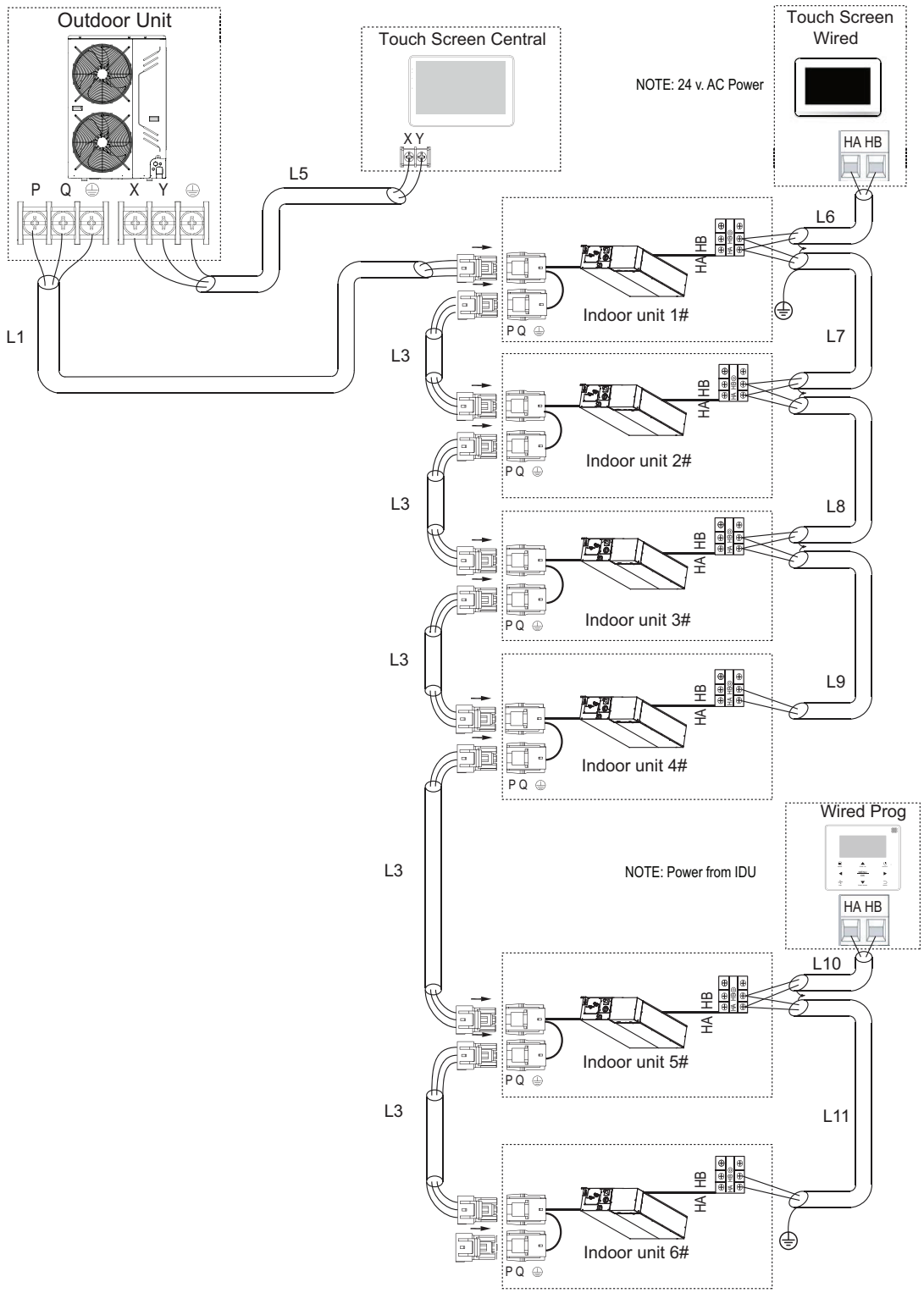


Fig. 9 —Typical Power Supply Wiring

NOTE: Use 2 core stranded shielded cables for communication bus.

System Layout



Maximum wiring length
L1+L3 ≤ 3937 ft 18 AWG, 2-Core Stranded Shield
L5 ≤ 3937 ft 18 AWG, 2-Core Stranded Shield
L6+L7+L8+L9 ≤ 820 ft 18 AWG, 2-Core
L10+L11 ≤ 820 ft 18 AWG, 2-Core

Fig. 10 —Typical Communication Wiring Diagram

Operation Limits

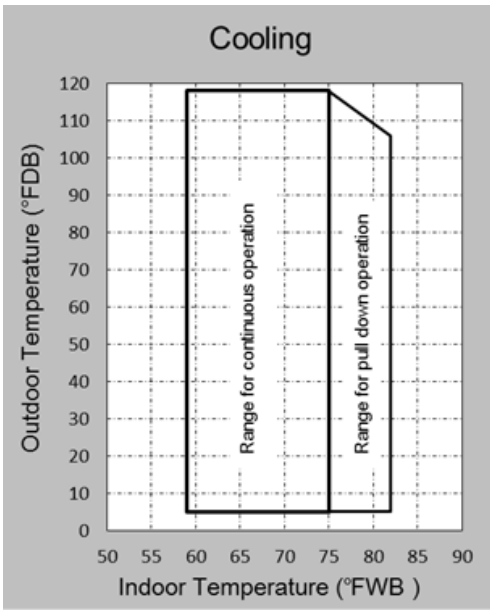


Fig. 11 —Operation Limits (Cooling)

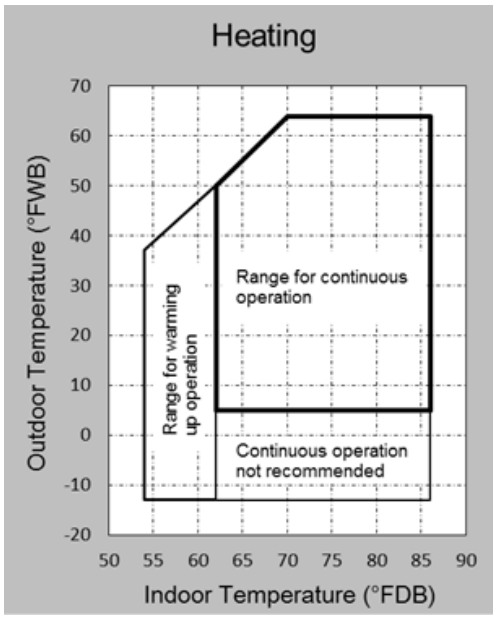


Fig. 12 —Operation Limits (Heating)

Table 24 —Operating Temperature Range

MODE	OUTDOOR TEMPERATURE	INDOOR TEMPERATURE
Cooling	5~118°FDB (-15~48°CDB)	59~75°FWB (15~23.9°CWB)
Heating	-13~64°FWB (-25~17.8°CWB)	54~86°FDB (12.2~30°CDB)

SOUND PRESSURE LEVELS

Testing Setup

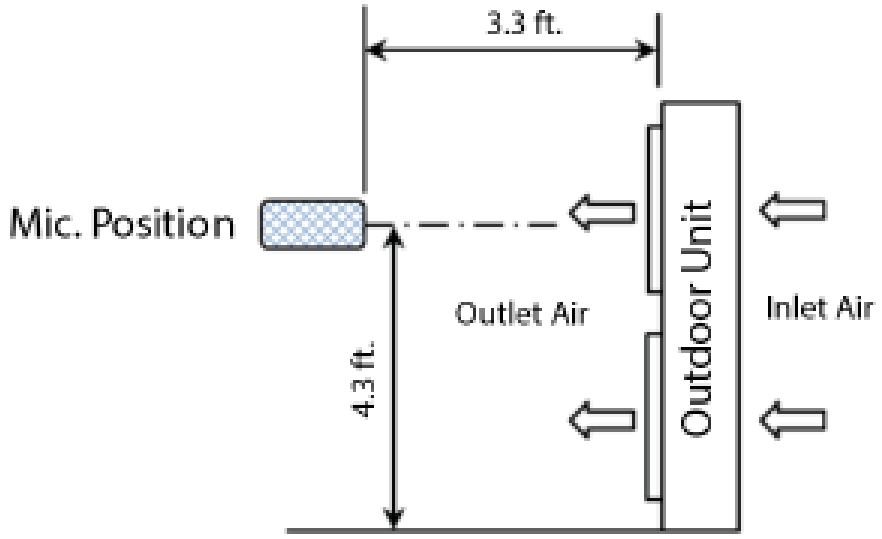
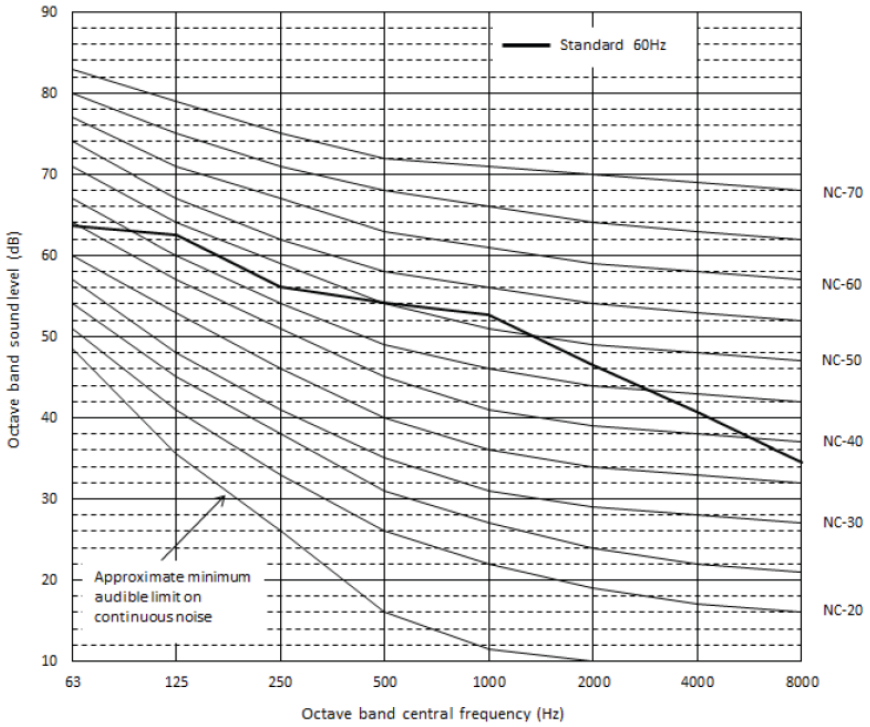


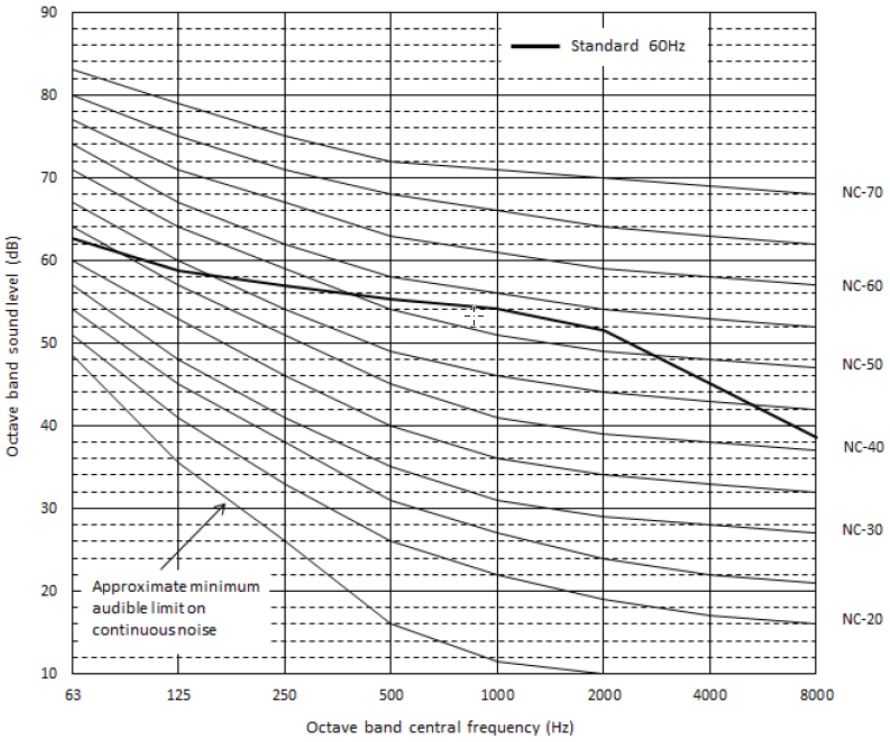
Fig. 13 —Testing Scheme

NC Curves



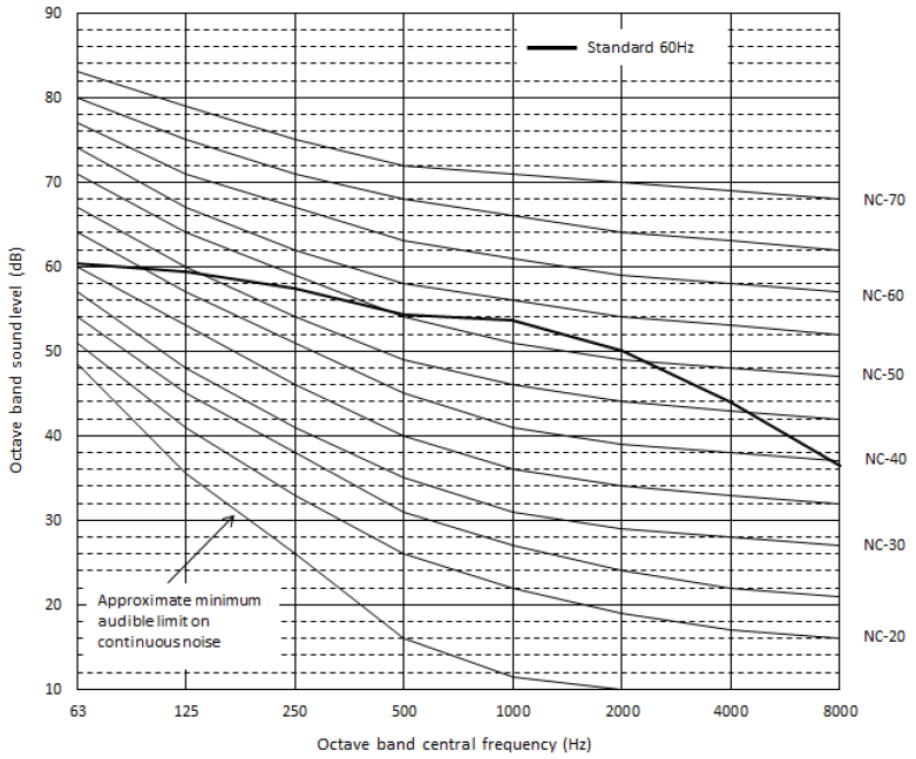
38VMB036HDS3-1		63	125	250	500	1000	2000	4000	8000	dB(A)
Standard	60Hz	63.6	62.5	56.1	54.2	52.7	46.5	40.8	34.5	58.7

Fig. 14 —NC Curve - 38VMB036



38VMB048HDS3-1		63	125	250	500	1000	2000	4000	8000	dB(A)
Standard	60Hz	62.6	58.8	56.9	55.3	54.1	51.6	45.2	38.6	60.1

Fig. 15 —NC Curve - 38VMB048



38VMB060HDS3-1		63	125	250	500	1000	2000	4000	8000	dB(A)
Standard	60Hz	60.4	59.3	57.4	54.4	53.6	50.0	43.9	36.5	60.7

Fig. 16 —NC Curve - 38VMB060

OPTIONAL PARTS

Joints

Be sure to select the adapter pipes based on the downstream IDU capacity. Use a special tool to cut off the unnecessary parts when connecting field pipes.

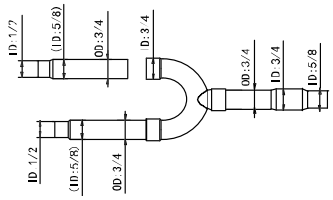
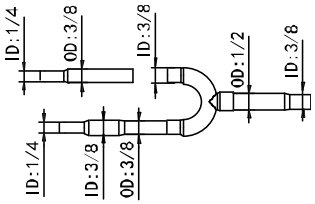
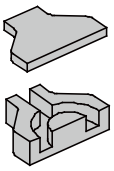
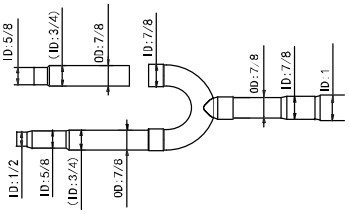
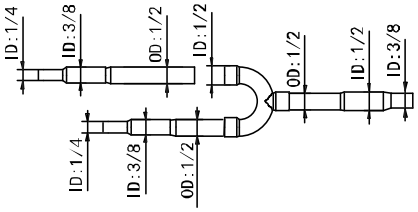
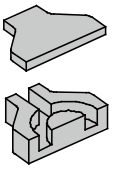
MODEL NAME	SUCTION SIDE	LIQUID SIDE	HEAT INSULATION MATERIAL
40VM900031			 (2 sets)
40VM900032			 (2 sets)

Fig. 17 —Optional Parts - Joints

Make sure that the joints are installed horizontally with a permitted incline angle. Refer to the installation manual for additional information.

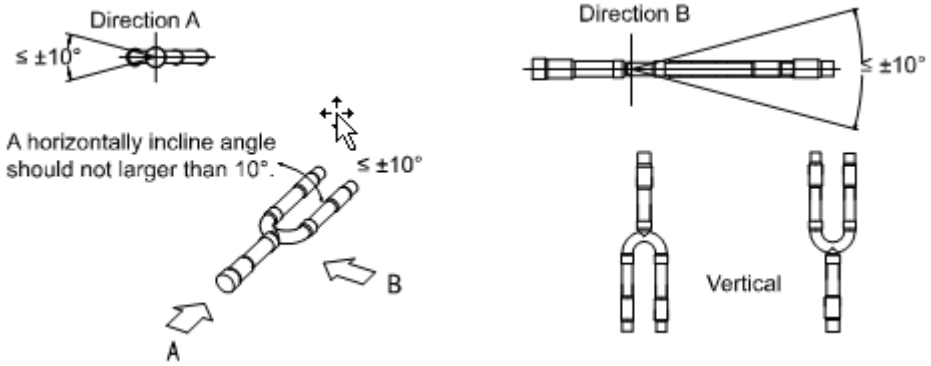


Fig. 18 —Horizontal Installation

Header

DIMENSIONS

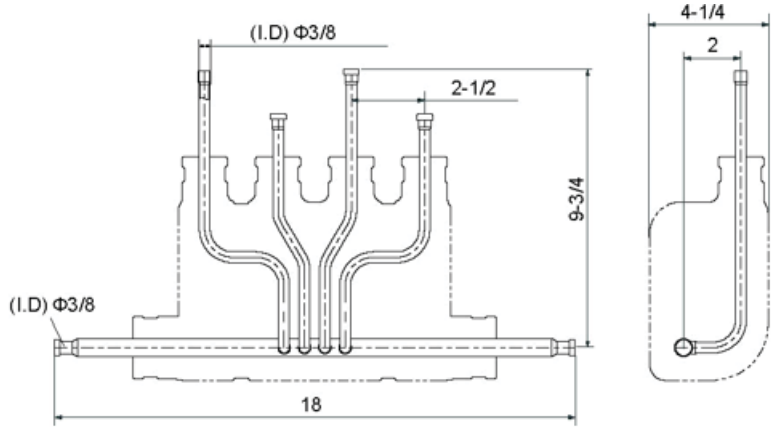


Fig. 19 —Liquid Side

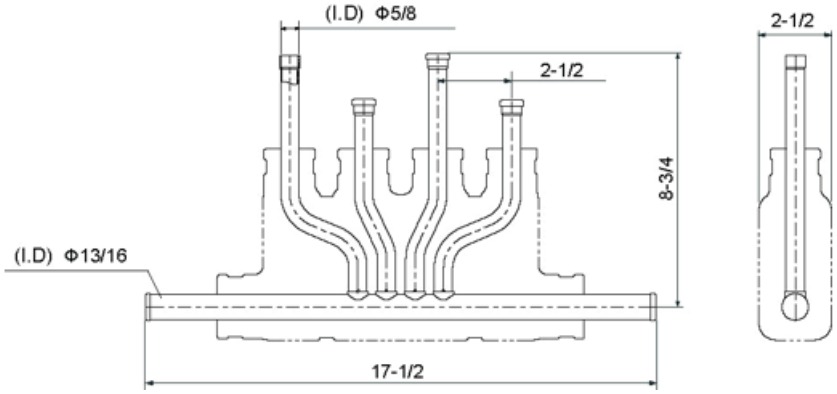


Fig. 20 —Gas Side

Make sure that the headers are installed horizontally with a permitted incline angle±10°

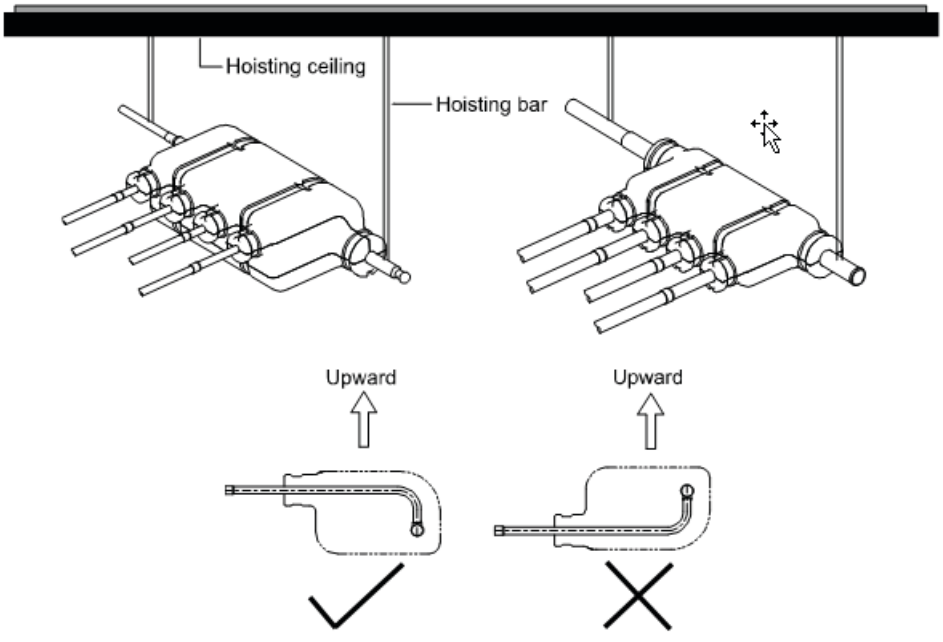


Fig. 21 —Header Installation - 1

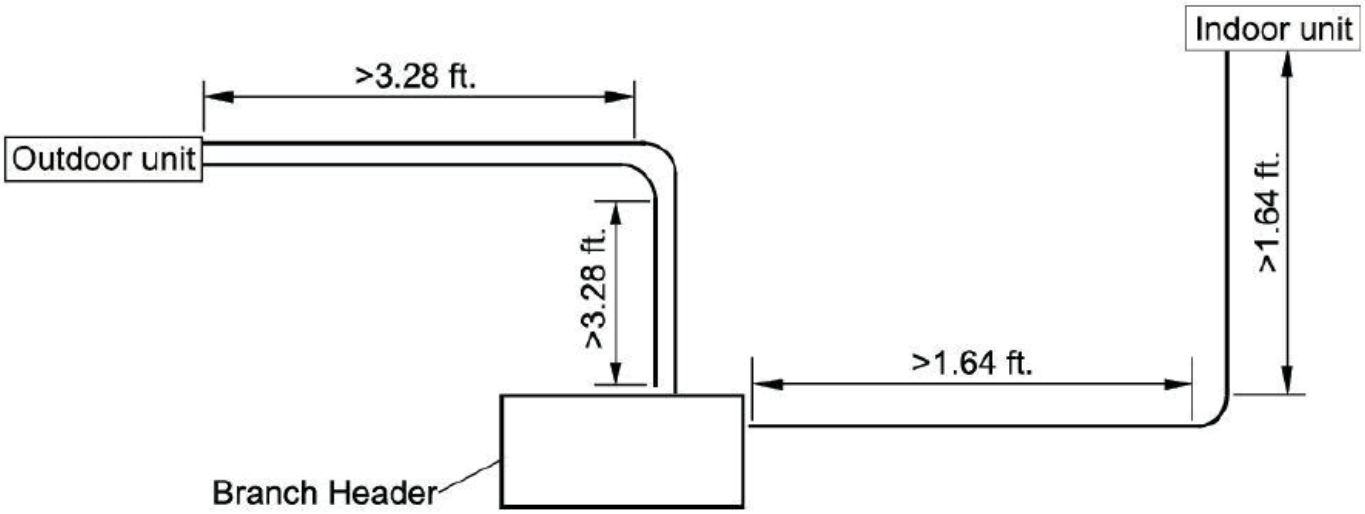


Fig. 22 —Header Installation - 2

THERMAL INSULATION PROTECTION

To prevent condensation on the header, install foam insulation on the header after completing the brazing process. Secure the foam insulation on the header with the help of belts provided as an accessory.

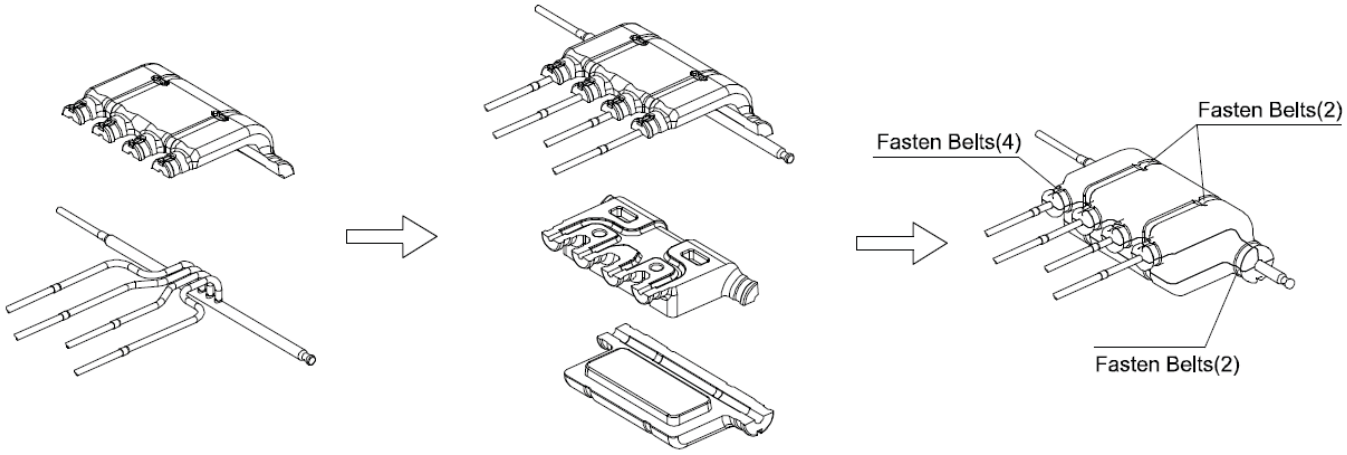


Fig. 23 —Liquid Side

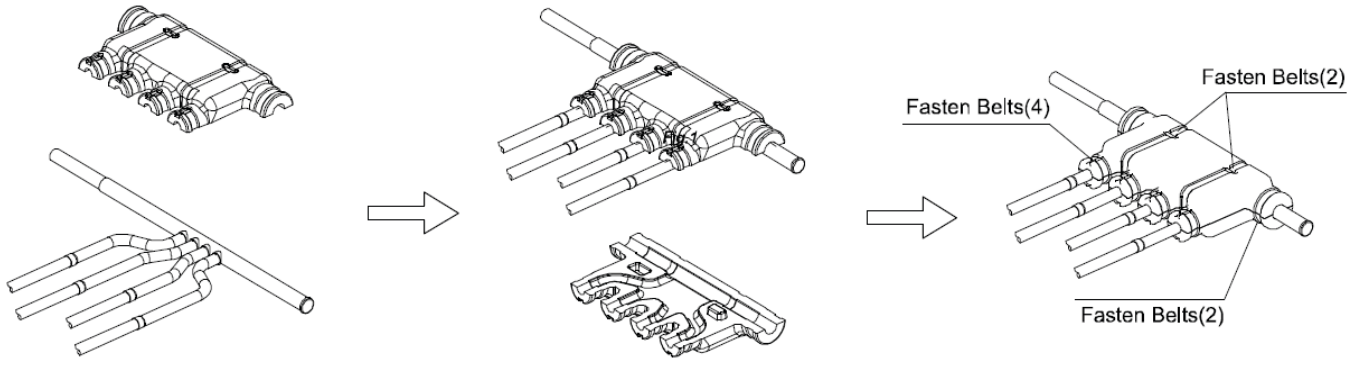


Fig. 24 —Suction Side

Outdoor installation

- When positioning the unit, avoiding any exposure to high temperatures.
- Consider the unit noise when choosing an installation location.
- Avoid mounting the unit in the direction of prevailing winds.
- The unit should be protected from combustible gas, oil, steam, chemical and sulfur gases, etc.
- Provide enough space for installation and maintenance.
- Do not install the ODU near an area with strong electromagnetic interference.

Refer to the ODU installation manual for additional information.

1. Once an area is chosen to install ODUs, ensure that unit is supported along the left and right rails or along the front and back rails.
2. Firmly fasten the feet of the unit with bolts to prevent it from tipping over due to strong winds or other natural disasters.

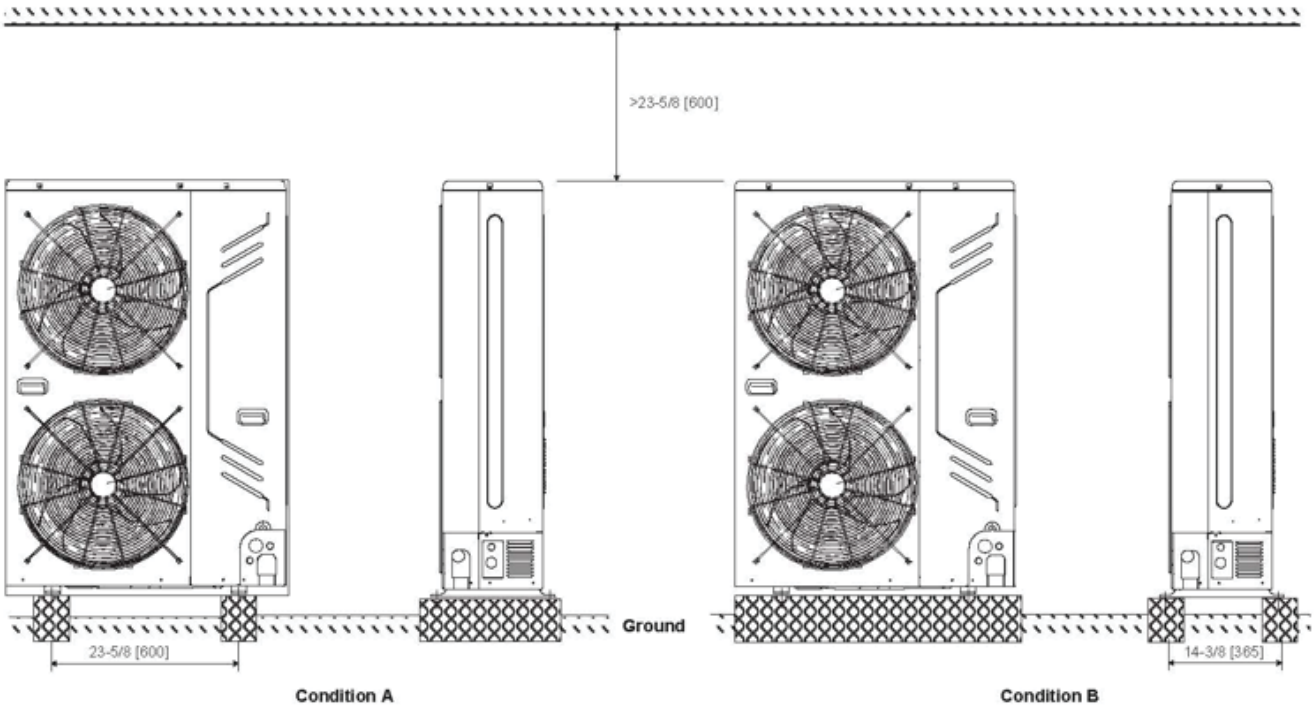


Fig. 25 —Outdoor Installation

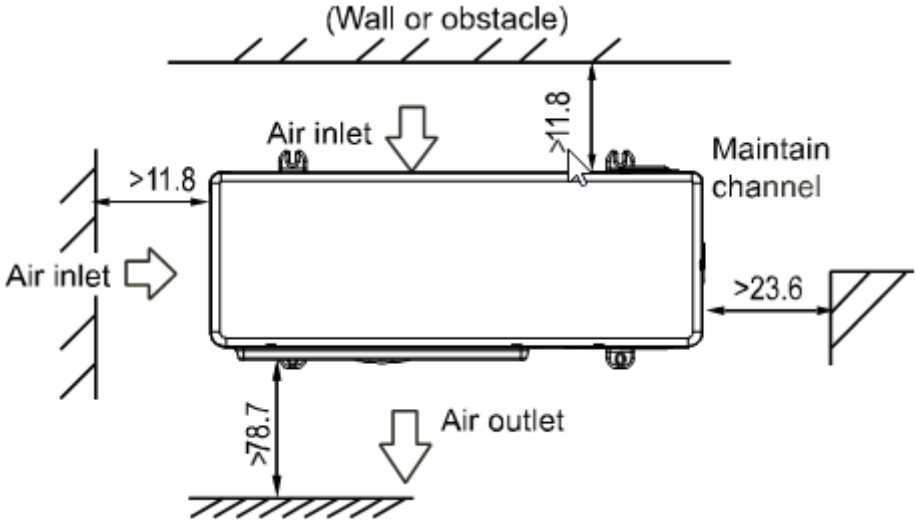


Fig. 26 —Single Unit Installation

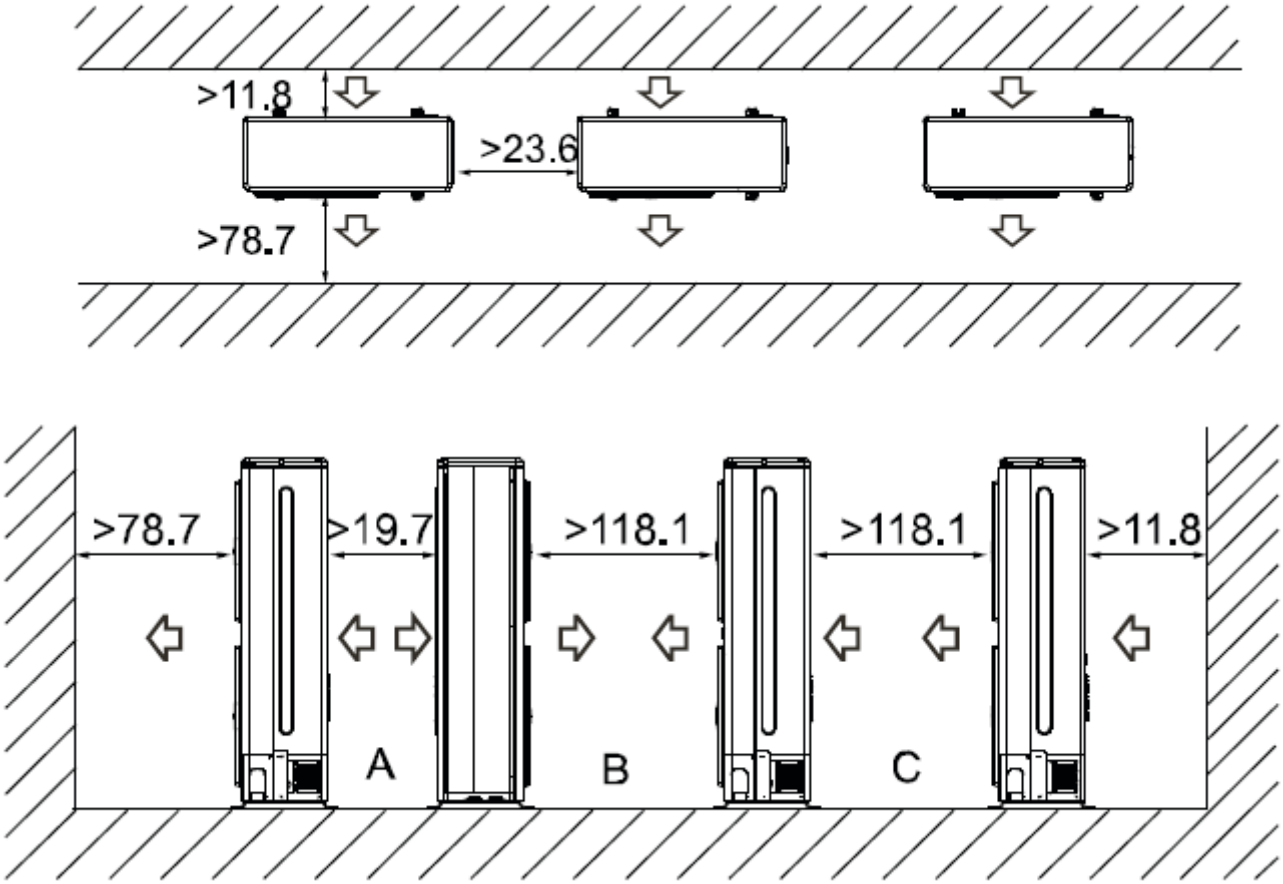


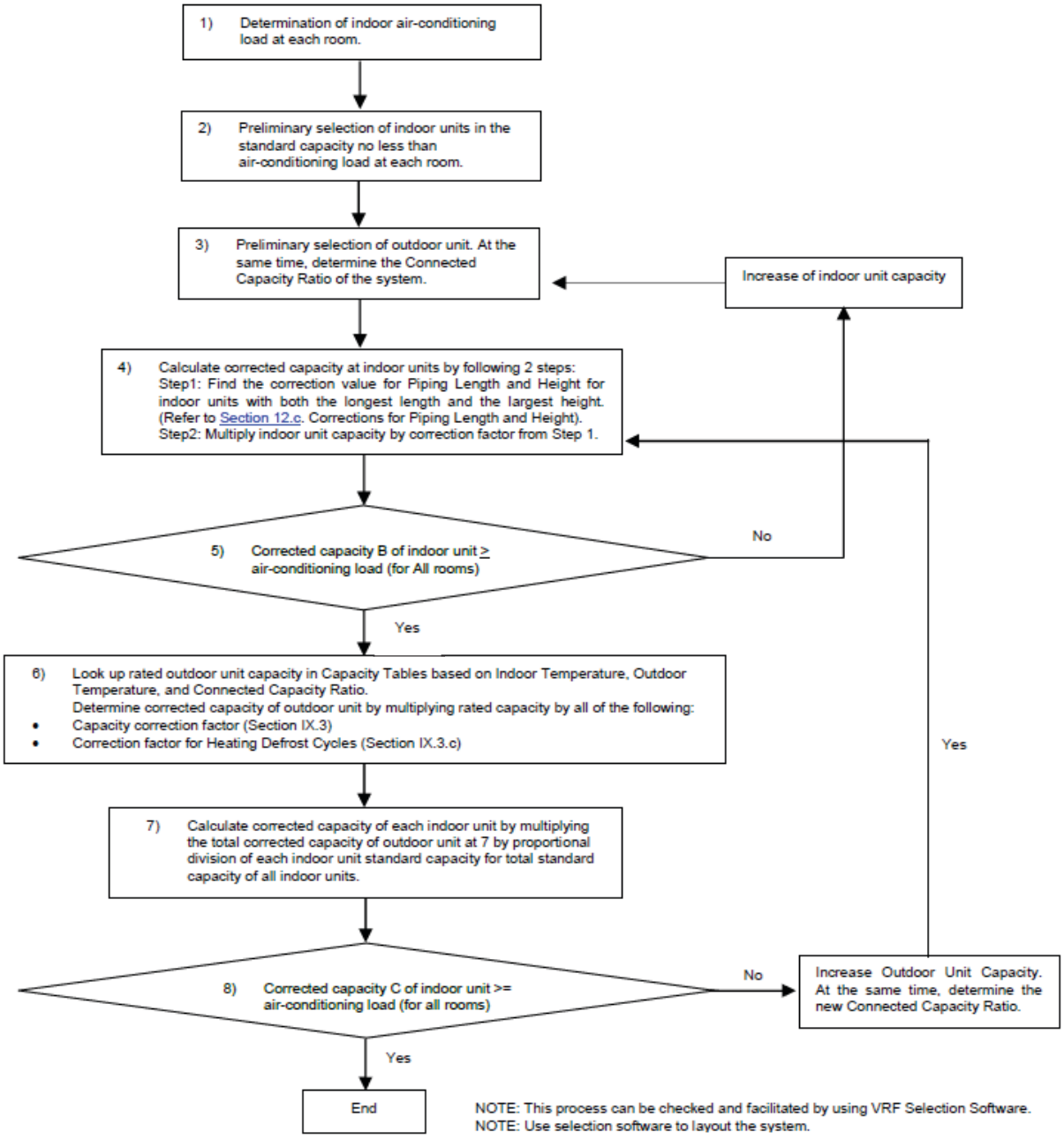
Fig. 27 —Parallel Unit Installation

NOTES:

1. Back to back, minimum 19.7 in.
2. Face to face, minimum 118.1 in.
3. Face to back, minimum 118.1 in.

EQUIPMENT SELECTION

Selection Flow Chart



CONNECTED CAPACITY RATIO

Table 25 —Indoor Unit Combination Total Capacity Ratio

OUTDOOR UNIT TON (kBtu/h)	INDOOR UNIT COMBINATION RATIO (kBtu/h)								
	130%	120%	110%	100%	90%	80%	70%	60%	50%
3 (36)	48.6	43.2	39.6	36	32.4	28.8	25.2	21.6	18
4 (48)	64.8	57.6	52.8	48	43.2	38.4	33.6	28.8	24
5 (60)	81	72	66	60	54	48	42	36	30

Table 26 —Indoor Unit Combination Total Capacity Ratio

Unit Size	Model 005	Model 007	Model 009	Model 012	Model 015	Model 018	Model 024
Capacity Index (kBtu/h)	5	7	9	12	15	18	24
Unit Size	**Model 030**	**Model 036**	**Model 048**	**Model 054**	**Model 072**	**Model 096**	
Capacity Index (kBtu/h)	30	36	48	54	72	96	

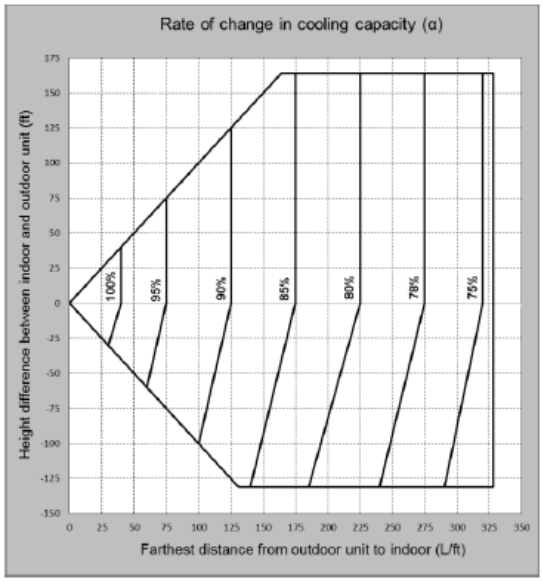
Capacity Correction Factors

METHOD OF CAPACITY CALCULATION

Cooling capacity = Capacity obtained from cooling capacity tables x Capacity correction factor is based on piping length and height difference (α)

Heating capacity = Capacity obtained from heating capacity tables x Correction factor is based on piping length and height difference (α) x frost correction factor

CAPACITY CORRECTION BASED ON PIPING LENGTH AND HEIGHT DIFFERENCE



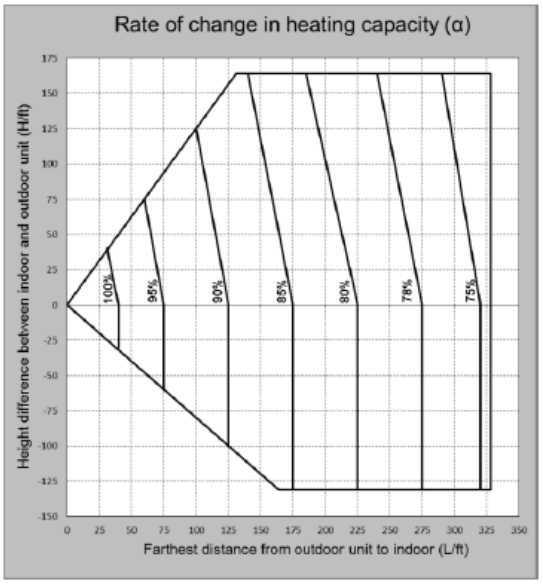


Fig. 28 —Rate of Change in Cooling Capacity **Fig. 29 —Rate of Change in Heating Capacity**

L: Refrigerant piping equivalent length from ODU to IDU

H: Height difference between ODU and IDU. Positive data means the ODU is above the IDU, while negative data means the ODU is below the IDU.

α: Capacity correction factor

FROST CORRECTION FACTOR

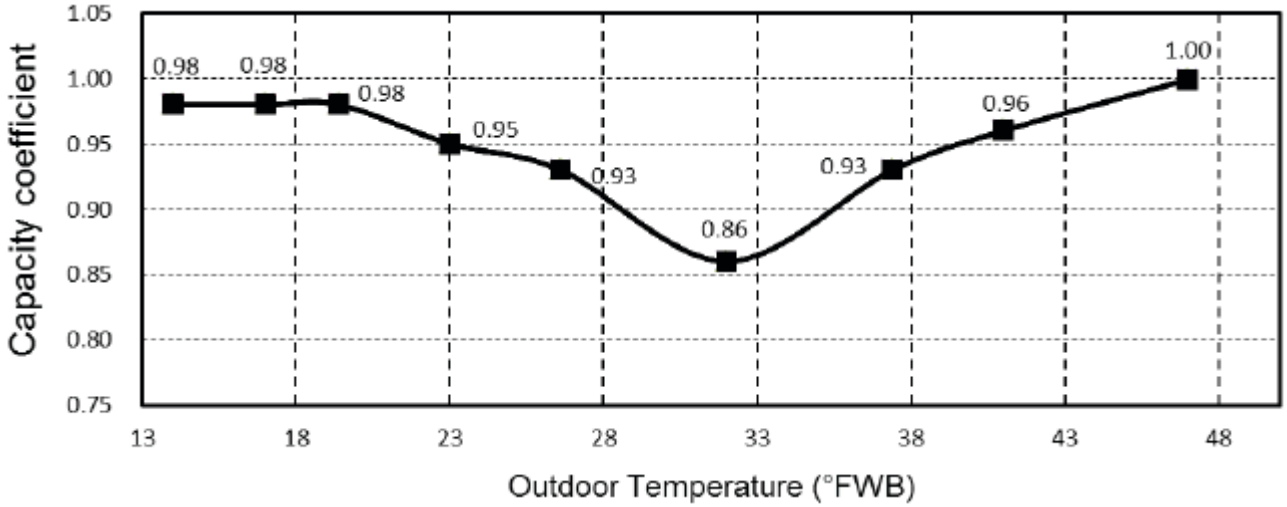


Fig. 30 —Frost Correction Factor

CAPACITY DATA TABLES

Cooling Capacity

Table 27 —38VMB036HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	5	27.46	1.4	33.26	1.63	39.06	1.91	49.06	2.43	49.51	2.35	49.96	2.27
	10	27.46	1.42	33.26	1.66	39.06	1.94	48.37	2.42	48.82	2.34	49.27	2.26
	15	27.46	1.44	33.26	1.69	39.06	1.97	47.68	2.41	48.13	2.33	48.58	2.25
	20	27.46	1.46	33.26	1.72	39.06	2	46.99	2.4	47.44	2.32	47.89	2.24
	25	27.46	1.48	33.26	1.75	39.06	2.03	46.3	2.39	46.75	2.31	47.2	2.23
	30	27.46	1.5	33.26	1.78	39.06	2.06	45.61	2.38	46.06	2.3	46.51	2.22
	35	27.46	1.52	33.26	1.8	39.06	2.1	44.92	2.37	45.37	2.3	45.82	2.21
	40	27.46	1.55	33.26	1.83	39.06	2.13	44.23	2.36	44.68	2.29	45.13	2.2
	45	27.46	1.57	33.26	1.86	39.06	2.16	43.53	2.36	43.99	2.28	44.44	2.18
	50	27.46	1.59	33.26	1.89	39.06	2.2	42.84	2.35	43.29	2.27	43.74	2.17
	55	27.46	1.62	33.26	1.92	39.06	2.24	42.15	2.34	42.6	2.27	43.05	2.35
	60	27.46	1.64	33.26	1.95	39.06	2.27	41.46	2.37	41.91	2.45	42.36	2.54
	65	27.46	1.67	33.26	1.99	39.06	2.36	40.77	2.55	41.22	2.64	41.67	2.73
	70	27.46	1.69	33.26	2.1	39.06	2.58	40.08	2.73	40.53	2.83	40.98	2.93
	75	27.46	1.82	33.26	2.29	38.94	2.8	39.39	2.91	39.84	3.02	40.29	3.12
	80	27.46	1.97	33.26	2.48	38.25	2.97	38.7	3.09	39.15	3.21	39.6	3.32
	85	27.46	2.13	33.26	2.68	37.56	3.15	38.01	3.28	38.46	3.4	38.91	3.53
	90	27.46	2.29	33.26	2.89	36.87	3.33	37.32	3.46	37.77	3.6	38.13	3.71
	95	27.46	2.46	33.26	3.11	36.18	3.51	36.63	3.65	37.01	3.77	37.06	3.79
	100	27.46	2.64	33.26	3.35	35.49	3.69	35.88	3.83	35.93	3.84	35.98	3.86
	105	27.46	2.83	33.26	3.6	34.76	3.86	34.81	3.88	34.85	3.89	34.9	3.91
	110	27.46	3.03	31.15	3.54	31.75	3.63	32.55	3.75	33.35	3.87	33.82	3.95
	115	23.88	2.75	24.48	2.83	25.08	2.91	25.88	3.02	26.68	3.13	27.48	3.24
120	5	25.35	1.31	30.7	1.51	36.06	1.77	43.2	2.12	49.26	2.35	49.68	2.32
	10	25.35	1.33	30.7	1.54	36.06	1.8	43.2	2.15	48.57	2.35	48.99	2.31
	15	25.35	1.35	30.7	1.57	36.06	1.83	43.2	2.18	47.88	2.35	48.3	2.3
	20	25.35	1.37	30.7	1.6	36.06	1.86	43.2	2.21	47.19	2.35	47.61	2.29
	25	25.35	1.39	30.7	1.63	36.06	1.89	43.2	2.24	46.5	2.35	46.92	2.28
	30	25.35	1.41	30.7	1.66	36.06	1.92	43.2	2.27	45.81	2.35	46.23	2.27
	35	25.35	1.43	30.7	1.68	36.06	1.94	43.2	2.31	45.12	2.34	45.54	2.26
	40	25.35	1.45	30.7	1.7	36.06	1.97	43.2	2.35	44.43	2.33	44.85	2.25
	45	25.35	1.47	30.7	1.73	36.06	2.01	43.2	2.38	43.74	2.32	44.16	2.24
	50	25.35	1.49	30.7	1.76	36.06	2.04	42.63	2.38	43.05	2.31	43.47	2.23
	55	25.35	1.51	30.7	1.78	36.06	2.07	41.94	2.38	42.36	2.3	42.78	2.3
	60	25.35	1.53	30.7	1.81	36.06	2.11	41.25	2.37	41.67	2.41	42.08	2.49
	65	25.35	1.55	30.7	1.84	36.06	2.14	40.56	2.5	40.98	2.59	41.39	2.67
	70	25.35	1.58	30.7	1.91	36.06	2.33	39.87	2.68	40.29	2.77	40.7	2.86
	75	25.35	1.67	30.7	2.07	36.06	2.53	39.18	2.86	39.6	2.96	40.01	3.06
	80	25.35	1.8	30.7	2.25	36.06	2.75	38.49	3.04	38.91	3.14	39.32	3.25
	85	25.35	1.94	30.7	2.43	36.06	2.97	37.8	3.22	38.22	3.33	38.63	3.45
	90	25.35	2.09	30.7	2.62	36.06	3.21	37.11	3.4	37.53	3.52	37.94	3.65
	95	25.35	2.24	30.7	2.81	36	3.45	36.42	3.59	36.83	3.72	37.06	3.79
	100	25.35	2.41	30.7	3.02	35.31	3.63	35.73	3.77	35.93	3.84	35.98	3.86
	105	25.35	2.58	30.7	3.25	34.62	3.81	34.81	3.88	34.85	3.89	34.9	3.91
	110	25.35	2.75	30.7	3.48	31.75	3.63	32.55	3.75	33.35	3.87	33.82	3.95
	115	23.88	2.75	24.48	2.83	25.08	2.91	25.88	3.02	26.68	3.13	27.48	3.24

Table 27 —38VMB036HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
110	5	23.24	1.26	28.15	1.39	33.05	1.62	39.6	1.94	48.47	2.38	49.4	2.37
	10	23.24	1.27	28.15	1.42	33.05	1.65	39.6	1.97	47.89	2.38	48.71	2.36
	15	23.24	1.28	28.15	1.45	33.05	1.68	39.6	2	47.31	2.38	48.02	2.35
	20	23.24	1.29	28.15	1.48	33.05	1.71	39.6	2.03	46.73	2.38	47.33	2.34
	25	23.24	1.3	28.15	1.51	33.05	1.74	39.6	2.06	46.15	2.38	46.64	2.33
	30	23.24	1.31	28.15	1.54	33.05	1.77	39.6	2.09	45.57	2.38	45.95	2.32
	35	23.24	1.33	28.15	1.56	33.05	1.79	39.6	2.12	44.88	2.38	45.26	2.31
	40	23.24	1.35	28.15	1.58	33.05	1.82	39.6	2.16	44.19	2.37	44.57	2.31
	45	23.24	1.37	28.15	1.6	33.05	1.85	39.6	2.19	43.5	2.36	43.88	2.3
	50	23.24	1.38	28.15	1.63	33.05	1.88	39.6	2.23	42.81	2.36	43.19	2.29
	55	23.24	1.4	28.15	1.65	33.05	1.91	39.6	2.27	42.12	2.35	42.5	2.28
	60	23.24	1.42	28.15	1.68	33.05	1.94	39.6	2.3	41.42	2.36	41.81	2.43
	65	23.24	1.45	28.15	1.7	33.05	1.97	39.6	2.41	40.73	2.54	41.12	2.62
	70	23.24	1.47	28.15	1.73	33.05	2.09	39.6	2.63	40.04	2.72	40.42	2.8
	75	23.24	1.52	28.15	1.87	33.05	2.27	38.97	2.81	39.35	2.9	39.73	2.99
	80	23.24	1.64	28.15	2.03	33.05	2.46	38.28	2.98	38.66	3.08	39.04	3.18
	85	23.24	1.77	28.15	2.19	33.05	2.66	37.59	3.16	37.97	3.27	38.35	3.37
	90	23.24	1.9	28.15	2.36	33.05	2.87	36.9	3.34	37.28	3.45	37.66	3.57
	95	23.24	2.04	28.15	2.53	33.05	3.09	36.21	3.52	36.59	3.64	36.97	3.76
	100	23.24	2.18	28.15	2.72	33.05	3.32	35.52	3.7	35.9	3.83	35.98	3.86
	105	23.24	2.34	28.15	2.91	33.05	3.57	34.81	3.88	34.85	3.89	34.9	3.91
	110	23.24	2.5	28.15	3.12	31.75	3.63	32.55	3.75	33.35	3.87	33.82	3.95
	115	23.24	2.66	24.48	2.83	25.08	2.91	25.88	3.02	26.68	3.13	27.48	3.24
100	5	21.12	1.17	25.59	1.32	30.05	1.52	36	1.76	41.95	2.06	49.12	2.42
	10	21.12	1.18	25.59	1.34	30.05	1.54	36	1.79	41.95	2.09	48.43	2.41
	15	21.12	1.19	25.59	1.36	30.05	1.56	36	1.82	41.95	2.12	47.74	2.4
	20	21.12	1.2	25.59	1.38	30.05	1.58	36	1.85	41.95	2.15	47.05	2.39
	25	21.12	1.21	25.59	1.4	30.05	1.6	36	1.88	41.95	2.18	46.36	2.38
	30	21.12	1.22	25.59	1.42	30.05	1.62	36	1.91	41.95	2.21	45.67	2.37
	35	21.12	1.24	25.59	1.44	30.05	1.65	36	1.94	41.95	2.24	44.98	2.36
	40	21.12	1.25	25.59	1.46	30.05	1.67	36	1.97	41.95	2.28	44.29	2.35
	45	21.12	1.27	25.59	1.48	30.05	1.7	36	2	41.95	2.32	43.6	2.35
	50	21.12	1.28	25.59	1.5	30.05	1.72	36	2.04	41.95	2.36	42.91	2.34
	55	21.12	1.3	25.59	1.52	30.05	1.75	36	2.07	41.87	2.39	42.22	2.33
	60	21.12	1.32	25.59	1.54	30.05	1.78	36	2.1	41.18	2.38	41.53	2.38
	65	21.12	1.34	25.59	1.57	30.05	1.81	36	2.14	40.49	2.49	40.84	2.56
	70	21.12	1.36	25.59	1.59	30.05	1.86	36	2.32	39.8	2.66	40.15	2.74
	75	21.12	1.38	25.59	1.69	30.05	2.02	36	2.53	39.11	2.84	39.46	2.92
	80	21.12	1.49	25.59	1.82	30.05	2.19	36	2.74	38.42	3.02	38.76	3.11
	85	21.12	1.61	25.59	1.96	30.05	2.36	36	2.96	37.73	3.2	38.07	3.29
	90	21.12	1.72	25.59	2.11	30.05	2.55	36	3.2	37.04	3.38	37.38	3.48
	95	21.12	1.85	25.59	2.27	30.05	2.74	36	3.45	36.35	3.56	36.69	3.67
	100	21.12	1.97	25.59	2.43	30.05	2.94	35.31	3.63	35.66	3.75	35.98	3.86
	105	21.12	2.11	25.59	2.6	30.05	3.16	34.62	3.81	34.85	3.89	34.9	3.91
	110	21.12	2.25	25.59	2.79	30.05	3.39	32.55	3.75	33.35	3.87	33.82	3.95
	115	21.12	2.4	24.48	2.83	25.08	2.91	25.88	3.02	26.68	3.13	27.48	3.24

Table 27 —38VMB036HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
90	5	19.01	1.08	23.03	1.25	27.04	1.38	32.4	1.59	37.76	1.85	43.11	2.07
	10	19.01	1.09	23.03	1.26	27.04	1.4	32.4	1.62	37.76	1.88	43.11	2.11
	15	19.01	1.1	23.03	1.27	27.04	1.42	32.4	1.65	37.76	1.91	43.11	2.15
	20	19.01	1.11	23.03	1.28	27.04	1.44	32.4	1.68	37.76	1.94	43.11	2.19
	25	19.01	1.12	23.03	1.29	27.04	1.46	32.4	1.71	37.76	1.97	43.11	2.23
	30	19.01	1.13	23.03	1.3	27.04	1.48	32.4	1.74	37.76	2	43.11	2.27
	35	19.01	1.15	23.03	1.32	27.04	1.5	32.4	1.76	37.76	2.03	43.11	2.3
	40	19.01	1.16	23.03	1.34	27.04	1.53	32.4	1.79	37.76	2.06	43.11	2.34
	45	19.01	1.17	23.03	1.36	27.04	1.55	32.4	1.82	37.76	2.1	43.11	2.38
	50	19.01	1.19	23.03	1.37	27.04	1.57	32.4	1.85	37.76	2.13	42.63	2.39
	55	19.01	1.2	23.03	1.39	27.04	1.59	32.4	1.87	37.76	2.16	41.94	2.38
	60	19.01	1.22	23.03	1.41	27.04	1.62	32.4	1.91	37.76	2.2	41.25	2.37
	65	19.01	1.23	23.03	1.43	27.04	1.64	32.4	1.94	37.76	2.26	40.56	2.5
	70	19.01	1.25	23.03	1.46	27.04	1.67	32.4	2.04	37.76	2.47	39.87	2.68
	75	19.01	1.27	23.03	1.51	27.04	1.79	32.4	2.21	37.76	2.69	39.18	2.86
	80	19.01	1.35	23.03	1.63	27.04	1.94	32.4	2.4	37.76	2.92	38.49	3.04
	85	19.01	1.45	23.03	1.75	27.04	2.09	32.4	2.59	37.48	3.13	37.8	3.22
	90	19.01	1.56	23.03	1.88	27.04	2.25	32.4	2.8	36.79	3.31	37.1	3.4
	95	19.01	1.66	23.03	2.02	27.04	2.42	32.4	3.01	36.1	3.48	36.41	3.58
	100	19.01	1.78	23.03	2.16	27.04	2.59	32.4	3.24	35.41	3.66	35.72	3.77
	105	19.01	1.9	23.03	2.31	27.04	2.78	32.4	3.48	34.72	3.85	34.9	3.91
	110	19.01	2.02	23.03	2.47	27.04	2.97	32.4	3.73	33.35	3.87	33.82	3.95
	115	19.01	2.15	23.03	2.64	25.08	2.91	25.88	3.02	26.68	3.13	27.48	3.24
80	5	16.9	1	20.47	1.14	24.04	1.25	28.8	1.42	33.56	1.69	38.32	1.88
	10	16.9	1.01	20.47	1.15	24.04	1.27	28.8	1.45	33.56	1.71	38.32	1.91
	15	16.9	1.02	20.47	1.16	24.04	1.29	28.8	1.48	33.56	1.73	38.32	1.94
	20	16.9	1.03	20.47	1.17	24.04	1.31	28.8	1.51	33.56	1.75	38.32	1.97
	25	16.9	1.04	20.47	1.18	24.04	1.33	28.8	1.54	33.56	1.77	38.32	2
	30	16.9	1.05	20.47	1.19	24.04	1.35	28.8	1.57	33.56	1.79	38.32	2.03
	35	16.9	1.06	20.47	1.21	24.04	1.37	28.8	1.59	33.56	1.82	38.32	2.06
	40	16.9	1.07	20.47	1.22	24.04	1.38	28.8	1.61	33.56	1.85	38.32	2.09
	45	16.9	1.08	20.47	1.24	24.04	1.4	28.8	1.63	33.56	1.88	38.32	2.12
	50	16.9	1.09	20.47	1.25	24.04	1.42	28.8	1.66	33.56	1.91	38.32	2.16
	55	16.9	1.11	20.47	1.27	24.04	1.44	28.8	1.69	33.56	1.94	38.32	2.2
	60	16.9	1.12	20.47	1.29	24.04	1.46	28.8	1.71	33.56	1.97	38.32	2.23
	65	16.9	1.13	20.47	1.31	24.04	1.49	28.8	1.74	33.56	2	38.32	2.31
	70	16.9	1.15	20.47	1.32	24.04	1.51	28.8	1.77	33.56	2.13	38.32	2.52
	75	16.9	1.16	20.47	1.34	24.04	1.58	28.8	1.92	33.56	2.31	38.32	2.74
	80	16.9	1.22	20.47	1.45	24.04	1.7	28.8	2.08	33.56	2.51	38.21	2.96
	85	16.9	1.31	20.47	1.56	24.04	1.83	28.8	2.25	33.56	2.71	37.52	3.14
	90	16.9	1.4	20.47	1.67	24.04	1.97	28.8	2.42	33.56	2.92	36.83	3.32
	95	16.9	1.49	20.47	1.79	24.04	2.12	28.8	2.6	33.56	3.15	36.14	3.49
	100	16.9	1.59	20.47	1.91	24.04	2.27	28.8	2.8	33.56	3.39	35.44	3.68
	105	16.9	1.7	20.47	2.04	24.04	2.43	28.8	3	33.56	3.64	34.75	3.86
	110	16.9	1.81	20.47	2.18	24.04	2.59	28.8	3.21	33.35	3.87	33.82	3.95
	115	16.9	1.92	20.47	2.32	24.04	2.77	25.88	3.02	26.68	3.13	27.48	3.24

Table 27 —38VMB036HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	5	14.79	0.92	17.91	1.04	21.03	1.12	25.2	1.3	29.37	1.49	33.53	1.69
	10	14.79	0.93	17.91	1.05	21.03	1.14	25.2	1.32	29.37	1.51	33.53	1.71
	15	14.79	0.94	17.91	1.06	21.03	1.16	25.2	1.34	29.37	1.53	33.53	1.73
	20	14.79	0.95	17.91	1.07	21.03	1.18	25.2	1.36	29.37	1.55	33.53	1.75
	25	14.79	0.96	17.91	1.08	21.03	1.2	25.2	1.38	29.37	1.57	33.53	1.77
	30	14.79	0.97	17.91	1.09	21.03	1.22	25.2	1.4	29.37	1.59	33.53	1.79
	35	14.79	0.97	17.91	1.1	21.03	1.23	25.2	1.42	29.37	1.61	33.53	1.82
	40	14.79	0.98	17.91	1.11	21.03	1.25	25.2	1.44	29.37	1.64	33.53	1.85
	45	14.79	0.99	17.91	1.13	21.03	1.26	25.2	1.46	29.37	1.66	33.53	1.87
	50	14.79	1	17.91	1.14	21.03	1.28	25.2	1.48	29.37	1.69	33.53	1.9
	55	14.79	1.02	17.91	1.15	21.03	1.3	25.2	1.5	29.37	1.71	33.53	1.94
	60	14.79	1.03	17.91	1.17	21.03	1.32	25.2	1.52	29.37	1.74	33.53	1.97
	65	14.79	1.04	17.91	1.18	21.03	1.33	25.2	1.55	29.37	1.77	33.53	2
	70	14.79	1.05	17.91	1.2	21.03	1.35	25.2	1.57	29.37	1.81	33.53	2.13
	75	14.79	1.06	17.91	1.21	21.03	1.38	25.2	1.66	29.37	1.97	33.53	2.31
	80	14.79	1.09	17.91	1.28	21.03	1.49	25.2	1.79	29.37	2.13	33.53	2.5
	85	14.79	1.17	17.91	1.37	21.03	1.6	25.2	1.93	29.37	2.3	33.53	2.71
	90	14.79	1.25	17.91	1.47	21.03	1.72	25.2	2.08	29.37	2.48	33.53	2.92
	95	14.79	1.33	17.91	1.57	21.03	1.84	25.2	2.23	29.37	2.67	33.53	3.15
	100	14.79	1.42	17.91	1.68	21.03	1.97	25.2	2.39	29.37	2.86	33.53	3.38
	105	14.79	1.51	17.91	1.79	21.03	2.1	25.2	2.56	29.37	3.07	33.53	3.63
	110	14.79	1.6	17.91	1.91	21.03	2.24	25.2	2.74	29.37	3.29	33.53	3.9
	115	14.79	1.7	17.91	2.03	21.03	2.39	25.2	2.92	26.68	3.13	27.48	3.24
60	5	12.67	0.84	15.35	0.94	18.03	1.04	21.6	1.19	25.17	1.3	28.74	1.46
	10	12.67	0.85	15.35	0.95	18.03	1.05	21.6	1.2	25.17	1.32	28.74	1.48
	15	12.67	0.86	15.35	0.96	18.03	1.06	21.6	1.21	25.17	1.34	28.74	1.5
	20	12.67	0.87	15.35	0.97	18.03	1.07	21.6	1.22	25.17	1.36	28.74	1.52
	25	12.67	0.88	15.35	0.98	18.03	1.08	21.6	1.23	25.17	1.38	28.74	1.54
	30	12.67	0.89	15.35	0.99	18.03	1.09	21.6	1.24	25.17	1.4	28.74	1.56
	35	12.67	0.89	15.35	1	18.03	1.11	21.6	1.26	25.17	1.42	28.74	1.58
	40	12.67	0.9	15.35	1.01	18.03	1.12	21.6	1.27	25.17	1.44	28.74	1.61
	45	12.67	0.91	15.35	1.02	18.03	1.13	21.6	1.29	25.17	1.46	28.74	1.63
	50	12.67	0.92	15.35	1.03	18.03	1.14	21.6	1.31	25.17	1.48	28.74	1.66
	55	12.67	0.93	15.35	1.04	18.03	1.16	21.6	1.32	25.17	1.5	28.74	1.68
	60	12.67	0.94	15.35	1.05	18.03	1.17	21.6	1.34	25.17	1.52	28.74	1.71
	65	12.67	0.95	15.35	1.06	18.03	1.19	21.6	1.36	25.17	1.55	28.74	1.74
	70	12.67	0.96	15.35	1.08	18.03	1.2	21.6	1.38	25.17	1.57	28.74	1.77
	75	14.79	1.06	17.91	1.21	21.03	1.38	25.2	1.66	29.37	1.97	33.53	2.31
	80	14.79	1.09	17.91	1.28	21.03	1.49	25.2	1.79	29.37	2.13	33.53	2.5
	85	14.79	1.17	17.91	1.37	21.03	1.6	25.2	1.93	29.37	2.3	33.53	2.71
	90	14.79	1.25	17.91	1.47	21.03	1.72	25.2	2.08	29.37	2.48	33.53	2.92
	95	14.79	1.33	17.91	1.57	21.03	1.84	25.2	2.23	29.37	2.67	33.53	3.15
	100	14.79	1.42	17.91	1.68	21.03	1.97	25.2	2.39	29.37	2.86	33.53	3.38
	105	14.79	1.51	17.91	1.79	21.03	2.1	25.2	2.56	29.37	3.07	33.53	3.63
	110	14.79	1.6	17.91	1.91	21.03	2.24	25.2	2.74	29.37	3.29	33.53	3.9
	115	14.79	1.7	17.91	2.03	21.03	2.39	25.2	2.92	26.68	3.13	27.48	3.24

Table 27 —38VMB036HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
50	5	10.56	0.81	12.79	0.84	15.02	0.97	18	1.04	20.98	1.12	23.95	1.29
	10	10.56	0.81	12.79	0.85	15.02	0.97	18	1.05	20.98	1.14	23.95	1.3
	15	10.56	0.81	12.79	0.86	15.02	0.97	18	1.06	20.98	1.16	23.95	1.31
	20	10.56	0.81	12.79	0.87	15.02	0.97	18	1.07	20.98	1.18	23.95	1.32
	25	10.56	0.81	12.79	0.88	15.02	0.97	18	1.08	20.98	1.2	23.95	1.33
	30	10.56	0.81	12.79	0.89	15.02	0.97	18	1.09	20.98	1.22	23.95	1.34
	35	10.56	0.82	12.79	0.9	15.02	0.98	18	1.1	20.98	1.23	23.95	1.36
	40	10.56	0.83	12.79	0.91	15.02	0.99	18	1.12	20.98	1.25	23.95	1.38
	45	10.56	0.83	12.79	0.92	15.02	1	18	1.13	20.98	1.26	23.95	1.4
	50	10.56	0.84	12.79	0.92	15.02	1.01	18	1.14	20.98	1.28	23.95	1.42
	55	10.56	0.85	12.79	0.93	15.02	1.03	18	1.16	20.98	1.29	23.95	1.44
	60	10.56	0.85	12.79	0.94	15.02	1.04	18	1.17	20.98	1.31	23.95	1.46
	65	10.56	0.86	12.79	0.95	15.02	1.05	18	1.19	20.98	1.33	23.95	1.48
	70	10.56	0.87	12.79	0.96	15.02	1.06	18	1.2	20.98	1.35	23.95	1.5
	75	10.56	0.88	12.79	0.97	15.02	1.07	18	1.22	20.98	1.37	23.95	1.57
	80	10.56	0.88	12.79	0.98	15.02	1.11	18	1.29	20.98	1.48	23.95	1.7
	85	10.56	0.93	12.79	1.05	15.02	1.18	18	1.38	20.98	1.59	23.95	1.83
	90	10.56	0.99	12.79	1.12	15.02	1.27	18	1.48	20.98	1.71	23.95	1.96
	95	10.56	1.05	12.79	1.19	15.02	1.35	18	1.58	20.98	1.83	23.95	2.11
	100	10.56	1.11	12.79	1.27	15.02	1.44	18	1.69	20.98	1.96	23.95	2.26
	105	10.56	1.18	12.79	1.35	15.02	1.53	18	1.8	20.98	2.09	23.95	2.42
	110	10.56	1.25	12.79	1.43	15.02	1.63	18	1.92	20.98	2.23	23.95	2.58
	115	10.56	1.32	12.79	1.51	15.02	1.73	18	2.04	20.98	2.38	23.95	2.76

Tc: Total Capacity
PI: Power Input

Table 28 —38VMB048HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	5	36.23	2.1	43.89	2.34	51.54	2.71	64.73	3.53	65.32	3.47	66	3.35
	10	36.23	2.12	43.89	2.38	51.54	2.76	63.82	3.52	64.41	3.45	65	3.33
	15	36.23	2.14	43.89	2.42	51.54	2.81	62.91	3.51	63.5	3.43	64.1	3.31
	20	36.23	2.16	43.89	2.46	51.54	2.86	62	3.5	62.59	3.41	63.2	3.29
	25	36.23	2.18	43.89	2.5	51.54	2.91	61.09	3.49	61.68	3.39	62.3	3.27
	30	36.23	2.2	43.89	2.54	51.54	2.96	60.18	3.48	60.77	3.37	61.4	3.25
	35	36.23	2.22	43.89	2.57	51.54	3.01	59.26	3.47	59.86	3.36	60.5	3.23
	40	36.23	2.25	43.89	2.61	51.54	3.06	58.35	3.46	58.95	3.35	59.5	3.22
	45	36.23	2.27	43.89	2.65	51.54	3.11	57.44	3.45	58.04	3.33	58.6	3.2
	50	36.23	2.3	43.89	2.69	51.54	3.17	56.53	3.44	57.12	3.32	57.7	3.18
	55	36.23	2.33	43.89	2.74	51.54	3.23	55.62	3.43	56.21	3.32	56.8	3.44
	60	36.23	2.36	43.89	2.78	51.54	3.3	54.71	3.47	55.3	3.59	55.9	3.72
	65	36.23	2.39	43.89	2.83	51.54	3.44	53.8	3.73	54.39	3.86	55	4
	70	36.23	2.43	43.89	3.01	51.54	3.77	52.89	3.99	53.48	4.14	54.1	4.28
	75	36.23	2.61	43.89	3.27	51.38	4.1	51.97	4.26	52.57	4.41	53.2	4.57
	80	36.23	2.81	43.89	3.55	50.47	4.35	51.06	4.52	51.66	4.69	52.3	4.87
	85	36.23	3.03	43.89	3.85	49.56	4.61	50.15	4.8	50.75	4.98	51.3	5.16
	90	36.23	3.26	43.89	4.16	48.65	4.87	49.24	5.07	49.83	5.27	50.3	5.43
	95	36.23	3.51	43.89	4.5	47.74	5.14	48.33	5.35	48.83	5.53	48.9	5.55
	100	36.23	3.76	43.89	4.85	46.82	5.4	47.35	5.6	47.41	5.62	47.5	5.65
	105	36.23	4.03	43.89	5.23	45.86	5.65	45.92	5.68	45.99	5.7	46.1	5.73
	110	36.23	4.32	41.1	5.12	41.89	5.26	42.95	5.45	44	5.65	44.6	5.78
	115	31.51	3.92	32.3	4.03	33.09	4.14	34.15	4.3	35.2	4.46	36.3	4.63
120	5	33.45	2	40.51	2.23	47.58	2.53	57	3	65	3.49	65.6	3.38
	10	33.45	2.02	40.51	2.26	47.58	2.57	57	3.06	64.09	3.48	64.6	3.37
	15	33.45	2.04	40.51	2.29	47.58	2.61	57	3.12	63.18	3.47	63.7	3.36
	20	33.45	2.06	40.51	2.32	47.58	2.65	57	3.18	62.27	3.46	62.8	3.35
	25	33.45	2.08	40.51	2.35	47.58	2.69	57	3.24	61.36	3.45	61.9	3.34
	30	33.45	2.1	40.51	2.38	47.58	2.73	57	3.3	60.45	3.44	61	3.33
	35	33.45	2.12	40.51	2.41	47.58	2.77	57	3.36	59.54	3.42	60.1	3.31
	40	33.45	2.14	40.51	2.44	47.58	2.82	57	3.42	58.63	3.41	59.2	3.3
	45	33.45	2.16	40.51	2.47	47.58	2.86	57	3.49	57.71	3.4	58.3	3.28
	50	33.45	2.18	40.51	2.51	47.58	2.91	56.25	3.49	56.8	3.39	57.4	3.27
	55	33.45	2.21	40.51	2.55	47.58	2.97	55.34	3.48	55.89	3.37	56.4	3.37
	60	33.45	2.23	40.51	2.59	47.58	3.02	54.43	3.47	54.98	3.53	55.5	3.64
	65	33.45	2.26	40.51	2.63	47.58	3.08	53.52	3.67	54.07	3.79	54.6	3.91
	70	33.45	2.29	40.51	2.72	47.58	3.35	52.61	3.92	53.16	4.06	53.7	4.19
	75	33.45	2.41	40.51	2.96	47.58	3.66	51.7	4.18	52.25	4.33	52.8	4.47
	80	33.45	2.6	40.51	3.2	47.58	3.98	50.79	4.45	51.34	4.6	51.9	4.76
	85	33.45	2.79	40.51	3.46	47.58	4.32	49.88	4.71	50.42	4.88	51	5.05
	90	33.45	2.99	40.51	3.74	47.58	4.68	48.96	4.98	49.51	5.16	50.1	5.34
	95	33.45	3.21	40.51	4.03	47.5	5.05	48.05	5.25	48.6	5.44	48.9	5.55
	100	33.45	3.44	40.51	4.34	46.59	5.31	47.14	5.52	47.41	5.62	47.5	5.65
	105	33.45	3.67	40.51	4.66	45.68	5.58	45.92	5.68	45.99	5.7	46.1	5.73
	110	33.45	3.93	40.51	5.01	41.89	5.26	42.95	5.45	44	5.65	44.6	5.78
	115	31.51	3.92	32.3	4.03	33.09	4.14	34.15	4.3	35.2	4.46	36.3	4.63

Table 28 —38VMB048HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
110	5	30.66	1.92	37.14	2.09	43.61	2.37	52.25	2.75	63.93	3.49	65.2	3.45
	10	30.66	1.94	37.14	2.12	43.61	2.4	52.25	2.8	63.17	3.49	64.3	3.44
	15	30.66	1.96	37.14	2.15	43.61	2.43	52.25	2.85	62.41	3.49	63.4	3.43
	20	30.66	1.98	37.14	2.18	43.61	2.46	52.25	2.9	61.65	3.49	62.5	3.42
	25	30.66	2	37.14	2.21	43.61	2.49	52.25	2.95	60.89	3.49	61.5	3.41
	30	30.66	2.02	37.14	2.24	43.61	2.52	52.25	3	60.13	3.49	60.6	3.4
	35	30.66	2.03	37.14	2.26	43.61	2.56	52.25	3.05	59.21	3.48	59.7	3.39
	40	30.66	2.05	37.14	2.29	43.61	2.6	52.25	3.1	58.3	3.47	58.8	3.38
	45	30.66	2.06	37.14	2.31	43.61	2.64	52.25	3.16	57.39	3.46	57.9	3.36
	50	30.66	2.08	37.14	2.34	43.61	2.68	52.25	3.22	56.48	3.45	57	3.35
	55	30.66	2.1	37.14	2.37	43.61	2.72	52.25	3.28	55.57	3.44	56.1	3.33
	60	30.66	2.12	37.14	2.4	43.61	2.77	52.25	3.35	54.66	3.46	55.2	3.56
	65	30.66	2.14	37.14	2.44	43.61	2.82	52.25	3.51	53.75	3.72	54.3	3.83
	70	30.66	2.16	37.14	2.48	43.61	2.98	52.25	3.85	52.84	3.98	53.3	4.1
	75	30.66	2.23	37.14	2.68	43.61	3.25	51.42	4.11	51.92	4.24	52.4	4.38
	80	30.66	2.4	37.14	2.89	43.61	3.52	50.51	4.37	51.01	4.51	51.5	4.65
	85	30.66	2.58	37.14	3.12	43.61	3.82	49.6	4.62	50.1	4.78	50.6	4.94
	90	30.66	2.76	37.14	3.36	43.61	4.13	48.69	4.89	49.19	5.05	49.7	5.22
	95	30.66	2.95	37.14	3.61	43.61	4.46	47.78	5.15	48.28	5.33	48.8	5.51
	100	30.66	3.15	37.14	3.88	43.61	4.81	46.87	5.42	47.37	5.61	47.5	5.65
	105	30.66	3.36	37.14	4.16	43.61	5.18	45.92	5.68	45.99	5.7	46.1	5.73
	110	30.66	3.58	37.14	4.46	41.89	5.26	42.95	5.45	44	5.65	44.6	5.78
	115	30.66	3.81	32.3	4.03	33.09	4.14	34.15	4.3	35.2	4.46	36.3	4.63
100	5	27.87	1.9	33.76	2.01	39.65	2.19	47.5	2.48	55.35	2.89	64.8	3.52
	10	27.87	1.91	33.76	2.03	39.65	2.22	47.5	2.53	55.35	2.95	63.9	3.51
	15	27.87	1.92	33.76	2.05	39.65	2.25	47.5	2.58	55.35	3.01	63	3.5
	20	27.87	1.93	33.76	2.07	39.65	2.28	47.5	2.63	55.35	3.07	62.1	3.49
	25	27.87	1.94	33.76	2.09	39.65	2.31	47.5	2.68	55.35	3.13	61.2	3.48
	30	27.87	1.95	33.76	2.11	39.65	2.34	47.5	2.73	55.35	3.19	60.3	3.47
	35	27.87	1.96	33.76	2.13	39.65	2.37	47.5	2.77	55.35	3.25	59.4	3.46
	40	27.87	1.97	33.76	2.15	39.65	2.4	47.5	2.81	55.35	3.31	58.4	3.45
	45	27.87	1.98	33.76	2.17	39.65	2.43	47.5	2.86	55.35	3.37	57.5	3.44
	50	27.87	1.99	33.76	2.2	39.65	2.46	47.5	2.91	55.35	3.44	56.6	3.42
	55	27.87	2.01	33.76	2.22	39.65	2.5	47.5	2.96	55.25	3.5	55.7	3.41
	60	27.87	2.02	33.76	2.25	39.65	2.54	47.5	3.02	54.34	3.49	54.8	3.49
	65	27.87	2.04	33.76	2.27	39.65	2.58	47.5	3.08	53.42	3.64	53.9	3.75
	70	27.87	2.06	33.76	2.3	39.65	2.65	47.5	3.35	52.51	3.9	53	4.01
	75	27.87	2.08	33.76	2.43	39.65	2.88	47.5	3.65	51.6	4.16	52.1	4.28
	80	27.87	2.23	33.76	2.62	39.65	3.12	47.5	3.97	50.69	4.42	51.2	4.55
	85	27.87	2.39	33.76	2.82	39.65	3.37	47.5	4.31	49.78	4.68	50.2	4.82
	90	27.87	2.55	33.76	3.02	39.65	3.64	47.5	4.67	48.87	4.95	49.3	5.1
	95	27.87	2.72	33.76	3.24	39.65	3.92	47.5	5.05	47.96	5.21	48.4	5.38
	100	27.87	2.89	33.76	3.47	39.65	4.21	46.59	5.31	47.05	5.49	47.5	5.65
	105	27.87	3.08	33.76	3.71	39.65	4.53	45.68	5.58	45.99	5.7	46.1	5.73
	110	27.87	3.27	33.76	3.97	39.65	4.86	42.95	5.45	44	5.65	44.6	5.78
	115	27.87	3.47	32.3	4.03	33.09	4.14	34.15	4.3	35.2	4.46	36.3	4.63

Table 28 —38VMB048HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
90	5	25.08	1.84	30.38	1.96	35.68	2.08	42.75	2.33	49.82	2.65	56.9	2.99
	10	25.08	1.85	30.38	1.97	35.68	2.1	42.75	2.36	49.82	2.69	56.9	3.05
	15	25.08	1.86	30.38	1.98	35.68	2.12	42.75	2.39	49.82	2.73	56.9	3.11
	20	25.08	1.87	30.38	1.99	35.68	2.14	42.75	2.42	49.82	2.77	56.9	3.17
	25	25.08	1.88	30.38	2	35.68	2.16	42.75	2.45	49.82	2.81	56.9	3.23
	30	25.08	1.89	30.38	2.01	35.68	2.18	42.75	2.48	49.82	2.85	56.9	3.29
	35	25.08	1.9	30.38	2.02	35.68	2.2	42.75	2.52	49.82	2.9	56.9	3.35
	40	25.08	1.9	30.38	2.04	35.68	2.23	42.75	2.55	49.82	2.95	56.9	3.41
	45	25.08	1.91	30.38	2.05	35.68	2.25	42.75	2.59	49.82	3	56.9	3.48
	50	25.08	1.92	30.38	2.07	35.68	2.28	42.75	2.63	49.82	3.06	56.3	3.49
	55	25.08	1.93	30.38	2.09	35.68	2.3	42.75	2.67	49.82	3.12	55.3	3.48
	60	25.08	1.94	30.38	2.11	35.68	2.33	42.75	2.72	49.82	3.18	54.4	3.47
	65	25.08	1.95	30.38	2.13	35.68	2.36	42.75	2.76	49.82	3.27	53.5	3.66
	70	25.08	1.97	30.38	2.15	35.68	2.4	42.75	2.91	49.82	3.58	52.6	3.92
	75	25.08	1.98	30.38	2.22	35.68	2.57	42.75	3.16	49.82	3.91	51.7	4.18
	80	25.08	2.09	30.38	2.38	35.68	2.77	42.75	3.43	49.82	4.26	50.8	4.44
	85	25.08	2.23	30.38	2.56	35.68	2.98	42.75	3.71	49.46	4.58	49.9	4.71
	90	25.08	2.38	30.38	2.74	35.68	3.21	42.75	4.01	48.55	4.84	49	4.98
	95	25.08	2.53	30.38	2.92	35.68	3.44	42.75	4.33	47.63	5.1	48.1	5.25
	100	25.08	2.68	30.38	3.12	35.68	3.69	42.75	4.67	46.72	5.36	47.1	5.52
	105	25.08	2.84	30.38	3.33	35.68	3.96	42.75	5.03	45.81	5.63	46.1	5.73
	110	25.08	3.01	30.38	3.54	35.68	4.24	42.75	5.42	44	5.65	44.6	5.78
	115	25.08	3.18	30.38	3.77	33.09	4.14	34.15	4.3	35.2	4.46	36.3	4.63
80	5	22.3	1.85	27.01	1.88	31.72	1.95	38	2.17	44.28	2.36	50.6	2.65
	10	22.3	1.85	27.01	1.89	31.72	1.97	38	2.19	44.28	2.4	50.6	2.7
	15	22.3	1.85	27.01	1.9	31.72	1.99	38	2.21	44.28	2.44	50.6	2.75
	20	22.3	1.85	27.01	1.91	31.72	2.01	38	2.23	44.28	2.48	50.6	2.8
	25	22.3	1.85	27.01	1.92	31.72	2.03	38	2.25	44.28	2.52	50.6	2.85
	30	22.3	1.85	27.01	1.93	31.72	2.05	38	2.27	44.28	2.56	50.6	2.9
	35	22.3	1.85	27.01	1.94	31.72	2.06	38	2.3	44.28	2.59	50.6	2.95
	40	22.3	1.86	27.01	1.95	31.72	2.08	38	2.32	44.28	2.63	50.6	3
	45	22.3	1.86	27.01	1.96	31.72	2.1	38	2.35	44.28	2.67	50.6	3.05
	50	22.3	1.87	27.01	1.97	31.72	2.12	38	2.38	44.28	2.72	50.6	3.11
	55	22.3	1.88	27.01	1.98	31.72	2.14	38	2.41	44.28	2.76	50.6	3.17
	60	22.3	1.88	27.01	2	31.72	2.16	38	2.45	44.28	2.81	50.6	3.23
	65	22.3	1.89	27.01	2.01	31.72	2.18	38	2.49	44.28	2.86	50.6	3.34
	70	22.3	1.9	27.01	2.03	31.72	2.21	38	2.53	44.28	3.04	50.6	3.66
	75	22.3	1.91	27.01	2.04	31.72	2.3	38	2.74	44.28	3.31	50.6	4
	80	22.3	1.98	27.01	2.19	31.72	2.47	38	2.97	44.28	3.6	50.4	4.34
	85	22.3	2.1	27.01	2.34	31.72	2.65	38	3.2	44.28	3.9	49.5	4.59
	90	22.3	2.23	27.01	2.49	31.72	2.84	38	3.45	44.28	4.22	48.6	4.85
	95	22.3	2.37	27.01	2.66	31.72	3.04	38	3.71	44.28	4.55	47.7	5.12
	100	22.3	2.5	27.01	2.82	31.72	3.25	38	3.99	44.28	4.91	46.8	5.38
	105	22.3	2.65	27.01	3	31.72	3.47	38	4.28	44.28	5.3	45.9	5.65
	110	22.3	2.79	27.01	3.18	31.72	3.7	38	4.59	44	5.65	44.6	5.78
	115	22.3	2.94	27.01	3.38	31.72	3.95	34.15	4.3	35.2	4.46	36.3	4.63

Table 28 —38VMB048HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	5	19.51	1.83	23.63	1.82	27.75	1.89	33.25	2	38.75	2.2	44.2	2.4
	10	19.51	1.83	23.63	1.83	27.75	1.9	33.25	2.02	38.75	2.22	44.2	2.43
	15	19.51	1.83	23.63	1.84	27.75	1.91	33.25	2.04	38.75	2.24	44.2	2.46
	20	19.51	1.83	23.63	1.85	27.75	1.92	33.25	2.06	38.75	2.26	44.2	2.49
	25	19.51	1.83	23.63	1.86	27.75	1.93	33.25	2.08	38.75	2.28	44.2	2.52
	30	19.51	1.83	23.63	1.87	27.75	1.94	33.25	2.1	38.75	2.3	44.2	2.55
	35	19.51	1.83	23.63	1.87	27.75	1.95	33.25	2.11	38.75	2.33	44.2	2.59
	40	19.51	1.83	23.63	1.88	27.75	1.96	33.25	2.13	38.75	2.36	44.2	2.63
	45	19.51	1.83	23.63	1.89	27.75	1.98	33.25	2.15	38.75	2.39	44.2	2.67
	50	19.51	1.84	23.63	1.89	27.75	1.99	33.25	2.17	38.75	2.42	44.2	2.71
	55	19.51	1.84	23.63	1.9	27.75	2	33.25	2.2	38.75	2.45	44.2	2.76
	60	19.51	1.84	23.63	1.91	27.75	2.02	33.25	2.22	38.75	2.49	44.2	2.81
	65	19.51	1.85	23.63	1.92	27.75	2.03	33.25	2.25	38.75	2.53	44.2	2.86
	70	19.51	1.85	23.63	1.93	27.75	2.05	33.25	2.28	38.75	2.59	44.2	3.04
	75	19.51	1.86	23.63	1.94	27.75	2.08	33.25	2.4	38.75	2.81	44.2	3.31
	80	19.51	1.89	23.63	2.03	27.75	2.23	33.25	2.58	38.75	3.04	44.2	3.59
	85	19.51	2	23.63	2.16	27.75	2.38	33.25	2.77	38.75	3.28	44.2	3.89
	90	19.51	2.12	23.63	2.3	27.75	2.54	33.25	2.98	38.75	3.53	44.2	4.21
	95	19.51	2.24	23.63	2.44	27.75	2.71	33.25	3.19	38.75	3.8	44.2	4.55
	100	19.51	2.36	23.63	2.58	27.75	2.89	33.25	3.41	38.75	4.09	44.2	4.91
	105	19.51	2.49	23.63	2.73	27.75	3.07	33.25	3.65	38.75	4.39	44.2	5.29
	110	19.51	2.62	23.63	2.89	27.75	3.26	33.25	3.9	38.75	4.71	44.2	5.7
	115	19.51	2.75	23.63	3.05	27.75	3.46	33.25	4.16	35.2	4.46	36.3	4.63
60	5	16.72	1.82	20.26	1.83	23.79	1.82	28.5	1.91	33.21	2.04	37.9	2.12
	10	16.72	1.82	20.26	1.83	23.79	1.83	28.5	1.92	33.21	2.05	37.9	2.15
	15	16.72	1.82	20.26	1.83	23.79	1.84	28.5	1.93	33.21	2.06	37.9	2.18
	20	16.72	1.82	20.26	1.83	23.79	1.85	28.5	1.94	33.21	2.07	37.9	2.21
	25	16.72	1.82	20.26	1.83	23.79	1.86	28.5	1.95	33.21	2.08	37.9	2.24
	30	16.72	1.82	20.26	1.83	23.79	1.87	28.5	1.96	33.21	2.09	37.9	2.27
	35	16.72	1.82	20.26	1.83	23.79	1.87	28.5	1.97	33.21	2.11	37.9	2.29
	40	16.72	1.82	20.26	1.84	23.79	1.88	28.5	1.98	33.21	2.13	37.9	2.32
	45	16.72	1.82	20.26	1.84	23.79	1.89	28.5	2	33.21	2.15	37.9	2.35
	50	16.72	1.82	20.26	1.84	23.79	1.9	28.5	2.01	33.21	2.17	37.9	2.38
	55	16.72	1.82	20.26	1.85	23.79	1.9	28.5	2.03	33.21	2.2	37.9	2.41
	60	16.72	1.82	20.26	1.85	23.79	1.91	28.5	2.04	33.21	2.22	37.9	2.44
	65	16.72	1.82	20.26	1.86	23.79	1.92	28.5	2.06	33.21	2.25	37.9	2.48
	70	16.72	1.83	20.26	1.86	23.79	1.93	28.5	2.08	33.21	2.28	37.9	2.53
	75	16.72	1.83	20.26	1.87	23.79	1.94	28.5	2.12	33.21	2.39	37.9	2.74
	80	16.72	1.83	20.26	1.91	23.79	2.04	28.5	2.27	33.21	2.58	37.9	2.96
	85	16.72	1.93	20.26	2.03	23.79	2.17	28.5	2.43	33.21	2.77	37.9	3.19
	90	16.72	2.04	20.26	2.15	23.79	2.31	28.5	2.6	33.21	2.97	37.9	3.44
	95	16.72	2.15	20.26	2.27	23.79	2.45	28.5	2.77	33.21	3.19	37.9	3.7
	100	16.72	2.26	20.26	2.4	23.79	2.59	28.5	2.95	33.21	3.41	37.9	3.98
	105	16.72	2.38	20.26	2.53	23.79	2.75	28.5	3.14	33.21	3.65	37.9	4.27
	110	16.72	2.49	20.26	2.66	23.79	2.9	28.5	3.34	33.21	3.89	37.9	4.58
	115	16.72	2.61	20.26	2.8	23.79	3.07	28.5	3.54	33.21	4.16	36.3	4.63

Table 28 —38VMB048HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
50	5	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.82	27.68	1.89	31.6	1.99
	10	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.83	27.68	1.9	31.6	2
	15	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.84	27.68	1.91	31.6	2.01
	20	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.85	27.68	1.92	31.6	2.02
	25	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.86	27.68	1.93	31.6	2.03
	30	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.87	27.68	1.94	31.6	2.04
	35	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.87	27.68	1.95	31.6	2.06
	40	13.94	1.83	16.88	1.82	19.82	1.83	23.75	1.88	27.68	1.96	31.6	2.08
	45	13.94	1.83	16.88	1.82	19.82	1.84	23.75	1.89	27.68	1.97	31.6	2.09
	50	13.94	1.83	16.88	1.82	19.82	1.84	23.75	1.89	27.68	1.99	31.6	2.11
	55	13.94	1.83	16.88	1.82	19.82	1.84	23.75	1.9	27.68	2	31.6	2.13
	60	13.94	1.82	16.88	1.82	19.82	1.85	23.75	1.91	27.68	2.02	31.6	2.15
	65	13.94	1.82	16.88	1.82	19.82	1.85	23.75	1.92	27.68	2.03	31.6	2.18
	70	13.94	1.82	16.88	1.83	19.82	1.86	23.75	1.93	27.68	2.05	31.6	2.2
	75	13.94	1.82	16.88	1.83	19.82	1.86	23.75	1.94	27.68	2.07	31.6	2.29
	80	13.94	1.82	16.88	1.83	19.82	1.9	23.75	2.03	27.68	2.22	31.6	2.46
	85	13.94	1.89	16.88	1.94	19.82	2.01	23.75	2.17	27.68	2.38	31.6	2.65
	90	13.94	1.99	16.88	2.04	19.82	2.13	23.75	2.3	27.68	2.54	31.6	2.83
	95	13.94	2.09	16.88	2.16	19.82	2.25	23.75	2.45	27.68	2.7	31.6	3.03
	100	13.94	2.2	16.88	2.27	19.82	2.38	23.75	2.59	27.68	2.88	31.6	3.24
	105	13.94	2.3	16.88	2.38	19.82	2.51	23.75	2.74	27.68	3.06	31.6	3.46
	110	13.94	2.41	16.88	2.5	19.82	2.64	23.75	2.9	27.68	3.25	31.6	3.69
	115	13.94	2.52	16.88	2.62	19.82	2.77	23.75	3.06	27.68	3.45	31.6	3.93

Tc: Total Capacity
PI: Power Input

Table 29 —38VMB060HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	5	36.23	2.1	55.44	2.56	65.11	2.92	81.76	3.84	82.51	3.77	83.26	3.64
	10	36.23	2.12	55.44	2.6	65.11	2.98	80.61	3.83	81.36	3.75	82.11	3.62
	15	36.23	2.14	55.44	2.64	65.11	3.04	79.46	3.82	80.21	3.73	80.96	3.6
	20	36.23	2.16	55.44	2.68	65.11	3.1	78.31	3.81	79.06	3.71	79.81	3.58
	25	36.23	2.18	55.44	2.72	65.11	3.16	77.16	3.8	77.91	3.69	78.66	3.56
	30	36.23	2.2	55.44	2.76	65.11	3.22	76.01	3.79	76.76	3.67	77.51	3.54
	35	36.23	2.22	55.44	2.8	65.11	3.27	74.86	3.78	75.61	3.66	76.36	3.52
	40	36.23	2.25	55.44	2.84	65.11	3.33	73.71	3.77	74.46	3.64	75.21	3.5
	45	36.23	2.27	55.44	2.89	65.11	3.39	72.56	3.76	73.31	3.63	74.06	3.48
	50	36.23	2.3	55.44	2.93	65.11	3.45	71.41	3.74	72.16	3.61	72.91	3.46
	55	36.23	2.33	55.44	2.98	65.11	3.52	70.26	3.73	71.01	3.62	71.76	3.74
	60	36.23	2.36	55.44	3.03	65.11	3.59	69.11	3.78	69.86	3.91	70.61	4.04
	65	36.23	2.39	55.44	3.09	65.11	3.74	67.95	4.06	68.7	4.21	69.45	4.35
	70	36.23	2.43	55.44	3.27	65.11	4.1	66.8	4.34	67.55	4.5	68.3	4.66
	75	36.23	2.61	55.44	3.56	64.9	4.46	65.65	4.63	66.4	4.81	67.15	4.98
	80	36.23	2.81	55.44	3.87	63.75	4.74	64.5	4.93	65.25	5.11	66	5.3
	85	36.23	3.03	55.44	4.19	62.6	5.02	63.35	5.22	64.1	5.42	64.85	5.62
	90	36.23	3.26	55.44	4.53	61.45	5.3	62.2	5.52	62.95	5.73	63.56	5.91
	95	36.23	3.51	55.44	4.89	60.3	5.59	61.05	5.82	61.68	6.01	61.76	6.04
	100	36.23	3.76	55.44	5.28	59.15	5.88	59.81	6.1	59.89	6.12	59.96	6.15
	105	36.23	4.03	55.44	5.69	57.93	6.15	58.01	6.18	58.09	6.21	58.16	6.23
	110	36.23	4.32	51.91	5.57	52.91	5.72	54.25	5.93	55.58	6.15	56.37	6.29
	115	31.51	3.92	40.8	4.39	41.8	4.51	43.14	4.68	44.47	4.86	45.8	5.04
120	5	33.45	2	51.17	2.44	60.1	2.77	72	3.24	82.15	3.79	82.8	3.72
	10	33.45	2.02	51.17	2.47	60.1	2.81	72	3.31	80.99	3.78	81.65	3.7
	15	33.45	2.04	51.17	2.5	60.1	2.85	72	3.38	79.83	3.77	80.5	3.68
	20	33.45	2.06	51.17	2.53	60.1	2.89	72	3.45	78.67	3.76	79.35	3.66
	25	33.45	2.08	51.17	2.56	60.1	2.93	72	3.52	77.51	3.75	78.2	3.64
	30	33.45	2.1	51.17	2.59	60.1	2.97	72	3.59	76.35	3.74	77.05	3.62
	35	33.45	2.12	51.17	2.62	60.1	3.02	72	3.65	75.2	3.73	75.9	3.61
	40	33.45	2.14	51.17	2.66	60.1	3.07	72	3.72	74.05	3.71	74.75	3.59
	45	33.45	2.16	51.17	2.69	60.1	3.12	72	3.8	72.9	3.7	73.59	3.57
	50	33.45	2.18	51.17	2.73	60.1	3.17	71.06	3.8	71.75	3.68	72.44	3.55
	55	33.45	2.21	51.17	2.77	60.1	3.23	69.91	3.79	70.6	3.67	71.29	3.66
	60	33.45	2.23	51.17	2.81	60.1	3.29	68.76	3.78	69.45	3.84	70.14	3.96
	65	33.45	2.26	51.17	2.86	60.1	3.35	67.6	3.99	68.3	4.13	68.99	4.26
	70	33.45	2.29	51.17	2.96	60.1	3.65	66.45	4.27	67.15	4.42	67.84	4.56
	75	33.45	2.41	51.17	3.22	60.1	3.98	65.3	4.55	66	4.71	66.69	4.87
	80	33.45	2.6	51.17	3.49	60.1	4.33	64.15	4.84	64.84	5.01	65.54	5.18
	85	33.45	2.79	51.17	3.77	60.1	4.7	63	5.13	63.69	5.31	64.39	5.5
	90	33.45	2.99	51.17	4.07	60.1	5.09	61.85	5.42	62.54	5.62	63.23	5.81
	95	33.45	3.21	51.17	4.38	60.01	5.5	60.7	5.71	61.39	5.93	61.76	6.04
	100	33.45	3.44	51.17	4.72	58.85	5.79	59.55	6.01	59.89	6.12	59.96	6.15
	105	33.45	3.67	51.17	5.08	57.7	6.07	58.01	6.18	58.09	6.21	58.16	6.23
	110	33.45	3.93	51.17	5.46	52.91	5.72	54.25	5.93	55.58	6.15	56.37	6.29
	115	31.51	3.92	40.8	4.39	41.8	4.51	43.14	4.68	44.47	4.86	45.8	5.04

Table 29 —38VMB060HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
110	5	30.66	1.92	46.91	2.33	55.09	2.55	66	3.01	80.75	3.8	82.33	3.8
	10	30.66	1.94	46.91	2.35	55.09	2.59	66	3.06	79.79	3.8	81.18	3.78
	15	30.66	1.96	46.91	2.37	55.09	2.63	66	3.11	78.83	3.8	80.03	3.76
	20	30.66	1.98	46.91	2.39	55.09	2.67	66	3.16	77.87	3.8	78.88	3.74
	25	30.66	2	46.91	2.41	55.09	2.71	66	3.21	76.91	3.8	77.73	3.72
	30	30.66	2.02	46.91	2.43	55.09	2.75	66	3.26	75.95	3.8	76.58	3.7
	35	30.66	2.03	46.91	2.46	55.09	2.79	66	3.32	74.8	3.79	75.43	3.69
	40	30.66	2.05	46.91	2.49	55.09	2.83	66	3.38	73.65	3.78	74.28	3.67
	45	30.66	2.06	46.91	2.52	55.09	2.87	66	3.44	72.49	3.77	73.13	3.66
	50	30.66	2.08	46.91	2.55	55.09	2.91	66	3.51	71.34	3.75	71.98	3.64
	55	30.66	2.1	46.91	2.58	55.09	2.96	66	3.57	70.19	3.74	70.83	3.63
	60	30.66	2.12	46.91	2.62	55.09	3.01	66	3.65	69.04	3.76	69.68	3.88
	65	30.66	2.14	46.91	2.66	55.09	3.07	66	3.82	67.89	4.05	68.53	4.17
	70	30.66	2.16	46.91	2.69	55.09	3.25	66	4.19	66.74	4.33	67.37	4.47
	75	30.66	2.23	46.91	2.91	55.09	3.53	64.95	4.47	65.59	4.62	66.22	4.76
	80	30.66	2.4	46.91	3.15	55.09	3.83	63.8	4.75	64.44	4.91	65.07	5.07
	85	30.66	2.58	46.91	3.39	55.09	4.15	62.65	5.03	63.29	5.2	63.92	5.37
	90	30.66	2.76	46.91	3.65	55.09	4.49	61.5	5.32	62.14	5.5	62.77	5.68
	95	30.66	2.95	46.91	3.93	55.09	4.85	60.35	5.61	60.98	5.8	61.62	5.99
	100	30.66	3.15	46.91	4.22	55.09	5.23	59.2	5.9	59.83	6.11	59.96	6.15
	105	30.66	3.36	46.91	4.53	55.09	5.64	58.01	6.18	58.09	6.21	58.16	6.23
	110	30.66	3.58	46.91	4.85	52.91	5.72	54.25	5.93	55.58	6.15	56.37	6.29
	115	30.66	3.81	40.8	4.39	41.8	4.51	43.14	4.68	44.47	4.86	45.8	5.04
100	5	27.87	1.9	42.64	2.2	50.08	2.4	60	2.72	69.92	3.17	81.87	3.83
	10	27.87	1.91	42.64	2.22	50.08	2.43	60	2.77	69.92	3.23	80.72	3.82
	15	27.87	1.92	42.64	2.24	50.08	2.46	60	2.82	69.92	3.29	79.57	3.81
	20	27.87	1.93	42.64	2.26	50.08	2.49	60	2.87	69.92	3.35	78.42	3.8
	25	27.87	1.94	42.64	2.28	50.08	2.52	60	2.92	69.92	3.41	77.27	3.79
	30	27.87	1.95	42.64	2.3	50.08	2.55	60	2.97	69.92	3.47	76.12	3.78
	35	27.87	1.96	42.64	2.32	50.08	2.58	60	3.01	69.92	3.53	74.97	3.76
	40	27.87	1.97	42.64	2.34	50.08	2.61	60	3.06	69.92	3.6	73.82	3.75
	45	27.87	1.98	42.64	2.36	50.08	2.65	60	3.11	69.92	3.67	72.67	3.74
	50	27.87	1.99	42.64	2.39	50.08	2.68	60	3.17	69.92	3.74	71.51	3.73
	55	27.87	2.01	42.64	2.42	50.08	2.72	60	3.22	69.79	3.81	70.36	3.71
	60	27.87	2.02	42.64	2.44	50.08	2.76	60	3.28	68.63	3.8	69.21	3.8
	65	27.87	2.04	42.64	2.47	50.08	2.81	60	3.35	67.48	3.97	68.06	4.08
	70	27.87	2.06	42.64	2.51	50.08	2.89	60	3.64	66.33	4.25	66.91	4.37
	75	27.87	2.08	42.64	2.64	50.08	3.14	60	3.97	65.18	4.53	65.76	4.66
	80	27.87	2.23	42.64	2.85	50.08	3.4	60	4.32	64.03	4.81	64.61	4.95
	85	27.87	2.39	42.64	3.07	50.08	3.67	60	4.69	62.88	5.09	63.46	5.25
	90	27.87	2.55	42.64	3.29	50.08	3.96	60	5.08	61.73	5.38	62.31	5.55
	95	27.87	2.72	42.64	3.53	50.08	4.26	60	5.5	60.58	5.68	61.15	5.85
	100	27.87	2.89	42.64	3.78	50.08	4.59	58.85	5.78	59.43	5.97	59.96	6.15
	105	27.87	3.08	42.64	4.04	50.08	4.93	57.7	6.07	58.09	6.21	58.16	6.23
	110	27.87	3.27	42.64	4.32	50.08	5.29	54.25	5.93	55.58	6.15	56.37	6.29
	115	27.87	3.47	40.8	4.39	41.8	4.51	43.14	4.68	44.47	4.86	45.8	5.04

Table 29 —38VMB060HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
90	5	25.08	1.84	38.38	2.09	45.07	2.27	54	2.55	62.93	2.86	71.85	3.28
	10	25.08	1.85	38.38	2.11	45.07	2.29	54	2.58	62.93	2.91	71.85	3.34
	15	25.08	1.86	38.38	2.13	45.07	2.31	54	2.61	62.93	2.96	71.85	3.4
	20	25.08	1.87	38.38	2.15	45.07	2.33	54	2.64	62.93	3.01	71.85	3.46
	25	25.08	1.88	38.38	2.17	45.07	2.35	54	2.67	62.93	3.06	71.85	3.52
	30	25.08	1.89	38.38	2.19	45.07	2.37	54	2.7	62.93	3.11	71.85	3.58
	35	25.08	1.9	38.38	2.2	45.07	2.4	54	2.74	62.93	3.16	71.85	3.64
	40	25.08	1.9	38.38	2.22	45.07	2.42	54	2.78	62.93	3.21	71.85	3.71
	45	25.08	1.91	38.38	2.24	45.07	2.45	54	2.82	62.93	3.27	71.85	3.79
	50	25.08	1.92	38.38	2.25	45.07	2.48	54	2.86	62.93	3.33	71.05	3.8
	55	25.08	1.93	38.38	2.27	45.07	2.51	54	2.91	62.93	3.39	69.9	3.79
	60	25.08	1.94	38.38	2.29	45.07	2.54	54	2.96	62.93	3.46	68.75	3.78
	65	25.08	1.95	38.38	2.32	45.07	2.57	54	3.01	62.93	3.56	67.6	3.99
	70	25.08	1.97	38.38	2.34	45.07	2.61	54	3.16	62.93	3.9	66.45	4.27
	75	25.08	1.98	38.38	2.41	45.07	2.79	54	3.44	62.93	4.26	65.29	4.55
	80	25.08	2.09	38.38	2.59	45.07	3.01	54	3.73	62.93	4.64	64.14	4.84
	85	25.08	2.23	38.38	2.78	45.07	3.25	54	4.04	62.47	4.99	62.99	5.12
	90	25.08	2.38	38.38	2.98	45.07	3.49	54	4.37	61.32	5.27	61.84	5.42
	95	25.08	2.53	38.38	3.18	45.07	3.75	54	4.72	60.17	5.55	60.69	5.71
	100	25.08	2.68	38.38	3.4	45.07	4.02	54	5.08	59.02	5.84	59.54	6.01
	105	25.08	2.84	38.38	3.62	45.07	4.31	54	5.48	57.87	6.13	58.16	6.23
	110	25.08	3.01	38.38	3.86	45.07	4.61	54	5.9	55.58	6.15	56.37	6.29
	115	25.08	3.18	38.38	4.11	41.8	4.51	43.14	4.68	44.47	4.86	45.8	5.04
80	5	22.3	1.85	34.12	2.05	40.07	2.13	48	2.32	55.93	2.63	63.87	2.9
	10	22.3	1.85	34.12	2.06	40.07	2.15	48	2.35	55.93	2.66	63.87	2.95
	15	22.3	1.85	34.12	2.07	40.07	2.17	48	2.38	55.93	2.69	63.87	3
	20	22.3	1.85	34.12	2.08	40.07	2.19	48	2.41	55.93	2.72	63.87	3.05
	25	22.3	1.85	34.12	2.09	40.07	2.21	48	2.44	55.93	2.75	63.87	3.1
	30	22.3	1.85	34.12	2.1	40.07	2.23	48	2.47	55.93	2.78	63.87	3.15
	35	22.3	1.85	34.12	2.11	40.07	2.25	48	2.5	55.93	2.82	63.87	3.21
	40	22.3	1.86	34.12	2.12	40.07	2.26	48	2.53	55.93	2.87	63.87	3.26
	45	22.3	1.86	34.12	2.13	40.07	2.28	48	2.56	55.93	2.91	63.87	3.32
	50	22.3	1.87	34.12	2.14	40.07	2.3	48	2.59	55.93	2.96	63.87	3.38
	55	22.3	1.88	34.12	2.16	40.07	2.33	48	2.63	55.93	3.01	63.87	3.45
	60	22.3	1.88	34.12	2.17	40.07	2.35	48	2.67	55.93	3.06	63.87	3.51
	65	22.3	1.89	34.12	2.19	40.07	2.38	48	2.71	55.93	3.11	63.87	3.64
	70	22.3	1.9	34.12	2.21	40.07	2.4	48	2.76	55.93	3.31	63.87	3.99
	75	22.3	1.91	34.12	2.22	40.07	2.5	48	2.99	55.93	3.6	63.87	4.35
	80	22.3	1.98	34.12	2.38	40.07	2.69	48	3.23	55.93	3.91	63.68	4.72
	85	22.3	2.1	34.12	2.54	40.07	2.89	48	3.49	55.93	4.24	62.53	5
	90	22.3	2.23	34.12	2.71	40.07	3.1	48	3.76	55.93	4.59	61.38	5.28
	95	22.3	2.37	34.12	2.89	40.07	3.31	48	4.04	55.93	4.96	60.23	5.57
	100	22.3	2.5	34.12	3.07	40.07	3.54	48	4.34	55.93	5.35	59.07	5.86
	105	22.3	2.65	34.12	3.27	40.07	3.78	48	4.66	55.93	5.77	57.92	6.15
	110	22.3	2.79	34.12	3.47	40.07	4.03	48	5	55.58	6.15	56.37	6.29
	115	22.3	2.94	34.12	3.68	40.07	4.3	43.14	4.68	44.47	4.86	45.8	5.04

Table 29 —38VMB060HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	5	19.51	1.83	29.85	2.03	35.06	2.06	42	2.18	48.94	2.4	55.88	2.58
	10	19.51	1.83	29.85	2.03	35.06	2.07	42	2.2	48.94	2.42	55.88	2.62
	15	19.51	1.83	29.85	2.03	35.06	2.08	42	2.22	48.94	2.44	55.88	2.66
	20	19.51	1.83	29.85	2.03	35.06	2.09	42	2.24	48.94	2.46	55.88	2.7
	25	19.51	1.83	29.85	2.03	35.06	2.1	42	2.26	48.94	2.48	55.88	2.74
	30	19.51	1.83	29.85	2.03	35.06	2.11	42	2.28	48.94	2.5	55.88	2.78
	35	19.51	1.83	29.85	2.04	35.06	2.13	42	2.3	48.94	2.53	55.88	2.82
	40	19.51	1.83	29.85	2.05	35.06	2.14	42	2.32	48.94	2.57	55.88	2.86
	45	19.51	1.83	29.85	2.05	35.06	2.15	42	2.34	48.94	2.6	55.88	2.91
	50	19.51	1.84	29.85	2.06	35.06	2.17	42	2.37	48.94	2.63	55.88	2.95
	55	19.51	1.84	29.85	2.07	35.06	2.18	42	2.39	48.94	2.67	55.88	3
	60	19.51	1.84	29.85	2.08	35.06	2.2	42	2.42	48.94	2.71	55.88	3.06
	65	19.51	1.85	29.85	2.09	35.06	2.21	42	2.45	48.94	2.75	55.88	3.11
	70	19.51	1.85	29.85	2.1	35.06	2.23	42	2.48	48.94	2.82	55.88	3.31
	75	19.51	1.86	29.85	2.11	35.06	2.26	42	2.61	48.94	3.05	55.88	3.6
	80	19.51	1.89	29.85	2.21	35.06	2.42	42	2.81	48.94	3.3	55.88	3.91
	85	19.51	2	29.85	2.35	35.06	2.59	42	3.02	48.94	3.57	55.88	4.24
	90	19.51	2.12	29.85	2.5	35.06	2.77	42	3.24	48.94	3.85	55.88	4.58
	95	19.51	2.24	29.85	2.65	35.06	2.95	42	3.47	48.94	4.14	55.88	4.95
	100	19.51	2.36	29.85	2.81	35.06	3.14	42	3.72	48.94	4.45	55.88	5.34
	105	19.51	2.49	29.85	2.98	35.06	3.34	42	3.97	48.94	4.78	55.88	5.76
	110	19.51	2.62	29.85	3.15	35.06	3.55	42	4.25	48.94	5.13	55.88	6.21
	115	19.51	2.75	29.85	3.32	35.06	3.77	42	4.53	44.47	4.86	45.8	5.04
60	5	16.72	1.82	25.59	1.99	30.05	2.03	36	2.08	41.95	2.18	47.9	2.32
	10	16.72	1.82	25.59	1.99	30.05	2.03	36	2.09	41.95	2.2	47.9	2.35
	15	16.72	1.82	25.59	1.99	30.05	2.03	36	2.1	41.95	2.22	47.9	2.38
	20	16.72	1.82	25.59	1.99	30.05	2.03	36	2.11	41.95	2.24	47.9	2.41
	25	16.72	1.82	25.59	1.99	30.05	2.03	36	2.12	41.95	2.26	47.9	2.44
	30	16.72	1.82	25.59	1.99	30.05	2.03	36	2.13	41.95	2.28	47.9	2.47
	35	16.72	1.82	25.59	2	30.05	2.04	36	2.15	41.95	2.3	47.9	2.5
	40	16.72	1.82	25.59	2	30.05	2.05	36	2.16	41.95	2.32	47.9	2.53
	45	16.72	1.82	25.59	2	30.05	2.06	36	2.17	41.95	2.34	47.9	2.56
	50	16.72	1.82	25.59	2.01	30.05	2.06	36	2.19	41.95	2.37	47.9	2.59
	55	16.72	1.82	25.59	2.01	30.05	2.07	36	2.21	41.95	2.39	47.9	2.62
	60	16.72	1.82	25.59	2.02	30.05	2.08	36	2.22	41.95	2.42	47.9	2.66
	65	16.72	1.82	25.59	2.02	30.05	2.09	36	2.24	41.95	2.45	47.9	2.7
	70	16.72	1.83	25.59	2.03	30.05	2.1	36	2.26	41.95	2.48	47.9	2.75
	75	16.72	1.83	25.59	2.03	30.05	2.12	36	2.3	41.95	2.6	47.9	2.98
	80	16.72	1.83	25.59	2.08	30.05	2.22	36	2.47	41.95	2.81	47.9	3.22
	85	16.72	1.93	25.59	2.21	30.05	2.36	36	2.64	41.95	3.02	47.9	3.48
	90	16.72	2.04	25.59	2.34	30.05	2.51	36	2.82	41.95	3.24	47.9	3.75
	95	16.72	2.15	25.59	2.47	30.05	2.66	36	3.01	41.95	3.47	47.9	4.03
	100	16.72	2.26	25.59	2.61	30.05	2.82	36	3.21	41.95	3.71	47.9	4.33
	105	16.72	2.38	25.59	2.75	30.05	2.99	36	3.41	41.95	3.97	47.9	4.65
	110	16.72	2.49	25.59	2.9	30.05	3.16	36	3.63	41.95	4.24	47.9	4.99
	115	16.72	2.61	25.59	3.05	30.05	3.34	36	3.86	41.95	4.53	45.8	5.04

Table 29 —38VMB060HDS3-1

Combination (%)	Outdoor air temp. (°FDB)	Indoor air temp. (°FWB)											
		57F		60F		63F		67F		71F		75F	
		Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
		MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
50	5	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.06	39.92	2.17
	10	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.07	39.92	2.18
	15	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.08	39.92	2.19
	20	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.09	39.92	2.2
	25	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.1	39.92	2.21
	30	13.94	1.83	21.32	1.98	25.04	1.99	30	2.03	34.96	2.11	39.92	2.22
	35	13.94	1.83	21.32	1.98	25.04	1.99	30	2.04	34.96	2.12	39.92	2.24
	40	13.94	1.83	21.32	1.98	25.04	1.99	30	2.05	34.96	2.14	39.92	2.26
	45	13.94	1.83	21.32	1.98	25.04	2	30	2.05	34.96	2.15	39.92	2.28
	50	13.94	1.83	21.32	1.98	25.04	2	30	2.06	34.96	2.16	39.92	2.3
	55	13.94	1.83	21.32	1.98	25.04	2.01	30	2.07	34.96	2.18	39.92	2.32
	60	13.94	1.82	21.32	1.98	25.04	2.01	30	2.08	34.96	2.19	39.92	2.35
	65	13.94	1.82	21.32	1.99	25.04	2.01	30	2.09	34.96	2.21	39.92	2.37
	70	13.94	1.82	21.32	1.99	25.04	2.02	30	2.1	34.96	2.23	39.92	2.4
	75	13.94	1.82	21.32	1.99	25.04	2.03	30	2.12	34.96	2.26	39.92	2.49
	80	13.94	1.82	21.32	1.99	25.04	2.07	30	2.21	34.96	2.42	39.92	2.68
	85	13.94	1.89	21.32	2.11	25.04	2.19	30	2.36	34.96	2.59	39.92	2.88
	90	13.94	1.99	21.32	2.23	25.04	2.32	30	2.51	34.96	2.76	39.92	3.08
	95	13.94	2.09	21.32	2.35	25.04	2.45	30	2.66	34.96	2.94	39.92	3.3
	100	13.94	2.2	21.32	2.47	25.04	2.59	30	2.82	34.96	3.13	39.92	3.53
	105	13.94	2.3	21.32	2.59	25.04	2.73	30	2.99	34.96	3.33	39.92	3.76
	110	13.94	2.41	21.32	2.72	25.04	2.87	30	3.16	34.96	3.54	39.92	4.02
	115	13.94	2.52	21.32	2.85	25.04	3.02	30	3.34	34.96	3.76	39.92	4.28

Tc: Total Capacity
PI: Power Input

Heating Capacity

Table 30 —38VMB036HDS3-1

Combination (%)	Outdoor Air Temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	-13.0	-14.0	32.57	3.12	32.32	3.12	32.07	3.13	31.81	3.15	31.56	3.15	31.39	3.16
	-8.0	-9.0	33.37	3.22	33.11	3.22	32.86	3.23	32.61	3.25	32.35	3.25	32.18	3.26
	-3.0	-4.0	34.16	3.32	33.90	3.32	33.65	3.33	33.40	3.35	33.14	3.35	32.97	3.36
	2.0	1.0	34.82	3.42	34.60	3.42	34.37	3.43	34.15	3.45	33.92	3.45	33.77	3.46
	7.0	6.0	35.61	3.53	35.38	3.53	35.16	3.53	34.93	3.55	34.71	3.55	34.56	3.57
	12.0	10.0	36.24	3.63	36.01	3.64	35.79	3.64	35.56	3.66	35.34	3.66	35.19	3.68
	17.0	15.0	37.02	3.75	36.80	3.75	36.57	3.75	36.35	3.77	36.12	3.78	35.97	3.79
	22.0	20.0	37.81	3.86	37.58	3.87	37.36	3.87	37.13	3.89	36.91	3.89	36.76	3.91
	27.0	24.0	38.44	3.98	38.21	3.99	37.99	3.99	37.76	4.01	37.54	4.02	37.39	4.03
	32.0	29.0	39.22	3.78	39.00	3.79	38.77	3.79	38.55	3.79	38.32	3.79	38.17	3.80
	37.0	34.0	40.01	3.58	39.78	3.59	39.56	3.59	39.33	3.59	39.11	3.59	38.96	3.60
	42.0	38.0	40.64	3.42	40.41	3.43	40.19	3.43	39.96	3.43	39.74	3.43	39.59	3.44
	47.0	43.0	41.42	3.22	41.20	3.23	40.97	3.23	40.75	3.23	40.52	3.23	40.37	3.23
	52.0	47.0	42.05	3.06	41.83	3.07	41.60	3.07	41.38	3.07	41.15	3.07	41.00	3.07
	57.0	52.0	42.84	2.86	42.61	2.87	42.39	2.87	42.16	2.87	41.94	2.87	41.79	2.87
	62.0	56.0	43.47	2.70	43.24	2.70	43.02	2.71	42.79	2.71	42.57	2.71	42.42	2.71
	67.0	61.0	44.25	2.50	44.03	2.50	43.80	2.51	43.58	2.51	43.35	2.51	43.20	2.51
	72.0	66.0	45.04	2.30	44.81	2.30	44.59	2.31	44.36	2.31	44.14	2.31	43.99	2.31
120	-13.0	-14.0	32.24	3.12	32.00	3.13	31.77	3.13	31.53	3.13	31.30	3.13	31.14	3.14
	-8.0	-9.0	33.03	3.22	32.79	3.23	32.56	3.23	32.33	3.23	32.09	3.23	31.94	3.23
	-3.0	-4.0	33.82	3.32	33.59	3.33	33.35	3.33	33.12	3.33	32.88	3.33	32.73	3.33
	2.0	1.0	34.52	3.42	34.31	3.43	34.11	3.43	33.90	3.43	33.69	3.43	33.55	3.44
	7.0	6.0	35.31	3.53	35.10	3.53	34.89	3.53	34.68	3.54	34.48	3.54	34.34	3.54
	12.0	10.0	35.94	3.64	35.73	3.64	35.52	3.64	35.31	3.65	35.10	3.65	34.97	3.65
	17.0	15.0	36.72	3.75	36.51	3.75	36.31	3.76	36.10	3.76	35.89	3.76	35.75	3.76
	22.0	20.0	37.51	3.87	37.30	3.87	37.09	3.87	36.88	3.88	36.68	3.88	36.54	3.88
	27.0	24.0	38.14	3.99	37.93	3.99	37.72	3.99	37.51	4.00	37.31	4.00	37.17	4.00
	32.0	29.0	38.92	3.79	38.71	3.79	38.51	3.79	38.30	3.80	38.09	3.80	37.95	3.80
	37.0	34.0	39.71	3.59	39.50	3.59	39.29	3.59	39.09	3.59	38.88	3.60	38.74	3.60
	42.0	38.0	40.34	3.43	40.13	3.43	39.92	3.43	39.71	3.43	39.51	3.44	39.37	3.44
	47.0	43.0	41.12	3.23	40.92	3.23	40.71	3.23	40.50	3.23	40.29	3.24	40.15	3.24
	52.0	47.0	41.75	3.07	41.54	3.07	41.34	3.07	41.13	3.07	40.92	3.07	40.78	3.08
	57.0	52.0	42.54	2.87	42.33	2.87	42.12	2.87	41.91	2.87	41.71	2.87	41.57	2.87
	62.0	56.0	43.17	2.71	42.96	2.71	42.75	2.71	42.54	2.71	42.34	2.71	42.20	2.71
	67.0	61.0	43.95	2.50	43.74	2.51	43.54	2.51	43.33	2.51	43.12	2.51	42.42	2.47
	72.0	66.0	44.74	2.30	44.53	2.31	44.32	2.31	44.12	2.31	43.91	2.31	42.42	2.22
110	-13.0	-14.0	31.90	3.13	31.68	3.13	31.47	3.13	31.25	3.13	31.04	3.14	30.90	3.14
	-8.0	-9.0	32.69	3.23	32.48	3.23	32.26	3.23	32.05	3.23	31.83	3.23	31.69	3.23
	-3.0	-4.0	33.48	3.33	33.27	3.33	33.05	3.33	32.84	3.33	32.62	3.33	32.48	3.33
	2.0	1.0	34.22	3.43	34.03	3.43	33.84	3.43	33.65	3.43	33.46	3.44	33.33	3.44
	7.0	6.0	35.01	3.53	34.82	3.54	34.63	3.54	34.44	3.54	34.24	3.54	34.12	3.54
	12.0	10.0	35.64	3.64	35.45	3.64	35.25	3.65	35.06	3.65	34.87	3.65	34.75	3.65
	17.0	15.0	36.42	3.75	36.23	3.76	36.04	3.76	35.85	3.76	35.66	3.77	35.53	3.77
	22.0	20.0	37.21	3.87	37.02	3.87	36.83	3.88	36.64	3.88	36.45	3.88	36.32	3.88
	27.0	24.0	37.84	3.99	37.65	3.99	37.46	4.00	37.26	4.00	37.07	4.00	36.95	4.00
	32.0	29.0	38.62	3.79	38.43	3.79	38.24	3.80	38.05	3.80	37.86	3.80	37.73	3.80
	37.0	34.0	39.41	3.59	39.22	3.59	39.03	3.60	38.84	3.60	38.65	3.60	38.52	3.60
	42.0	38.0	40.04	3.43	39.85	3.43	39.66	3.43	39.47	3.44	39.27	3.44	38.88	3.41
	47.0	43.0	40.82	3.23	40.63	3.23	40.44	3.23	40.25	3.24	40.06	3.24	38.88	3.13
	52.0	47.0	41.45	3.07	41.26	3.07	41.07	3.07	40.88	3.08	40.69	3.08	38.88	2.92
	57.0	52.0	42.24	2.87	42.05	2.87	41.86	2.87	41.67	2.87	40.93	2.83	38.88	2.66
	62.0	56.0	42.87	2.71	42.68	2.71	42.49	2.71	42.29	2.71	40.93	2.62	38.88	2.46
	67.0	61.0	43.65	2.51	43.46	2.51	43.27	2.51	43.08	2.51	40.93	2.37	38.88	2.23
	72.0	66.0	44.44	2.31	44.25	2.31	44.06	2.31	43.87	2.31	40.93	2.13	38.88	2.01

Table 30 —38VMB036HDS3-1 (Cont.)

Combination (%)	Outdoor Air Temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
100	-13.0	-14.0	31.56	3.13	31.36	3.13	31.17	3.13	30.97	3.14	30.78	3.14	30.65	2.99
	-8.0	-9.0	32.35	3.23	32.16	3.23	31.96	3.23	31.77	3.23	31.57	3.23	31.44	3.09
	-3.0	-4.0	33.14	3.33	32.95	3.33	32.75	3.33	32.56	3.33	32.36	3.33	32.23	3.18
	2.0	1.0	33.92	3.43	33.75	3.43	33.57	3.43	33.40	3.44	33.23	3.44	33.11	3.28
	7.0	6.0	34.71	3.54	34.53	3.54	34.36	3.54	34.19	3.54	34.01	3.55	33.90	3.38
	12.0	10.0	35.34	3.65	35.16	3.65	34.99	3.65	34.82	3.65	34.64	3.66	34.53	3.48
	17.0	15.0	36.12	3.76	35.95	3.76	35.78	3.76	35.60	3.77	35.43	3.77	35.31	3.59
	22.0	20.0	36.91	3.88	36.73	3.88	36.56	3.88	36.39	3.88	36.21	3.88	35.35	3.70
	27.0	24.0	37.54	4.00	37.36	4.00	37.19	4.00	37.02	4.00	36.84	4.01	35.35	3.82
	32.0	29.0	38.32	3.79	38.15	3.80	37.98	3.80	37.80	3.80	37.21	3.75	35.35	3.53
	37.0	34.0	39.11	3.59	38.93	3.60	38.76	3.60	38.59	3.60	37.21	3.46	35.35	3.26
	42.0	38.0	39.74	3.43	39.56	3.44	39.39	3.44	39.22	3.44	37.21	3.24	35.35	3.05
	47.0	43.0	40.52	3.23	40.35	3.23	40.18	3.24	40.00	3.24	37.21	2.97	35.35	2.80
	52.0	47.0	41.15	3.07	40.98	3.07	40.81	3.08	40.00	3.02	37.21	2.77	35.35	2.61
	57.0	52.0	41.94	2.87	41.76	2.87	41.59	2.87	40.00	2.75	37.21	2.53	35.35	2.38
	62.0	56.0	42.57	2.71	42.39	2.71	42.22	2.71	40.00	2.55	37.21	2.34	35.35	2.21
	67.0	61.0	43.35	2.51	43.18	2.51	42.79	2.50	40.00	2.30	37.21	2.12	35.35	2.00
	72.0	66.0	44.14	2.31	43.96	2.31	42.79	2.24	40.00	2.07	37.21	1.91	35.35	1.80
90	-13.0	-14.0	31.22	3.13	31.05	3.14	30.87	3.14	30.69	3.06	30.52	2.81	30.40	2.65
	-8.0	-9.0	32.01	3.23	31.84	3.23	31.66	3.23	31.49	3.15	31.31	2.90	31.19	2.73
	-3.0	-4.0	32.81	3.33	32.63	3.33	32.45	3.33	32.28	3.25	32.10	2.99	31.81	2.81
	2.0	1.0	33.62	3.43	33.46	3.44	33.31	3.44	33.15	3.35	33.00	3.08	31.81	2.90
	7.0	6.0	34.41	3.54	34.25	3.54	34.09	3.54	33.94	3.45	33.49	3.17	31.81	2.99
	12.0	10.0	35.04	3.65	34.88	3.65	34.72	3.65	34.57	3.56	33.49	3.27	31.81	3.08
	17.0	15.0	35.82	3.76	35.67	3.77	35.51	3.77	35.35	3.67	33.49	3.37	31.81	3.17
	22.0	20.0	36.61	3.88	36.45	3.88	36.30	3.88	36.00	3.78	33.49	3.47	31.81	3.27
	27.0	24.0	37.24	4.00	37.08	4.00	36.92	4.00	36.00	3.90	33.49	3.58	31.81	3.37
	32.0	29.0	38.02	3.80	37.87	3.80	37.71	3.80	36.00	3.61	33.49	3.31	31.81	3.12
	37.0	34.0	38.81	3.60	38.65	3.60	38.50	3.60	36.00	3.33	33.49	3.06	31.81	2.88
	42.0	38.0	39.44	3.44	39.28	3.44	38.51	3.37	36.00	3.11	33.49	2.86	31.81	2.70
	47.0	43.0	40.22	3.24	40.07	3.24	38.51	3.10	36.00	2.86	33.49	2.63	31.81	2.48
	52.0	47.0	40.85	3.08	40.70	3.08	38.51	2.88	36.00	2.67	33.49	2.45	31.81	2.31
	57.0	52.0	41.64	2.87	41.02	2.83	38.51	2.63	36.00	2.43	33.49	2.24	31.81	2.11
	62.0	56.0	42.27	2.71	41.02	2.63	38.51	2.44	36.00	2.25	33.49	2.08	31.81	1.96
	67.0	61.0	43.05	2.51	41.02	2.37	38.51	2.20	36.00	2.04	33.49	1.88	31.81	1.78
	72.0	66.0	43.53	2.29	41.02	2.13	38.51	1.98	36.00	1.84	33.49	1.69	31.81	1.60
80	-13.0	-14.0	30.88	3.14	30.73	3.10	30.57	2.88	30.41	2.67	29.77	2.46	28.28	2.32
	-8.0	-9.0	31.68	3.23	31.52	3.20	31.36	2.97	31.21	2.75	29.77	2.53	28.28	2.39
	-3.0	-4.0	32.47	3.33	32.31	3.30	32.15	3.07	32.00	2.83	29.77	2.61	28.28	2.46
	2.0	1.0	33.32	3.44	33.18	3.40	33.04	3.16	32.00	2.92	29.77	2.69	28.28	2.54
	7.0	6.0	34.11	3.54	33.97	3.51	33.83	3.25	32.00	3.01	29.77	2.77	28.28	2.61
	12.0	10.0	34.74	3.65	34.60	3.61	34.23	3.35	32.00	3.10	29.77	2.85	28.28	2.69
	17.0	15.0	35.52	3.77	35.38	3.73	34.23	3.46	32.00	3.20	29.77	2.94	28.28	2.78
	22.0	20.0	36.31	3.88	36.17	3.84	34.23	3.56	32.00	3.30	29.77	3.03	28.28	2.86
	27.0	24.0	36.94	4.00	36.47	3.96	34.23	3.67	32.00	3.40	29.77	3.13	28.28	2.95
	32.0	29.0	37.72	3.80	36.47	3.66	34.23	3.40	32.00	3.14	29.77	2.90	28.28	2.73
	37.0	34.0	38.51	3.60	36.47	3.38	34.23	3.14	32.00	2.90	29.77	2.67	28.28	2.53
	42.0	38.0	38.70	3.39	36.47	3.16	34.23	2.94	32.00	2.72	29.77	2.51	28.28	2.37
	47.0	43.0	38.70	3.11	36.47	2.90	34.23	2.70	32.00	2.50	29.77	2.30	28.28	2.18
	52.0	47.0	38.70	2.90	36.47	2.71	34.23	2.52	32.00	2.33	29.77	2.15	28.28	2.03
	57.0	52.0	38.70	2.65	36.47	2.47	34.23	2.30	32.00	2.13	29.77	1.96	28.28	1.86
	62.0	56.0	38.70	2.45	36.47	2.29	34.23	2.13	32.00	1.97	29.77	1.82	28.28	1.72
	67.0	61.0	38.70	2.22	36.47	2.07	34.23	1.93	32.00	1.79	29.77	1.65	28.28	1.56
	72.0	66.0	38.70	1.99	36.47	1.86	34.23	1.73	32.00	1.61	29.77	1.49	28.28	1.41

Table 30 —38VMB036HDS3-1 (Cont.)

Combination (%)	Outdoor Air Temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	-13.0	-14.0	30.54	2.85	30.41	2.66	29.95	2.46	28.00	2.29	26.05	2.11	24.74	2.00
	-8.0	-9.0	31.34	2.94	31.20	2.74	29.95	2.54	28.00	2.36	26.05	2.17	24.74	2.06
	-3.0	-4.0	32.13	3.03	31.91	2.82	29.95	2.62	28.00	2.43	26.05	2.24	24.74	2.12
	2.0	1.0	33.02	3.12	31.91	2.91	29.95	2.70	28.00	2.51	26.05	2.31	24.74	2.19
	7.0	6.0	33.81	3.21	31.91	3.00	29.95	2.79	28.00	2.58	26.05	2.39	24.74	2.26
	12.0	10.0	33.86	3.31	31.91	3.09	29.95	2.87	28.00	2.66	26.05	2.46	24.74	2.33
	17.0	15.0	33.86	3.41	31.91	3.19	29.95	2.96	28.00	2.75	26.05	2.54	24.74	2.40
	22.0	20.0	33.86	3.52	31.91	3.28	29.95	3.06	28.00	2.83	26.05	2.61	24.74	2.47
	27.0	24.0	33.86	3.63	31.91	3.39	29.95	3.15	28.00	2.92	26.05	2.70	24.74	2.55
	32.0	29.0	33.86	3.36	31.91	3.13	29.95	2.92	28.00	2.70	26.05	2.50	24.74	2.36
	37.0	34.0	33.86	3.10	31.91	2.89	29.95	2.69	28.00	2.50	26.05	2.31	24.74	2.19
	42.0	38.0	33.86	2.90	31.91	2.71	29.95	2.52	28.00	2.34	26.05	2.17	24.74	2.05
	47.0	43.0	33.86	2.66	31.91	2.49	29.95	2.32	28.00	2.15	26.05	1.99	24.74	1.89
	52.0	47.0	33.86	2.48	31.91	2.32	29.95	2.16	28.00	2.01	26.05	1.86	24.74	1.76
	57.0	52.0	33.86	2.27	31.91	2.12	29.95	1.98	28.00	1.84	26.05	1.70	24.74	1.61
	62.0	56.0	33.86	2.10	31.91	1.97	29.95	1.83	28.00	1.70	26.05	1.58	24.74	1.50
	67.0	61.0	33.86	1.90	31.91	1.78	29.95	1.66	28.00	1.54	26.05	1.43	24.74	1.36
	72.0	66.0	33.86	1.71	31.91	1.60	29.95	1.50	28.00	1.39	26.05	1.29	24.74	1.22
60	-13.0	-14.0	29.02	2.38	27.35	2.23	25.67	2.08	24.00	1.93	22.33	1.79	21.21	1.70
	-8.0	-9.0	29.02	2.46	27.35	2.30	25.67	2.15	24.00	1.99	22.33	1.84	21.21	1.75
	-3.0	-4.0	29.02	2.53	27.35	2.37	25.67	2.21	24.00	2.06	22.33	1.90	21.21	1.80
	2.0	1.0	29.02	2.61	27.35	2.44	25.67	2.28	24.00	2.12	22.33	1.96	21.21	1.86
	7.0	6.0	29.02	2.69	27.35	2.52	25.67	2.35	24.00	2.18	22.33	2.02	21.21	1.92
	12.0	10.0	29.02	2.77	27.35	2.60	25.67	2.42	24.00	2.25	22.33	2.09	21.21	1.98
	17.0	15.0	29.02	2.86	27.35	2.68	25.67	2.50	24.00	2.32	22.33	2.15	21.21	2.04
	22.0	20.0	29.02	2.95	27.35	2.76	25.67	2.57	24.00	2.39	22.33	2.22	21.21	2.10
	27.0	24.0	29.02	3.04	27.35	2.84	25.67	2.65	24.00	2.47	22.33	2.29	21.21	2.17
	32.0	29.0	29.02	2.81	27.35	2.63	25.67	2.46	24.00	2.29	22.33	2.12	21.21	2.01
	37.0	34.0	29.02	2.60	27.35	2.44	25.67	2.27	24.00	2.12	22.33	1.96	21.21	1.86
	42.0	38.0	29.02	2.44	27.35	2.28	25.67	2.13	24.00	1.98	22.33	1.84	21.21	1.75
	47.0	43.0	29.02	2.24	27.35	2.10	25.67	1.96	24.00	1.83	22.33	1.70	21.21	1.61
	52.0	47.0	29.02	2.09	27.35	1.96	25.67	1.83	24.00	1.71	22.33	1.58	21.21	1.50
	57.0	52.0	29.02	1.91	27.35	1.79	25.67	1.68	24.00	1.56	22.33	1.45	21.21	1.38
	62.0	56.0	29.02	1.77	27.35	1.66	25.67	1.55	24.00	1.45	22.33	1.35	21.21	1.28
	67.0	61.0	29.02	1.61	27.35	1.51	25.67	1.41	24.00	1.31	22.33	1.22	21.21	1.16
	72.0	66.0	29.02	1.45	27.35	1.36	25.67	1.27	24.00	1.19	22.33	1.10	21.21	1.05
50	-13.0	-14.0	24.19	1.95	22.79	1.83	21.40	1.72	20.00	1.60	18.60	1.49	17.67	1.41
	-8.0	-9.0	24.19	2.01	22.79	1.89	21.40	1.77	20.00	1.65	18.60	1.53	17.67	1.46
	-3.0	-4.0	24.19	2.08	22.79	1.95	21.40	1.82	20.00	1.70	18.60	1.58	17.67	1.50
	2.0	1.0	24.19	2.14	22.79	2.01	21.40	1.88	20.00	1.75	18.60	1.63	17.67	1.55
	7.0	6.0	24.19	2.20	22.79	2.07	21.40	1.94	20.00	1.81	18.60	1.68	17.67	1.60
	12.0	10.0	24.19	2.27	22.79	2.13	21.40	2.00	20.00	1.86	18.60	1.73	17.67	1.65
	17.0	15.0	24.19	2.34	22.79	2.20	21.40	2.06	20.00	1.92	18.60	1.78	17.67	1.70
	22.0	20.0	24.19	2.41	22.79	2.27	21.40	2.12	20.00	1.98	18.60	1.84	17.67	1.75
	27.0	24.0	24.19	2.49	22.79	2.34	21.40	2.19	20.00	2.04	18.60	1.90	17.67	1.80
	32.0	29.0	24.19	2.31	22.79	2.17	21.40	2.03	20.00	1.89	18.60	1.76	17.67	1.67
	37.0	34.0	24.19	2.13	22.79	2.00	21.40	1.88	20.00	1.75	18.60	1.63	17.67	1.55
	42.0	38.0	24.19	2.00	22.79	1.88	21.40	1.76	20.00	1.65	18.60	1.53	17.67	1.46
	47.0	43.0	24.19	1.84	22.79	1.73	21.40	1.62	20.00	1.52	18.60	1.41	17.67	1.35
	52.0	47.0	24.19	1.72	22.79	1.62	21.40	1.52	20.00	1.42	18.60	1.32	17.67	1.26
	57.0	52.0	24.19	1.57	22.79	1.48	21.40	1.39	20.00	1.30	18.60	1.21	17.67	1.15
	62.0	56.0	24.19	1.46	22.79	1.37	21.40	1.29	20.00	1.21	18.60	1.13	17.67	1.07
	67.0	61.0	24.19	1.33	22.79	1.25	21.40	1.17	20.00	1.10	18.60	1.02	17.67	0.97
	72.0	66.0	24.19	1.19	22.79	1.13	21.40	1.06	20.00	0.99	18.60	0.92	17.67	0.88

Tc: Total Capacity
PI: Power Input

Table 31 —38VMB048HDS3-1

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	-13.0	-14.0	42.84	3.15	41.08	3.30	39.32	3.46	37.56	3.61	35.80	3.77	34.63	3.88
	-8.0	-9.0	44.66	3.25	42.90	3.41	41.14	3.57	39.38	3.73	37.62	3.89	36.45	4.00
	-3.0	-4.0	46.48	3.35	44.72	3.51	42.96	3.68	41.20	3.84	39.44	4.01	38.27	4.12
	2.0	1.0	52.98	3.45	50.21	3.62	47.44	3.79	44.67	3.96	41.90	4.13	40.05	4.25
	7.0	6.0	55.00	4.19	52.23	4.31	49.46	4.43	46.69	4.55	43.92	4.67	42.08	4.75
	12.0	10.0	56.62	4.48	53.85	4.57	51.08	4.67	48.31	4.76	45.54	4.86	43.70	4.92
	17.0	15.0	58.64	4.66	55.87	4.73	53.10	4.80	50.34	4.88	47.57	4.95	45.72	5.00
	22.0	20.0	60.67	4.72	57.90	4.78	55.13	4.84	52.36	4.90	49.59	4.96	47.74	5.00
	27.0	24.0	62.28	4.72	59.52	4.78	56.75	4.83	53.98	4.88	51.21	4.93	49.36	4.97
	32.0	29.0	64.31	4.69	61.54	4.73	58.77	4.78	56.00	4.82	53.23	4.87	51.39	4.90
	37.0	34.0	66.33	4.62	63.56	4.66	60.79	4.70	58.02	4.74	55.26	4.78	53.41	4.80
	42.0	38.0	67.95	4.56	65.18	4.59	62.41	4.63	59.64	4.66	56.87	4.69	55.03	4.72
	47.0	43.0	69.97	4.46	67.21	4.49	64.44	4.52	61.67	4.55	58.90	4.58	57.05	4.60
	52.0	47.0	71.59	4.37	68.82	4.40	66.06	4.42	63.29	4.45	60.52	4.48	58.67	4.50
	57.0	52.0	73.62	4.25	70.85	4.27	68.08	4.30	65.31	4.32	62.54	4.35	60.31	4.28
	62.0	56.0	75.24	4.15	72.47	4.17	69.70	4.19	66.93	4.22	63.49	4.11	60.31	3.87
	67.0	61.0	77.26	4.02	74.49	4.04	71.72	4.06	68.25	3.95	63.49	3.63	60.31	3.42
	72.0	66.0	79.28	3.88	76.51	3.90	73.01	3.80	68.25	3.51	63.49	3.23	60.31	3.05
120	-13.0	-14.0	40.49	3.36	38.87	3.50	37.24	3.64	35.62	3.79	33.99	3.93	32.91	4.03
	-8.0	-9.0	42.31	3.46	40.69	3.60	39.06	3.75	37.44	3.90	35.82	4.06	34.73	4.16
	-3.0	-4.0	44.13	3.57	42.51	3.72	40.89	3.87	39.26	4.03	37.64	4.18	36.55	4.29
	2.0	1.0	49.28	3.68	46.73	3.83	44.17	3.99	41.62	4.15	39.06	4.31	37.36	4.42
	7.0	6.0	51.31	4.35	48.75	4.46	46.20	4.57	43.64	4.68	41.08	4.79	39.38	4.86
	12.0	10.0	52.93	4.60	50.37	4.69	47.81	4.78	45.26	4.87	42.70	4.95	41.00	5.01
	17.0	15.0	54.95	4.75	52.39	4.82	49.84	4.89	47.28	4.96	44.73	5.03	43.02	5.07
	22.0	20.0	56.97	4.80	54.42	4.86	51.86	4.91	49.31	4.97	46.75	5.02	45.05	5.06
	27.0	24.0	58.59	4.79	56.04	4.84	53.48	4.89	50.92	4.94	48.37	4.99	46.66	5.02
	32.0	29.0	60.62	4.75	58.06	4.79	55.50	4.83	52.95	4.87	50.39	4.91	48.69	4.94
	37.0	34.0	62.64	4.68	60.08	4.71	57.53	4.75	54.97	4.78	52.42	4.82	50.71	4.84
	42.0	38.0	64.26	4.60	61.70	4.63	59.15	4.67	56.59	4.70	54.03	4.73	52.33	4.75
	47.0	43.0	66.28	4.50	63.73	4.53	61.17	4.55	58.61	4.58	56.06	4.61	54.35	4.63
	52.0	47.0	67.90	4.41	65.35	4.43	62.79	4.46	60.23	4.48	57.68	4.51	55.67	4.45
	57.0	52.0	69.93	4.28	67.37	4.30	64.81	4.33	62.26	4.35	58.60	4.14	55.67	3.90
	62.0	56.0	71.54	4.18	68.99	4.20	66.43	4.22	63.00	4.07	58.60	3.74	55.67	3.52
	67.0	61.0	73.57	4.04	71.01	4.06	67.40	3.90	63.00	3.60	58.60	3.31	55.67	3.12
	72.0	66.0	75.59	3.90	71.79	3.73	67.40	3.46	63.00	3.20	58.60	2.95	55.67	2.78
110	-13.0	-14.0	37.14	3.57	33.66	3.70	34.17	3.83	32.68	3.96	31.19	4.10	30.20	4.18
	-8.0	-9.0	38.97	3.68	37.48	3.81	35.99	3.95	34.50	4.08	33.01	4.22	32.02	4.31
	-3.0	-4.0	40.79	3.79	39.30	3.93	37.81	4.07	36.32	4.21	34.83	4.36	33.84	4.44
	2.0	1.0	45.59	3.91	43.25	4.05	40.91	4.20	38.56	4.34	36.22	4.49	34.66	4.58
	7.0	6.0	47.62	4.51	45.27	4.61	42.93	4.71	40.59	4.81	38.24	4.91	36.68	4.98
	12.0	10.0	49.23	4.73	46.89	4.81	44.55	4.89	42.21	4.97	39.86	5.05	38.30	5.10
	17.0	15.0	51.26	4.85	48.92	4.92	46.57	4.98	44.23	5.04	41.89	5.10	40.32	5.15
	22.0	20.0	53.28	4.88	50.94	4.93	48.60	4.98	46.25	5.04	43.91	5.09	42.35	5.12
	27.0	24.0	54.90	4.86	52.56	4.91	50.21	4.95	47.87	5.00	45.53	5.04	43.97	5.07
	32.0	29.0	56.92	4.81	54.58	4.85	52.24	4.88	49.90	4.92	47.55	4.96	45.99	4.98
	37.0	34.0	58.95	4.73	56.60	4.76	54.26	4.79	51.92	4.82	49.58	4.86	48.01	4.88
	42.0	38.0	60.57	4.65	58.22	4.68	55.88	4.71	53.54	4.74	51.19	4.76	49.63	4.78
	47.0	43.0	62.59	4.54	60.25	4.56	57.90	4.59	55.56	4.61	53.22	4.64	51.03	4.49
	52.0	47.0	64.21	4.44	61.87	4.47	59.52	4.49	57.18	4.51	53.72	4.27	51.03	4.02
	57.0	52.0	66.23	4.31	63.89	4.34	61.55	4.36	57.75	4.07	53.72	3.74	51.03	3.52
	62.0	56.0	67.85	4.21	65.51	4.23	61.78	3.98	57.75	3.67	53.72	3.38	51.03	3.19
	67.0	61.0	69.84	4.06	65.81	3.79	61.78	3.52	57.75	3.26	53.72	3.00	51.03	2.83
	72.0	66.0	69.84	3.61	65.81	3.36	61.78	3.13	57.75	2.90	53.72	2.68	51.03	2.53

Table 31 —38VMB048HDS3-1 (Cont.)

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
100	-13.0	-14.0	31.80	4.23	30.44	3.90	29.09	4.02	27.74	4.13	26.38	4.25	25.48	4.34
	-8.0	-9.0	33.62	4.37	32.27	4.02	30.91	4.14	29.56	4.26	28.21	4.38	27.30	4.47
	-3.0	-4.0	35.44	4.50	34.09	4.14	32.74	4.27	31.38	4.39	30.03	4.52	29.13	4.61
	2.0	1.0	41.90	4.13	39.77	4.27	37.64	4.40	35.51	4.53	33.38	4.66	31.96	4.75
	7.0	6.0	43.92	4.67	41.79	4.76	39.66	4.85	37.53	4.94	35.40	5.03	33.98	5.09
	12.0	10.0	45.54	4.86	43.41	4.93	41.28	5.00	39.15	5.07	37.02	5.15	35.60	5.20
	17.0	15.0	47.57	4.95	45.44	5.01	43.31	5.07	41.18	5.12	39.05	5.18	37.63	5.22
	22.0	20.0	49.59	4.96	47.46	5.01	45.33	5.06	43.20	5.10	41.07	5.15	39.65	5.18
	27.0	24.0	51.21	4.93	49.08	4.97	46.95	5.01	44.82	5.05	42.69	5.10	41.27	5.12
	32.0	29.0	53.23	4.87	51.10	4.90	48.97	4.94	46.84	4.97	44.71	5.00	43.29	5.03
	37.0	34.0	55.26	4.78	53.13	4.81	51.00	4.84	48.87	4.87	46.74	4.90	45.32	4.92
	42.0	38.0	56.87	4.69	54.74	4.72	52.61	4.75	50.48	4.77	48.35	4.80	46.40	4.65
	47.0	43.0	58.90	4.58	56.77	4.60	54.64	4.62	52.50	4.65	48.84	4.26	46.40	4.02
	52.0	47.0	60.52	4.48	58.39	4.50	56.16	4.50	52.50	4.15	48.84	3.82	46.40	3.60
	57.0	52.0	62.54	4.35	59.83	4.24	56.16	3.94	52.50	3.64	48.84	3.35	46.40	3.16
	62.0	56.0	63.49	4.11	59.83	3.83	56.16	3.56	52.50	3.29	48.84	3.04	46.40	2.87
	67.0	61.0	63.49	3.63	59.83	3.39	56.16	3.15	52.50	2.92	48.84	2.70	46.40	2.56
	72.0	66.0	63.49	3.23	59.83	3.02	56.16	2.81	52.50	2.61	48.84	2.41	46.40	2.29
90	-13.0	-14.0	23.02	3.98	19.80	4.09	19.59	4.20	19.37	4.31	19.15	4.42	18.34	4.49
	-8.0	-9.0	29.67	4.10	26.45	4.22	24.24	4.33	23.02	4.44	21.80	4.55	20.99	4.63
	-3.0	-4.0	34.32	4.23	31.10	4.35	29.88	4.46	27.67	4.58	24.45	4.69	23.64	4.77
	2.0	1.0	38.21	4.36	36.29	4.48	34.37	4.60	32.46	4.72	30.54	4.84	29.26	4.92
	7.0	6.0	40.23	4.83	38.31	4.91	36.40	4.99	34.48	5.07	32.56	5.16	31.29	5.21
	12.0	10.0	41.85	4.98	39.93	5.05	38.02	5.11	36.10	5.18	34.18	5.24	32.90	5.29
	17.0	15.0	43.87	5.05	41.96	5.10	40.04	5.15	38.12	5.21	36.21	5.26	34.93	5.29
	22.0	20.0	45.90	5.04	43.98	5.09	42.06	5.13	40.15	5.17	38.23	5.21	36.95	5.24
	27.0	24.0	47.52	5.00	45.60	5.04	43.68	5.08	41.77	5.11	39.85	5.15	38.57	5.17
	32.0	29.0	49.54	4.93	47.62	4.96	45.71	4.99	43.79	5.02	41.87	5.05	40.59	5.07
	37.0	34.0	51.56	4.83	49.65	4.86	47.73	4.88	45.81	4.91	43.90	4.94	41.76	4.66
	42.0	38.0	53.18	4.74	51.27	4.76	49.35	4.79	47.25	4.76	43.95	4.37	41.76	4.11
	47.0	43.0	55.21	4.62	53.29	4.64	50.55	4.44	47.25	4.10	43.95	3.77	41.76	3.56
	52.0	47.0	56.83	4.51	53.84	4.28	50.55	3.97	47.25	3.68	43.95	3.39	41.76	3.20
	57.0	52.0	57.14	4.02	53.84	3.75	50.55	3.49	47.25	3.23	43.95	2.98	41.76	2.82
	62.0	56.0	57.14	3.63	53.84	3.39	50.55	3.16	47.25	2.93	43.95	2.71	41.76	2.56
	67.0	61.0	57.14	3.22	53.84	3.01	50.55	2.80	47.25	2.61	43.95	2.41	41.76	2.29
	72.0	66.0	57.14	2.87	53.84	2.68	50.55	2.50	47.25	2.33	43.95	2.16	41.76	2.05
80	-13.0	-14.0	21.68	4.19	20.59	4.29	19.51	4.38	18.43	4.48	17.34	4.58	16.62	4.65
	-8.0	-9.0	24.33	4.32	23.24	4.42	22.16	4.52	21.08	4.62	19.99	4.72	19.27	4.79
	-3.0	-4.0	28.98	4.45	27.89	4.56	26.81	4.66	25.73	4.76	24.64	4.87	22.92	4.94
	2.0	1.0	34.52	4.59	32.81	4.70	31.11	4.80	29.40	4.91	27.70	5.02	26.56	5.09
	7.0	6.0	36.54	4.98	34.84	5.06	33.13	5.13	31.43	5.20	29.72	5.28	28.59	5.33
	12.0	10.0	38.16	5.11	36.45	5.17	34.75	5.22	33.05	5.28	31.34	5.34	30.21	5.38
	17.0	15.0	40.18	5.15	38.48	5.20	36.77	5.24	35.07	5.29	33.37	5.33	32.23	5.36
	22.0	20.0	42.21	5.12	40.50	5.16	38.80	5.20	37.09	5.24	35.39	5.27	34.25	5.30
	27.0	24.0	43.82	5.07	42.12	5.11	40.42	5.14	38.71	5.17	37.01	5.20	35.87	5.22
	32.0	29.0	45.85	4.99	44.14	5.01	42.44	5.04	40.74	5.07	39.03	5.10	37.12	4.81
	37.0	34.0	47.87	4.88	46.17	4.90	44.46	4.93	42.00	4.69	39.07	4.31	37.12	4.07
	42.0	38.0	49.49	4.79	47.79	4.81	44.93	4.48	42.00	4.14	39.07	3.81	37.12	3.60
	47.0	43.0	50.79	4.47	47.86	4.16	44.93	3.87	42.00	3.58	39.07	3.31	37.12	3.12
	52.0	47.0	50.79	3.99	47.86	3.73	44.93	3.47	42.00	3.22	39.07	2.97	37.12	2.81
	57.0	52.0	50.79	3.50	47.86	3.28	44.93	3.05	42.00	2.84	39.07	2.62	37.12	2.49
	62.0	56.0	50.79	3.17	47.86	2.97	44.93	2.77	42.00	2.58	39.07	2.39	37.12	2.26
	67.0	61.0	50.79	2.82	47.86	2.64	44.93	2.47	42.00	2.30	39.07	2.13	37.12	2.02
	72.0	66.0	50.79	2.52	47.86	2.36	44.93	2.21	42.00	2.06	39.07	1.91	37.12	1.82

Table 31 —38VMB048HDS3-1 (Cont.)

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	-13.0	-14.0	19.33	4.40	18.38	4.48	17.44	4.57	16.49	4.65	15.54	4.74	14.91	4.79
	-8.0	-9.0	22.98	4.54	22.03	4.62	21.08	4.71	20.14	4.80	19.19	4.88	18.56	4.94
	-3.0	-4.0	26.63	4.68	25.68	4.76	24.73	4.86	23.79	4.95	22.84	5.03	20.21	5.09
	2.0	1.0	30.82	4.82	29.33	4.91	27.84	5.01	26.35	5.10	24.86	5.19	23.87	5.25
	7.0	6.0	32.85	5.14	31.36	5.21	29.87	5.27	28.37	5.34	26.88	5.40	25.89	5.44
	12.0	10.0	34.47	5.23	32.98	5.28	31.48	5.34	29.99	5.39	28.50	5.44	27.51	5.47
	17.0	15.0	36.49	5.25	35.00	5.29	33.51	5.33	32.02	5.37	30.53	5.41	29.53	5.44
	22.0	20.0	38.51	5.21	37.02	5.24	35.53	5.27	34.04	5.30	32.55	5.34	31.56	5.36
	27.0	24.0	40.13	5.14	38.64	5.17	37.15	5.20	35.66	5.23	34.17	5.26	32.48	4.95
	32.0	29.0	42.16	5.05	40.66	5.07	39.17	5.09	36.75	4.75	34.19	4.37	32.48	4.12
	37.0	34.0	44.18	4.93	41.88	4.68	39.31	4.34	36.75	4.02	34.19	3.70	32.48	3.50
	42.0	38.0	44.44	4.42	41.88	4.13	39.31	3.84	36.75	3.56	34.19	3.28	32.48	3.11
	47.0	43.0	44.44	3.82	41.88	3.57	39.31	3.33	36.75	3.09	34.19	2.86	32.48	2.71
	52.0	47.0	44.44	3.43	41.88	3.21	39.31	2.99	36.75	2.78	34.19	2.58	32.48	2.44
	57.0	52.0	44.44	3.02	41.88	2.83	39.31	2.64	36.75	2.46	34.19	2.28	32.48	2.17
	62.0	56.0	44.44	2.74	41.88	2.57	39.31	2.40	36.75	2.24	34.19	2.08	32.48	1.98
	67.0	61.0	44.44	2.44	41.88	2.29	39.31	2.15	36.75	2.00	34.19	1.87	32.48	1.77
	72.0	66.0	44.44	2.18	41.88	2.05	39.31	1.93	36.75	1.80	34.19	1.68	32.48	1.60
60	-13.0	-14.0	17.98	4.61	17.17	4.68	16.36	4.76	15.55	4.83	14.74	4.90	14.19	4.95
	-8.0	-9.0	20.63	4.75	19.82	4.83	19.01	4.90	18.20	4.98	17.38	5.05	16.84	5.10
	-3.0	-4.0	24.28	4.90	23.47	4.98	22.66	5.05	20.85	5.13	20.03	5.21	19.49	5.26
	2.0	1.0	27.13	5.05	25.85	5.13	24.58	5.21	23.30	5.29	22.02	5.37	21.17	5.42
	7.0	6.0	29.16	5.30	27.88	5.36	26.60	5.41	25.32	5.47	24.04	5.52	23.19	5.56
	12.0	10.0	30.77	5.36	29.50	5.40	28.22	5.45	26.94	5.49	25.66	5.53	24.81	5.56
	17.0	15.0	32.80	5.35	31.52	5.38	30.24	5.42	28.96	5.45	27.69	5.49	26.83	5.51
	22.0	20.0	34.82	5.29	33.54	5.31	32.27	5.34	30.99	5.37	29.30	5.18	27.84	4.88
	27.0	24.0	36.44	5.21	35.16	5.24	33.70	5.18	31.50	4.78	29.30	4.39	27.84	4.14
	32.0	29.0	38.09	4.96	35.90	4.62	33.70	4.30	31.50	3.98	29.30	3.67	27.84	3.47
	37.0	34.0	38.09	4.19	35.90	3.91	33.70	3.64	31.50	3.38	29.30	3.13	27.84	2.96
	42.0	38.0	38.09	3.70	35.90	3.47	33.70	3.23	31.50	3.00	29.30	2.78	27.84	2.64
	47.0	43.0	38.09	3.21	35.90	3.01	33.70	2.82	31.50	2.62	29.30	2.43	27.84	2.31
	52.0	47.0	38.09	2.89	35.90	2.71	33.70	2.54	31.50	2.37	29.30	2.20	27.84	2.09
	57.0	52.0	38.09	2.56	35.90	2.40	33.70	2.25	31.50	2.10	29.30	1.96	27.84	1.86
	62.0	56.0	38.09	2.33	35.90	2.19	33.70	2.05	31.50	1.92	29.30	1.79	27.84	1.70
	67.0	61.0	38.09	2.08	35.90	1.96	33.70	1.84	31.50	1.72	29.30	1.61	27.84	1.53
	72.0	66.0	38.09	1.87	35.90	1.76	33.70	1.66	31.50	1.55	29.30	1.45	27.84	1.38
50	-13.0	-14.0	15.64	4.82	14.96	4.88	14.28	4.94	13.61	5.00	12.93	5.06	12.48	5.10
	-8.0	-9.0	18.29	4.97	17.61	5.03	16.93	5.09	16.26	5.16	15.58	5.21	14.63	5.26
	-3.0	-4.0	20.94	5.12	20.26	5.19	19.58	5.25	18.91	5.32	17.73	5.37	17.28	5.42
	2.0	1.0	23.44	5.28	22.37	5.35	21.31	5.41	20.24	5.48	19.18	5.54	18.47	5.59
	7.0	6.0	25.46	5.46	24.40	5.51	23.33	5.55	22.27	5.60	21.20	5.64	20.49	5.67
	12.0	10.0	27.08	5.49	26.02	5.52	24.95	5.56	23.89	5.59	22.82	5.63	22.11	5.66
	17.0	15.0	29.11	5.45	28.04	5.48	26.98	5.50	25.91	5.53	24.42	5.28	23.20	4.97
	22.0	20.0	31.13	5.37	29.91	5.31	28.08	4.93	26.25	4.56	24.42	4.19	23.20	3.96
	27.0	24.0	31.74	4.82	29.91	4.50	28.08	4.19	26.25	3.88	24.42	3.58	23.20	3.39
	32.0	29.0	31.74	4.01	29.91	3.75	28.08	3.50	26.25	3.25	24.42	3.01	23.20	2.85
	37.0	34.0	31.74	3.41	29.91	3.20	28.08	2.99	26.25	2.78	24.42	2.58	23.20	2.45
	42.0	38.0	31.74	3.03	29.91	2.84	28.08	2.66	26.25	2.48	24.42	2.31	23.20	2.19
	47.0	43.0	31.74	2.64	29.91	2.48	28.08	2.33	26.25	2.18	24.42	2.03	23.20	1.93
	52.0	47.0	31.74	2.39	29.91	2.25	28.08	2.11	26.25	1.97	24.42	1.84	23.20	1.75
	57.0	52.0	31.74	2.12	29.91	2.00	28.08	1.88	26.25	1.76	24.42	1.64	23.20	1.57
	62.0	56.0	31.74	1.93	29.91	1.82	28.08	1.72	26.25	1.61	24.42	1.51	23.20	1.44
	67.0	61.0	31.74	1.73	29.91	1.64	28.08	1.54	26.25	1.45	24.42	1.36	23.20	1.30
	72.0	66.0	31.74	1.56	29.91	1.48	28.08	1.40	26.25	1.31	24.42	1.23	23.20	1.18

Tc: Total Capacity
PI: Power Input

Table 32 —38VMB060HDS3-1

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
130	-13.0	-14.0	34.60	3.60	33.57	3.79	31.54	3.98	29.51	4.17	28.49	4.36	27.80	4.49
	-8.0	-9.0	38.09	3.71	37.07	3.90	35.04	4.10	33.01	4.30	31.99	4.50	31.30	4.63
	-3.0	-4.0	41.59	3.82	40.57	4.03	38.54	4.23	36.51	4.43	35.49	4.64	34.80	4.77
	2.0	1.0	45.02	6.12	43.27	6.12	41.53	6.12	39.78	6.13	38.03	6.13	36.87	6.14
	7.0	6.0	48.59	6.12	46.84	6.13	45.10	6.13	43.35	6.13	41.60	6.14	40.44	6.14
	12.0	10.0	52.16	6.12	50.41	6.12	48.67	6.13	46.92	6.13	45.17	6.13	44.01	6.13
	17.0	15.0	55.73	6.11	53.98	6.12	52.24	6.12	50.49	6.12	48.74	6.12	47.58	6.12
	22.0	20.0	59.30	6.10	57.55	6.11	55.81	6.11	54.06	6.11	52.31	6.11	51.15	6.11
	27.0	24.0	62.87	6.09	61.12	6.10	59.38	6.10	57.63	6.10	55.88	6.10	54.72	6.10
	32.0	29.0	66.44	6.08	64.69	6.08	62.95	6.08	61.20	6.08	59.45	6.09	58.29	6.09
	37.0	34.0	70.01	6.07	68.26	6.07	66.52	6.07	64.77	6.07	63.02	6.07	61.86	6.07
	42.0	38.0	73.58	6.06	71.83	6.06	70.09	6.06	68.34	6.06	66.59	6.06	65.43	6.06
	47.0	43.0	77.03	6.04	75.29	6.04	73.54	6.04	71.79	6.04	70.05	6.05	68.88	6.05
	52.0	47.0	80.58	6.03	78.84	6.03	77.09	6.03	75.34	6.03	73.60	6.03	72.43	6.03
	57.0	52.0	85.02	6.02	83.27	6.02	81.53	6.02	79.78	6.02	78.04	6.02	75.82	5.88
	62.0	56.0	88.57	6.00	86.82	6.00	85.08	6.00	83.33	6.01	79.81	5.79	75.82	5.45
	67.0	61.0	93.01	5.99	91.26	5.99	89.52	5.99	85.80	5.77	79.81	5.30	75.82	4.99
	72.0	66.0	97.45	5.97	95.70	5.97	91.79	5.75	85.80	5.31	79.81	4.88	75.82	4.61
120	-13.0	-14.0	31.23	3.85	30.28	4.02	29.33	4.20	28.38	4.38	27.43	4.55	26.80	4.67
	-8.0	-9.0	34.73	3.97	33.78	4.15	32.83	4.33	31.88	4.52	30.93	4.70	30.30	4.82
	-3.0	-4.0	38.23	4.09	37.28	4.28	36.33	4.46	35.38	4.66	34.43	4.84	33.80	4.97
	2.0	1.0	42.69	6.12	41.08	6.13	39.47	6.13	37.86	6.13	36.24	6.14	35.17	6.14
	7.0	6.0	46.26	6.13	44.65	6.13	43.04	6.13	41.43	6.14	39.81	6.14	38.74	6.14
	12.0	10.0	49.83	6.13	48.22	6.13	46.61	6.13	45.00	6.13	43.38	6.13	42.31	6.14
	17.0	15.0	53.40	6.12	51.79	6.12	50.18	6.12	48.57	6.12	46.95	6.12	45.88	6.12
	22.0	20.0	56.97	6.11	55.36	6.11	53.75	6.11	52.14	6.11	50.52	6.11	49.45	6.11
	27.0	24.0	60.54	6.10	58.93	6.10	57.32	6.10	55.71	6.10	54.09	6.10	53.02	6.10
	32.0	29.0	64.11	6.08	62.50	6.08	60.89	6.09	59.28	6.09	57.66	6.09	56.59	6.09
	37.0	34.0	67.68	6.07	66.07	6.07	64.46	6.07	62.85	6.07	61.23	6.07	60.16	6.07
	42.0	38.0	71.25	6.06	69.64	6.06	68.03	6.06	66.42	6.06	64.80	6.06	63.73	6.06
	47.0	43.0	74.70	6.04	73.09	6.04	71.48	6.04	69.87	6.05	68.26	6.05	67.18	6.05
	52.0	47.0	78.25	6.03	76.64	6.03	75.03	6.03	73.42	6.03	71.81	6.03	69.99	5.93
	57.0	52.0	82.69	6.02	81.08	6.02	79.47	6.02	77.86	6.02	73.67	5.68	69.99	5.35
	62.0	56.0	86.24	6.00	84.63	6.01	83.02	6.01	79.20	5.74	73.67	5.27	69.99	4.97
	67.0	61.0	90.68	5.99	89.07	5.99	84.73	5.68	79.20	5.25	73.67	4.83	69.99	4.56
	72.0	66.0	95.12	5.97	90.25	5.63	84.73	5.23	79.20	4.84	73.67	4.46	69.99	4.21
110	-13.0	-14.0	29.86	4.11	28.99	4.26	28.12	4.43	27.25	4.59	26.38	4.76	25.80	4.86
	-8.0	-9.0	33.36	4.23	32.49	4.39	31.62	4.56	30.75	4.73	29.88	4.90	29.30	5.01
	-3.0	-4.0	36.86	4.37	35.99	4.53	35.12	4.70	34.25	4.88	33.38	5.05	32.80	5.17
	2.0	1.0	40.36	6.13	38.89	6.13	37.41	6.14	35.93	6.14	34.45	6.14	33.47	6.14
	7.0	6.0	43.93	6.13	42.46	6.13	40.98	6.14	39.50	6.14	38.02	6.14	37.04	6.14
	12.0	10.0	47.50	6.13	46.03	6.13	44.55	6.13	43.07	6.13	41.59	6.14	40.61	6.14
	17.0	15.0	51.07	6.12	49.60	6.12	48.12	6.12	46.64	6.12	45.16	6.13	44.18	6.13
	22.0	20.0	54.64	6.11	53.17	6.11	51.69	6.11	50.21	6.11	48.73	6.11	47.75	6.11
	27.0	24.0	58.21	6.10	56.74	6.10	55.26	6.10	53.78	6.10	52.30	6.10	51.32	6.10
	32.0	29.0	61.78	6.08	60.31	6.09	58.83	6.09	57.35	6.09	55.87	6.09	54.89	6.09
	37.0	34.0	65.35	6.07	63.88	6.07	62.40	6.07	60.92	6.07	59.44	6.07	58.46	6.07
	42.0	38.0	68.92	6.06	67.45	6.06	65.97	6.06	64.49	6.06	63.01	6.06	62.03	6.06
	47.0	43.0	72.38	6.04	70.90	6.05	69.42	6.05	67.94	6.05	66.47	6.05	64.16	5.84
	52.0	47.0	75.93	6.03	74.45	6.03	72.97	6.03	71.49	6.03	67.53	5.68	64.16	5.35
	57.0	52.0	80.36	6.02	78.89	6.02	77.41	6.02	72.60	5.59	67.53	5.14	64.16	4.84
	62.0	56.0	83.91	6.01	82.44	6.01	77.67	5.61	72.60	5.18	67.53	4.77	64.16	4.50
	67.0	61.0	87.80	5.93	82.73	5.52	77.67	5.13	72.60	4.75	67.53	4.38	64.16	4.14
	72.0	66.0	87.80	5.45	82.73	5.09	77.67	4.73	72.60	4.39	67.53	4.05	64.16	3.83

Table 32 —38VMB060HDS3-1

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	Pl	Tc	Pl	Tc	Pl	Tc	Pl	Tc	Pl	Tc	Pl
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
100	-13.0	-14.0	28.49	4.36	27.70	4.51	26.91	4.65	25.12	4.80	24.33	4.95	23.80	5.05
	-8.0	-9.0	31.99	4.50	31.20	4.65	30.41	4.80	27.62	4.95	26.83	5.10	25.30	5.20
	-3.0	-4.0	35.49	4.64	34.70	4.79	33.91	4.95	29.12	5.10	28.33	5.26	27.80	5.36
	2.0	1.0	38.03	6.13	36.69	6.14	35.35	6.14	30.28	6.14	32.66	6.15	31.77	6.15
	7.0	6.0	41.60	6.14	40.26	6.14	38.92	6.14	33.90	6.14	36.23	6.15	35.34	6.15
	12.0	10.0	45.17	6.13	43.83	6.13	42.49	6.14	41.44	6.14	39.80	6.14	38.91	6.14
	17.0	15.0	48.74	6.12	47.40	6.12	46.06	6.12	45.00	6.13	43.37	6.13	42.48	6.13
	22.0	20.0	52.31	6.11	50.97	6.11	49.63	6.11	48.56	6.11	46.94	6.11	46.05	6.12
	27.0	24.0	55.88	6.10	54.54	6.10	53.20	6.10	50.08	6.10	50.51	6.10	49.62	6.10
	32.0	29.0	59.45	6.09	58.11	6.09	56.77	6.09	53.70	6.09	54.08	6.09	53.19	6.09
	37.0	34.0	63.02	6.07	61.68	6.07	60.34	6.07	58.23	6.07	57.65	6.08	56.76	6.08
	42.0	38.0	66.59	6.06	65.25	6.06	63.91	6.06	62.75	6.06	61.22	6.06	60.33	5.89
	47.0	43.0	70.05	6.05	68.70	6.05	67.36	6.05	66.00	6.04	61.40	5.55	58.33	5.23
	52.0	47.0	73.60	6.03	72.25	6.03	70.60	5.99	66.00	5.53	61.40	5.09	58.33	4.80
	57.0	52.0	78.04	6.02	75.21	5.83	70.60	5.41	66.00	5.00	61.40	4.61	58.33	4.35
	62.0	56.0	79.81	5.79	75.21	5.40	70.60	5.02	66.00	4.65	61.40	4.28	58.33	4.05
	67.0	61.0	79.81	5.30	75.21	4.95	70.60	4.60	66.00	4.27	61.40	3.94	58.33	3.73
	72.0	66.0	79.81	4.88	75.21	4.56	70.60	4.25	66.00	3.95	61.40	3.65	58.33	3.46
90	-13.0	-14.0	20.19	4.62	19.81	4.75	19.43	4.88	19.05	5.01	18.67	5.15	18.42	5.24
	-8.0	-9.0	24.26	4.76	23.88	4.89	23.50	5.03	23.12	5.17	22.74	5.31	22.49	5.40
	-3.0	-4.0	28.33	4.91	26.95	5.04	25.57	5.19	24.19	5.33	23.81	5.47	22.55	5.57
	2.0	1.0	30.44	6.14	29.23	6.14	28.02	6.15	26.81	6.15	25.60	6.15	24.80	6.15
	7.0	6.0	34.88	6.14	33.67	6.14	32.46	6.14	31.25	6.15	30.04	6.15	29.24	6.15
	12.0	10.0	38.43	6.13	37.22	6.14	36.01	6.14	34.80	6.14	33.59	6.14	32.79	6.14
	17.0	15.0	42.87	6.12	41.66	6.13	40.45	6.13	39.24	6.13	38.03	6.13	37.22	6.13
	22.0	20.0	47.30	6.11	46.10	6.11	44.89	6.11	43.68	6.12	42.47	6.12	41.66	6.12
	27.0	24.0	50.85	6.10	49.65	6.10	48.44	6.10	47.23	6.10	46.02	6.11	45.21	6.11
	32.0	29.0	55.29	6.09	54.08	6.09	52.87	6.09	51.67	6.09	50.46	6.09	49.65	6.09
	37.0	34.0	59.73	6.07	58.52	6.07	57.31	6.07	56.10	6.08	54.90	6.08	52.49	5.78
	42.0	38.0	63.28	6.06	62.07	6.06	60.86	6.06	59.40	6.02	55.26	5.53	52.49	5.21
	47.0	43.0	67.72	6.05	66.51	6.05	63.54	5.78	59.40	5.34	55.26	4.91	52.49	4.63
	52.0	47.0	71.27	6.03	67.69	5.70	63.54	5.29	59.40	4.90	55.26	4.51	52.49	4.26
	57.0	52.0	71.83	5.52	67.69	5.15	63.54	4.79	59.40	4.44	55.26	4.10	52.49	3.87
	62.0	56.0	71.83	5.12	67.69	4.78	63.54	4.45	59.40	4.13	55.26	3.82	52.49	3.61
	67.0	61.0	71.83	4.69	67.69	4.39	63.54	4.09	59.40	3.80	55.26	3.52	52.49	3.34
	72.0	66.0	71.83	4.33	67.69	4.06	63.54	3.79	59.40	3.53	55.26	3.27	52.49	3.10
80	-13.0	-14.0	19.46	4.87	19.12	4.99	18.79	5.11	18.45	5.23	18.11	5.35	17.89	5.42
	-8.0	-9.0	23.53	5.02	23.19	5.15	22.85	5.27	21.52	5.39	20.18	5.51	19.95	5.59
	-3.0	-4.0	27.59	5.18	26.26	5.31	24.92	5.43	23.58	5.56	22.25	5.68	21.02	5.76
	2.0	1.0	28.11	6.15	27.04	6.15	25.96	6.15	24.89	6.15	23.81	6.16	23.10	6.16
	7.0	6.0	32.55	6.14	31.47	6.15	30.40	6.15	29.33	6.15	28.25	6.15	27.53	6.15
	12.0	10.0	36.10	6.14	35.02	6.14	33.95	6.14	32.88	6.14	31.80	6.14	31.08	6.14
	17.0	15.0	40.54	6.13	39.46	6.13	38.39	6.13	37.31	6.13	36.24	6.13	35.52	6.13
	22.0	20.0	44.98	6.11	43.90	6.12	42.83	6.12	41.75	6.12	40.68	6.12	39.96	6.12
	27.0	24.0	48.53	6.10	47.45	6.10	46.38	6.11	45.30	6.11	44.23	6.11	43.51	6.11
	32.0	29.0	52.96	6.09	51.89	6.09	50.82	6.09	49.74	6.09	48.67	6.09	46.66	5.82
	37.0	34.0	57.40	6.07	56.33	6.08	55.25	6.08	52.80	5.82	49.12	5.35	46.66	5.04
	42.0	38.0	60.95	6.06	59.88	6.06	56.48	5.67	52.80	5.24	49.12	4.82	46.66	4.55
	47.0	43.0	63.85	5.81	60.17	5.42	56.48	5.04	52.80	4.66	49.12	4.30	46.66	4.07
	52.0	47.0	63.85	5.32	60.17	4.97	56.48	4.62	52.80	4.29	49.12	3.96	46.66	3.75
	57.0	52.0	63.85	4.82	60.17	4.50	56.48	4.20	52.80	3.90	49.12	3.61	46.66	3.42
	62.0	56.0	63.85	4.48	60.17	4.19	56.48	3.91	52.80	3.64	49.12	3.37	46.66	3.20
	67.0	61.0	63.85	4.12	60.17	3.86	56.48	3.60	52.80	3.36	49.12	3.12	46.66	2.96
	72.0	66.0	63.85	3.81	60.17	3.57	56.48	3.34	52.80	3.12	49.12	2.90	46.66	2.75

Table 32 —38VMB060HDS3-1

Combination (%)	Outdoor air temp.		Indoor Air Temp. (°FDB)											
			61°F		64°F		67°F		70°F		73°F		75°F	
			Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI	Tc	PI
	°FDB	°FWB	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
70	-13.0	-14.0	18.73	5.13	18.44	5.23	18.14	5.33	17.85	5.44	17.55	5.54	17.35	5.61
	-8.0	-9.0	22.80	5.29	22.50	5.39	22.21	5.49	21.91	5.61	21.62	5.71	21.42	5.79
	-3.0	-4.0	26.86	5.45	26.57	5.56	26.27	5.66	25.98	5.78	25.68	5.89	25.49	5.97
	2.0	1.0	33.30	6.15	32.36	6.15	31.42	6.16	30.48	6.16	29.54	6.16	28.91	6.16
	7.0	6.0	36.12	6.15	35.18	6.15	34.24	6.15	33.30	6.15	32.36	6.15	31.73	6.16
	12.0	10.0	38.94	6.14	38.00	6.14	37.06	6.14	36.12	6.14	35.18	6.15	34.55	6.15
	17.0	15.0	41.76	6.13	40.82	6.13	39.88	6.13	38.94	6.13	38.00	6.13	37.37	6.13
	22.0	20.0	44.58	6.12	43.64	6.12	42.70	6.12	41.76	6.12	40.82	6.12	40.19	6.12
	27.0	24.0	47.40	6.11	46.46	6.11	45.52	6.11	44.58	6.11	43.64	6.11	43.01	5.87
	32.0	29.0	50.22	6.09	49.28	6.09	48.34	6.09	47.40	5.75	46.46	5.29	45.83	4.98
	37.0	34.0	55.07	6.08	52.65	5.80	49.42	5.39	46.20	4.98	42.98	4.59	40.83	4.33
	42.0	38.0	55.87	5.60	52.65	5.22	49.42	4.86	46.20	4.50	42.98	4.16	40.83	3.93
	47.0	43.0	55.87	4.97	52.65	4.65	49.42	4.33	46.20	4.02	42.98	3.72	40.83	3.52
	52.0	47.0	55.87	4.57	52.65	4.27	49.42	3.99	46.20	3.71	42.98	3.44	40.83	3.26
	57.0	52.0	55.87	4.15	52.65	3.89	49.42	3.63	46.20	3.38	42.98	3.14	40.83	2.98
	62.0	56.0	55.87	3.86	52.65	3.63	49.42	3.39	46.20	3.16	42.98	2.94	40.83	2.79
	67.0	61.0	55.87	3.56	52.65	3.35	49.42	3.14	46.20	2.93	42.98	2.72	40.83	2.59
	72.0	66.0	55.87	3.31	52.65	3.11	49.42	2.92	46.20	2.73	42.98	2.54	40.83	2.42
60	-13.0	-14.0	18.00	5.38	17.75	5.48	17.49	5.56	17.24	5.65	16.99	5.74	16.82	5.80
	-8.0	-9.0	22.07	5.55	21.81	5.65	21.56	5.73	21.31	5.82	21.05	5.92	20.89	5.97
	-3.0	-4.0	26.13	5.72	25.88	5.82	25.63	5.91	25.37	6.00	25.12	6.10	23.95	6.16
	2.0	1.0	28.72	6.16	27.92	6.16	27.11	6.16	26.30	6.16	25.50	6.16	24.96	6.17
	7.0	6.0	32.29	6.15	31.49	6.15	30.68	6.15	29.87	6.16	29.07	6.16	28.53	6.16
	12.0	10.0	35.86	6.14	35.06	6.15	34.25	6.15	33.44	6.15	32.64	6.15	32.10	6.15
	17.0	15.0	39.43	6.13	38.63	6.13	37.82	6.13	37.01	6.13	36.21	6.14	35.67	6.14
	22.0	20.0	40.75	6.12	42.20	6.12	41.39	6.12	40.58	6.12	39.78	6.05	39.24	5.69
	27.0	24.0	43.57	6.11	45.77	6.11	44.96	6.11	44.15	5.66	43.35	5.20	42.81	4.91
	32.0	29.0	47.89	6.00	45.13	5.60	42.36	5.20	39.60	4.81	36.84	4.44	35.00	4.19
	37.0	34.0	47.89	5.19	45.13	4.85	42.36	4.52	39.60	4.19	36.84	3.87	35.00	3.67
	42.0	38.0	47.89	4.69	45.13	4.39	42.36	4.09	39.60	3.80	36.84	3.52	35.00	3.34
	47.0	43.0	47.89	4.18	45.13	3.92	42.36	3.66	39.60	3.41	36.84	3.17	35.00	3.00
	52.0	47.0	47.89	3.85	45.13	3.62	42.36	3.38	39.60	3.16	36.84	2.93	35.00	2.79
	57.0	52.0	47.89	3.51	45.13	3.30	42.36	3.09	39.60	2.89	36.84	2.69	35.00	2.56
	62.0	56.0	47.89	3.28	45.13	3.09	42.36	2.90	39.60	2.71	36.84	2.53	35.00	2.40
	67.0	61.0	47.89	3.04	45.13	2.86	42.36	2.69	39.60	2.52	36.84	2.35	35.00	2.24
	72.0	66.0	47.89	2.83	45.13	2.67	42.36	2.51	39.60	2.35	36.84	2.20	35.00	2.10
50	-13.0	-14.0	14.27	5.64	14.06	5.71	13.85	5.79	13.64	5.86	13.43	5.93	13.29	5.99
	-8.0	-9.0	16.34	5.81	16.13	5.89	15.91	5.97	15.70	6.04	15.49	6.12	15.35	6.17
	-3.0	-4.0	18.40	5.99	18.19	6.07	17.98	6.15	17.77	6.23	17.56	6.31	16.42	6.36
	2.0	1.0	21.13	6.16	20.45	6.16	19.78	6.17	19.11	6.17	18.44	6.17	17.99	6.17
	7.0	6.0	25.56	6.16	24.89	6.16	24.22	6.16	23.55	6.16	22.88	6.16	22.43	6.16
	12.0	10.0	29.11	6.15	28.44	6.15	27.77	6.15	27.10	6.15	26.43	6.15	25.98	6.15
	17.0	15.0	33.55	6.13	32.88	6.14	32.21	6.14	31.54	6.14	30.70	6.08	29.16	5.72
	22.0	20.0	37.99	6.12	37.32	6.12	35.30	5.75	33.00	5.32	30.70	4.89	29.16	4.62
	27.0	24.0	39.91	5.71	37.60	5.33	35.30	4.96	33.00	4.59	30.70	4.24	29.16	4.01
	32.0	29.0	39.91	4.86	37.60	4.54	35.30	4.23	33.00	3.93	30.70	3.64	29.16	3.45
	37.0	34.0	39.91	4.23	37.60	3.96	35.30	3.70	33.00	3.45	30.70	3.20	29.16	3.03
	42.0	38.0	39.91	3.83	37.60	3.60	35.30	3.37	33.00	3.14	30.70	2.92	29.16	2.77
	47.0	43.0	39.91	3.44	37.60	3.23	35.30	3.03	33.00	2.83	30.70	2.64	29.16	2.51
	52.0	47.0	39.91	3.18	37.60	2.99	35.30	2.81	33.00	2.63	30.70	2.45	29.16	2.34
	57.0	52.0	39.91	2.91	37.60	2.74	35.30	2.58	33.00	2.42	30.70	2.26	29.16	2.16
	62.0	56.0	39.91	2.73	37.60	2.58	35.30	2.42	33.00	2.28	30.70	2.13	29.16	2.03
	67.0	61.0	39.91	2.53	37.60	2.39	35.30	2.26	33.00	2.12	30.70	1.99	29.16	1.90
	72.0	66.0	39.91	2.37	37.60	2.24	35.30	2.11	33.00	1.99	30.70	1.87	29.16	1.79

Tc: Total Capacity
PI: Power Input

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