



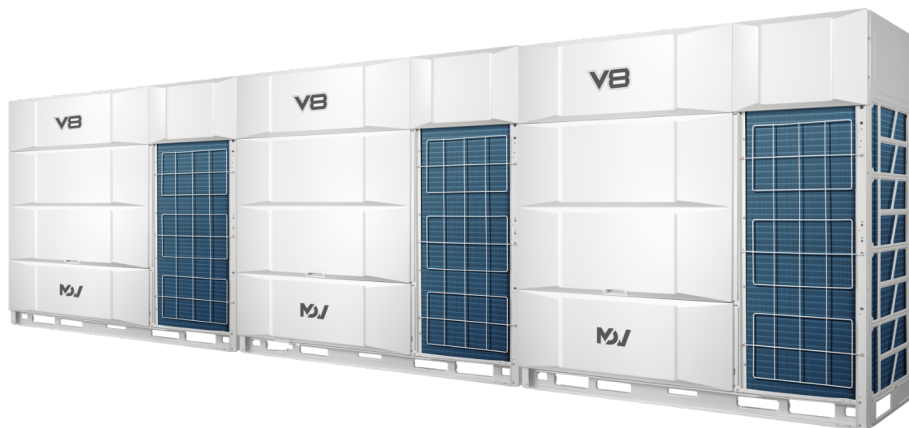
mdvrus.ru

R410A

Commercial Air Conditioners

Engineering Data

VB Series VRF



MDV-V8252V2R1A(MA)

MDV-V8280V2R1A(MA)

MDV-V8335V2R1A(MA)

MDV-V8400V2R1A(MA)

MDV-V8450V2R1A(MA)

MDV-V8500V2R1A(MA)

MDV-V8560V2R1A(MA)

MDV-V8615V2R1A(MA)

MDV-V8670V2R1A(MA)

MDV-V8730V2R1A(MA)

MDV-V8785V2R1A(MA)

MDV-V8850V2R1A(MA)

MDV-V8900V2R1A(MA)

MDV-V8950V2R1A(MA)

MDV-V81010V2R1A(MA)

MDV-V81060V2R1A(MA)

MDV-V81120V2R1A(MA)

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Part 1

General Information

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1 Indoor and Outdoor Unit Capacities

1.1 Indoor Units

1.1.1 Standard indoor units

Table 1-1.1: Standard indoor unit abbreviation codes

Abbreviation code	Type
C1	One-way Cassette
C2	Two-way Cassette
C4C	Compact Four-way Cassette
C4	Four-way Cassette
D1	Arc Duct
D2	Medium Static Pressure Duct

Abbreviation code	Type
D3	High Static Pressure Duct
WM	Wall-mounted
CF	Ceiling & Floor
CO	Floor Standing (Exposed/Concealed)
FS	Floor Standing (Top/Side discharge)

Table 1-1.2: Standard indoor unit capacity range

Capacity		Capacity index	Q1	Q2	Q4C	Q4	T3	T2	T1	G	DL	F	FS
kW	HP												
1.5	0.5	15	—	—	15	—	15	15	—	15	—	—	—
1.8	0.6	18	18	—	—	—	—	—	—	—	—	—	—
2.2	0.8	22	22	22	22	—	22	22	—	22	—	22	—
2.8	1	28	28	28	28	28	28	28	—	28	—	28	—
3.6	1.25	36	36	36	36	36	36	36	—	36	36	36	—
4.5	1.6	45	45	45	45	45	45	45	—	45	45	45	—
5.6	2	56	56	56	56	56	56	56	56	56	56	56	—
6.3	2.25	63	—	—	63	—	—	—	—	—	—	—	—
7.1	2.5	71	71	71	—	71	71	71	71	71	71	71	—
8.0	3	80	—	—	—	80	80	80	80	80	80	80	—
9.0	3.2	90	—	—	—	90	90	90	90	—	90	—	—
10.0	3.6	100	—	—	—	100	—	—	—	—	100	—	—
11.2	4	112	—	—	—	112	112	112	112	—	112	—	—
12.5	4.5	125	—	—	—	—	—	125	125	—	125	—	—
14.0	5	140	—	—	—	140	—	140	140	—	140	—	—
16.0	6	160	—	—	—	160	—	160	160	—	—	—	—
18.0	6.4	180	—	—	—	180	—	—	—	—	—	—	—
20.0	7	200	—	—	—	—	—	—	200	—	—	—	—
22.4	8	224	—	—	—	—	—	—	224	—	—	—	224
25.2	9	252	—	—	—	—	—	—	252	—	—	—	252
28.0	10	280	—	—	—	—	—	—	280	—	—	—	280
33.5	12	335	—	—	—	—	—	—	335	—	—	—	335
40.0	14	400	—	—	—	—	—	—	400	—	—	—	400
45.0	16	450	—	—	—	—	—	—	450	—	—	—	450
56.0	20	560	—	—	—	—	—	—	560	—	—	—	560
61.5	22	615	—	—	—	—	—	—	—	—	—	—	615
68.0	24	680	—	—	—	—	—	—	—	—	—	—	680
73.5	26	735	—	—	—	—	—	—	—	—	—	—	735

1.1.2 Fresh air processing unit

Table 1-1.3: Fresh air processing unit capacity range

Capacity	9kW	14kW	16kW	22.4kW	25kW	28kW	33.5kW	45kW	56kW
Capacity index	90	140	160	224	250	280	335	450	560

1.2 Heat recovery ventilator

Table 1-1.4: Heat recovery ventilator capacity range

Airflow rate	200m ³ /h	300m ³ /h	400m ³ /h	500m ³ /h	800m ³ /h	1000m ³ /h	1500m ³ /h	2000m ³ /h
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1.3 Outdoor Units

Table 1-1.5: Outdoor unit capacity range

Capacity	Model Name	Combination Type
8HP	MDV-V8252V2R1A(MA)	/
10HP	MDV-V8280V2R1A(MA)	/
12HP	MDV-V8335V2R1A(MA)	/
14HP	MDV-V8400V2R1A(MA)	/
16HP	MDV-V8450V2R1A(MA)	/
18HP	MDV-V8500V2R1A(MA)	/
20HP	MDV-V8560V2R1A(MA)	/
22HP	MDV-V8615V2R1A(MA)	/
24HP	MDV-V8670V2R1A(MA)	/
26HP	MDV-V8730V2R1A(MA)	/
28HP	MDV-V8785V2R1A(MA)	/
30HP	MDV-V8850V2R1A(MA)	/
32HP	MDV-V8900V2R1A(MA)	/
34HP	MDV-V8950V2R1A(MA)	/
36HP	MDV-V81010V2R1A(MA)	/
38HP	MDV-V81060V2R1A(MA)	/
40HP	MDV-V81120V2R1A(MA)	/
42HP	MDV-V81170V2R1A(MA)	18HP+24HP
44HP	MDV-V81230V2R1A(MA)	22HP+22HP
46HP	MDV-V81285V2R1A(MA)	22HP+24HP
48HP	MDV-V81340V2R1A(MA)	24HP+24HP
50HP	MDV-V81410V2R1A(MA)	14HP+36HP
52HP	MDV-V81460V2R1A(MA)	16HP+36HP
54HP	MDV-V81515V2R1A(MA)	22HP+32HP
56HP	MDV-V81570V2R1A(MA)	16HP+40HP
58HP	MDV-V81625V2R1A(MA)	22HP+36HP
60HP	MDV-V81680V2R1A(MA)	24HP+36HP
62HP	MDV-V81735V2R1A(MA)	22HP+40HP
64HP	MDV-V81790V2R1A(MA)	24HP+40HP
66HP	MDV-V81850V2R1A(MA)	32HP+34HP
68HP	MDV-V81910V2R1A(MA)	32HP+36HP
70HP	MDV-V81960V2R1A(MA)	34HP+36HP
72HP	MDV-V82020V2R1A(MA)	36HP+36HP
74HP	MDV-V82070V2R1A(MA)	36HP+38HP
76HP	MDV-V82130V2R1A(MA)	36HP+40HP
78HP	MDV-V82180V2R1A(MA)	38HP+40HP
80HP	MDV-V82240V2R1A(MA)	40HP+40HP
82HP	MDV-V82295V2R1A(MA)	22HP+24HP+36HP
84HP	MDV-V82350V2R1A(MA)	24HP+24HP+36HP
86HP	MDV-V82405V2R1A(MA)	22HP+24HP+40HP
88HP	MDV-V82460V2R1A(MA)	24HP+24HP+40HP
90HP	MDV-V82520V2R1A(MA)	18HP+36HP+36HP
92HP	MDV-V82580V2R1A(MA)	20HP+36HP+36HP
94HP	MDV-V82635V2R1A(MA)	22HP+36HP+36HP

Table continued on next page ...



Table 1-1.5: Outdoor unit capacity range (continued)

Capacity	Model Name	Combination Type
96HP	MDV-V82690V2R1A(MA)	24HP+36HP+36HP
98HP	MDV-V82745V2R1A(MA)	22HP+36HP+40HP
100HP	MDV-V82805V2R1A(MA)	28HP+36HP+36HP
102HP	MDV-V82800V2R1A(MA)	22HP+40HP+40HP
104HP	MDV-V82920V2R1A(MA)	32HP+36HP+36HP
106HP	MDV-V82970V2R1A(MA)	34HP+36HP+36HP
108HP	MDV-V83030V2R1A(MA)	36HP+36HP+36HP
110HP	MDV-V83080V2R1A(MA)	36HP+36HP+38HP
112HP	MDV-V83140V2R1A(MA)	36HP+36HP+40HP
114HP	MDV-V83190V2R1A(MA)	36HP+38HP+40HP
116HP	MDV-V83250V2R1A(MA)	36HP+40HP+40HP
118HP	MDV-V83300V2R1A(MA)	38HP+40HP+40HP
120HP	MDV-V83360V2R1A(MA)	40HP+40HP+40HP

Notes:












1. The combinations of units shown in the table are factory-recommended. Four units combination are possible for the 8-24 HP models. For other combinations of units please contact your local distributor or technical support engineer.

2 External Appearance

2.1 Indoor Units

2.1.1 Standard indoor units

Table 1-2.1: Standard indoor unit appearance

<p>One-way Cassette</p> <p>C1</p> 	<p>Two-way Cassette</p> <p>C2</p> 
<p>Compact Four-way Cassette</p> <p>C4C</p> 	<p>Four-way Cassette</p> <p>C4</p> 
<p>Arc Duct</p> <p>D1</p> 	<p>Medium Static Pressure Duct</p> <p>D2</p> 
<p>High Static Pressure Duct</p> <p>3</p> 	<p>Floor Standing</p> <p>FS</p> 
<p>Wall-mounted</p> <p>WM</p> 	<p>Ceiling & Floor</p> <p>CF</p> 
<p>Floor Standing</p> <p>CO</p> 	


2.1.2 Fresh air processing unit

Table 1-2.2: Fresh air processing unit appearance

<p>Fresh Air Processing Unit</p> <p>OA</p> 	<p>Small Airflow Rate Fresh Air Processing Unit</p> <p>OAS</p> 
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2.2 Heat Recovery Ventilator




Table 1-2.3: Heat recovery ventilator appearance

<p>Heat Recovery Ventilator</p> 

2.3 Outdoor Units



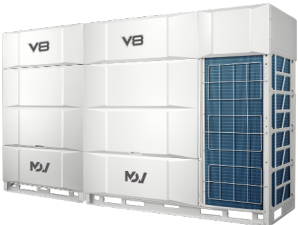
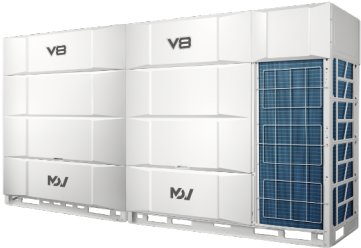
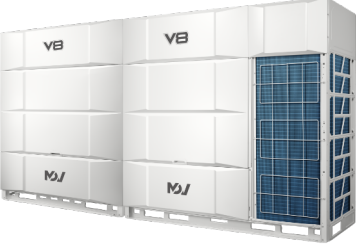
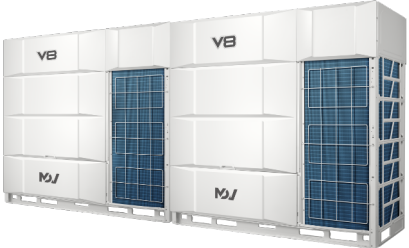

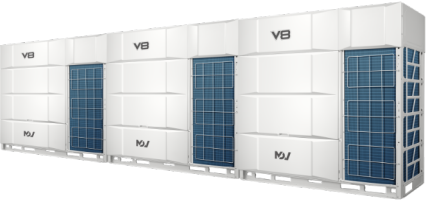
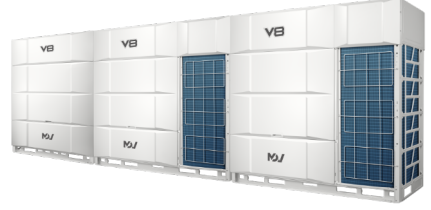
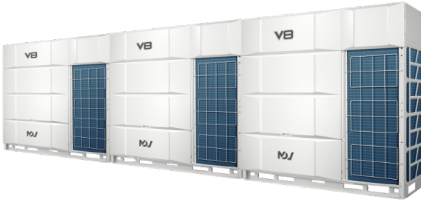
2.3.1 Single units

Table 1-2.4: Single outdoor unit appearance

8/10/12/14/16/18HP (with single fan)	20/22/24HP (with dual fans)	26/28/30/32/34/36/38/40HP (with dual fans)
		

2.3.2 Combinations of units

Table 1-2.5: Combination outdoor unit appearance

<p>42HP</p> 	<p>44/46/48HP</p> 	<p>50/52HP</p> 
<p>54HP</p> 	<p>56HP</p> 	<p>66/68/70/72/74/76/78/80HP</p> 
<p>82/84/86/88HP</p> 	<p>90HP</p> 	<p>92/94/96/98HP</p> 
<p>100HP</p> 	<p>102HP</p> 	<p>104/106/108/110/112/ 114/116/118/120HP</p> 

3 Outdoor Unit Combinations

Table 1-3.1: Outdoor unit combinations

System capacity		No. of units	Modules ¹																Outdoor branch joint kit ²													
kW	HP		8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38		40												
25.2	8	1	•																	—												
28.0	10	1		•																	—											
33.5	12	1			•																	—										
40.0	14	1				•																	—									
45.0	16	1					•																	—								
50.0	18	1						•																	—							
56.0	20	1							•																	—						
61.5	22	1								•																	—					
67.0	24	1									•																	—				
73.0	26	1										•																	—			
78.5	28	1											•																	—		
85.0	30	1												•																	—	
90.0	32	1													•																	—
95.0	34	1														•																
101.5	36	1															•			—												
106.0	38	1																•			—											
112.0	40	1																	•			—										
117.0	42	2								•													FQZHW-02 N1E									
123.0	44	2									••													FQZHW-02 N1E								
128.5	46	2										•													FQZHW-02 N1E							
134.0	48	2											••													FQZHW-02 N1E						
141.0	50	2																	•								FQZHW-02 N1E					
146.0	52	2																	•									FQZHW-02 N1E				
151.5	54	2																					FQZHW-02 N1G									
157.0	56	2																						FQZHW-02 N1G								
162.5	58	2																							FQZHW-02 N1G							
168.0	60	2																								FQZHW-02 N1G						
173.5	62	2																									FQZHW-02 N1G					
179.0	64	2																		FQZHW-02 N1G												
185.2	66	2																			FQZHW-02 N1G											
191.0	68	2																				FQZHW-02 N1G										
196.2	70	2																					FQZHW-02 N1G									
202.0	72	2																						FQZHW-02 N1G								
207.0	74	2																							FQZHW-02 N1G							
213.0	76	2																		FQZHW-02 N1G												
218.0	78	2																			FQZHW-02 N1G											
224.0	80	2																				FQZHW-02 N1G										
229.5	82	3																					FQZHW-03 N1E									
235.0	84	3																						FQZHW-03 N1E								
240.5	86	3																							FQZHW-03 N1E							
246.0	88	3																		FQZHW-03 N1E												
252.0	90	3																			FQZHW-03 N1E											
258.0	92	3																				FQZHW-03 N1E										
263.5	94	3																					FQZHW-03 N1E									
269.0	96	3																						FQZHW-03 N1E								
274.5	98	3																							FQZHW-03 N1E							
280.5	100	3																		FQZHW-03 N1G												
280.0	102	3																			FQZHW-03 N1G											
292.0	104	3																				FQZHW-03 N1G										
297.2	106	3																					FQZHW-03 N1G									
303.0	108	3																						FQZHW-03 N1G								
308.0	110	3																							FQZHW-03 N1G							

Table continued on next page ...

V8 VRF 50/60Hz



Table 1-3.1: Outdoor unit combinations (continued)

System capacity		No. of units	Modules ¹																	Outdoor branch joint kit ²
kW	HP		8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
314.0	112	3															••		•	FQZHW-03 N1G
319.0	114	3															•	•	•	
325.0	116	3															•		••	
330.0	118	3																•	••	
336.0	120	3																	•••	

Notes:

1. The combinations of units shown in the table are factory-recommended. Four units combination are possible for the 8-24 HP models. For other combinations of units please contact your local distributor or technical support engineer.
2. For systems with two or more outdoor units, outdoor branch joints (sold separately) are required.

4 Nomenclature

4.1 Indoor Units

4.1.1 Standard indoor units

V8 indoor units

MDV I 3 - 18 D1 V D
 ① ② ③ ④ ⑤ ⑥ ⑦

Legend		
No.	Code	Remarks
1	MDV	MDV
2	I	VRF indoor unit
3	3	V8 generation with Hyperlink
4	H	Capacity index (the capacity in kW multiplied by 10)
5	D1	Indoor unit type C1: One-way Cassette C2: Two-way Cassette C4C: Compact Four-way Cassette C4: Four-way Cassette D1: Arc Duct D2: Medium Static Pressure Duct D3: High Static Pressure Duct WM: Wall-mounted CF: Ceiling & Floor CO: Floor Standing (Exposed/Concealed) FS: Floor Standing OA: 100% Fresh air Duct
6	V	DC fan motor
7	D	Power supply D, E: 1 phase, 220-240V, 50Hz A, B: 3 phase, 380-414V, 50Hz

DC Indoor Units

MD I 2 - 22 Q1 D H N1
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Legend		
No.	Code	Remarks
1	MD	MDV
2	I	VRF indoor unit
3	2	Generation code 2: The 2nd generation
4	22	Capacity index (the capacity in kW multiplied by 10)
5	Q1	Indoor unit type Q1: One-way Cassette Q2: Two-way Cassette Q4C: Compact Four-way Cassette Q4: Four-way Cassette T2: Medium Static Pressure Duct T1: High Static Pressure Duct G: Wall-mounted DL: Ceiling & Floor F: Floor Standing
6	D	Series category (D: DC series)
7	H	Power supply Omit: 1 phase, 220-240V, 50Hz H: 1 phase, 220-240V, 50/60Hz
8	N1	Refrigerant type (N1: R410A)

AC indoor units

MDV - D 18 - Q4 / N1 E (B)
 ① ② ③ ④ ⑤ ⑥ ⑦

Legend		
No.	Code	Remarks
1	MDV	MDV
2	D	VRF indoor unit
3	22	Capacity index (the capacity in kW multiplied by 10)
4	Q1	Indoor unit type Q1: One-way Cassette Q2: Two-way Cassette Q4C: Compact Four-way Cassette Q4: Four-way Cassette T2: Medium Static Pressure Duct T1: High Static Pressure Duct G: Wall-mounted DL: Ceiling & Floor F: Floor Standing
5	N1	Refrigerant N1: R410A
6	E	Design Code
7	(B)	Second Generation

4.1.2 Fresh air processing unit
V8 Fresh air processing unit

MDV **I3** **200** **OA** **V** **R12** **D**
 ① ② ③ ④ ⑤ ⑥ ⑦

Legend		
No.	Code	Remarks
1	MDV	MDV
2	I3	V8 VRF indoor unit
3	22	Capacity index (the capacity in kW multiplied by 10)
4	OA	Indoor unit type OA: Fresh Air Processing Unit OAS: Small Air Flow Fresh Air Processing Unit
5	V	DC fan motor
6	R12	Refrigerant type (R12: R410A&R32)
7	D	Power supply D, E: 1 phase, 220-240V, 50Hz A, B: 3 phase, 380-414V, 50Hz

2nd Generation Fresh air processing unit

MD **I** **2** = **280** **FA** **D** **H** **N1** = **S**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Legend		
No.	Code	Remarks
1	MD	MDV
2	I	VRF indoor unit
3	2	The 2 nd generation VRF DC indoor unit
4	280	Capacity index (the capacity in kW multiplied by 10)
5	FA	Indoor unit type FA: Fresh Air Processing Unit
6	D	Series category (D: DC series)
7	H	Power supply Omit: 1 phase, 220-240V, 50Hz H: 1 phase, 220-240V, 50/60Hz
8	N1	Refrigerant type (N1: R410A)
9	S	Product series S: Small Airflow Rate

4.1.3 Heat recovery ventilator
AC Series

HRV = **200**
 ① ②

Legend		
No.	Code	Remarks
1	HRV	Heat recovery ventilator
2	200	Airflow in m ³ /h

$$\text{HRV} - \text{D} - 200$$

① ② ③

Legend		
No.	Code	Remarks
1	HRV	Heat recovery ventilator
2	D	Series category (D: DC series)
3	200	Airflow in m ³ /h

4.2 Outdoor Units

$$\text{MDV} - \text{V8} - 252 - \text{V2} - \text{R1} - \text{A} - (\text{MA})$$

① ② ③ ④ ⑤ ⑥ ⑦

Legend		
No.	Code	Remarks
1	MDV	MDV
2	V8	The 8 th generation VRF
3	252	Capacity index (the capacity in kW multiplied by 10)
4	V2	Type (V2: All DC inverter)
5	R1	Refrigerant type (R1: R410A)
6	A	Power supply D, E: 1 phase, 220-240V, 50Hz A, B: 3 phase, 380-453V, 50Hz
7	(MA)	Master series

5 Combination Ratio

$$\text{Combination ratio} = \frac{\text{Sum of capacity indexes of the indoor units}}{\text{Capacity index of the outdoor units}}$$

Table 1-5.1: Indoor and outdoor unit combination ratio limitations

Type	Minimum combination ratio	Maximum combination ratio		
		Standard indoor units only	Fresh air processing units only	Fresh air processing units and standard indoor units together
V8 Series outdoor units	50%	200% ^{1,2} (Single ODU) 130% (Combined ODU)	100%	100% ³

- Notes:
- All the indoor units connected should be indoor units with ø5mm size copper tube heater exchanger. This limitation is to avoid too big indoor unit exchanger cause reliability and performance problem.
 - Piping between farthest indoor unit and first indoor branch joint should less than 40m.
 - Combination ratio greater than 130% is available as a customization option.
 - When fresh air processing units are installed together with standard indoor units, the total capacity of the fresh air processing units must not exceed 30% of the total capacity of the outdoor units and the total combination ratio must not exceed 100%.

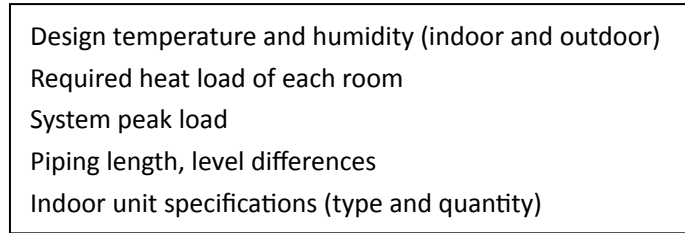
Table 1-5.2: Combinations of indoor and outdoor units

Outdoor unit capacity			Sum of capacity indexes of connected indoor units (standard indoor units only)	Sum of capacity indexes of connected indoor units (fresh air processing units and standard indoor units together)	Maximum number of connected indoor units
kW	HP	Capacity index			
25.2	8	252	126 to 327.6	126 to 252	13
28.0	10	280	140 to 364	140 to 280	16
33.5	12	335	167.5 to 435.5	167.5 to 335	19
40.0	14	400	200 to 520	200 to 400	23
45.0	16	450	225 to 585	225 to 450	26
50.0	18	500	250 to 650	250 to 500	29
56.0	20	560	280 to 728	280 to 560	33
61.5	22	615	307.5 to 799.5	307.5 to 615	36
67.0	24	670	335 to 871	335 to 670	39
73.0	26	730	365 to 949	365 to 730	43
78.5	28	785	392.5 to 1020.5	392.5 to 785	46
85.0	30	850	425 to 1105	425 to 850	50
90.0	32	900	450 to 1170	450 to 900	53
95.0	34	950	475 to 1235	475 to 950	56
101.5	36	1010	505 to 1313	505 to 1010	59
106.0	38	1065	532.5 to 1384.5	532.5 to 1065	62
112.0	40	1120	560 to 1456	560 to 1120	64
117.0	42	1170	585 to 1521	585 to 1170	
123.0	44	1230	615 to 1599	615 to 1230	
128.5	46	1285	642.5 to 1670.5	642.5 to 1285	
134.0	48	1340	670 to 1742	670 to 1340	
141.0	50	1410	705 to 1833	705 to 1410	
146.0	52	1460	730 to 1898	730 to 1460	
151.5	54	1515	757.5 to 1969.5	757.5 to 1515	
157.0	56	1570	785 to 2041	785 to 1570	
162.5	58	1625	812.5 to 2112.5	812.5 to 1625	
168.0	60	1680	840 to 2184	840 to 1680	
173.5	62	1735	867.5 to 2255.5	867.5 to 1735	
179.0	64	1790	895 to 2327	895 to 1790	
185.2	66	1852	926 to 2407.6	926 to 1852	
191.0	68	1910	955 to 2483	955 to 1910	
196.2	70	1962	981 to 2550.6	981 to 1962	
202.0	72	2020	1010 to 2626	1010 to 2020	
207.0	74	2070	1035 to 2691	1035 to 2070	
213.0	76	2130	1065 to 2769	1065 to 2130	
218.0	78	2180	1090 to 2834	1090 to 2180	
224.0	80	2240	1120 to 2912	1120 to 2240	
229.5	82	2295	1147.5 to 2983.5	1147.5 to 2295	
235.0	84	2350	1175 to 3055	1175 to 2350	
240.5	86	2405	1202.5 to 3126.5	1202.5 to 2405	
246.0	88	2460	1230 to 3198	1230 to 2460	
252.0	90	2520	1260 to 3276	1260 to 2520	
258.0	92	2580	1290 to 3354	1290 to 2580	
263.5	94	2635	1317.5 to 3425.5	1317.5 to 2635	
269.0	96	2690	1345 to 3497	1345 to 2690	
274.5	98	2745	1372.5 to 3568.5	1372.5 to 2745	
280.5	100	2805	1402.5 to 3646.5	1402.5 to 2805	
280.0	102	2800	1400 to 3640	1400 to 2800	
292.0	104	2920	1460 to 3796	1460 to 2920	
297.2	106	2972	1486 to 3863.6	1486 to 2972	
303.0	108	3030	1515 to 3939	1515 to 3030	
308.0	110	3080	1540 to 4004	1540 to 3080	
314.0	112	3140	1570 to 4082	1570 to 3140	
319.0	114	3190	1595 to 4147	1595 to 3190	
325.0	116	3250	1625 to 4225	1625 to 3250	
330.0	118	3300	1650 to 4290	1650 to 3300	
336.0	120	3360	1680 to 4368	1680 to 3360	

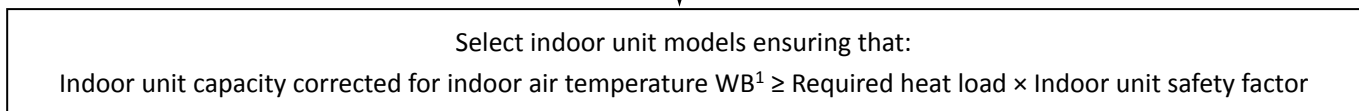
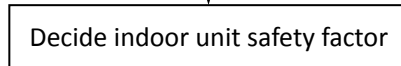
6 Selection Procedure

6.1 Procedure

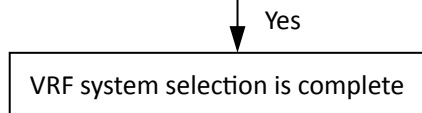
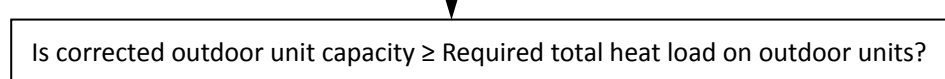
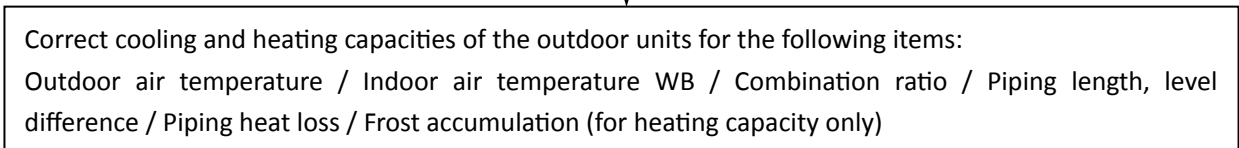
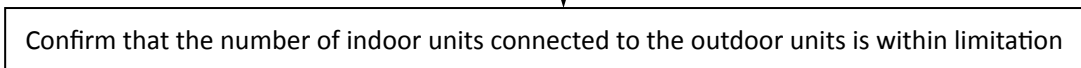
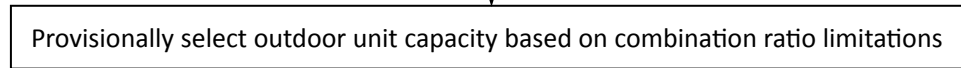
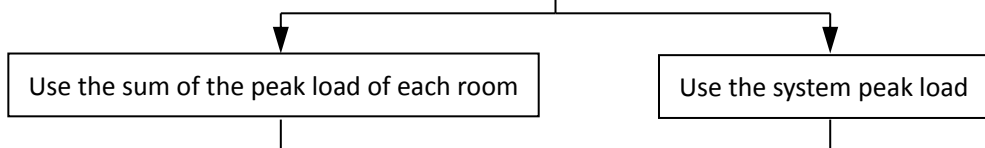
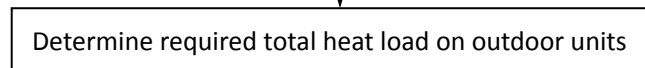
Step 1: Establish design conditions



Step 2: Select indoor units



Step 3: Select outdoor units

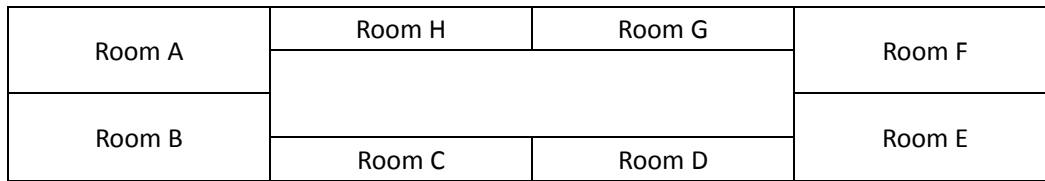


- Notes:
1. If the indoor design temperature falls between two temperatures listed in the indoor unit's capacity table, calculate the corrected capacity by interpolation. If the indoor unit selection is to be based on total heat load and sensible heat load, select indoor units which satisfy not only the total heat load requirements of each room but also the sensible heat load requirements of each room. As with total heat capacity, the sensible heat capacity of indoor units should be corrected for indoor temperature, interpolating where necessary. For the indoor unit capacity tables, refer to the indoor unit technical manuals.

6.2 Example

The following is a selection example based on total heat load for cooling.

Figure 1-6.1: Room plan



Step 1: Establish design conditions

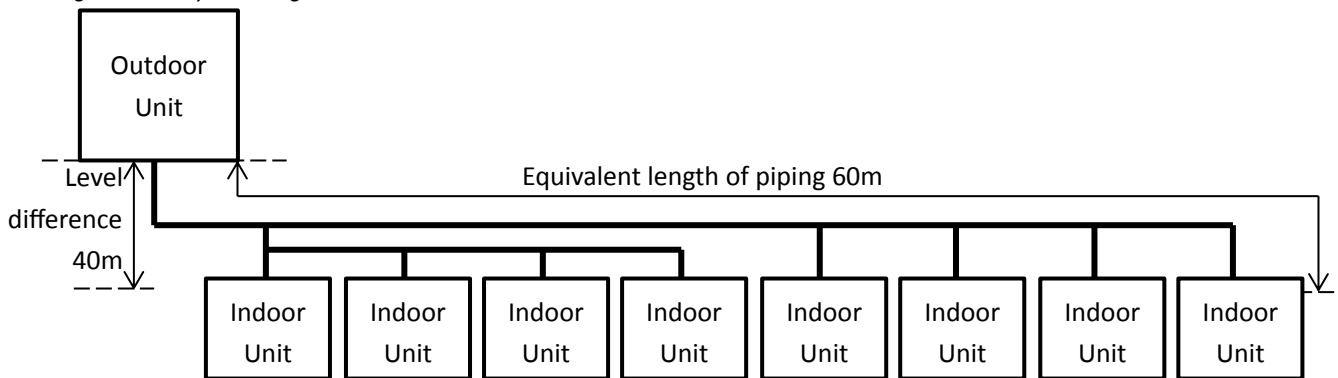
- Indoor air temperature 25.8°C DB, 18°C WB; outdoor air temperature 33°C DB.
- Determine peak load of each room and system peak load. As shown in Table 1-6.1, the system peak load is 50.7kW.

Table 1-6.1: Required heat load of each room (kW)

Time	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H	Total
9:00	4.8	4.8	3.0	3.0	9.1	9.0	2.9	2.9	39.5
12:00	6.6	7.1	5.1	5.1	7.4	6.8	4.0	4.0	46.1
14:00	9.0	9.4	4.9	4.9	7.3	6.8	4.2	4.2	50.7
16:00	10.6	10.7	3.9	3.9	6.3	6.2	3.8	3.8	49.2

- The maximum piping lengths and level differences in this example are as given in Figure 1-6.2.

Figure 1-6.2: System diagram



- Indoor unit type for all rooms: Medium Static Pressure Duct (T2).

Step 2: Select indoor units

- In this example, a safety factor is not used (i.e. the safety factor is 1).
- Select indoor unit models using the medium static pressure duct cooling capacity table. Each indoor unit's corrected capacity needs to be greater than or equal to the peak load of the relevant room. The selected indoor units are shown in Table 1-6.3.

Table 1-6.2: Extract from medium static pressure duct (T2) cooling capacity table

Model	Capacity index	Indoor air temperature													
		14°C WB		16°C WB		18°C WB		19°C WB		20°C WB		22°C WB		24°C WB	
		20°C DB		23°C DB		26°C DB		27°C DB		28°C DB		30°C DB		32°C DB	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
T2	22	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	28	1.9	1.7	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.1	3.1	2.0	3.1	1.9
	36	2.5	2.1	2.9	2.3	3.4	2.5	3.6	2.6	3.8	2.7	4.2	2.8	3.9	2.3
	45	3.1	2.6	3.7	2.8	4.2	3.1	4.5	3.2	4.8	3.2	4.9	3.1	5.1	2.9
	56	3.9	3.0	4.6	3.3	5.3	3.6	5.6	3.7	5.9	3.8	6.2	3.7	6.2	3.4
	71	4.9	3.9	5.8	4.3	6.7	4.7	7.1	4.9	7.5	4.8	7.8	4.6	7.8	4.3
	80	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.8	5.2	8.8	4.8
	90	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	9.9	6.1	9.9	5.7
	112	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.5	7.8	12.5	7.4
	140	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	15.7	9.7	15.4	8.8

Abbreviations:

TC: Total capacity (kW); SC: Sensible capacity (kW)

Table 1-6.3: Selected indoor units

	Room A	Room B	Room C	Room D
Peak heat load (kW)	10.6	10.7	5.1	5.1
Selected indoor unit	MI2-140T2DHN1	MI2-140T2DHN1	MI2-56T2DHN1	MI2-56T2DHN1
Corrected TC (kW)	13.2	13.2	5.3	5.3
	Room E	Room F	Room G	Room H
Peak heat load (kW)	9.1	9.0	4.2	4.2
Selected indoor unit	MI2-112T2DHN1	MI2-112T2DHN1	MI2-45T2DHN1	MI2-45T2DHN1
Corrected TC (kW)	10.5	10.5	4.2	4.2

Step 3: Select outdoor units

- Determine the required total heat load from the indoor units to the outdoor units based on either the sum of the peak loads of each room or the system peak load. In this example, it is determined based on the system peak load. Therefore, the required heat load is 50.7kW.
- Provisionally select outdoor units using the sum of the capacity indexes (CIs) of the selected indoor units (as shown in Table 1-6.4), ensuring that the combination ratio is between 50% and 130%. Refer to Table 1-6.5. As the sum of CIs of the indoor units is 706, outdoor units from 20HP to 50HP are potentially suitable. Start from the smallest, which is the 20HP unit.

Table 1-6.4: Sum of indoor unit capacity indexes

Model	Capacity Index	No. of units
MI2-140T2DHN1	140	2
MI2-112T2DHN1	112	2
MI2-56T2DHN1	56	2
MI2-45T2DHN1	45	2
Sum of CIs	706	

Table 1-6.5: Extract from Table 1-5.2 Combinations of Indoor and outdoor units

Outdoor unit capacity			Sum of capacity indexes of connected indoor units (standard indoor units only)	Maximum number of connected indoor units
kW	HP	Capacity index		
50.0	18	500	250 to 650	29
56.0	20	560	280 to 728	33
61.5	22	615	307.5 to 799.5	36
67.0	24	670	335 to 871	39
73.0	26	730	365 to 949	43
78.5	28	785	392.5 to 1020.5	46
85.0	30	850	425 to 1105	50
90.0	32	900	450 to 1170	53
95.0	34	950	475 to 1235	56
101.5	36	1010	505 to 1313	59
106.5	38	1065	532.5 to 1384.5	62
112.0	40	1120	560 to 1456	64
117.0	42	1170	585 to 1521	
123.0	44	1230	615 to 1599	
128.5	46	1285	642.5 to 1670.5	
134.0	48	1340	670 to 1742	
141.0	50	1410	705 to 1833	
146.0	52	1460	730 to 1898	

- The number of connected indoor units is 8 and the maximum number of connected indoor units on the 20HP outdoor unit is 33, so the number of connected indoor units is within the limitation.
- Calculate the corrected capacity of the outdoor units:
 - a) The sum of the indoor unit CIs is 706 and the CI of the 20HP outdoor unit MDV-V8560V2R1A(MA) is 560, so the combination ratio is $706 / 560 = 126\%$.
 - b) Using the outdoor units' cooling capacity table, interpolate to obtain the capacity ("B") corrected for outdoor air temperature, indoor air temperature, and combination ratio. Refer to Tables 1-6.6 and 1-6.7.

Table 1-6.6: Extract from Table 2-8.7 MDV-V8560V2R1A(MA) cooling capacity

CR	Outdoor air temp. (°C DB)	Indoor air temp. (°C DB / °C WB)	
		25.8 / 18.0	
		TC	PI
		kW	kW
130%	31	60.89	14.24
	33	60.08	14.74
	35	59.07	15.29
120%	31	60.11	14.18
	33	59.30	14.77
	35	58.28	15.25

Table 1-6.7: Cooling capacity calculated by interpolation

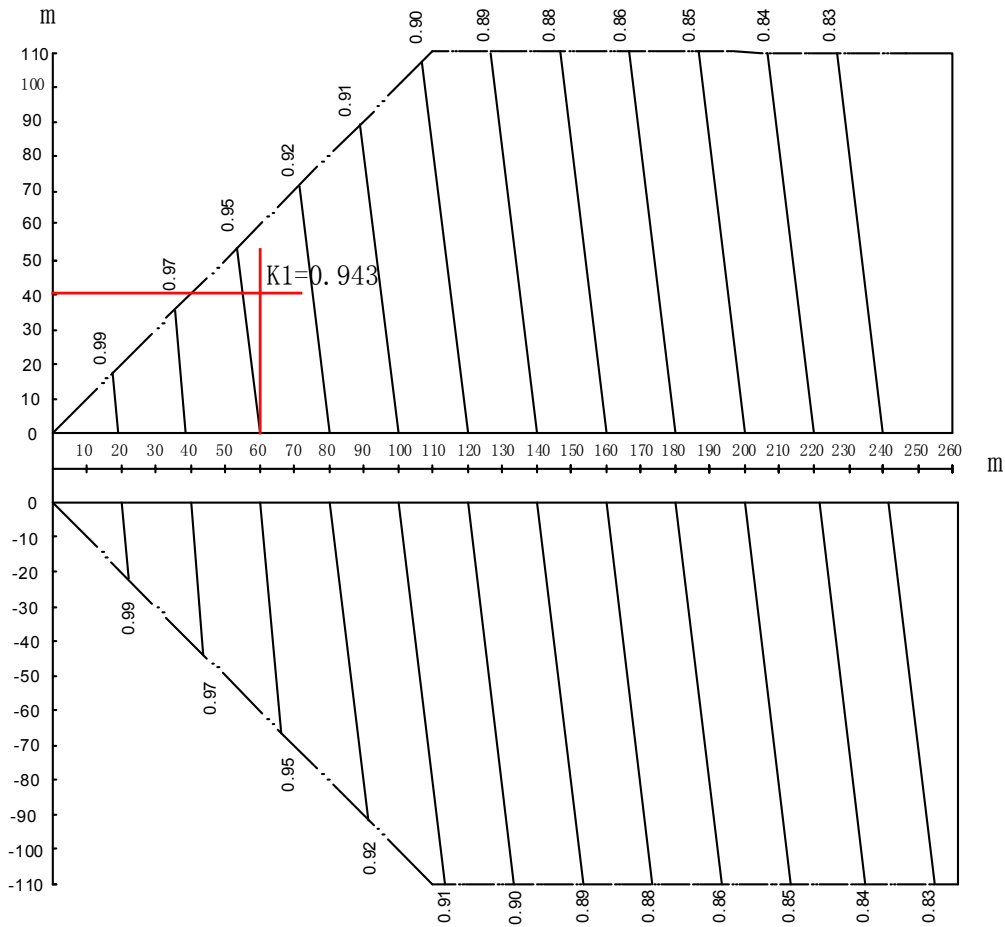
CR	Outdoor air temp. (°C DB)	Indoor air temp. (°C DB / °C WB)	
		25.8 / 18.0	
		TC	PI
		kW	kW
130%	33	60.08	14.74
		B = 59.77¹	
120%	33	59.30	14.77

Notes:

1. $59.3 + (60.08 - 59.3) \times (126 - 120) / (130 - 120) = 59.77$

c) Find the correction factor for piping length and level difference ("K1")

Figure 1-6.3: V8 rate of change in cooling capacity



Notes:

1. The horizontal axis shows equivalent length of piping between farthest indoor unit and first outdoor branch joint; the vertical axis shows the largest level difference between indoor unit and outdoor unit. For level differences, positive values indicate that the outdoor unit is above the indoor unit, negative values indicate that the outdoor unit is below the indoor unit.

d) Calculate the corrected capacity of MDV-V8560V2R1A(MA) ("C") by using K1:

$$C = B \times K1 = 59.77 \times 0.943 = 56.36\text{kW}$$

- The corrected capacity 56.36kW is larger than required total heat load 50.7kW, so selection is complete. (In the event that the corrected capacity is lower than the required total heat load, Step 3 should be repeated from the point where the outdoor unit capacity is provisionally selected.)

Part 2

Outdoor Unit

Engineering Data

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1 Specifications

8-14HP

Table 2-1.1: 8-14HP specifications

HP			8	10	12	14
Model name			MDV-V8 252V2R1A(MA)	MDV-V8 280V2R1A(MA)	MDV-V8 335V2R1A(MA)	MDV-V8 400V2R1A(MA)
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	25.2	28.0	33.5	40.0
		kBtu/h	85.9	95.5	114.2	136.4
	Power input	kW	5.29	6.59	8.15	9.80
	EER			4.76	4.25	4.11
Heating ²	Capacity	kW	27.0	31.5	37.5	45.0
		kBtu/h	92.1	107.4	127.9	153.5
	Power input	kW	5.27	6.44	8.31	10.23
	COP			5.12	4.89	4.51
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		13	16	19	23
Compressor	Type		DC			
	Quantity		1			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1			
	Motor output	kW	0.56			0.92
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	12600	12600	13500	15600
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	7	7	7	8
Pipe connections ³	Liquid pipe	mm	Φ12.7			Φ15.9
	Gas pipe	mm	Φ25.4			Φ28.6
Sound pressure level ⁴		dB(A)	56	57	59	
Net dimensions (W×H×D)		mm	940×1760×825			
Packed dimensions (W×H×D)		mm	1010×1945×890			
Net weight		kg	195			218
Gross weight		kg	213			236
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
2. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
3. Diameters given are those of the unit's stop valve.
4. Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.2: 16-22HP specifications

HP			16	18	20	22
Model name			MDV-V8 450V2R1A(MA)	MDV-V8 500V2R1A(MA)	MDV-V8 560V2R1A(MA)	MDV-V8 615V2R1A(MA)
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	45.0	50.0	56.0	61.5
		kBtu/h	153.5	170.5	191.0	209.7
	Power input	kW	11.39	12.72	15.01	17.28
	EER			3.95	3.93	3.73
Heating ²	Capacity	kW	50.0	56.0	63.0	69.0
		kBtu/h	170.5	191.0	214.8	235.3
	Power input	kW	11.47	13.46	15.25	17.60
	COP			4.36	4.16	4.13
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		26	29	33	36
Compressor	Type		DC			
	Quantity		1			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1		2	
	Motor output	kW	0.92		0.56+0.56	
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	15600	16500	22000	22000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8	8.4	9.3	9.3
Pipe connections ³	Liquid pipe	mm	Φ15.9			
	Gas pipe	mm	Φ28.6			
Sound pressure level ⁴		dB(A)	60	61	62	
Net dimensions (W×H×D)		mm	940×1760×825		1340×1760×825	
Packed dimensions (W×H×D)		mm	1010×1945×890		1410×1945×890	
Net weight		kg	218		277	
Gross weight		kg	236		297	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.3: 24-30HP specifications

HP			24	26	28	30
Model name			MDV-V8 670V2R1A(MA)	MDV-V8 730V2R1A(MA)	MDV-V8 785V2R1A(MA)	MDV-V8 850V2R1A(MA)
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	67.0	73.0	78.5	85.0
		kBtu/h	228.5	248.9	267.7	289.9
	Power input	kW	18.61	20.80	23.64	26.56
	EER			3.60	3.51	3.32
Heating ²	Capacity	kW	75.0	81.5	87.5	95.0
		kBtu/h	255.8	277.9	298.4	324.0
	Power input	kW	18.99	20.79	23.97	27.14
	COP			3.95	3.92	3.65
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		39	43	46	50
Compressor	Type		DC			
	Quantity		1	2		
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		2			
	Motor output	kW	0.56+0.56	0.92+0.92		
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	21500	29000	29000	28000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	12	19	19	21
Pipe connections ³	Liquid pipe	mm	Φ15.9	Φ22.2		
	Gas pipe	mm	Φ28.6	Φ31.8		Φ34.9
Sound pressure level ⁴		dB(A)	62		63	64
Net dimensions (W×H×D)		mm	1340×1760×825	1880×1760×825		
Packed dimensions (W×H×D)		mm	1410×1945×890	1935×1945×890		
Net weight		kg	297	380		419
Gross weight		kg	317	405		444
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.4: 32-40HP specifications

HP			32	34	36	38	40
Model name			MDV-V8 900V2R1A(MA)	MDV-V8 950V2R1A(MA)	MDV-V8 1010V2R1A(MA)	MDV-V8 1060V2R1A(MA)	MDV-V8 1120V2R1A(MA)
Power supply		V/N/Hz	380-415/3/50(60)				
Cooling ¹	Capacity	kW	90.0	95.2	101.0	106.0	112.0
		kBtu/h	306.9	324.6	344.4	361.5	381.9
	Power input	kW	29.51	31.73	34.01	36.43	39.86
	EER			3.05	3.00	2.97	2.91
Heating ²	Capacity	kW	100.0	106.0	112.0	119.0	123.5
		kBtu/h	341.0	361.5	381.9	405.8	421.1
	Power input	kW	29.41	31.74	33.94	36.96	39.08
	COP			3.40	3.34	3.30	3.22
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity				
	Maximum quantity		53	56	59	62	64
Compressor	Type		DC				
	Quantity		2				
	Oil type		FV68H				
	Start-up method		Soft start				
Fan	Type		Propeller				
	Motor type		DC				
	Quantity		2				
	Motor output	kW	0.92+0.92				
	Static pressure	Pa	0-20 (standard)20-120 (customized)				
	Airflow rate	m ³ /h	28000	29000	29000	30000	30000
	Drive type		Direct				
Refrigerant	Type		R410A				
	Factory charge	kg	21	21	21	24	24
Pipe connections ³	Liquid pipe	mm	Φ22.2				
	Gas pipe	mm	Φ34.9				
Sound pressure level ⁴		dB(A)	64	66		67	
Net dimensions (W×H×D)		mm	1880×1760×825				
Packed dimensions (W×H×D)		mm	1935×1945×890				
Net weight		kg	419	420		440	
Gross weight		kg	444	445		465	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C				
	Heating	°C	-30 °C ~ 30 °C				

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.5: 42-48HP specifications

HP			42	44	46	48
Model name (Combination unit)			MDV-V8 1170V2R1A(MA)	MDV-V8 1230V2R1A(MA)	MDV-V8 1285V2R1A(MA)	MDV-V8 1340V2R1A(MA)
Combination type			18HP+24HP	22HP+22HP	22HP+24HP	24HP+24HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	117.0	123.0	128.5	134.0
		kBtu/h	399.0	419.4	438.2	456.9
	Power input	kW	31.3	34.6	35.9	37.2
	EER			3.74	3.55	3.58
Heating ²	Capacity	kW	131.0	138.0	144.0	150.0
		kBtu/h	446.7	470.6	491.0	511.5
	Power input	kW	32.4	35.2	36.6	38.0
	COP			4.04	3.92	3.93
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		2			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		3	4		
	Motor output	kW	0.92+(0.56+0.56)	(0.56+0.56)×2		
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	38000	44000	43500	43000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4+12	9.3×2	9.3+12	12×2
Pipe connections ³	Liquid pipe	mm	Φ19.1			
	Gas pipe	mm	Φ38.1			
Sound pressure level ⁴		dB(A)	65	65	65	65
Net dimensions (W×H×D)		mm	(940×1760×825)+(1340×1760×825)	(1340×1760×825)×2		
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1410×1945×890)	(1410×1945×890)×2		
Net weight		kg	218+297	277×2	277+297	297×2
Gross weight		kg	236+317	297×2	297+317	317×2
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.6: 50-56HP specifications

HP			50	52	54	56	
Model name (Combination unit)			MDV-V8 1410V2R1A(MA)	MDV-V8 1460V2R1A(MA)	MDV-V8 1515V2R1A(MA)	MDV-V8 1570V2R1A(MA)	
Combination type			14HP+36HP	16HP+36HP	22HP+32HP	16HP+40HP	
Power supply		V/N/Hz	380-415/3/50(60)				
Cooling ¹	Capacity	kW	141.0	146.0	151.5	157.0	
		kBtu/h	480.8	497.9	516.6	535.4	
	Power input	kW	43.8	45.4	46.8	51.3	
	EER			3.22	3.22	3.24	3.06
Heating ²	Capacity	kW	157.0	162.0	169.0	173.5	
		kBtu/h	535.4	552.4	576.3	591.6	
	Power input	kW	44.2	45.4	47.0	50.6	
	COP			3.55	3.57	3.60	3.43
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity				
	Maximum quantity		64	64	64	64	
Compressor	Type		DC				
	Quantity		3				
	Oil type		FV68H				
	Start-up method		Soft start				
Fan	Type		Propeller				
	Motor type		DC				
	Quantity		3		4		3
	Motor output	kW	0.92+(0.92+0.92)		(0.56+0.56)+(0.92+0.92)	0.92+(0.92+0.92)	
	Static pressure	Pa	0-20 (standard)20-120 (customized)				
	Airflow rate	m ³ /h	44600	44600	50000	45600	
	Drive type		Direct				
Refrigerant	Type		R410A				
	Factory charge	kg	8+21	8+21	9.3+21	8+24	
Pipe connections ³	Liquid pipe	mm	Φ19.1				
	Gas pipe	mm	Φ38.1			Φ41.3	
Sound pressure level ⁴		dB(A)	67	67	67	68	
Net dimensions (W×H×D)		mm	(940×1760×825)+(1880×1760×825)		(1340×1760×825)+(1880×1760×825)	(940×1760×825)+(1880×1760×825)	
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1935×1945×890)		(1410×1945×890)+(1935×1945×890)	(1010×1945×890)+(1935×1945×890)	
Net weight		kg	218+420		277+419	218+440	
Gross weight		kg	236+445		297+444	236+465	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C				
	Heating	°C	-30 °C ~ 30 °C				

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.7: 58-64HP specifications

HP			58	60	62	64
Model name (Combination unit)			MDV-V8 1625V2R1A(MA)	MDV-V8 1680V2R1A(MA)	MDV-V8 1735V2R1A(MA)	MDV-V8 1790V2R1A(MA)
Combination type			22HP+36HP	24HP+36HP	22HP+40HP	24HP+40HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	162.5	168.0	173.5	179.0
		kBtu/h	554.1	572.9	591.6	610.4
	Power input	kW	51.3	52.6	57.1	58.5
	EER			3.17	3.19	3.04
Heating ²	Capacity	kW	181.0	187.0	192.5	198.5
		kBtu/h	617.2	637.7	656.4	676.9
	Power input	kW	51.5	52.9	56.7	58.1
	COP			3.51	3.53	3.40
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		3			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4			
	Motor output	kW	(0.56+0.56)+(0.92+0.92)			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	51000	50500	52000	51500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	9.3+21	12+21	9.3+24	12+24
Pipe connections ³	Liquid pipe	mm	Φ19.1			
	Gas pipe	mm	Φ41.3			
Sound pressure level ⁴		dB(A)	68	68	68	68
Net dimensions (W×H×D)		mm	(1340×1760×825)+(1880×1760×825)			
Packed dimensions (W×H×D)		mm	(1410×1945×890)+(1935×1945×890)			
Net weight		kg	277+420	297+420	277+440	297+440
Gross weight		kg	297+445	317+445	297+465	317+465
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.8: 66-72HP specifications

HP			66	68	70	72
Model name (Combination unit)			MDV-V8 1850V2R1A(MA)	MDV-V8 1910V2R1A(MA)	MDV-V8 1960V2R1A(MA)	MDV-V8 2020V2R1A(MA)
Combination type			32HP+34HP	32HP+36HP	34HP+36HP	36HP+36HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	185.2	191.0	196.2	202.0
		kBtu/h	631.5	651.3	669.0	688.8
	Power input	kW	61.2	63.5	65.7	68.0
	EER			3.03	3.01	2.99
Heating ²	Capacity	kW	206.0	212.0	218.0	224.0
		kBtu/h	702.5	722.9	743.4	763.8
	Power input	kW	61.1	63.4	65.7	67.9
	COP			3.37	3.34	3.32
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		4			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4			
	Motor output	kW	(0.92+0.92)×2			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	57000	57000	58000	58000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	21×2	21×2	21×2	21×2
Pipe connections ³	Liquid pipe	mm	Φ19.1	Φ22.2		
	Gas pipe	mm	Φ41.3	Φ44.5		
Sound pressure level ⁴		dB(A)	68	68	69	69
Net dimensions (W×H×D)		mm	(1880×1760×825)×2			
Packed dimensions (W×H×D)		mm	(1935×1945×890)×2			
Net weight		kg	419+420		420×2	
Gross weight		kg	444+445		445×2	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

- Notes:
- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5m with zero level difference.
 - Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
 - Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
 - Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.9: 74-80HP specifications

HP			74	76	78	80
Model name (Combination unit)			MDV-V8 2070V2R1A(MA)	MDV-V8 2130V2R1A(MA)	MDV-V8 2180V2R1A(MA)	MDV-V8 2240V2R1A(MA)
Combination type			36HP+38HP	36HP+40HP	38HP+40HP	40HP+40HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	207.0	213.0	218.0	224.0
		kBtu/h	705.9	726.3	743.4	763.8
	Power input	kW	70.4	73.9	76.3	79.7
	EER			2.94	2.88	2.86
Heating ²	Capacity	kW	231.0	235.5	242.5	247.0
		kBtu/h	787.7	803.1	826.9	842.3
	Power input	kW	70.9	73.0	76.0	78.2
	COP			3.26	3.23	3.19
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		4			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4			
	Motor output	kW	(0.92+0.92)×2			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	59000	59000	60000	60000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	21+24	21+24	24×2	24×2
Pipe connections ³	Liquid pipe	mm	Φ22.2			
	Gas pipe	mm	Φ44.5			
Sound pressure level ⁴		dB(A)	70	70	70	70
Net dimensions (W×H×D)		mm	(1880×1760×825)×2			
Packed dimensions (W×H×D)		mm	(1935×1945×890)×2			
Net weight		kg	420+440		440×2	
Gross weight		kg	445+465		465×2	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.10: 82-88HP specifications

HP			82	84	86	88
Model name (Combination unit)			MDV-V8 2295V2R1A(MA)	MDV-V8 2350V2R1A(MA)	MDV-V8 2405V2R1A(MA)	MDV-V8 2460V2R1A(MA)
Combination type			22HP+24HP+36HP	24HP+24HP+36HP	22HP+24HP+40HP	24HP+24HP+40HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	229.5	235.0	240.5	246.0
		kBtu/h	782.6	801.4	820.1	838.9
	Power input	kW	69.9	71.2	75.7	77.1
	EER			3.28	3.30	3.18
Heating ²	Capacity	kW	256.0	262.0	267.5	273.5
		kBtu/h	873.0	893.4	912.2	932.6
	Power input	kW	70.5	71.9	75.7	77.1
	COP			3.63	3.64	3.53
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		4			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		6			
	Motor output	kW	(0.56+0.56)×2+(0.92+0.92)			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	72500	72000	73500	73000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	9.3+12+21	12×2+21	9.3+12+24	12×2+24
Pipe connections ³	Liquid pipe	mm	Φ22.2	Φ25.4		
	Gas pipe	mm	Φ44.5	Φ50.8		
Sound pressure level ⁴		dB(A)	69	69	69	69
Net dimensions (W×H×D)		mm	(1340×1760×825)×2+(1880×1760×825)			
Packed dimensions (W×H×D)		mm	(1410×1945×890)×2+(1935×1945×890)			
Net weight		kg	277+297+420	297×2+420	277+297+440	297×2+440
Gross weight		kg	297+317+445	317×2+445	297+317+465	317×2+465
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.11: 90-96HP specifications

HP			90	92	94	96
Model name (Combination unit)			MDV-V8 2520V2R1A(MA)	MDV-V8 2580V2R1A(MA)	MDV-V8 2635V2R1A(MA)	MDV-V8 2690V2R1A(MA)
Combination type			18HP+36HP+36HP	20HP+36HP+36HP	22HP+36HP+36HP	24HP+36HP+36HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	252.0	258.0	263.5	269.0
		kBtu/h	859.3	879.8	898.5	917.3
	Power input	kW	80.7	83.0	85.3	86.6
	EER			3.12	3.11	3.09
Heating ²	Capacity	kW	280.0	287.0	293.0	299.0
		kBtu/h	954.8	978.7	999.1	1019.6
	Power input	kW	81.3	83.1	85.5	86.9
	COP			3.44	3.45	3.43
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		5			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		5	6		
	Motor output	kW	0.92+(0.92+0.92)×2	(0.56+0.56)+(0.92+0.92)×2		
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	74500	80000	80000	79500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4+21×2	9.3+21×2	9.3+21×2	12+21×2
Pipe connections ³	Liquid pipe	mm	Φ25.4			
	Gas pipe	mm	Φ50.8			
Sound pressure level ⁴		dB(A)	70	70	70	70
Net dimensions (W×H×D)		mm	(940×1760×825)+(1880×1760×825)×2	(1340×1760×825)+(1880×1760×825)×2		
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1935×1945×890)×2	(1410×1945×890)+(1935×1945×890)×2		
Net weight		kg	218+420×2	277+420×2		297+420×2
Gross weight		kg	236+445×2	297+445×2		317+445×2
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.12: 98-104HP specifications

HP			98	100	102	104
Model name (Combination unit)			MDV-V8 2745V2R1A(MA)	MDV-V8 2805V2R1A(MA)	MDV-V8 2855V2R1A(MA)	MDV-V8 2920V2R1A(MA)
Combination type			22HP+36HP+40HP	28HP+36HP+36HP	22HP+40HP+40HP	32HP+36HP+36HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	274.5	280.5	285.5	292.0
		kBtu/h	936.0	956.5	973.6	995.7
	Power input	kW	91.1	91.7	97.0	97.5
	EER			3.01	3.06	2.94
Heating ²	Capacity	kW	304.5	311.5	316.0	324.0
		kBtu/h	1038.3	1062.2	1077.6	1104.8
	Power input	kW	90.6	91.9	95.8	97.3
	COP			3.36	3.39	3.30
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		5	6	5	6
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		6			
	Motor output	kW	(0.56+0.56)+(0.92+0.92)×2	(0.92+0.92)×3	(0.56+0.56)+(0.92+0.92)×2	(0.92+0.92)×3
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	81000	87000	82000	86000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	9.3+21+24	19+21×2	9.3+24×2	21×3
Pipe connections ³	Liquid pipe	mm	Φ25.4			
	Gas pipe	mm	Φ50.8			
Sound pressure level ⁴		dB(A)	70	70	70	70
Net dimensions (W×H×D)		mm	(1340×1760×825)+(1880×1760×825)×2	(1880×1760×825)×3	(1340×1760×825)+(1880×1760×825)×2	(1880×1760×825)×3
Packed dimensions (W×H×D)		mm	(1410×1945×890)+(1935×1945×890)×2	(1935×1945×890)×3	(1410×1945×890)+(1935×1945×890)×2	(1935×1945×890)×3
Net weight		kg	277+420+440	380+420×2	277+440×2	419+420×2
Gross weight		kg	297+445+465	405+445×2	297+465×2	444+445×2
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Table 2-1.13: 106-112HP specifications

HP			106	108	110	112
Model name (Combination unit)			MDV-V8 2970V2R1A(MA)	MDV-V8 3030V2R1A(MA)	MDV-V8 3080V2R1A(MA)	MDV-V8 3140V2R1A(MA)
Combination type			34HP+36HP+36HP	36HP+36HP+36HP	36HP+36HP+38HP	36HP+36HP+40HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	297.2	303.0	308.0	314.0
		kBtu/h	1013.5	1033.2	1050.3	1070.7
	Power input	kW	99.7	102.0	104.4	107.9
	EER			2.98	2.97	2.95
Heating ²	Capacity	kW	330.0	336.0	343.0	347.5
		kBtu/h	1125.3	1145.8	1169.6	1185.0
	Power input	kW	99.6	101.8	104.8	107.0
	COP			3.31	3.30	3.27
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		6			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		6			
	Motor output	kW	(0.92+0.92)×3			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	87000	87000	88000	88000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	21×3	21×3	21×2+24	21×2+24
Pipe connections ³	Liquid pipe	mm	Φ25.4		Φ28.6	
	Gas pipe	mm	Φ50.8		Φ54.0	
Sound pressure level ⁴		dB(A)	71	71	71	71
Net dimensions (W×H×D)		mm	(1880×1760×825)×3			
Packed dimensions (W×H×D)		mm	(1935×1945×890)×3			
Net weight		kg	420×3		420×2+440	
Gross weight		kg	445×3		445×2+465	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

114-120HP

Table 2-1.14: 114-120HP specifications

HP			114	116	118	120
Model name (Combination unit)			MDV-V8 3190V2R1A(MA)	MDV-V8 3250V2R1A(MA)	MDV-V8 3300V2R1A(MA)	MDV-V8 3360V2R1A(MA)
Combination type			36HP+38HP+40HP	36HP+40HP+40HP	38HP+40HP+40HP	40HP+40HP+40HP
Power supply		V/N/Hz	380-415/3/50(60)			
Cooling ¹	Capacity	kW	319.0	325.0	330.0	336.0
		kBtu/h	1087.8	1108.3	1125.3	1145.8
	Power input	kW	110.3	113.7	116.1	119.6
	EER			2.89	2.86	2.84
Heating ²	Capacity	kW	354.5	359.0	366.0	370.5
		kBtu/h	1208.8	1224.2	1248.1	1263.4
	Power input	kW	110.0	112.1	115.1	117.2
	COP			3.22	3.20	3.18
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC			
	Quantity		6			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		6			
	Motor output	kW	(0.92+0.92)×3			
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m ³ /h	89000	89000	90000	90000
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	21+24×2	21+24×2	24×3	24×3
Pipe connections ³	Liquid pipe	mm	Φ28.6			
	Gas pipe	mm	Φ54.0			
Sound pressure level ⁴		dB(A)	72	72	72	72
Net dimensions (W×H×D)		mm	(1880×1760×825)×3			
Packed dimensions (W×H×D)		mm	(1935×1945×890)×3			
Net weight		kg	420+440×2		440×3	
Gross weight		kg	445+465×2		465×3	
Ambient temp. operation range	Cooling	°C	-15 °C ~ 55 °C			
	Heating	°C	-30 °C ~ 30 °C			

Notes:

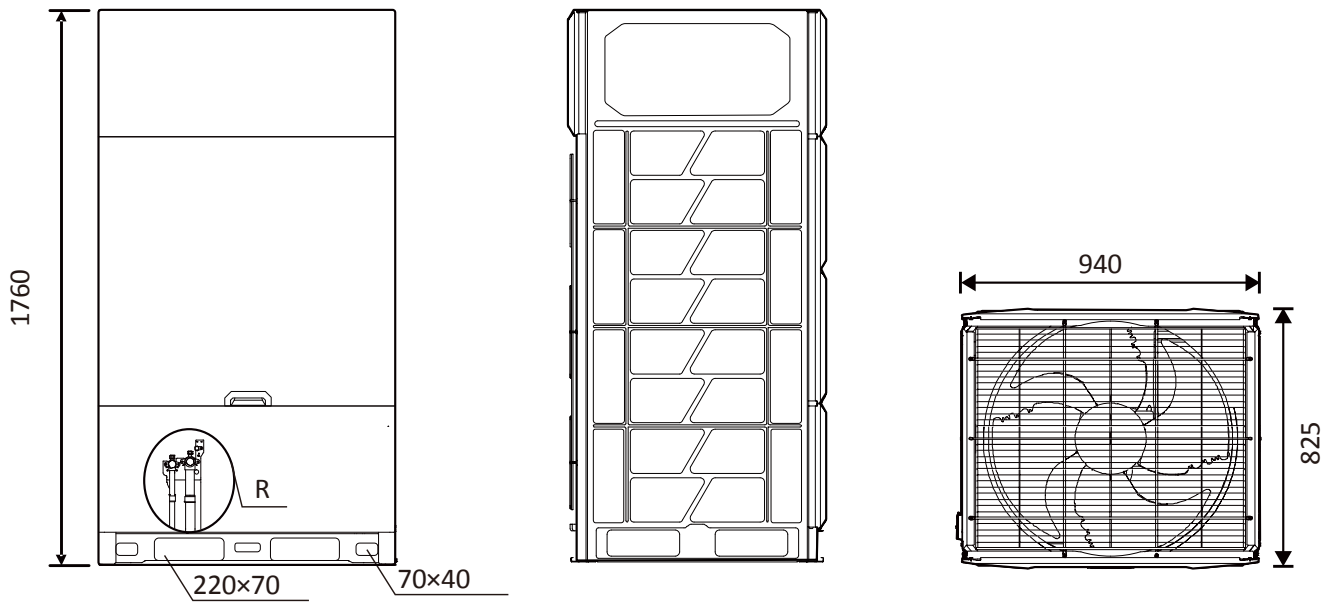
- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 5mm with zero level difference.
- Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to Part 3 "System Design and Installation" for connection piping diameters..
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

2 Dimensions

2.1 Single Units

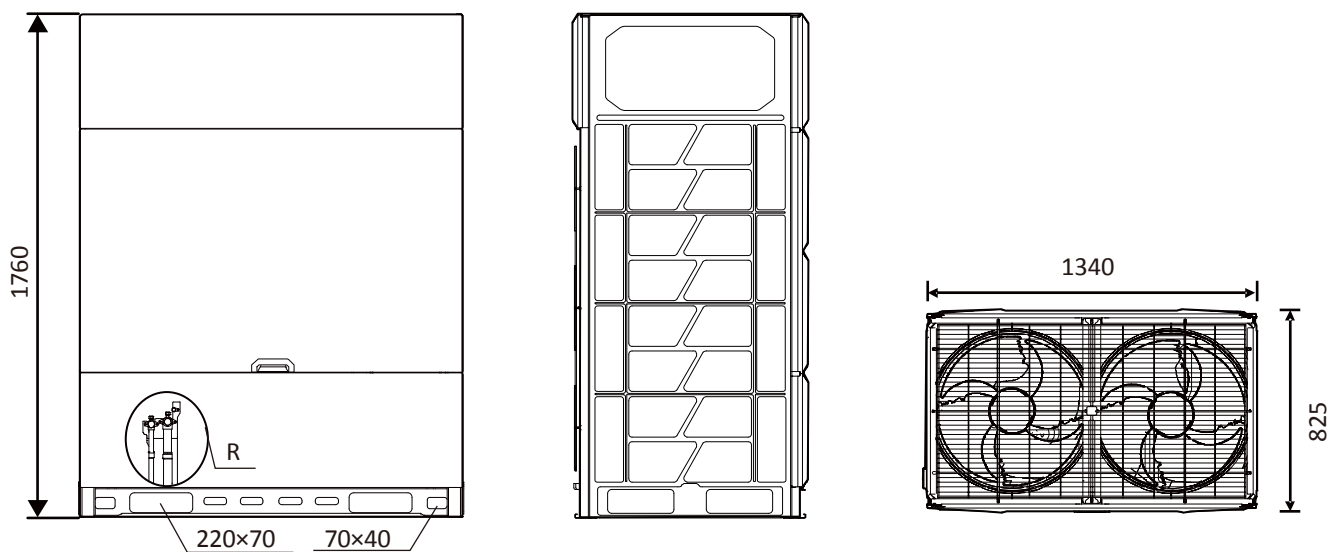
8/10/12/14/16/18HP

Figure 2-2.1: 8/10/12/14/16/18HP dimensions (unit: mm)



20/22/24HP

Figure 2-2.2: 20/22/24HP dimensions (unit: mm)



26/28/30/32/34/36/38/40HP

Figure 2-2.3: 26/28/30/32/34/36/38/40HP dimensions (unit: mm)

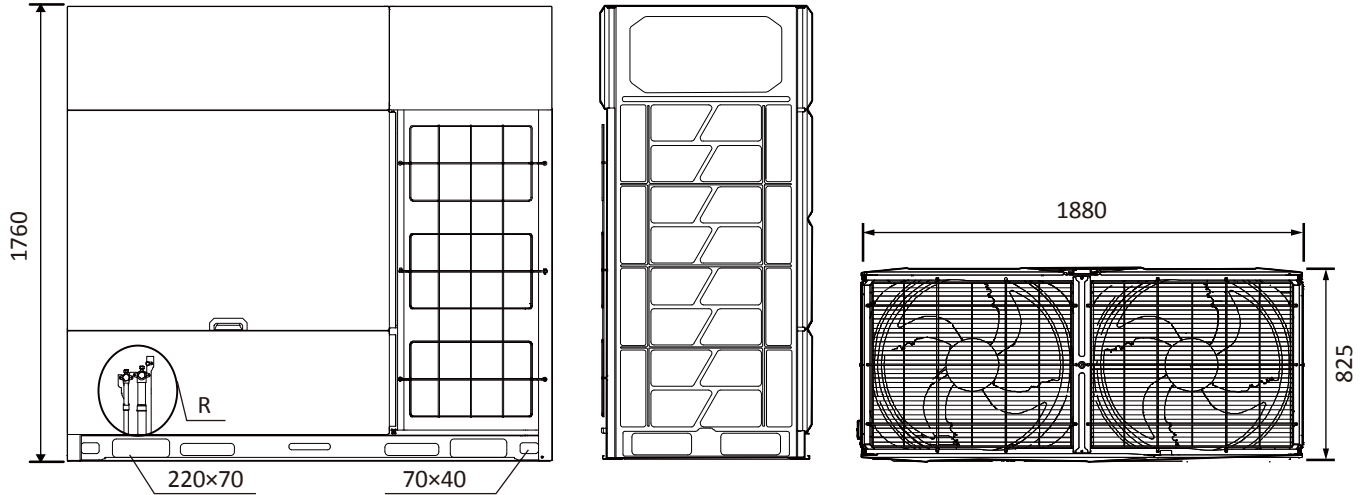

Detail R

Figure 2-2.4: Detail R (unit: mm)

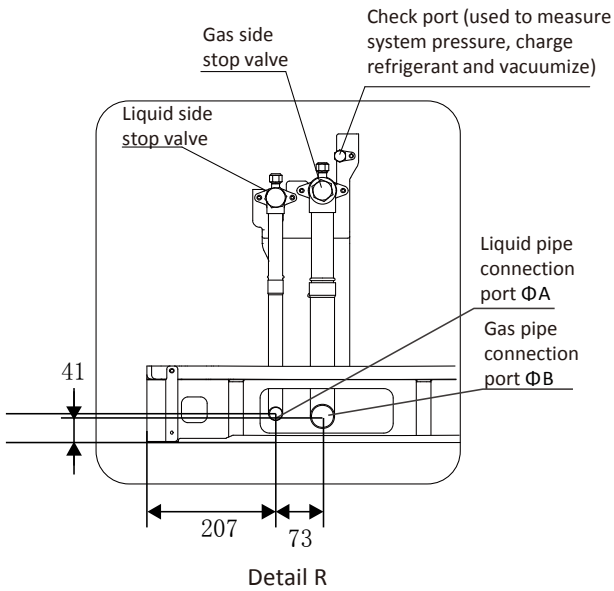


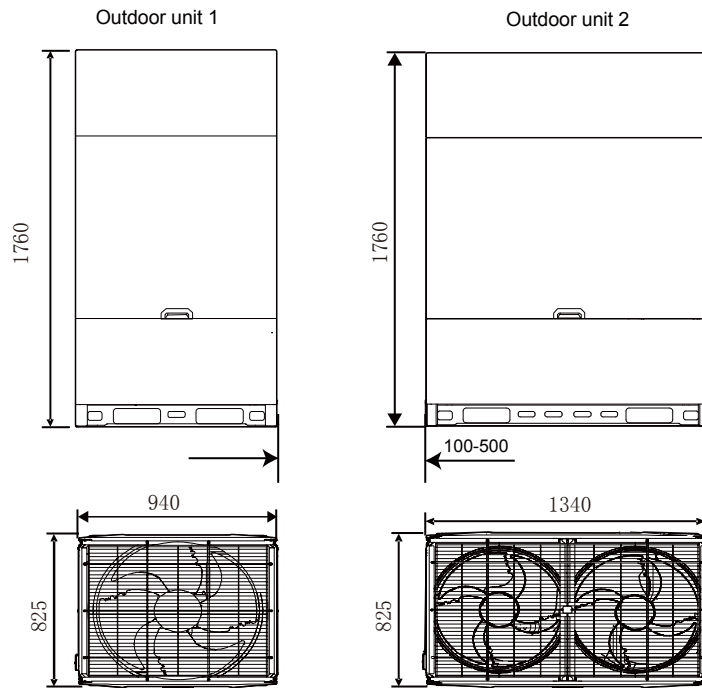
Table 2-2.1: Connection piping diameter (unit: mm)

Size	ΦA	ΦB
8HP	Φ12.7	Φ25.4
10HP	Φ12.7	Φ25.4
12HP	Φ12.7	Φ25.4
14HP	Φ15.9	Φ28.6
16HP	Φ15.9	Φ28.6
18HP	Φ15.9	Φ28.6
20HP	Φ19.1	Φ31.8
22HP	Φ19.1	Φ31.8
24HP	Φ19.1	Φ31.8
26HP	Φ22.2	Φ31.8
28HP	Φ22.2	Φ31.8
30HP	Φ22.2	Φ38.1
32HP	Φ22.2	Φ38.1
34HP	Φ22.2	Φ38.1
36HP	Φ22.2	Φ38.1
38HP	Φ22.2	Φ38.1
40HP	Φ22.2	Φ38.1

2.2 Combinations of Units

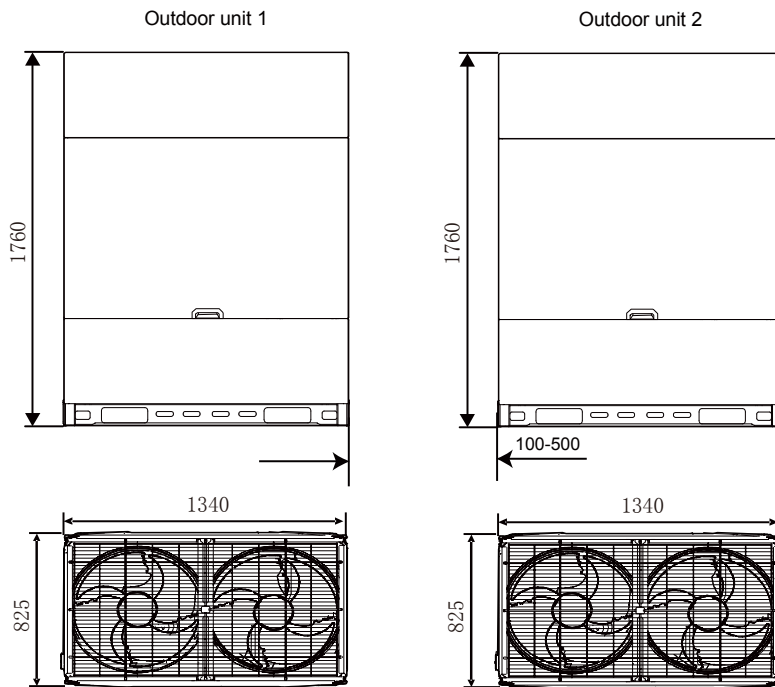
42HP

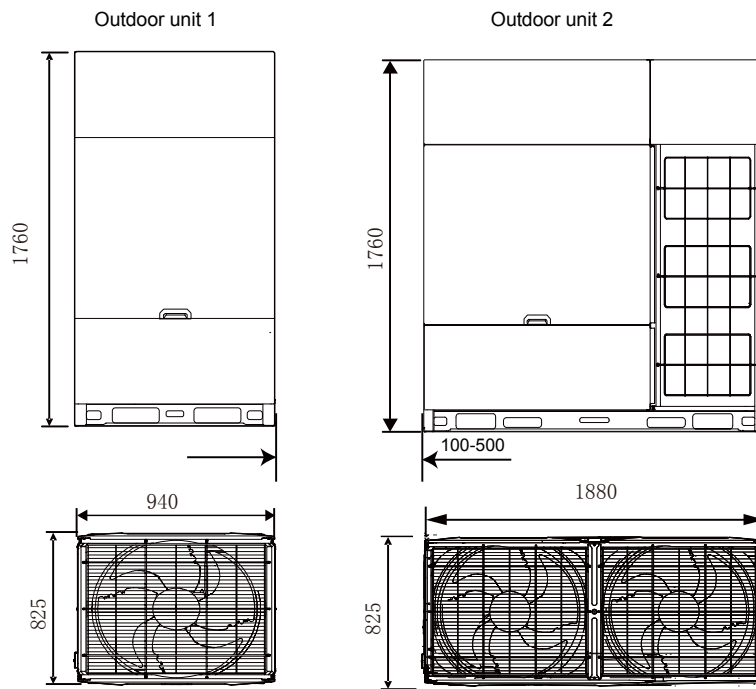
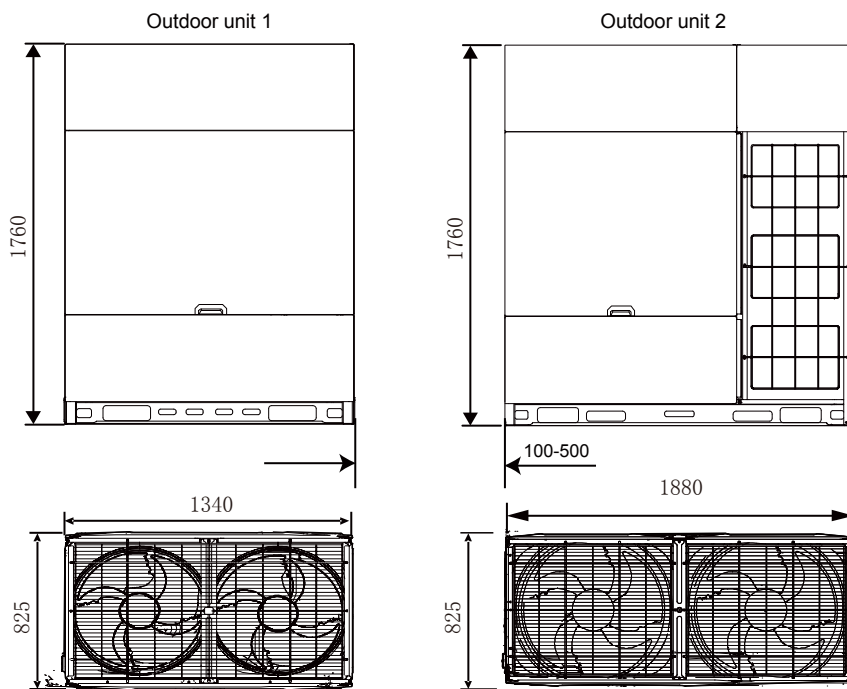
Figure 2-2.5: 42HP dimensions (unit: mm)



44/46/48HP

Figure 2-2.6: 44/46/48HP dimensions (unit: mm)



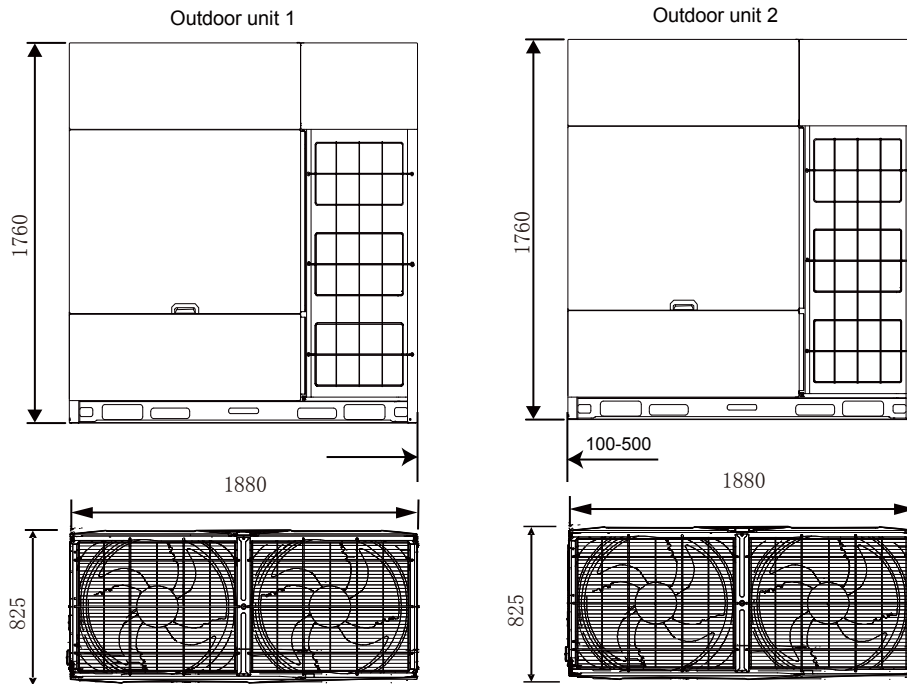
50/52/56HP
Figure 2-2.7: 50/52/56HP dimensions (unit: mm)

54/58/60/62/64HP
Figure 2-2.8: 54/58/60/62/64HP dimensions (unit: mm)


V8 VRF 50/60Hz



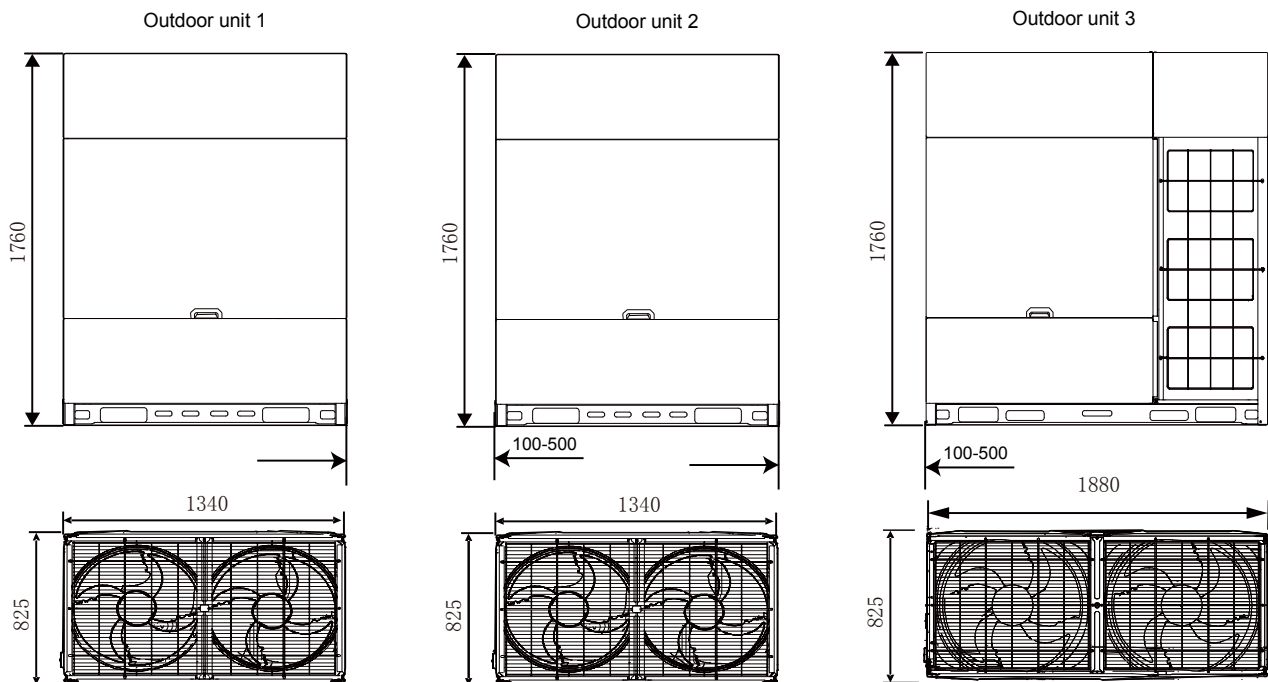
66/68/70/72/74/76/78/80HP

Figure 2-2.9: 66/68/70/72/74/76/78/80HP dimensions (unit: mm)



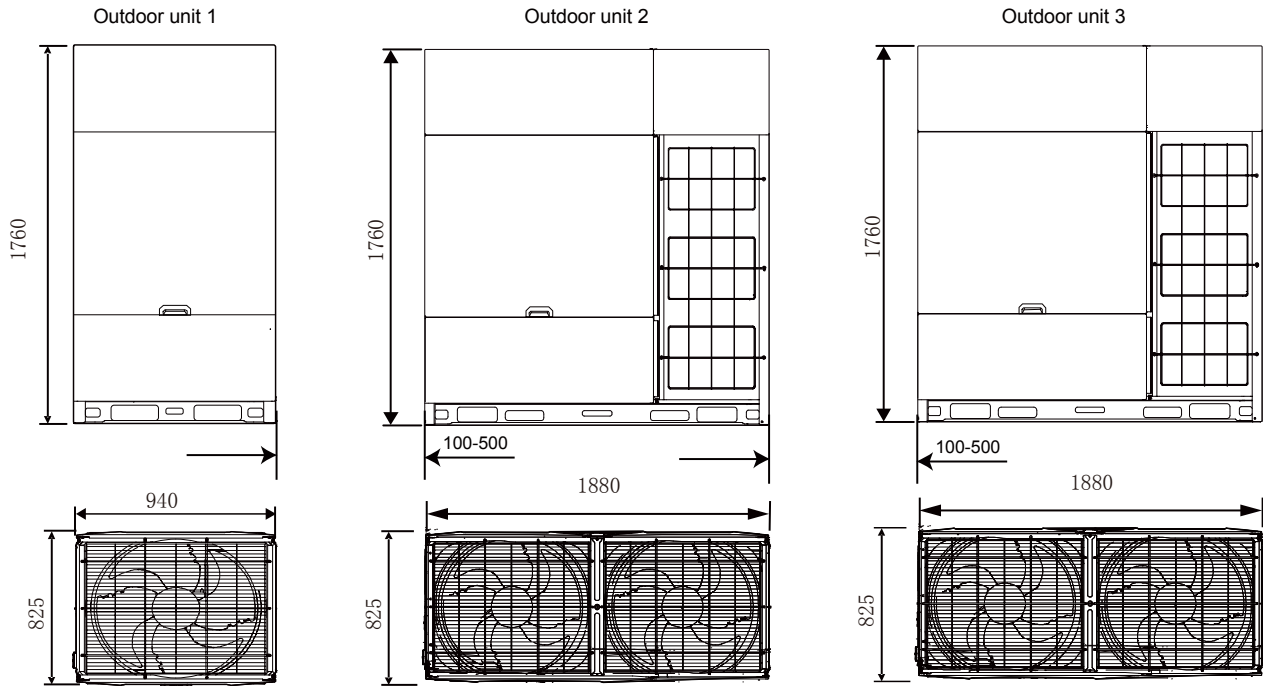
82/84/86/88HP

Figure 2-2.10: 82/84/86/88HP dimensions (unit: mm)



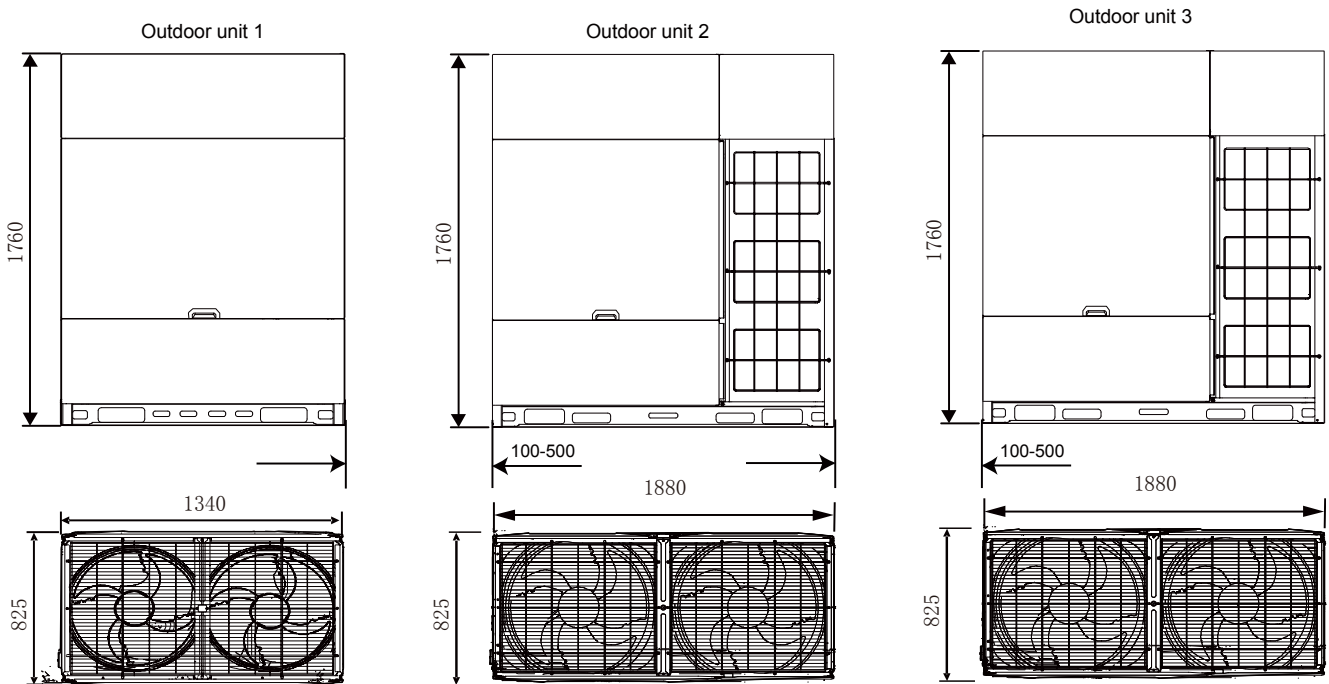
90HP

Figure 2-2.11: 90HP dimensions (unit: mm)



92/94/96/98/102HP

Figure 2-2.12: 92/94/96/98/102HP dimensions (unit: mm)

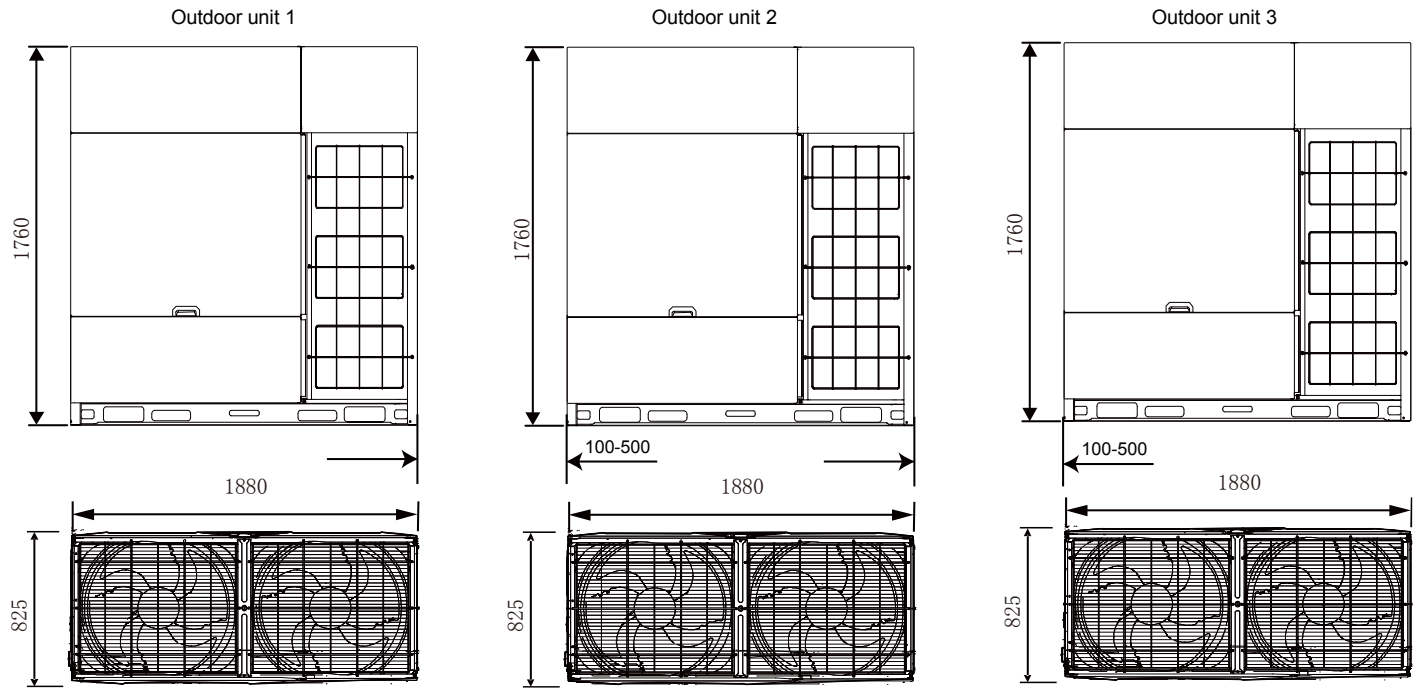


V8 VRF 50/60Hz



100/104/106/108/110/112/114/116/118/120HP

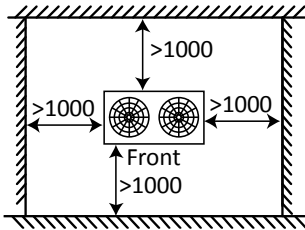
Figure 2-2.13: 100/104/106/108/110/112/114/116/118/120HP dimensions (unit: mm)



3 Installation Space Requirements

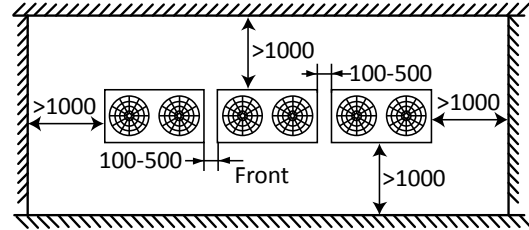
For single unit installation

Figure 2-3.1: Single unit installation (unit: mm)



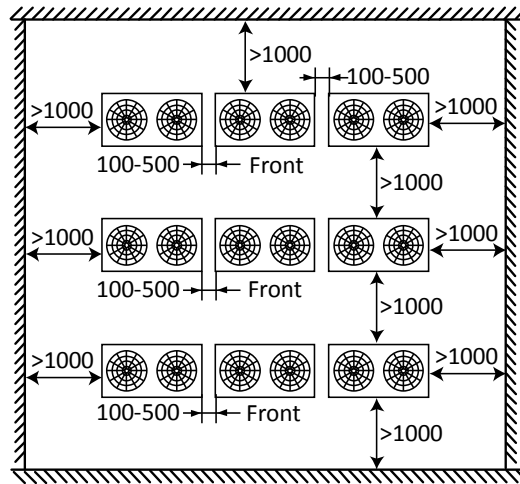
For single row installation

Figure 2-3.2: Single row installation (unit: mm)



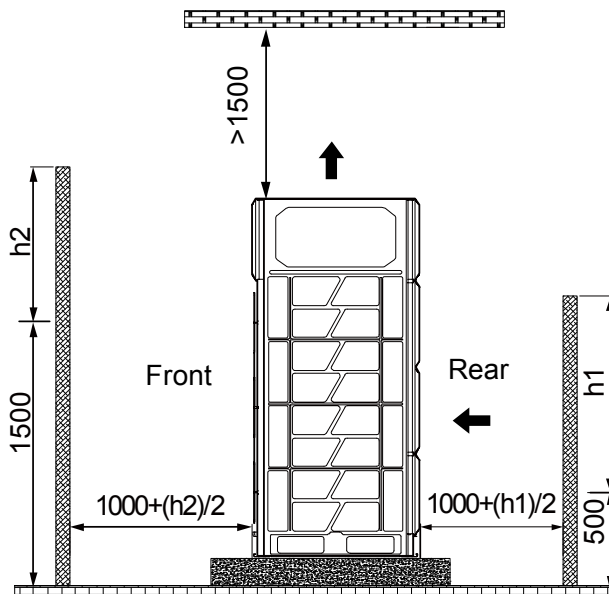
For multi-row installation

Figure 2-3.3: Multi-row installation (unit: mm)



In the situation depicted in Figure 2-3.4, if the front wall is higher than 1500mm, a space of at least $(1000 + (h_2)/2)$ mm is required at the front. If the rear wall is higher than 500mm, a space of at least $(1000 + (h_1)/2)$ mm is required at the rear. When the space over the unit is less than 1500mm, ducting is required to ensure proper air discharge. When the space over the unit is greater than 1500mm, ducting may be required if the air discharge is not smooth.

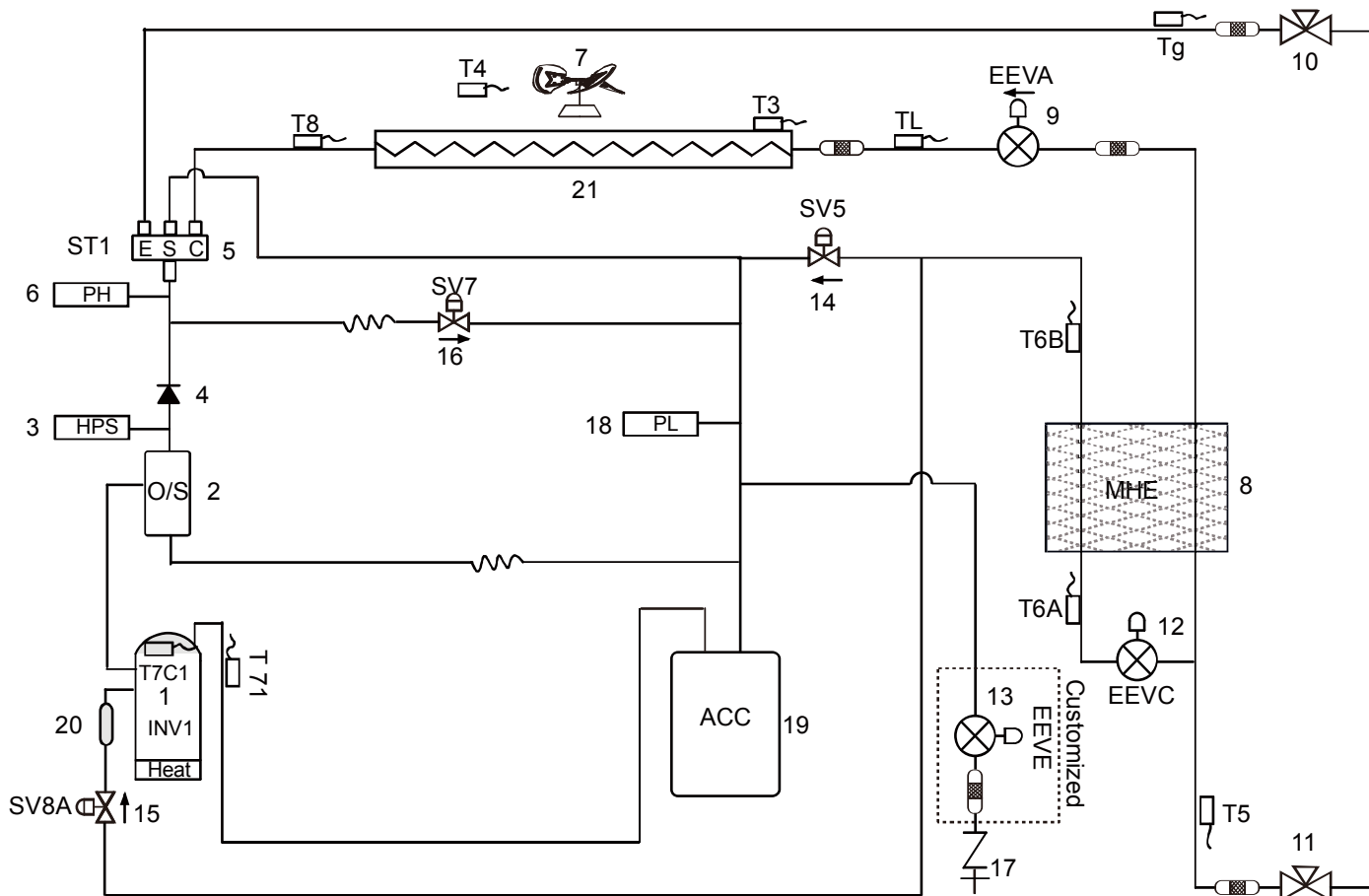
Figure 2-3.4: Top of unit below top of adjacent wall unit (mm)



4 Piping Diagrams

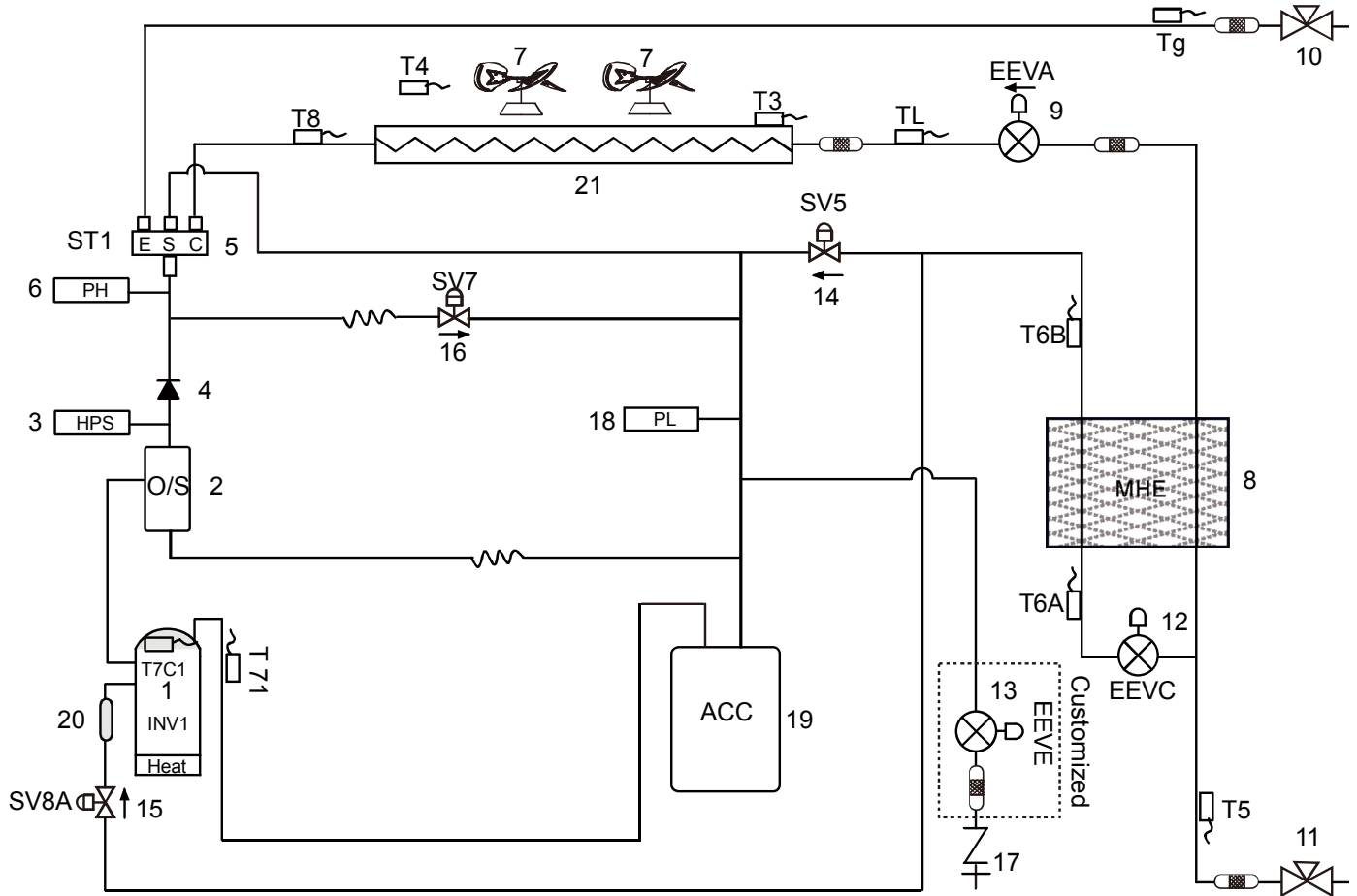
8-18HP

Figure 2-4.1: 8-18HP piping diagram



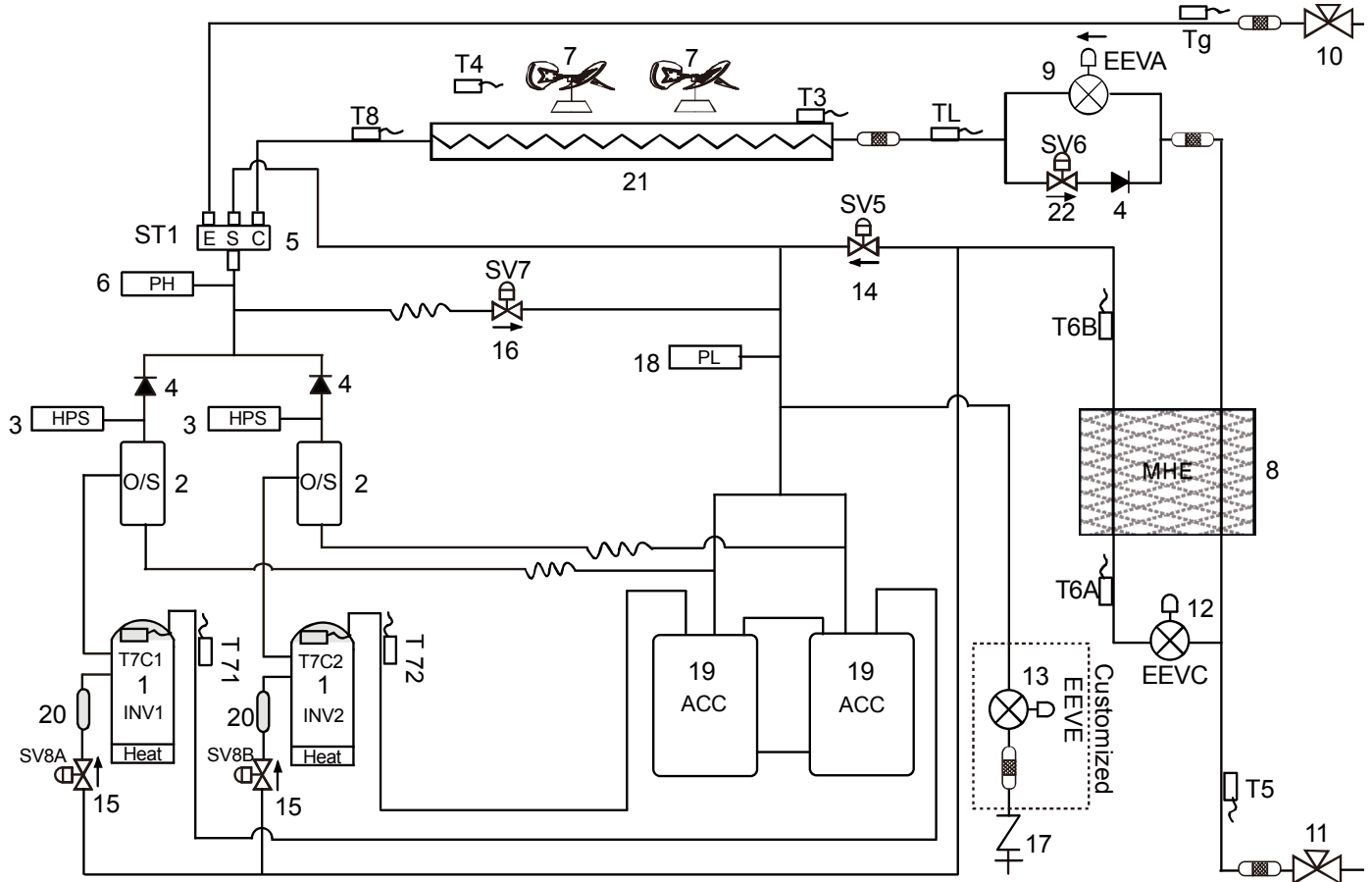
Legend	
No.	Parts name
1	Compressor
2	Oil separator
3	High pressure switch
4	Check value
5	Four-way valve
6	High pressure sensor
7	Fan
8	Microchannel heat exchanger
9	Electronic expansion valve (EEVA)
10	Stop valve (gas side)
11	Stop valve (liquid side)
12	Electronic expansion valve (EEVC)
13	Electronic expansion valve (Optional EEVE)
14	Injection bypass solenoid valve (SV5)
15	Compressor vapor injection valve (SV8A)
16	Hot gas bypass solenoid valve (SV7)
17	Charge port
18	Low pressure sensor
19	Gas-liquid separator
20	Muffler
21	Heat exchanger
Sensor Code	Description
T3	Heat exchanger deicer temperature sensor
T4	Outdoor air temperature sensor
T5	Liquid pipe temperature sensor
T6A	Microchannel heat exchanger inlet pipe temperature sensor
T6B	Microchannel heat exchanger outlet pipe temperature sensor
T71	Suction temperature sensor
T8	Heat exchanger gas temperature sensor
Tg	Gas pipe temperature sensor
TL	Heat exchanger liquid temperature sensor
T7C1	Compressor discharge temperature sensor

Figure 2-4.2: 20-24HP piping diagram



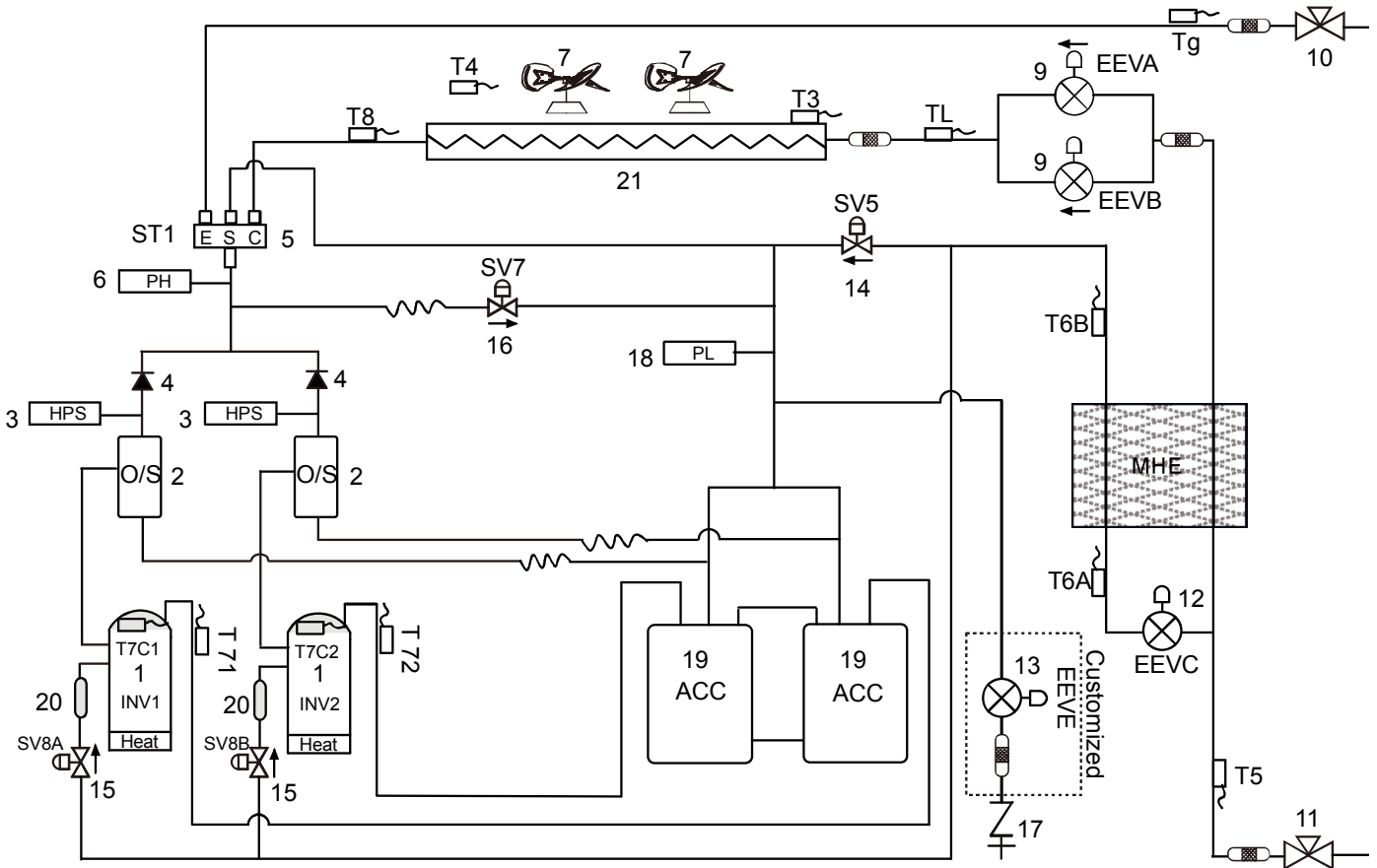
Legend		Legend	
No.	Parts name	No.	Parts name
1	Compressor	17	Charge port
2	Oil separator	18	Low pressure sensor
3	High pressure switch	19	Gas-liquid separator
4	Check value	20	Muffer
5	Four-way valve	21	Heat exchanger
6	High pressure sensor	Sensor Code	Description
7	Fan	T3	Heat exchanger deicer temperature sensor
8	Microchannel heat exchanger	T4	Outdoor air temperature sensor
9	Electronic expansion valve (EEVA)	T5	Liquid pipe temperature sensor
10	Stop valve (gas side)	T6A	Microchannel heat exchanger inlet pipe temperature sensor
11	Stop valve (liquid side)	T6B	Microchannel heat exchanger outlet pipe temperature sensor
12	Electronic expansion valve (EEVC)	T71/ T72	Suction temperature sensor
13	Electronic expansion valve (Optional EEVE)	T8	Heat exchanger gas temperature sensor
14	Injection bypass solenoid valve (SV5)	Tg	Gas pipe temperature sensor
15	Compressor vapor injection valve (SV8A/B)	TL	Heat exchanger liquid temperature sensor
16	Hot gas bypass solenoid valve (SV7)	T7C1/ T7C2	Compressor discharge temperature sensor

Figure 2-4.3: 26-36HP piping diagram



Legend	
No.	Parts name
1	Compressor
2	Oil separator
3	High pressure switch
4	Check value
5	Four-way valve
6	High pressure sensor
7	Fan
8	Microchannel heat exchanger
9	Electronic expansion valve (EEVA)
10	Stop valve (gas side)
11	Stop valve (liquid side)
12	Electronic expansion valve (EEVC)
13	Electronic expansion valve (Optional EEVE)
14	Injection bypass solenoid valve (SV5)
15	Compressor vapor injection valve (SV8A/B)
16	Hot gas bypass solenoid valve (SV7)
17	Charge port
No.	Parts name
18	Low pressure sensor
19	Gas-liquid separator
20	Muffler
21	Heat exchanger
22	Refrigerant bypass solenoid valve (SV6)
Sensor Code	Description
T3	Heat exchanger deicer temperature sensor
T4	Outdoor air temperature sensor
T5	Liquid pipe temperature sensor
T6A	Microchannel heat exchanger inlet pipe temperature sensor
T6B	Microchannel heat exchanger outlet pipe temperature sensor
T71/ T72	Suction temperature sensor
T8	Heat exchanger gas temperature sensor
Tg	Gas pipe temperature sensor
TL	Heat exchanger liquid temperature sensor
T7C1/ T7C2	Compressor discharge temperature sensor

Figure 2-4.3: 38-40HP piping diagram



Legend			
No.	Parts name	No.	Parts name
1	Compressor	17	Charge port
2	Oil separator	18	Low pressure sensor
3	High pressure switch	19	Gas-liquid separator
4	Check value	20	Muffler
5	Four-way valve	21	Heat exchanger
6	High pressure sensor	Sensor Code	Description
7	Fan	T3	Heat exchanger deicer temperature sensor
8	Microchannel heat exchanger	T4	Outdoor air temperature sensor
9	Electronic expansion valve (EEVA/EEVB)	T5	Liquid pipe temperature sensor
10	Stop valve (gas side)	T6A	Microchannel heat exchanger inlet pipe temperature sensor
11	Stop valve (liquid side)	T6B	Microchannel heat exchanger outlet pipe temperature sensor
12	Electronic expansion valve (EEVC)	T71/ T72	Suction temperature sensor
13	Electronic expansion valve (Optional EEVE)	T8	Heat exchanger gas temperature sensor
14	Injection bypass solenoid valve (SV5)	Tg	Gas pipe temperature sensor
15	Compressor vapor injection valve (SV8A/B)	TL	Heat exchanger liquid temperature sensor
16	Hot gas bypass solenoid valve (SV7)	T7C1/ T7C2	Compressor discharge temperature sensor

Key components:

- 1. Oil separator:**

Separates oil from gas refrigerant pumped out of the compressor and quickly returns it to the compressor. Separation efficiency is up to 99%.
- 2. Gas-liquid separator:**

Separates liquid refrigerant from gas refrigerant, stores liquid refrigerant and oil to protect compressor from liquid hammering.
- 3. Electronic expansion valve (EEVA):**

Controls refrigerant flow and reduces refrigerant pressure.
- 4. Four-way valve:**

Controls heat exchanger function. When open, the heat exchanger functions as an evaporator; When closed, the heat exchanger functions as a condenser.
- 5. Microchannel heat exchanger:**

In cooling mode, it can improve super-cooling degree and the super-cooled refrigerant can achieve better heat exchange in indoor side. In heating mode, the refrigerant comes from the microchannel heat exchanger going to the compressor can increase the refrigerant volume and improve the heating capacity in low ambient temperature. Refrigerant volume in microchannel heat exchanger is controlled according to temperature different between microchannel heat exchanger inlet and outlet or the temperature different between discharge temperature and target discharge temperature.
- 6. Solenoid valve SV5:**

Controls the refrigerant from microchannel heat exchanger to gas-liquid separator.
- 7. Solenoid valve SV6:**

Allows refrigerant to bypass the expansion valves. Opens in cooling mode when discharge temperature exceeds the limit. Closed in heating mode and standby.
- 8. Solenoid valve SV7:**

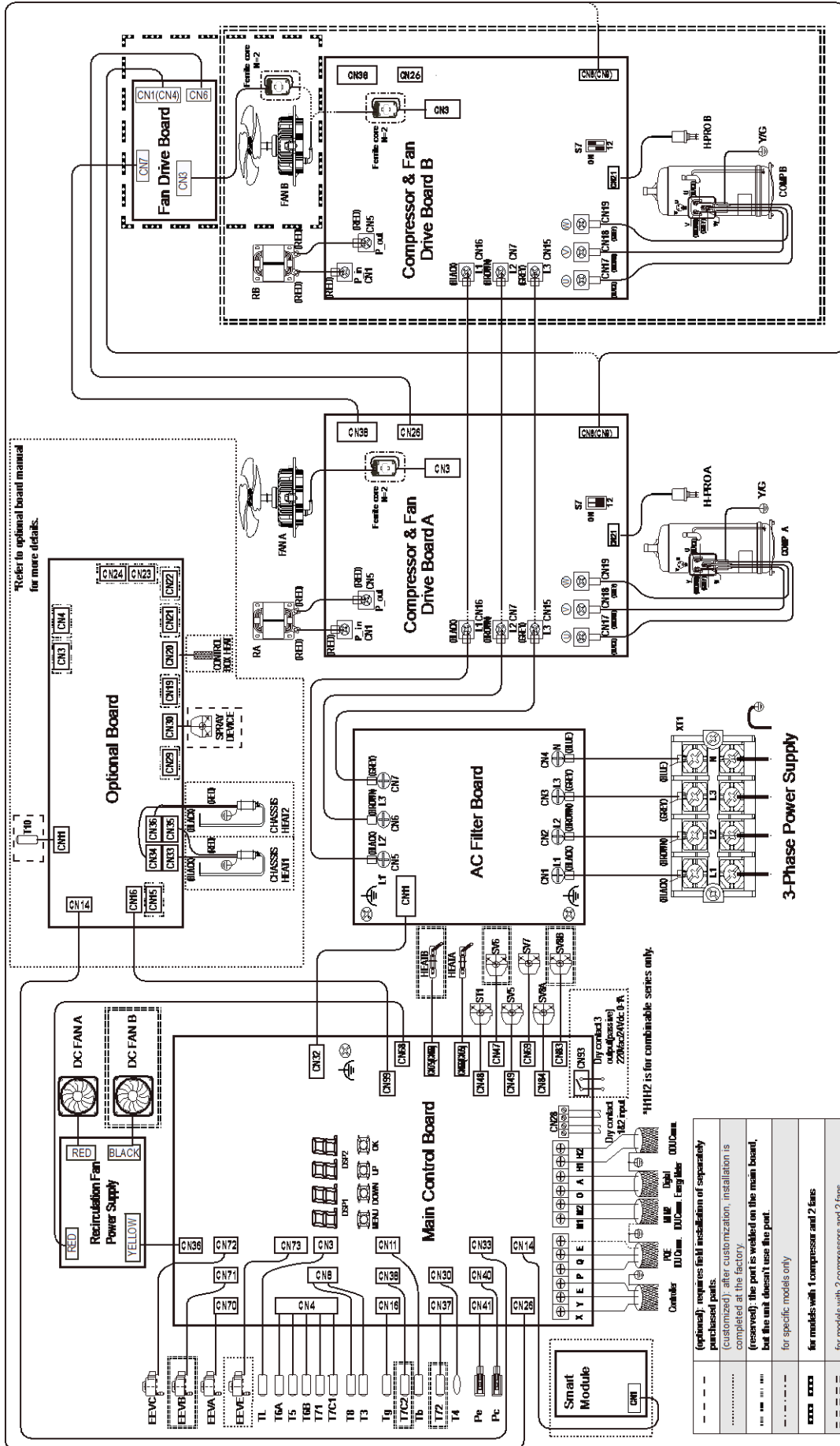
Bypass pressure at start-up stage and control capacity at low load condition; High-pressure-rise prevention; Discharge superheat protection.
- 9. Solenoid valve SV8A/B:**

Allows refrigerant from microchannel heat exchanger inject directly to the compressor. SV8A/B opens when compressor startup and closes when compressor stop.
- 10. High pressure switch:**

Regulate system pressure. When system pressure rises above the upper limit, the high pressure switch turn off, stopping the compressor. When the high pressure protection recovers, the compressor restarts.
- 11. High/Low pressure sensor**

Used to detect the system high/low pressure.

5 Wiring Diagrams



---	(optional) requires field installation of separately purchased parts.
.....	(customized) after customization, installation is completed at the factory.
---	(reserved) the part is welded on the main board, but the unit doesn't use the part.
---	for specific models only
---	for models with 1 compressor and 2 fans
---	for models with 2 compressors and 2 fans

Legend			
Code	Name	Code	Name
COMP A/ COMP B	Compressor	T3	Heat exchanger temperature sensor
EEVA/ EEVB/ EEVC	Electronic expansion valve	T4	Outdoor ambient temperature sensor
FAN A/ FAN B	DC Fan	T5	Liquid pipe temperature sensor
HEAT A/ HEAT B	Compressor heater	T6A	Microchannel heat exchanger inlet pipe temperature sensor
RA/ RB	Reactance	T6B	Microchannel heat exchanger outlet pipe temperature sensor
ST1	Four-way valve	T71/ T72	Suction temperature sensor
SV5-SV8B	Solenoid valve	T8	Heat exchanger gas temperature sensor
H-PRO A/ H-PRO B	High pressure switch	Tg	Gas pipe temperature sensor
Pc	High pressure sensor	TL	Heat exchanger liquid temperature sensor
Pe	Low pressure sensor	T7C1/ T7C2	Compressor discharge temperature sensor
XT1	Terminal block	Tb	Electric control box chamber temperature sensor

Attention



- The shield layer at both ends of all shielded wires should be connected to the electric control box sheet metal “⊕”.
- It is forbidden to connect the power cable to the communication terminal, otherwise the main control board will be damaged.
- It is forbidden to connect both the M1M2 communication wiring and the PQ communication wiring in one system, refer to the communication wiring configuration section of the manual.

6 Electrical Characteristics

Table 2-6.1: Outdoor unit electrical characteristics

Model				Power Supply ¹							Compressor			OFM	
Capacity	Modules			Hz	Volts	Min.	Max.	MCA ²	TOCA ³	MFA ⁴	MSC ⁵	RLA ⁶	kW	FLA	
						volts	volts								
8HP				50/60	380~415	342	440	17.0	20.7	20	-	12.0	0.56	1.7	
10HP				50/60	380~415	342	440	18.8	22.5	25	-	14.0	0.56	1.7	
12HP				50/60	380~415	342	440	23.0	26.8	32	-	17.5	0.56	1.8	
14HP				50/60	380~415	342	440	26.2	31.0	32	-	20.5	0.92	2.8	
16HP				50/60	380~415	342	440	31.4	36.2	40	-	24.0	0.92	2.8	
18HP				50/60	380~415	342	440	33.0	38.0	40	-	31.0	0.92	3.0	
20HP				50/60	380~415	342	440	40.5	46.1	50	-	36.0	0.56×2	1.8×2	
22HP				50/60	380~415	342	440	41.5	47.1	50	-	38.0	0.56×2	1.8×2	
24HP				50/60	380~415	342	440	46.0	52.0	63	-	43.5	0.56×2	2.0×2	
26HP				50/60	380~415	342	440	48.0	54.0	63	-	19.0+19.2	0.92×2	2.2×2	
28HP				50/60	380~415	342	440	51.0	57.4	63	-	20.3+20.2	0.92×2	2.2×2	
30HP				50/60	380~415	342	440	56.8	63.2	80	-	19.0+27.5	0.92×2	2.2×2	
32HP				50/60	380~415	342	440	57.0	63.4	80	-	19.4+28.0	0.92×2	2.2×2	
34HP				50/60	380~415	342	440	63.7	71.3	80	-	20.0+31.0	0.92×2	2.8×2	
36HP				50/60	380~415	342	440	64.0	71.8	80	-	22.0+33.0	0.92×2	2.9×2	
38HP				50/60	380~415	342	440	74.6	82.4	100	-	33.0+33.7	0.92×2	2.9×2	
40HP				50/60	380~415	342	440	75.0	83.0	100	-	34.1+34.8	0.92×2	3.0×2	
42HP	24HP	18HP		50/60	380~415	342	440	79.0	90.0	63+40	-	43.5+31	0.56×2+0.92	2.0×2+3	
44HP	22HP	22HP		50/60	380~415	342	440	83.0	94.2	50+50	-	38+38	0.56×2+0.56×2	1.8×2+1.8×2	
46HP	24HP	22HP		50/60	380~415	342	440	87.5	99.1	50+63	-	38+43.5	0.56×2+0.56×2	1.8×2+2.0×2	
48HP	24HP	24HP		50/60	380~415	342	440	92.0	104.0	63+63	-	43.5+43.5	0.56×2+0.56×2	2.0×2+2.0×2	
50HP	36HP	14HP		50/60	380~415	342	440	90.2	102.8	80+32	-	22.0+33.0+20.5	0.92×2+0.92	2.9×2+2.8	
52HP	36HP	16HP		50/60	380~415	342	440	95.4	108.0	80+40	-	22.0+33.0+24	0.92×2+0.92	2.9×2+2.8	
54HP	32HP	22HP		50/60	380~415	342	440	98.5	110.5	80+50	-	19.4+28.0+38	0.92×2+0.56×2	2.2×2+1.8×2	
56HP	40HP	16HP		50/60	380~415	342	440	106.4	119.2	100+40	-	34.1+34.8+24	0.92×2+0.92	3.0×2+2.8	
58HP	36HP	22HP		50/60	380~415	342	440	105.5	118.9	80+50	-	22.0+33.0+38	0.92×2+0.56×2	2.9×2+1.8×2	
60HP	36HP	24HP		50/60	380~415	342	440	110.0	123.8	80+63	-	22.0+33.0+43.5	0.92×2+0.56×2	2.9×2+2.0×2	
62HP	40HP	22HP		50/60	380~415	342	440	116.5	130.1	100+50	-	34.1+34.8+38	0.92×2+0.56×2	3.0×2+1.8×2	
64HP	40HP	24HP		50/60	380~415	342	440	121.0	135.0	100+63	-	34.1+34.8+43.5	0.92×2+0.56×2	3.0×2+2.0×2	
66HP	34HP	32HP		50/60	380~415	342	440	120.7	134.7	80+80	-	20.0+31.0+19.4+28.0	0.92×2+0.92×2	2.8×2+2.2×2	
68HP	36HP	32HP		50/60	380~415	342	440	121.0	135.2	80+80	-	22.0+33.0+19.4+28.0	0.92×2+0.92×2	2.9×2+2.2×2	
70HP	36HP	34HP		50/60	380~415	342	440	127.7	143.1	80+80	-	22.0+33.0+20.0+31.0	0.92×2+0.92×2	2.9×2+2.8×2	
72HP	36HP	36HP		50/60	380~415	342	440	128.0	143.6	80+80	-	22.0+33.0+22.0+33.0	0.92×2+0.92×2	2.9×2+2.9×2	

Abbreviations:

MCA: Minimum Circuit Amps; TOCA: Total Over-current Amps; MFA: Maximum Fuse Amps; MSC: Maximum Starting Current (A); RLA: Rated Load Amps; FLA: Full Load Amps

Notes:

- Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits. Maximum allowable voltage variation between phases is 2%.
- Select wire size based on the value of MCA.
- TOCA indicates the total overcurrent amps value of each OC set.
- MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
- MSC indicates the maximum current on compressor start-up in amps.
- RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB

Table continued on next page ...

Table 2-6.1: Outdoor unit electrical characteristics (continued)

Model				Power Supply ¹							Compressor		OFM	
Capacity	Modules			Hz	Volts	Min.	Max.	MCA ²	TOCA ³	MFA ⁴	MSC ⁵	RLA ⁶	kW	FLA
						volts	volts							
74HP	38HP	36HP		50/60	380~415	342	440	138.6	154.2	100+80	-	33.0+33.7+22.0+33.0	0.92×2+0.92×2	2.9×2+2.9×2
76HP	40HP	36HP		50/60	380~415	342	440	139.0	154.8	100+80	-	34.1+34.8+22.0+33.0	0.92×2+0.92×2	3.0×2+2.9×2
78HP	40HP	38HP		50/60	380~415	342	440	149.6	165.4	100+100	-	34.1+34.8+33.0+33.7	0.92×2+0.92×2	3.0×2+2.9×2
80HP	40HP	40HP		50/60	380~415	342	440	150.0	166.0	100+100	-	34.1+34.8+34.1+34.8	0.92×2+0.92×2	3.0×2+3.0×2
82HP	36HP	24HP	22HP	50/60	380~415	342	440	151.5	170.9	80+63+50	-	22.0+33.0+43.5+38	0.92×2+0.56×2 +0.56×2	2.9×2+2.0×2+1.8×2
84HP	36HP	24HP	24HP	50/60	380~415	342	440	156.0	175.8	80+63+63	-	22.0+33.0+43.5+43.5	0.92×2+0.56×2 +0.56×2	2.9×2+2.0×2+2.0×2
86HP	40HP	24HP	22HP	50/60	380~415	342	440	162.5	182.1	100+63+50	-	34.1+34.8+43.5+38	0.92×2+0.56×2 +0.56×2	3.0×2+2.0×2+1.8×2
88HP	40HP	24HP	24HP	50/60	380~415	342	440	167.0	187.0	100+63+63	-	34.1+34.8+43.5+43.5	0.92×2+0.56×2	3.0×2+2.0×2+2.0×2
90HP	36HP	36HP	18HP	50/60	380~415	342	440	161.0	181.6	80+80+40	-	22.0+33.0+22.0+33.0+31	0.92×2+0.92×2	2.9×2+2.9×2+3
92HP	36HP	36HP	20HP	50/60	380~415	342	440	168.5	189.7	80+80+50	-	22.0+33.0+22.0+33.0+36	0.92×2+0.92×2	2.9×2+2.9×2+1.8×2
94HP	36HP	36HP	22HP	50/60	380~415	342	440	169.5	190.7	80+80+50	-	22.0+33.0+22.0+33.0+38	0.92×2+0.92×2	2.9×2+2.9×2+1.8×2
96HP	36HP	36HP	24HP	50/60	380~415	342	440	174.0	195.6	80+80+63	-	22.0+33.0+22.0+33.0+43.5	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
98HP	40HP	36HP	22HP	50/60	380~415	342	440	180.5	201.9	100+80+50	-	34.1+34.8+22.0+33.0+38	0.92×2+0.92×2	3.0×2+2.9×2+1.8×2
100HP	36HP	36HP	28HP	50/60	380~415	342	440	179.0	201.0	80+80+63	-	22.0+33.0+22.0+33.0+20.3+2	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
102HP	40HP	40HP	22HP	50/60	380~415	342	440	191.5	213.1	100+100+50	-	34.1+34.8+34.1+34.8+38	0.92×2+0.92×2 +0.56×2	3.0×2+3.0×2+1.8×2
104HP	36HP	36HP	32HP	50/60	380~415	342	440	185.0	207.0	80+80+80	-	22.0+33.0+22.0+33.0+19.4+2	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
106HP	36HP	36HP	34HP	50/60	380~415	342	440	191.7	214.9	80+80+80	-	22.0+33.0+22.0+33.0+20.0+3	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
108HP	36HP	36HP	36HP	50/60	380~415	342	440	192.0	215.4	80+80+80	-	22.0+33.0+22.0+33.0+22.0+3	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
110HP	38HP	36HP	36HP	50/60	380~415	342	440	202.6	226.0	80+80+100	-	22.0+33.0+22.0+33.0+33.0+3	0.92×2+0.92×2	2.9×2+2.9×2+2.0×2
112HP	40HP	36HP	36HP	50/60	380~415	342	440	203.0	226.6	100+80+80	-	34.1+34.8+22.0+33.0+22.0+3	0.92×2+0.92×2	3.0×2+2.9×2+2.0×2
114HP	40HP	38HP	36HP	50/60	380~415	342	440	213.6	237.2	100+100+80	-	34.1+34.8+33.0+33.7+22.0+3	0.92×2+0.92×2	3.0×2+2.9×2+2.0×2
116HP	40HP	40HP	36HP	50/60	380~415	342	440	214.0	237.8	100+100+80	-	34.1+34.8+34.1+34.8+22.0+3	0.92×2+0.92×2	3.0×2+3.0×2+2.0×2
118HP	40HP	40HP	38HP	50/60	380~415	342	440	224.6	248.4	100+100+100	-	34.1+34.8+34.1+34.8+33.0+3	0.92×2+0.92×2	3.0×2+3.0×2+2.0×2
120HP	40HP	40HP	40HP	50/60	380~415	342	440	225.0	249.0	100+100+100	-	34.1+34.8+34.1+34.8+34.1+3	0.92×2+0.92×2	3.0×2+3.0×2+3.0×2

Abbreviations:

MCA: Minimum Circuit Amps; TOCA: Total Over-current Amps; MFA: Maximum Fuse Amps; MSC: Maximum Starting Current (A); RLA: Rated Load Amps; FLA: Full Load Amps

Notes:

- Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits. Maximum allowable voltage variation between phases is 2%.
- Select wire size based on the value of MCA.
- TOCA indicates the total overcurrent amps value of each OC set.
- MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
- MSC indicates the maximum current on compressor start-up in amps.
- RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB.

7 Functional Components and Safety Devices

Table 2-7.1: 8/10/12/14/16/18HP functional components and safety devices

Item		8HP	10HP	12HP	14HP	16HP	18HP
Compressor	Compressor top and discharge pipe temperature sensors	115°C = 5kΩ ± 3%					
	Crankcase heater	50W					
Inverter module	Inverter module temperature sensor	90°C = 5kΩ ± 5%					
System	High pressure switch	Off: 4.2 (±0.1) MPa / On: 3.2 (±0.1) MPa					
	High pressure sensor	Output voltage (V) = 0.8696 × P + 0.5 (where P is the discharge pressure in MPa)					
	Heat exchanger temperature sensor	25°C = 10kΩ					
	Outdoor ambient temperature sensor	25°C = 10kΩ					

Table 2-7.2: 20/22/24HP functional components and safety devices

Item		20HP	22HP	24HP
Compressor	Compressor top and discharge pipe temperature sensors	115°C = 5kΩ ± 3%		
	Crankcase heater	50W × 2		
Inverter module	Inverter module temperature sensor	90°C = 5kΩ ± 5%		
System	High pressure switch	Off: 4.2 (±0.1) MPa / On: 3.2 (±0.1) MPa		
	High pressure sensor	Output voltage (V) = 0.8696 × P + 0.5 (where P is the discharge pressure in MPa)		
	Heat exchanger temperature sensor	25°C = 10kΩ		
	Outdoor ambient temperature sensor	25°C = 10kΩ		

Table 2-7.3: 26/28/30/32/34/36/38/40HP functional components and safety devices

Item		26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
Compressor	Compressor top and discharge pipe temperature sensors	115°C = 5kΩ ± 3%							
	Crankcase heater	50W × 2							
Inverter module	Inverter module temperature sensor	90°C = 5kΩ ± 5%							
System	High pressure switch	Off: 4.2 (±0.1) MPa / On: 3.2 (±0.1) MPa							
	High pressure sensor	Output voltage (V) = 0.8696 × P + 0.5 (where P is the discharge pressure in MPa)							
	Heat exchanger temperature sensor	25°C = 10kΩ							
	Outdoor ambient temperature sensor	25°C = 10kΩ							

Table2-8.1:8HP cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	8.80	0.75	10.45	0.86	12.21	1.00	12.91	1.04	13.65	1.09	15.40	1.24	17.28	1.36
	-10	8.80	0.82	10.45	0.93	12.21	1.08	12.91	1.13	13.65	1.17	15.40	1.34	17.28	1.47
	-5	8.80	0.88	10.45	1.00	12.21	1.17	12.91	1.22	13.65	1.27	15.40	1.45	17.28	1.58
	-2	8.80	0.89	10.45	1.02	12.21	1.18	12.91	1.23	13.65	1.29	15.40	1.47	17.28	1.61
	0	8.80	0.90	10.45	1.04	12.21	1.19	12.91	1.24	13.65	1.31	15.40	1.50	17.28	1.63
	2	8.80	0.91	10.45	1.05	12.21	1.23	12.91	1.26	13.65	1.33	15.40	1.50	17.28	1.66
	4	8.80	0.92	10.45	1.07	12.21	1.24	12.91	1.27	13.65	1.36	15.40	1.54	17.28	1.71
	6	8.80	0.94	10.45	1.09	12.21	1.26	12.91	1.30	13.65	1.38	15.40	1.56	17.28	1.75
	8	8.80	0.96	10.45	1.11	12.21	1.28	12.91	1.34	13.65	1.40	15.40	1.59	17.28	1.81
	10	8.80	0.98	10.45	1.12	12.21	1.30	12.91	1.36	13.65	1.44	15.40	1.63	17.28	1.84
	12	8.80	0.99	10.45	1.13	12.21	1.32	12.91	1.39	13.65	1.47	15.40	1.66	17.28	1.86
	14	8.80	1.00	10.45	1.15	12.21	1.33	12.91	1.41	13.65	1.49	15.40	1.69	17.28	1.90
	16	8.80	1.01	10.45	1.17	12.21	1.35	12.91	1.44	13.65	1.51	15.40	1.72	17.28	1.93
	18	8.80	1.03	10.45	1.18	12.21	1.38	12.91	1.45	13.65	1.54	15.40	1.75	17.28	1.96
	20	8.80	1.05	10.45	1.21	12.21	1.40	12.91	1.48	13.65	1.57	15.40	1.78	17.28	2.01
	21	8.80	1.06	10.45	1.22	12.21	1.41	12.91	1.49	13.65	1.58	15.40	1.80	17.28	2.03
	23	8.80	1.06	10.45	1.23	12.21	1.43	12.91	1.52	13.65	1.61	15.40	1.82	17.28	2.06
	25	8.80	1.09	10.45	1.26	12.21	1.46	12.91	1.55	13.65	1.66	15.40	1.93	17.28	2.20
	27	8.80	1.10	10.45	1.30	12.21	1.54	12.91	1.65	13.65	1.76	15.40	2.04	17.28	2.35
	29	8.80	1.17	10.45	1.38	12.21	1.63	12.91	1.75	13.65	1.88	15.40	2.18	17.28	2.51
	31	8.80	1.23	10.45	1.45	12.21	1.74	12.91	1.86	13.65	1.99	15.40	2.31	17.28	2.66
	33	8.80	1.30	10.45	1.54	12.21	1.84	12.91	1.97	13.65	2.11	15.40	2.46	17.28	2.84
	35	8.80	1.38	10.45	1.63	12.21	1.94	12.91	2.08	13.65	2.25	15.40	2.61	17.28	3.01
	37	8.80	1.45	10.45	1.72	12.21	2.06	12.91	2.20	13.65	2.37	15.40	2.76	17.28	3.19
	39	8.80	1.54	10.45	1.82	12.21	2.18	12.91	2.34	13.65	2.52	15.40	2.94	17.28	3.41
41	8.80	1.59	10.45	1.89	12.21	2.26	12.91	2.45	13.65	2.63	15.40	3.09	17.28	3.56	
43	8.80	1.69	10.45	2.02	12.21	2.34	12.91	2.56	13.65	2.69	15.40	3.25	17.28	3.73	
46	8.80	1.74	10.45	2.07	12.21	2.49	12.91	2.76	13.65	2.80	15.40	3.56	17.28	4.03	
48	8.80	1.77	10.45	2.13	12.21	2.64	12.91	2.94	13.65	2.95	15.40	3.85	17.28	4.35	
50	8.36	1.72	9.93	2.06	11.60	2.56	12.27	2.86	12.97	2.87	14.63	3.74	16.42	4.21	
52	7.94	1.67	9.43	2.01	11.02	2.48	11.65	2.78	12.32	2.79	13.90	3.62	15.59	4.11	
55	7.55	1.62	8.96	1.95	10.47	2.41	11.07	2.70	11.71	2.71	13.20	3.52	14.81	3.98	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.2:10HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	9.89	0.95	11.74	1.09	13.48	1.23	14.57	1.31	15.20	1.35	17.18	1.55	19.17	1.68
	-10	9.89	1.02	11.74	1.18	13.48	1.33	14.57	1.42	15.20	1.46	17.18	1.68	19.17	1.81
	-5	9.89	1.10	11.74	1.27	13.48	1.44	14.57	1.53	15.20	1.57	17.18	1.81	19.17	1.95
	-2	9.89	1.11	11.74	1.29	13.48	1.46	14.57	1.55	15.20	1.61	17.18	1.84	19.17	1.99
	0	9.89	1.12	11.74	1.31	13.48	1.48	14.57	1.57	15.20	1.63	17.18	1.87	19.17	2.02
	2	9.89	1.15	11.74	1.34	13.48	1.51	14.57	1.59	15.20	1.65	17.18	1.88	19.17	2.05
	4	9.89	1.15	11.74	1.36	13.48	1.52	14.57	1.61	15.20	1.69	17.18	1.92	19.17	2.10
	6	9.89	1.18	11.74	1.38	13.48	1.54	14.57	1.65	15.20	1.72	17.18	1.95	19.17	2.16
	8	9.89	1.20	11.74	1.40	13.48	1.58	14.57	1.68	15.20	1.75	17.18	1.98	19.17	2.24
	10	9.89	1.23	11.74	1.41	13.48	1.60	14.57	1.72	15.20	1.80	17.18	2.04	19.17	2.28
	12	9.89	1.23	11.74	1.43	13.48	1.63	14.57	1.74	15.20	1.83	17.18	2.07	19.17	2.30
	14	9.89	1.25	11.74	1.46	13.48	1.64	14.57	1.78	15.20	1.85	17.18	2.10	19.17	2.35
	16	9.89	1.27	11.74	1.46	13.48	1.68	14.57	1.81	15.20	1.88	17.18	2.14	19.17	2.40
	18	9.89	1.29	11.74	1.50	13.48	1.70	14.57	1.83	15.20	1.92	17.18	2.18	19.17	2.43
	20	9.89	1.31	11.74	1.52	13.48	1.73	14.57	1.86	15.20	1.96	17.18	2.21	19.17	2.48
	21	9.89	1.31	11.74	1.53	13.48	1.75	14.57	1.89	15.20	1.97	17.18	2.23	19.17	2.52
	23	9.89	1.34	11.74	1.55	13.48	1.77	14.57	1.92	15.20	2.01	17.18	2.28	19.17	2.56
	25	9.89	1.35	11.74	1.58	13.48	1.82	14.57	1.95	15.20	2.07	17.18	2.40	19.17	2.73
	27	9.89	1.38	11.74	1.65	13.48	1.91	14.57	2.08	15.20	2.20	17.18	2.55	19.17	2.92
	29	9.89	1.45	11.74	1.74	13.48	2.02	14.57	2.21	15.20	2.33	17.18	2.70	19.17	3.10
	31	9.89	1.53	11.74	1.83	13.48	2.14	14.57	2.36	15.20	2.49	17.18	2.88	19.17	3.29
	33	9.89	1.63	11.74	1.95	13.48	2.29	14.57	2.49	15.20	2.63	17.18	3.06	19.17	3.52
35	9.89	1.72	11.74	2.06	13.48	2.40	14.57	2.63	15.20	2.79	17.18	3.25	19.17	3.72	
37	9.89	1.81	11.74	2.17	13.48	2.55	14.57	2.80	15.20	2.96	17.18	3.45	19.17	3.97	
39	9.89	1.91	11.74	2.29	13.48	2.70	14.57	2.95	15.20	3.14	17.18	3.65	19.17	4.22	
41	9.89	1.98	11.74	2.39	13.48	2.79	14.57	3.10	15.20	3.26	17.18	3.86	19.17	4.40	
43	9.89	2.13	11.74	2.55	13.48	2.89	14.57	3.23	15.20	3.34	17.18	4.05	19.17	4.60	
46	9.89	2.16	11.74	2.61	13.48	3.08	14.57	3.48	15.20	3.50	17.18	4.45	19.17	4.99	
48	9.89	2.21	11.74	2.69	13.48	3.26	14.57	3.70	15.20	3.66	17.18	4.80	19.17	5.37	
50	9.39	2.15	11.15	2.61	12.80	3.15	13.84	3.60	14.44	3.56	16.32	4.65	18.22	5.22	
52	8.92	2.08	10.59	2.53	12.16	3.07	13.15	3.50	13.71	3.46	15.51	4.52	17.30	5.07	
55	8.48	2.03	10.06	2.46	11.56	2.97	12.49	3.39	13.03	3.37	14.73	4.40	16.44	4.92	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.3:12HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	11.71	1.16	13.85	1.33	16.31	1.54	17.43	1.61	18.15	1.67	20.77	1.94	22.94	2.07
	-10	11.71	1.25	13.85	1.44	16.31	1.67	17.43	1.74	18.15	1.81	20.77	2.09	22.94	2.24
	-5	11.71	1.35	13.85	1.55	16.31	1.80	17.43	1.88	18.15	1.95	20.77	2.27	22.94	2.41
	-2	11.71	1.37	13.85	1.58	16.31	1.82	17.43	1.92	18.15	1.99	20.77	2.29	22.94	2.45
	0	11.71	1.39	13.85	1.60	16.31	1.85	17.43	1.93	18.15	2.01	20.77	2.33	22.94	2.49
	2	11.71	1.40	13.85	1.63	16.31	1.89	17.43	1.96	18.15	2.04	20.77	2.33	22.94	2.53
	4	11.71	1.42	13.85	1.66	16.31	1.90	17.43	1.99	18.15	2.08	20.77	2.40	22.94	2.60
	6	11.71	1.44	13.85	1.68	16.31	1.93	17.43	2.02	18.15	2.12	20.77	2.43	22.94	2.67
	8	11.71	1.48	13.85	1.71	16.31	1.96	17.43	2.08	18.15	2.15	20.77	2.47	22.94	2.77
	10	11.71	1.50	13.85	1.73	16.31	2.00	17.43	2.11	18.15	2.21	20.77	2.54	22.94	2.80
	12	11.71	1.52	13.85	1.75	16.31	2.03	17.43	2.16	18.15	2.26	20.77	2.58	22.94	2.85
	14	11.71	1.55	13.85	1.77	16.31	2.05	17.43	2.20	18.15	2.29	20.77	2.62	22.94	2.90
	16	11.71	1.57	13.85	1.80	16.31	2.09	17.43	2.23	18.15	2.32	20.77	2.68	22.94	2.95
	18	11.71	1.58	13.85	1.82	16.31	2.12	17.43	2.27	18.15	2.37	20.77	2.73	22.94	3.00
	20	11.71	1.62	13.85	1.86	16.31	2.16	17.43	2.29	18.15	2.42	20.77	2.76	22.94	3.06
	21	11.71	1.62	13.85	1.87	16.31	2.18	17.43	2.33	18.15	2.44	20.77	2.80	22.94	3.09
	23	11.71	1.64	13.85	1.89	16.31	2.21	17.43	2.36	18.15	2.48	20.77	2.83	22.94	3.16
	25	11.71	1.67	13.85	1.93	16.31	2.25	17.43	2.41	18.15	2.56	20.77	2.99	22.94	3.37
	27	11.71	1.70	13.85	2.01	16.31	2.37	17.43	2.57	18.15	2.72	20.77	3.19	22.94	3.59
	29	11.71	1.79	13.85	2.11	16.31	2.53	17.43	2.73	18.15	2.89	20.77	3.38	22.94	3.82
	31	11.71	1.89	13.85	2.24	16.31	2.67	17.43	2.89	18.15	3.07	20.77	3.60	22.94	4.08
33	11.71	2.00	13.85	2.38	16.31	2.84	17.43	3.06	18.15	3.26	20.77	3.83	22.94	4.34	
35	11.71	2.11	13.85	2.51	16.31	3.00	17.43	3.25	18.15	3.44	20.77	4.06	22.94	4.61	
37	11.71	2.23	13.85	2.65	16.31	3.18	17.43	3.45	18.15	3.66	20.77	4.31	22.94	4.89	
39	11.71	2.35	13.85	2.80	16.31	3.36	17.43	3.64	18.15	3.86	20.77	4.56	22.94	5.20	
41	11.71	2.45	13.85	2.91	16.31	3.48	17.43	3.81	18.15	4.04	20.77	4.81	22.94	5.44	
43	11.71	2.61	13.85	3.11	16.31	3.61	17.43	3.98	18.15	4.15	20.77	5.05	22.94	5.68	
46	11.71	2.67	13.85	3.20	16.31	3.85	17.43	4.29	18.15	4.32	20.77	5.54	22.94	6.16	
48	11.71	2.73	13.85	3.27	16.31	4.06	17.43	4.57	18.15	4.52	20.77	5.97	22.94	6.62	
50	11.13	2.65	13.16	3.18	15.49	3.95	16.56	4.44	17.25	4.40	19.74	5.79	21.79	6.44	
52	10.57	2.58	12.50	3.09	14.72	3.83	15.73	4.31	16.38	4.26	18.75	5.65	20.70	6.26	
55	10.04	2.50	11.87	3.00	13.98	3.72	14.95	4.18	15.56	4.14	17.81	5.47	19.67	6.08	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table2-8.4:14HP Cooling capacity

Table with columns for CR, Outdoor air temp. (°CDB), and Indoor air temp. (°C DB/WD) with sub-columns for various indoor conditions (20.8/14, 23.3/16, 25.8/18, 27/19, 28.2/20, 30.7/22, 32/24) and sub-sub-columns for TC and PI (KW).

Abbreviations: CR: Combination ratio TC: Total capacity (kW) PI: Power input (compressor + outdoor fan motor) (kW) Notes: Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.4:14HP Cooling capacity(continued)

Table with columns for CR and Indoor air temp. (°C DB/WD)

Table2-8.4:14HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	13.92	1.39	16.76	1.62	19.31	1.84	20.42	1.91	22.15	2.06	24.38	2.29	27.45	2.50
	-10	13.92	1.50	16.76	1.75	19.31	1.99	20.42	2.06	22.15	2.22	24.38	2.48	27.45	2.70
	-5	13.92	1.62	16.76	1.89	19.31	2.15	20.42	2.23	22.15	2.40	24.38	2.67	27.45	2.92
	-2	13.92	1.63	16.76	1.93	19.31	2.18	20.42	2.26	22.15	2.45	24.38	2.70	27.45	2.95
	0	13.92	1.66	16.76	1.96	19.31	2.23	20.42	2.30	22.15	2.47	24.38	2.75	27.45	3.01
	2	13.92	1.69	16.76	1.98	19.31	2.26	20.42	2.32	22.15	2.52	24.38	2.77	27.45	3.06
	4	13.92	1.70	16.76	2.02	19.31	2.29	20.42	2.36	22.15	2.56	24.38	2.84	27.45	3.14
	6	13.92	1.74	16.76	2.05	19.31	2.31	20.42	2.41	22.15	2.60	24.38	2.87	27.45	3.24
	8	13.92	1.77	16.76	2.09	19.31	2.35	20.42	2.46	22.15	2.65	24.38	2.92	27.45	3.33
	10	13.92	1.80	16.76	2.10	19.31	2.39	20.42	2.50	22.15	2.71	24.38	3.01	27.45	3.39
	12	13.92	1.83	16.76	2.14	19.31	2.44	20.42	2.55	22.15	2.79	24.38	3.05	27.45	3.45
	14	13.92	1.84	16.76	2.17	19.31	2.46	20.42	2.61	22.15	2.83	24.38	3.11	27.45	3.50
	16	13.92	1.87	16.76	2.19	19.31	2.49	20.42	2.65	22.15	2.86	24.38	3.17	27.45	3.56
	18	13.92	1.91	16.76	2.23	19.31	2.53	20.42	2.69	22.15	2.92	24.38	3.21	27.45	3.63
	20	13.92	1.92	16.76	2.26	19.31	2.58	20.42	2.72	22.15	2.96	24.38	3.27	27.45	3.71
	21	13.92	1.95	16.76	2.29	19.31	2.61	20.42	2.75	22.15	3.00	24.38	3.31	27.45	3.74
	23	13.92	1.97	16.76	2.31	19.31	2.65	20.42	2.80	22.15	3.05	24.38	3.37	27.45	3.83
	25	13.92	1.99	16.76	2.36	19.31	2.70	20.42	2.86	22.15	3.15	24.38	3.53	27.45	4.08
	27	13.92	2.04	16.76	2.46	19.31	2.86	20.42	3.06	22.15	3.33	24.38	3.76	27.45	4.35
	29	13.92	2.15	16.76	2.59	19.31	3.02	20.42	3.24	22.15	3.55	24.38	3.99	27.45	4.63
	31	13.92	2.27	16.76	2.74	19.31	3.21	20.42	3.42	22.15	3.77	24.38	4.25	27.45	4.94
	33	13.92	2.40	16.76	2.90	19.31	3.42	20.42	3.63	22.15	3.99	24.38	4.52	27.45	5.24
	35	13.92	2.54	16.76	3.07	19.31	3.60	20.42	3.85	22.15	4.23	24.38	4.80	27.45	5.58
	37	13.92	2.68	16.76	3.24	19.31	3.80	20.42	4.07	22.15	4.48	24.38	5.10	27.45	5.92
	39	13.92	2.82	16.76	3.41	19.31	4.03	20.42	4.31	22.15	4.76	24.38	5.40	27.45	6.28
41	13.92	2.94	16.76	3.57	19.31	4.16	20.42	4.52	22.15	4.97	24.38	5.68	27.45	6.58	
43	13.92	3.12	16.76	3.82	19.31	4.32	20.42	4.72	22.15	5.10	24.38	5.98	27.45	6.87	
46	13.92	3.21	16.76	3.91	19.31	4.61	20.42	5.08	22.15	5.30	24.38	6.54	27.45	7.46	
48	13.92	3.26	16.76	3.99	19.31	4.87	20.42	5.43	22.15	5.55	24.38	7.08	27.45	8.01	
50	13.22	3.17	15.92	3.89	18.35	4.73	19.40	5.26	21.04	5.41	23.16	6.89	26.08	7.78	
52	12.56	3.08	15.12	3.78	17.43	4.58	18.43	5.11	19.99	5.26	22.00	6.68	24.77	7.56	
55	11.93	2.98	14.37	3.66	16.56	4.47	17.51	4.97	18.99	5.10	20.90	6.49	23.53	7.34	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.5:16HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	15.79	1.62	18.90	1.88	21.43	2.11	22.90	2.21	24.59	2.37	27.23	2.64	30.49	2.87
	-10	15.79	1.75	18.90	2.03	21.43	2.28	22.90	2.39	24.59	2.55	27.23	2.87	30.49	3.10
	-5	15.79	1.89	18.90	2.19	21.43	2.46	22.90	2.58	24.59	2.75	27.23	3.10	30.49	3.34
	-2	15.79	1.91	18.90	2.24	21.43	2.50	22.90	2.62	24.59	2.81	27.23	3.13	30.49	3.39
	0	15.79	1.95	18.90	2.27	21.43	2.53	22.90	2.65	24.59	2.83	27.23	3.18	30.49	3.45
	2	15.79	1.97	18.90	2.30	21.43	2.58	22.90	2.69	24.59	2.88	27.23	3.20	30.49	3.51
	4	15.79	1.99	18.90	2.34	21.43	2.61	22.90	2.73	24.59	2.94	27.23	3.28	30.49	3.61
	6	15.79	2.02	18.90	2.39	21.43	2.65	22.90	2.79	24.59	2.99	27.23	3.33	30.49	3.70
	8	15.79	2.07	18.90	2.42	21.43	2.69	22.90	2.84	24.59	3.04	27.23	3.38	30.49	3.84
	10	15.79	2.12	18.90	2.45	21.43	2.73	22.90	2.89	24.59	3.12	27.23	3.47	30.49	3.88
	12	15.79	2.12	18.90	2.48	21.43	2.77	22.90	2.96	24.59	3.19	27.23	3.53	30.49	3.94
	14	15.79	2.17	18.90	2.51	21.43	2.80	22.90	3.02	24.59	3.23	27.23	3.60	30.49	4.02
	16	15.79	2.19	18.90	2.53	21.43	2.85	22.90	3.06	24.59	3.29	27.23	3.65	30.49	4.09
	18	15.79	2.22	18.90	2.58	21.43	2.91	22.90	3.11	24.59	3.35	27.23	3.72	30.49	4.17
	20	15.79	2.25	18.90	2.61	21.43	2.95	22.90	3.15	24.59	3.41	27.23	3.78	30.49	4.24
	21	15.79	2.27	18.90	2.66	21.43	2.97	22.90	3.18	24.59	3.45	27.23	3.83	30.49	4.29
	23	15.79	2.30	18.90	2.68	21.43	3.03	22.90	3.26	24.59	3.50	27.23	3.89	30.49	4.40
	25	15.79	2.34	18.90	2.73	21.43	3.08	22.90	3.31	24.59	3.62	27.23	4.10	30.49	4.67
	27	15.79	2.38	18.90	2.84	21.43	3.25	22.90	3.53	24.59	3.82	27.23	4.35	30.49	4.99
	29	15.79	2.50	18.90	2.99	21.43	3.45	22.90	3.75	24.59	4.08	27.23	4.62	30.49	5.31
	31	15.79	2.66	18.90	3.17	21.43	3.65	22.90	3.98	24.59	4.32	27.23	4.93	30.49	5.66
	33	15.79	2.81	18.90	3.36	21.43	3.90	22.90	4.20	24.59	4.59	27.23	5.23	30.49	6.00
	35	15.79	2.96	18.90	3.55	21.43	4.10	22.90	4.45	24.59	4.86	27.23	5.56	30.49	6.39
	37	15.79	3.12	18.90	3.75	21.43	4.34	22.90	4.71	24.59	5.16	27.23	5.88	30.49	6.79
	39	15.79	3.29	18.90	3.97	21.43	4.59	22.90	5.00	24.59	5.48	27.23	6.26	30.49	7.19
41	15.79	3.44	18.90	4.12	21.43	4.75	22.90	5.22	24.59	5.70	27.23	6.58	30.49	7.55	
43	15.79	3.66	18.90	4.40	21.43	4.93	22.90	5.47	24.59	5.86	27.23	6.90	30.49	7.87	
46	15.79	3.75	18.90	4.52	21.43	5.28	22.90	5.88	24.59	6.11	27.23	7.58	30.49	8.55	
48	15.79	3.82	18.90	4.64	21.43	5.54	22.90	6.28	24.59	6.39	27.23	8.17	30.49	9.19	
50	15.00	3.71	17.96	4.49	20.36	5.40	21.76	6.11	23.36	6.19	25.86	7.95	28.97	8.91	
52	14.25	3.59	17.06	4.37	19.35	5.24	20.67	5.91	22.19	6.02	24.57	7.70	27.52	8.67	
55	13.54	3.49	16.21	4.25	18.38	5.08	19.64	5.75	21.08	5.87	23.34	7.48	26.14	8.44	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.6:18HP cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	17.52	1.81	20.78	2.08	24.31	2.41	25.52	2.47	27.68	2.67	30.72	3.00	34.16	3.23
	-10	17.52	1.95	20.78	2.25	24.31	2.60	25.52	2.67	27.68	2.89	30.72	3.25	34.16	3.49
	-5	17.52	2.11	20.78	2.43	24.31	2.81	25.52	2.89	27.68	3.11	30.72	3.51	34.16	3.77
	-2	17.52	2.13	20.78	2.47	24.31	2.85	25.52	2.93	27.68	3.17	30.72	3.55	34.16	3.83
	0	17.52	2.16	20.78	2.52	24.31	2.90	25.52	2.97	27.68	3.21	30.72	3.61	34.16	3.89
	2	17.52	2.19	20.78	2.55	24.31	2.93	25.52	3.02	27.68	3.26	30.72	3.62	34.16	3.96
	4	17.52	2.21	20.78	2.59	24.31	2.97	25.52	3.05	27.68	3.32	30.72	3.71	34.16	4.05
	6	17.52	2.25	20.78	2.63	24.31	3.02	25.52	3.12	27.68	3.39	30.72	3.78	34.16	4.18
	8	17.52	2.31	20.78	2.68	24.31	3.08	25.52	3.18	27.68	3.42	30.72	3.83	34.16	4.32
	10	17.52	2.36	20.78	2.70	24.31	3.12	25.52	3.23	27.68	3.53	30.72	3.93	34.16	4.39
	12	17.52	2.37	20.78	2.74	24.31	3.17	25.52	3.30	27.68	3.60	30.72	4.00	34.16	4.46
	14	17.52	2.42	20.78	2.78	24.31	3.21	25.52	3.37	27.68	3.66	30.72	4.07	34.16	4.54
	16	17.52	2.44	20.78	2.81	24.31	3.26	25.52	3.43	27.68	3.72	30.72	4.14	34.16	4.61
	18	17.52	2.49	20.78	2.86	24.31	3.32	25.52	3.49	27.68	3.78	30.72	4.22	34.16	4.68
	20	17.52	2.51	20.78	2.91	24.31	3.37	25.52	3.53	27.68	3.85	30.72	4.29	34.16	4.78
	21	17.52	2.54	20.78	2.93	24.31	3.40	25.52	3.57	27.68	3.89	30.72	4.33	34.16	4.85
	23	17.52	2.57	20.78	2.96	24.31	3.46	25.52	3.65	27.68	3.94	30.72	4.40	34.16	4.94
	25	17.52	2.60	20.78	3.01	24.31	3.52	25.52	3.70	27.68	4.09	30.72	4.63	34.16	5.27
	27	17.52	2.65	20.78	3.14	24.31	3.71	25.52	3.96	27.68	4.33	30.72	4.94	34.16	5.62
	29	17.52	2.80	20.78	3.32	24.31	3.94	25.52	4.20	27.68	4.62	30.72	5.23	34.16	5.98
	31	17.52	2.96	20.78	3.52	24.31	4.17	25.52	4.46	27.68	4.89	30.72	5.59	34.16	6.37
	33	17.52	3.13	20.78	3.72	24.31	4.43	25.52	4.71	27.68	5.18	30.72	5.94	34.16	6.79
	35	17.52	3.31	20.78	3.93	24.31	4.69	25.52	4.98	27.68	5.49	30.72	6.30	34.16	7.20
37	17.52	3.49	20.78	4.15	24.31	4.96	25.52	5.28	27.68	5.83	30.72	6.69	34.16	7.65	
39	17.52	3.68	20.78	4.38	24.31	5.26	25.52	5.60	27.68	6.18	30.72	7.07	34.16	8.10	
41	17.52	3.83	20.78	4.57	24.31	5.45	25.52	5.86	27.68	6.45	30.72	7.47	34.16	8.48	
43	17.52	4.09	20.78	4.88	24.31	5.63	25.52	6.12	27.68	6.60	30.72	7.83	34.16	8.89	
46	17.52	4.18	20.78	4.99	24.31	6.03	25.52	6.59	27.68	6.89	30.72	8.58	34.16	9.62	
48	17.52	4.26	20.78	5.12	24.31	6.35	25.52	7.03	27.68	7.21	30.72	9.26	34.16	10.34	
50	16.64	4.14	19.74	4.99	23.09	6.15	24.25	6.82	26.30	7.01	29.18	9.00	32.45	10.05	
52	15.81	4.01	18.76	4.84	21.94	5.98	23.03	6.63	24.98	6.82	27.72	8.73	30.83	9.78	
55	15.02	3.90	17.82	4.70	20.84	5.81	21.88	6.43	23.73	6.63	26.34	8.48	29.28	9.47	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.7:20HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	19.24	2.09	22.98	2.43	26.95	2.82	28.97	2.97	30.83	3.14	33.93	3.50	38.56	3.85
	-10	19.24	2.26	22.98	2.62	26.95	3.04	28.97	3.20	30.83	3.38	33.93	3.77	38.56	4.15
	-5	19.24	2.45	22.98	2.83	26.95	3.29	28.97	3.47	30.83	3.66	33.93	4.07	38.56	4.50
	-2	19.24	2.47	22.98	2.88	26.95	3.32	28.97	3.52	30.83	3.72	33.93	4.14	38.56	4.54
	0	19.24	2.51	22.98	2.94	26.95	3.38	28.97	3.56	30.83	3.76	33.93	4.20	38.56	4.63
	2	19.24	2.55	22.98	2.97	26.95	3.44	28.97	3.62	30.83	3.83	33.93	4.23	38.56	4.73
	4	19.24	2.57	22.98	3.03	26.95	3.47	28.97	3.67	30.83	3.91	33.93	4.33	38.56	4.84
	6	19.24	2.62	22.98	3.06	26.95	3.53	28.97	3.74	30.83	3.98	33.93	4.39	38.56	4.97
	8	19.24	2.68	22.98	3.12	26.95	3.60	28.97	3.82	30.83	4.04	33.93	4.45	38.56	5.13
	10	19.24	2.74	22.98	3.15	26.95	3.64	28.97	3.89	30.83	4.14	33.93	4.59	38.56	5.22
	12	19.24	2.76	22.98	3.19	26.95	3.71	28.97	3.96	30.83	4.24	33.93	4.65	38.56	5.30
	14	19.24	2.79	22.98	3.24	26.95	3.75	28.97	4.04	30.83	4.29	33.93	4.73	38.56	5.41
	16	19.24	2.84	22.98	3.29	26.95	3.81	28.97	4.11	30.83	4.36	33.93	4.83	38.56	5.49
	18	19.24	2.88	22.98	3.34	26.95	3.88	28.97	4.17	30.83	4.43	33.93	4.90	38.56	5.60
	20	19.24	2.92	22.98	3.38	26.95	3.95	28.97	4.22	30.83	4.52	33.93	4.99	38.56	5.70
	21	19.24	2.93	22.98	3.42	26.95	3.98	28.97	4.27	30.83	4.57	33.93	5.04	38.56	5.75
	23	19.24	2.97	22.98	3.46	26.95	4.03	28.97	4.35	30.83	4.64	33.93	5.14	38.56	5.89
	25	19.24	3.02	22.98	3.53	26.95	4.11	28.97	4.44	30.83	4.80	33.93	5.39	38.56	6.28
	27	19.24	3.08	22.98	3.66	26.95	4.34	28.97	4.73	30.83	5.08	33.93	5.74	38.56	6.69
	29	19.24	3.25	22.98	3.87	26.95	4.62	28.97	5.01	30.83	5.42	33.93	6.11	38.56	7.13
	31	19.24	3.43	22.98	4.09	26.95	4.87	28.97	5.34	30.83	5.75	33.93	6.49	38.56	7.59
	33	19.24	3.63	22.98	4.34	26.95	5.19	28.97	5.62	30.83	6.09	33.93	6.89	38.56	8.05
	35	19.24	3.85	22.98	4.59	26.95	5.47	28.97	5.97	30.83	6.44	33.93	7.35	38.56	8.54
	37	19.24	4.03	22.98	4.84	26.95	5.81	28.97	6.32	30.83	6.84	33.93	7.79	38.56	9.11
	39	19.24	4.26	22.98	5.11	26.95	6.13	28.97	6.70	30.83	7.25	33.93	8.25	38.56	9.64
41	19.24	4.43	22.98	5.34	26.95	6.35	28.97	7.02	30.83	7.57	33.93	8.67	38.56	10.09	
43	19.24	4.72	22.98	5.70	26.95	6.60	28.97	7.33	30.83	7.78	33.93	9.13	38.56	10.57	
46	19.24	4.83	22.98	5.84	26.95	7.03	28.97	7.89	30.83	8.10	33.93	9.98	38.56	11.47	
48	19.24	4.93	22.98	6.00	26.95	7.42	28.97	8.41	30.83	8.49	33.93	10.78	38.56	12.35	
50	18.28	4.78	21.83	5.81	25.61	7.21	27.52	8.19	29.29	8.22	32.23	10.47	36.64	11.98	
52	17.36	4.64	20.74	5.65	24.33	7.01	26.15	7.96	27.83	8.01	30.62	10.15	34.80	11.65	
55	16.49	4.52	19.70	5.48	23.11	6.82	24.84	7.73	26.44	7.79	29.09	9.89	33.06	11.29	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.8:22HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	21.59	2.46	25.27	2.79	29.60	3.24	31.47	3.37	33.35	3.55	38.09	4.11	42.08	4.40
	-10	21.59	2.66	25.27	3.01	29.60	3.50	31.47	3.63	33.35	3.83	38.09	4.45	42.08	4.73
	-5	21.59	2.88	25.27	3.25	29.60	3.78	31.47	3.93	33.35	4.14	38.09	4.80	42.08	5.11
	-2	21.59	2.89	25.27	3.32	29.60	3.82	31.47	3.99	33.35	4.22	38.09	4.85	42.08	5.18
	0	21.59	2.94	25.27	3.38	29.60	3.88	31.47	4.04	33.35	4.26	38.09	4.94	42.08	5.27
	2	21.59	2.98	25.27	3.42	29.60	3.96	31.47	4.10	33.35	4.34	38.09	4.95	42.08	5.37
	4	21.59	3.00	25.27	3.48	29.60	3.99	31.47	4.16	33.35	4.43	38.09	5.09	42.08	5.52
	6	21.59	3.07	25.27	3.53	29.60	4.06	31.47	4.23	33.35	4.50	38.09	5.16	42.08	5.68
	8	21.59	3.14	25.27	3.59	29.60	4.12	31.47	4.34	33.35	4.57	38.09	5.24	42.08	5.86
	10	21.59	3.20	25.27	3.63	29.60	4.20	31.47	4.40	33.35	4.70	38.09	5.37	42.08	5.95
	12	21.59	3.22	25.27	3.68	29.60	4.27	31.47	4.49	33.35	4.80	38.09	5.48	42.08	6.05
	14	21.59	3.28	25.27	3.72	29.60	4.31	31.47	4.59	33.35	4.86	38.09	5.57	42.08	6.17
	16	21.59	3.33	25.27	3.77	29.60	4.38	31.47	4.66	33.35	4.93	38.09	5.67	42.08	6.25
	18	21.59	3.38	25.27	3.84	29.60	4.45	31.47	4.73	33.35	5.03	38.09	5.75	42.08	6.38
	20	21.59	3.42	25.27	3.89	29.60	4.52	31.47	4.80	33.35	5.13	38.09	5.85	42.08	6.49
	21	21.59	3.45	25.27	3.95	29.60	4.58	31.47	4.85	33.35	5.18	38.09	5.94	42.08	6.58
	23	21.59	3.50	25.27	4.00	29.60	4.64	31.47	4.95	33.35	5.27	38.09	6.01	42.08	6.70
	25	21.59	3.53	25.27	4.06	29.60	4.73	31.47	5.03	33.35	5.42	38.09	6.32	42.08	7.14
	27	21.59	3.61	25.27	4.22	29.60	5.00	31.47	5.37	33.35	5.76	38.09	6.73	42.08	7.63
	29	21.59	3.79	25.27	4.45	29.60	5.31	31.47	5.69	33.35	6.13	38.09	7.19	42.08	8.13
	31	21.59	4.02	25.27	4.72	29.60	5.61	31.47	6.04	33.35	6.50	38.09	7.63	42.08	8.66
	33	21.59	4.26	25.27	5.00	29.60	5.96	31.47	6.41	33.35	6.92	38.09	8.10	42.08	9.19
	35	21.59	4.50	25.27	5.29	29.60	6.30	31.47	6.76	33.35	7.29	38.09	8.59	42.08	9.78
	37	21.59	4.74	25.27	5.58	29.60	6.67	31.47	7.18	33.35	7.76	38.09	9.12	42.08	10.40
	39	21.59	5.00	25.27	5.87	29.60	7.04	31.47	7.60	33.35	8.21	38.09	9.69	42.08	11.01
41	21.59	5.20	25.27	6.14	29.60	7.32	31.47	7.95	33.35	8.58	38.09	10.19	42.08	11.55	
43	21.59	5.54	25.27	6.57	29.60	7.55	31.47	8.32	33.35	8.79	38.09	10.71	42.08	12.05	
46	21.59	5.67	25.27	6.75	29.60	8.08	31.47	8.96	33.35	9.15	38.09	11.77	42.08	13.09	
48	21.59	5.78	25.27	6.90	29.60	8.51	31.47	9.54	33.35	9.61	38.09	12.68	42.08	14.04	
50	20.51	5.62	24.00	6.70	28.12	8.27	29.90	9.28	31.68	9.34	36.18	12.28	39.98	13.64	
52	19.48	5.46	22.80	6.49	26.72	8.06	28.40	9.01	30.10	9.05	34.37	11.93	37.98	13.29	
55	18.51	5.30	21.66	6.31	25.38	7.80	26.98	8.78	28.59	8.80	32.65	11.60	36.08	12.87	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.9:24HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	23.54	2.67	27.54	3.01	31.95	3.46	34.50	3.66	36.69	3.85	40.87	4.36	45.78	4.74
	-10	23.54	2.87	27.54	3.26	31.95	3.75	34.50	3.95	36.69	4.18	40.87	4.71	45.78	5.10
	-5	23.54	3.11	27.54	3.52	31.95	4.05	34.50	4.27	36.69	4.51	40.87	5.09	45.78	5.53
	-2	23.54	3.13	27.54	3.60	31.95	4.09	34.50	4.32	36.69	4.59	40.87	5.16	45.78	5.60
	0	23.54	3.19	27.54	3.64	31.95	4.16	34.50	4.39	36.69	4.64	40.87	5.24	45.78	5.68
	2	23.54	3.23	27.54	3.69	31.95	4.23	34.50	4.46	36.69	4.71	40.87	5.26	45.78	5.81
	4	23.54	3.25	27.54	3.76	31.95	4.29	34.50	4.51	36.69	4.81	40.87	5.40	45.78	5.94
	6	23.54	3.32	27.54	3.81	31.95	4.34	34.50	4.61	36.69	4.89	40.87	5.46	45.78	6.12
	8	23.54	3.40	27.54	3.88	31.95	4.41	34.50	4.72	36.69	4.96	40.87	5.56	45.78	6.31
	10	23.54	3.46	27.54	3.93	31.95	4.48	34.50	4.80	36.69	5.11	40.87	5.71	45.78	6.42
	12	23.54	3.50	27.54	3.99	31.95	4.55	34.50	4.88	36.69	5.20	40.87	5.83	45.78	6.52
	14	23.54	3.54	27.54	4.02	31.95	4.62	34.50	5.00	36.69	5.29	40.87	5.90	45.78	6.66
	16	23.54	3.59	27.54	4.08	31.95	4.68	34.50	5.07	36.69	5.35	40.87	6.00	45.78	6.75
	18	23.54	3.65	27.54	4.15	31.95	4.77	34.50	5.13	36.69	5.47	40.87	6.11	45.78	6.89
	20	23.54	3.71	27.54	4.21	31.95	4.85	34.50	5.23	36.69	5.56	40.87	6.23	45.78	6.99
	21	23.54	3.73	27.54	4.25	31.95	4.90	34.50	5.27	36.69	5.62	40.87	6.29	45.78	7.10
	23	23.54	3.78	27.54	4.31	31.95	4.96	34.50	5.37	36.69	5.71	40.87	6.39	45.78	7.24
	25	23.54	3.82	27.54	4.38	31.95	5.08	34.50	5.46	36.69	5.89	40.87	6.71	45.78	7.71
	27	23.54	3.90	27.54	4.55	31.95	5.34	34.50	5.84	36.69	6.25	40.87	7.15	45.78	8.23
	29	23.54	4.12	27.54	4.82	31.95	5.68	34.50	6.18	36.69	6.66	40.87	7.62	45.78	8.79
	31	23.54	4.35	27.54	5.08	31.95	6.01	34.50	6.56	36.69	7.08	40.87	8.08	45.78	9.32
	33	23.54	4.60	27.54	5.41	31.95	6.39	34.50	6.95	36.69	7.51	40.87	8.61	45.78	9.89
	35	23.54	4.86	27.54	5.70	31.95	6.74	34.50	7.38	36.69	7.94	40.87	9.14	45.78	10.54
	37	23.54	5.11	27.54	6.03	31.95	7.16	34.50	7.81	36.69	8.43	40.87	9.70	45.78	11.17
	39	23.54	5.40	27.54	6.37	31.95	7.56	34.50	8.26	36.69	8.92	40.87	10.29	45.78	11.90
41	23.54	5.64	27.54	6.62	31.95	7.82	34.50	8.65	36.69	9.31	40.87	10.81	45.78	12.44	
43	23.54	5.99	27.54	7.09	31.95	8.12	34.50	9.05	36.69	9.55	40.87	11.37	45.78	13.02	
46	23.54	6.15	27.54	7.28	31.95	8.65	34.50	9.75	36.69	9.98	40.87	12.46	45.78	14.12	
48	23.54	6.25	27.54	7.44	31.95	9.12	34.50	10.36	36.69	10.46	40.87	13.47	45.78	15.13	
50	22.37	6.09	26.16	7.25	30.36	8.86	32.77	10.09	34.86	10.15	38.83	13.08	43.49	14.73	
52	21.25	5.90	24.85	7.01	28.84	8.63	31.14	9.79	33.12	9.86	36.89	12.72	41.32	14.33	
55	20.19	5.73	23.61	6.82	27.40	8.37	29.58	9.50	31.46	9.57	35.04	12.34	39.25	13.92	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.10:26HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	25.12	2.91	30.50	3.42	35.26	3.91	37.74	4.10	40.50	4.36	44.97	4.94	49.52	5.23
	-10	25.12	3.14	30.50	3.68	35.26	4.23	37.74	4.44	40.50	4.73	44.97	5.31	49.52	5.67
	-5	25.12	3.39	30.50	3.99	35.26	4.55	37.74	4.78	40.50	5.11	44.97	5.74	49.52	6.12
	-2	25.12	3.42	30.50	4.06	35.26	4.61	37.74	4.85	40.50	5.19	44.97	5.82	49.52	6.20
	0	25.12	3.48	30.50	4.12	35.26	4.69	37.74	4.91	40.50	5.25	44.97	5.94	49.52	6.30
	2	25.12	3.52	30.50	4.18	35.26	4.78	37.74	5.01	40.50	5.35	44.97	5.94	49.52	6.41
	4	25.12	3.57	30.50	4.26	35.26	4.83	37.74	5.05	40.50	5.44	44.97	6.09	49.52	6.60
	6	25.12	3.64	30.50	4.31	35.26	4.90	37.74	5.18	40.50	5.55	44.97	6.19	49.52	6.78
	8	25.12	3.71	30.50	4.40	35.26	4.99	37.74	5.29	40.50	5.64	44.97	6.30	49.52	7.00
	10	25.12	3.80	30.50	4.46	35.26	5.05	37.74	5.36	40.50	5.79	44.97	6.47	49.52	7.12
	12	25.12	3.81	30.50	4.49	35.26	5.15	37.74	5.49	40.50	5.90	44.97	6.58	49.52	7.22
	14	25.12	3.89	30.50	4.57	35.26	5.20	37.74	5.59	40.50	5.98	44.97	6.68	49.52	7.37
	16	25.12	3.92	30.50	4.61	35.26	5.28	37.74	5.69	40.50	6.08	44.97	6.80	49.52	7.47
	18	25.12	3.99	30.50	4.69	35.26	5.38	37.74	5.75	40.50	6.20	44.97	6.91	49.52	7.61
	20	25.12	4.05	30.50	4.77	35.26	5.46	37.74	5.86	40.50	6.32	44.97	7.02	49.52	7.74
	21	25.12	4.08	30.50	4.82	35.26	5.51	37.74	5.91	40.50	6.37	44.97	7.11	49.52	7.82
	23	25.12	4.13	30.50	4.88	35.26	5.61	37.74	6.02	40.50	6.50	44.97	7.21	49.52	7.99
	25	25.12	4.19	30.50	4.95	35.26	5.70	37.74	6.13	40.50	6.69	44.97	7.61	49.52	8.56
	27	25.12	4.28	30.50	5.16	35.26	6.02	37.74	6.53	40.50	7.08	44.97	8.10	49.52	9.12
	29	25.12	4.50	30.50	5.46	35.26	6.39	37.74	6.96	40.50	7.55	44.97	8.60	49.52	9.70
	31	25.12	4.76	30.50	5.75	35.26	6.77	37.74	7.38	40.50	8.03	44.97	9.13	49.52	10.32
	33	25.12	5.04	30.50	6.11	35.26	7.20	37.74	7.80	40.50	8.53	44.97	9.70	49.52	10.96
	35	25.12	5.34	30.50	6.47	35.26	7.61	37.74	8.25	40.50	9.00	44.97	10.30	49.52	11.66
37	25.12	5.61	30.50	6.83	35.26	8.06	37.74	8.74	40.50	9.56	44.97	10.93	49.52	12.38	
39	25.12	5.93	30.50	7.20	35.26	8.51	37.74	9.27	40.50	10.13	44.97	11.61	49.52	13.14	
41	25.12	6.16	30.50	7.50	35.26	8.82	37.74	9.68	40.50	10.55	44.97	12.26	49.52	13.80	
43	25.12	6.57	30.50	8.01	35.26	9.12	37.74	10.12	40.50	10.82	44.97	12.83	49.52	14.40	
46	25.12	6.72	30.50	8.21	35.26	9.77	37.74	10.91	40.50	11.29	44.97	14.07	49.52	15.64	
48	25.12	6.86	30.50	8.43	35.26	10.30	37.74	11.62	40.50	11.85	44.97	15.22	49.52	16.81	
50	23.86	6.65	28.98	8.19	33.49	9.99	35.85	11.32	38.48	11.48	42.73	14.77	47.04	16.33	
52	22.67	6.46	27.53	7.93	31.82	9.71	34.06	10.98	36.55	11.19	40.59	14.33	44.69	15.85	
55	21.53	6.27	26.15	7.72	30.23	9.41	32.36	10.66	34.73	10.86	38.56	13.95	42.45	15.41	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table 2-8.11: 28HP cooling capacity (continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	27.24	3.35	32.33	3.84	37.65	4.43	40.70	4.68	42.55	4.85	47.68	5.51	54.06	6.06
	-10	27.24	3.61	32.33	4.14	37.65	4.77	40.70	5.05	42.55	5.23	47.68	5.96	54.06	6.54
	-5	27.24	3.90	32.33	4.47	37.65	5.15	40.70	5.45	42.55	5.67	47.68	6.43	54.06	7.06
	-2	27.24	3.91	32.33	4.55	37.65	5.23	40.70	5.54	42.55	5.77	47.68	6.53	54.06	7.16
	0	27.24	3.98	32.33	4.63	37.65	5.30	40.70	5.61	42.55	5.82	47.68	6.63	54.06	7.29
	2	27.24	4.05	32.33	4.67	37.65	5.40	40.70	5.69	42.55	5.92	47.68	6.65	54.06	7.42
	4	27.24	4.08	32.33	4.77	37.65	5.45	40.70	5.76	42.55	6.05	47.68	6.82	54.06	7.60
	6	27.24	4.14	32.33	4.84	37.65	5.53	40.70	5.89	42.55	6.17	47.68	6.92	54.06	7.84
	8	27.24	4.26	32.33	4.92	37.65	5.62	40.70	6.02	42.55	6.24	47.68	7.04	54.06	8.10
	10	27.24	4.35	32.33	4.98	37.65	5.71	40.70	6.11	42.55	6.41	47.68	7.21	54.06	8.22
	12	27.24	4.37	32.33	5.05	37.65	5.83	40.70	6.24	42.55	6.54	47.68	7.36	54.06	8.36
	14	27.24	4.44	32.33	5.11	37.65	5.87	40.70	6.37	42.55	6.65	47.68	7.48	54.06	8.50
	16	27.24	4.49	32.33	5.18	37.65	5.97	40.70	6.47	42.55	6.74	47.68	7.61	54.06	8.63
	18	27.24	4.57	32.33	5.26	37.65	6.07	40.70	6.56	42.55	6.86	47.68	7.73	54.06	8.81
	20	27.24	4.64	32.33	5.34	37.65	6.19	40.70	6.65	42.55	7.01	47.68	7.88	54.06	8.96
	21	27.24	4.68	32.33	5.41	37.65	6.25	40.70	6.72	42.55	7.05	47.68	7.95	54.06	9.06
	23	27.24	4.72	32.33	5.46	37.65	6.34	40.70	6.85	42.55	7.20	47.68	8.10	54.06	9.24
	25	27.24	4.81	32.33	5.57	37.65	6.48	40.70	7.00	42.55	7.41	47.68	8.49	54.06	9.89
	27	27.24	4.88	32.33	5.80	37.65	6.82	40.70	7.44	42.55	7.85	47.68	9.08	54.06	10.54
	29	27.24	5.16	32.33	6.10	37.65	7.26	40.70	7.89	42.55	8.36	47.68	9.62	54.06	11.24
	31	27.24	5.44	32.33	6.46	37.65	7.65	40.70	8.37	42.55	8.90	47.68	10.23	54.06	11.96
	33	27.24	5.76	32.33	6.86	37.65	8.16	40.70	8.90	42.55	9.42	47.68	10.87	54.06	12.72
	35	27.24	6.10	32.33	7.24	37.65	8.60	40.70	9.41	42.55	9.99	47.68	11.56	54.06	13.51
	37	27.24	6.43	32.33	7.64	37.65	9.10	40.70	9.98	42.55	10.59	47.68	12.27	54.06	14.33
	39	27.24	6.76	32.33	8.07	37.65	9.63	40.70	10.52	42.55	11.20	47.68	13.03	54.06	15.24
41	27.24	7.05	32.33	8.42	37.65	9.97	40.70	11.02	42.55	11.73	47.68	13.69	54.06	15.92	
43	27.24	7.52	32.33	8.98	37.65	10.33	40.70	11.51	42.55	12.01	47.68	14.38	54.06	16.66	
46	27.24	7.71	32.33	9.21	37.65	11.06	40.70	12.40	42.55	12.55	47.68	15.79	54.06	18.04	
48	27.24	7.82	32.33	9.44	37.65	11.62	40.70	13.23	42.55	13.11	47.68	17.05	54.06	19.43	
50	25.87	7.60	30.71	9.16	35.76	11.33	38.67	12.85	40.42	12.77	45.30	16.53	51.36	18.88	
52	24.58	7.40	29.18	8.93	33.98	11.01	36.73	12.51	38.40	12.37	43.03	16.04	48.79	18.33	
55	23.35	7.18	27.72	8.64	32.28	10.69	34.90	12.15	36.48	12.03	40.88	15.63	46.35	17.79	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.12:30HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	29.27	3.71	35.08	4.31	40.55	4.92	43.90	5.24	46.68	5.53	52.87	6.35	57.57	6.68
	-10	29.27	4.02	35.08	4.67	40.55	5.33	43.90	5.67	46.68	5.98	52.87	6.85	57.57	7.23
	-5	29.27	4.34	35.08	5.04	40.55	5.76	43.90	6.11	46.68	6.44	52.87	7.41	57.57	7.80
	-2	29.27	4.37	35.08	5.12	40.55	5.84	43.90	6.20	46.68	6.55	52.87	7.51	57.57	7.90
	0	29.27	4.45	35.08	5.21	40.55	5.91	43.90	6.27	46.68	6.64	52.87	7.63	57.57	8.04
	2	29.27	4.51	35.08	5.27	40.55	6.03	43.90	6.38	46.68	6.76	52.87	7.65	57.57	8.18
	4	29.27	4.55	35.08	5.37	40.55	6.08	43.90	6.46	46.68	6.89	52.87	7.84	57.57	8.39
	6	29.27	4.63	35.08	5.47	40.55	6.19	43.90	6.59	46.68	7.03	52.87	7.98	57.57	8.64
	8	29.27	4.74	35.08	5.56	40.55	6.29	43.90	6.75	46.68	7.10	52.87	8.09	57.57	8.90
	10	29.27	4.85	35.08	5.61	40.55	6.39	43.90	6.84	46.68	7.33	52.87	8.31	57.57	9.05
	12	29.27	4.87	35.08	5.70	40.55	6.49	43.90	7.00	46.68	7.45	52.87	8.45	57.57	9.21
	14	29.27	4.94	35.08	5.77	40.55	6.57	43.90	7.12	46.68	7.56	52.87	8.61	57.57	9.39
	16	29.27	5.01	35.08	5.83	40.55	6.67	43.90	7.23	46.68	7.69	52.87	8.74	57.57	9.53
	18	29.27	5.11	35.08	5.93	40.55	6.78	43.90	7.36	46.68	7.81	52.87	8.91	57.57	9.72
	20	29.27	5.17	35.08	6.01	40.55	6.90	43.90	7.47	46.68	7.97	52.87	9.04	57.57	9.88
	21	29.27	5.20	35.08	6.09	40.55	6.98	43.90	7.55	46.68	8.03	52.87	9.16	57.57	10.02
	23	29.27	5.28	35.08	6.15	40.55	7.08	43.90	7.69	46.68	8.19	52.87	9.29	57.57	10.20
	25	29.27	5.35	35.08	6.26	40.55	7.20	43.90	7.82	46.68	8.43	52.87	9.77	57.57	10.87
	27	29.27	5.46	35.08	6.51	40.55	7.63	43.90	8.33	46.68	8.97	52.87	10.41	57.57	11.60
	29	29.27	5.75	35.08	6.89	40.55	8.10	43.90	8.86	46.68	9.56	52.87	11.08	57.57	12.37
	31	29.27	6.07	35.08	7.29	40.55	8.53	43.90	9.41	46.68	10.14	52.87	11.76	57.57	13.15
33	29.27	6.41	35.08	7.70	40.55	9.10	43.90	9.94	46.68	10.74	52.87	12.50	57.57	14.02	
35	29.27	6.79	35.08	8.14	40.55	9.59	43.90	10.51	46.68	11.38	52.87	13.31	57.57	14.86	
37	29.27	7.16	35.08	8.63	40.55	10.16	43.90	11.16	46.68	12.04	52.87	14.13	57.57	15.82	
39	29.27	7.57	35.08	9.08	40.55	10.76	43.90	11.82	46.68	12.79	52.87	14.97	57.57	16.74	
41	29.27	7.86	35.08	9.50	40.55	11.13	43.90	12.39	46.68	13.35	52.87	15.79	57.57	17.54	
43	29.27	8.39	35.08	10.11	40.55	11.54	43.90	12.89	46.68	13.67	52.87	16.56	57.57	18.31	
46	29.27	8.55	35.08	10.41	40.55	12.31	43.90	13.95	46.68	14.29	52.87	18.11	57.57	19.86	
48	29.27	8.73	35.08	10.67	40.55	12.99	43.90	14.84	46.68	14.97	52.87	19.61	57.57	21.43	
50	27.81	8.47	33.33	10.36	38.52	12.60	41.70	14.43	44.35	14.56	50.23	19.02	54.69	20.82	
52	26.42	8.23	31.66	10.03	36.60	12.27	39.62	14.00	42.13	14.11	47.71	18.45	51.96	20.18	
55	25.10	8.00	30.08	9.77	34.77	11.89	37.63	13.62	40.03	13.68	45.33	17.98	49.36	19.64	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.13:32HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	31.52	4.19	37.38	4.82	43.31	5.52	46.39	5.81	49.80	6.18	55.73	7.01	60.87	7.39
	-10	31.52	4.54	37.38	5.19	43.31	5.97	46.39	6.27	49.80	6.67	55.73	7.57	60.87	7.99
	-5	31.52	4.89	37.38	5.63	43.31	6.46	46.39	6.76	49.80	7.21	55.73	8.17	60.87	8.62
	-2	31.52	4.92	37.38	5.74	43.31	6.53	46.39	6.86	49.80	7.34	55.73	8.30	60.87	8.75
	0	31.52	5.02	37.38	5.84	43.31	6.65	46.39	6.94	49.80	7.42	55.73	8.43	60.87	8.90
	2	31.52	5.07	37.38	5.89	43.31	6.74	46.39	7.07	49.80	7.55	55.73	8.44	60.87	9.09
	4	31.52	5.14	37.38	6.01	43.31	6.83	46.39	7.14	49.80	7.71	55.73	8.68	60.87	9.29
	6	31.52	5.23	37.38	6.11	43.31	6.93	46.39	7.32	49.80	7.82	55.73	8.78	60.87	9.57
	8	31.52	5.35	37.38	6.19	43.31	7.05	46.39	7.45	49.80	7.94	55.73	8.96	60.87	9.89
	10	31.52	5.46	37.38	6.29	43.31	7.15	46.39	7.60	49.80	8.15	55.73	9.17	60.87	10.02
	12	31.52	5.50	37.38	6.37	43.31	7.27	46.39	7.73	49.80	8.33	55.73	9.33	60.87	10.21
	14	31.52	5.59	37.38	6.43	43.31	7.36	46.39	7.92	49.80	8.45	55.73	9.50	60.87	10.41
	16	31.52	5.67	37.38	6.51	43.31	7.47	46.39	8.04	49.80	8.60	55.73	9.65	60.87	10.56
	18	31.52	5.74	37.38	6.65	43.31	7.61	46.39	8.13	49.80	8.76	55.73	9.81	60.87	10.78
	20	31.52	5.83	37.38	6.70	43.31	7.74	46.39	8.27	49.80	8.92	55.73	9.98	60.87	10.96
	21	31.52	5.86	37.38	6.80	43.31	7.80	46.39	8.37	49.80	9.00	55.73	10.13	60.87	11.10
	23	31.52	5.94	37.38	6.89	43.31	7.91	46.39	8.51	49.80	9.14	55.73	10.28	60.87	11.34
	25	31.52	6.03	37.38	7.01	43.31	8.07	46.39	8.69	49.80	9.46	55.73	10.82	60.87	12.10
	27	31.52	6.14	37.38	7.28	43.31	8.53	46.39	9.23	49.80	10.01	55.73	11.51	60.87	12.85
	29	31.52	6.49	37.38	7.69	43.31	9.07	46.39	9.81	49.80	10.64	55.73	12.26	60.87	13.69
	31	31.52	6.85	37.38	8.13	43.31	9.56	46.39	10.44	49.80	11.32	55.73	13.03	60.87	14.60
	33	31.52	7.27	37.38	8.61	43.31	10.17	46.39	11.04	49.80	12.01	55.73	13.84	60.87	15.55
	35	31.52	7.64	37.38	9.10	43.31	10.77	46.39	11.68	49.80	12.70	55.73	14.70	60.87	16.46
37	31.52	8.08	37.38	9.62	43.31	11.38	46.39	12.37	49.80	13.48	55.73	15.58	60.87	17.49	
39	31.52	8.50	37.38	10.16	43.31	12.07	46.39	13.08	49.80	14.33	55.73	16.49	60.87	18.61	
41	31.52	8.85	37.38	10.62	43.31	12.47	46.39	13.72	49.80	14.93	55.73	17.37	60.87	19.43	
43	31.52	9.44	37.38	11.34	43.31	12.92	46.39	14.31	49.80	15.29	55.73	18.24	60.87	20.29	
46	31.52	9.66	37.38	11.64	43.31	13.82	46.39	15.44	49.80	15.96	55.73	20.07	60.87	22.07	
48	31.52	9.85	37.38	11.87	43.31	14.57	46.39	16.43	49.80	16.68	55.73	21.64	60.87	23.77	
50	29.94	9.60	35.51	11.56	41.15	14.13	44.07	16.01	47.31	16.26	52.94	21.04	57.83	23.09	
52	28.44	9.29	33.74	11.21	39.09	13.74	41.86	15.49	44.95	15.77	50.29	20.42	54.93	22.43	
55	27.02	9.04	32.05	10.90	37.13	13.33	39.77	15.09	42.70	15.33	47.78	19.81	52.19	21.70	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.14:34HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	33.47	4.55	39.96	5.24	46.35	6.04	48.50	6.17	51.52	6.52	58.38	7.49	65.08	8.07
	-10	33.47	4.91	39.96	5.68	46.35	6.52	48.50	6.66	51.52	7.03	58.38	8.08	65.08	8.71
	-5	33.47	5.29	39.96	6.13	46.35	7.05	48.50	7.19	51.52	7.60	58.38	8.73	65.08	9.39
	-2	33.47	5.33	39.96	6.25	46.35	7.10	48.50	7.29	51.52	7.73	58.38	8.85	65.08	9.55
	0	33.47	5.41	39.96	6.36	46.35	7.25	48.50	7.42	51.52	7.81	58.38	8.97	65.08	9.71
	2	33.47	5.51	39.96	6.44	46.35	7.37	48.50	7.51	51.52	7.93	58.38	9.04	65.08	9.88
	4	33.47	5.54	39.96	6.53	46.35	7.44	48.50	7.62	51.52	8.12	58.38	9.26	65.08	10.13
	6	33.47	5.66	39.96	6.63	46.35	7.56	48.50	7.78	51.52	8.27	58.38	9.38	65.08	10.42
	8	33.47	5.79	39.96	6.75	46.35	7.70	48.50	7.94	51.52	8.37	58.38	9.54	65.08	10.77
	10	33.47	5.92	39.96	6.85	46.35	7.79	48.50	8.06	51.52	8.61	58.38	9.81	65.08	10.92
	12	33.47	5.96	39.96	6.91	46.35	7.94	48.50	8.23	51.52	8.79	58.38	9.98	65.08	11.10
	14	33.47	6.02	39.96	7.00	46.35	8.04	48.50	8.40	51.52	8.93	58.38	10.15	65.08	11.35
	16	33.47	6.14	39.96	7.09	46.35	8.16	48.50	8.52	51.52	9.06	58.38	10.33	65.08	11.49
	18	33.47	6.20	39.96	7.23	46.35	8.28	48.50	8.68	51.52	9.22	58.38	10.50	65.08	11.72
	20	33.47	6.30	39.96	7.30	46.35	8.43	48.50	8.79	51.52	9.41	58.38	10.68	65.08	11.93
	21	33.47	6.34	39.96	7.41	46.35	8.51	48.50	8.89	51.52	9.47	58.38	10.81	65.08	12.04
	23	33.47	6.44	39.96	7.51	46.35	8.63	48.50	9.04	51.52	9.64	58.38	10.97	65.08	12.33
	25	33.47	6.51	39.96	7.64	46.35	8.79	48.50	9.22	51.52	9.94	58.38	11.52	65.08	13.16
	27	33.47	6.66	39.96	7.95	46.35	9.28	48.50	9.86	51.52	10.54	58.38	12.30	65.08	14.00
	29	33.47	7.01	39.96	8.39	46.35	9.88	48.50	10.42	51.52	11.24	58.38	13.04	65.08	14.95
31	33.47	7.39	39.96	8.86	46.35	10.44	48.50	11.07	51.52	11.91	58.38	13.92	65.08	15.92	
33	33.47	7.84	39.96	9.37	46.35	11.13	48.50	11.72	51.52	12.67	58.38	14.78	65.08	16.91	
35	33.47	8.30	39.96	9.93	46.35	11.70	48.50	12.42	51.52	13.40	58.38	15.67	65.08	17.99	
37	33.47	8.71	39.96	10.48	46.35	12.41	48.50	13.15	51.52	14.20	58.38	16.60	65.08	19.05	
39	33.47	9.22	39.96	11.08	46.35	13.16	48.50	13.92	51.52	15.10	58.38	17.63	65.08	20.29	
41	33.47	9.57	39.96	11.53	46.35	13.64	48.50	14.57	51.52	15.69	58.38	18.53	65.08	21.16	
43	33.47	10.23	39.96	12.31	46.35	14.09	48.50	15.21	51.52	16.15	58.38	19.51	65.08	22.16	
46	33.47	10.48	39.96	12.68	46.35	15.05	48.50	16.39	51.52	16.80	58.38	21.37	65.08	24.07	
48	33.47	10.69	39.96	12.96	46.35	15.90	48.50	17.53	51.52	17.62	58.38	23.07	65.08	25.82	
50	31.79	10.34	37.96	12.55	44.03	15.43	46.07	17.03	48.95	17.07	55.46	22.45	61.82	25.13	
52	30.20	10.06	36.06	12.21	41.83	14.95	43.77	16.56	46.50	16.63	52.69	21.79	58.73	24.36	
55	28.69	9.80	34.26	11.88	39.74	14.52	41.58	16.09	44.17	16.15	50.06	21.17	55.80	23.67	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.15:36HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	35.44	4.86	41.54	5.49	48.56	6.39	51.90	6.69	55.73	7.09	62.42	8.07	69.04	8.65
	-10	35.44	5.25	41.54	5.96	48.56	6.89	51.90	7.22	55.73	7.65	62.42	8.70	69.04	9.33
	-5	35.44	5.65	41.54	6.41	48.56	7.44	51.90	7.79	55.73	8.27	62.42	9.41	69.04	10.07
	-2	35.44	5.68	41.54	6.54	48.56	7.51	51.90	7.87	55.73	8.44	62.42	9.55	69.04	10.23
	0	35.44	5.79	41.54	6.66	48.56	7.64	51.90	8.01	55.73	8.55	62.42	9.71	69.04	10.39
	2	35.44	5.87	41.54	6.73	48.56	7.78	51.90	8.13	55.73	8.68	62.42	9.72	69.04	10.61
	4	35.44	5.94	41.54	6.86	48.56	7.85	51.90	8.19	55.73	8.84	62.42	9.97	69.04	10.87
	6	35.44	6.06	41.54	6.95	48.56	7.99	51.90	8.41	55.73	9.03	62.42	10.12	69.04	11.17
	8	35.44	6.18	41.54	7.08	48.56	8.11	51.90	8.59	55.73	9.16	62.42	10.29	69.04	11.55
	10	35.44	6.31	41.54	7.16	48.56	8.26	51.90	8.71	55.73	9.40	62.42	10.57	69.04	11.72
	12	35.44	6.35	41.54	7.25	48.56	8.38	51.90	8.92	55.73	9.59	62.42	10.77	69.04	11.91
	14	35.44	6.46	41.54	7.35	48.56	8.49	51.90	9.08	55.73	9.74	62.42	10.95	69.04	12.11
	16	35.44	6.54	41.54	7.46	48.56	8.62	51.90	9.23	55.73	9.86	62.42	11.12	69.04	12.29
	18	35.44	6.65	41.54	7.57	48.56	8.77	51.90	9.39	55.73	10.08	62.42	11.34	69.04	12.53
	20	35.44	6.72	41.54	7.68	48.56	8.88	51.90	9.52	55.73	10.25	62.42	11.49	69.04	12.79
	21	35.44	6.78	41.54	7.79	48.56	9.01	51.90	9.60	55.73	10.32	62.42	11.65	69.04	12.89
	23	35.44	6.88	41.54	7.84	48.56	9.12	51.90	9.80	55.73	10.54	62.42	11.86	69.04	13.21
	25	35.44	6.97	41.54	8.01	48.56	9.32	51.90	9.96	55.73	10.85	62.42	12.43	69.04	14.11
	27	35.44	7.13	41.54	8.33	48.56	9.82	51.90	10.63	55.73	11.53	62.42	13.27	69.04	15.03
	29	35.44	7.47	41.54	8.78	48.56	10.43	51.90	11.27	55.73	12.28	62.42	14.07	69.04	15.99
	31	35.44	7.93	41.54	9.32	48.56	11.05	51.90	11.96	55.73	12.99	62.42	14.97	69.04	17.01
	33	35.44	8.39	41.54	9.87	48.56	11.75	51.90	12.70	55.73	13.85	62.42	15.92	69.04	18.06
	35	35.44	8.87	41.54	10.41	48.56	12.37	51.90	13.45	55.73	14.62	62.42	16.92	69.04	19.22
	37	35.44	9.32	41.54	11.02	48.56	13.13	51.90	14.20	55.73	15.55	62.42	17.91	69.04	20.47
	39	35.44	9.84	41.54	11.63	48.56	13.89	51.90	15.03	55.73	16.48	62.42	19.00	69.04	21.70
41	35.44	10.23	41.54	12.12	48.56	14.36	51.90	15.74	55.73	17.18	62.42	20.01	69.04	22.74	
43	35.44	10.93	41.54	12.93	48.56	14.88	51.90	16.46	55.73	17.63	62.42	21.00	69.04	23.71	
46	35.44	11.20	41.54	13.24	48.56	15.88	51.90	17.72	55.73	18.39	62.42	23.08	69.04	25.67	
48	35.44	11.40	41.54	13.58	48.56	16.74	51.90	18.92	55.73	19.22	62.42	24.89	69.04	27.72	
50	33.66	11.07	39.47	13.18	46.13	16.31	49.31	18.41	52.94	18.69	59.29	24.18	65.59	26.85	
52	31.98	10.76	37.49	12.79	43.82	15.83	46.84	17.87	50.29	18.12	56.33	23.49	62.31	26.16	
55	30.38	10.44	35.62	12.42	41.63	15.38	44.50	17.37	47.78	17.63	53.51	22.86	59.19	25.31	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.16:38HP cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	36.62	5.10	43.65	5.91	50.52	6.75	55.06	7.21	58.66	7.61	64.63	8.51	72.74	9.26
	-10	36.62	5.53	43.65	6.36	50.52	7.29	55.06	7.78	58.66	8.25	64.63	9.20	72.74	10.01
	-5	36.62	5.97	43.65	6.88	50.52	7.88	55.06	8.41	58.66	8.88	64.63	9.95	72.74	10.84
	-2	36.62	5.99	43.65	7.01	50.52	7.97	55.06	8.54	58.66	9.08	64.63	10.08	72.74	10.96
	0	36.62	6.11	43.65	7.13	50.52	8.11	55.06	8.63	58.66	9.17	64.63	10.22	72.74	11.13
	2	36.62	6.20	43.65	7.21	50.52	8.25	55.06	8.80	58.66	9.29	64.63	10.27	72.74	11.38
	4	36.62	6.24	43.65	7.34	50.52	8.33	55.06	8.89	58.66	9.51	64.63	10.54	72.74	11.66
	6	36.62	6.37	43.65	7.46	50.52	8.47	55.06	9.09	58.66	9.68	64.63	10.69	72.74	12.00
	8	36.62	6.53	43.65	7.58	50.52	8.63	55.06	9.28	58.66	9.81	64.63	10.88	72.74	12.42
	10	36.62	6.64	43.65	7.67	50.52	8.76	55.06	9.44	58.66	10.09	64.63	11.13	72.74	12.61
	12	36.62	6.71	43.65	7.77	50.52	8.90	55.06	9.62	58.66	10.28	64.63	11.37	72.74	12.78
	14	36.62	6.81	43.65	7.87	50.52	8.99	55.06	9.83	58.66	10.43	64.63	11.57	72.74	13.05
	16	36.62	6.90	43.65	7.99	50.52	9.13	55.06	9.98	58.66	10.61	64.63	11.76	72.74	13.22
	18	36.62	7.01	43.65	8.14	50.52	9.28	55.06	10.14	58.66	10.82	64.63	11.95	72.74	13.47
	20	36.62	7.10	43.65	8.22	50.52	9.44	55.06	10.30	58.66	11.00	64.63	12.12	72.74	13.75
	21	36.62	7.16	43.65	8.34	50.52	9.55	55.06	10.39	58.66	11.08	64.63	12.29	72.74	13.85
	23	36.62	7.26	43.65	8.42	50.52	9.68	55.06	10.59	58.66	11.32	64.63	12.48	72.74	14.17
	25	36.62	7.35	43.65	8.59	50.52	9.86	55.06	10.77	58.66	11.67	64.63	13.14	72.74	15.15
	27	36.62	7.50	43.65	8.91	50.52	10.42	55.06	11.48	58.66	12.33	64.63	13.98	72.74	16.10
	29	36.62	7.88	43.65	9.42	50.52	11.10	55.06	12.20	58.66	13.18	64.63	14.86	72.74	17.22
	31	36.62	8.34	43.65	9.97	50.52	11.74	55.06	12.93	58.66	13.99	64.63	15.83	72.74	18.31
33	36.62	8.84	43.65	10.53	50.52	12.45	55.06	13.73	58.66	14.82	64.63	16.80	72.74	19.43	
35	36.62	9.32	43.65	11.12	50.52	13.16	55.06	14.53	58.66	15.67	64.63	17.81	72.74	20.60	
37	36.62	9.81	43.65	11.80	50.52	13.92	55.06	15.37	58.66	16.69	64.63	18.98	72.74	22.00	
39	36.62	10.37	43.65	12.46	50.52	14.76	55.06	16.26	58.66	17.66	64.63	20.08	72.74	23.29	
41	36.62	10.79	43.65	12.98	50.52	15.29	55.06	17.02	58.66	18.38	64.63	21.17	72.74	24.41	
43	36.62	11.50	43.65	13.83	50.52	15.81	55.06	17.81	58.66	18.93	64.63	22.24	72.74	25.42	
46	36.62	11.81	43.65	14.20	50.52	16.89	55.06	19.17	58.66	19.68	64.63	24.41	72.74	27.63	
48	36.62	12.03	43.65	14.53	50.52	17.81	55.06	20.48	58.66	20.67	64.63	26.30	72.74	29.78	
50	34.79	11.69	41.46	14.12	48.00	17.25	52.30	19.84	55.73	20.06	61.40	25.57	69.11	28.90	
52	33.05	11.33	39.39	13.70	45.60	16.82	49.69	19.31	52.94	19.48	58.33	24.77	65.65	28.05	
55	31.40	11.01	37.42	13.36	43.32	16.34	47.20	18.77	50.29	18.93	55.41	24.06	62.37	27.30	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.17:40HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	-15	38.62	5.59	46.25	6.46	54.69	7.58	57.78	7.86	60.97	8.22	68.96	9.43	76.72	10.15
	-10	38.62	6.04	46.25	6.99	54.69	8.20	57.78	8.48	60.97	8.87	68.96	10.17	76.72	10.96
	-5	38.62	6.51	46.25	7.56	54.69	8.86	57.78	9.15	60.97	9.56	68.96	10.97	76.72	11.81
	-2	38.62	6.56	46.25	7.69	54.69	8.94	57.78	9.28	60.97	9.73	68.96	11.10	76.72	11.97
	0	38.62	6.66	46.25	7.85	54.69	9.10	57.78	9.42	60.97	9.85	68.96	11.29	76.72	12.16
	2	38.62	6.75	46.25	7.93	54.69	9.24	57.78	9.55	60.97	10.03	68.96	11.36	76.72	12.40
	4	38.62	6.83	46.25	8.05	54.69	9.35	57.78	9.65	60.97	10.24	68.96	11.63	76.72	12.76
	6	38.62	6.95	46.25	8.19	54.69	9.51	57.78	9.86	60.97	10.41	68.96	11.80	76.72	13.13
	8	38.62	7.14	46.25	8.34	54.69	9.65	57.78	10.12	60.97	10.58	68.96	12.01	76.72	13.55
	10	38.62	7.28	46.25	8.41	54.69	9.79	57.78	10.24	60.97	10.84	68.96	12.35	76.72	13.77
	12	38.62	7.32	46.25	8.53	54.69	9.96	57.78	10.47	60.97	11.10	68.96	12.53	76.72	13.97
	14	38.62	7.43	46.25	8.64	54.69	10.07	57.78	10.71	60.97	11.24	68.96	12.73	76.72	14.21
	16	38.62	7.54	46.25	8.77	54.69	10.24	57.78	10.83	60.97	11.41	68.96	12.99	76.72	14.44
	18	38.62	7.63	46.25	8.92	54.69	10.43	57.78	10.99	60.97	11.60	68.96	13.22	76.72	14.73
	20	38.62	7.76	46.25	9.01	54.69	10.58	57.78	11.17	60.97	11.82	68.96	13.42	76.72	14.99
	21	38.62	7.82	46.25	9.13	54.69	10.70	57.78	11.30	60.97	11.96	68.96	13.61	76.72	15.17
	23	38.62	7.90	46.25	9.26	54.69	10.89	57.78	11.50	60.97	12.19	68.96	13.79	76.72	15.52
	25	38.62	8.02	46.25	9.43	54.69	11.06	57.78	11.72	60.97	12.57	68.96	14.50	76.72	16.57
	27	38.62	8.17	46.25	9.77	54.69	11.68	57.78	12.52	60.97	13.27	68.96	15.46	76.72	17.60
	29	38.62	8.62	46.25	10.33	54.69	12.43	57.78	13.24	60.97	14.18	68.96	16.42	76.72	18.81
	31	38.62	9.11	46.25	10.92	54.69	13.12	57.78	14.11	60.97	15.05	68.96	17.50	76.72	20.00
	33	38.62	9.63	46.25	11.58	54.69	13.94	57.78	14.88	60.97	15.98	68.96	18.55	76.72	21.24
	35	38.62	10.18	46.25	12.25	54.69	14.74	57.78	15.76	60.97	16.92	68.96	19.76	76.72	22.57
	37	38.62	10.74	46.25	12.95	54.69	15.66	57.78	16.67	60.97	17.94	68.96	20.97	76.72	23.97
	39	38.62	11.35	46.25	13.68	54.69	16.55	57.78	17.72	60.97	19.02	68.96	22.14	76.72	25.40
41	38.62	11.77	46.25	14.22	54.69	17.10	57.78	18.55	60.97	19.82	68.96	23.32	76.72	26.69	
43	38.62	12.60	46.25	15.19	54.69	17.68	57.78	19.39	60.97	20.29	68.96	24.50	76.72	27.84	
46	38.62	12.89	46.25	15.60	54.69	18.89	57.78	20.85	60.97	21.20	68.96	26.87	76.72	30.11	
48	38.62	13.10	46.25	15.93	54.69	19.95	57.78	22.24	60.97	22.22	68.96	29.00	76.72	32.50	
50	36.69	12.71	43.94	15.51	51.95	19.35	54.90	21.65	57.93	21.54	65.51	28.17	72.88	31.47	
52	34.86	12.36	41.74	15.05	49.36	18.83	52.15	20.94	55.03	20.91	62.23	27.39	69.24	30.69	
55	33.11	12.03	39.66	14.66	46.89	18.27	49.54	20.40	52.28	20.37	59.12	26.56	65.77	29.78	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

8.2 Heating Capacity Tables

Table2-8.18:8HP heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
130%	-30.0	-30.5	21.33	4.58	21.00	4.61	20.60	4.80	20.48	4.92	20.71	5.12	20.36	5.14
	-25.0	-25.4	21.77	4.57	21.43	4.61	21.02	4.80	20.90	4.91	21.14	5.13	20.77	5.14
	-19.8	-20.0	22.87	4.70	22.53	4.74	22.48	5.01	22.33	5.11	22.61	5.32	22.26	5.33
	-16.7	-17.0	23.41	4.84	23.05	4.89	23.01	5.09	22.94	5.22	23.14	5.43	22.79	5.44
	-13.7	-15.0	23.76	4.89	23.40	4.97	23.36	5.18	23.29	5.30	23.49	5.50	23.14	5.53
	-11.8	-13.0	24.11	4.98	23.75	5.05	23.71	5.28	23.64	5.40	23.85	5.61	23.58	5.61
	-9.8	-11.0	24.47	5.07	24.10	5.13	24.06	5.33	23.99	5.47	24.29	5.65	23.93	5.62
	-9.5	-10.0	24.65	5.12	24.28	5.20	24.32	5.42	24.17	5.55	24.47	5.75	24.10	5.69
	-8.5	-9.1	24.82	5.20	24.45	5.28	24.41	5.48	24.34	5.59	24.65	5.81	24.28	5.76
	-7.0	-7.6	25.09	5.21	24.72	5.35	24.76	5.53	24.60	5.65	24.91	5.88	24.54	5.84
	-5.0	-5.6	27.03	5.43	26.63	5.48	26.59	5.70	26.52	5.87	26.76	5.93	26.37	5.91
	-3.0	-3.7	27.38	5.56	26.98	5.58	26.95	5.80	26.87	5.95	27.11	6.01	26.72	5.97
	0.0	-0.7	27.91	5.72	27.51	5.63	27.47	5.88	27.39	6.01	27.65	6.10	27.33	6.02
	3.0	2.2	30.83	6.05	30.12	6.00	30.09	6.19	29.92	6.28	30.29	6.41	29.86	6.40
	5.0	4.1	38.33	7.33	36.38	7.16	35.87	7.15	34.37	6.87	33.39	6.89	30.30	6.51
	7.0	6.0	38.95	7.38	37.07	6.95	35.87	6.78	34.37	6.60	33.39	6.63	30.30	6.29
	9.0	7.9	38.95	7.01	37.07	6.62	35.87	6.57	34.37	6.47	33.39	6.44	30.30	6.15
	11.0	9.8	38.95	6.67	37.07	6.35	35.87	6.34	34.37	6.24	33.39	6.25	30.30	5.90
	13.0	11.8	38.95	6.35	37.07	6.16	35.87	6.18	34.37	6.15	33.39	6.13	30.30	5.81
	15.0	13.7	38.95	6.15	37.07	6.03	35.87	6.01	34.37	5.90	33.39	5.95	30.30	5.60
18.0	16.6	39.37	5.80	37.36	5.66	36.05	5.62	34.46	5.50	33.41	5.54	30.30	5.20	
21.0	19.5	39.60	5.39	37.46	5.25	36.05	5.19	34.46	5.11	33.41	5.13	30.30	4.82	
24.0	22.4	39.64	4.98	37.46	4.84	36.05	4.78	34.46	4.71	33.41	4.71	30.30	4.44	
27.0	25.3	39.64	4.56	37.46	4.43	36.05	4.39	34.46	4.32	33.41	4.33	30.30	4.07	
30.0	28.1	39.64	4.17	37.46	4.05	36.05	4.01	34.46	3.94	33.41	3.95	30.30	3.72	
120%	-30.0	-30.5	21.31	5.03	20.84	5.12	20.96	5.34	21.09	5.53	20.85	5.62	20.55	5.64
	-25.0	-25.4	21.74	5.03	21.26	5.13	21.38	5.34	21.52	5.53	21.28	5.61	20.97	5.62
	-19.8	-20.0	23.05	5.17	22.55	5.25	22.61	5.43	22.83	5.62	22.59	5.70	22.24	5.75
	-16.7	-17.0	23.58	5.32	23.07	5.34	23.14	5.62	23.36	5.79	23.12	5.88	22.85	5.83
	-13.7	-15.0	23.94	5.38	23.42	5.45	23.49	5.64	23.72	5.82	23.56	5.91	23.20	5.90
	-11.8	-13.0	24.30	5.47	23.78	5.50	23.89	5.71	24.07	5.88	23.92	5.97	23.55	5.97
	-9.8	-11.0	24.66	5.51	24.13	5.54	24.29	5.77	24.43	5.97	24.27	6.04	23.91	6.06
	-9.5	-10.0	24.83	5.56	24.30	5.58	24.47	5.80	24.61	6.00	24.45	6.08	24.08	6.14
	-8.5	-9.1	25.01	5.62	24.48	5.65	24.64	5.88	24.79	6.05	24.62	6.15	24.26	6.15
	-7.0	-7.6	25.28	5.72	24.74	5.76	24.91	5.93	25.05	6.14	24.89	6.23	24.52	6.21
	-5.0	-5.6	27.25	5.77	26.67	5.79	26.76	6.01	27.02	6.20	26.84	6.27	26.44	6.32
	-3.0	-3.7	27.60	5.86	27.02	5.90	27.11	6.09	27.37	6.27	27.10	6.36	26.79	6.36
	0.0	-0.7	28.14	5.93	27.55	5.97	27.64	6.12	27.91	6.31	27.72	6.41	27.32	6.40
	3.0	2.2	30.73	6.30	30.18	6.36	30.29	6.44	30.49	6.64	30.29	6.73	28.02	6.32
	5.0	4.1	38.68	7.06	35.71	6.86	33.39	6.81	32.37	6.73	30.91	6.60	28.02	6.14
	7.0	6.0	38.95	7.00	35.71	6.57	33.39	6.45	32.37	6.39	30.91	6.32	28.02	6.00
	9.0	7.9	38.95	6.71	35.71	6.29	33.39	6.26	32.37	6.19	30.91	6.13	28.02	5.81
	11.0	9.8	38.95	6.48	35.71	6.16	33.39	6.04	32.37	6.02	30.91	5.92	28.02	5.59
	13.0	11.8	38.95	6.33	35.71	5.99	33.39	5.88	32.37	5.92	30.91	5.82	28.02	5.48
	15.0	13.7	38.95	6.19	35.71	5.82	33.39	5.71	32.37	5.70	30.91	5.62	28.02	5.29
18.0	16.6	39.37	5.82	35.98	5.45	33.55	5.35	32.45	5.32	30.93	5.23	28.02	4.91	
21.0	19.5	39.60	5.42	36.08	5.06	33.55	4.95	32.45	4.93	30.93	4.84	28.02	4.55	
24.0	22.4	39.64	5.01	36.08	4.66	33.55	4.56	32.45	4.53	30.93	4.46	28.02	4.20	
27.0	25.3	39.64	4.60	36.08	4.29	33.55	4.18	32.45	4.16	30.93	4.09	28.02	3.85	
30.0	28.1	39.64	4.20	36.08	3.91	33.55	3.82	32.45	3.80	30.93	3.74	28.02	3.51	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.18:8HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
110%	-30.0	-30.5	21.18	5.10	21.05	5.20	20.90	5.30	21.19	5.29	20.90	5.35	21.27	5.58
	-25.0	-25.4	21.62	5.09	21.48	5.19	21.32	5.30	21.62	5.29	21.32	5.33	21.70	5.59
	-19.8	-20.0	22.55	5.16	22.42	5.28	22.29	5.37	22.56	5.36	22.24	5.41	22.65	5.64
	-16.7	-17.0	23.07	5.31	22.94	5.42	22.81	5.53	23.10	5.48	22.85	5.52	23.18	5.74
	-13.7	-15.0	23.42	5.37	23.29	5.46	23.16	5.57	23.45	5.50	23.20	5.55	23.54	5.79
	-11.8	-13.0	23.78	5.45	23.64	5.54	23.60	5.66	23.80	5.55	23.55	5.63	23.90	5.86
	-9.8	-11.0	24.13	5.44	23.99	5.56	23.95	5.65	24.16	5.66	23.91	5.69	24.25	5.95
	-9.5	-10.0	24.30	5.50	24.26	5.60	24.12	5.70	24.33	5.70	24.08	5.77	24.43	5.99
	-8.5	-9.1	24.48	5.56	24.34	5.67	24.30	5.76	24.51	5.75	24.26	5.81	24.61	6.07
	-7.0	-7.6	24.74	5.62	24.61	5.72	24.56	5.85	24.78	5.82	24.52	5.90	24.88	6.10
	-5.0	-5.6	26.67	5.70	26.53	5.81	26.39	5.92	26.72	5.87	26.44	5.90	26.12	6.02
	-3.0	-3.7	27.02	5.73	26.88	5.85	26.74	5.97	27.08	5.94	26.79	5.98	26.12	5.91
	0.0	-0.7	27.55	5.88	27.41	5.98	27.36	6.09	27.61	6.00	27.32	6.05	26.12	5.84
	3.0	2.2	30.09	6.15	30.03	6.25	29.89	6.34	29.47	6.23	28.02	6.08	26.12	5.78
	5.0	4.1	35.09	6.69	32.66	6.66	30.33	6.20	29.47	6.10	28.02	5.94	26.12	5.75
	7.0	6.0	35.09	6.46	32.66	6.28	30.33	5.89	29.47	5.81	28.02	5.66	26.12	5.63
	9.0	7.9	35.09	6.16	32.66	5.95	30.33	5.67	29.47	5.66	28.02	5.53	26.12	5.51
	11.0	9.8	35.09	5.94	32.66	5.73	30.33	5.51	29.47	5.46	28.02	5.35	26.12	5.35
	13.0	11.8	35.09	5.78	32.66	5.55	30.33	5.34	29.47	5.30	28.02	5.17	26.12	5.16
	15.0	13.7	35.09	5.59	32.66	5.37	30.33	5.16	29.47	5.11	28.02	5.01	26.12	4.98
18.0	16.6	35.47	5.27	32.91	5.02	30.48	4.84	29.54	4.78	28.03	4.66	26.12	4.63	
21.0	19.5	35.68	4.90	33.00	4.66	30.48	4.47	29.54	4.41	28.03	4.31	26.12	4.29	
24.0	22.4	35.71	4.52	33.00	4.30	30.48	4.13	29.54	4.07	28.03	3.97	26.12	3.96	
27.0	25.3	35.71	4.15	33.00	3.95	30.48	3.79	29.54	3.73	28.03	3.65	26.12	3.63	
30.0	28.1	35.71	3.79	33.00	3.60	30.48	3.45	29.54	3.41	28.03	3.33	26.12	3.31	
100%	-30.0	-30.5	21.07	6.33	20.80	6.33	20.54	6.37	20.88	6.49	20.94	6.55	20.84	6.62
	-25.0	-25.4	21.50	6.32	21.23	6.33	20.96	6.37	21.31	6.49	21.37	6.54	21.26	6.62
	-19.8	-20.0	22.50	6.31	22.22	6.34	21.94	6.40	22.31	6.49	22.37	6.54	22.26	6.57
	-16.7	-17.0	23.20	6.34	22.91	6.34	22.71	6.44	23.01	6.51	23.07	6.57	22.96	6.50
	-13.7	-15.0	23.55	6.36	23.26	6.36	23.06	6.46	23.35	6.52	23.42	6.58	23.31	6.42
	-11.8	-13.0	23.90	6.37	23.61	6.38	23.40	6.45	23.70	6.55	23.77	6.58	23.31	6.33
	-9.8	-11.0	24.08	6.38	23.87	6.38	23.57	6.47	23.96	6.54	23.95	6.59	23.31	6.34
	-9.5	-10.0	24.25	6.38	23.95	6.38	23.74	6.48	24.05	6.55	24.12	6.62	23.31	6.28
	-8.5	-9.1	24.51	6.40	24.30	6.40	24.00	6.50	24.31	6.54	24.38	6.60	23.31	6.17
	-7.0	-7.6	26.43	6.41	26.11	6.39	25.89	6.63	26.23	6.78	25.43	6.48	23.31	6.16
	-5.0	-5.6	26.78	6.41	26.46	6.40	26.23	6.47	26.40	6.61	25.43	6.29	23.31	5.99
	-3.0	-3.7	27.30	6.41	26.98	6.40	26.74	6.26	26.40	6.21	25.43	6.09	23.31	5.79
	0.0	-0.7	28.00	6.43	29.31	6.42	27.00	6.08	26.40	5.95	25.43	5.79	23.31	5.52
	3.0	2.2	29.83	6.28	29.31	6.25	27.00	5.91	26.40	5.65	25.43	5.45	23.31	5.27
	5.0	4.1	31.66	6.19	29.31	5.94	27.00	5.64	26.40	5.39	25.43	5.22	23.31	5.04
	7.0	6.0	31.66	6.11	29.31	5.65	27.00	5.27	26.40	5.11	25.43	5.02	23.31	4.81
	9.0	7.9	31.66	5.76	29.31	5.34	27.00	5.13	26.40	4.97	25.43	4.86	23.31	4.64
	11.0	9.8	31.66	5.40	29.31	5.00	27.00	4.95	26.40	4.78	25.43	4.69	23.31	4.47
	13.0	11.8	31.66	5.05	29.31	4.90	27.00	4.77	26.40	4.61	25.43	4.51	23.31	4.31
	15.0	13.7	31.66	4.81	29.31	4.69	27.00	4.60	26.40	4.44	25.43	4.35	23.31	4.14
18.0	16.6	31.66	4.48	29.31	4.35	27.00	4.28	26.40	4.13	25.43	4.05	23.31	3.84	
21.0	19.5	31.66	4.14	29.31	4.04	27.00	3.96	26.40	3.82	25.43	3.75	23.31	3.56	
24.0	22.4	31.66	3.82	29.31	3.72	27.00	3.65	26.40	3.53	25.43	3.45	23.31	3.29	
27.0	25.3	31.66	3.50	29.31	3.41	27.00	3.35	26.40	3.24	25.43	3.16	23.31	3.02	
30.0	28.1	31.66	3.19	29.31	3.11	27.00	3.06	26.40	2.95	25.43	2.89	23.31	2.75	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.18:8HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
90%	-30.0	-30.5	21.36	6.46	20.88	6.40	21.23	6.59	20.98	6.60	21.20	6.70	20.99	6.29
	-25.0	-25.4	21.79	6.46	21.31	6.40	21.66	6.60	21.41	6.61	21.63	6.69	21.42	6.28
	-19.8	-20.0	22.72	6.55	22.24	6.50	22.60	6.70	22.35	6.67	22.58	6.80	21.42	6.15
	-16.7	-17.0	23.25	6.58	22.77	6.53	23.23	6.73	22.88	6.68	23.12	6.62	21.42	5.97
	-13.7	-15.0	23.61	6.58	23.12	6.54	23.58	6.74	23.23	6.69	23.38	6.48	21.42	5.84
	-11.8	-13.0	23.96	6.61	23.47	6.55	23.94	6.76	23.58	6.61	23.38	6.37	21.42	5.73
	-9.8	-11.0	24.32	6.60	23.91	6.57	24.30	6.77	24.02	6.48	23.38	6.23	21.42	5.63
	-9.5	-10.0	24.50	6.62	24.08	6.57	24.48	6.77	24.11	6.42	23.38	6.18	21.42	5.57
	-8.5	-9.1	24.67	6.62	24.17	6.58	24.66	6.76	24.11	6.36	23.38	6.13	21.42	5.54
	-7.0	-7.6	24.94	6.64	24.52	6.49	24.92	6.65	24.11	6.29	23.38	6.03	21.42	5.44
	-5.0	-5.6	26.90	6.65	26.36	6.20	25.37	6.37	24.11	6.07	23.38	5.85	21.42	5.29
	-3.0	-3.7	27.26	6.67	26.71	5.92	25.37	6.06	24.11	5.84	23.38	5.66	21.42	5.14
	0.0	-0.7	27.79	6.65	26.71	5.64	25.37	5.81	24.11	5.55	23.38	5.39	21.42	5.02
	3.0	2.2	29.13	6.66	26.71	5.34	25.37	5.47	24.11	5.35	23.38	5.14	21.42	4.85
	5.0	4.1	29.13	6.51	26.71	5.06	25.37	5.23	24.11	5.08	23.38	4.90	21.42	4.66
	7.0	6.0	29.13	5.66	26.71	4.97	25.37	4.88	24.11	4.65	23.38	4.51	21.42	4.14
	9.0	7.9	29.13	5.31	26.71	4.89	25.37	4.65	24.11	4.42	23.38	4.30	21.42	3.98
	11.0	9.8	29.13	4.99	26.71	4.62	25.37	4.42	24.11	4.22	23.38	4.13	21.42	3.84
	13.0	11.8	29.13	4.72	26.71	4.39	25.37	4.23	24.11	4.05	23.38	3.96	21.42	3.73
	15.0	13.7	29.13	4.53	26.71	4.22	25.37	4.08	24.11	3.93	23.38	3.87	21.42	3.63
18.0	16.6	29.13	4.22	26.71	3.93	25.37	3.79	24.11	3.66	23.38	3.60	21.42	3.38	
21.0	19.5	29.13	3.90	26.71	3.63	25.37	3.51	24.11	3.39	23.38	3.33	21.42	3.12	
24.0	22.4	29.13	3.60	26.71	3.35	25.37	3.24	24.11	3.12	23.38	3.07	21.42	2.88	
27.0	25.3	29.13	3.30	26.71	3.07	25.37	2.98	24.11	2.87	23.38	2.82	21.42	2.64	
30.0	28.1	29.13	3.02	26.71	2.80	25.37	2.72	24.11	2.61	23.38	2.57	21.42	2.42	
80%	-30.0	-30.5	20.96	6.72	21.03	6.87	20.96	6.58	20.93	6.32	20.01	6.02	18.59	5.54
	-25.0	-25.4	21.39	6.72	21.46	6.87	21.39	6.59	21.35	6.34	20.42	6.02	18.97	5.54
	-19.8	-20.0	22.24	6.48	22.32	6.60	22.05	6.32	21.35	6.07	20.42	5.76	18.97	5.28
	-16.7	-17.0	22.77	6.49	22.85	6.61	22.05	6.13	21.35	5.88	20.42	5.58	18.97	5.12
	-13.7	-15.0	23.12	6.50	23.21	6.61	22.05	5.99	21.35	5.79	20.42	5.48	18.97	5.02
	-11.8	-13.0	23.47	6.50	23.56	6.49	22.05	5.88	21.35	5.67	20.42	5.36	18.97	4.93
	-9.8	-11.0	23.82	6.53	23.91	6.37	22.05	5.77	21.35	5.56	20.42	5.27	18.97	4.83
	-9.5	-10.0	23.99	6.54	23.91	6.30	22.05	5.72	21.35	5.50	20.42	5.20	18.97	4.80
	-8.5	-9.1	24.17	6.52	23.91	6.24	22.05	5.67	21.35	5.45	20.42	5.16	18.97	4.75
	-7.0	-7.6	24.43	6.55	23.91	6.15	22.05	5.59	21.35	5.38	20.42	5.10	18.97	4.69
	-5.0	-5.6	25.48	6.41	23.91	5.96	22.05	5.41	21.35	5.21	20.42	4.96	18.97	4.56
	-3.0	-3.7	25.48	6.63	23.91	5.74	22.05	5.18	21.35	5.01	20.42	4.78	18.97	4.43
	0.0	-0.7	25.48	6.56	23.91	5.47	22.05	5.00	21.35	4.86	20.42	4.63	18.97	4.32
	3.0	2.2	25.48	6.04	23.91	5.16	22.05	4.71	21.35	4.70	20.42	4.45	18.97	4.15
	5.0	4.1	25.48	5.55	23.91	4.87	22.05	4.50	21.35	4.49	20.42	4.24	18.97	4.08
	7.0	6.0	25.48	4.85	23.91	4.56	22.05	4.21	21.35	4.08	20.42	3.89	18.97	3.66
	9.0	7.9	25.48	4.60	23.91	4.35	22.05	4.02	21.35	3.92	20.42	3.76	18.97	3.54
	11.0	9.8	25.48	4.38	23.91	4.15	22.05	3.86	21.35	3.79	20.42	3.63	18.97	3.45
	13.0	11.8	25.48	4.18	23.91	3.98	22.05	3.73	21.35	3.66	20.42	3.53	18.97	3.37
	15.0	13.7	25.48	4.02	23.91	3.86	22.05	3.64	21.35	3.57	20.42	3.46	18.97	3.31
18.0	16.6	25.48	3.74	23.91	3.58	22.05	3.38	21.35	3.32	20.42	3.21	18.97	3.08	
21.0	19.5	25.48	3.47	23.91	3.31	22.05	3.13	21.35	3.08	20.42	2.98	18.97	2.85	
24.0	22.4	25.48	3.19	23.91	3.06	22.05	2.89	21.35	2.83	20.42	2.74	18.97	2.62	
27.0	25.3	25.48	2.93	23.91	2.81	22.05	2.65	21.35	2.60	20.42	2.52	18.97	2.41	
30.0	28.1	25.48	2.67	23.91	2.56	22.05	2.42	21.35	2.38	20.42	2.30	18.97	2.20	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

V8 VRF 50/60Hz



Table 2-8.18: 8HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	21.60	6.78	20.71	6.42	18.96	6.17	18.37	6.13	17.86	6.11	16.19	5.82
	-25.0	-25.4	22.05	6.79	21.13	6.42	19.35	6.18	18.74	6.14	18.22	6.12	16.52	5.82
	-19.8	-20.0	22.05	6.47	21.13	6.08	19.35	5.84	18.74	5.78	18.22	5.78	16.52	5.47
	-16.7	-17.0	22.22	6.26	21.13	5.89	19.35	5.67	18.74	5.62	18.22	5.61	16.52	5.30
	-13.7	-15.0	22.22	6.15	21.13	5.78	19.35	5.57	18.74	5.51	18.22	5.49	16.52	5.20
	-11.8	-13.0	22.22	6.03	21.13	5.67	19.35	5.48	18.74	5.42	18.22	5.40	16.52	5.11
	-9.8	-11.0	22.22	5.90	21.13	5.55	19.35	5.38	18.74	5.31	18.22	5.29	16.52	5.01
	-9.5	-10.0	22.22	5.84	21.13	5.50	19.35	5.23	18.74	5.19	18.22	5.15	16.52	4.87
	-8.5	-9.1	22.22	5.81	21.13	5.45	19.35	5.07	18.74	5.01	18.22	4.97	16.52	4.69
	-7.0	-7.6	22.22	5.71	21.13	5.37	19.35	4.85	18.74	4.78	18.22	4.74	16.52	4.47
	-5.0	-5.6	22.22	5.54	21.13	5.22	19.35	4.71	18.74	4.65	18.22	4.61	16.52	4.35
	-3.0	-3.7	22.22	5.23	21.13	5.05	19.35	4.58	18.74	4.52	18.22	4.48	16.52	4.19
	0.0	-0.7	22.22	4.96	21.13	4.85	19.35	4.39	18.74	4.32	18.22	4.29	16.52	4.00
	3.0	2.2	22.22	4.68	21.13	4.57	19.35	4.12	18.74	4.04	18.22	4.00	16.52	3.73
	5.0	4.1	22.22	4.48	21.13	4.28	19.35	3.97	18.74	3.89	18.22	3.85	16.52	3.58
	7.0	6.0	22.22	4.30	21.13	4.09	19.35	3.76	18.74	3.68	18.22	3.66	16.52	3.38
	9.0	7.9	22.22	4.12	21.13	3.94	19.35	3.63	18.74	3.56	18.22	3.51	16.52	3.24
	11.0	9.8	22.22	3.95	21.13	3.82	19.35	3.49	18.74	3.40	18.22	3.37	16.52	3.10
	13.0	11.8	22.22	3.81	21.13	3.64	19.35	3.31	18.74	3.24	18.22	3.19	16.52	2.92
	15.0	13.7	22.22	3.67	21.13	3.49	19.35	3.19	18.74	3.11	18.22	3.06	16.52	2.80
18.0	16.6	22.22	3.41	21.13	3.25	19.35	2.96	18.74	2.89	18.22	2.84	16.52	2.61	
21.0	19.5	22.22	3.16	21.13	3.01	19.35	2.74	18.74	2.67	18.22	2.63	16.52	2.41	
24.0	22.4	22.22	2.92	21.13	2.77	19.35	2.53	18.74	2.47	18.22	2.42	16.52	2.22	
27.0	25.3	22.22	2.67	21.13	2.55	19.35	2.32	18.74	2.26	18.22	2.23	16.52	2.04	
30.0	28.1	22.22	2.44	21.13	2.32	19.35	2.11	18.74	2.07	18.22	2.03	16.52	1.86	
60%	-30.0	-30.5	18.67	6.33	17.66	6.04	16.23	5.72	15.77	5.64	15.05	5.40	13.72	5.06
	-25.0	-25.4	19.05	6.33	18.02	6.04	16.57	5.72	16.09	5.64	15.35	5.39	14.00	5.06
	-19.8	-20.0	19.05	5.99	18.02	5.77	16.57	5.52	16.09	5.38	15.35	5.15	14.00	4.81
	-16.7	-17.0	19.05	5.65	18.02	5.41	16.57	5.15	16.09	5.02	15.35	4.75	14.00	4.45
	-13.7	-15.0	19.05	5.46	18.02	5.23	16.57	4.99	16.09	4.82	15.35	4.57	14.00	4.26
	-11.8	-13.0	19.05	5.27	18.02	5.05	16.57	4.80	16.09	4.66	15.35	4.37	14.00	4.08
	-9.8	-11.0	19.05	5.09	18.02	4.86	16.57	4.56	16.09	4.44	15.35	4.19	14.00	3.92
	-9.5	-10.0	19.05	4.90	18.02	4.66	16.57	4.38	16.09	4.26	15.35	4.01	14.00	3.72
	-8.5	-9.1	19.05	4.71	18.02	4.49	16.57	4.19	16.09	4.07	15.35	3.82	14.00	3.50
	-7.0	-7.6	19.05	4.54	18.02	4.31	16.57	4.05	16.09	3.93	15.35	3.68	14.00	3.35
	-5.0	-5.6	19.05	4.36	18.02	4.13	16.57	3.85	16.09	3.78	15.35	3.52	14.00	3.20
	-3.0	-3.7	19.05	4.21	18.02	3.97	16.57	3.67	16.09	3.62	15.35	3.38	14.00	3.08
	0.0	-0.7	19.05	4.05	18.02	3.83	16.57	3.51	16.09	3.45	15.35	3.20	14.00	3.02
	3.0	2.2	19.05	3.87	18.02	3.64	16.57	3.38	16.09	3.31	15.35	3.05	14.00	2.92
	5.0	4.1	19.05	3.66	18.02	3.49	16.57	3.25	16.09	3.16	15.35	2.97	14.00	2.84
	7.0	6.0	19.05	3.49	18.02	3.33	16.57	3.11	16.09	3.04	15.35	2.95	14.00	2.80
	9.0	7.9	19.05	3.43	18.02	3.25	16.57	3.06	16.09	2.97	15.35	2.83	14.00	2.67
	11.0	9.8	19.05	3.39	18.02	3.21	16.57	2.97	16.09	2.89	15.35	2.77	14.00	2.62
	13.0	11.8	19.05	3.28	18.02	3.11	16.57	2.88	16.09	2.83	15.35	2.72	14.00	2.57
	15.0	13.7	19.05	3.24	18.02	3.04	16.57	2.80	16.09	2.76	15.35	2.65	14.00	2.48
18.0	16.6	19.05	3.00	18.02	2.84	16.57	2.61	16.09	2.57	15.35	2.46	14.00	2.30	
21.0	19.5	19.05	2.78	18.02	2.62	16.57	2.41	16.09	2.37	15.35	2.28	14.00	2.14	
24.0	22.4	19.05	2.57	18.02	2.42	16.57	2.22	16.09	2.18	15.35	2.10	14.00	1.97	
27.0	25.3	19.05	2.36	18.02	2.22	16.57	2.04	16.09	2.00	15.35	1.92	14.00	1.81	
30.0	28.1	19.05	2.15	18.02	2.02	16.57	1.86	16.09	1.83	15.35	1.76	14.00	1.65	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.18:8HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	15.62	5.25	14.73	5.01	13.70	4.79	13.23	4.73	12.59	4.56	11.40	4.19
	-25.0	-25.4	15.94	5.25	15.03	5.01	13.98	4.78	13.50	4.74	12.84	4.56	11.63	4.20
	-19.8	-20.0	15.94	4.97	15.03	4.78	13.98	4.61	13.50	4.52	12.84	4.35	11.63	3.98
	-16.7	-17.0	15.94	4.68	15.03	4.48	13.98	4.30	13.50	4.21	12.84	4.03	11.63	3.68
	-13.7	-15.0	15.94	4.53	15.03	4.34	13.98	4.17	13.50	4.04	12.84	3.88	11.63	3.53
	-11.8	-13.0	15.94	4.37	15.03	4.17	13.98	4.00	13.50	3.91	12.84	3.71	11.63	3.38
	-9.8	-11.0	15.94	4.24	15.03	4.03	13.98	3.82	13.50	3.73	12.84	3.56	11.63	3.25
	-9.5	-10.0	15.94	4.08	15.03	3.86	13.98	3.66	13.50	3.56	12.84	3.40	11.63	3.07
	-8.5	-9.1	15.94	3.91	15.03	3.72	13.98	3.51	13.50	3.41	12.84	3.26	11.63	2.90
	-7.0	-7.6	15.94	3.77	15.03	3.57	13.98	3.38	13.50	3.29	12.84	3.13	11.63	2.78
	-5.0	-5.6	15.94	3.63	15.03	3.44	13.98	3.22	13.50	3.15	12.84	3.01	11.63	2.64
	-3.0	-3.7	15.94	3.50	15.03	3.30	13.98	3.07	13.50	3.03	12.84	2.88	11.63	2.55
	0.0	-0.7	15.94	3.35	15.03	3.17	13.98	2.94	13.50	2.89	12.84	2.74	11.63	2.49
	3.0	2.2	15.94	3.21	15.03	3.02	13.98	2.83	13.50	2.78	12.84	2.61	11.63	2.48
	5.0	4.1	15.94	3.04	15.03	2.89	13.98	2.72	13.50	2.64	12.84	2.55	11.63	2.46
	7.0	6.0	15.94	2.90	15.03	2.77	13.98	2.59	13.50	2.54	12.84	2.50	11.63	2.39
	9.0	7.9	15.94	2.84	15.03	2.70	13.98	2.56	13.50	2.48	12.84	2.41	11.63	2.31
	11.0	9.8	15.94	2.81	15.03	2.66	13.98	2.48	13.50	2.41	12.84	2.36	11.63	2.27
	13.0	11.8	15.94	2.72	15.03	2.58	13.98	2.41	13.50	2.37	12.84	2.30	11.63	2.22
15.0	13.7	15.94	2.69	15.03	2.52	13.98	2.33	13.50	2.31	12.84	2.24	11.63	2.17	
18.0	16.6	15.94	2.50	15.03	2.35	13.98	2.17	13.50	2.15	12.84	2.08	11.63	2.01	
21.0	19.5	15.94	2.32	15.03	2.17	13.98	2.01	13.50	1.99	12.84	1.93	11.63	1.86	
24.0	22.4	15.94	2.13	15.03	2.00	13.98	1.85	13.50	1.84	12.84	1.78	11.63	1.72	
27.0	25.3	15.94	1.96	15.03	1.83	13.98	1.70	13.50	1.68	12.84	1.63	11.63	1.58	
30.0	28.1	15.94	1.79	15.03	1.67	13.98	1.55	13.50	1.53	12.84	1.49	11.63	1.44	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table 2-8.19: 10HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	°C DB	°C WB												
			kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	24.78	5.56	24.68	5.65	24.38	5.94	24.25	6.10	24.02	6.20	24.07	6.35
	-25.0	-25.4	25.29	5.56	25.19	5.67	24.88	5.94	24.75	6.10	24.51	6.20	24.56	6.35
	-19.8	-20.0	26.59	5.72	26.48	5.83	26.60	6.19	26.45	6.34	26.22	6.45	26.32	6.59
	-16.7	-17.0	27.20	5.87	27.10	6.01	27.22	6.30	27.17	6.46	26.84	6.57	26.95	6.73
	-13.7	-15.0	27.62	5.96	27.51	6.10	27.64	6.42	27.59	6.58	27.25	6.70	27.36	6.83
	-11.8	-13.0	28.02	6.05	27.92	6.22	28.05	6.55	28.00	6.70	27.66	6.81	27.87	6.93
	-9.8	-11.0	28.43	6.15	28.34	6.32	28.47	6.60	28.42	6.75	28.18	6.87	28.29	6.93
	-9.5	-10.0	28.64	6.24	28.53	6.37	28.78	6.72	28.62	6.86	28.37	6.96	28.50	7.05
	-8.5	-9.1	28.85	6.31	28.74	6.48	28.88	6.79	28.83	6.93	28.58	7.04	28.70	7.12
	-7.0	-7.6	29.15	6.32	29.05	6.56	29.30	6.84	29.14	6.99	28.89	7.13	29.01	7.21
	-5.0	-5.6	31.42	6.61	31.31	6.75	31.47	7.05	31.42	7.25	31.04	7.18	31.18	7.29
	-3.0	-3.7	31.82	6.77	31.72	6.84	31.88	7.18	31.82	7.36	31.45	7.28	31.60	7.38
	0.0	-0.7	32.44	6.96	32.33	6.91	32.50	7.27	32.44	7.46	32.07	7.40	32.32	7.45
	3.0	2.2	35.84	7.37	35.41	7.37	35.61	7.65	35.44	7.75	35.14	7.79	35.31	7.90
	5.0	4.1	44.55	8.90	42.76	8.80	42.44	8.83	40.72	8.54	38.73	8.36	35.82	8.07
	7.0	6.0	45.27	8.96	43.59	8.56	42.44	8.39	40.72	8.16	38.73	8.00	35.82	7.78
	9.0	7.9	45.27	8.51	43.59	8.15	42.44	8.13	40.72	8.01	38.73	7.80	35.82	7.59
	11.0	9.8	45.27	8.11	43.59	7.81	42.44	7.84	40.72	7.75	38.73	7.57	35.82	7.30
	13.0	11.8	45.27	7.72	43.59	7.56	42.44	7.63	40.72	7.61	38.73	7.41	35.82	7.19
15.0	13.7	45.27	7.47	43.59	7.41	42.44	7.44	40.72	7.31	38.73	7.21	35.82	6.91	
18.0	16.6	45.76	7.02	43.92	6.93	42.65	6.95	40.82	6.82	38.75	6.70	35.82	6.44	
21.0	19.5	46.03	6.55	44.04	6.45	42.65	6.43	40.82	6.31	38.75	6.20	35.82	5.96	
24.0	22.4	46.06	6.04	44.04	5.93	42.65	5.94	40.82	5.83	38.75	5.73	35.82	5.49	
27.0	25.3	46.06	5.53	44.04	5.45	42.65	5.43	40.82	5.35	38.75	5.25	35.82	5.04	
30.0	28.1	46.06	5.05	44.04	4.98	42.65	4.97	40.82	4.87	38.75	4.80	35.82	4.60	
120%	-30.0	-30.5	24.24	5.98	24.21	6.21	24.35	6.50	24.30	6.66	24.16	6.79	24.14	6.90
	-25.0	-25.4	24.74	5.99	24.71	6.22	24.85	6.50	24.79	6.64	24.65	6.80	24.63	6.90
	-19.8	-20.0	26.22	6.16	26.20	6.36	26.28	6.59	26.31	6.76	26.18	6.92	26.12	7.04
	-16.7	-17.0	26.84	6.33	26.82	6.47	26.89	6.80	26.92	6.95	26.79	7.11	26.84	7.16
	-13.7	-15.0	27.24	6.40	27.22	6.62	27.30	6.84	27.32	7.01	27.30	7.15	27.26	7.23
	-11.8	-13.0	27.65	6.51	27.63	6.66	27.76	6.93	27.74	7.09	27.71	7.26	27.66	7.31
	-9.8	-11.0	28.05	6.55	28.03	6.71	28.22	7.01	28.16	7.15	28.13	7.31	28.08	7.43
	-9.5	-10.0	28.26	6.62	28.24	6.77	28.43	7.05	28.35	7.21	28.32	7.36	28.27	7.54
	-8.5	-9.1	28.47	6.68	28.45	6.86	28.64	7.14	28.56	7.29	28.53	7.45	28.48	7.55
	-7.0	-7.6	28.78	6.81	28.76	6.98	28.95	7.21	28.87	7.37	28.84	7.52	28.80	7.62
	-5.0	-5.6	31.01	6.86	30.99	7.04	31.10	7.29	31.13	7.45	31.10	7.59	31.05	7.76
	-3.0	-3.7	31.42	6.97	31.40	7.16	31.51	7.39	31.54	7.53	31.41	7.70	31.47	7.81
	0.0	-0.7	32.02	7.07	32.01	7.25	32.12	7.44	32.15	7.62	32.12	7.77	32.08	7.87
	3.0	2.2	34.97	7.49	35.08	7.70	35.21	7.82	35.14	7.97	35.10	8.15	32.90	7.79
	5.0	4.1	44.02	8.40	41.50	8.32	38.80	8.24	37.30	8.09	35.82	8.01	32.90	7.53
	7.0	6.0	44.33	8.32	41.50	7.98	38.80	7.85	37.30	7.72	35.82	7.65	32.90	7.35
	9.0	7.9	44.33	7.98	41.50	7.65	38.80	7.60	37.30	7.45	35.82	7.44	32.90	7.14
	11.0	9.8	44.33	7.70	41.50	7.48	38.80	7.35	37.30	7.22	35.82	7.17	32.90	6.88
	13.0	11.8	44.33	7.51	41.50	7.27	38.80	7.13	37.30	7.10	35.82	7.04	32.90	6.73
	15.0	13.7	44.33	7.37	41.50	7.06	38.80	6.92	37.30	6.87	35.82	6.80	32.90	6.47
	18.0	16.6	44.81	6.93	41.82	6.63	38.99	6.47	37.40	6.39	35.84	6.32	32.90	6.02
21.0	19.5	45.07	6.45	41.93	6.15	38.99	6.01	37.40	5.92	35.84	5.86	32.90	5.58	
24.0	22.4	45.11	5.95	41.93	5.66	38.99	5.52	37.40	5.46	35.84	5.39	32.90	5.13	
27.0	25.3	45.11	5.45	41.93	5.19	38.99	5.08	37.40	5.00	35.84	4.94	32.90	4.71	
30.0	28.1	45.11	4.98	41.93	4.74	38.99	4.64	37.40	4.58	35.84	4.53	32.90	4.31	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.19:10HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
	-30.0	-30.5	24.57	6.17	24.90	6.42	24.59	6.52	24.86	6.48	24.72	6.61	24.52	6.73
	-25.0	-25.4	25.07	6.17	25.41	6.44	25.09	6.52	25.37	6.49	25.23	6.60	25.02	6.73
	-19.8	-20.0	26.15	6.26	26.53	6.51	26.23	6.61	26.48	6.58	26.32	6.68	26.12	6.80
	-16.7	-17.0	26.77	6.44	27.15	6.70	26.84	6.80	27.10	6.72	27.04	6.85	26.74	6.93
	-13.7	-15.0	27.17	6.51	27.56	6.76	27.26	6.85	27.52	6.76	27.46	6.86	27.15	6.97
	-11.8	-13.0	27.58	6.59	27.98	6.86	27.77	6.96	27.92	6.81	27.87	6.94	27.56	7.08
	-9.8	-11.0	27.98	6.60	28.40	6.87	28.18	6.97	28.34	6.95	28.29	7.03	27.97	7.16
	-9.5	-10.0	28.18	6.67	28.70	6.93	28.38	7.04	28.54	6.98	28.49	7.11	28.18	7.23
	-8.5	-9.1	28.39	6.76	28.80	7.01	28.59	7.10	28.75	7.03	28.70	7.20	28.38	7.31
	-7.0	-7.6	28.70	6.81	29.12	7.10	28.90	7.18	29.07	7.15	29.01	7.28	28.69	7.34
	-5.0	-5.6	30.93	6.90	31.39	7.17	31.05	7.28	31.35	7.21	31.29	7.32	30.13	7.26
	-3.0	-3.7	31.34	6.95	31.81	7.22	31.47	7.32	31.77	7.26	31.71	7.40	30.13	7.12
	0.0	-0.7	31.95	7.12	32.43	7.41	32.18	7.48	32.39	7.34	32.32	7.49	30.13	7.02
	3.0	2.2	34.90	7.43	35.54	7.73	35.17	7.81	34.57	7.61	33.15	7.54	30.13	6.98
	5.0	4.1	40.71	8.11	38.65	8.24	35.68	7.63	34.57	7.48	33.15	7.35	30.13	6.93
	7.0	6.0	40.71	7.83	38.65	7.76	35.68	7.24	34.57	7.12	33.15	7.00	30.13	6.78
	9.0	7.9	40.71	7.47	38.65	7.34	35.68	6.99	34.57	6.95	33.15	6.87	30.13	6.66
	11.0	9.8	40.71	7.20	38.65	7.09	35.68	6.80	34.57	6.70	33.15	6.62	30.13	6.42
13.0	11.8	40.71	6.99	38.65	6.86	35.68	6.56	34.57	6.51	33.15	6.39	30.13	6.22	
15.0	13.7	40.71	6.79	38.65	6.62	35.68	6.35	34.57	6.28	33.15	6.18	30.13	6.00	
18.0	16.6	41.15	6.37	38.95	6.22	35.86	5.94	34.66	5.85	33.17	5.76	30.13	5.57	
21.0	19.5	41.39	5.95	39.06	5.76	35.86	5.49	34.66	5.42	33.17	5.32	30.13	5.17	
24.0	22.4	41.43	5.48	39.06	5.33	35.86	5.07	34.66	5.00	33.17	4.92	30.13	4.77	
27.0	25.3	41.43	5.03	39.06	4.89	35.86	4.66	34.66	4.58	33.17	4.50	30.13	4.37	
30.0	28.1	41.43	4.58	39.06	4.45	35.86	4.24	34.66	4.19	33.17	4.11	30.13	4.00	
100%	-30.0	-30.5	24.57	7.69	24.40	7.75	23.97	7.77	24.34	7.90	24.13	7.88	24.27	8.06
	-25.0	-25.4	25.07	7.70	24.89	7.76	24.46	7.77	24.84	7.89	24.62	7.86	24.76	8.04
	-19.8	-20.0	26.22	7.69	26.05	7.75	25.61	7.81	26.01	7.89	25.78	7.90	25.93	8.01
	-16.7	-17.0	27.04	7.74	26.87	7.79	26.51	7.85	26.82	7.93	26.58	7.90	26.74	7.90
	-13.7	-15.0	27.45	7.74	27.27	7.80	26.90	7.87	27.22	7.95	26.98	7.92	27.14	7.81
	-11.8	-13.0	27.86	7.75	27.68	7.83	27.30	7.88	27.63	7.96	27.39	7.94	27.14	7.72
	-9.8	-11.0	28.05	7.75	27.97	7.83	27.50	7.89	27.93	7.98	27.59	7.94	27.14	7.71
	-9.5	-10.0	28.26	7.78	28.08	7.84	27.70	7.89	28.03	7.98	27.79	7.94	27.14	7.63
	-8.5	-9.1	28.57	7.79	28.49	7.84	28.00	7.92	28.34	7.98	28.09	7.95	27.14	7.54
	-7.0	-7.6	30.80	7.78	30.61	7.83	30.20	8.09	30.58	8.27	29.30	7.80	27.14	7.51
	-5.0	-5.6	31.21	7.80	31.02	7.85	30.60	7.90	30.77	8.04	29.30	7.55	27.14	7.28
	-3.0	-3.7	31.82	7.81	31.62	7.86	31.20	7.65	30.77	7.57	29.30	7.33	27.14	7.03
	0.0	-0.7	32.63	7.84	34.36	7.86	31.50	7.43	30.77	7.24	29.30	6.96	27.14	6.73
	3.0	2.2	34.77	7.67	34.36	7.66	31.50	7.22	30.77	6.88	29.30	6.55	27.14	6.39
	5.0	4.1	36.91	7.55	34.36	7.28	31.50	6.87	30.77	6.57	29.30	6.28	27.14	6.12
	7.0	6.0	36.91	7.45	34.36	6.92	31.50	6.44	30.77	6.23	29.30	6.04	27.14	5.86
	9.0	7.9	36.91	7.02	34.36	6.54	31.50	6.26	30.77	6.07	29.30	5.86	27.14	5.67
	11.0	9.8	36.91	6.57	34.36	6.13	31.50	6.05	30.77	5.81	29.30	5.64	27.14	5.43
	13.0	11.8	36.91	6.15	34.36	5.98	31.50	5.81	30.77	5.62	29.30	5.44	27.14	5.24
	15.0	13.7	36.91	5.86	34.36	5.74	31.50	5.61	30.77	5.41	29.30	5.24	27.14	5.02
18.0	16.6	36.91	5.44	34.36	5.34	31.50	5.21	30.77	5.04	29.30	4.87	27.14	4.68	
21.0	19.5	36.91	5.03	34.36	4.93	31.50	4.83	30.77	4.66	29.30	4.51	27.14	4.34	
24.0	22.4	36.91	4.64	34.36	4.56	31.50	4.45	30.77	4.29	29.30	4.16	27.14	3.99	
27.0	25.3	36.91	4.26	34.36	4.18	31.50	4.08	30.77	3.95	29.30	3.82	27.14	3.67	
30.0	28.1	36.91	3.89	34.36	3.81	31.50	3.73	30.77	3.59	29.30	3.49	27.14	3.35	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.19:10HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	24.64	7.77	24.31	7.79	24.19	7.85	24.12	7.95	24.65	8.16	24.34	7.62
	-25.0	-25.4	25.14	7.77	24.81	7.77	24.68	7.85	24.61	7.95	25.16	8.14	24.84	7.60
	-19.8	-20.0	26.20	7.92	25.90	7.93	25.75	7.99	25.70	8.02	26.27	8.26	24.84	7.45
	-16.7	-17.0	26.81	7.93	26.51	7.93	26.46	8.01	26.30	8.05	26.88	8.07	24.84	7.24
	-13.7	-15.0	27.23	7.92	26.92	7.96	26.87	8.02	26.71	8.04	27.20	7.88	24.84	7.09
	-11.8	-13.0	27.63	7.94	27.32	7.97	27.27	8.03	27.11	7.94	27.20	7.73	24.84	6.95
	-9.8	-11.0	28.05	7.95	27.84	7.99	27.68	8.05	27.63	7.78	27.20	7.60	24.84	6.81
	-9.5	-10.0	28.25	7.98	28.03	8.00	27.89	8.05	27.73	7.71	27.20	7.52	24.84	6.75
	-8.5	-9.1	28.46	8.00	28.14	7.99	28.08	8.02	27.73	7.65	27.20	7.45	24.84	6.69
	-7.0	-7.6	28.77	8.00	28.55	7.89	28.39	7.92	27.73	7.53	27.20	7.34	24.84	6.60
	-5.0	-5.6	31.02	7.99	30.69	7.55	28.89	7.61	27.73	7.29	27.20	7.10	24.84	6.41
	-3.0	-3.7	31.44	8.00	31.10	7.20	28.89	7.20	27.73	7.02	27.20	6.90	24.84	6.25
	0.0	-0.7	32.05	8.03	31.10	6.84	28.89	6.92	27.73	6.68	27.20	6.55	24.84	6.09
	3.0	2.2	33.60	8.02	31.10	6.49	28.89	6.52	27.73	6.44	27.20	6.24	24.84	5.87
	5.0	4.1	33.60	7.83	31.10	6.18	28.89	6.22	27.73	6.09	27.20	5.96	24.84	5.64
	7.0	6.0	33.60	6.81	31.10	6.07	28.89	5.82	27.73	5.59	27.20	5.49	24.84	5.02
	9.0	7.9	33.60	6.39	31.10	5.94	28.89	5.53	27.73	5.31	27.20	5.24	24.84	4.84
	11.0	9.8	33.60	6.03	31.10	5.61	28.89	5.26	27.73	5.08	27.20	5.01	24.84	4.65
	13.0	11.8	33.60	5.70	31.10	5.32	28.89	5.01	27.73	4.86	27.20	4.82	24.84	4.51
	15.0	13.7	33.60	5.47	31.10	5.14	28.89	4.87	27.73	4.72	27.20	4.69	24.84	4.41
18.0	16.6	33.60	5.07	31.10	4.79	28.89	4.53	27.73	4.38	27.20	4.36	24.84	4.09	
21.0	19.5	33.60	4.71	31.10	4.42	28.89	4.19	27.73	4.06	27.20	4.05	24.84	3.79	
24.0	22.4	33.60	4.33	31.10	4.08	28.89	3.86	27.73	3.74	27.20	3.72	24.84	3.49	
27.0	25.3	33.60	3.98	31.10	3.75	28.89	3.54	27.73	3.44	27.20	3.42	24.84	3.21	
30.0	28.1	33.60	3.63	31.10	3.43	28.89	3.24	27.73	3.14	27.20	3.13	24.84	2.93	
80%	-30.0	-30.5	24.85	8.32	24.31	8.27	24.36	8.02	24.41	7.71	23.19	7.28	21.60	6.74
	-25.0	-25.4	25.35	8.32	24.81	8.28	24.85	8.02	24.91	7.73	23.66	7.28	22.05	6.74
	-19.8	-20.0	26.37	8.02	25.80	7.96	25.62	7.67	24.91	7.40	23.66	6.97	22.05	6.41
	-16.7	-17.0	26.99	8.04	26.40	7.96	25.62	7.45	24.91	7.18	23.66	6.74	22.05	6.22
	-13.7	-15.0	27.41	8.07	26.82	8.00	25.62	7.28	24.91	7.03	23.66	6.62	22.05	6.11
	-11.8	-13.0	27.82	8.08	27.22	7.82	25.62	7.14	24.91	6.89	23.66	6.49	22.05	5.99
	-9.8	-11.0	28.24	8.07	27.63	7.70	25.62	7.02	24.91	6.78	23.66	6.37	22.05	5.87
	-9.5	-10.0	28.45	8.08	27.63	7.61	25.62	6.94	24.91	6.71	23.66	6.31	22.05	5.83
	-8.5	-9.1	28.65	8.10	27.63	7.53	25.62	6.88	24.91	6.66	23.66	6.24	22.05	5.78
	-7.0	-7.6	28.96	8.11	27.63	7.43	25.62	6.79	24.91	6.56	23.66	6.17	22.05	5.70
	-5.0	-5.6	30.21	7.94	27.63	7.20	25.62	6.59	24.91	6.35	23.66	6.01	22.05	5.54
	-3.0	-3.7	30.21	8.24	27.63	6.93	25.62	6.30	24.91	6.11	23.66	5.78	22.05	5.37
	0.0	-0.7	30.21	8.10	27.63	6.61	25.62	6.07	24.91	5.94	23.66	5.59	22.05	5.25
	3.0	2.2	30.21	7.49	27.63	6.24	25.62	5.73	24.91	5.72	23.66	5.39	22.05	5.04
	5.0	4.1	30.21	6.86	27.63	5.89	25.62	5.46	24.91	5.48	23.66	5.14	22.05	4.93
	7.0	6.0	30.21	6.02	27.63	5.52	25.62	5.11	24.91	4.98	23.66	4.73	22.05	4.43
	9.0	7.9	30.21	5.71	27.63	5.25	25.62	4.89	24.91	4.78	23.66	4.55	22.05	4.31
	11.0	9.8	30.21	5.41	27.63	5.01	25.62	4.71	24.91	4.62	23.66	4.40	22.05	4.19
	13.0	11.8	30.21	5.17	27.63	4.80	25.62	4.53	24.91	4.47	23.66	4.27	22.05	4.09
	15.0	13.7	30.21	4.98	27.63	4.66	25.62	4.42	24.91	4.35	23.66	4.18	22.05	4.02
18.0	16.6	30.21	4.64	27.63	4.33	25.62	4.11	24.91	4.05	23.66	3.89	22.05	3.74	
21.0	19.5	30.21	4.29	27.63	4.00	25.62	3.80	24.91	3.76	23.66	3.60	22.05	3.47	
24.0	22.4	30.21	3.96	27.63	3.69	25.62	3.51	24.91	3.46	23.66	3.32	22.05	3.18	
27.0	25.3	30.21	3.64	27.63	3.39	25.62	3.22	24.91	3.18	23.66	3.04	22.05	2.93	
30.0	28.1	30.21	3.32	27.63	3.10	25.62	2.94	24.91	2.90	23.66	2.77	22.05	2.67	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.19:10HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
70%	-30.0	-30.5	25.11	8.26	24.05	7.76	22.06	7.53	21.32	7.44	20.36	7.29	18.86	7.09
	-25.0	-25.4	25.62	8.25	24.54	7.76	22.51	7.50	21.75	7.44	20.78	7.29	19.25	7.10
	-19.8	-20.0	25.62	7.86	24.54	7.35	22.51	7.11	21.75	7.02	20.78	6.85	19.25	6.66
	-16.7	-17.0	25.82	7.61	24.54	7.13	22.51	6.89	21.75	6.83	20.78	6.65	19.25	6.47
	-13.7	-15.0	25.82	7.46	24.54	7.02	22.51	6.77	21.75	6.67	20.78	6.55	19.25	6.32
	-11.8	-13.0	25.82	7.30	24.54	6.88	22.51	6.66	21.75	6.58	20.78	6.42	19.25	6.21
	-9.8	-11.0	25.82	7.17	24.54	6.75	22.51	6.52	21.75	6.44	20.78	6.30	19.25	6.10
	-9.5	-10.0	25.82	7.10	24.54	6.66	22.51	6.36	21.75	6.29	20.78	6.14	19.25	5.93
	-8.5	-9.1	25.82	7.04	24.54	6.63	22.51	6.16	21.75	6.05	20.78	5.92	19.25	5.72
	-7.0	-7.6	25.82	6.95	24.54	6.53	22.51	5.88	21.75	5.80	20.78	5.66	19.25	5.45
	-5.0	-5.6	25.82	6.72	24.54	6.34	22.51	5.73	21.75	5.63	20.78	5.50	19.25	5.29
	-3.0	-3.7	25.82	6.37	24.54	6.14	22.51	5.57	21.75	5.48	20.78	5.32	19.25	5.11
	0.0	-0.7	25.82	6.03	24.54	5.87	22.51	5.32	21.75	5.24	20.78	5.08	19.25	4.88
	3.0	2.2	25.82	5.69	24.54	5.55	22.51	4.99	21.75	4.91	20.78	4.77	19.25	4.55
	5.0	4.1	25.82	5.42	24.54	5.21	22.51	4.82	21.75	4.72	20.78	4.57	19.25	4.36
	7.0	6.0	25.82	5.22	24.54	4.98	22.51	4.56	21.75	4.48	20.78	4.35	19.25	4.12
	9.0	7.9	25.82	4.99	24.54	4.79	22.51	4.41	21.75	4.31	20.78	4.19	19.25	3.95
	11.0	9.8	25.82	4.80	24.54	4.62	22.51	4.24	21.75	4.14	20.78	4.00	19.25	3.76
	13.0	11.8	25.82	4.62	24.54	4.43	22.51	4.02	21.75	3.93	20.78	3.80	19.25	3.56
	15.0	13.7	25.82	4.45	24.54	4.23	22.51	3.87	21.75	3.76	20.78	3.64	19.25	3.41
18.0	16.6	25.82	4.15	24.54	3.94	22.51	3.61	21.75	3.51	20.78	3.39	19.25	3.18	
21.0	19.5	25.82	3.83	24.54	3.65	22.51	3.33	21.75	3.25	20.78	3.14	19.25	2.94	
24.0	22.4	25.82	3.54	24.54	3.36	22.51	3.08	21.75	2.99	20.78	2.89	19.25	2.71	
27.0	25.3	25.82	3.24	24.54	3.09	22.51	2.82	21.75	2.75	20.78	2.65	19.25	2.48	
30.0	28.1	25.82	2.96	24.54	2.82	22.51	2.58	21.75	2.51	20.78	2.42	19.25	2.27	
60%	-30.0	-30.5	21.99	7.79	20.77	7.45	19.01	7.00	18.48	6.91	17.37	6.51	15.92	6.15
	-25.0	-25.4	22.44	7.79	21.19	7.44	19.40	7.02	18.86	6.90	17.73	6.51	16.25	6.14
	-19.8	-20.0	22.44	7.39	21.19	7.09	19.40	6.74	18.86	6.60	17.73	6.21	16.25	5.83
	-16.7	-17.0	22.44	6.96	21.19	6.64	19.40	6.31	18.86	6.15	17.73	5.73	16.25	5.40
	-13.7	-15.0	22.44	6.73	21.19	6.45	19.40	6.11	18.86	5.93	17.73	5.52	16.25	5.17
	-11.8	-13.0	22.44	6.49	21.19	6.20	19.40	5.88	18.86	5.72	17.73	5.27	16.25	4.93
	-9.8	-11.0	22.44	6.27	21.19	5.96	19.40	5.59	18.86	5.44	17.73	5.04	16.25	4.77
	-9.5	-10.0	22.44	6.05	21.19	5.74	19.40	5.35	18.86	5.22	17.73	4.82	16.25	4.50
	-8.5	-9.1	22.44	5.79	21.19	5.53	19.40	5.14	18.86	4.99	17.73	4.59	16.25	4.23
	-7.0	-7.6	22.44	5.59	21.19	5.28	19.40	4.96	18.86	4.83	17.73	4.43	16.25	4.06
	-5.0	-5.6	22.44	5.38	21.19	5.09	19.40	4.72	18.86	4.62	17.73	4.25	16.25	3.86
	-3.0	-3.7	22.44	5.18	21.19	4.89	19.40	4.50	18.86	4.43	17.73	4.06	16.25	3.73
	0.0	-0.7	22.44	4.98	21.19	4.69	19.40	4.30	18.86	4.23	17.73	3.86	16.25	3.65
	3.0	2.2	22.44	4.76	21.19	4.47	19.40	4.13	18.86	4.04	17.73	3.66	16.25	3.52
	5.0	4.1	22.44	4.52	21.19	4.28	19.40	3.98	18.86	3.86	17.73	3.57	16.25	3.45
	7.0	6.0	22.44	4.31	21.19	4.10	19.40	3.80	18.86	3.72	17.73	3.56	16.25	3.39
	9.0	7.9	22.44	4.24	21.19	4.01	19.40	3.73	18.86	3.62	17.73	3.41	16.25	3.25
	11.0	9.8	22.44	4.17	21.19	3.94	19.40	3.64	18.86	3.54	17.73	3.34	16.25	3.18
	13.0	11.8	22.44	4.03	21.19	3.81	19.40	3.53	18.86	3.46	17.73	3.27	16.25	3.10
	15.0	13.7	22.44	4.00	21.19	3.74	19.40	3.41	18.86	3.39	17.73	3.19	16.25	3.02
18.0	16.6	22.44	3.72	21.19	3.47	19.40	3.18	18.86	3.15	17.73	2.97	16.25	2.81	
21.0	19.5	22.44	3.44	21.19	3.22	19.40	2.94	18.86	2.92	17.73	2.75	16.25	2.60	
24.0	22.4	22.44	3.18	21.19	2.97	19.40	2.71	18.86	2.68	17.73	2.53	16.25	2.40	
27.0	25.3	22.44	2.91	21.19	2.72	19.40	2.49	18.86	2.47	17.73	2.33	16.25	2.19	
30.0	28.1	22.44	2.65	21.19	2.48	19.40	2.27	18.86	2.25	17.73	2.12	16.25	2.01	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.19:10HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	18.34	6.45	16.95	6.02	15.74	5.74	15.08	5.64	14.45	5.47	13.50	5.19
	-25.0	-25.4	18.72	6.43	17.30	6.03	16.06	5.74	15.39	5.64	14.74	5.46	13.78	5.19
	-19.8	-20.0	18.72	6.11	17.30	5.75	16.06	5.53	15.39	5.37	14.74	5.21	13.78	4.93
	-16.7	-17.0	18.72	5.75	17.30	5.38	16.06	5.17	15.39	4.99	14.74	4.82	13.78	4.56
	-13.7	-15.0	18.72	5.55	17.30	5.22	16.06	5.01	15.39	4.82	14.74	4.64	13.78	4.37
	-11.8	-13.0	18.72	5.36	17.30	5.02	16.06	4.80	15.39	4.65	14.74	4.46	13.78	4.17
	-9.8	-11.0	18.72	5.19	17.30	4.84	16.06	4.58	15.39	4.44	14.74	4.27	13.78	4.02
	-9.5	-10.0	18.72	5.01	17.30	4.65	16.06	4.39	15.39	4.25	14.74	4.08	13.78	3.81
	-8.5	-9.1	18.72	4.81	17.30	4.48	16.06	4.21	15.39	4.07	14.74	3.89	13.78	3.59
	-7.0	-7.6	18.72	4.62	17.30	4.28	16.06	4.07	15.39	3.93	14.74	3.75	13.78	3.43
	-5.0	-5.6	18.72	4.44	17.30	4.13	16.06	3.85	15.39	3.76	14.74	3.61	13.78	3.27
	-3.0	-3.7	18.72	4.29	17.30	3.96	16.06	3.69	15.39	3.61	14.74	3.44	13.78	3.15
	0.0	-0.7	18.72	4.11	17.30	3.81	16.06	3.51	15.39	3.44	14.74	3.28	13.78	3.09
	3.0	2.2	18.72	3.93	17.30	3.62	16.06	3.40	15.39	3.31	14.74	3.12	13.78	3.08
	5.0	4.1	18.72	3.73	17.30	3.47	16.06	3.26	15.39	3.16	14.74	3.06	13.78	3.04
	7.0	6.0	18.72	3.56	17.30	3.32	16.06	3.11	15.39	3.02	14.74	3.01	13.78	2.95
	9.0	7.9	18.72	3.50	17.30	3.25	16.06	3.06	15.39	2.96	14.74	2.88	13.78	2.86
	11.0	9.8	18.72	3.45	17.30	3.20	16.06	2.98	15.39	2.88	14.74	2.84	13.78	2.82
	13.0	11.8	18.72	3.33	17.30	3.10	16.06	2.89	15.39	2.81	14.74	2.77	13.78	2.74
15.0	13.7	18.72	3.30	17.30	3.03	16.06	2.81	15.39	2.75	14.74	2.69	13.78	2.68	
18.0	16.6	18.72	3.07	17.30	2.82	16.06	2.61	15.39	2.56	14.74	2.51	13.78	2.49	
21.0	19.5	18.72	2.83	17.30	2.62	16.06	2.42	15.39	2.38	14.74	2.32	13.78	2.30	
24.0	22.4	18.72	2.62	17.30	2.41	16.06	2.23	15.39	2.18	14.74	2.14	13.78	2.12	
27.0	25.3	18.72	2.40	17.30	2.21	16.06	2.04	15.39	2.01	14.74	1.96	13.78	1.95	
30.0	28.1	18.72	2.19	17.30	2.02	16.06	1.86	15.39	1.83	14.74	1.79	13.78	1.77	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table 2-8.20: 12HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
130%	-30.0	-30.5	29.31	7.15	29.76	7.43	29.20	7.73	28.82	7.86	28.80	8.08	28.63	8.20
	-25.0	-25.4	29.91	7.14	30.37	7.41	29.79	7.72	29.41	7.88	29.39	8.09	29.21	8.23
	-19.8	-20.0	31.44	7.35	31.92	7.64	31.86	8.04	31.44	8.17	31.44	8.38	31.31	8.50
	-16.7	-17.0	32.17	7.56	32.67	7.88	32.60	8.22	32.29	8.36	32.18	8.56	32.05	8.70
	-13.7	-15.0	32.66	7.66	33.16	7.99	33.10	8.34	32.79	8.49	32.66	8.69	32.54	8.81
	-11.8	-13.0	33.14	7.77	33.66	8.12	33.59	8.50	33.28	8.65	33.16	8.85	33.16	8.94
	-9.8	-11.0	33.63	7.90	34.15	8.27	34.10	8.58	33.78	8.71	33.78	8.94	33.65	8.97
	-9.5	-10.0	33.87	8.02	34.39	8.35	34.46	8.73	34.02	8.86	34.02	9.07	33.89	9.11
	-8.5	-9.1	34.11	8.13	34.65	8.49	34.59	8.82	34.26	8.97	34.26	9.15	34.13	9.20
	-7.0	-7.6	34.48	8.11	35.01	8.59	35.08	8.90	34.63	9.02	34.63	9.30	34.51	9.31
	-5.0	-5.6	37.15	8.48	37.74	8.83	37.68	9.18	37.33	9.37	37.20	9.34	37.09	9.44
	-3.0	-3.7	37.64	8.70	38.23	8.99	38.19	9.32	37.83	9.50	37.70	9.49	37.57	9.55
	0.0	-0.7	38.36	8.94	38.98	9.07	38.92	9.43	38.56	9.63	38.44	9.64	38.44	9.64
	3.0	2.2	42.38	9.46	42.69	9.66	42.64	9.95	42.12	10.04	42.12	10.11	42.00	10.23
	5.0	4.1	52.69	11.40	51.54	11.53	50.82	11.49	48.39	11.00	46.42	10.87	42.61	10.41
	7.0	6.0	53.54	11.52	52.54	11.19	50.82	10.93	48.39	10.54	46.42	10.43	42.61	10.07
	9.0	7.9	53.54	10.94	52.54	10.64	50.82	10.59	48.39	10.34	46.42	10.17	42.61	9.83
	11.0	9.8	53.54	10.40	52.54	10.23	50.82	10.22	48.39	9.98	46.42	9.86	42.61	9.45
	13.0	11.8	53.54	9.93	52.54	9.91	50.82	9.96	48.39	9.81	46.42	9.65	42.61	9.27
	15.0	13.7	53.54	9.60	52.54	9.72	50.82	9.69	48.39	9.45	46.42	9.38	42.61	8.94
	18.0	16.6	54.12	9.02	52.94	9.11	51.08	9.05	48.52	8.81	46.44	8.75	42.61	8.32
21.0	19.5	54.44	8.40	53.08	8.45	51.08	8.38	48.52	8.16	46.44	8.09	42.61	7.69	
24.0	22.4	54.48	7.75	53.08	7.80	51.08	7.70	48.52	7.51	46.44	7.46	42.61	7.09	
27.0	25.3	54.48	7.13	53.08	7.14	51.08	7.08	48.52	6.88	46.44	6.83	42.61	6.52	
30.0	28.1	54.48	6.50	53.08	6.51	51.08	6.47	48.52	6.28	46.44	6.25	42.61	5.94	
120%	-30.0	-30.5	29.37	7.87	29.24	8.15	29.11	8.42	29.06	8.64	28.69	8.76	29.09	9.07
	-25.0	-25.4	29.97	7.89	29.84	8.18	29.70	8.42	29.66	8.64	29.28	8.76	29.69	9.06
	-19.8	-20.0	31.77	8.10	31.65	8.38	31.41	8.56	31.47	8.79	31.07	8.92	31.48	9.24
	-16.7	-17.0	32.51	8.34	32.39	8.50	32.14	8.85	32.20	9.05	31.81	9.19	32.36	9.36
	-13.7	-15.0	33.00	8.44	32.88	8.66	32.63	8.89	32.69	9.11	32.41	9.21	32.85	9.45
	-11.8	-13.0	33.50	8.56	33.37	8.77	33.17	9.01	33.18	9.21	32.90	9.32	33.35	9.55
	-9.8	-11.0	33.98	8.60	33.87	8.84	33.74	9.11	33.68	9.33	33.39	9.44	33.84	9.75
	-9.5	-10.0	34.24	8.72	34.11	8.90	33.98	9.17	33.92	9.38	33.63	9.50	34.09	9.88
	-8.5	-9.1	34.48	8.78	34.35	8.99	34.22	9.26	34.17	9.47	33.88	9.59	34.34	9.88
	-7.0	-7.6	34.85	8.94	34.73	9.18	34.59	9.39	34.53	9.58	34.24	9.72	34.71	9.98
	-5.0	-5.6	37.56	9.02	37.43	9.24	37.17	9.46	37.24	9.70	36.92	9.79	37.44	10.15
	-3.0	-3.7	38.05	9.18	37.93	9.38	37.66	9.58	37.73	9.82	37.28	9.92	37.93	10.23
	0.0	-0.7	38.79	9.28	38.66	9.53	38.40	9.68	38.47	9.88	38.14	10.00	38.67	10.29
	3.0	2.2	42.36	9.86	42.36	10.14	42.08	10.16	42.03	10.37	41.67	10.51	39.66	10.19
	5.0	4.1	53.32	11.04	50.11	10.95	46.37	10.71	44.61	10.52	42.53	10.31	39.66	9.87
	7.0	6.0	53.69	11.00	50.11	10.48	46.37	10.19	44.61	10.03	42.53	9.89	39.66	9.63
	9.0	7.9	53.69	10.49	50.11	10.01	46.37	9.88	44.61	9.68	42.53	9.60	39.66	9.33
	11.0	9.8	53.69	10.15	50.11	9.78	46.37	9.53	44.61	9.39	42.53	9.25	39.66	8.99
	13.0	11.8	53.69	9.93	50.11	9.56	46.37	9.26	44.61	9.25	42.53	9.07	39.66	8.82
	15.0	13.7	53.69	9.71	50.11	9.27	46.37	9.00	44.61	8.90	42.53	8.77	39.66	8.51
	18.0	16.6	54.27	9.11	50.50	8.68	46.60	8.44	44.73	8.32	42.55	8.17	39.66	7.90
21.0	19.5	54.59	8.50	50.63	8.07	46.60	7.79	44.73	7.68	42.55	7.55	39.66	7.33	
24.0	22.4	54.64	7.84	50.63	7.44	46.60	7.19	44.73	7.10	42.55	6.95	39.66	6.75	
27.0	25.3	54.64	7.19	50.63	6.82	46.60	6.59	44.73	6.50	42.55	6.39	39.66	6.19	
30.0	28.1	54.64	6.57	50.63	6.23	46.60	6.03	44.73	5.95	42.55	5.83	39.66	5.65	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.20:12HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	30.01	8.19	29.31	8.24	29.08	8.38	29.74	8.42	29.04	8.41	29.06	8.65
	-25.0	-25.4	30.62	8.18	29.91	8.22	29.68	8.38	30.35	8.44	29.64	8.43	29.65	8.67
	-19.8	-20.0	31.95	8.32	31.23	8.32	31.01	8.51	31.67	8.54	30.92	8.52	30.95	8.76
	-16.7	-17.0	32.69	8.57	31.95	8.57	31.75	8.73	32.42	8.73	31.78	8.73	31.68	8.91
	-13.7	-15.0	33.20	8.65	32.45	8.66	32.23	8.80	32.91	8.80	32.26	8.78	32.17	8.97
	-11.8	-13.0	33.69	8.76	32.93	8.76	32.83	8.94	33.41	8.89	32.75	8.87	32.66	9.12
	-9.8	-11.0	34.19	8.76	33.42	8.79	33.32	8.92	33.90	9.05	33.23	8.97	33.15	9.21
	-9.5	-10.0	34.44	8.85	33.79	8.88	33.56	9.04	34.16	9.06	33.48	9.09	33.39	9.32
	-8.5	-9.1	34.68	8.96	33.91	8.96	33.82	9.11	34.40	9.16	33.72	9.17	33.63	9.41
	-7.0	-7.6	35.05	9.05	34.27	9.06	34.17	9.24	34.78	9.29	34.09	9.30	34.00	9.42
	-5.0	-5.6	37.79	9.18	36.95	9.16	36.73	9.35	37.51	9.36	36.77	9.34	35.70	9.35
	-3.0	-3.7	38.29	9.23	37.45	9.23	37.21	9.42	38.00	9.45	37.25	9.45	35.70	9.18
	0.0	-0.7	39.03	9.46	38.18	9.44	38.07	9.61	38.75	9.52	37.98	9.53	35.70	9.05
	3.0	2.2	42.64	9.87	41.84	9.89	41.59	10.04	41.35	9.92	38.95	9.59	35.70	8.97
	5.0	4.1	49.72	10.77	45.50	10.56	42.20	9.80	41.35	9.75	38.95	9.37	35.70	8.94
	7.0	6.0	49.72	10.37	45.50	9.94	42.20	9.30	41.35	9.27	38.95	8.94	35.70	8.71
	9.0	7.9	49.72	9.89	45.50	9.41	42.20	8.98	41.35	9.02	38.95	8.74	35.70	8.55
	11.0	9.8	49.72	9.56	45.50	9.07	42.20	8.72	41.35	8.71	38.95	8.47	35.70	8.29
	13.0	11.8	49.72	9.28	45.50	8.75	42.20	8.46	41.35	8.44	38.95	8.16	35.70	7.99
	15.0	13.7	49.72	9.01	45.50	8.49	42.20	8.17	41.35	8.14	38.95	7.91	35.70	7.71
	18.0	16.6	50.26	8.47	45.85	7.95	42.41	7.63	41.46	7.61	38.97	7.36	35.70	7.18
21.0	19.5	50.56	7.89	45.97	7.39	42.41	7.06	41.46	7.04	38.97	6.80	35.70	6.64	
24.0	22.4	50.60	7.29	45.97	6.81	42.41	6.51	41.46	6.50	38.97	6.27	35.70	6.12	
27.0	25.3	50.60	6.69	45.97	6.23	42.41	5.97	41.46	5.96	38.97	5.75	35.70	5.61	
30.0	28.1	50.60	6.10	45.97	5.71	42.41	5.45	41.46	5.45	38.97	5.26	35.70	5.13	
100%	-30.0	-30.5	29.10	9.91	28.98	9.98	28.53	10.04	29.15	10.26	29.12	10.31	29.00	10.44
	-25.0	-25.4	29.70	9.91	29.57	9.98	29.12	10.04	29.74	10.27	29.72	10.32	29.59	10.46
	-19.8	-20.0	31.08	9.92	30.95	10.03	30.48	10.11	31.14	10.27	31.11	10.34	30.98	10.40
	-16.7	-17.0	32.04	9.94	31.92	10.05	31.54	10.15	32.11	10.31	32.08	10.38	31.96	10.24
	-13.7	-15.0	32.52	9.96	32.40	10.06	32.03	10.18	32.59	10.32	32.56	10.39	32.45	10.13
	-11.8	-13.0	33.00	9.99	32.88	10.07	32.50	10.20	33.08	10.34	33.05	10.41	32.45	10.01
	-9.8	-11.0	33.24	9.99	33.24	10.11	32.74	10.21	33.45	10.34	33.29	10.42	32.45	10.00
	-9.5	-10.0	33.49	9.99	33.37	10.10	32.98	10.22	33.56	10.38	33.53	10.42	32.45	9.92
	-8.5	-9.1	33.84	10.01	33.84	10.12	33.34	10.24	33.93	10.38	33.90	10.45	32.45	9.76
	-7.0	-7.6	36.49	10.04	36.38	10.11	35.96	10.45	36.61	10.75	35.36	10.21	32.45	9.73
	-5.0	-5.6	36.98	10.02	36.85	10.11	36.43	10.20	36.85	10.45	35.36	9.94	32.45	9.45
	-3.0	-3.7	37.70	10.03	37.58	10.12	37.14	9.88	36.85	9.86	35.36	9.62	32.45	9.14
	0.0	-0.7	38.67	10.06	40.83	10.15	37.50	9.61	36.85	9.42	35.36	9.13	32.45	8.74
	3.0	2.2	41.19	9.85	40.83	9.90	37.50	9.33	36.85	8.93	35.36	8.58	32.45	8.31
	5.0	4.1	43.72	9.69	40.83	9.40	37.50	8.90	36.85	8.54	35.36	8.25	32.45	7.94
	7.0	6.0	43.72	9.56	40.83	8.93	37.50	8.31	36.85	8.10	35.36	7.91	32.45	7.61
	9.0	7.9	43.72	9.04	40.83	8.46	37.50	8.10	36.85	7.90	35.36	7.66	32.45	7.36
	11.0	9.8	43.72	8.47	40.83	7.94	37.50	7.82	36.85	7.56	35.36	7.40	32.45	7.05
	13.0	11.8	43.72	7.94	40.83	7.72	37.50	7.52	36.85	7.29	35.36	7.14	32.45	6.81
	15.0	13.7	43.72	7.55	40.83	7.40	37.50	7.25	36.85	7.06	35.36	6.86	32.45	6.54
	18.0	16.6	43.72	7.01	40.83	6.89	37.50	6.75	36.85	6.57	35.36	6.40	32.45	6.08
21.0	19.5	43.72	6.49	40.83	6.37	37.50	6.25	36.85	6.06	35.36	5.93	32.45	5.63	
24.0	22.4	43.72	5.99	40.83	5.87	37.50	5.76	36.85	5.59	35.36	5.47	32.45	5.20	
27.0	25.3	43.72	5.48	40.83	5.38	37.50	5.27	36.85	5.14	35.36	5.01	32.45	4.77	
30.0	28.1	43.72	5.01	40.83	4.93	37.50	4.81	36.85	4.68	35.36	4.57	32.45	4.34	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.20: 12HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	29.41	10.09	28.98	10.07	29.15	10.29	29.44	10.56	29.41	10.55	28.68	9.74
	-25.0	-25.4	30.01	10.09	29.57	10.08	29.75	10.28	30.04	10.55	30.01	10.58	29.27	9.74
	-19.8	-20.0	31.28	10.25	30.86	10.24	31.04	10.47	31.37	10.65	31.34	10.68	29.27	9.54
	-16.7	-17.0	32.02	10.28	31.59	10.26	31.89	10.50	32.10	10.67	32.07	10.43	29.27	9.27
	-13.7	-15.0	32.51	10.30	32.08	10.30	32.39	10.52	32.60	10.67	32.44	10.24	29.27	9.07
	-11.8	-13.0	33.00	10.31	32.56	10.32	32.87	10.52	33.10	10.54	32.44	10.02	29.27	8.89
	-9.8	-11.0	33.49	10.32	33.17	10.34	33.37	10.53	33.72	10.32	32.44	9.82	29.27	8.72
	-9.5	-10.0	33.74	10.36	33.42	10.33	33.61	10.54	33.84	10.22	32.44	9.73	29.27	8.64
	-8.5	-9.1	33.98	10.37	33.53	10.33	33.85	10.51	33.84	10.14	32.44	9.65	29.27	8.56
	-7.0	-7.6	34.35	10.38	34.02	10.20	34.22	10.40	33.84	10.01	32.44	9.50	29.27	8.43
	-5.0	-5.6	37.05	10.37	36.57	9.78	34.84	9.94	33.84	9.66	32.44	9.21	29.27	8.21
	-3.0	-3.7	37.53	10.39	37.06	9.33	34.84	9.46	33.84	9.31	32.44	8.90	29.27	8.00
	0.0	-0.7	38.27	10.41	37.06	8.86	34.84	9.04	33.84	8.85	32.44	8.48	29.27	7.78
	3.0	2.2	40.12	10.41	37.06	8.39	34.84	8.52	33.84	8.53	32.44	8.09	29.27	7.53
	5.0	4.1	40.12	10.16	37.06	8.00	34.84	8.16	33.84	8.09	32.44	7.74	29.27	7.21
	7.0	6.0	40.12	8.86	37.06	7.83	34.84	7.62	33.84	7.41	32.44	7.12	29.27	6.42
	9.0	7.9	40.12	8.30	37.06	7.69	34.84	7.23	33.84	7.07	32.44	6.78	29.27	6.18
	11.0	9.8	40.12	7.82	37.06	7.26	34.84	6.89	33.84	6.72	32.44	6.50	29.27	5.97
	13.0	11.8	40.12	7.39	37.06	6.91	34.84	6.58	33.84	6.45	32.44	6.26	29.27	5.77
	15.0	13.7	40.12	7.09	37.06	6.65	34.84	6.36	33.84	6.26	32.44	6.09	29.27	5.63
18.0	16.6	40.12	6.59	37.06	6.20	34.84	5.93	33.84	5.82	32.44	5.67	29.27	5.23	
21.0	19.5	40.12	6.09	37.06	5.74	34.84	5.48	33.84	5.39	32.44	5.24	29.27	4.86	
24.0	22.4	40.12	5.62	37.06	5.29	34.84	5.06	33.84	4.96	32.44	4.82	29.27	4.47	
27.0	25.3	40.12	5.16	37.06	4.85	34.84	4.63	33.84	4.56	32.44	4.43	29.27	4.11	
30.0	28.1	40.12	4.70	37.06	4.42	34.84	4.24	33.84	4.17	32.44	4.05	29.27	3.75	
80%	-30.0	-30.5	29.14	10.59	29.27	10.82	29.22	10.42	28.85	9.92	28.31	9.67	25.46	8.63
	-25.0	-25.4	29.74	10.60	29.87	10.83	29.82	10.44	29.44	9.93	28.88	9.69	25.98	8.61
	-19.8	-20.0	30.92	10.21	31.07	10.43	30.74	9.98	29.44	9.50	28.88	9.25	25.98	8.20
	-16.7	-17.0	31.65	10.23	31.80	10.43	30.74	9.69	29.44	9.21	28.88	8.95	25.98	7.94
	-13.7	-15.0	32.14	10.28	32.29	10.44	30.74	9.50	29.44	9.02	28.88	8.78	25.98	7.80
	-11.8	-13.0	32.62	10.28	32.79	10.28	30.74	9.30	29.44	8.85	28.88	8.62	25.98	7.66
	-9.8	-11.0	33.12	10.28	33.28	10.05	30.74	9.15	29.44	8.68	28.88	8.47	25.98	7.51
	-9.5	-10.0	33.36	10.31	33.28	9.96	30.74	9.02	29.44	8.59	28.88	8.36	25.98	7.45
	-8.5	-9.1	33.60	10.31	33.28	9.89	30.74	8.97	29.44	8.55	28.88	8.29	25.98	7.38
	-7.0	-7.6	33.96	10.33	33.28	9.70	30.74	8.83	29.44	8.41	28.88	8.17	25.98	7.28
	-5.0	-5.6	35.43	10.14	33.28	9.39	30.74	8.57	29.44	8.15	28.88	7.95	25.98	7.09
	-3.0	-3.7	35.43	10.46	33.28	9.05	30.74	8.20	29.44	7.84	28.88	7.67	25.98	6.88
	0.0	-0.7	35.43	10.34	33.28	8.66	30.74	7.92	29.44	7.64	28.88	7.42	25.98	6.72
	3.0	2.2	35.43	9.56	33.28	8.14	30.74	7.46	29.44	7.35	28.88	7.16	25.98	6.47
	5.0	4.1	35.43	8.73	33.28	7.72	30.74	7.14	29.44	7.05	28.88	6.80	25.98	6.33
	7.0	6.0	35.43	7.65	33.28	7.21	30.74	6.65	29.44	6.39	28.88	6.28	25.98	5.69
	9.0	7.9	35.43	7.25	33.28	6.87	30.74	6.37	29.44	6.14	28.88	6.04	25.98	5.51
	11.0	9.8	35.43	6.90	33.28	6.55	30.74	6.12	29.44	5.93	28.88	5.83	25.98	5.35
	13.0	11.8	35.43	6.57	33.28	6.30	30.74	5.91	29.44	5.73	28.88	5.67	25.98	5.23
	15.0	13.7	35.43	6.37	33.28	6.10	30.74	5.76	29.44	5.59	28.88	5.54	25.98	5.15
18.0	16.6	35.43	5.92	33.28	5.67	30.74	5.36	29.44	5.20	28.88	5.15	25.98	4.80	
21.0	19.5	35.43	5.48	33.28	5.25	30.74	4.96	29.44	4.82	28.88	4.78	25.98	4.44	
24.0	22.4	35.43	5.06	33.28	4.84	30.74	4.58	29.44	4.43	28.88	4.39	25.98	4.09	
27.0	25.3	35.43	4.63	33.28	4.44	30.74	4.19	29.44	4.06	28.88	4.03	25.98	3.76	
30.0	28.1	35.43	4.23	33.28	4.06	30.74	3.82	29.44	3.71	28.88	3.68	25.98	3.43	

Abbreviations:
CR: Combination ratio
TC: Total capacity (kW)
PI: Power input (compressor + outdoor fan motor) (kW)
Notes:
Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.20:12HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	30.09	10.73	28.49	9.99	26.89	9.96	25.30	9.59	24.53	9.55	22.36	9.13
	-25.0	-25.4	30.71	10.76	29.07	10.02	27.44	9.95	25.81	9.60	25.03	9.55	22.81	9.11
	-19.8	-20.0	30.71	10.23	29.07	9.46	27.44	9.40	25.81	9.04	25.03	8.99	22.81	8.57
	-16.7	-17.0	30.95	9.91	29.07	9.20	27.44	9.14	25.81	8.77	25.03	8.72	22.81	8.33
	-13.7	-15.0	30.95	9.72	29.07	9.01	27.44	8.97	25.81	8.59	25.03	8.57	22.81	8.14
	-11.8	-13.0	30.95	9.54	29.07	8.83	27.44	8.82	25.81	8.45	25.03	8.41	22.81	8.01
	-9.8	-11.0	30.95	9.35	29.07	8.67	27.44	8.64	25.81	8.31	25.03	8.26	22.81	7.85
	-9.5	-10.0	30.95	9.25	29.07	8.60	27.44	8.46	25.81	8.08	25.03	8.04	22.81	7.63
	-8.5	-9.1	30.95	9.15	29.07	8.53	27.44	8.17	25.81	7.81	25.03	7.75	22.81	7.35
	-7.0	-7.6	30.95	9.06	29.07	8.39	27.44	7.81	25.81	7.45	25.03	7.40	22.81	7.01
	-5.0	-5.6	30.95	8.76	29.07	8.16	27.44	7.60	25.81	7.27	25.03	7.20	22.81	6.80
	-3.0	-3.7	30.95	8.29	29.07	7.89	27.44	7.37	25.81	7.03	25.03	6.98	22.81	6.57
	0.0	-0.7	30.95	7.85	29.07	7.57	27.44	7.05	25.81	6.73	25.03	6.68	22.81	6.26
	3.0	2.2	30.95	7.40	29.07	7.16	27.44	6.61	25.81	6.30	25.03	6.25	22.81	5.85
	5.0	4.1	30.95	7.08	29.07	6.67	27.44	6.37	25.81	6.06	25.03	6.00	22.81	5.60
	7.0	6.0	30.95	6.79	29.07	6.39	27.44	6.05	25.81	5.77	25.03	5.68	22.81	5.29
	9.0	7.9	30.95	6.51	29.07	6.16	27.44	5.86	25.81	5.56	25.03	5.47	22.81	5.09
	11.0	9.8	30.95	6.25	29.07	5.94	27.44	5.61	25.81	5.33	25.03	5.25	22.81	4.86
	13.0	11.8	30.95	6.02	29.07	5.71	27.44	5.35	25.81	5.05	25.03	4.98	22.81	4.58
	15.0	13.7	30.95	5.79	29.07	5.45	27.44	5.13	25.81	4.86	25.03	4.77	22.81	4.38
18.0	16.6	30.95	5.39	29.07	5.07	27.44	4.77	25.81	4.50	25.03	4.44	22.81	4.07	
21.0	19.5	30.95	4.99	29.07	4.69	27.44	4.41	25.81	4.17	25.03	4.11	22.81	3.77	
24.0	22.4	30.95	4.60	29.07	4.32	27.44	4.08	25.81	3.85	25.03	3.79	22.81	3.48	
27.0	25.3	30.95	4.21	29.07	3.97	27.44	3.74	25.81	3.53	25.03	3.47	22.81	3.19	
30.0	28.1	30.95	3.85	29.07	3.62	27.44	3.42	25.81	3.23	25.03	3.18	22.81	2.92	
60%	-30.0	-30.5	26.53	10.23	24.60	9.57	22.81	9.13	21.88	8.89	20.73	8.43	19.48	8.17
	-25.0	-25.4	27.07	10.21	25.10	9.57	23.27	9.13	22.33	8.89	21.16	8.46	19.88	8.17
	-19.8	-20.0	27.07	9.66	25.10	9.14	23.27	8.80	22.33	8.51	21.16	8.04	19.88	7.76
	-16.7	-17.0	27.07	9.13	25.10	8.52	23.27	8.20	22.33	7.89	21.16	7.45	19.88	7.18
	-13.7	-15.0	27.07	8.80	25.10	8.29	23.27	7.95	22.33	7.61	21.16	7.15	19.88	6.88
	-11.8	-13.0	27.07	8.51	25.10	7.99	23.27	7.66	22.33	7.33	21.16	6.85	19.88	6.57
	-9.8	-11.0	27.07	8.23	25.10	7.69	23.27	7.27	22.33	7.00	21.16	6.56	19.88	6.33
	-9.5	-10.0	27.07	7.95	25.10	7.38	23.27	6.99	22.33	6.71	21.16	6.26	19.88	5.99
	-8.5	-9.1	27.07	7.62	25.10	7.09	23.27	6.70	22.33	6.43	21.16	5.97	19.88	5.65
	-7.0	-7.6	27.07	7.33	25.10	6.81	23.27	6.47	22.33	6.21	21.16	5.73	19.88	5.39
	-5.0	-5.6	27.07	7.05	25.10	6.54	23.27	6.14	22.33	5.95	21.16	5.51	19.88	5.15
	-3.0	-3.7	27.07	6.81	25.10	6.28	23.27	5.86	22.33	5.71	21.16	5.27	19.88	4.96
	0.0	-0.7	27.07	6.53	25.10	6.04	23.27	5.61	22.33	5.43	21.16	5.02	19.88	4.87
	3.0	2.2	27.07	6.24	25.10	5.76	23.27	5.39	22.33	5.21	21.16	4.76	19.88	4.69
	5.0	4.1	27.07	5.93	25.10	5.52	23.27	5.20	22.33	4.98	21.16	4.65	19.88	4.58
	7.0	6.0	27.07	5.63	25.10	5.27	23.27	4.95	22.33	4.76	21.16	4.63	19.88	4.51
	9.0	7.9	27.07	5.55	25.10	5.16	23.27	4.87	22.33	4.66	21.16	4.41	19.88	4.30
	11.0	9.8	27.07	5.46	25.10	5.08	23.27	4.73	22.33	4.56	21.16	4.33	19.88	4.22
	13.0	11.8	27.07	5.28	25.10	4.91	23.27	4.59	22.33	4.45	21.16	4.24	19.88	4.12
	15.0	13.7	27.07	5.23	25.10	4.81	23.27	4.46	22.33	4.34	21.16	4.14	19.88	4.00
18.0	16.6	27.07	4.86	25.10	4.47	23.27	4.15	22.33	4.03	21.16	3.85	19.88	3.72	
21.0	19.5	27.07	4.50	25.10	4.14	23.27	3.85	22.33	3.74	21.16	3.56	19.88	3.46	
24.0	22.4	27.07	4.14	25.10	3.82	23.27	3.54	22.33	3.45	21.16	3.29	19.88	3.18	
27.0	25.3	27.07	3.80	25.10	3.50	23.27	3.26	22.33	3.16	21.16	3.02	19.88	2.92	
30.0	28.1	27.07	3.48	25.10	3.20	23.27	2.97	22.33	2.89	21.16	2.75	19.88	2.66	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.20:12HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	22.18	8.46	20.63	7.99	18.85	7.46	18.34	7.43	17.63	7.25	15.83	6.62
	-25.0	-25.4	22.63	8.46	21.05	7.99	19.23	7.45	18.72	7.44	17.99	7.27	16.15	6.62
	-19.8	-20.0	22.63	8.03	21.05	7.59	19.23	7.19	18.72	7.11	17.99	6.93	16.15	6.26
	-16.7	-17.0	22.63	7.57	21.05	7.12	19.23	6.72	18.72	6.61	17.99	6.41	16.15	5.82
	-13.7	-15.0	22.63	7.30	21.05	6.90	19.23	6.51	18.72	6.37	17.99	6.16	16.15	5.58
	-11.8	-13.0	22.63	7.05	21.05	6.64	19.23	6.26	18.72	6.13	17.99	5.91	16.15	5.32
	-9.8	-11.0	22.63	6.81	21.05	6.41	19.23	5.97	18.72	5.88	17.99	5.66	16.15	5.12
	-9.5	-10.0	22.63	6.57	21.05	6.15	19.23	5.71	18.72	5.60	17.99	5.41	16.15	4.84
	-8.5	-9.1	22.63	6.29	21.05	5.92	19.23	5.47	18.72	5.36	17.99	5.18	16.15	4.58
	-7.0	-7.6	22.63	6.06	21.05	5.66	19.23	5.28	18.72	5.18	17.99	4.98	16.15	4.36
	-5.0	-5.6	22.63	5.84	21.05	5.46	19.23	5.03	18.72	4.99	17.99	4.78	16.15	4.15
	-3.0	-3.7	22.63	5.63	21.05	5.26	19.23	4.80	18.72	4.77	17.99	4.58	16.15	4.01
	0.0	-0.7	22.63	5.42	21.05	5.04	19.23	4.58	18.72	4.55	17.99	4.35	16.15	3.94
	3.0	2.2	22.63	5.16	21.05	4.79	19.23	4.42	18.72	4.36	17.99	4.13	16.15	3.91
	5.0	4.1	22.63	4.89	21.05	4.59	19.23	4.25	18.72	4.17	17.99	4.06	16.15	3.87
	7.0	6.0	22.63	4.68	21.05	4.41	19.23	4.05	18.72	3.99	17.99	3.99	16.15	3.77
	9.0	7.9	22.63	4.60	21.05	4.29	19.23	3.99	18.72	3.91	17.99	3.82	16.15	3.64
	11.0	9.8	22.63	4.52	21.05	4.24	19.23	3.88	18.72	3.81	17.99	3.76	16.15	3.58
	13.0	11.8	22.63	4.40	21.05	4.09	19.23	3.76	18.72	3.73	17.99	3.66	16.15	3.51
15.0	13.7	22.63	4.34	21.05	4.01	19.23	3.65	18.72	3.63	17.99	3.58	16.15	3.41	
18.0	16.6	22.63	4.04	21.05	3.73	19.23	3.40	18.72	3.37	17.99	3.32	16.15	3.17	
21.0	19.5	22.63	3.74	21.05	3.45	19.23	3.14	18.72	3.13	17.99	3.08	16.15	2.94	
24.0	22.4	22.63	3.45	21.05	3.19	19.23	2.91	18.72	2.89	17.99	2.84	16.15	2.70	
27.0	25.3	22.63	3.16	21.05	2.92	19.23	2.66	18.72	2.65	17.99	2.60	16.15	2.48	
30.0	28.1	22.63	2.89	21.05	2.67	19.23	2.43	18.72	2.42	17.99	2.37	16.15	2.26	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.21:14HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	35.04	8.76	35.24	9.00	34.21	9.24	34.72	9.69	34.39	9.88	34.49	10.11
	-25.0	-25.4	35.75	8.76	35.96	8.99	34.91	9.24	35.43	9.71	35.09	9.88	35.19	10.13
	-19.8	-20.0	37.59	8.99	37.80	9.26	37.33	9.65	37.87	10.07	37.55	10.28	37.72	10.51
	-16.7	-17.0	38.46	9.26	38.68	9.53	38.20	9.82	38.89	10.30	38.43	10.45	38.60	10.71
	-13.7	-15.0	39.03	9.34	39.27	9.70	38.78	10.02	39.49	10.46	39.00	10.62	39.20	10.86
	-11.8	-13.0	39.62	9.52	39.85	9.87	39.37	10.18	40.09	10.64	39.60	10.84	39.93	11.04
	-9.8	-11.0	40.20	9.66	40.44	10.01	39.94	10.29	40.67	10.75	40.32	10.92	40.53	11.03
	-9.5	-10.0	40.49	9.81	40.73	10.14	40.38	10.46	40.97	10.91	40.63	11.07	40.82	11.23
	-8.5	-9.1	40.77	9.91	41.03	10.26	40.53	10.57	41.27	11.02	40.92	11.19	41.11	11.33
	-7.0	-7.6	41.21	9.97	41.47	10.43	41.11	10.68	41.71	11.12	41.36	11.36	41.56	11.49
	-5.0	-5.6	44.41	10.36	44.68	10.71	44.16	11.02	44.97	11.54	44.44	11.45	44.66	11.65
	-3.0	-3.7	44.99	10.63	45.27	10.89	44.74	11.19	45.55	11.74	45.03	11.58	45.26	11.80
	0.0	-0.7	45.86	10.93	46.15	11.01	45.61	11.35	46.44	11.85	45.91	11.74	46.30	11.86
	3.0	2.2	50.66	11.55	50.55	11.72	49.97	11.92	50.74	12.35	50.31	12.39	50.59	12.60
	5.0	4.1	62.98	13.99	61.04	13.95	59.56	13.78	58.27	13.59	55.44	13.34	51.32	12.85
	7.0	6.0	64.00	14.07	62.21	13.59	59.56	13.12	58.27	13.01	55.44	12.76	51.32	12.41
	9.0	7.9	64.00	13.42	62.21	12.94	59.56	12.68	58.27	12.75	55.44	12.45	51.32	12.14
	11.0	9.8	64.00	12.73	62.21	12.42	59.56	12.27	58.27	12.34	55.44	12.09	51.32	11.65
	13.0	11.8	64.00	12.15	62.21	12.04	59.56	11.93	58.27	12.13	55.44	11.82	51.32	11.44
	15.0	13.7	64.00	11.75	62.21	11.76	59.56	11.60	58.27	11.65	55.44	11.47	51.32	11.03
18.0	16.6	64.70	11.05	62.69	11.01	59.85	10.83	58.43	10.86	55.47	10.69	51.32	10.24	
21.0	19.5	65.08	10.28	62.86	10.23	59.85	10.03	58.43	10.05	55.47	9.89	51.32	9.51	
24.0	22.4	65.13	9.51	62.86	9.43	59.85	9.25	58.43	9.25	55.47	9.09	51.32	8.74	
27.0	25.3	65.13	8.71	62.86	8.64	59.85	8.49	58.43	8.50	55.47	8.37	51.32	8.04	
30.0	28.1	65.13	7.97	62.86	7.92	59.85	7.75	58.43	7.77	55.47	7.63	51.32	7.32	
120%	-30.0	-30.5	35.17	9.65	34.66	9.92	35.29	10.45	34.51	10.49	34.63	10.82	34.85	11.08
	-25.0	-25.4	35.89	9.67	35.36	9.89	36.01	10.47	35.21	10.51	35.33	10.82	35.56	11.08
	-19.8	-20.0	38.05	9.91	37.50	10.16	38.08	10.65	37.36	10.70	37.50	11.04	37.70	11.30
	-16.7	-17.0	38.93	10.22	38.39	10.32	38.97	10.99	38.24	11.02	38.38	11.35	38.74	11.50
	-13.7	-15.0	39.52	10.34	38.96	10.52	39.57	11.02	38.82	11.05	39.12	11.42	39.34	11.59
	-11.8	-13.0	40.11	10.52	39.55	10.63	40.22	11.17	39.41	11.20	39.71	11.54	39.94	11.72
	-9.8	-11.0	40.71	10.56	40.13	10.70	40.90	11.28	39.98	11.33	40.29	11.66	40.53	11.96
	-9.5	-10.0	41.00	10.67	40.42	10.77	41.20	11.37	40.28	11.40	40.59	11.73	40.83	12.10
	-8.5	-9.1	41.30	10.78	40.72	10.91	41.50	11.51	40.57	11.53	40.88	11.89	41.12	12.09
	-7.0	-7.6	41.74	10.99	41.16	11.14	41.95	11.61	41.01	11.64	41.32	12.01	41.57	12.28
	-5.0	-5.6	44.98	11.07	44.36	11.21	45.07	11.74	44.22	11.78	44.56	12.10	44.84	12.48
	-3.0	-3.7	45.57	11.26	44.95	11.40	45.66	11.89	44.80	11.92	45.00	12.25	45.43	12.53
	0.0	-0.7	46.46	11.42	45.82	11.53	46.56	11.99	45.68	12.04	46.03	12.38	46.32	12.61
	3.0	2.2	50.73	12.07	50.20	12.27	51.02	12.60	49.91	12.64	50.30	12.97	47.50	12.49
	5.0	4.1	63.85	13.55	59.39	13.25	56.22	13.29	52.98	12.78	51.33	12.75	47.50	12.09
	7.0	6.0	64.31	13.45	59.39	12.73	56.22	12.65	52.98	12.19	51.33	12.18	47.50	11.80
	9.0	7.9	64.31	12.86	59.39	12.14	56.22	12.28	52.98	11.77	51.33	11.85	47.50	11.47
	11.0	9.8	64.31	12.45	59.39	11.91	56.22	11.83	52.98	11.44	51.33	11.44	47.50	11.01
	13.0	11.8	64.31	12.16	59.39	11.60	56.22	11.49	52.98	11.27	51.33	11.22	47.50	10.83
	15.0	13.7	64.31	11.88	59.39	11.25	56.22	11.16	52.98	10.85	51.33	10.85	47.50	10.43
18.0	16.6	65.00	11.17	59.85	10.56	56.50	10.45	53.12	10.10	51.35	10.08	47.50	9.69	
21.0	19.5	65.39	10.39	60.01	9.80	56.50	9.67	53.12	9.38	51.35	9.33	47.50	8.98	
24.0	22.4	65.44	9.60	60.01	9.01	56.50	8.93	53.12	8.63	51.35	8.61	47.50	8.26	
27.0	25.3	65.44	8.80	60.01	8.29	56.50	8.19	53.12	7.92	51.35	7.90	47.50	7.58	
30.0	28.1	65.44	8.03	60.01	7.56	56.50	7.48	53.12	7.24	51.35	7.21	47.50	6.93	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.21: 14HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-30.0	-30.5	35.57	9.96	35.68	10.25	34.79	10.28	35.59	10.34	35.51	10.54	34.80	10.61
	-25.0	-25.4	36.29	9.96	36.41	10.25	35.50	10.27	36.31	10.33	36.24	10.54	35.51	10.62
	-19.8	-20.0	37.86	10.07	38.01	10.39	37.11	10.42	37.89	10.47	37.81	10.71	37.06	10.74
	-16.7	-17.0	38.75	10.38	38.90	10.70	37.98	10.71	38.78	10.69	38.85	10.94	37.95	10.93
	-13.7	-15.0	39.33	10.47	39.49	10.79	38.56	10.79	39.38	10.75	39.45	11.00	38.52	11.03
	-11.8	-13.0	39.93	10.63	40.09	10.95	39.29	10.96	39.97	10.88	40.05	11.11	39.11	11.15
	-9.8	-11.0	40.52	10.64	40.67	10.95	39.87	10.96	40.57	11.08	40.65	11.26	39.70	11.31
	-9.5	-10.0	40.81	10.75	41.12	11.07	40.17	11.07	40.86	11.11	40.94	11.38	39.98	11.42
	-8.5	-9.1	41.11	10.88	41.27	11.17	40.45	11.19	41.16	11.20	41.23	11.52	40.28	11.54
	-7.0	-7.6	41.55	10.98	41.71	11.28	40.89	11.30	41.61	11.40	41.69	11.62	40.72	11.59
	-5.0	-5.6	44.79	11.13	44.99	11.45	43.95	11.44	44.88	11.47	44.96	11.72	42.76	11.44
	-3.0	-3.7	45.38	11.21	45.57	11.54	44.53	11.53	45.47	11.58	45.56	11.85	42.76	11.25
	0.0	-0.7	46.26	11.48	46.47	11.82	45.55	11.79	46.36	11.69	46.45	11.95	42.76	11.08
	3.0	2.2	50.54	11.99	50.93	12.33	49.77	12.30	49.49	12.13	47.64	12.05	42.76	11.01
	5.0	4.1	58.93	13.07	55.38	13.13	50.49	12.00	49.49	11.92	47.64	11.73	42.76	10.97
	7.0	6.0	58.93	12.61	55.38	12.38	50.49	11.40	49.49	11.35	47.64	11.20	42.76	10.68
	9.0	7.9	58.93	12.02	55.38	11.73	50.49	11.01	49.49	11.06	47.64	10.95	42.76	10.49
	11.0	9.8	58.93	11.58	55.38	11.31	50.49	10.68	49.49	10.65	47.64	10.61	42.76	10.16
	13.0	11.8	58.93	11.27	55.38	10.94	50.49	10.34	49.49	10.37	47.64	10.25	42.76	9.82
	15.0	13.7	58.93	10.94	55.38	10.56	50.49	10.01	49.49	9.98	47.64	9.87	42.76	9.46
18.0	16.6	59.57	10.27	55.81	9.93	50.74	9.35	49.62	9.31	47.66	9.20	42.76	8.79	
21.0	19.5	59.92	9.57	55.96	9.19	50.74	8.66	49.62	8.63	47.66	8.53	42.76	8.15	
24.0	22.4	59.97	8.85	55.96	8.48	50.74	7.99	49.62	7.96	47.66	7.87	42.76	7.50	
27.0	25.3	59.97	8.12	55.96	7.77	50.74	7.31	49.62	7.31	47.66	7.20	42.76	6.88	
30.0	28.1	59.97	7.40	55.96	7.11	50.74	6.67	49.62	6.67	47.66	6.58	42.76	6.30	
100%	-30.0	-30.5	34.86	12.16	34.61	12.22	34.23	12.35	34.87	12.56	34.77	12.62	34.33	12.68
	-25.0	-25.4	35.57	12.14	35.32	12.23	34.93	12.35	35.58	12.56	35.48	12.62	35.04	12.66
	-19.8	-20.0	37.22	12.14	36.96	12.23	36.57	12.41	37.26	12.59	37.15	12.62	36.68	12.61
	-16.7	-17.0	38.38	12.17	38.12	12.31	37.86	12.46	38.41	12.66	38.30	12.68	37.83	12.43
	-13.7	-15.0	38.95	12.25	38.69	12.31	38.43	12.49	39.00	12.68	38.88	12.71	38.40	12.27
	-11.8	-13.0	39.52	12.22	39.27	12.35	39.00	12.52	39.58	12.71	39.47	12.69	38.40	12.14
	-9.8	-11.0	39.82	12.25	39.70	12.37	39.29	12.51	40.02	12.70	39.75	12.73	38.40	12.14
	-9.5	-10.0	40.10	12.25	39.84	12.35	39.57	12.57	40.17	12.71	40.05	12.77	38.40	12.01
	-8.5	-9.1	40.53	12.27	40.42	12.35	40.01	12.59	40.60	12.74	40.48	12.74	38.40	11.83
	-7.0	-7.6	43.71	12.31	43.44	12.37	43.14	12.86	43.80	13.17	42.22	12.51	38.40	11.78
	-5.0	-5.6	44.28	12.31	44.02	12.37	43.72	12.53	44.10	12.79	42.22	12.11	38.40	11.48
	-3.0	-3.7	45.16	12.33	44.88	12.40	44.57	12.14	44.10	12.09	42.22	11.75	38.40	11.07
	0.0	-0.7	46.30	12.34	48.76	12.38	45.00	11.79	44.10	11.54	42.22	11.17	38.40	10.58
	3.0	2.2	49.34	12.08	48.76	12.08	45.00	11.45	44.10	10.95	42.22	10.52	38.40	10.09
	5.0	4.1	52.37	11.92	48.76	11.48	45.00	10.94	44.10	10.49	42.22	10.07	38.40	9.61
	7.0	6.0	52.37	11.74	48.76	10.88	45.00	10.23	44.10	9.93	42.22	9.67	38.40	9.20
	9.0	7.9	52.37	11.10	48.76	10.33	45.00	9.93	44.10	9.69	42.22	9.38	38.40	8.90
	11.0	9.8	52.37	10.35	48.76	9.70	45.00	9.60	44.10	9.29	42.22	9.03	38.40	8.54
	13.0	11.8	52.37	9.73	48.76	9.43	45.00	9.25	44.10	8.93	42.22	8.74	38.40	8.25
	15.0	13.7	52.37	9.25	48.76	9.05	45.00	8.88	44.10	8.63	42.22	8.41	38.40	7.94
18.0	16.6	52.37	8.60	48.76	8.41	45.00	8.28	44.10	8.02	42.22	7.81	38.40	7.39	
21.0	19.5	52.37	7.97	48.76	7.79	45.00	7.66	44.10	7.44	42.22	7.25	38.40	6.84	
24.0	22.4	52.37	7.34	48.76	7.20	45.00	7.05	44.10	6.85	42.22	6.69	38.40	6.28	
27.0	25.3	52.37	6.75	48.76	6.60	45.00	6.47	44.10	6.29	42.22	6.13	38.40	5.78	
30.0	28.1	52.37	6.15	48.76	6.03	45.00	5.92	44.10	5.75	42.22	5.59	38.40	5.27	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.21:14HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	35.03	12.31	35.17	12.55	34.72	12.54	34.66	12.68	34.66	12.76	34.92	12.17
	-25.0	-25.4	35.74	12.28	35.89	12.54	35.43	12.55	35.36	12.71	35.36	12.75	35.63	12.17
	-19.8	-20.0	37.25	12.48	37.46	12.72	36.96	12.73	36.93	12.81	36.93	12.89	35.63	11.91
	-16.7	-17.0	38.12	12.51	38.35	12.80	37.99	12.77	37.80	12.85	37.80	12.60	35.63	11.51
	-13.7	-15.0	38.71	12.53	38.93	12.82	38.56	12.83	38.39	12.87	38.24	12.36	35.63	11.31
	-11.8	-13.0	39.30	12.58	39.52	12.80	39.15	12.86	38.96	12.68	38.24	12.06	35.63	11.10
	-9.8	-11.0	39.88	12.61	40.27	12.87	39.73	12.83	39.70	12.44	38.24	11.87	35.63	10.88
	-9.5	-10.0	40.17	12.61	40.56	12.85	40.02	12.85	39.85	12.33	38.24	11.76	35.63	10.79
	-8.5	-9.1	40.46	12.64	40.71	12.87	40.32	12.84	39.85	12.22	38.24	11.65	35.63	10.68
	-7.0	-7.6	40.91	12.65	41.30	12.69	40.76	12.67	39.85	12.06	38.24	11.47	35.63	10.51
	-5.0	-5.6	44.12	12.67	44.39	12.13	41.48	12.10	39.85	11.63	38.24	11.10	35.63	10.20
	-3.0	-3.7	44.70	12.67	44.98	11.59	41.48	11.53	39.85	11.24	38.24	10.74	35.63	9.95
	0.0	-0.7	45.58	12.70	44.98	11.01	41.48	11.03	39.85	10.70	38.24	10.23	35.63	9.73
	3.0	2.2	47.76	12.73	44.98	10.46	41.48	10.42	39.85	10.29	38.24	9.78	35.63	9.36
	5.0	4.1	47.76	12.38	44.98	9.91	41.48	9.91	39.85	9.76	38.24	9.31	35.63	9.02
	7.0	6.0	47.76	10.79	44.98	9.76	41.48	9.27	39.85	8.91	38.24	8.58	35.63	8.01
	9.0	7.9	47.76	10.12	44.98	9.55	41.48	8.83	39.85	8.48	38.24	8.17	35.63	7.70
	11.0	9.8	47.76	9.54	44.98	9.03	41.48	8.40	39.85	8.11	38.24	7.83	35.63	7.42
	13.0	11.8	47.76	9.00	44.98	8.59	41.48	8.03	39.85	7.78	38.24	7.53	35.63	7.19
	15.0	13.7	47.76	8.64	44.98	8.27	41.48	7.75	39.85	7.53	38.24	7.33	35.63	7.02
18.0	16.6	47.76	8.03	44.98	7.69	41.48	7.23	39.85	7.02	38.24	6.82	35.63	6.53	
21.0	19.5	47.76	7.44	44.98	7.12	41.48	6.68	39.85	6.50	38.24	6.31	35.63	6.04	
24.0	22.4	47.76	6.85	44.98	6.57	41.48	6.17	39.85	5.99	38.24	5.81	35.63	5.57	
27.0	25.3	47.76	6.28	44.98	6.03	41.48	5.65	39.85	5.48	38.24	5.33	35.63	5.11	
30.0	28.1	47.76	5.74	44.98	5.50	41.48	5.17	39.85	5.01	38.24	4.87	35.63	4.67	
80%	-30.0	-30.5	34.84	13.00	35.16	13.33	35.60	13.05	34.91	12.29	33.33	11.65	30.50	10.58
	-25.0	-25.4	35.55	13.00	35.88	13.31	36.32	13.02	35.62	12.28	34.01	11.67	31.12	10.57
	-19.8	-20.0	36.96	12.51	37.32	12.80	37.45	12.46	35.62	11.77	34.01	11.15	31.12	10.05
	-16.7	-17.0	37.84	12.54	38.20	12.83	37.45	12.12	35.62	11.44	34.01	10.79	31.12	9.74
	-13.7	-15.0	38.41	12.57	38.79	12.85	37.45	11.87	35.62	11.19	34.01	10.57	31.12	9.56
	-11.8	-13.0	39.00	12.59	39.37	12.64	37.45	11.61	35.62	10.99	34.01	10.38	31.12	9.39
	-9.8	-11.0	39.58	12.60	39.96	12.37	37.45	11.42	35.62	10.77	34.01	10.20	31.12	9.21
	-9.5	-10.0	39.87	12.61	39.96	12.24	37.45	11.29	35.62	10.66	34.01	10.09	31.12	9.14
	-8.5	-9.1	40.17	12.62	39.96	12.12	37.45	11.19	35.62	10.57	34.01	9.98	31.12	9.04
	-7.0	-7.6	40.60	12.62	39.96	11.97	37.45	11.05	35.62	10.43	34.01	9.84	31.12	8.92
	-5.0	-5.6	42.34	12.39	39.96	11.57	37.45	10.67	35.62	10.11	34.01	9.58	31.12	8.70
	-3.0	-3.7	42.34	12.80	39.96	11.16	37.45	10.25	35.62	9.71	34.01	9.23	31.12	8.44
	0.0	-0.7	42.34	12.66	39.96	10.61	37.45	9.89	35.62	9.43	34.01	8.97	31.12	8.25
	3.0	2.2	42.34	11.69	39.96	10.04	37.45	9.31	35.62	9.11	34.01	8.61	31.12	7.92
	5.0	4.1	42.34	10.68	39.96	9.47	37.45	8.88	35.62	8.72	34.01	8.19	31.12	7.74
	7.0	6.0	42.34	9.35	39.96	8.86	37.45	8.32	35.62	7.91	34.01	7.55	31.12	6.95
	9.0	7.9	42.34	8.88	39.96	8.44	37.45	7.97	35.62	7.60	34.01	7.27	31.12	6.75
	11.0	9.8	42.34	8.46	39.96	8.05	37.45	7.65	35.62	7.32	34.01	7.02	31.12	6.58
	13.0	11.8	42.34	8.05	39.96	7.74	37.45	7.39	35.62	7.09	34.01	6.82	31.12	6.41
	15.0	13.7	42.34	7.79	39.96	7.49	37.45	7.18	35.62	6.94	34.01	6.68	31.12	6.32
18.0	16.6	42.34	7.23	39.96	6.96	37.45	6.68	35.62	6.45	34.01	6.20	31.12	5.88	
21.0	19.5	42.34	6.71	39.96	6.46	37.45	6.20	35.62	5.96	34.01	5.75	31.12	5.45	
24.0	22.4	42.34	6.19	39.96	5.96	37.45	5.69	35.62	5.50	34.01	5.30	31.12	5.01	
27.0	25.3	42.34	5.68	39.96	5.46	37.45	5.23	35.62	5.04	34.01	4.86	31.12	4.59	
30.0	28.1	42.34	5.17	39.96	4.99	37.45	4.77	35.62	4.61	34.01	4.43	31.12	4.20	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.21: 14HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	36.66	13.40	34.23	12.32	32.18	12.20	30.58	11.85	29.09	11.59	26.98	11.28
	-25.0	-25.4	37.41	13.43	34.92	12.31	32.84	12.18	31.21	11.85	29.68	11.59	27.53	11.28
	-19.8	-20.0	37.41	12.79	34.92	11.67	32.84	11.51	31.21	11.18	29.68	10.94	27.53	10.59
	-16.7	-17.0	37.70	12.35	34.92	11.29	32.84	11.21	31.21	10.87	29.68	10.59	27.53	10.30
	-13.7	-15.0	37.70	12.15	34.92	11.10	32.84	10.97	31.21	10.67	29.68	10.40	27.53	10.07
	-11.8	-13.0	37.70	11.88	34.92	10.89	32.84	10.79	31.21	10.48	29.68	10.22	27.53	9.91
	-9.8	-11.0	37.70	11.64	34.92	10.64	32.84	10.61	31.21	10.27	29.68	10.04	27.53	9.70
	-9.5	-10.0	37.70	11.55	34.92	10.57	32.84	10.32	31.21	10.01	29.68	9.76	27.53	9.44
	-8.5	-9.1	37.70	11.46	34.92	10.46	32.84	9.98	31.21	9.66	29.68	9.40	27.53	9.08
	-7.0	-7.6	37.70	11.31	34.92	10.32	32.84	9.57	31.21	9.24	29.68	8.99	27.53	8.66
	-5.0	-5.6	37.70	10.95	34.92	10.01	32.84	9.30	31.21	9.00	29.68	8.73	27.53	8.41
	-3.0	-3.7	37.70	10.37	34.92	9.73	32.84	9.03	31.21	8.72	29.68	8.48	27.53	8.13
	0.0	-0.7	37.70	9.80	34.92	9.31	32.84	8.65	31.21	8.33	29.68	8.08	27.53	7.75
	3.0	2.2	37.70	9.27	34.92	8.78	32.84	8.13	31.21	7.83	29.68	7.60	27.53	7.25
	5.0	4.1	37.70	8.82	34.92	8.22	32.84	7.82	31.21	7.51	29.68	7.28	27.53	6.92
	7.0	6.0	37.70	8.49	34.92	7.87	32.84	7.40	31.21	7.14	29.68	6.90	27.53	6.54
	9.0	7.9	37.70	8.11	34.92	7.56	32.84	7.15	31.21	6.86	29.68	6.66	27.53	6.29
	11.0	9.8	37.70	7.78	34.92	7.33	32.84	6.88	31.21	6.60	29.68	6.35	27.53	5.99
	13.0	11.8	37.70	7.51	34.92	7.00	32.84	6.55	31.21	6.26	29.68	6.04	27.53	5.69
	15.0	13.7	37.70	7.24	34.92	6.71	32.84	6.29	31.21	6.01	29.68	5.80	27.53	5.43
18.0	16.6	37.70	6.74	34.92	6.24	32.84	5.86	31.21	5.59	29.68	5.40	27.53	5.04	
21.0	19.5	37.70	6.23	34.92	5.77	32.84	5.43	31.21	5.18	29.68	4.99	27.53	4.66	
24.0	22.4	37.70	5.74	34.92	5.31	32.84	4.99	31.21	4.76	29.68	4.60	27.53	4.30	
27.0	25.3	37.70	5.26	34.92	4.89	32.84	4.57	31.21	4.37	29.68	4.21	27.53	3.94	
30.0	28.1	37.70	4.81	34.92	4.46	32.84	4.19	31.21	4.00	29.68	3.85	27.53	3.60	
60%	-30.0	-30.5	31.74	12.52	29.76	11.84	27.24	11.16	26.03	10.83	25.11	10.47	22.91	9.85
	-25.0	-25.4	32.39	12.51	30.37	11.83	27.79	11.17	26.56	10.83	25.62	10.46	23.38	9.83
	-19.8	-20.0	32.39	11.87	30.37	11.30	27.79	10.73	26.56	10.35	25.62	9.97	23.38	9.35
	-16.7	-17.0	32.39	11.18	30.37	10.57	27.79	10.03	26.56	9.61	25.62	9.24	23.38	8.63
	-13.7	-15.0	32.39	10.79	30.37	10.25	27.79	9.74	26.56	9.26	25.62	8.88	23.38	8.28
	-11.8	-13.0	32.39	10.43	30.37	9.87	27.79	9.36	26.56	8.95	25.62	8.48	23.38	7.91
	-9.8	-11.0	32.39	10.09	30.37	9.53	27.79	8.89	26.56	8.52	25.62	8.13	23.38	7.62
	-9.5	-10.0	32.39	9.71	30.37	9.14	27.79	8.54	26.56	8.17	25.62	7.79	23.38	7.21
	-8.5	-9.1	32.39	9.30	30.37	8.81	27.79	8.19	26.56	7.80	25.62	7.41	23.38	6.79
	-7.0	-7.6	32.39	8.96	30.37	8.45	27.79	7.90	26.56	7.55	25.62	7.13	23.38	6.49
	-5.0	-5.6	32.39	8.62	30.37	8.13	27.79	7.51	26.56	7.23	25.62	6.84	23.38	6.20
	-3.0	-3.7	32.39	8.32	30.37	7.79	27.79	7.18	26.56	6.96	25.62	6.53	23.38	5.98
	0.0	-0.7	32.39	7.99	30.37	7.48	27.79	6.85	26.56	6.60	25.62	6.21	23.38	5.86
	3.0	2.2	32.39	7.65	30.37	7.12	27.79	6.58	26.56	6.34	25.62	5.88	23.38	5.65
	5.0	4.1	32.39	7.24	30.37	6.81	27.79	6.36	26.56	6.07	25.62	5.77	23.38	5.52
	7.0	6.0	32.39	6.91	30.37	6.54	27.79	6.04	26.56	5.81	25.62	5.72	23.38	5.42
	9.0	7.9	32.39	6.81	30.37	6.38	27.79	5.96	26.56	5.69	25.62	5.48	23.38	5.18
	11.0	9.8	32.39	6.68	30.37	6.29	27.79	5.79	26.56	5.53	25.62	5.37	23.38	5.09
	13.0	11.8	32.39	6.49	30.37	6.08	27.79	5.63	26.56	5.43	25.62	5.26	23.38	4.97
	15.0	13.7	32.39	6.41	30.37	5.97	27.79	5.46	26.56	5.30	25.62	5.13	23.38	4.83
18.0	16.6	32.39	5.95	30.37	5.55	27.79	5.07	26.56	4.92	25.62	4.76	23.38	4.50	
21.0	19.5	32.39	5.51	30.37	5.15	27.79	4.69	26.56	4.56	25.62	4.41	23.38	4.15	
24.0	22.4	32.39	5.08	30.37	4.74	27.79	4.32	26.56	4.21	25.62	4.07	23.38	3.84	
27.0	25.3	32.39	4.66	30.37	4.35	27.79	3.98	26.56	3.86	25.62	3.74	23.38	3.52	
30.0	28.1	32.39	4.26	30.37	3.97	27.79	3.62	26.56	3.53	25.62	3.41	23.38	3.21	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.21:14HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	26.45	10.36	24.27	9.61	22.96	9.32	21.59	8.97	21.13	8.90	19.21	8.22
	-25.0	-25.4	26.99	10.35	24.77	9.60	23.43	9.31	22.03	8.97	21.56	8.90	19.60	8.20
	-19.8	-20.0	26.99	9.77	24.77	9.13	23.43	8.98	22.03	8.58	21.56	8.50	19.60	7.81
	-16.7	-17.0	26.99	9.26	24.77	8.58	23.43	8.38	22.03	7.95	21.56	7.87	19.60	7.23
	-13.7	-15.0	26.99	8.92	24.77	8.31	23.43	8.13	22.03	7.67	21.56	7.58	19.60	6.92
	-11.8	-13.0	26.99	8.61	24.77	8.00	23.43	7.81	22.03	7.40	21.56	7.25	19.60	6.60
	-9.8	-11.0	26.99	8.33	24.77	7.71	23.43	7.44	22.03	7.07	21.56	6.96	19.60	6.36
	-9.5	-10.0	26.99	8.05	24.77	7.39	23.43	7.12	22.03	6.75	21.56	6.66	19.60	6.02
	-8.5	-9.1	26.99	7.70	24.77	7.12	23.43	6.84	22.03	6.47	21.56	6.34	19.60	5.68
	-7.0	-7.6	26.99	7.40	24.77	6.84	23.43	6.59	22.03	6.25	21.56	6.12	19.60	5.42
	-5.0	-5.6	26.99	7.13	24.77	6.57	23.43	6.28	22.03	5.98	21.56	5.88	19.60	5.17
	-3.0	-3.7	26.99	6.88	24.77	6.30	23.43	5.99	22.03	5.75	21.56	5.61	19.60	4.99
	0.0	-0.7	26.99	6.60	24.77	6.06	23.43	5.73	22.03	5.48	21.56	5.34	19.60	4.88
	3.0	2.2	26.99	6.31	24.77	5.77	23.43	5.49	22.03	5.25	21.56	5.08	19.60	4.86
	5.0	4.1	26.99	5.98	24.77	5.52	23.43	5.29	22.03	5.02	21.56	4.97	19.60	4.82
	7.0	6.0	26.99	5.70	24.77	5.28	23.43	5.05	22.03	4.81	21.56	4.90	19.60	4.67
	9.0	7.9	26.99	5.61	24.77	5.16	23.43	4.97	22.03	4.70	21.56	4.69	19.60	4.54
	11.0	9.8	26.99	5.53	24.77	5.10	23.43	4.85	22.03	4.59	21.56	4.61	19.60	4.45
	13.0	11.8	26.99	5.36	24.77	4.92	23.43	4.70	22.03	4.49	21.56	4.50	19.60	4.35
15.0	13.7	26.99	5.28	24.77	4.83	23.43	4.55	22.03	4.39	21.56	4.37	19.60	4.23	
18.0	16.6	26.99	4.91	24.77	4.48	23.43	4.24	22.03	4.08	21.56	4.07	19.60	3.94	
21.0	19.5	26.99	4.55	24.77	4.16	23.43	3.92	22.03	3.79	21.56	3.77	19.60	3.65	
24.0	22.4	26.99	4.20	24.77	3.84	23.43	3.62	22.03	3.49	21.56	3.47	19.60	3.36	
27.0	25.3	26.99	3.85	24.77	3.52	23.43	3.32	22.03	3.19	21.56	3.18	19.60	3.09	
30.0	28.1	26.99	3.52	24.77	3.21	23.43	3.04	22.03	2.92	21.56	2.91	19.60	2.81	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.22:16HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	39.34	9.94	39.15	10.08	38.44	10.51	37.84	10.69	38.57	11.18	38.35	11.36
	-25.0	-25.4	40.15	9.93	39.95	10.09	39.23	10.51	38.62	10.66	39.36	11.21	39.13	11.36
	-19.8	-20.0	42.20	10.20	42.00	10.40	41.95	10.95	41.28	11.10	42.11	11.62	41.95	11.77
	-16.7	-17.0	43.18	10.47	42.98	10.71	42.94	11.16	42.41	11.34	43.10	11.85	42.93	12.04
	-13.7	-15.0	43.83	10.62	43.63	10.87	43.59	11.36	43.05	11.53	43.76	12.05	43.59	12.22
	-11.8	-13.0	44.48	10.81	44.28	11.04	44.24	11.59	43.70	11.75	44.42	12.29	44.42	12.40
	-9.8	-11.0	45.13	10.96	44.93	11.24	44.90	11.71	44.34	11.83	45.24	12.41	45.07	12.44
	-9.5	-10.0	45.46	11.11	45.25	11.36	45.38	11.86	44.66	12.02	45.56	12.58	45.40	12.61
	-8.5	-9.1	45.78	11.25	45.58	11.53	45.55	12.02	44.99	12.17	45.90	12.73	45.72	12.73
	-7.0	-7.6	46.28	11.29	46.07	11.67	46.20	12.11	45.46	12.25	46.38	12.87	46.22	12.93
	-5.0	-5.6	49.86	11.77	49.65	12.02	49.63	12.51	49.02	12.72	49.85	12.96	49.67	13.05
	-3.0	-3.7	50.51	12.06	50.30	12.20	50.28	12.73	49.66	12.94	50.50	13.13	50.33	13.24
	0.0	-0.7	51.49	12.40	51.28	12.33	51.26	12.86	50.62	13.06	51.49	13.35	51.49	13.33
	3.0	2.2	56.88	13.13	56.16	13.14	56.16	13.52	55.30	13.62	56.42	14.02	56.25	14.17
	5.0	4.1	70.72	15.83	67.82	15.68	66.93	15.61	63.53	14.94	62.18	15.08	57.07	14.45
	7.0	6.0	71.86	15.96	69.12	15.23	66.93	14.86	63.53	14.29	62.18	14.48	57.07	13.94
	9.0	7.9	71.86	15.23	69.12	14.53	66.93	14.42	63.53	14.06	62.18	14.12	57.07	13.61
	11.0	9.8	71.86	14.44	69.12	13.92	66.93	13.94	63.53	13.57	62.18	13.67	57.07	13.09
	13.0	11.8	71.86	13.75	69.12	13.53	66.93	13.55	63.53	13.32	62.18	13.38	57.07	12.87
	15.0	13.7	71.86	13.34	69.12	13.22	66.93	13.18	63.53	12.80	62.18	13.01	57.07	12.38
18.0	16.6	72.64	12.54	69.65	12.39	67.27	12.31	63.69	11.95	62.21	12.09	57.07	11.53	
21.0	19.5	73.07	11.69	69.84	11.48	67.27	11.41	63.69	11.07	62.21	11.21	57.07	10.67	
24.0	22.4	73.13	10.75	69.84	10.60	67.27	10.50	63.69	10.21	62.21	10.32	57.07	9.83	
27.0	25.3	73.13	9.87	69.84	9.73	67.27	9.62	63.69	9.37	62.21	9.47	57.07	9.01	
30.0	28.1	73.13	9.02	69.84	8.88	67.27	8.79	63.69	8.54	62.21	8.66	57.07	8.23	
120%	-30.0	-30.5	39.26	10.92	39.17	11.34	39.14	11.70	38.35	11.77	38.51	12.15	38.43	12.38
	-25.0	-25.4	40.06	10.91	39.97	11.30	39.94	11.70	39.14	11.78	39.29	12.19	39.21	12.35
	-19.8	-20.0	42.48	11.19	42.39	11.60	42.23	11.93	41.51	12.00	41.71	12.37	41.59	12.61
	-16.7	-17.0	43.46	11.51	43.38	11.76	43.22	12.29	42.49	12.38	42.69	12.76	42.73	12.79
	-13.7	-15.0	44.13	11.69	44.04	12.03	43.88	12.35	43.13	12.41	43.50	12.80	43.39	12.90
	-11.8	-13.0	44.78	11.86	44.70	12.12	44.60	12.51	43.78	12.55	44.16	12.96	44.04	13.09
	-9.8	-11.0	45.44	11.92	45.37	12.23	45.37	12.68	44.43	12.73	44.81	13.11	44.69	13.30
	-9.5	-10.0	45.76	12.05	45.69	12.34	45.69	12.73	44.76	12.80	45.14	13.22	45.02	13.48
	-8.5	-9.1	46.10	12.14	46.02	12.47	46.02	12.90	45.07	12.93	45.46	13.34	45.34	13.52
	-7.0	-7.6	46.59	12.39	46.52	12.70	46.52	13.01	45.56	13.09	45.95	13.45	45.84	13.66
	-5.0	-5.6	50.21	12.50	50.15	12.80	49.98	13.18	49.14	13.21	49.56	13.60	49.44	13.89
	-3.0	-3.7	50.87	12.70	50.80	13.01	50.64	13.35	49.78	13.37	50.04	13.77	50.09	13.95
	0.0	-0.7	51.86	12.85	51.80	13.17	51.62	13.44	50.75	13.50	51.19	13.87	51.07	14.06
	3.0	2.2	56.63	13.63	56.74	14.02	56.58	14.12	55.46	14.18	55.94	14.58	52.38	13.89
	5.0	4.1	71.29	15.31	67.13	15.17	62.35	14.92	58.86	14.33	57.08	14.32	52.38	13.49
	7.0	6.0	71.79	15.19	67.13	14.52	62.35	14.15	58.86	13.66	57.08	13.68	52.38	13.15
	9.0	7.9	71.79	14.53	67.13	13.90	62.35	13.73	58.86	13.21	57.08	13.33	52.38	12.76
	11.0	9.8	71.79	14.04	67.13	13.57	62.35	13.26	58.86	12.81	57.08	12.83	52.38	12.26
	13.0	11.8	71.79	13.69	67.13	13.25	62.35	12.90	58.86	12.65	57.08	12.59	52.38	12.05
	15.0	13.7	71.79	13.42	67.13	12.84	62.35	12.54	58.86	12.19	57.08	12.17	52.38	11.58
18.0	16.6	72.57	12.63	67.65	12.03	62.66	11.73	59.02	11.36	57.11	11.33	52.38	10.77	
21.0	19.5	72.99	11.74	67.83	11.17	62.66	10.85	59.02	10.52	57.11	10.48	52.38	9.99	
24.0	22.4	73.05	10.84	67.83	10.30	62.66	9.99	59.02	9.67	57.11	9.66	52.38	9.20	
27.0	25.3	73.05	9.94	67.83	9.46	62.66	9.18	59.02	8.89	57.11	8.86	52.38	8.44	
30.0	28.1	73.05	9.07	67.83	8.64	62.66	8.36	59.02	8.12	57.11	8.11	52.38	7.70	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.22:16HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	39.74	11.22	39.68	11.52	39.48	11.79	39.13	11.49	39.28	11.79	39.04	12.02
	-25.0	-25.4	40.56	11.20	40.49	11.53	40.29	11.77	39.93	11.49	40.08	11.78	39.83	12.02
	-19.8	-20.0	42.31	11.39	42.27	11.65	42.10	11.94	41.67	11.62	41.82	11.96	41.59	12.15
	-16.7	-17.0	43.30	11.72	43.26	12.00	43.10	12.29	42.65	11.89	42.98	12.22	42.56	12.39
	-13.7	-15.0	43.96	11.80	43.92	12.10	43.76	12.40	43.30	11.96	43.63	12.29	43.21	12.49
	-11.8	-13.0	44.61	12.00	44.58	12.28	44.58	12.57	43.95	12.08	44.29	12.43	43.88	12.64
	-9.8	-11.0	45.28	11.98	45.24	12.29	45.24	12.57	44.61	12.31	44.95	12.58	44.53	12.79
	-9.5	-10.0	45.60	12.11	45.73	12.41	45.57	12.69	44.94	12.34	45.28	12.70	44.85	12.95
	-8.5	-9.1	45.94	12.26	45.89	12.58	45.89	12.81	45.26	12.43	45.60	12.85	45.18	13.10
	-7.0	-7.6	46.43	12.40	46.39	12.70	46.39	12.97	45.75	12.64	46.10	12.99	45.68	13.12
	-5.0	-5.6	50.05	12.53	50.03	12.84	49.86	13.12	49.34	12.74	49.72	13.04	47.97	12.96
	-3.0	-3.7	50.71	12.64	50.69	12.93	50.52	13.19	49.99	12.87	50.37	13.25	47.97	12.75
	0.0	-0.7	51.70	12.97	51.67	13.25	51.67	13.51	50.98	12.96	51.37	13.35	47.97	12.56
	3.0	2.2	56.47	13.51	56.63	13.82	56.47	14.12	54.41	13.47	52.68	13.46	47.97	12.47
	5.0	4.1	65.85	14.76	61.59	14.79	57.29	13.77	54.41	13.26	52.68	13.13	47.97	12.43
	7.0	6.0	65.85	14.22	61.59	13.93	57.29	13.07	54.41	12.58	52.68	12.50	47.97	12.11
	9.0	7.9	65.85	13.58	61.59	13.15	57.29	12.60	54.41	12.29	52.68	12.26	47.97	11.89
	11.0	9.8	65.85	13.09	61.59	12.69	57.29	12.23	54.41	11.84	52.68	11.85	47.97	11.50
	13.0	11.8	65.85	12.73	61.59	12.27	57.29	11.86	54.41	11.50	52.68	11.46	47.97	11.10
15.0	13.7	65.85	12.37	61.59	11.89	57.29	11.48	54.41	11.09	52.68	11.04	47.97	10.73	
18.0	16.6	66.57	11.63	62.06	11.15	57.58	10.72	54.55	10.36	52.71	10.28	47.97	9.97	
21.0	19.5	66.96	10.83	62.23	10.33	57.58	9.91	54.55	9.59	52.71	9.51	47.97	9.24	
24.0	22.4	67.01	9.97	62.23	9.51	57.58	9.13	54.55	8.85	52.71	8.79	47.97	8.50	
27.0	25.3	67.01	9.14	62.23	8.74	57.58	8.40	54.55	8.11	52.71	8.05	47.97	7.82	
30.0	28.1	67.01	8.35	62.23	7.99	57.58	7.67	54.55	7.41	52.71	7.36	47.97	7.14	
100%	-30.0	-30.5	39.03	13.73	38.50	13.74	38.05	13.86	38.34	13.98	38.27	14.01	38.14	14.23
	-25.0	-25.4	39.82	13.72	39.28	13.74	38.82	13.85	39.13	13.96	39.05	14.04	38.92	14.22
	-19.8	-20.0	41.68	13.73	41.11	13.74	40.63	13.93	40.95	13.98	40.87	14.05	40.76	14.14
	-16.7	-17.0	42.97	13.79	42.40	13.82	42.07	14.01	42.23	14.06	42.15	14.10	42.03	13.95
	-13.7	-15.0	43.61	13.84	43.03	13.83	42.70	14.03	42.88	14.05	42.79	14.11	42.67	13.80
	-11.8	-13.0	44.26	13.83	43.67	13.88	43.33	14.05	43.52	14.08	43.43	14.13	42.67	13.62
	-9.8	-11.0	44.58	13.87	44.15	13.90	43.66	14.05	44.00	14.09	43.74	14.16	42.67	13.62
	-9.5	-10.0	44.90	13.88	44.31	13.88	43.97	14.08	44.15	14.09	44.07	14.16	42.67	13.48
	-8.5	-9.1	45.39	13.90	44.95	13.87	44.44	14.16	44.64	14.13	44.55	14.17	42.67	13.29
	-7.0	-7.6	48.95	13.90	48.31	13.92	47.93	14.43	48.15	14.66	46.46	13.89	42.67	13.26
	-5.0	-5.6	49.59	13.95	48.95	13.92	48.57	14.07	48.48	14.25	46.46	13.46	42.67	12.87
	-3.0	-3.7	50.55	13.96	49.91	13.89	49.52	13.63	48.48	13.40	46.46	13.06	42.67	12.45
	0.0	-0.7	51.85	13.99	54.23	13.91	50.00	13.25	48.48	12.79	46.46	12.40	42.67	11.91
	3.0	2.2	55.25	13.70	54.23	13.58	50.00	12.86	48.48	12.17	46.46	11.69	42.67	11.33
	5.0	4.1	58.64	13.48	54.23	12.91	50.00	12.24	48.48	11.64	46.46	11.21	42.67	10.82
	7.0	6.0	58.64	13.31	54.23	12.27	50.00	11.47	48.48	11.02	46.46	10.74	42.67	10.35
	9.0	7.9	58.64	12.52	54.23	11.59	50.00	11.15	48.48	10.72	46.46	10.43	42.67	10.02
	11.0	9.8	58.64	11.72	54.23	10.88	50.00	10.80	48.48	10.30	46.46	10.06	42.67	9.58
	13.0	11.8	58.64	11.00	54.23	10.62	50.00	10.39	48.48	9.93	46.46	9.67	42.67	9.24
	15.0	13.7	58.64	10.45	54.23	10.16	50.00	9.99	48.48	9.60	46.46	9.36	42.67	8.90
18.0	16.6	58.64	9.72	54.23	9.45	50.00	9.28	48.48	8.91	46.46	8.71	42.67	8.26	
21.0	19.5	58.64	9.00	54.23	8.75	50.00	8.61	48.48	8.26	46.46	8.06	42.67	7.67	
24.0	22.4	58.64	8.31	54.23	8.08	50.00	7.94	48.48	7.62	46.46	7.41	42.67	7.05	
27.0	25.3	58.64	7.61	54.23	7.41	50.00	7.27	48.48	6.99	46.46	6.80	42.67	6.46	
30.0	28.1	58.64	6.94	54.23	6.76	50.00	6.64	48.48	6.38	46.46	6.21	42.67	5.92	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.22:16HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	39.47	13.98	38.92	14.02	38.43	14.03	38.51	14.28	38.80	14.40	38.11	13.40
	-25.0	-25.4	40.28	13.99	39.72	13.99	39.22	14.01	39.30	14.28	39.60	14.40	38.88	13.40
	-19.8	-20.0	41.98	14.26	41.47	14.27	40.90	14.26	41.02	14.40	41.34	14.56	38.88	13.14
	-16.7	-17.0	42.98	14.26	42.44	14.26	42.03	14.28	42.00	14.42	42.32	14.24	38.88	12.72
	-13.7	-15.0	43.63	14.28	43.09	14.33	42.68	14.32	42.64	14.46	42.81	13.94	38.88	12.45
	-11.8	-13.0	44.29	14.33	43.75	14.35	43.34	14.34	43.29	14.27	42.81	13.64	38.88	12.23
	-9.8	-11.0	44.95	14.34	44.56	14.38	43.98	14.35	44.11	13.95	42.81	13.43	38.88	12.01
	-9.5	-10.0	45.28	14.38	44.90	14.35	44.30	14.37	44.27	13.85	42.81	13.30	38.88	11.89
	-8.5	-9.1	45.60	14.37	45.06	14.36	44.63	14.37	44.27	13.69	42.81	13.17	38.88	11.78
	-7.0	-7.6	46.10	14.38	45.71	14.20	45.11	14.17	44.27	13.51	42.81	12.99	38.88	11.62
	-5.0	-5.6	49.72	14.40	49.13	13.56	45.92	13.55	44.27	13.06	42.81	12.55	38.88	11.27
	-3.0	-3.7	50.37	14.43	49.79	12.99	45.92	12.86	44.27	12.58	42.81	12.17	38.88	10.97
	0.0	-0.7	51.37	14.45	49.79	12.34	45.92	12.33	44.27	11.98	42.81	11.59	38.88	10.71
	3.0	2.2	53.83	14.45	49.79	11.66	45.92	11.62	44.27	11.53	42.81	11.05	38.88	10.35
	5.0	4.1	53.83	14.13	49.79	11.09	45.92	11.12	44.27	10.96	42.81	10.55	38.88	9.91
	7.0	6.0	53.83	12.27	49.79	10.91	45.92	10.39	44.27	10.02	42.81	9.72	38.88	8.82
	9.0	7.9	53.83	11.53	49.79	10.69	45.92	9.85	44.27	9.54	42.81	9.27	38.88	8.49
	11.0	9.8	53.83	10.86	49.79	10.10	45.92	9.38	44.27	9.11	42.81	8.88	38.88	8.18
	13.0	11.8	53.83	10.26	49.79	9.62	45.92	8.97	44.27	8.75	42.81	8.54	38.88	7.91
	15.0	13.7	53.83	9.81	49.79	9.25	45.92	8.66	44.27	8.48	42.81	8.29	38.88	7.73
18.0	16.6	53.83	9.15	49.79	8.59	45.92	8.08	44.27	7.89	42.81	7.70	38.88	7.19	
21.0	19.5	53.83	8.45	49.79	7.96	45.92	7.47	44.27	7.30	42.81	7.14	38.88	6.66	
24.0	22.4	53.83	7.79	49.79	7.35	45.92	6.88	44.27	6.73	42.81	6.59	38.88	6.15	
27.0	25.3	53.83	7.15	49.79	6.73	45.92	6.32	44.27	6.16	42.81	6.03	38.88	5.63	
30.0	28.1	53.83	6.53	49.79	6.16	45.92	5.77	44.27	5.63	42.81	5.51	38.88	5.15	
80%	-30.0	-30.5	39.57	14.91	39.30	15.05	39.22	14.47	38.38	13.63	36.89	13.04	34.14	11.98
	-25.0	-25.4	40.37	14.91	40.10	15.02	40.02	14.49	39.16	13.63	37.64	13.04	34.84	11.97
	-19.8	-20.0	41.98	14.34	41.69	14.48	41.25	13.88	39.16	13.09	37.64	12.47	34.84	11.36
	-16.7	-17.0	42.96	14.37	42.68	14.50	41.25	13.46	39.16	12.71	37.64	12.07	34.84	11.03
	-13.7	-15.0	43.62	14.42	43.34	14.52	41.25	13.18	39.16	12.43	37.64	11.83	34.84	10.82
	-11.8	-13.0	44.29	14.42	44.00	14.25	41.25	12.90	39.16	12.20	37.64	11.58	34.84	10.63
	-9.8	-11.0	44.95	14.45	44.65	13.95	41.25	12.67	39.16	11.95	37.64	11.38	34.84	10.42
	-9.5	-10.0	45.28	14.49	44.65	13.84	41.25	12.57	39.16	11.83	37.64	11.26	34.84	10.32
	-8.5	-9.1	45.61	14.50	44.65	13.69	41.25	12.45	39.16	11.75	37.64	11.18	34.84	10.26
	-7.0	-7.6	46.11	14.52	44.65	13.48	41.25	12.29	39.16	11.58	37.64	11.00	34.84	10.10
	-5.0	-5.6	48.09	14.23	44.65	13.05	41.25	11.88	39.16	11.23	37.64	10.71	34.84	9.82
	-3.0	-3.7	48.09	14.69	44.65	12.57	41.25	11.39	39.16	10.81	37.64	10.34	34.84	9.55
	0.0	-0.7	48.09	14.51	44.65	12.02	41.25	10.99	39.16	10.47	37.64	10.01	34.84	9.33
	3.0	2.2	48.09	13.41	44.65	11.31	41.25	10.37	39.16	10.10	37.64	9.64	34.84	8.95
	5.0	4.1	48.09	12.26	44.65	10.71	41.25	9.89	39.16	9.71	37.64	9.18	34.84	8.77
	7.0	6.0	48.09	10.75	44.65	10.01	41.25	9.26	39.16	8.80	37.64	8.43	34.84	7.89
	9.0	7.9	48.09	10.21	44.65	9.56	41.25	8.86	39.16	8.46	37.64	8.12	34.84	7.63
	11.0	9.8	48.09	9.69	44.65	9.11	41.25	8.52	39.16	8.15	37.64	7.85	34.84	7.43
	13.0	11.8	48.09	9.26	44.65	8.74	41.25	8.21	39.16	7.87	37.64	7.64	34.84	7.27
	15.0	13.7	48.09	8.92	44.65	8.47	41.25	7.99	39.16	7.69	37.64	7.46	34.84	7.13
18.0	16.6	48.09	8.32	44.65	7.87	41.25	7.44	39.16	7.16	37.64	6.93	34.84	6.64	
21.0	19.5	48.09	7.70	44.65	7.28	41.25	6.87	39.16	6.63	37.64	6.42	34.84	6.15	
24.0	22.4	48.09	7.09	44.65	6.73	41.25	6.34	39.16	6.10	37.64	5.92	34.84	5.66	
27.0	25.3	48.09	6.51	44.65	6.17	41.25	5.82	39.16	5.59	37.64	5.44	34.84	5.20	
30.0	28.1	48.09	5.94	44.65	5.64	41.25	5.32	39.16	5.11	37.64	4.96	34.84	4.74	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table 2-8.22: 16HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	40.04	14.79	37.95	13.76	35.66	13.66	33.66	13.17	33.04	13.29	30.17	12.73
	-25.0	-25.4	40.86	14.77	38.73	13.80	36.38	13.63	34.35	13.20	33.71	13.30	30.78	12.76
	-19.8	-20.0	40.86	14.06	38.73	13.04	36.38	12.87	34.35	12.45	33.71	12.51	30.78	11.97
	-16.7	-17.0	41.19	13.63	38.73	12.65	36.38	12.56	34.35	12.07	33.71	12.15	30.78	11.61
	-13.7	-15.0	41.19	13.36	38.73	12.40	36.38	12.29	34.35	11.84	33.71	11.91	30.78	11.39
	-11.8	-13.0	41.19	13.10	38.73	12.19	36.38	12.11	34.35	11.64	33.71	11.70	30.78	11.16
	-9.8	-11.0	41.19	12.88	38.73	11.94	36.38	11.86	34.35	11.44	33.71	11.51	30.78	10.97
	-9.5	-10.0	41.19	12.74	38.73	11.85	36.38	11.58	34.35	11.12	33.71	11.20	30.78	10.68
	-8.5	-9.1	41.19	12.64	38.73	11.72	36.38	11.17	34.35	10.74	33.71	10.79	30.78	10.27
	-7.0	-7.6	41.19	12.47	38.73	11.56	36.38	10.71	34.35	10.30	33.71	10.31	30.78	9.81
	-5.0	-5.6	41.19	12.06	38.73	11.22	36.38	10.39	34.35	9.98	33.71	10.04	30.78	9.52
	-3.0	-3.7	41.19	11.44	38.73	10.90	36.38	10.11	34.35	9.68	33.71	9.72	30.78	9.19
	0.0	-0.7	41.19	10.80	38.73	10.43	36.38	9.69	34.35	9.29	33.71	9.29	30.78	8.78
	3.0	2.2	41.19	10.20	38.73	9.86	36.38	9.09	34.35	8.68	33.71	8.71	30.78	8.17
	5.0	4.1	41.19	9.74	38.73	9.20	36.38	8.76	34.35	8.34	33.71	8.36	30.78	7.81
	7.0	6.0	41.19	9.35	38.73	8.83	36.38	8.29	34.35	7.92	33.71	7.94	30.78	7.41
	9.0	7.9	41.19	8.95	38.73	8.50	36.38	8.01	34.35	7.65	33.71	7.62	30.78	7.09
	11.0	9.8	41.19	8.59	38.73	8.18	36.38	7.70	34.35	7.33	33.71	7.32	30.78	6.78
	13.0	11.8	41.19	8.29	38.73	7.85	36.38	7.33	34.35	6.97	33.71	6.93	30.78	6.41
	15.0	13.7	41.19	7.98	38.73	7.51	36.38	7.03	34.35	6.68	33.71	6.64	30.78	6.13
18.0	16.6	41.19	7.41	38.73	6.98	36.38	6.56	34.35	6.22	33.71	6.19	30.78	5.69	
21.0	19.5	41.19	6.87	38.73	6.45	36.38	6.07	34.35	5.76	33.71	5.73	30.78	5.27	
24.0	22.4	41.19	6.33	38.73	5.96	36.38	5.59	34.35	5.30	33.71	5.27	30.78	4.86	
27.0	25.3	41.19	5.81	38.73	5.47	36.38	5.14	34.35	4.86	33.71	4.83	30.78	4.46	
30.0	28.1	41.19	5.30	38.73	5.00	36.38	4.69	34.35	4.44	33.71	4.42	30.78	4.08	
60%	-30.0	-30.5	34.54	13.75	32.63	13.14	30.55	12.67	28.92	12.16	27.92	11.77	25.36	10.99
	-25.0	-25.4	35.24	13.75	33.30	13.13	31.18	12.64	29.51	12.14	28.49	11.74	25.87	11.01
	-19.8	-20.0	35.24	13.04	33.30	12.53	31.18	12.15	29.51	11.61	28.49	11.19	25.87	10.43
	-16.7	-17.0	35.24	12.29	33.30	11.70	31.18	11.36	29.51	10.81	28.49	10.37	25.87	9.64
	-13.7	-15.0	35.24	11.85	33.30	11.38	31.18	11.02	29.51	10.37	28.49	9.98	25.87	9.25
	-11.8	-13.0	35.24	11.46	33.30	10.95	31.18	10.58	29.51	10.04	28.49	9.52	25.87	8.83
	-9.8	-11.0	35.24	11.05	33.30	10.54	31.18	10.07	29.51	9.59	28.49	9.11	25.87	8.53
	-9.5	-10.0	35.24	10.67	33.30	10.12	31.18	9.67	29.51	9.18	28.49	8.71	25.87	8.05
	-8.5	-9.1	35.24	10.21	33.30	9.74	31.18	9.28	29.51	8.76	28.49	8.31	25.87	7.61
	-7.0	-7.6	35.24	9.84	33.30	9.32	31.18	8.94	29.51	8.48	28.49	8.01	25.87	7.26
	-5.0	-5.6	35.24	9.49	33.30	8.98	31.18	8.50	29.51	8.14	28.49	7.68	25.87	6.91
	-3.0	-3.7	35.24	9.15	33.30	8.63	31.18	8.14	29.51	7.80	28.49	7.34	25.87	6.67
	0.0	-0.7	35.24	8.78	33.30	8.29	31.18	7.77	29.51	7.41	28.49	6.98	25.87	6.55
	3.0	2.2	35.24	8.39	33.30	7.91	31.18	7.46	29.51	7.11	28.49	6.62	25.87	6.32
	5.0	4.1	35.24	7.95	33.30	7.55	31.18	7.18	29.51	6.79	28.49	6.47	25.87	6.18
	7.0	6.0	35.24	7.60	33.30	7.24	31.18	6.86	29.51	6.53	28.49	6.44	25.87	6.06
	9.0	7.9	35.24	7.48	33.30	7.08	31.18	6.76	29.51	6.38	28.49	6.17	25.87	5.80
	11.0	9.8	35.24	7.36	33.30	6.97	31.18	6.56	29.51	6.22	28.49	6.04	25.87	5.68
	13.0	11.8	35.24	7.14	33.30	6.73	31.18	6.36	29.51	6.10	28.49	5.91	25.87	5.55
	15.0	13.7	35.24	7.03	33.30	6.61	31.18	6.19	29.51	5.95	28.49	5.75	25.87	5.40
18.0	16.6	35.24	6.56	33.30	6.14	31.18	5.76	29.51	5.52	28.49	5.35	25.87	5.02	
21.0	19.5	35.24	6.08	33.30	5.69	31.18	5.34	29.51	5.12	28.49	4.95	25.87	4.64	
24.0	22.4	35.24	5.59	33.30	5.24	31.18	4.90	29.51	4.71	28.49	4.57	25.87	4.28	
27.0	25.3	35.24	5.12	33.30	4.80	31.18	4.50	29.51	4.33	28.49	4.19	25.87	3.93	
30.0	28.1	35.24	4.68	33.30	4.39	31.18	4.12	29.51	3.95	28.49	3.83	25.87	3.58	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.22:16HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	28.92	11.39	27.51	10.98	25.56	10.49	24.43	10.24	23.43	9.97	21.46	9.29
	-25.0	-25.4	29.51	11.40	28.07	10.98	26.08	10.50	24.93	10.26	23.91	9.97	21.90	9.27
	-19.8	-20.0	29.51	10.81	28.07	10.49	26.08	10.10	24.93	9.78	23.91	9.51	21.90	8.82
	-16.7	-17.0	29.51	10.20	28.07	9.80	26.08	9.43	24.93	9.09	23.91	8.82	21.90	8.15
	-13.7	-15.0	29.51	9.86	28.07	9.51	26.08	9.13	24.93	8.78	23.91	8.47	21.90	7.81
	-11.8	-13.0	29.51	9.48	28.07	9.18	26.08	8.79	24.93	8.46	23.91	8.11	21.90	7.45
	-9.8	-11.0	29.51	9.18	28.07	8.82	26.08	8.36	24.93	8.08	23.91	7.79	21.90	7.18
	-9.5	-10.0	29.51	8.86	28.07	8.49	26.08	8.02	24.93	7.72	23.91	7.46	21.90	6.78
	-8.5	-9.1	29.51	8.51	28.07	8.16	26.08	7.68	24.93	7.40	23.91	7.11	21.90	6.41
	-7.0	-7.6	29.51	8.18	28.07	7.84	26.08	7.44	24.93	7.16	23.91	6.85	21.90	6.12
	-5.0	-5.6	29.51	7.88	28.07	7.52	26.08	7.05	24.93	6.86	23.91	6.58	21.90	5.84
	-3.0	-3.7	29.51	7.59	28.07	7.23	26.08	6.73	24.93	6.59	23.91	6.30	21.90	5.62
	0.0	-0.7	29.51	7.30	28.07	6.95	26.08	6.43	24.93	6.27	23.91	6.00	21.90	5.53
	3.0	2.2	29.51	6.98	28.07	6.62	26.08	6.20	24.93	6.02	23.91	5.68	21.90	5.48
	5.0	4.1	29.51	6.61	28.07	6.32	26.08	5.96	24.93	5.74	23.91	5.58	21.90	5.44
	7.0	6.0	29.51	6.31	28.07	6.07	26.08	5.68	24.93	5.51	23.91	5.48	21.90	5.28
	9.0	7.9	29.51	6.19	28.07	5.92	26.08	5.59	24.93	5.37	23.91	5.26	21.90	5.12
	11.0	9.8	29.51	6.10	28.07	5.85	26.08	5.44	24.93	5.25	23.91	5.17	21.90	5.02
	13.0	11.8	29.51	5.92	28.07	5.65	26.08	5.27	24.93	5.14	23.91	5.04	21.90	4.92
15.0	13.7	29.51	5.84	28.07	5.53	26.08	5.13	24.93	5.00	23.91	4.91	21.90	4.77	
18.0	16.6	29.51	5.44	28.07	5.14	26.08	4.77	24.93	4.66	23.91	4.56	21.90	4.44	
21.0	19.5	29.51	5.03	28.07	4.75	26.08	4.42	24.93	4.32	23.91	4.23	21.90	4.12	
24.0	22.4	29.51	4.64	28.07	4.39	26.08	4.07	24.93	3.97	23.91	3.90	21.90	3.79	
27.0	25.3	29.51	4.26	28.07	4.03	26.08	3.73	24.93	3.65	23.91	3.57	21.90	3.47	
30.0	28.1	29.51	3.89	28.07	3.68	26.08	3.42	24.93	3.33	23.91	3.26	21.90	3.18	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table 2-8.23: 18HP heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	44.31	11.72	43.48	11.75	42.94	12.31	42.30	12.49	43.04	13.11	42.39	13.16
	-25.0	-25.4	45.22	11.72	44.36	11.74	43.81	12.33	43.16	12.52	43.92	13.08	43.25	13.19
	-19.8	-20.0	47.54	12.02	46.64	12.09	46.85	12.80	46.14	13.02	46.98	13.63	46.35	13.66
	-16.7	-17.0	48.64	12.38	47.72	12.47	47.95	13.07	47.40	13.26	48.08	13.87	47.44	13.93
	-13.7	-15.0	49.37	12.51	48.44	12.65	48.67	13.33	48.12	13.50	48.82	14.11	48.18	14.15
	-11.8	-13.0	50.10	12.72	49.17	12.86	49.41	13.57	48.85	13.76	49.55	14.34	49.09	14.33
	-9.8	-11.0	50.84	12.94	49.89	13.10	50.14	13.70	49.56	13.90	50.47	14.49	49.81	14.40
	-9.5	-10.0	51.20	13.12	50.25	13.25	50.69	13.90	49.93	14.08	50.84	14.70	50.18	14.58
	-8.5	-9.1	51.57	13.29	50.61	13.39	50.86	14.08	50.28	14.26	51.20	14.88	50.54	14.79
	-7.0	-7.6	52.13	13.30	51.16	13.61	51.60	14.18	50.83	14.35	51.76	15.05	51.08	14.98
	-5.0	-5.6	56.16	13.89	55.13	13.99	55.42	14.62	54.79	14.87	55.61	15.18	54.90	15.15
	-3.0	-3.7	56.89	14.25	55.85	14.20	56.15	14.88	55.51	15.16	56.35	15.33	55.63	15.34
	0.0	-0.7	57.99	14.63	56.93	14.34	57.24	15.03	56.59	15.32	57.45	15.57	56.91	15.46
	3.0	2.2	64.07	15.49	62.36	15.28	62.71	15.84	61.82	15.98	62.94	16.39	62.18	16.38
	5.0	4.1	79.65	18.69	75.30	18.25	74.75	18.31	71.02	17.49	69.37	17.63	63.09	16.72
	7.0	6.0	80.94	18.86	76.75	17.75	74.75	17.39	71.02	16.75	69.37	16.91	63.09	16.11
	9.0	7.9	80.94	17.92	76.75	16.88	74.75	16.87	71.02	16.43	69.37	16.48	63.09	15.78
	11.0	9.8	80.94	17.10	76.75	16.21	74.75	16.27	71.02	15.90	69.37	15.99	63.09	15.14
	13.0	11.8	80.94	16.28	76.75	15.71	74.75	15.84	71.02	15.66	69.37	15.65	63.09	14.86
	15.0	13.7	80.94	15.75	76.75	15.37	74.75	15.40	71.02	15.04	69.37	15.21	63.09	14.33
18.0	16.6	81.82	14.78	77.34	14.39	75.12	14.38	71.20	14.02	69.40	14.15	63.09	13.33	
21.0	19.5	82.30	13.81	77.54	13.35	75.12	13.35	71.20	12.95	69.40	13.08	63.09	12.36	
24.0	22.4	82.37	12.73	77.54	12.33	75.12	12.30	71.20	11.97	69.40	12.08	63.09	11.38	
27.0	25.3	82.37	11.69	77.54	11.29	75.12	11.27	71.20	10.95	69.40	11.07	63.09	10.45	
30.0	28.1	82.37	10.65	77.54	10.32	75.12	10.28	71.20	10.03	69.40	10.12	63.09	9.52	
120%	-30.0	-30.5	44.05	12.79	43.82	13.25	42.92	13.47	42.75	13.75	42.96	14.25	43.32	14.62
	-25.0	-25.4	44.95	12.83	44.72	13.27	43.80	13.47	43.62	13.77	43.83	14.22	44.21	14.61
	-19.8	-20.0	47.66	13.17	47.43	13.60	46.31	13.71	46.26	14.03	46.53	14.51	46.88	14.92
	-16.7	-17.0	48.76	13.55	48.54	13.82	47.40	14.11	47.35	14.42	47.63	14.89	48.17	15.12
	-13.7	-15.0	49.51	13.71	49.28	14.08	48.12	14.18	48.07	14.50	48.53	14.98	48.90	15.26
	-11.8	-13.0	50.24	13.94	50.02	14.21	48.93	14.36	48.80	14.71	49.27	15.18	49.65	15.44
	-9.8	-11.0	50.99	14.01	50.75	14.32	49.75	14.53	49.52	14.86	49.99	15.32	50.38	15.72
	-9.5	-10.0	51.36	14.16	51.12	14.44	50.11	14.65	49.88	14.96	50.36	15.42	50.75	15.91
	-8.5	-9.1	51.72	14.31	51.50	14.65	50.48	14.80	50.25	15.12	50.73	15.57	51.12	15.94
	-7.0	-7.6	52.28	14.56	52.04	14.88	51.01	14.95	50.78	15.27	51.27	15.77	51.67	16.12
	-5.0	-5.6	56.34	14.66	56.10	15.03	54.82	15.15	54.77	15.45	55.29	15.91	55.74	16.38
	-3.0	-3.7	57.08	14.91	56.84	15.23	55.54	15.31	55.48	15.63	55.83	16.14	56.47	16.48
	0.0	-0.7	58.19	15.10	57.95	15.47	56.62	15.44	56.57	15.74	57.11	16.26	57.58	16.59
	3.0	2.2	63.54	16.02	63.48	16.42	62.05	16.22	61.82	16.57	62.41	17.02	59.05	16.46
	5.0	4.1	79.99	17.99	75.11	17.77	68.38	17.14	65.61	16.78	63.69	16.74	59.05	15.96
	7.0	6.0	80.55	17.84	75.11	17.06	68.38	16.26	65.61	15.96	63.69	16.03	59.05	15.55
	9.0	7.9	80.55	17.07	75.11	16.25	68.38	15.74	65.61	15.45	63.69	15.59	59.05	15.09
	11.0	9.8	80.55	16.54	75.11	15.94	68.38	15.20	65.61	14.99	63.69	15.01	59.05	14.49
	13.0	11.8	80.55	16.11	75.11	15.55	68.38	14.78	65.61	14.74	63.69	14.72	59.05	14.22
	15.0	13.7	80.55	15.79	75.11	15.08	68.38	14.42	65.61	14.24	63.69	14.25	59.05	13.68
18.0	16.6	81.42	14.85	75.69	14.12	68.72	13.45	65.78	13.26	63.72	13.23	59.05	12.73	
21.0	19.5	81.90	13.83	75.89	13.12	68.72	12.47	65.78	12.26	63.72	12.24	59.05	11.79	
24.0	22.4	81.97	12.74	75.89	12.08	68.72	11.47	65.78	11.33	63.72	11.32	59.05	10.87	
27.0	25.3	81.97	11.67	75.89	11.10	68.72	10.55	65.78	10.40	63.72	10.38	59.05	9.96	
30.0	28.1	81.97	10.66	75.89	10.12	68.72	9.61	65.78	9.48	63.72	9.45	59.05	9.12	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.23:18HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-30.0	-30.5	44.01	13.00	43.85	13.31	44.09	13.80	43.74	13.46	43.53	13.66	44.02	14.22
	-25.0	-25.4	44.90	13.03	44.74	13.35	44.99	13.80	44.63	13.46	44.42	13.68	44.92	14.22
	-19.8	-20.0	46.85	13.19	46.71	13.51	47.02	13.97	46.58	13.64	46.35	13.87	46.88	14.39
	-16.7	-17.0	47.95	13.61	47.81	13.89	48.13	14.37	47.67	13.92	47.63	14.17	47.98	14.61
	-13.7	-15.0	48.67	13.71	48.53	14.04	48.86	14.49	48.40	14.00	48.35	14.26	48.72	14.76
	-11.8	-13.0	49.41	13.94	49.27	14.26	49.79	14.71	49.13	14.12	49.09	14.43	49.46	14.95
	-9.8	-11.0	50.13	13.89	49.99	14.23	50.52	14.67	49.86	14.40	49.81	14.57	50.19	15.16
	-9.5	-10.0	50.50	14.08	50.55	14.37	50.89	14.83	50.23	14.43	50.18	14.79	50.57	15.30
	-8.5	-9.1	50.87	14.20	50.73	14.54	51.26	15.03	50.59	14.57	50.55	14.92	50.94	15.44
	-7.0	-7.6	51.41	14.36	51.27	14.71	51.81	15.15	51.14	14.79	51.09	15.10	51.50	15.51
	-5.0	-5.6	55.41	14.59	55.29	14.89	55.69	15.37	55.16	14.92	55.11	15.16	54.08	15.36
	-3.0	-3.7	56.15	14.65	56.02	14.97	56.42	15.45	55.89	15.05	55.83	15.37	54.08	15.11
	0.0	-0.7	57.24	15.02	57.11	15.34	57.71	15.82	56.98	15.17	56.93	15.50	54.08	14.88
	3.0	2.2	62.52	15.69	62.58	16.03	63.06	16.52	60.82	15.83	58.39	15.63	54.08	14.71
	5.0	4.1	72.92	17.15	68.07	17.10	63.98	16.14	60.82	15.51	58.39	15.23	54.08	14.69
	7.0	6.0	72.92	16.47	68.07	16.09	63.98	15.28	60.82	14.75	58.39	14.50	54.08	14.32
	9.0	7.9	72.92	15.75	68.07	15.27	63.98	14.76	60.82	14.39	58.39	14.23	54.08	14.07
	11.0	9.8	72.92	15.20	68.07	14.67	63.98	14.36	60.82	13.87	58.39	13.73	54.08	13.61
	13.0	11.8	72.92	14.73	68.07	14.23	63.98	13.89	60.82	13.46	58.39	13.29	54.08	13.12
	15.0	13.7	72.92	14.33	68.07	13.74	63.98	13.43	60.82	13.00	58.39	12.84	54.08	12.67
18.0	16.6	73.71	13.48	68.59	12.90	64.30	12.54	60.98	12.13	58.42	11.92	54.08	11.77	
21.0	19.5	74.14	12.53	68.77	11.99	64.30	11.64	60.98	11.24	58.42	11.05	54.08	10.93	
24.0	22.4	74.20	11.59	68.77	11.03	64.30	10.70	60.98	10.35	58.42	10.18	54.08	10.04	
27.0	25.3	74.20	10.63	68.77	10.11	64.30	9.83	60.98	9.49	58.42	9.36	54.08	9.22	
30.0	28.1	74.20	9.70	68.77	9.24	64.30	8.97	60.98	8.68	58.42	8.54	54.08	8.42	
100%	-30.0	-30.5	43.12	15.94	43.08	16.11	42.61	16.24	43.32	16.53	43.19	16.62	42.72	16.69
	-25.0	-25.4	44.00	15.92	43.96	16.11	43.48	16.26	44.20	16.56	44.07	16.60	43.60	16.67
	-19.8	-20.0	46.04	15.94	46.00	16.13	45.51	16.36	46.26	16.59	46.13	16.63	45.65	16.59
	-16.7	-17.0	47.47	15.97	47.43	16.21	47.11	16.44	47.71	16.62	47.57	16.68	47.08	16.38
	-13.7	-15.0	48.19	16.03	48.15	16.19	47.82	16.45	48.44	16.67	48.30	16.67	47.79	16.19
	-11.8	-13.0	48.90	16.00	48.86	16.24	48.53	16.47	49.15	16.68	49.01	16.70	47.79	15.98
	-9.8	-11.0	49.26	16.02	49.40	16.27	48.89	16.48	49.70	16.69	49.38	16.74	47.79	16.00
	-9.5	-10.0	49.62	16.06	49.58	16.26	49.25	16.54	49.88	16.70	49.74	16.72	47.79	15.81
	-8.5	-9.1	50.15	16.11	50.29	16.27	49.77	16.62	50.43	16.71	50.28	16.78	47.79	15.59
	-7.0	-7.6	54.08	16.10	54.06	16.32	53.69	16.95	54.40	17.31	52.44	16.47	47.79	15.54
	-5.0	-5.6	54.79	16.10	54.77	16.31	54.40	16.52	54.77	16.86	52.44	15.94	47.79	15.12
	-3.0	-3.7	55.86	16.15	55.84	16.34	55.46	15.98	54.77	15.87	52.44	15.44	47.79	14.63
	0.0	-0.7	57.29	16.19	60.68	16.34	56.00	15.53	54.77	15.13	52.44	14.67	47.79	13.95
	3.0	2.2	61.04	15.86	60.68	15.90	56.00	15.09	54.77	14.40	52.44	13.84	47.79	13.30
	5.0	4.1	64.79	15.56	60.68	15.15	56.00	14.39	54.77	13.75	52.44	13.25	47.79	12.70
	7.0	6.0	64.79	15.37	60.68	14.34	56.00	13.46	54.77	13.03	52.44	12.74	47.79	12.13
	9.0	7.9	64.79	14.53	60.68	13.61	56.00	13.09	54.77	12.72	52.44	12.32	47.79	11.75
	11.0	9.8	64.79	13.60	60.68	12.76	56.00	12.66	54.77	12.19	52.44	11.89	47.79	11.25
	13.0	11.8	64.79	12.71	60.68	12.47	56.00	12.19	54.77	11.75	52.44	11.46	47.79	10.87
	15.0	13.7	64.79	12.12	60.68	11.91	56.00	11.73	54.77	11.37	52.44	11.08	47.79	10.43
18.0	16.6	64.79	11.27	60.68	11.08	56.00	10.91	54.77	10.55	52.44	10.30	47.79	9.71	
21.0	19.5	64.79	10.44	60.68	10.26	56.00	10.11	54.77	9.78	52.44	9.53	47.79	9.00	
24.0	22.4	64.79	9.61	60.68	9.47	56.00	9.30	54.77	9.01	52.44	8.79	47.79	8.28	
27.0	25.3	64.79	8.83	60.68	8.69	56.00	8.54	54.77	8.27	52.44	8.05	47.79	7.59	
30.0	28.1	64.79	8.06	60.68	7.92	56.00	7.79	54.77	7.55	52.44	7.37	47.79	6.94	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.23:18HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	43.79	16.29	44.05	16.63	43.83	16.79	42.87	16.60	43.45	16.90	43.41	15.99
	-25.0	-25.4	44.68	16.29	44.95	16.59	44.72	16.81	43.75	16.62	44.34	16.93	44.30	15.99
	-19.8	-20.0	46.58	16.58	46.92	16.88	46.65	17.03	45.68	16.79	46.30	17.11	44.30	15.67
	-16.7	-17.0	47.67	16.59	48.03	16.94	47.94	17.07	46.76	16.83	47.39	16.71	44.30	15.18
	-13.7	-15.0	48.40	16.63	48.76	16.99	48.67	17.11	47.49	16.82	47.95	16.39	44.30	14.88
	-11.8	-13.0	49.13	16.64	49.51	17.00	49.41	17.16	48.21	16.60	47.95	16.07	44.30	14.62
	-9.8	-11.0	49.86	16.65	50.43	17.06	50.15	17.16	49.11	16.29	47.95	15.74	44.30	14.29
	-9.5	-10.0	50.23	16.66	50.80	17.06	50.52	17.19	49.29	16.12	47.95	15.60	44.30	14.16
	-8.5	-9.1	50.59	16.73	50.99	17.05	50.89	17.14	49.29	15.98	47.95	15.47	44.30	14.06
	-7.0	-7.6	51.14	16.76	51.72	16.83	51.45	16.89	49.29	15.78	47.95	15.20	44.30	13.85
	-5.0	-5.6	55.16	16.77	55.61	16.11	52.37	16.21	49.29	15.28	47.95	14.74	44.30	13.43
	-3.0	-3.7	55.89	16.80	56.34	15.38	52.37	15.42	49.29	14.72	47.95	14.26	44.30	13.13
	0.0	-0.7	56.98	16.79	56.34	14.65	52.37	14.77	49.29	13.98	47.95	13.59	44.30	12.79
	3.0	2.2	59.72	16.85	56.34	13.85	52.37	13.89	49.29	13.48	47.95	12.98	44.30	12.32
	5.0	4.1	59.72	16.40	56.34	13.20	52.37	13.29	49.29	12.79	47.95	12.37	44.30	11.83
	7.0	6.0	59.72	14.24	56.34	12.95	52.37	12.41	49.29	11.69	47.95	11.37	44.30	10.53
	9.0	7.9	59.72	13.39	56.34	12.67	52.37	11.79	49.29	11.14	47.95	10.87	44.30	10.15
	11.0	9.8	59.72	12.62	56.34	12.02	52.37	11.24	49.29	10.62	47.95	10.41	44.30	9.76
	13.0	11.8	59.72	11.94	56.34	11.41	52.37	10.75	49.29	10.20	47.95	10.01	44.30	9.48
	15.0	13.7	59.72	11.43	56.34	10.98	52.37	10.36	49.29	9.87	47.95	9.73	44.30	9.26
18.0	16.6	59.72	10.62	56.34	10.22	52.37	9.65	49.29	9.20	47.95	9.05	44.30	8.61	
21.0	19.5	59.72	9.84	56.34	9.47	52.37	8.93	49.29	8.51	47.95	8.38	44.30	7.96	
24.0	22.4	59.72	9.07	56.34	8.71	52.37	8.23	49.29	7.83	47.95	7.71	44.30	7.34	
27.0	25.3	59.72	8.32	56.34	8.01	52.37	7.56	49.29	7.19	47.95	7.08	44.30	6.73	
30.0	28.1	59.72	7.61	56.34	7.31	52.37	6.91	49.29	6.58	47.95	6.48	44.30	6.14	
80%	-30.0	-30.5	43.73	17.26	43.63	17.50	43.38	16.80	43.31	16.12	41.74	15.46	37.84	13.90
	-25.0	-25.4	44.62	17.26	44.52	17.48	44.26	16.79	44.20	16.13	42.59	15.45	38.61	13.88
	-19.8	-20.0	46.39	16.61	46.30	16.81	45.63	16.06	44.20	15.46	42.59	14.75	38.61	13.20
	-16.7	-17.0	47.49	16.63	47.39	16.86	45.63	15.59	44.20	14.99	42.59	14.34	38.61	12.83
	-13.7	-15.0	48.21	16.72	48.13	16.89	45.63	15.26	44.20	14.70	42.59	14.07	38.61	12.59
	-11.8	-13.0	48.95	16.69	48.86	16.60	45.63	14.98	44.20	14.44	42.59	13.74	38.61	12.35
	-9.8	-11.0	49.67	16.76	49.60	16.24	45.63	14.73	44.20	14.14	42.59	13.52	38.61	12.12
	-9.5	-10.0	50.04	16.79	49.60	16.09	45.63	14.57	44.20	14.01	42.59	13.39	38.61	11.99
	-8.5	-9.1	50.41	16.77	49.60	15.93	45.63	14.41	44.20	13.91	42.59	13.28	38.61	11.90
	-7.0	-7.6	50.96	16.81	49.60	15.70	45.63	14.24	44.20	13.72	42.59	13.06	38.61	11.74
	-5.0	-5.6	53.15	16.46	49.60	15.22	45.63	13.79	44.20	13.28	42.59	12.68	38.61	11.40
	-3.0	-3.7	53.15	17.04	49.60	14.65	45.63	13.21	44.20	12.78	42.59	12.26	38.61	11.07
	0.0	-0.7	53.15	16.80	49.60	13.98	45.63	12.76	44.20	12.38	42.59	11.87	38.61	10.85
	3.0	2.2	53.15	15.53	49.60	13.17	45.63	12.03	44.20	11.95	42.59	11.45	38.61	10.41
	5.0	4.1	53.15	14.21	49.60	12.45	45.63	11.46	44.20	11.45	42.59	10.88	38.61	10.19
	7.0	6.0	53.15	12.47	49.60	11.65	45.63	10.70	44.20	10.39	42.59	10.02	38.61	9.15
	9.0	7.9	53.15	11.79	49.60	11.10	45.63	10.25	44.20	10.02	42.59	9.63	38.61	8.88
	11.0	9.8	53.15	11.21	49.60	10.62	45.63	9.85	44.20	9.63	42.59	9.32	38.61	8.64
	13.0	11.8	53.15	10.72	49.60	10.15	45.63	9.52	44.20	9.33	42.59	9.06	38.61	8.42
	15.0	13.7	53.15	10.34	49.60	9.86	45.63	9.27	44.20	9.12	42.59	8.84	38.61	8.28
18.0	16.6	53.15	9.62	49.60	9.16	45.63	8.60	44.20	8.46	42.59	8.24	38.61	7.72	
21.0	19.5	53.15	8.91	49.60	8.47	45.63	7.97	44.20	7.85	42.59	7.63	38.61	7.14	
24.0	22.4	53.15	8.20	49.60	7.81	45.63	7.36	44.20	7.24	42.59	7.02	38.61	6.58	
27.0	25.3	53.15	7.52	49.60	7.17	45.63	6.74	44.20	6.64	42.59	6.44	38.61	6.05	
30.0	28.1	53.15	6.86	49.60	6.55	45.63	6.15	44.20	6.06	42.59	5.89	38.61	5.51	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.23: 18HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	44.72	17.30	42.46	16.18	39.11	15.68	37.58	15.42	36.79	15.53	33.79	14.97
	-25.0	-25.4	45.63	17.28	43.33	16.15	39.90	15.69	38.35	15.42	37.54	15.52	34.48	14.96
	-19.8	-20.0	45.63	16.48	43.33	15.32	39.90	14.81	38.35	14.54	37.54	14.60	34.48	14.06
	-16.7	-17.0	46.00	15.95	43.33	14.85	39.90	14.38	38.35	14.12	37.54	14.23	34.48	13.63
	-13.7	-15.0	46.00	15.68	43.33	14.54	39.90	14.10	38.35	13.89	37.54	13.94	34.48	13.38
	-11.8	-13.0	46.00	15.35	43.33	14.29	39.90	13.90	38.35	13.66	37.54	13.69	34.48	13.14
	-9.8	-11.0	46.00	15.04	43.33	14.03	39.90	13.64	38.35	13.40	37.54	13.44	34.48	12.88
	-9.5	-10.0	46.00	14.93	43.33	13.90	39.90	13.31	38.35	13.04	37.54	13.05	34.48	12.50
	-8.5	-9.1	46.00	14.78	43.33	13.77	39.90	12.86	38.35	12.61	37.54	12.64	34.48	12.07
	-7.0	-7.6	46.00	14.55	43.33	13.56	39.90	12.31	38.35	12.04	37.54	12.03	34.48	11.49
	-5.0	-5.6	46.00	14.12	43.33	13.15	39.90	11.95	38.35	11.70	37.54	11.71	34.48	11.15
	-3.0	-3.7	46.00	13.35	43.33	12.78	39.90	11.61	38.35	11.35	37.54	11.36	34.48	10.80
	0.0	-0.7	46.00	12.65	43.33	12.19	39.90	11.10	38.35	10.85	37.54	10.83	34.48	10.31
	3.0	2.2	46.00	11.95	43.33	11.54	39.90	10.44	38.35	10.18	37.54	10.15	34.48	9.58
	5.0	4.1	46.00	11.40	43.33	10.83	39.90	10.03	38.35	9.78	37.54	9.75	34.48	9.20
	7.0	6.0	46.00	10.93	43.33	10.34	39.90	9.53	38.35	9.28	37.54	9.26	34.48	8.68
	9.0	7.9	46.00	10.48	43.33	9.93	39.90	9.22	38.35	8.95	37.54	8.89	34.48	8.34
	11.0	9.8	46.00	10.08	43.33	9.60	39.90	8.84	38.35	8.56	37.54	8.53	34.48	7.95
	13.0	11.8	46.00	9.70	43.33	9.21	39.90	8.41	38.35	8.16	37.54	8.08	34.48	7.53
	15.0	13.7	46.00	9.34	43.33	8.81	39.90	8.08	38.35	7.82	37.54	7.75	34.48	7.19
18.0	16.6	46.00	8.68	43.33	8.19	39.90	7.52	38.35	7.26	37.54	7.21	34.48	6.70	
21.0	19.5	46.00	8.03	43.33	7.58	39.90	6.96	38.35	6.73	37.54	6.68	34.48	6.19	
24.0	22.4	46.00	7.41	43.33	6.98	39.90	6.42	38.35	6.20	37.54	6.15	34.48	5.70	
27.0	25.3	46.00	6.80	43.33	6.40	39.90	5.90	38.35	5.68	37.54	5.66	34.48	5.23	
30.0	28.1	46.00	6.22	43.33	5.86	39.90	5.37	38.35	5.19	37.54	5.16	34.48	4.79	
60%	-30.0	-30.5	38.94	16.26	36.51	15.38	33.76	14.67	32.24	14.21	31.50	13.90	28.32	12.86
	-25.0	-25.4	39.74	16.27	37.26	15.41	34.45	14.64	32.89	14.20	32.14	13.93	28.89	12.88
	-19.8	-20.0	39.74	15.41	37.26	14.67	34.45	14.07	32.89	13.59	32.14	13.26	28.89	12.19
	-16.7	-17.0	39.74	14.51	37.26	13.71	34.45	13.19	32.89	12.61	32.14	12.27	28.89	11.30
	-13.7	-15.0	39.74	14.00	37.26	13.34	34.45	12.76	32.89	12.16	32.14	11.77	28.89	10.83
	-11.8	-13.0	39.74	13.55	37.26	12.82	34.45	12.27	32.89	11.73	32.14	11.28	28.89	10.37
	-9.8	-11.0	39.74	13.07	37.26	12.36	34.45	11.70	32.89	11.18	32.14	10.78	28.89	9.96
	-9.5	-10.0	39.74	12.63	37.26	11.84	34.45	11.22	32.89	10.71	32.14	10.31	28.89	9.41
	-8.5	-9.1	39.74	12.10	37.26	11.45	34.45	10.74	32.89	10.26	32.14	9.83	28.89	8.90
	-7.0	-7.6	39.74	11.64	37.26	10.96	34.45	10.37	32.89	9.91	32.14	9.47	28.89	8.50
	-5.0	-5.6	39.74	11.23	37.26	10.54	34.45	9.84	32.89	9.50	32.14	9.09	28.89	8.09
	-3.0	-3.7	39.74	10.83	37.26	10.11	34.45	9.40	32.89	9.10	32.14	8.70	28.89	7.82
	0.0	-0.7	39.74	10.38	37.26	9.71	34.45	8.98	32.89	8.68	32.14	8.24	28.89	7.67
	3.0	2.2	39.74	9.90	37.26	9.26	34.45	8.64	32.89	8.31	32.14	7.81	28.89	7.38
	5.0	4.1	39.74	9.40	37.26	8.85	34.45	8.31	32.89	7.93	32.14	7.65	28.89	7.23
	7.0	6.0	39.74	8.98	37.26	8.49	34.45	7.95	32.89	7.62	32.14	7.61	28.89	7.10
	9.0	7.9	39.74	8.83	37.26	8.29	34.45	7.81	32.89	7.44	32.14	7.29	28.89	6.76
	11.0	9.8	39.74	8.68	37.26	8.19	34.45	7.62	32.89	7.27	32.14	7.13	28.89	6.66
	13.0	11.8	39.74	8.40	37.26	7.91	34.45	7.37	32.89	7.12	32.14	6.98	28.89	6.50
	15.0	13.7	39.74	8.32	37.26	7.74	34.45	7.14	32.89	6.94	32.14	6.81	28.89	6.32
18.0	16.6	39.74	7.74	37.26	7.20	34.45	6.64	32.89	6.46	32.14	6.33	28.89	5.86	
21.0	19.5	39.74	7.16	37.26	6.67	34.45	6.16	32.89	5.97	32.14	5.86	28.89	5.44	
24.0	22.4	39.74	6.60	37.26	6.16	34.45	5.68	32.89	5.51	32.14	5.41	28.89	5.02	
27.0	25.3	39.74	6.05	37.26	5.64	34.45	5.21	32.89	5.06	32.14	4.96	28.89	4.61	
30.0	28.1	39.74	5.53	37.26	5.16	34.45	4.75	32.89	4.61	32.14	4.52	28.89	4.19	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.23: 18HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	32.64	13.48	30.13	12.60	28.52	12.24	27.24	11.98	26.23	11.72	23.76	10.78
	-25.0	-25.4	33.31	13.50	30.75	12.61	29.11	12.27	27.79	11.96	26.77	11.72	24.24	10.75
	-19.8	-20.0	33.31	12.77	30.75	12.02	29.11	11.79	27.79	11.44	26.77	11.15	24.24	10.20
	-16.7	-17.0	33.31	12.07	30.75	11.25	29.11	11.04	27.79	10.62	26.77	10.32	24.24	9.45
	-13.7	-15.0	33.31	11.67	30.75	10.93	29.11	10.67	27.79	10.25	26.77	9.95	24.24	9.07
	-11.8	-13.0	33.31	11.23	30.75	10.51	29.11	10.28	27.79	9.89	26.77	9.52	24.24	8.64
	-9.8	-11.0	33.31	10.88	30.75	10.14	29.11	9.80	27.79	9.44	26.77	9.13	24.24	8.33
	-9.5	-10.0	33.31	10.49	30.75	9.71	29.11	9.38	27.79	9.04	26.77	8.73	24.24	7.90
	-8.5	-9.1	33.31	10.06	30.75	9.39	29.11	9.00	27.79	8.65	26.77	8.34	24.24	7.43
	-7.0	-7.6	33.31	9.68	30.75	8.97	29.11	8.66	27.79	8.34	26.77	8.01	24.24	7.12
	-5.0	-5.6	33.31	9.30	30.75	8.65	29.11	8.23	27.79	8.00	26.77	7.70	24.24	6.76
	-3.0	-3.7	33.31	8.98	30.75	8.30	29.11	7.88	27.79	7.70	26.77	7.40	24.24	6.53
	0.0	-0.7	33.31	8.63	30.75	7.98	29.11	7.52	27.79	7.32	26.77	7.03	24.24	6.39
	3.0	2.2	33.31	8.23	30.75	7.59	29.11	7.24	27.79	7.02	26.77	6.67	24.24	6.38
	5.0	4.1	33.31	7.80	30.75	7.26	29.11	6.96	27.79	6.70	26.77	6.55	24.24	6.30
	7.0	6.0	33.31	7.47	30.75	6.94	29.11	6.65	27.79	6.44	26.77	6.43	24.24	6.13
	9.0	7.9	33.31	7.33	30.75	6.80	29.11	6.53	27.79	6.29	26.77	6.15	24.24	5.92
	11.0	9.8	33.31	7.21	30.75	6.71	29.11	6.38	27.79	6.13	26.77	6.05	24.24	5.82
	13.0	11.8	33.31	6.99	30.75	6.48	29.11	6.16	27.79	5.99	26.77	5.91	24.24	5.70
15.0	13.7	33.31	6.91	30.75	6.34	29.11	6.00	27.79	5.86	26.77	5.75	24.24	5.54	
18.0	16.6	33.31	6.45	30.75	5.91	29.11	5.57	27.79	5.45	26.77	5.34	24.24	5.14	
21.0	19.5	33.31	5.97	30.75	5.46	29.11	5.16	27.79	5.05	26.77	4.96	24.24	4.77	
24.0	22.4	33.31	5.50	30.75	5.04	29.11	4.76	27.79	4.64	26.77	4.56	24.24	4.40	
27.0	25.3	33.31	5.04	30.75	4.62	29.11	4.36	27.79	4.26	26.77	4.19	24.24	4.03	
30.0	28.1	33.31	4.60	30.75	4.23	29.11	3.98	27.79	3.89	26.77	3.83	24.24	3.68	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.24:20HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	49.62	13.23	49.05	13.36	48.81	14.08	48.74	14.53	47.69	14.62	48.42	15.19
	-25.0	-25.4	50.63	13.23	50.05	13.36	49.81	14.10	49.74	14.51	48.66	14.61	49.41	15.14
	-19.8	-20.0	53.23	13.56	52.62	13.76	53.27	14.70	53.17	15.11	52.07	15.21	52.96	15.69
	-16.7	-17.0	54.46	13.96	53.84	14.16	54.52	14.98	54.62	15.39	53.28	15.44	54.20	16.07
	-13.7	-15.0	55.28	14.11	54.66	14.41	55.35	15.21	55.45	15.70	54.10	15.75	55.03	16.29
	-11.8	-13.0	56.11	14.37	55.47	14.61	56.17	15.50	56.27	15.94	54.91	16.03	56.07	16.52
	-9.8	-11.0	56.93	14.58	56.29	14.88	57.00	15.70	57.10	16.11	55.92	16.17	56.91	16.53
	-9.5	-10.0	57.34	14.79	56.70	15.04	57.63	15.94	57.53	16.38	56.33	16.37	57.32	16.81
	-8.5	-9.1	57.75	14.98	57.11	15.23	57.83	16.09	57.94	16.54	56.73	16.56	57.74	17.01
	-7.0	-7.6	58.37	15.04	57.72	15.48	58.66	16.23	58.57	16.64	57.35	16.78	58.36	17.22
	-5.0	-5.6	62.89	15.66	62.20	15.89	63.02	16.78	63.14	17.29	61.62	16.91	62.72	17.42
	-3.0	-3.7	63.71	16.04	63.02	16.18	63.84	17.02	63.96	17.60	62.44	17.13	63.55	17.64
	0.0	-0.7	64.94	16.52	64.25	16.32	65.09	17.28	65.21	17.77	63.65	17.38	65.00	17.77
	3.0	2.2	71.74	17.50	70.36	17.38	71.31	18.12	71.23	18.49	69.75	18.29	71.02	18.83
	5.0	4.1	89.19	21.13	84.97	20.74	84.99	21.00	81.82	20.31	76.87	19.66	72.06	19.26
	7.0	6.0	90.63	21.30	86.60	20.18	84.99	19.93	81.82	19.44	76.87	18.85	72.06	18.60
	9.0	7.9	90.63	20.25	86.60	19.18	84.99	19.36	81.82	19.08	76.87	18.40	72.06	18.12
	11.0	9.8	90.63	19.23	86.60	18.40	84.99	18.67	81.82	18.47	76.87	17.83	72.06	17.44
	13.0	11.8	90.63	18.36	86.60	17.88	84.99	18.13	81.82	18.13	76.87	17.46	72.06	17.11
	15.0	13.7	90.63	17.73	86.60	17.46	84.99	17.64	81.82	17.41	76.87	16.98	72.06	16.50
18.0	16.6	91.61	16.67	87.27	16.35	85.41	16.49	82.04	16.29	76.90	15.80	72.06	15.33	
21.0	19.5	92.15	15.57	87.50	15.20	85.41	15.30	82.04	15.08	76.90	14.63	72.06	14.24	
24.0	22.4	92.23	14.34	87.50	13.98	85.41	14.10	82.04	13.90	76.90	13.49	72.06	13.11	
27.0	25.3	92.23	13.16	87.50	12.83	85.41	12.92	82.04	12.73	76.90	12.37	72.06	12.00	
30.0	28.1	92.23	12.02	87.50	11.71	85.41	11.78	82.04	11.61	76.90	11.27	72.06	10.96	
120%	-30.0	-30.5	48.72	14.24	48.43	14.75	48.52	15.30	49.25	15.99	48.61	16.25	48.00	16.31
	-25.0	-25.4	49.72	14.27	49.42	14.76	49.51	15.30	50.25	16.02	49.60	16.25	48.98	16.32
	-19.8	-20.0	52.72	14.66	52.41	15.10	52.35	15.60	53.31	16.29	52.65	16.49	51.95	16.62
	-16.7	-17.0	53.94	15.07	53.64	15.37	53.59	16.10	54.56	16.76	53.89	16.96	53.38	16.86
	-13.7	-15.0	54.75	15.31	54.45	15.68	54.40	16.14	55.39	16.86	54.92	17.08	54.19	17.02
	-11.8	-13.0	55.58	15.48	55.27	15.85	55.31	16.36	56.23	17.08	55.75	17.31	55.01	17.21
	-9.8	-11.0	56.40	15.61	56.08	15.92	56.24	16.53	57.06	17.26	56.57	17.46	55.83	17.53
	-9.5	-10.0	56.80	15.77	56.48	16.06	56.65	16.67	57.48	17.39	56.99	17.60	56.24	17.80
	-8.5	-9.1	57.21	15.91	56.90	16.30	57.06	16.85	57.89	17.55	57.40	17.77	56.65	17.81
	-7.0	-7.6	57.82	16.19	57.50	16.54	57.67	17.06	58.52	17.72	58.03	17.95	57.27	17.97
	-5.0	-5.6	62.31	16.34	61.99	16.73	61.97	17.23	63.10	17.93	62.57	18.17	61.76	18.31
	-3.0	-3.7	63.13	16.62	62.81	16.94	62.79	17.47	63.93	18.18	63.18	18.39	62.58	18.38
	0.0	-0.7	64.36	16.87	64.03	17.18	64.01	17.58	65.17	18.29	64.62	18.52	63.81	18.50
	3.0	2.2	70.29	17.89	70.16	18.32	70.15	18.52	71.22	19.21	70.62	19.39	65.45	18.32
	5.0	4.1	88.47	19.99	83.00	19.74	77.31	19.50	75.59	19.51	72.06	19.08	65.45	17.81
	7.0	6.0	89.08	19.84	83.00	18.92	77.31	18.52	75.59	18.57	72.06	18.29	65.45	17.32
	9.0	7.9	89.08	19.05	83.00	18.07	77.31	17.93	75.59	17.91	72.06	17.76	65.45	16.80
	11.0	9.8	89.08	18.36	83.00	17.69	77.31	17.32	75.59	17.42	72.06	17.12	65.45	16.20
	13.0	11.8	89.08	17.96	83.00	17.28	77.31	16.88	75.59	17.13	72.06	16.78	65.45	15.85
	15.0	13.7	89.08	17.56	83.00	16.74	77.31	16.39	75.59	16.51	72.06	16.22	65.45	15.30
18.0	16.6	90.05	16.53	83.64	15.73	77.69	15.32	75.79	15.39	72.09	15.12	65.45	14.23	
21.0	19.5	90.58	15.38	83.86	14.58	77.69	14.20	75.79	14.25	72.09	13.96	65.45	13.18	
24.0	22.4	90.65	14.20	83.86	13.45	77.69	13.10	75.79	13.12	72.09	12.89	65.45	12.13	
27.0	25.3	90.65	13.01	83.86	12.33	77.69	12.02	75.79	12.07	72.09	11.84	65.45	11.12	
30.0	28.1	90.65	11.90	83.86	11.28	77.69	10.94	75.79	10.99	72.09	10.79	65.45	10.18	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.24:20HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	49.75	14.84	49.66	15.22	48.91	15.39	49.40	15.28	49.73	15.77	49.15	16.00
	-25.0	-25.4	50.76	14.83	50.67	15.20	49.90	15.39	50.40	15.28	50.74	15.76	50.15	16.00
	-19.8	-20.0	52.96	15.01	52.91	15.41	52.15	15.58	52.60	15.52	52.95	15.94	52.35	16.19
	-16.7	-17.0	54.21	15.48	54.15	15.85	53.38	16.02	53.84	15.84	54.40	16.36	53.58	16.43
	-13.7	-15.0	55.03	15.61	54.98	16.00	54.19	16.17	54.66	15.91	55.24	16.37	54.40	16.59
	-11.8	-13.0	55.85	15.83	55.80	16.23	55.22	16.40	55.49	16.06	56.07	16.57	55.23	16.83
	-9.8	-11.0	56.67	15.87	56.63	16.27	56.04	16.39	56.31	16.41	56.90	16.77	56.06	17.04
	-9.5	-10.0	57.08	16.02	57.24	16.42	56.45	16.56	56.73	16.44	57.32	17.02	56.47	17.20
	-8.5	-9.1	57.50	16.23	57.45	16.59	56.85	16.79	57.13	16.62	57.73	17.19	56.88	17.39
	-7.0	-7.6	58.11	16.36	58.08	16.75	57.47	16.94	57.76	16.83	58.37	17.34	57.50	17.41
	-5.0	-5.6	62.64	16.56	62.63	16.99	61.76	17.18	62.30	16.99	62.95	17.47	60.38	17.26
	-3.0	-3.7	63.48	16.70	63.45	17.08	62.58	17.29	63.12	17.15	63.78	17.71	60.38	16.93
	0.0	-0.7	64.71	17.12	64.68	17.50	64.01	17.69	64.36	17.30	65.04	17.88	60.38	16.70
	3.0	2.2	70.69	17.90	70.89	18.31	69.94	18.40	68.69	17.95	66.70	17.99	60.38	16.60
	5.0	4.1	82.43	19.53	77.09	19.54	70.97	18.03	68.69	17.66	66.70	17.50	60.38	16.49
	7.0	6.0	82.43	18.81	77.09	18.36	70.97	17.07	68.69	16.81	66.70	16.72	60.38	16.09
	9.0	7.9	82.43	17.93	77.09	17.41	70.97	16.49	68.69	16.36	66.70	16.34	60.38	15.84
	11.0	9.8	82.43	17.29	77.09	16.78	70.97	16.04	68.69	15.77	66.70	15.80	60.38	15.31
	13.0	11.8	82.43	16.77	77.09	16.21	70.97	15.52	68.69	15.31	66.70	15.27	60.38	14.76
15.0	13.7	82.43	16.31	77.09	15.72	70.97	15.01	68.69	14.78	66.70	14.76	60.38	14.25	
18.0	16.6	83.33	15.33	77.68	14.72	71.32	13.99	68.87	13.77	66.74	13.74	60.38	13.24	
21.0	19.5	83.82	14.29	77.89	13.68	71.32	12.98	68.87	12.78	66.74	12.71	60.38	12.29	
24.0	22.4	83.89	13.19	77.89	12.60	71.32	11.97	68.87	11.77	66.74	11.75	60.38	11.32	
27.0	25.3	83.89	12.08	77.89	11.55	71.32	10.98	68.87	10.79	66.74	10.78	60.38	10.36	
30.0	28.1	83.89	11.05	77.89	10.55	71.32	10.02	68.87	9.86	66.74	9.82	60.38	9.48	
100%	-30.0	-30.5	48.84	18.14	48.93	18.41	47.94	18.45	48.78	18.80	48.45	18.73	48.72	19.19
	-25.0	-25.4	49.84	18.12	49.93	18.47	48.92	18.45	49.78	18.80	49.44	18.73	49.72	19.21
	-19.8	-20.0	52.16	18.14	52.26	18.49	51.20	18.56	52.10	18.79	51.75	18.77	52.05	19.04
	-16.7	-17.0	53.78	18.25	53.88	18.55	53.00	18.63	53.73	18.87	53.37	18.81	53.69	18.80
	-13.7	-15.0	54.58	18.27	54.70	18.54	53.80	18.66	54.54	18.89	54.17	18.85	54.50	18.57
	-11.8	-13.0	55.39	18.31	55.51	18.61	54.60	18.67	55.37	18.90	54.99	18.90	54.50	18.37
	-9.8	-11.0	55.80	18.32	56.12	18.60	55.00	18.71	55.97	18.92	55.39	18.94	54.50	18.37
	-9.5	-10.0	56.20	18.31	56.32	18.65	55.40	18.76	56.18	18.94	55.80	18.92	54.50	18.19
	-8.5	-9.1	56.81	18.37	57.14	18.66	56.00	18.79	56.79	19.00	56.40	18.97	54.50	17.93
	-7.0	-7.6	61.26	18.41	61.41	18.68	60.40	19.17	61.26	19.67	58.82	18.55	54.50	17.85
	-5.0	-5.6	62.07	18.43	62.22	18.63	61.20	18.73	61.67	19.12	58.82	17.99	54.50	17.37
	-3.0	-3.7	63.27	18.41	63.44	18.70	62.40	18.10	61.67	18.03	58.82	17.46	54.50	16.77
	0.0	-0.7	64.90	18.47	68.93	18.69	63.00	17.61	61.67	17.18	58.82	16.58	54.50	16.07
	3.0	2.2	69.14	18.07	68.93	18.20	63.00	17.12	61.67	16.34	58.82	15.58	54.50	15.25
	5.0	4.1	73.38	17.80	68.93	17.32	63.00	16.29	61.67	15.62	58.82	14.95	54.50	14.60
	7.0	6.0	73.38	17.55	68.93	16.43	63.00	15.25	61.67	14.77	58.82	14.37	54.50	13.96
	9.0	7.9	73.38	16.57	68.93	15.55	63.00	14.84	61.67	14.41	58.82	13.95	54.50	13.48
	11.0	9.8	73.38	15.49	68.93	14.61	63.00	14.34	61.67	13.85	58.82	13.43	54.50	12.91
	13.0	11.8	73.38	14.53	68.93	14.25	63.00	13.79	61.67	13.34	58.82	12.95	54.50	12.50
	15.0	13.7	73.38	13.84	68.93	13.67	63.00	13.30	61.67	12.88	58.82	12.47	54.50	11.99
18.0	16.6	73.38	12.88	68.93	12.72	63.00	12.37	61.67	11.96	58.82	11.63	54.50	11.14	
21.0	19.5	73.38	11.91	68.93	11.76	63.00	11.43	61.67	11.10	58.82	10.76	54.50	10.33	
24.0	22.4	73.38	10.97	68.93	10.85	63.00	10.55	61.67	10.24	58.82	9.93	54.50	9.51	
27.0	25.3	73.38	10.06	68.93	9.93	63.00	9.67	61.67	9.36	58.82	9.08	54.50	8.75	
30.0	28.1	73.38	9.19	68.93	9.09	63.00	8.84	61.67	8.58	58.82	8.31	54.50	7.98	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.24:20HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
90%	-30.0	-30.5	49.50	18.55	49.75	18.90	48.97	18.89	49.55	19.36	48.94	19.21	48.57	18.01
	-25.0	-25.4	50.51	18.51	50.77	18.92	49.97	18.91	50.56	19.40	49.94	19.19	49.56	18.01
	-19.8	-20.0	52.65	18.87	53.00	19.24	52.14	19.22	52.79	19.58	52.14	19.45	49.56	17.63
	-16.7	-17.0	53.89	18.88	54.24	19.31	53.58	19.23	54.03	19.62	53.37	18.96	49.56	17.07
	-13.7	-15.0	54.72	18.95	55.08	19.35	54.40	19.28	54.88	19.61	54.00	18.56	49.56	16.76
	-11.8	-13.0	55.54	18.98	55.91	19.34	55.23	19.34	55.71	19.36	54.00	18.23	49.56	16.46
	-9.8	-11.0	56.36	18.99	56.95	19.37	56.06	19.35	56.75	18.96	54.00	17.85	49.56	16.12
	-9.5	-10.0	56.78	19.03	57.38	19.40	56.47	19.38	56.95	18.79	54.00	17.65	49.56	15.95
	-8.5	-9.1	57.19	19.06	57.59	19.41	56.88	19.28	56.95	18.65	54.00	17.53	49.56	15.84
	-7.0	-7.6	57.82	19.08	58.42	19.15	57.50	19.07	56.95	18.38	54.00	17.27	49.56	15.59
	-5.0	-5.6	62.36	19.05	62.80	18.34	58.53	18.27	56.95	17.78	54.00	16.73	49.56	15.13
	-3.0	-3.7	63.18	19.14	63.63	17.53	58.53	17.36	56.95	17.10	54.00	16.20	49.56	14.77
	0.0	-0.7	64.42	19.17	63.63	16.61	58.53	16.61	56.95	16.28	54.00	15.43	49.56	14.37
	3.0	2.2	67.51	19.16	63.63	15.79	58.53	15.68	56.95	15.66	54.00	14.69	49.56	13.88
	5.0	4.1	67.51	18.71	63.63	14.96	58.53	14.97	56.95	14.87	54.00	14.00	49.56	13.33
	7.0	6.0	67.51	16.26	63.63	14.69	58.53	13.97	56.95	13.61	54.00	12.90	49.56	11.88
	9.0	7.9	67.51	15.26	63.63	14.43	58.53	13.28	56.95	12.97	54.00	12.35	49.56	11.40
	11.0	9.8	67.51	14.35	63.63	13.67	58.53	12.63	56.95	12.38	54.00	11.81	49.56	11.01
	13.0	11.8	67.51	13.55	63.63	12.99	58.53	12.10	56.95	11.87	54.00	11.38	49.56	10.65
	15.0	13.7	67.51	13.02	63.63	12.48	58.53	11.69	56.95	11.49	54.00	11.05	49.56	10.42
18.0	16.6	67.51	12.12	63.63	11.60	58.53	10.87	56.95	10.71	54.00	10.26	49.56	9.69	
21.0	19.5	67.51	11.19	63.63	10.76	58.53	10.07	56.95	9.90	54.00	9.52	49.56	8.96	
24.0	22.4	67.51	10.32	63.63	9.93	58.53	9.27	56.95	9.15	54.00	8.75	49.56	8.25	
27.0	25.3	67.51	9.48	63.63	9.08	58.53	8.51	56.95	8.38	54.00	8.04	49.56	7.59	
30.0	28.1	67.51	8.64	63.63	8.29	58.53	7.78	56.95	7.66	54.00	7.33	49.56	6.93	
80%	-30.0	-30.5	49.39	19.61	48.81	19.70	49.47	19.33	48.92	18.39	47.59	17.75	42.65	15.76
	-25.0	-25.4	50.39	19.67	49.80	19.76	50.48	19.27	49.92	18.37	48.56	17.75	43.52	15.79
	-19.8	-20.0	52.40	18.87	51.79	18.93	52.03	18.50	49.92	17.62	48.56	16.94	43.52	15.03
	-16.7	-17.0	53.63	18.94	53.01	18.97	52.03	17.93	49.92	17.05	48.56	16.42	43.52	14.57
	-13.7	-15.0	54.45	18.99	53.84	19.01	52.03	17.58	49.92	16.75	48.56	16.14	43.52	14.27
	-11.8	-13.0	55.28	19.03	54.66	18.66	52.03	17.22	49.92	16.40	48.56	15.79	43.52	13.99
	-9.8	-11.0	56.11	19.01	55.48	18.28	52.03	16.90	49.92	16.08	48.56	15.52	43.52	13.76
	-9.5	-10.0	56.52	19.03	55.48	18.09	52.03	16.71	49.92	15.96	48.56	15.37	43.52	13.60
	-8.5	-9.1	56.94	19.09	55.48	17.93	52.03	16.61	49.92	15.81	48.56	15.22	43.52	13.52
	-7.0	-7.6	57.55	19.14	55.48	17.72	52.03	16.33	49.92	15.59	48.56	15.03	43.52	13.34
	-5.0	-5.6	60.02	18.74	55.48	17.09	52.03	15.87	49.92	15.11	48.56	14.62	43.52	12.96
	-3.0	-3.7	60.02	19.41	55.48	16.51	52.03	15.19	49.92	14.53	48.56	14.06	43.52	12.59
	0.0	-0.7	60.02	19.15	55.48	15.72	52.03	14.65	49.92	14.12	48.56	13.64	43.52	12.28
	3.0	2.2	60.02	17.65	55.48	14.82	52.03	13.80	49.92	13.61	48.56	13.15	43.52	11.83
	5.0	4.1	60.02	16.17	55.48	14.02	52.03	13.18	49.92	13.04	48.56	12.51	43.52	11.56
	7.0	6.0	60.02	14.19	55.48	13.14	52.03	12.30	49.92	11.81	48.56	11.51	43.52	10.39
	9.0	7.9	60.02	13.43	55.48	12.53	52.03	11.81	49.92	11.38	48.56	11.06	43.52	10.10
	11.0	9.8	60.02	12.75	55.48	11.95	52.03	11.31	49.92	10.95	48.56	10.70	43.52	9.82
	13.0	11.8	60.02	12.19	55.48	11.47	52.03	10.92	49.92	10.59	48.56	10.42	43.52	9.56
	15.0	13.7	60.02	11.76	55.48	11.08	52.03	10.65	49.92	10.37	48.56	10.18	43.52	9.43
18.0	16.6	60.02	10.94	55.48	10.31	52.03	9.91	49.92	9.63	48.56	9.48	43.52	8.76	
21.0	19.5	60.02	10.14	55.48	9.57	52.03	9.16	49.92	8.91	48.56	8.76	43.52	8.12	
24.0	22.4	60.02	9.33	55.48	8.82	52.03	8.45	49.92	8.21	48.56	8.08	43.52	7.47	
27.0	25.3	60.02	8.56	55.48	8.08	52.03	7.75	49.92	7.54	48.56	7.42	43.52	6.85	
30.0	28.1	60.02	7.83	55.48	7.39	52.03	7.08	49.92	6.90	48.56	6.77	43.52	6.27	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table 2-8.24: 20HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	50.36	19.67	47.50	18.20	44.17	17.84	43.27	17.88	41.71	17.73	37.87	16.87
	-25.0	-25.4	51.39	19.63	48.47	18.18	45.07	17.83	44.15	17.88	42.57	17.73	38.64	16.91
	-19.8	-20.0	51.39	18.71	48.47	17.27	45.07	16.83	44.15	16.87	42.57	16.71	38.64	15.89
	-16.7	-17.0	51.80	18.13	48.47	16.75	45.07	16.38	44.15	16.40	42.57	16.24	38.64	15.38
	-13.7	-15.0	51.80	17.78	48.47	16.42	45.07	16.06	44.15	16.09	42.57	15.91	38.64	15.08
	-11.8	-13.0	51.80	17.43	48.47	16.08	45.07	15.83	44.15	15.80	42.57	15.62	38.64	14.84
	-9.8	-11.0	51.80	17.04	48.47	15.80	45.07	15.53	44.15	15.50	42.57	15.35	38.64	14.50
	-9.5	-10.0	51.80	16.93	48.47	15.63	45.07	15.15	44.15	15.11	42.57	14.91	38.64	14.11
	-8.5	-9.1	51.80	16.74	48.47	15.49	45.07	14.63	44.15	14.59	42.57	14.41	38.64	13.62
	-7.0	-7.6	51.80	16.54	48.47	15.25	45.07	13.99	44.15	13.93	42.57	13.76	38.64	12.99
	-5.0	-5.6	51.80	16.04	48.47	14.82	45.07	13.60	44.15	13.55	42.57	13.38	38.64	12.57
	-3.0	-3.7	51.80	15.14	48.47	14.40	45.07	13.21	44.15	13.14	42.57	12.99	38.64	12.18
	0.0	-0.7	51.80	14.37	48.47	13.78	45.07	12.67	44.15	12.58	42.57	12.37	38.64	11.62
	3.0	2.2	51.80	13.57	48.47	13.02	45.07	11.85	44.15	11.78	42.57	11.62	38.64	10.82
	5.0	4.1	51.80	12.95	48.47	12.16	45.07	11.44	44.15	11.33	42.57	11.15	38.64	10.38
	7.0	6.0	51.80	12.42	48.47	11.66	45.07	10.82	44.15	10.75	42.57	10.58	38.64	9.81
	9.0	7.9	51.80	11.88	48.47	11.19	45.07	10.48	44.15	10.37	42.57	10.19	38.64	9.41
	11.0	9.8	51.80	11.42	48.47	10.83	45.07	10.05	44.15	9.94	42.57	9.74	38.64	8.97
	13.0	11.8	51.80	11.00	48.47	10.38	45.07	9.56	44.15	9.44	42.57	9.25	38.64	8.50
	15.0	13.7	51.80	10.59	48.47	9.89	45.07	9.20	44.15	9.08	42.57	8.86	38.64	8.13
18.0	16.6	51.80	9.84	48.47	9.22	45.07	8.57	44.15	8.44	42.57	8.25	38.64	7.57	
21.0	19.5	51.80	9.11	48.47	8.55	45.07	7.91	44.15	7.81	42.57	7.62	38.64	6.99	
24.0	22.4	51.80	8.41	48.47	7.88	45.07	7.30	44.15	7.21	42.57	7.04	38.64	6.46	
27.0	25.3	51.80	7.71	48.47	7.21	45.07	6.69	44.15	6.60	42.57	6.44	38.64	5.91	
30.0	28.1	51.80	7.05	48.47	6.59	45.07	6.13	44.15	6.03	42.57	5.88	38.64	5.40	
60%	-30.0	-30.5	44.45	18.69	41.71	17.73	38.64	16.87	36.76	16.33	34.87	15.52	32.59	14.93
	-25.0	-25.4	45.36	18.71	42.57	17.73	39.43	16.89	37.51	16.31	35.58	15.49	33.25	14.96
	-19.8	-20.0	45.36	17.70	42.57	16.89	39.43	16.26	37.51	15.62	35.58	14.79	33.25	14.17
	-16.7	-17.0	45.36	16.69	42.57	15.81	39.43	15.20	37.51	14.48	35.58	13.68	33.25	13.09
	-13.7	-15.0	45.36	16.13	42.57	15.37	39.43	14.73	37.51	13.94	35.58	13.15	33.25	12.54
	-11.8	-13.0	45.36	15.57	42.57	14.77	39.43	14.14	37.51	13.49	35.58	12.57	33.25	12.01
	-9.8	-11.0	45.36	15.05	42.57	14.25	39.43	13.46	37.51	12.88	35.58	12.03	33.25	11.54
	-9.5	-10.0	45.36	14.51	42.57	13.67	39.43	12.94	37.51	12.31	35.58	11.52	33.25	10.95
	-8.5	-9.1	45.36	13.92	42.57	13.18	39.43	12.39	37.51	11.76	35.58	10.96	33.25	10.29
	-7.0	-7.6	45.36	13.40	42.57	12.62	39.43	11.97	37.51	11.37	35.58	10.56	33.25	9.85
	-5.0	-5.6	45.36	12.89	42.57	12.14	39.43	11.36	37.51	10.91	35.58	10.13	33.25	9.40
	-3.0	-3.7	45.36	12.43	42.57	11.64	39.43	10.87	37.51	10.47	35.58	9.66	33.25	9.05
	0.0	-0.7	45.36	11.93	42.57	11.20	39.43	10.37	37.51	9.95	35.58	9.22	33.25	8.88
	3.0	2.2	45.36	11.38	42.57	10.68	39.43	9.98	37.51	9.56	35.58	8.72	33.25	8.55
	5.0	4.1	45.36	10.83	42.57	10.19	39.43	9.59	37.51	9.14	35.58	8.53	33.25	8.38
	7.0	6.0	45.36	10.32	42.57	9.78	39.43	9.17	37.51	8.75	35.58	8.48	33.25	8.23
	9.0	7.9	45.36	10.15	42.57	9.53	39.43	9.00	37.51	8.56	35.58	8.12	33.25	7.87
	11.0	9.8	45.36	9.98	42.57	9.41	39.43	8.78	37.51	8.35	35.58	7.95	33.25	7.70
	13.0	11.8	45.36	9.67	42.57	9.08	39.43	8.49	37.51	8.18	35.58	7.79	33.25	7.53
	15.0	13.7	45.36	9.55	42.57	8.91	39.43	8.25	37.51	7.98	35.58	7.60	33.25	7.32
18.0	16.6	45.36	8.89	42.57	8.30	39.43	7.66	37.51	7.41	35.58	7.07	33.25	6.81	
21.0	19.5	45.36	8.24	42.57	7.66	39.43	7.11	37.51	6.87	35.58	6.54	33.25	6.31	
24.0	22.4	45.36	7.58	42.57	7.08	39.43	6.54	37.51	6.32	35.58	6.02	33.25	5.81	
27.0	25.3	45.36	6.96	42.57	6.48	39.43	6.01	37.51	5.81	35.58	5.52	33.25	5.34	
30.0	28.1	45.36	6.35	42.57	5.92	39.43	5.48	37.51	5.30	35.58	5.05	33.25	4.88	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.24:20HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	37.15	15.50	34.66	14.60	31.70	13.74	30.20	13.36	29.34	13.17	26.93	12.31
	-25.0	-25.4	37.91	15.48	35.37	14.61	32.35	13.73	30.82	13.36	29.94	13.16	27.48	12.27
	-19.8	-20.0	37.91	14.64	35.37	13.94	32.35	13.22	30.82	12.77	29.94	12.56	27.48	11.67
	-16.7	-17.0	37.91	13.85	35.37	13.04	32.35	12.34	30.82	11.86	29.94	11.62	27.48	10.80
	-13.7	-15.0	37.91	13.36	35.37	12.67	32.35	11.97	30.82	11.45	29.94	11.19	27.48	10.35
	-11.8	-13.0	37.91	12.89	35.37	12.18	32.35	11.47	30.82	11.05	29.94	10.72	27.48	9.89
	-9.8	-11.0	37.91	12.47	35.37	11.76	32.35	10.94	30.82	10.52	29.94	10.29	27.48	9.54
	-9.5	-10.0	37.91	12.05	35.37	11.28	32.35	10.51	30.82	10.08	29.94	9.86	27.48	9.01
	-8.5	-9.1	37.91	11.51	35.37	10.87	32.35	10.05	30.82	9.65	29.94	9.39	27.48	8.50
	-7.0	-7.6	37.91	11.09	35.37	10.40	32.35	9.73	30.82	9.34	29.94	9.03	27.48	8.11
	-5.0	-5.6	37.91	10.68	35.37	10.03	32.35	9.21	30.82	8.93	29.94	8.68	27.48	7.72
	-3.0	-3.7	37.91	10.33	35.37	9.61	32.35	8.81	30.82	8.60	29.94	8.31	27.48	7.45
	0.0	-0.7	37.91	9.90	35.37	9.25	32.35	8.42	30.82	8.18	29.94	7.91	27.48	7.32
	3.0	2.2	37.91	9.44	35.37	8.81	32.35	8.10	30.82	7.82	29.94	7.53	27.48	7.28
	5.0	4.1	37.91	8.96	35.37	8.44	32.35	7.80	30.82	7.49	29.94	7.35	27.48	7.20
	7.0	6.0	37.91	8.57	35.37	8.08	32.35	7.44	30.82	7.17	29.94	7.24	27.48	7.00
	9.0	7.9	37.91	8.41	35.37	7.88	32.35	7.31	30.82	7.01	29.94	6.94	27.48	6.76
	11.0	9.8	37.91	8.28	35.37	7.78	32.35	7.13	30.82	6.83	29.94	6.82	27.48	6.63
	13.0	11.8	37.91	8.03	35.37	7.50	32.35	6.91	30.82	6.70	29.94	6.67	27.48	6.50
15.0	13.7	37.91	7.93	35.37	7.36	32.35	6.69	30.82	6.53	29.94	6.48	27.48	6.35	
18.0	16.6	37.91	7.36	35.37	6.84	32.35	6.24	30.82	6.09	29.94	6.04	27.48	5.90	
21.0	19.5	37.91	6.83	35.37	6.34	32.35	5.76	30.82	5.64	29.94	5.58	27.48	5.46	
24.0	22.4	37.91	6.30	35.37	5.84	32.35	5.31	30.82	5.18	29.94	5.15	27.48	5.03	
27.0	25.3	37.91	5.77	35.37	5.36	32.35	4.88	30.82	4.76	29.94	4.71	27.48	4.62	
30.0	28.1	37.91	5.27	35.37	4.90	32.35	4.46	30.82	4.35	29.94	4.32	27.48	4.22	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table2-8.25:22HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	53.93	15.11	53.62	15.38	53.11	16.19	52.78	16.56	52.38	16.92	52.58	17.33
	-25.0	-25.4	55.03	15.11	54.71	15.35	54.20	16.14	53.86	16.60	53.45	16.89	53.65	17.32
	-19.8	-20.0	57.86	15.54	57.52	15.86	57.96	16.85	57.56	17.24	57.18	17.59	57.51	17.94
	-16.7	-17.0	59.20	16.01	58.86	16.33	59.32	17.14	59.15	17.56	58.52	17.89	58.86	18.40
	-13.7	-15.0	60.08	16.17	59.75	16.58	60.21	17.44	60.04	17.89	59.42	18.19	59.77	18.60
	-11.8	-13.0	60.98	16.47	60.64	16.85	61.11	17.80	60.94	18.17	60.31	18.54	60.89	18.88
	-9.8	-11.0	61.87	16.69	61.54	17.11	62.01	17.95	61.84	18.41	61.43	18.74	61.79	18.90
	-9.5	-10.0	62.32	16.94	61.98	17.33	62.70	18.26	62.29	18.63	61.87	19.01	62.25	19.24
	-8.5	-9.1	62.77	17.20	62.43	17.56	62.92	18.47	62.74	18.83	62.32	19.15	62.70	19.46
	-7.0	-7.6	63.43	17.17	63.09	17.81	63.82	18.60	63.42	18.98	63.00	19.47	63.37	19.69
	-5.0	-5.6	68.35	17.98	67.99	18.31	68.56	19.23	68.36	19.71	67.68	19.60	68.11	19.91
	-3.0	-3.7	69.25	18.41	68.89	18.59	69.46	19.54	69.26	20.02	68.57	19.85	69.01	20.19
	0.0	-0.7	70.59	18.89	70.23	18.81	70.82	19.80	70.62	20.27	69.91	20.10	70.59	20.37
	3.0	2.2	77.98	19.99	76.91	19.96	77.58	20.79	77.13	21.11	76.62	21.18	77.13	21.56
	5.0	4.1	96.94	24.21	92.88	23.88	92.47	24.00	88.60	23.16	84.44	22.81	78.25	22.01
	7.0	6.0	98.51	24.33	94.66	23.22	92.47	22.84	88.60	22.19	84.44	21.87	78.25	21.24
	9.0	7.9	98.51	23.19	94.66	22.06	92.47	22.17	88.60	21.76	84.44	21.32	78.25	20.73
	11.0	9.8	98.51	22.05	94.66	21.16	92.47	21.37	88.60	21.09	84.44	20.68	78.25	19.93
	13.0	11.8	98.51	20.95	94.66	20.55	92.47	20.77	88.60	20.69	84.44	20.20	78.25	19.63
	15.0	13.7	98.51	20.33	94.66	20.12	92.47	20.21	88.60	19.92	84.44	19.65	78.25	18.85
18.0	16.6	99.57	19.14	95.39	18.83	92.93	18.92	88.83	18.58	84.48	18.24	78.25	17.57	
21.0	19.5	100.16	17.79	95.65	17.50	92.93	17.53	88.83	17.15	84.48	16.94	78.25	16.25	
24.0	22.4	100.24	16.43	95.65	16.13	92.93	16.13	88.83	15.84	84.48	15.56	78.25	14.99	
27.0	25.3	100.24	15.04	95.65	14.81	92.93	14.81	88.83	14.55	84.48	14.28	78.25	13.74	
30.0	28.1	100.24	13.74	95.65	13.50	92.93	13.51	88.83	13.26	84.48	13.08	78.25	12.58	
120%	-30.0	-30.5	54.39	16.82	54.11	17.38	53.15	17.71	54.00	18.48	53.24	18.75	53.13	19.02
	-25.0	-25.4	55.50	16.77	55.22	17.42	54.23	17.66	55.10	18.48	54.32	18.71	54.21	19.00
	-19.8	-20.0	58.84	17.28	58.56	17.81	57.34	18.03	58.44	18.82	57.67	19.08	57.49	19.42
	-16.7	-17.0	60.21	17.77	59.93	18.10	58.68	18.59	59.81	19.39	59.03	19.64	59.08	19.65
	-13.7	-15.0	61.12	17.95	60.84	18.47	59.58	18.68	60.72	19.48	60.15	19.73	59.99	19.87
	-11.8	-13.0	62.03	18.27	61.75	18.65	60.58	18.91	61.63	19.72	61.05	19.94	60.89	20.11
	-9.8	-11.0	62.95	18.35	62.66	18.78	61.60	19.14	62.56	19.92	61.97	20.19	61.80	20.46
	-9.5	-10.0	63.41	18.59	63.12	18.96	62.04	19.27	63.01	20.09	62.42	20.33	62.25	20.73
	-8.5	-9.1	63.87	18.77	63.57	19.20	62.49	19.43	63.47	20.31	62.87	20.50	62.70	20.74
	-7.0	-7.6	64.54	19.11	64.26	19.52	63.17	19.64	64.15	20.48	63.54	20.70	63.38	21.00
	-5.0	-5.6	69.57	19.25	69.27	19.64	67.87	19.90	69.18	20.73	68.52	20.92	68.36	21.36
	-3.0	-3.7	70.48	19.59	70.18	20.02	68.77	20.10	70.09	20.96	69.20	21.21	69.26	21.45
	0.0	-0.7	71.84	19.78	71.54	20.26	70.11	20.31	71.46	21.17	70.78	21.38	70.62	21.61
	3.0	2.2	78.46	21.01	78.38	21.51	76.83	21.30	78.07	22.20	77.34	22.40	72.44	21.36
	5.0	4.1	98.76	23.52	92.74	23.33	84.67	22.50	82.87	22.53	78.93	22.05	72.44	20.73
	7.0	6.0	99.44	23.43	92.74	22.29	84.67	21.38	82.87	21.41	78.93	21.09	72.44	20.20
	9.0	7.9	99.44	22.37	92.74	21.32	84.67	20.75	82.87	20.72	78.93	20.49	72.44	19.63
	11.0	9.8	99.44	21.61	92.74	20.85	84.67	20.01	82.87	20.07	78.93	19.72	72.44	18.88
	13.0	11.8	99.44	21.09	92.74	20.36	84.67	19.43	82.87	19.77	78.93	19.36	72.44	18.54
	15.0	13.7	99.44	20.63	92.74	19.77	84.67	18.88	82.87	19.04	78.93	18.72	72.44	17.85
18.0	16.6	100.52	19.40	93.45	18.51	85.09	17.70	83.09	17.79	78.97	17.39	72.44	16.58	
21.0	19.5	101.11	18.08	93.70	17.19	85.09	16.36	83.09	16.44	78.97	16.13	72.44	15.33	
24.0	22.4	101.19	16.68	93.70	15.81	85.09	15.06	83.09	15.17	78.97	14.87	72.44	14.16	
27.0	25.3	101.19	15.30	93.70	14.52	85.09	13.85	83.09	13.90	78.97	13.61	72.44	12.98	
30.0	28.1	101.19	13.96	93.70	13.26	85.09	12.66	83.09	12.73	78.97	12.47	72.44	11.84	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.25:22HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
110%	-30.0	-30.5	54.08	16.95	53.82	17.37	53.51	17.76	53.69	17.51	53.39	17.80	53.83	18.41
	-25.0	-25.4	55.18	17.00	54.92	17.34	54.60	17.73	54.79	17.51	54.48	17.82	54.93	18.43
	-19.8	-20.0	57.57	17.22	57.34	17.60	57.07	17.96	57.18	17.76	56.84	18.07	57.33	18.69
	-16.7	-17.0	58.91	17.71	58.68	18.12	58.41	18.47	58.52	18.11	58.41	18.45	58.68	18.93
	-13.7	-15.0	59.81	17.86	59.58	18.31	59.30	18.68	59.42	18.25	59.30	18.56	59.58	19.16
	-11.8	-13.0	60.70	18.16	60.47	18.55	60.41	18.89	60.31	18.44	60.20	18.79	60.49	19.42
	-9.8	-11.0	61.60	18.14	61.38	18.55	61.32	18.89	61.21	18.74	61.09	19.00	61.39	19.67
	-9.5	-10.0	62.04	18.34	62.04	18.75	61.77	19.14	61.66	18.81	61.54	19.24	61.85	19.85
	-8.5	-9.1	62.49	18.58	62.27	18.97	62.21	19.29	62.10	18.97	61.99	19.40	62.30	20.09
	-7.0	-7.6	63.17	18.72	62.94	19.12	62.88	19.53	62.78	19.24	62.66	19.62	62.97	20.15
	-5.0	-5.6	68.09	18.98	67.87	19.39	67.58	19.74	67.71	19.44	67.58	19.76	66.13	19.94
	-3.0	-3.7	68.99	19.11	68.77	19.50	68.47	19.89	68.60	19.64	68.47	20.01	66.13	19.53
	0.0	-0.7	70.33	19.61	70.11	20.00	70.04	20.39	69.95	19.81	69.81	20.20	66.13	19.31
	3.0	2.2	76.83	20.48	76.83	20.84	76.53	21.23	74.66	20.55	71.61	20.32	66.13	19.13
	5.0	4.1	89.60	22.34	83.54	22.24	77.65	20.73	74.66	20.18	71.61	19.81	66.13	19.02
	7.0	6.0	89.60	21.48	83.54	21.00	77.65	19.72	74.66	19.20	71.61	18.90	66.13	18.54
	9.0	7.9	89.60	20.57	83.54	19.87	77.65	18.98	74.66	18.73	71.61	18.53	66.13	18.26
	11.0	9.8	89.60	19.79	83.54	19.13	77.65	18.49	74.66	18.09	71.61	17.90	66.13	17.62
	13.0	11.8	89.60	19.19	83.54	18.50	77.65	17.90	74.66	17.54	71.61	17.31	66.13	17.07
	15.0	13.7	89.60	18.70	83.54	17.93	77.65	17.27	74.66	16.93	71.61	16.70	66.13	16.42
18.0	16.6	90.58	17.57	84.19	16.82	78.04	16.16	74.85	15.78	71.65	15.57	66.13	15.31	
21.0	19.5	91.11	16.38	84.41	15.57	78.04	14.98	74.85	14.64	71.65	14.37	66.13	14.16	
24.0	22.4	91.18	15.08	84.41	14.35	78.04	13.79	74.85	13.49	71.65	13.27	66.13	13.04	
27.0	25.3	91.18	13.85	84.41	13.21	78.04	12.64	74.85	12.35	71.65	12.17	66.13	11.99	
30.0	28.1	91.18	12.62	84.41	12.05	78.04	11.56	74.85	11.30	71.65	11.12	66.13	10.92	
100%	-30.0	-30.5	53.87	21.09	53.18	21.14	52.50	21.29	53.48	21.69	52.91	21.60	53.26	22.13
	-25.0	-25.4	54.96	21.09	54.26	21.12	53.57	21.29	54.57	21.69	53.99	21.54	54.34	22.13
	-19.8	-20.0	57.51	21.13	56.80	21.17	56.08	21.42	57.12	21.72	56.52	21.56	56.90	21.91
	-16.7	-17.0	59.29	21.16	58.56	21.19	58.05	21.47	58.90	21.77	58.28	21.67	58.69	21.62
	-13.7	-15.0	60.18	21.25	59.45	21.27	58.92	21.53	59.80	21.78	59.16	21.71	59.58	21.40
	-11.8	-13.0	61.08	21.24	60.33	21.26	59.80	21.58	60.69	21.86	60.04	21.76	59.58	21.14
	-9.8	-11.0	61.53	21.29	61.00	21.28	60.24	21.60	61.36	21.84	60.50	21.75	59.58	21.14
	-9.5	-10.0	61.98	21.27	61.21	21.28	60.68	21.63	61.59	21.86	60.94	21.75	59.58	20.92
	-8.5	-9.1	62.64	21.34	62.09	21.34	61.34	21.72	62.25	21.88	61.59	21.77	59.58	20.63
	-7.0	-7.6	67.55	21.34	66.73	21.38	66.15	22.12	67.17	22.72	64.24	21.38	59.58	20.60
	-5.0	-5.6	68.44	21.35	67.62	21.33	67.03	21.65	67.61	22.04	64.24	20.73	59.58	19.95
	-3.0	-3.7	69.77	21.44	68.94	21.40	68.34	20.93	67.61	20.79	64.24	20.08	59.58	19.33
	0.0	-0.7	71.55	21.40	74.92	21.38	69.00	20.33	67.61	19.86	64.24	19.11	59.58	18.47
	3.0	2.2	76.24	21.02	74.92	20.89	69.00	19.77	67.61	18.89	64.24	17.92	59.58	17.55
	5.0	4.1	80.92	20.63	74.92	19.84	69.00	18.80	67.61	18.03	64.24	17.20	59.58	16.81
	7.0	6.0	80.92	20.40	74.92	18.84	69.00	17.60	67.61	17.08	64.24	16.53	59.58	16.04
	9.0	7.9	80.92	19.21	74.92	17.80	69.00	17.14	67.61	16.65	64.24	16.05	59.58	15.52
	11.0	9.8	80.92	18.04	74.92	16.75	69.00	16.55	67.61	16.00	64.24	15.44	59.58	14.91
	13.0	11.8	80.92	16.90	74.92	16.32	69.00	15.93	67.61	15.43	64.24	14.93	59.58	14.40
	15.0	13.7	80.92	16.08	74.92	15.63	69.00	15.33	67.61	14.89	64.24	14.37	59.58	13.81
18.0	16.6	80.92	14.92	74.92	14.53	69.00	14.25	67.61	13.81	64.24	13.38	59.58	12.83	
21.0	19.5	80.92	13.81	74.92	13.45	69.00	13.20	67.61	12.82	64.24	12.35	59.58	11.90	
24.0	22.4	80.92	12.77	74.92	12.41	69.00	12.17	67.61	11.80	64.24	11.42	59.58	10.96	
27.0	25.3	80.92	11.70	74.92	11.37	69.00	11.16	67.61	10.84	64.24	10.45	59.58	10.07	
30.0	28.1	80.92	10.70	74.92	10.38	69.00	10.20	67.61	9.90	64.24	9.55	59.58	9.20	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.25:22HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	54.64	21.59	54.44	21.77	53.13	21.57	53.09	21.88	54.16	22.42	52.74	20.61
	-25.0	-25.4	55.75	21.53	55.55	21.81	54.22	21.57	54.17	21.84	55.27	22.36	53.81	20.59
	-19.8	-20.0	58.11	21.95	57.99	22.18	56.57	21.90	56.57	22.03	57.71	22.67	53.81	20.18
	-16.7	-17.0	59.48	22.00	59.35	22.22	58.12	21.95	57.91	22.12	59.08	22.13	53.81	19.57
	-13.7	-15.0	60.39	22.02	60.27	22.27	59.02	22.01	58.80	22.13	59.75	21.68	53.81	19.15
	-11.8	-13.0	61.30	22.08	61.18	22.33	59.91	22.10	59.69	21.88	59.75	21.24	53.81	18.84
	-9.8	-11.0	62.21	22.04	62.32	22.34	60.80	22.12	60.80	21.44	59.75	20.85	53.81	18.48
	-9.5	-10.0	62.66	22.13	62.78	22.34	61.26	22.10	61.03	21.24	59.75	20.61	53.81	18.26
	-8.5	-9.1	63.12	22.16	63.01	22.42	61.71	22.08	61.03	21.04	59.75	20.47	53.81	18.13
	-7.0	-7.6	63.81	22.16	63.93	22.12	62.37	21.75	61.03	20.76	59.75	20.14	53.81	17.83
	-5.0	-5.6	68.81	22.23	68.72	21.09	63.49	20.81	61.03	20.04	59.75	19.53	53.81	17.37
	-3.0	-3.7	69.72	22.25	69.63	20.18	63.49	19.78	61.03	19.28	59.75	18.89	53.81	16.90
	0.0	-0.7	71.09	22.27	69.63	19.16	63.49	18.94	61.03	18.39	59.75	17.98	53.81	16.47
	3.0	2.2	74.51	22.29	69.63	18.18	63.49	17.88	61.03	17.66	59.75	17.16	53.81	15.88
	5.0	4.1	74.51	21.73	69.63	17.26	63.49	17.07	61.03	16.76	59.75	16.36	53.81	15.27
	7.0	6.0	74.51	18.87	69.63	16.98	63.49	15.95	61.03	15.32	59.75	15.07	53.81	13.60
	9.0	7.9	74.51	17.76	69.63	16.65	63.49	15.16	61.03	14.64	59.75	14.36	53.81	13.05
	11.0	9.8	74.51	16.71	69.63	15.72	63.49	14.45	61.03	13.94	59.75	13.78	53.81	12.60
	13.0	11.8	74.51	15.81	69.63	14.96	63.49	13.82	61.03	13.38	59.75	13.26	53.81	12.21
	15.0	13.7	74.51	15.14	69.63	14.37	63.49	13.36	61.03	12.95	59.75	12.88	53.81	11.90
18.0	16.6	74.51	14.08	69.63	13.38	63.49	12.39	61.03	12.06	59.75	11.96	53.81	11.08	
21.0	19.5	74.51	13.05	69.63	12.39	63.49	11.51	61.03	11.17	59.75	11.11	53.81	10.26	
24.0	22.4	74.51	12.02	69.63	11.43	63.49	10.59	61.03	10.29	59.75	10.24	53.81	9.44	
27.0	25.3	74.51	11.01	69.63	10.48	63.49	9.70	61.03	9.46	59.75	9.37	53.81	8.67	
30.0	28.1	74.51	10.07	69.63	9.56	63.49	8.89	61.03	8.62	59.75	8.55	53.81	7.91	
80%	-30.0	-30.5	54.09	22.63	53.35	22.71	54.12	22.23	54.09	21.36	51.00	20.04	47.25	18.40
	-25.0	-25.4	55.20	22.63	54.44	22.73	55.22	22.28	55.20	21.43	52.04	20.06	48.22	18.46
	-19.8	-20.0	57.38	21.80	56.62	21.85	56.93	21.27	55.20	20.51	52.04	19.11	48.22	17.52
	-16.7	-17.0	58.74	21.84	57.96	21.92	56.93	20.67	55.20	19.90	52.04	18.55	48.22	16.96
	-13.7	-15.0	59.64	21.95	58.86	21.90	56.93	20.21	55.20	19.48	52.04	18.23	48.22	16.68
	-11.8	-13.0	60.54	21.91	59.75	21.54	56.93	19.82	55.20	19.11	52.04	17.87	48.22	16.34
	-9.8	-11.0	61.45	21.98	60.64	21.05	56.93	19.46	55.20	18.76	52.04	17.49	48.22	16.04
	-9.5	-10.0	61.91	22.00	60.64	20.87	56.93	19.26	55.20	18.58	52.04	17.31	48.22	15.88
	-8.5	-9.1	62.36	22.03	60.64	20.70	56.93	19.10	55.20	18.41	52.04	17.17	48.22	15.78
	-7.0	-7.6	63.03	22.04	60.64	20.35	56.93	18.82	55.20	18.19	52.04	16.96	48.22	15.56
	-5.0	-5.6	65.74	21.64	60.64	19.68	56.93	18.25	55.20	17.61	52.04	16.49	48.22	15.12
	-3.0	-3.7	65.74	22.39	60.64	18.97	56.93	17.46	55.20	16.93	52.04	15.86	48.22	14.68
	0.0	-0.7	65.74	22.08	60.64	18.11	56.93	16.87	55.20	16.43	52.04	15.40	48.22	14.37
	3.0	2.2	65.74	20.43	60.64	17.12	56.93	15.90	55.20	15.84	52.04	14.83	48.22	13.80
	5.0	4.1	65.74	18.62	60.64	16.18	56.93	15.20	55.20	15.24	52.04	14.09	48.22	13.48
	7.0	6.0	65.74	16.33	60.64	15.12	56.93	14.17	55.20	13.79	52.04	12.96	48.22	12.12
	9.0	7.9	65.74	15.48	60.64	14.43	56.93	13.59	55.20	13.29	52.04	12.50	48.22	11.77
	11.0	9.8	65.74	14.73	60.64	13.77	56.93	13.07	55.20	12.75	52.04	12.10	48.22	11.46
	13.0	11.8	65.74	14.04	60.64	13.17	56.93	12.62	55.20	12.34	52.04	11.73	48.22	11.16
	15.0	13.7	65.74	13.58	60.64	12.77	56.93	12.28	55.20	12.07	52.04	11.46	48.22	10.97
18.0	16.6	65.74	12.63	60.64	11.89	56.93	11.42	55.20	11.22	52.04	10.66	48.22	10.22	
21.0	19.5	65.74	11.69	60.64	10.98	56.93	10.58	55.20	10.41	52.04	9.88	48.22	9.47	
24.0	22.4	65.74	10.77	60.64	10.15	56.93	9.74	55.20	9.58	52.04	9.10	48.22	8.72	
27.0	25.3	65.74	9.90	60.64	9.29	56.93	8.92	55.20	8.78	52.04	8.37	48.22	8.01	
30.0	28.1	65.74	9.03	60.64	8.50	56.93	8.14	55.20	8.01	52.04	7.64	48.22	7.30	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.25:22HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	55.85	22.98	52.42	21.21	48.89	20.81	46.40	20.21	45.68	20.43	40.97	19.25
	-25.0	-25.4	56.99	22.92	53.49	21.21	49.88	20.81	47.35	20.21	46.62	20.45	41.81	19.27
	-19.8	-20.0	56.99	21.85	53.49	20.06	49.88	19.67	47.35	19.11	46.62	19.27	41.81	18.10
	-16.7	-17.0	57.44	21.18	53.49	19.49	49.88	19.13	47.35	18.52	46.62	18.75	41.81	17.56
	-13.7	-15.0	57.44	20.76	53.49	19.08	49.88	18.74	47.35	18.20	46.62	18.33	41.81	17.20
	-11.8	-13.0	57.44	20.34	53.49	18.68	49.88	18.41	47.35	17.87	46.62	18.03	41.81	16.85
	-9.8	-11.0	57.44	19.96	53.49	18.37	49.88	18.11	47.35	17.55	46.62	17.68	41.81	16.57
	-9.5	-10.0	57.44	19.74	53.49	18.21	49.88	17.64	47.35	17.10	46.62	17.23	41.81	16.12
	-8.5	-9.1	57.44	19.55	53.49	18.05	49.88	17.03	47.35	16.50	46.62	16.62	41.81	15.49
	-7.0	-7.6	57.44	19.31	53.49	17.80	49.88	16.32	47.35	15.74	46.62	15.89	41.81	14.77
	-5.0	-5.6	57.44	18.71	53.49	17.26	49.88	15.85	47.35	15.34	46.62	15.44	41.81	14.36
	-3.0	-3.7	57.44	17.71	53.49	16.76	49.88	15.41	47.35	14.89	46.62	14.97	41.81	13.85
	0.0	-0.7	57.44	16.75	53.49	15.98	49.88	14.74	47.35	14.24	46.62	14.31	41.81	13.23
	3.0	2.2	57.44	15.84	53.49	15.10	49.88	13.82	47.35	13.31	46.62	13.41	41.81	12.35
	5.0	4.1	57.44	15.13	53.49	14.16	49.88	13.35	47.35	12.79	46.62	12.85	41.81	11.82
	7.0	6.0	57.44	14.53	53.49	13.52	49.88	12.62	47.35	12.16	46.62	12.18	41.81	11.15
	9.0	7.9	57.44	13.89	53.49	13.02	49.88	12.21	47.35	11.72	46.62	11.76	41.81	10.71
	11.0	9.8	57.44	13.36	53.49	12.57	49.88	11.73	47.35	11.22	46.62	11.26	41.81	10.24
	13.0	11.8	57.44	12.84	53.49	12.06	49.88	11.14	47.35	10.67	46.62	10.66	41.81	9.68
	15.0	13.7	57.44	12.40	53.49	11.55	49.88	10.73	47.35	10.24	46.62	10.24	41.81	9.23
18.0	16.6	57.44	11.51	53.49	10.72	49.88	9.97	47.35	9.51	46.62	9.49	41.81	8.59	
21.0	19.5	57.44	10.66	53.49	9.93	49.88	9.25	47.35	8.82	46.62	8.81	41.81	7.96	
24.0	22.4	57.44	9.82	53.49	9.14	49.88	8.50	47.35	8.12	46.62	8.13	41.81	7.35	
27.0	25.3	57.44	9.01	53.49	8.39	49.88	7.82	47.35	7.46	46.62	7.45	41.81	6.73	
30.0	28.1	57.44	8.23	53.49	7.67	49.88	7.14	47.35	6.82	46.62	6.79	41.81	6.15	
60%	-30.0	-30.5	47.90	21.23	45.60	20.39	41.53	19.11	39.95	18.67	38.52	18.07	35.49	17.14
	-25.0	-25.4	48.87	21.21	46.53	20.39	42.38	19.09	40.76	18.67	39.31	18.05	36.22	17.14
	-19.8	-20.0	48.87	20.05	46.53	19.47	42.38	18.42	40.76	17.84	39.31	17.19	36.22	16.28
	-16.7	-17.0	48.87	18.96	46.53	18.24	42.38	17.20	40.76	16.57	39.31	15.92	36.22	15.02
	-13.7	-15.0	48.87	18.29	46.53	17.64	42.38	16.65	40.76	15.98	39.31	15.26	36.22	14.43
	-11.8	-13.0	48.87	17.67	46.53	16.99	42.38	16.00	40.76	15.43	39.31	14.62	36.22	13.78
	-9.8	-11.0	48.87	17.09	46.53	16.39	42.38	15.27	40.76	14.70	39.31	14.02	36.22	13.27
	-9.5	-10.0	48.87	16.47	46.53	15.73	42.38	14.62	40.76	14.06	39.31	13.41	36.22	12.57
	-8.5	-9.1	48.87	15.76	46.53	15.13	42.38	13.99	40.76	13.47	39.31	12.78	36.22	11.82
	-7.0	-7.6	48.87	15.17	46.53	14.51	42.38	13.56	40.76	13.00	39.31	12.27	36.22	11.30
	-5.0	-5.6	48.87	14.61	46.53	13.96	42.38	12.84	40.76	12.49	39.31	11.78	36.22	10.78
	-3.0	-3.7	48.87	14.11	46.53	13.40	42.38	12.27	40.76	11.97	39.31	11.25	36.22	10.38
	0.0	-0.7	48.87	13.58	46.53	12.91	42.38	11.74	40.76	11.42	39.31	10.70	36.22	10.21
	3.0	2.2	48.87	12.92	46.53	12.27	42.38	11.30	40.76	10.95	39.31	10.16	36.22	9.84
	5.0	4.1	48.87	12.28	46.53	11.75	42.38	10.88	40.76	10.46	39.31	9.94	36.22	9.63
	7.0	6.0	48.87	11.72	46.53	11.24	42.38	10.36	40.76	10.05	39.31	9.86	36.22	9.42
	9.0	7.9	48.87	11.53	46.53	11.02	42.38	10.19	40.76	9.79	39.31	9.46	36.22	9.00
	11.0	9.8	48.87	11.36	46.53	10.84	42.38	9.92	40.76	9.57	39.31	9.28	36.22	8.86
	13.0	11.8	48.87	10.97	46.53	10.47	42.38	9.62	40.76	9.36	39.31	9.08	36.22	8.65
	15.0	13.7	48.87	10.86	46.53	10.25	42.38	9.35	40.76	9.14	39.31	8.83	36.22	8.39
18.0	16.6	48.87	10.09	46.53	9.55	42.38	8.69	40.76	8.50	39.31	8.22	36.22	7.81	
21.0	19.5	48.87	9.34	46.53	8.83	42.38	8.05	40.76	7.87	39.31	7.62	36.22	7.24	
24.0	22.4	48.87	8.62	46.53	8.15	42.38	7.43	40.76	7.26	39.31	7.01	36.22	6.67	
27.0	25.3	48.87	7.90	46.53	7.46	42.38	6.82	40.76	6.66	39.31	6.44	36.22	6.13	
30.0	28.1	48.87	7.22	46.53	6.82	42.38	6.21	40.76	6.08	39.31	5.86	36.22	5.60	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.25:22HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	39.95	17.53	37.21	16.54	35.25	16.05	33.08	15.44	32.47	15.35	29.11	13.97
	-25.0	-25.4	40.76	17.53	37.97	16.54	35.97	16.06	33.76	15.40	33.13	15.35	29.71	14.01
	-19.8	-20.0	40.76	16.61	37.97	15.78	35.97	15.46	33.76	14.76	33.13	14.64	29.71	13.25
	-16.7	-17.0	40.76	15.67	37.97	14.74	35.97	14.44	33.76	13.73	33.13	13.58	29.71	12.30
	-13.7	-15.0	40.76	15.14	37.97	14.33	35.97	13.99	33.76	13.22	33.13	13.04	29.71	11.79
	-11.8	-13.0	40.76	14.60	37.97	13.80	35.97	13.48	33.76	12.75	33.13	12.53	29.71	11.26
	-9.8	-11.0	40.76	14.14	37.97	13.28	35.97	12.85	33.76	12.14	33.13	12.00	29.71	10.84
	-9.5	-10.0	40.76	13.64	37.97	12.73	35.97	12.30	33.76	11.66	33.13	11.50	29.71	10.25
	-8.5	-9.1	40.76	13.06	37.97	12.27	35.97	11.77	33.76	11.13	33.13	10.96	29.71	9.66
	-7.0	-7.6	40.76	12.56	37.97	11.75	35.97	11.37	33.76	10.77	33.13	10.56	29.71	9.24
	-5.0	-5.6	40.76	12.11	37.97	11.32	35.97	10.83	33.76	10.31	33.13	10.13	29.71	8.79
	-3.0	-3.7	40.76	11.67	37.97	10.87	35.97	10.32	33.76	9.88	33.13	9.69	29.71	8.48
	0.0	-0.7	40.76	11.23	37.97	10.44	35.97	9.88	33.76	9.42	33.13	9.23	29.71	8.32
	3.0	2.2	40.76	10.72	37.97	9.95	35.97	9.50	33.76	9.06	33.13	8.76	29.71	8.27
	5.0	4.1	40.76	10.16	37.97	9.51	35.97	9.13	33.76	8.63	33.13	8.59	29.71	8.20
	7.0	6.0	40.76	9.70	37.97	9.13	35.97	8.69	33.76	8.29	33.13	8.46	29.71	7.95
	9.0	7.9	40.76	9.53	37.97	8.92	35.97	8.56	33.76	8.11	33.13	8.10	29.71	7.70
	11.0	9.8	40.76	9.40	37.97	8.77	35.97	8.36	33.76	7.91	33.13	7.96	29.71	7.57
	13.0	11.8	40.76	9.10	37.97	8.49	35.97	8.09	33.76	7.72	33.13	7.77	29.71	7.41
15.0	13.7	40.76	8.97	37.97	8.32	35.97	7.86	33.76	7.55	33.13	7.57	29.71	7.22	
18.0	16.6	40.76	8.34	37.97	7.74	35.97	7.31	33.76	7.01	33.13	7.04	29.71	6.70	
21.0	19.5	40.76	7.73	37.97	7.16	35.97	6.77	33.76	6.49	33.13	6.52	29.71	6.20	
24.0	22.4	40.76	7.12	37.97	6.61	35.97	6.23	33.76	5.98	33.13	6.01	29.71	5.73	
27.0	25.3	40.76	6.53	37.97	6.04	35.97	5.72	33.76	5.50	33.13	5.52	29.71	5.25	
30.0	28.1	40.76	5.97	37.97	5.54	35.97	5.24	33.76	5.02	33.13	5.03	29.71	4.79	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.26:24HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	58.45	16.28	59.17	16.86	56.90	17.16	57.75	17.96	56.72	18.17	56.49	18.47
	-25.0	-25.4	59.64	16.28	60.37	16.81	58.06	17.19	58.92	18.01	57.88	18.14	57.65	18.47
	-19.8	-20.0	62.70	16.71	63.47	17.37	62.09	17.90	62.98	18.72	61.91	18.86	61.79	19.16
	-16.7	-17.0	64.15	17.20	64.96	17.91	63.55	18.26	64.71	19.07	63.36	19.20	63.24	19.60
	-13.7	-15.0	65.12	17.39	65.94	18.13	64.51	18.58	65.69	19.39	64.33	19.54	64.21	19.89
	-11.8	-13.0	66.09	17.68	66.92	18.47	65.48	18.93	66.67	19.75	65.30	19.87	65.43	20.13
	-9.8	-11.0	67.06	17.97	67.90	18.78	66.44	19.08	67.66	19.99	66.51	20.12	66.40	20.17
	-9.5	-10.0	67.54	18.24	68.40	19.00	67.17	19.40	68.16	20.26	67.00	20.42	66.88	20.46
	-8.5	-9.1	68.02	18.50	68.89	19.20	67.41	19.64	68.64	20.51	67.48	20.64	67.37	20.72
	-7.0	-7.6	68.75	18.51	69.63	19.50	68.38	19.76	69.39	20.68	68.21	20.91	68.09	21.01
	-5.0	-5.6	74.08	19.29	75.04	20.05	73.45	20.39	74.79	21.44	73.28	21.00	73.18	21.23
	-3.0	-3.7	75.04	19.79	76.02	20.38	74.42	20.76	75.78	21.80	74.25	21.27	74.15	21.52
	0.0	-0.7	76.50	20.37	77.51	20.57	75.87	21.02	77.25	21.98	75.70	21.67	75.84	21.71
	3.0	2.2	84.51	21.51	84.88	21.91	83.12	22.11	84.38	22.90	82.95	22.80	82.87	22.97
	5.0	4.1	105.07	26.04	102.50	26.13	99.07	25.55	96.94	25.23	91.42	24.52	84.08	23.47
	7.0	6.0	106.76	26.16	104.46	25.46	99.07	24.25	96.94	24.07	91.42	23.47	84.08	22.66
	9.0	7.9	106.76	24.97	104.46	24.24	99.07	23.57	96.94	23.70	91.42	22.84	84.08	22.10
	11.0	9.8	106.76	23.68	104.46	23.25	99.07	22.73	96.94	22.86	91.42	22.18	84.08	21.25
	13.0	11.8	106.76	22.61	104.46	22.54	99.07	22.15	96.94	22.47	91.42	21.73	84.08	20.88
	15.0	13.7	106.76	21.83	104.46	22.05	99.07	21.53	96.94	21.63	91.42	21.05	84.08	20.15
18.0	16.6	107.92	20.53	105.27	20.65	99.56	20.13	97.19	20.12	91.47	19.63	84.08	18.71	
21.0	19.5	108.55	19.18	105.55	19.15	99.56	18.60	97.19	18.65	91.47	18.18	84.08	17.30	
24.0	22.4	108.64	17.64	105.55	17.67	99.56	17.16	97.19	17.17	91.47	16.72	84.08	15.98	
27.0	25.3	108.64	16.20	105.55	16.18	99.56	15.71	97.19	15.78	91.47	15.34	84.08	14.66	
30.0	28.1	108.64	14.82	105.55	14.79	99.56	14.38	97.19	14.43	91.47	14.02	84.08	13.36	
120%	-30.0	-30.5	59.06	18.12	57.48	18.33	57.55	19.03	58.02	19.66	57.15	19.94	56.82	20.14
	-25.0	-25.4	60.26	18.09	58.65	18.33	58.72	19.01	59.20	19.66	58.32	19.96	57.98	20.20
	-19.8	-20.0	63.90	18.56	62.20	18.78	62.08	19.36	62.80	20.07	61.90	20.32	61.49	20.58
	-16.7	-17.0	65.38	19.14	63.66	19.04	63.54	19.91	64.28	20.63	63.35	20.90	63.17	20.91
	-13.7	-15.0	66.37	19.40	64.63	19.46	64.51	20.05	65.26	20.74	64.58	20.99	64.15	21.12
	-11.8	-13.0	67.36	19.65	65.60	19.65	65.59	20.29	66.24	21.02	65.55	21.22	65.12	21.31
	-9.8	-11.0	68.35	19.80	66.56	19.77	66.69	20.56	67.22	21.25	66.52	21.43	66.09	21.71
	-9.5	-10.0	68.85	19.99	67.05	19.93	67.18	20.66	67.70	21.35	66.99	21.60	66.56	21.98
	-8.5	-9.1	69.35	20.22	67.53	20.22	67.66	20.87	68.20	21.59	67.49	21.87	67.05	22.05
	-7.0	-7.6	70.08	20.56	68.26	20.56	68.39	21.17	68.94	21.86	68.22	22.12	67.78	22.25
	-5.0	-5.6	75.53	20.72	73.58	20.75	73.49	21.36	74.33	22.04	73.56	22.33	73.10	22.64
	-3.0	-3.7	76.52	21.05	74.55	21.10	74.46	21.67	75.31	22.38	74.29	22.61	74.07	22.75
	0.0	-0.7	78.01	21.35	76.01	21.39	75.90	21.85	76.78	22.51	75.98	22.74	75.52	22.91
	3.0	2.2	85.19	22.63	83.27	22.73	83.19	22.96	83.90	23.65	83.02	23.91	77.45	22.65
	5.0	4.1	107.23	25.34	98.52	24.56	91.67	24.20	89.05	23.98	84.72	23.45	77.45	22.04
	7.0	6.0	107.98	25.20	98.52	23.52	91.67	22.97	89.05	22.80	84.72	22.48	77.45	21.43
	9.0	7.9	107.98	24.09	98.52	22.43	91.67	22.28	89.05	22.06	84.72	21.81	77.45	20.80
	11.0	9.8	107.98	23.30	98.52	22.00	91.67	21.50	89.05	21.43	84.72	20.98	77.45	20.07
	13.0	11.8	107.98	22.73	98.52	21.44	91.67	20.91	89.05	21.09	84.72	20.64	77.45	19.63
	15.0	13.7	107.98	22.24	98.52	20.81	91.67	20.35	89.05	20.35	84.72	19.90	77.45	18.90
18.0	16.6	109.15	20.89	99.28	19.51	92.13	18.97	89.29	18.94	84.76	18.58	77.45	17.58	
21.0	19.5	109.79	19.46	99.54	18.13	92.13	17.62	89.29	17.54	84.76	17.19	77.45	16.28	
24.0	22.4	109.88	17.98	99.54	16.69	92.13	16.22	89.29	16.20	84.76	15.82	77.45	15.02	
27.0	25.3	109.88	16.48	99.54	15.28	92.13	14.88	89.29	14.86	84.76	14.53	77.45	13.75	
30.0	28.1	109.88	15.07	99.54	14.00	92.13	13.61	89.29	13.57	84.76	13.26	77.45	12.58	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.26:24HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	59.11	18.38	59.39	18.99	59.00	19.44	58.69	19.03	58.97	19.56	58.39	19.86
	-25.0	-25.4	60.32	18.42	60.60	19.01	60.20	19.39	59.88	19.03	60.17	19.50	59.58	19.86
	-19.8	-20.0	62.92	18.65	63.28	19.32	62.91	19.70	62.50	19.25	62.79	19.80	62.20	20.09
	-16.7	-17.0	64.40	19.25	64.76	19.86	64.39	20.27	63.96	19.67	64.51	20.26	63.66	20.43
	-13.7	-15.0	65.37	19.42	65.75	20.04	65.39	20.38	64.95	19.75	65.51	20.32	64.64	20.62
	-11.8	-13.0	66.35	19.68	66.74	20.35	66.61	20.72	65.93	19.98	66.50	20.55	65.62	20.87
	-9.8	-11.0	67.33	19.66	67.73	20.33	67.60	20.74	66.91	20.36	67.48	20.86	66.60	21.12
	-9.5	-10.0	67.83	19.94	68.47	20.57	68.09	20.91	67.40	20.42	67.97	21.08	67.09	21.37
	-8.5	-9.1	68.31	20.15	68.72	20.76	68.59	21.13	67.89	20.62	68.47	21.28	67.57	21.57
	-7.0	-7.6	69.05	20.37	69.46	20.98	69.33	21.33	68.63	20.88	69.22	21.49	68.31	21.70
	-5.0	-5.6	74.43	20.63	74.90	21.22	74.50	21.61	74.01	21.15	74.64	21.63	71.74	21.47
	-3.0	-3.7	75.41	20.73	75.89	21.43	75.50	21.77	75.00	21.33	75.64	21.92	71.74	21.07
	0.0	-0.7	76.89	21.28	77.36	21.92	77.22	22.26	76.46	21.50	77.12	22.16	71.74	20.77
	3.0	2.2	83.99	22.25	84.79	22.87	84.37	23.28	81.61	22.32	79.09	22.33	71.74	20.58
	5.0	4.1	97.94	24.20	92.20	24.38	85.61	22.75	81.61	21.90	79.09	21.75	71.74	20.54
	7.0	6.0	97.94	23.36	92.20	22.96	85.61	21.54	81.61	20.87	79.09	20.76	71.74	20.02
	9.0	7.9	97.94	22.26	92.20	21.76	85.61	20.77	81.61	20.33	79.09	20.30	71.74	19.67
	11.0	9.8	97.94	21.50	92.20	20.93	85.61	20.24	81.61	19.59	79.09	19.59	71.74	19.02
	13.0	11.8	97.94	20.89	92.20	20.30	85.61	19.55	81.61	19.03	79.09	18.93	71.74	18.33
15.0	13.7	97.94	20.26	92.20	19.65	85.61	18.91	81.61	18.35	79.09	18.32	71.74	17.68	
18.0	16.6	99.00	19.05	92.91	18.40	86.04	17.66	81.83	17.11	79.13	17.05	71.74	16.49	
21.0	19.5	99.58	17.72	93.16	17.11	86.04	16.40	81.83	15.89	79.13	15.77	71.74	15.23	
24.0	22.4	99.67	16.36	93.16	15.73	86.04	15.10	81.83	14.60	79.13	14.52	71.74	14.05	
27.0	25.3	99.67	15.01	93.16	14.44	86.04	13.84	81.83	13.44	79.13	13.34	71.74	12.90	
30.0	28.1	99.67	13.72	93.16	13.18	86.04	12.64	81.83	12.27	79.13	12.19	71.74	11.76	
100%	-30.0	-30.5	57.92	22.52	57.69	22.69	57.07	22.91	57.96	23.31	57.46	23.21	57.60	23.68
	-25.0	-25.4	59.10	22.50	58.87	22.76	58.23	22.96	59.14	23.31	58.63	23.26	58.78	23.75
	-19.8	-20.0	61.85	22.55	61.61	22.74	60.95	23.07	61.91	23.35	61.37	23.26	61.55	23.59
	-16.7	-17.0	63.77	22.60	63.53	22.81	63.10	23.14	63.84	23.47	63.28	23.35	63.48	23.21
	-13.7	-15.0	64.73	22.69	64.49	22.86	64.05	23.19	64.80	23.47	64.24	23.40	64.44	23.00
	-11.8	-13.0	65.69	22.67	65.45	22.91	65.00	23.23	65.77	23.52	65.20	23.45	64.44	22.73
	-9.8	-11.0	66.16	22.74	66.16	22.98	65.47	23.26	66.50	23.54	65.69	23.45	64.44	22.65
	-9.5	-10.0	66.64	22.74	66.41	22.96	65.96	23.35	66.74	23.56	66.16	23.50	64.44	22.46
	-8.5	-9.1	67.36	22.72	67.36	22.94	66.67	23.41	67.47	23.54	66.88	23.53	64.44	22.13
	-7.0	-7.6	72.64	22.81	72.39	22.99	71.90	23.90	72.79	24.44	69.77	23.07	64.44	22.03
	-5.0	-5.6	73.60	22.79	73.36	23.03	72.86	23.31	73.28	23.73	69.77	22.31	64.44	21.44
	-3.0	-3.7	75.03	22.83	74.79	22.97	74.28	22.59	73.28	22.38	69.77	21.67	64.44	20.75
	0.0	-0.7	76.96	22.90	81.26	23.05	75.00	21.91	73.28	21.39	69.77	20.59	64.44	19.85
	3.0	2.2	81.98	22.38	81.26	22.44	75.00	21.32	73.28	20.29	69.77	19.38	64.44	18.88
	5.0	4.1	87.02	22.09	81.26	21.32	75.00	20.27	73.28	19.40	69.77	18.57	64.44	18.01
	7.0	6.0	87.02	21.76	81.26	20.25	75.00	18.99	73.28	18.39	69.77	17.82	64.44	17.25
	9.0	7.9	87.02	20.52	81.26	19.15	75.00	18.47	73.28	17.91	69.77	17.31	64.44	16.70
	11.0	9.8	87.02	19.19	81.26	18.02	75.00	17.86	73.28	17.16	69.77	16.68	64.44	15.98
	13.0	11.8	87.02	18.00	81.26	17.55	75.00	17.15	73.28	16.58	69.77	16.08	64.44	15.43
	15.0	13.7	87.02	17.11	81.26	16.84	75.00	16.54	73.28	16.02	69.77	15.47	64.44	14.80
18.0	16.6	87.02	15.92	81.26	15.62	75.00	15.41	73.28	14.87	69.77	14.38	64.44	13.80	
21.0	19.5	87.02	14.73	81.26	14.49	75.00	14.24	73.28	13.76	69.77	13.33	64.44	12.79	
24.0	22.4	87.02	13.60	81.26	13.34	75.00	13.13	73.28	12.70	69.77	12.31	64.44	11.78	
27.0	25.3	87.02	12.48	81.26	12.24	75.00	12.05	73.28	11.67	69.77	11.29	64.44	10.81	
30.0	28.1	87.02	11.37	81.26	11.20	75.00	10.99	73.28	10.62	69.77	10.31	64.44	9.87	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.26:24HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	59.16	23.19	58.49	23.21	57.69	23.24	57.59	23.49	58.59	24.00	56.99	22.14
	-25.0	-25.4	60.36	23.13	59.69	23.21	58.87	23.24	58.77	23.49	59.78	24.00	58.15	22.09
	-19.8	-20.0	62.91	23.56	62.32	23.60	61.41	23.68	61.35	23.73	62.42	24.35	58.15	21.63
	-16.7	-17.0	64.39	23.64	63.78	23.72	63.11	23.70	62.81	23.78	63.90	23.76	58.15	21.02
	-13.7	-15.0	65.39	23.60	64.76	23.77	64.08	23.76	63.78	23.80	64.64	23.28	58.15	20.55
	-11.8	-13.0	66.37	23.66	65.74	23.79	65.05	23.73	64.75	23.54	64.64	22.79	58.15	20.15
	-9.8	-11.0	67.36	23.69	66.98	23.80	66.02	23.81	65.96	23.06	64.64	22.39	58.15	19.82
	-9.5	-10.0	67.84	23.74	67.46	23.82	66.52	23.87	66.21	22.84	64.64	22.17	58.15	19.63
	-8.5	-9.1	68.34	23.79	67.70	23.85	66.99	23.78	66.21	22.67	64.64	21.97	58.15	19.40
	-7.0	-7.6	69.09	23.81	68.69	23.56	67.73	23.47	66.21	22.36	64.64	21.62	58.15	19.18
	-5.0	-5.6	74.50	23.81	73.84	22.56	68.95	22.47	66.21	21.60	64.64	20.98	58.15	18.57
	-3.0	-3.7	75.50	23.89	74.82	21.56	68.95	21.32	66.21	20.76	64.64	20.25	58.15	18.09
	0.0	-0.7	76.97	23.92	74.82	20.42	68.95	20.40	66.21	19.77	64.64	19.27	58.15	17.67
	3.0	2.2	80.67	23.98	74.82	19.34	68.95	19.29	66.21	19.01	64.64	18.45	58.15	17.03
	5.0	4.1	80.67	23.39	74.82	18.41	68.95	18.37	66.21	18.03	64.64	17.54	58.15	16.38
	7.0	6.0	80.67	20.30	74.82	18.05	68.95	17.21	66.21	16.55	64.64	16.18	58.15	14.57
	9.0	7.9	80.67	19.02	74.82	17.73	68.95	16.38	66.21	15.74	64.64	15.43	58.15	14.00
	11.0	9.8	80.67	17.98	74.82	16.77	68.95	15.54	66.21	15.03	64.64	14.80	58.15	13.50
	13.0	11.8	80.67	16.98	74.82	15.91	68.95	14.88	66.21	14.43	64.64	14.24	58.15	13.06
	15.0	13.7	80.67	16.25	74.82	15.34	68.95	14.36	66.21	13.98	64.64	13.80	58.15	12.75
18.0	16.6	80.67	15.10	74.82	14.30	68.95	13.35	66.21	12.99	64.64	12.88	58.15	11.85	
21.0	19.5	80.67	13.98	74.82	13.24	68.95	12.38	66.21	12.03	64.64	11.90	58.15	10.98	
24.0	22.4	80.67	12.89	74.82	12.18	68.95	11.40	66.21	11.08	64.64	10.96	58.15	10.13	
27.0	25.3	80.67	11.83	74.82	11.17	68.95	10.47	66.21	10.17	64.64	10.08	58.15	9.28	
30.0	28.1	80.67	10.82	74.82	10.22	68.95	9.54	66.21	9.30	64.64	9.18	58.15	8.50	
80%	-30.0	-30.5	58.06	24.14	59.05	24.99	58.09	23.68	58.73	23.06	55.27	21.59	51.20	19.82
	-25.0	-25.4	59.25	24.10	60.25	24.95	59.28	23.66	59.93	23.06	56.40	21.54	52.25	19.82
	-19.8	-20.0	61.61	23.20	62.65	23.97	61.12	22.69	59.93	22.07	56.40	20.56	52.25	18.84
	-16.7	-17.0	63.05	23.27	64.14	24.06	61.12	22.01	59.93	21.45	56.40	19.97	52.25	18.27
	-13.7	-15.0	64.02	23.31	65.13	24.09	61.12	21.53	59.93	21.05	56.40	19.61	52.25	17.91
	-11.8	-13.0	64.99	23.34	66.12	23.66	61.12	21.15	59.93	20.62	56.40	19.16	52.25	17.61
	-9.8	-11.0	65.96	23.39	67.11	23.13	61.12	20.77	59.93	20.21	56.40	18.82	52.25	17.27
	-9.5	-10.0	66.45	23.41	67.11	22.89	61.12	20.53	59.93	20.05	56.40	18.63	52.25	17.09
	-8.5	-9.1	66.93	23.42	67.11	22.76	61.12	20.32	59.93	19.82	56.40	18.45	52.25	16.97
	-7.0	-7.6	67.66	23.49	67.11	22.38	61.12	20.11	59.93	19.57	56.40	18.20	52.25	16.76
	-5.0	-5.6	70.58	23.05	67.11	21.69	61.12	19.48	59.93	19.01	56.40	17.69	52.25	16.26
	-3.0	-3.7	70.58	23.80	67.11	20.86	61.12	18.60	59.93	18.26	56.40	17.05	52.25	15.79
	0.0	-0.7	70.58	23.51	67.11	19.92	61.12	17.98	59.93	17.69	56.40	16.59	52.25	15.44
	3.0	2.2	70.58	21.74	67.11	18.77	61.12	16.98	59.93	17.07	56.40	15.94	52.25	14.86
	5.0	4.1	70.58	19.89	67.11	17.75	61.12	16.16	59.93	16.41	56.40	15.20	52.25	14.53
	7.0	6.0	70.58	17.41	67.11	16.63	61.12	15.14	59.93	14.87	56.40	13.95	52.25	13.06
	9.0	7.9	70.58	16.49	67.11	15.81	61.12	14.49	59.93	14.32	56.40	13.46	52.25	12.63
	11.0	9.8	70.58	15.69	67.11	15.11	61.12	13.90	59.93	13.75	56.40	12.99	52.25	12.33
	13.0	11.8	70.58	15.00	67.11	14.50	61.12	13.41	59.93	13.33	56.40	12.61	52.25	12.01
	15.0	13.7	70.58	14.44	67.11	14.04	61.12	13.06	59.93	13.00	56.40	12.36	52.25	11.82
18.0	16.6	70.58	13.44	67.11	13.05	61.12	12.14	59.93	12.07	56.40	11.48	52.25	10.99	
21.0	19.5	70.58	12.46	67.11	12.10	61.12	11.26	59.93	11.19	56.40	10.62	52.25	10.17	
24.0	22.4	70.58	11.47	67.11	11.16	61.12	10.36	59.93	10.32	56.40	9.80	52.25	9.39	
27.0	25.3	70.58	10.55	67.11	10.22	61.12	9.52	59.93	9.46	56.40	9.01	52.25	8.62	
30.0	28.1	70.58	9.63	67.11	9.33	61.12	8.70	59.93	8.64	56.40	8.20	52.25	7.87	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table 2-8.26: 24HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
70%	-30.0	-30.5	60.53	24.64	56.87	22.78	53.03	22.44	50.34	21.76	49.51	21.96	44.44	20.68
	-25.0	-25.4	61.76	24.64	58.03	22.78	54.12	22.40	51.36	21.78	50.52	22.02	45.35	20.70
	-19.8	-20.0	61.76	23.49	58.03	21.57	54.12	21.17	51.36	20.51	50.52	20.72	45.35	19.45
	-16.7	-17.0	62.26	22.74	58.03	20.92	54.12	20.57	51.36	19.95	50.52	20.14	45.35	18.91
	-13.7	-15.0	62.26	22.34	58.03	20.53	54.12	20.18	51.36	19.59	50.52	19.70	45.35	18.47
	-11.8	-13.0	62.26	21.84	58.03	20.11	54.12	19.82	51.36	19.23	50.52	19.38	45.35	18.20
	-9.8	-11.0	62.26	21.47	58.03	19.77	54.12	19.50	51.36	18.87	50.52	19.03	45.35	17.79
	-9.5	-10.0	62.26	21.23	58.03	19.55	54.12	19.00	51.36	18.42	50.52	18.54	45.35	17.32
	-8.5	-9.1	62.26	21.03	58.03	19.40	54.12	18.36	51.36	17.75	50.52	17.90	45.35	16.71
	-7.0	-7.6	62.26	20.79	58.03	19.13	54.12	17.57	51.36	16.94	50.52	17.10	45.35	15.92
	-5.0	-5.6	62.26	20.10	58.03	18.60	54.12	17.11	51.36	16.49	50.52	16.62	45.35	15.46
	-3.0	-3.7	62.26	19.06	58.03	18.03	54.12	16.60	51.36	16.01	50.52	16.08	45.35	14.91
	0.0	-0.7	62.26	18.06	58.03	17.23	54.12	15.90	51.36	15.30	50.52	15.35	45.35	14.26
	3.0	2.2	62.26	17.01	58.03	16.30	54.12	14.93	51.36	14.32	50.52	14.41	45.35	13.27
	5.0	4.1	62.26	16.22	58.03	15.23	54.12	14.35	51.36	13.77	50.52	13.82	45.35	12.74
	7.0	6.0	62.26	15.59	58.03	14.58	54.12	13.61	51.36	13.11	50.52	13.12	45.35	12.05
	9.0	7.9	62.26	14.95	58.03	14.04	54.12	13.14	51.36	12.60	50.52	12.64	45.35	11.53
	11.0	9.8	62.26	14.32	58.03	13.57	54.12	12.62	51.36	12.11	50.52	12.07	45.35	11.02
	13.0	11.8	62.26	13.82	58.03	13.01	54.12	12.03	51.36	11.49	50.52	11.46	45.35	10.43
	15.0	13.7	62.26	13.31	58.03	12.42	54.12	11.55	51.36	11.02	50.52	10.98	45.35	9.95
18.0	16.6	62.26	12.39	58.03	11.55	54.12	10.73	51.36	10.27	50.52	10.24	45.35	9.27	
21.0	19.5	62.26	11.47	58.03	10.67	54.12	9.94	51.36	9.51	50.52	9.49	45.35	8.59	
24.0	22.4	62.26	10.58	58.03	9.83	54.12	9.15	51.36	8.75	50.52	8.74	45.35	7.89	
27.0	25.3	62.26	9.70	58.03	9.05	54.12	8.41	51.36	8.03	50.52	8.02	45.35	7.25	
30.0	28.1	62.26	8.86	58.03	8.24	54.12	7.68	51.36	7.34	50.52	7.31	45.35	6.63	
60%	-30.0	-30.5	52.41	23.01	49.46	21.93	45.01	20.59	44.04	20.42	41.32	19.19	38.68	18.57
	-25.0	-25.4	53.48	23.01	50.47	21.98	45.92	20.55	44.94	20.44	42.16	19.21	39.47	18.55
	-19.8	-20.0	53.48	21.81	50.47	20.92	45.92	19.81	44.94	19.57	42.16	18.33	39.47	17.56
	-16.7	-17.0	53.48	20.55	50.47	19.61	45.92	18.50	44.94	18.14	42.16	16.90	39.47	16.30
	-13.7	-15.0	53.48	19.88	50.47	19.02	45.92	17.91	44.94	17.51	42.16	16.28	39.47	15.58
	-11.8	-13.0	53.48	19.14	50.47	18.31	45.92	17.26	44.94	16.89	42.16	15.57	39.47	14.91
	-9.8	-11.0	53.48	18.56	50.47	17.61	45.92	16.38	44.94	16.08	42.16	14.90	39.47	14.36
	-9.5	-10.0	53.48	17.91	50.47	16.93	45.92	15.76	44.94	15.42	42.16	14.24	39.47	13.56
	-8.5	-9.1	53.48	17.15	50.47	16.34	45.92	15.05	44.94	14.78	42.16	13.60	39.47	12.77
	-7.0	-7.6	53.48	16.51	50.47	15.63	45.92	14.54	44.94	14.28	42.16	13.08	39.47	12.25
	-5.0	-5.6	53.48	15.92	50.47	15.03	45.92	13.81	44.94	13.67	42.16	12.52	39.47	11.63
	-3.0	-3.7	53.48	15.33	50.47	14.46	45.92	13.19	44.94	13.11	42.16	11.98	39.47	11.24
	0.0	-0.7	53.48	14.70	50.47	13.86	45.92	12.60	44.94	12.49	42.16	11.39	39.47	11.04
	3.0	2.2	53.48	14.02	50.47	13.22	45.92	12.16	44.94	11.98	42.16	10.82	39.47	10.64
	5.0	4.1	53.48	13.31	50.47	12.64	45.92	11.67	44.94	11.46	42.16	10.56	39.47	10.39
	7.0	6.0	53.48	12.71	50.47	12.10	45.92	11.14	44.94	10.99	42.16	10.50	39.47	10.22
	9.0	7.9	53.48	12.53	50.47	11.83	45.92	10.96	44.94	10.74	42.16	10.08	39.47	9.76
	11.0	9.8	53.48	12.33	50.47	11.68	45.92	10.68	44.94	10.46	42.16	9.86	39.47	9.57
	13.0	11.8	53.48	11.95	50.47	11.29	45.92	10.37	44.94	10.24	42.16	9.64	39.47	9.37
	15.0	13.7	53.48	11.80	50.47	11.05	45.92	10.05	44.94	9.99	42.16	9.41	39.47	9.09
18.0	16.6	53.48	10.99	50.47	10.29	45.92	9.34	44.94	9.31	42.16	8.75	39.47	8.48	
21.0	19.5	53.48	10.14	50.47	9.52	45.92	8.66	44.94	8.60	42.16	8.10	39.47	7.83	
24.0	22.4	53.48	9.37	50.47	8.77	45.92	7.97	44.94	7.94	42.16	7.47	39.47	7.21	
27.0	25.3	53.48	8.60	50.47	8.05	45.92	7.31	44.94	7.27	42.16	6.85	39.47	6.62	
30.0	28.1	53.48	7.84	50.47	7.35	45.92	6.69	44.94	6.65	42.16	6.25	39.47	6.06	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.26:24HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	44.13	19.23	41.26	18.21	37.52	16.97	36.30	16.81	35.16	16.49	32.25	15.40
	-25.0	-25.4	45.03	19.24	42.10	18.19	38.29	16.97	37.05	16.81	35.87	16.51	32.91	15.41
	-19.8	-20.0	45.03	18.24	42.10	17.34	38.29	16.36	37.05	16.07	35.87	15.76	32.91	14.57
	-16.7	-17.0	45.03	17.16	42.10	16.25	38.29	15.27	37.05	14.94	35.87	14.58	32.91	13.49
	-13.7	-15.0	45.03	16.62	42.10	15.78	38.29	14.81	37.05	14.35	35.87	14.04	32.91	12.96
	-11.8	-13.0	45.03	15.98	42.10	15.19	38.29	14.23	37.05	13.85	35.87	13.46	32.91	12.39
	-9.8	-11.0	45.03	15.49	42.10	14.64	38.29	13.55	37.05	13.23	35.87	12.89	32.91	11.94
	-9.5	-10.0	45.03	14.96	42.10	14.03	38.29	13.00	37.05	12.68	35.87	12.32	32.91	11.28
	-8.5	-9.1	45.03	14.33	42.10	13.53	38.29	12.43	37.05	12.14	35.87	11.77	32.91	10.63
	-7.0	-7.6	45.03	13.81	42.10	12.94	38.29	12.02	37.05	11.72	35.87	11.34	32.91	10.15
	-5.0	-5.6	45.03	13.27	42.10	12.49	38.29	11.43	37.05	11.25	35.87	10.88	32.91	9.69
	-3.0	-3.7	45.03	12.81	42.10	11.98	38.29	10.89	37.05	10.77	35.87	10.42	32.91	9.35
	0.0	-0.7	45.03	12.28	42.10	11.48	38.29	10.41	37.05	10.28	35.87	9.93	32.91	9.16
	3.0	2.2	45.03	11.72	42.10	10.93	38.29	10.03	37.05	9.84	35.87	9.41	32.91	9.10
	5.0	4.1	45.03	11.15	42.10	10.46	38.29	9.66	37.05	9.42	35.87	9.20	32.91	9.02
	7.0	6.0	45.03	10.61	42.10	10.04	38.29	9.21	37.05	9.03	35.87	9.09	32.91	8.74
	9.0	7.9	45.03	10.43	42.10	9.82	38.29	9.03	37.05	8.81	35.87	8.70	32.91	8.49
	11.0	9.8	45.03	10.28	42.10	9.66	38.29	8.80	37.05	8.62	35.87	8.55	32.91	8.34
	13.0	11.8	45.03	9.97	42.10	9.35	38.29	8.56	37.05	8.43	35.87	8.35	32.91	8.14
15.0	13.7	45.03	9.83	42.10	9.16	38.29	8.30	37.05	8.22	35.87	8.12	32.91	7.92	
18.0	16.6	45.03	9.16	42.10	8.53	38.29	7.71	37.05	7.64	35.87	7.57	32.91	7.37	
21.0	19.5	45.03	8.49	42.10	7.89	38.29	7.14	37.05	7.08	35.87	6.99	32.91	6.83	
24.0	22.4	45.03	7.81	42.10	7.28	38.29	6.59	37.05	6.52	35.87	6.45	32.91	6.29	
27.0	25.3	45.03	7.18	42.10	6.67	38.29	6.04	37.05	5.98	35.87	5.92	32.91	5.78	
30.0	28.1	45.03	6.54	42.10	6.10	38.29	5.52	37.05	5.47	35.87	5.40	32.91	5.28	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table 2-8.27: 26HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	64.32	18.06	64.55	18.46	62.68	19.02	62.40	19.57	61.75	19.88	62.70	20.66
	-25.0	-25.4	65.63	18.02	65.86	18.48	63.96	19.02	63.68	19.59	63.01	19.88	63.97	20.68
	-19.8	-20.0	69.00	18.53	69.25	19.06	68.39	19.83	68.06	20.36	67.41	20.72	68.57	21.39
	-16.7	-17.0	70.59	19.02	70.86	19.68	69.99	20.21	69.92	20.72	68.99	21.11	70.19	21.86
	-13.7	-15.0	71.66	19.31	71.94	19.91	71.06	20.58	70.99	21.12	70.04	21.45	71.26	22.21
	-11.8	-13.0	72.72	19.63	73.01	20.24	72.12	21.00	72.05	21.50	71.10	21.83	72.61	22.52
	-9.8	-11.0	73.79	19.93	74.09	20.61	73.18	21.18	73.11	21.70	72.41	22.07	73.68	22.52
	-9.5	-10.0	74.32	20.18	74.62	20.80	73.99	21.50	73.65	22.05	72.95	22.32	74.23	22.89
	-8.5	-9.1	74.85	20.44	75.15	21.11	74.25	21.75	74.18	22.31	73.47	22.55	74.76	23.13
	-7.0	-7.6	75.65	20.53	75.96	21.43	75.31	21.97	74.97	22.41	74.26	22.94	75.56	23.45
	-5.0	-5.6	81.51	21.38	81.87	22.03	80.91	22.64	80.83	23.27	79.80	23.08	81.21	23.77
	-3.0	-3.7	82.57	21.88	82.94	22.34	81.97	23.06	81.89	23.64	80.85	23.39	82.29	24.03
	0.0	-0.7	84.18	22.58	84.55	22.63	83.57	23.30	83.49	23.89	82.43	23.69	84.17	24.22
	3.0	2.2	92.99	23.88	92.60	24.09	91.55	24.48	91.20	24.94	90.33	24.95	91.97	25.72
	5.0	4.1	115.61	28.85	111.82	28.70	109.11	28.33	104.76	27.41	99.54	26.86	93.31	26.26
	7.0	6.0	117.48	28.99	113.97	27.96	109.11	26.90	104.76	26.26	99.54	25.72	93.31	25.36
	9.0	7.9	117.48	27.58	113.97	26.60	109.11	26.14	104.76	25.77	99.54	25.03	93.31	24.72
	11.0	9.8	117.48	26.30	113.97	25.46	109.11	25.27	104.76	24.89	99.54	24.30	93.31	23.77
	13.0	11.8	117.48	25.04	113.97	24.76	109.11	24.48	104.76	24.47	99.54	23.75	93.31	23.32
	15.0	13.7	117.48	24.24	113.97	24.20	109.11	23.88	104.76	23.52	99.54	23.10	93.31	22.46
18.0	16.6	118.75	22.82	114.84	22.68	109.65	22.30	105.04	21.89	99.59	21.50	93.31	20.89	
21.0	19.5	119.45	21.19	115.15	21.04	109.65	20.63	105.04	20.27	99.59	19.89	93.31	19.36	
24.0	22.4	119.55	19.58	115.15	19.43	109.65	18.99	105.04	18.72	99.59	18.38	93.31	17.86	
27.0	25.3	119.55	17.98	115.15	17.81	109.65	17.48	105.04	17.12	99.59	16.81	93.31	16.40	
30.0	28.1	119.55	16.42	115.15	16.28	109.65	15.93	105.04	15.65	99.59	15.40	93.31	14.94	
120%	-30.0	-30.5	64.36	19.86	62.71	20.16	63.32	21.09	62.58	21.38	62.89	22.06	63.24	22.60
	-25.0	-25.4	65.68	19.88	63.99	20.16	64.61	21.09	63.85	21.34	64.18	22.12	64.53	22.58
	-19.8	-20.0	69.64	20.39	67.87	20.65	68.32	21.47	67.73	21.72	68.12	22.44	68.42	23.03
	-16.7	-17.0	71.26	21.01	69.45	20.95	69.92	22.10	69.32	22.45	69.72	23.15	70.32	23.37
	-13.7	-15.0	72.34	21.28	70.51	21.36	70.98	22.19	70.37	22.48	71.05	23.20	71.39	23.60
	-11.8	-13.0	73.41	21.55	71.56	21.63	72.17	22.50	71.43	22.76	72.12	23.56	72.47	23.87
	-9.8	-11.0	74.49	21.66	72.62	21.70	73.39	22.78	72.50	23.06	73.19	23.82	73.55	24.38
	-9.5	-10.0	75.04	21.96	73.14	21.87	73.92	22.89	73.02	23.24	73.72	23.90	74.09	24.65
	-8.5	-9.1	75.58	22.13	73.68	22.17	74.46	23.17	73.56	23.48	74.26	24.24	74.62	24.72
	-7.0	-7.6	76.38	22.55	74.46	22.57	75.25	23.43	74.35	23.75	75.06	24.45	75.43	25.00
	-5.0	-5.6	82.32	22.72	80.28	22.80	80.86	23.67	80.17	23.99	80.94	24.71	81.36	25.34
	-3.0	-3.7	83.40	23.17	81.34	23.10	81.93	23.93	81.23	24.30	81.73	25.03	82.43	25.48
	0.0	-0.7	85.02	23.39	82.92	23.44	83.53	24.20	82.82	24.45	83.61	25.26	84.05	25.66
	3.0	2.2	92.85	24.88	90.84	24.92	91.54	25.41	90.49	25.73	91.36	26.46	86.21	25.45
	5.0	4.1	116.88	27.83	107.47	26.97	100.87	26.81	96.04	26.01	93.22	26.02	86.21	24.63
	7.0	6.0	117.68	27.61	107.47	25.78	100.87	25.49	96.04	24.78	93.22	24.91	86.21	24.05
	9.0	7.9	117.68	26.47	107.47	24.66	100.87	24.66	96.04	23.97	93.22	24.12	86.21	23.33
	11.0	9.8	117.68	25.58	107.47	24.16	100.87	23.83	96.04	23.27	93.22	23.25	86.21	22.47
	13.0	11.8	117.68	24.95	107.47	23.50	100.87	23.12	96.04	22.86	93.22	22.88	86.21	22.03
	15.0	13.7	117.68	24.40	107.47	22.82	100.87	22.48	96.04	22.02	93.22	22.10	86.21	21.19
18.0	16.6	118.96	22.93	108.30	21.44	101.38	21.08	96.29	20.58	93.27	20.53	86.21	19.69	
21.0	19.5	119.66	21.41	108.59	19.84	101.38	19.52	96.29	19.07	93.27	19.01	86.21	18.27	
24.0	22.4	119.76	19.70	108.59	18.32	101.38	17.99	96.29	17.58	93.27	17.52	86.21	16.85	
27.0	25.3	119.76	18.12	108.59	16.81	101.38	16.47	96.29	16.08	93.27	16.12	86.21	15.43	
30.0	28.1	119.76	16.55	108.59	15.37	101.38	15.03	96.29	14.70	93.27	14.69	86.21	14.11	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.27: 26HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	64.98	20.41	64.18	20.66	64.41	21.34	64.03	20.85	63.12	21.03	63.70	21.80
	-25.0	-25.4	66.30	20.41	65.49	20.66	65.73	21.38	65.34	20.89	64.41	21.05	65.00	21.82
	-19.8	-20.0	69.17	20.64	68.39	20.95	68.70	21.67	68.19	21.18	67.20	21.28	67.84	22.03
	-16.7	-17.0	70.79	21.26	69.99	21.56	70.32	22.29	69.79	21.56	69.06	21.77	69.45	22.44
	-13.7	-15.0	71.87	21.50	71.05	21.81	71.39	22.48	70.85	21.70	70.11	21.93	70.52	22.65
	-11.8	-13.0	72.94	21.82	72.12	22.06	72.74	22.73	71.92	21.91	71.17	22.17	71.59	22.96
	-9.8	-11.0	74.02	21.79	73.19	22.11	73.82	22.73	73.00	22.35	72.23	22.39	72.65	23.26
	-9.5	-10.0	74.55	22.02	73.99	22.37	74.35	22.99	73.53	22.42	72.76	22.70	73.19	23.49
	-8.5	-9.1	75.10	22.24	74.26	22.56	74.90	23.24	74.06	22.60	73.28	22.89	73.72	23.69
	-7.0	-7.6	75.90	22.55	75.06	22.85	75.70	23.50	74.87	22.96	74.08	23.18	74.53	23.78
	-5.0	-5.6	81.82	22.84	80.94	23.07	81.36	23.77	80.75	23.20	79.90	23.29	78.26	23.54
	-3.0	-3.7	82.90	23.02	82.01	23.31	82.43	23.92	81.81	23.42	80.96	23.66	78.26	23.14
	0.0	-0.7	84.52	23.56	83.61	23.83	84.33	24.47	83.41	23.61	82.54	23.87	78.26	22.84
	3.0	2.2	92.32	24.60	91.62	24.91	92.14	25.53	89.03	24.51	84.67	23.98	78.26	22.58
	5.0	4.1	107.66	26.84	99.63	26.53	93.49	24.99	89.03	24.05	84.67	23.39	78.26	22.54
	7.0	6.0	107.66	25.83	99.63	25.05	93.49	23.68	89.03	22.86	84.67	22.28	78.26	21.99
	9.0	7.9	107.66	24.67	99.63	23.70	93.49	22.90	89.03	22.36	84.67	21.86	78.26	21.57
	11.0	9.8	107.66	23.75	99.63	22.76	93.49	22.22	89.03	21.53	84.67	21.12	78.26	20.89
	13.0	11.8	107.66	23.06	99.63	22.05	93.49	21.52	89.03	20.86	84.67	20.43	78.26	20.14
	15.0	13.7	107.66	22.39	99.63	21.34	93.49	20.76	89.03	20.17	84.67	19.75	78.26	19.44
18.0	16.6	108.83	21.05	100.40	19.99	93.96	19.44	89.27	18.81	84.71	18.38	78.26	18.05	
21.0	19.5	109.47	19.65	100.67	18.61	93.96	17.97	89.27	17.43	84.71	16.97	78.26	16.71	
24.0	22.4	109.56	18.09	100.67	17.10	93.96	16.61	89.27	16.07	84.71	15.67	78.26	15.45	
27.0	25.3	109.56	16.63	100.67	15.72	93.96	15.19	89.27	14.71	84.71	14.36	78.26	14.15	
30.0	28.1	109.56	15.18	100.67	14.34	93.96	13.91	89.27	13.44	84.71	13.12	78.26	12.93	
100%	-30.0	-30.5	63.68	24.93	62.94	24.97	62.00	25.07	62.49	25.30	63.16	25.69	62.90	26.09
	-25.0	-25.4	64.98	24.96	64.22	24.95	63.27	25.12	63.77	25.32	64.45	25.75	64.19	26.09
	-19.8	-20.0	68.00	24.93	67.21	24.98	66.24	25.28	66.76	25.30	67.47	25.81	67.21	25.85
	-16.7	-17.0	70.10	25.04	69.30	25.07	68.56	25.36	68.84	25.39	69.58	25.85	69.32	25.52
	-13.7	-15.0	71.16	25.03	70.35	25.15	69.60	25.40	69.89	25.49	70.64	25.85	70.37	25.23
	-11.8	-13.0	72.22	25.09	71.40	25.19	70.64	25.43	70.92	25.51	71.68	25.91	70.37	24.98
	-9.8	-11.0	72.74	25.14	72.18	25.21	71.15	25.46	71.71	25.51	72.22	25.99	70.37	24.92
	-9.5	-10.0	73.27	25.17	72.44	25.21	71.66	25.55	71.97	25.58	72.74	26.02	70.37	24.70
	-8.5	-9.1	74.06	25.21	73.49	25.22	72.45	25.64	72.76	25.57	73.54	25.99	70.37	24.34
	-7.0	-7.6	79.86	25.23	78.98	25.21	78.14	26.16	78.49	26.55	76.70	25.46	70.37	24.29
	-5.0	-5.6	80.92	25.29	80.02	25.24	79.17	25.54	79.01	25.77	76.70	24.77	70.37	23.62
	-3.0	-3.7	82.50	25.27	81.59	25.23	80.72	24.70	79.01	24.26	76.70	23.96	70.37	22.79
	0.0	-0.7	84.60	25.35	88.66	25.25	81.50	23.97	79.01	23.15	76.70	22.74	70.37	21.77
	3.0	2.2	90.14	24.77	88.66	24.67	81.50	23.33	79.01	22.04	76.70	21.43	70.37	20.77
	5.0	4.1	95.67	24.45	88.66	23.41	81.50	22.17	79.01	21.05	76.70	20.54	70.37	19.80
	7.0	6.0	95.67	24.08	88.66	22.25	81.50	20.79	79.01	19.92	76.70	19.71	70.37	18.97
	9.0	7.9	95.67	22.72	88.66	21.08	81.50	20.21	79.01	19.45	76.70	19.16	70.37	18.31
	11.0	9.8	95.67	21.31	88.66	19.78	81.50	19.52	79.01	18.68	76.70	18.42	70.37	17.53
	13.0	11.8	95.67	19.92	88.66	19.28	81.50	18.76	79.01	17.98	76.70	17.75	70.37	16.99
	15.0	13.7	95.67	18.99	88.66	18.48	81.50	18.07	79.01	17.38	76.70	17.17	70.37	16.27
18.0	16.6	95.67	17.65	88.66	17.18	81.50	16.82	79.01	16.17	76.70	15.92	70.37	15.17	
21.0	19.5	95.67	16.33	88.66	15.89	81.50	15.59	79.01	14.96	76.70	14.74	70.37	14.02	
24.0	22.4	95.67	15.06	88.66	14.69	81.50	14.34	79.01	13.76	76.70	13.63	70.37	12.94	
27.0	25.3	95.67	13.83	88.66	13.47	81.50	13.17	79.01	12.66	76.70	12.47	70.37	11.86	
30.0	28.1	95.67	12.60	88.66	12.29	81.50	12.03	79.01	11.56	76.70	11.42	70.37	10.84	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.27: 26HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	64.78	25.54	63.58	25.44	64.09	26.03	63.56	26.16	63.98	26.38	62.17	24.24
	-25.0	-25.4	66.10	25.54	64.87	25.44	65.39	25.98	64.85	26.14	65.29	26.38	63.44	24.27
	-19.8	-20.0	68.90	25.95	67.71	25.90	68.22	26.45	67.71	26.38	68.16	26.69	63.44	23.79
	-16.7	-17.0	70.52	26.02	69.31	25.90	70.11	26.51	69.31	26.44	69.77	26.15	63.44	23.00
	-13.7	-15.0	71.59	26.09	70.38	26.02	71.19	26.60	70.39	26.50	70.59	25.56	63.44	22.59
	-11.8	-13.0	72.68	26.11	71.45	25.98	72.27	26.61	71.46	26.10	70.59	25.06	63.44	22.19
	-9.8	-11.0	73.76	26.11	72.79	26.09	73.34	26.64	72.79	25.61	70.59	24.55	63.44	21.70
	-9.5	-10.0	74.30	26.17	73.32	26.06	73.89	26.65	73.07	25.37	70.59	24.34	63.44	21.51
	-8.5	-9.1	74.83	26.20	73.58	26.15	74.42	26.64	73.07	25.17	70.59	24.10	63.44	21.31
	-7.0	-7.6	75.65	26.26	74.65	25.72	75.24	26.23	73.07	24.78	70.59	23.78	63.44	21.00
	-5.0	-5.6	81.59	26.25	80.25	24.65	76.59	25.17	73.07	24.02	70.59	22.99	63.44	20.39
	-3.0	-3.7	82.67	26.28	81.31	23.52	76.59	23.91	73.07	23.14	70.59	22.29	63.44	19.88
	0.0	-0.7	84.29	26.35	81.31	22.41	76.59	22.83	73.07	21.96	70.59	21.19	63.44	19.40
	3.0	2.2	88.34	26.38	81.31	21.22	76.59	21.54	73.07	21.18	70.59	20.26	63.44	18.73
	5.0	4.1	88.34	25.78	81.31	20.17	76.59	20.56	73.07	20.11	70.59	19.34	63.44	17.99
	7.0	6.0	88.34	22.36	81.31	19.79	76.59	19.23	73.07	18.40	70.59	17.79	63.44	15.98
	9.0	7.9	88.34	21.00	81.31	19.44	76.59	18.27	73.07	17.52	70.59	16.96	63.44	15.38
	11.0	9.8	88.34	19.77	81.31	18.39	76.59	17.42	73.07	16.68	70.59	16.25	63.44	14.83
	13.0	11.8	88.34	18.69	81.31	17.42	76.59	16.64	73.07	16.00	70.59	15.66	63.44	14.37
	15.0	13.7	88.34	17.90	81.31	16.80	76.59	16.08	73.07	15.52	70.59	15.20	63.44	14.01
18.0	16.6	88.34	16.67	81.31	15.64	76.59	14.96	73.07	14.44	70.59	14.15	63.44	13.06	
21.0	19.5	88.34	15.45	81.31	14.47	76.59	13.84	73.07	13.38	70.59	13.08	63.44	12.08	
24.0	22.4	88.34	14.21	81.31	13.31	76.59	12.78	73.07	12.34	70.59	12.06	63.44	11.13	
27.0	25.3	88.34	13.04	81.31	12.24	76.59	11.72	73.07	11.29	70.59	11.06	63.44	10.20	
30.0	28.1	88.34	11.91	81.31	11.15	76.59	10.69	73.07	10.34	70.59	10.11	63.44	9.32	
80%	-30.0	-30.5	63.82	26.75	64.29	27.32	64.05	26.35	64.01	25.31	60.88	23.90	56.18	21.92
	-25.0	-25.4	65.13	26.70	65.60	27.40	65.36	26.35	65.32	25.33	62.12	23.90	57.33	21.85
	-19.8	-20.0	67.71	25.73	68.22	26.33	67.38	25.17	65.32	24.25	62.12	22.86	57.33	20.78
	-16.7	-17.0	69.31	25.81	69.84	26.37	67.38	24.43	65.32	23.54	62.12	22.12	57.33	20.18
	-13.7	-15.0	70.38	25.87	70.92	26.38	67.38	23.90	65.32	23.09	62.12	21.70	57.33	19.81
	-11.8	-13.0	71.45	25.88	72.00	25.93	67.38	23.45	65.32	22.56	62.12	21.30	57.33	19.43
	-9.8	-11.0	72.51	25.94	73.07	25.37	67.38	23.01	65.32	22.16	62.12	20.88	57.33	19.05
	-9.5	-10.0	73.05	25.97	73.07	25.09	67.38	22.74	65.32	21.94	62.12	20.68	57.33	18.90
	-8.5	-9.1	73.58	25.95	73.07	24.93	67.38	22.61	65.32	21.74	62.12	20.48	57.33	18.71
	-7.0	-7.6	74.39	26.00	73.07	24.54	67.38	22.26	65.32	21.53	62.12	20.24	57.33	18.52
	-5.0	-5.6	77.59	25.51	73.07	23.73	67.38	21.56	65.32	20.84	62.12	19.64	57.33	17.96
	-3.0	-3.7	77.59	26.36	73.07	22.89	67.38	20.68	65.32	20.00	62.12	18.95	57.33	17.43
	0.0	-0.7	77.59	25.98	73.07	21.82	67.38	19.99	65.32	19.42	62.12	18.40	57.33	17.03
	3.0	2.2	77.59	24.08	73.07	20.59	67.38	18.80	65.32	18.78	62.12	17.68	57.33	16.39
	5.0	4.1	77.59	21.98	73.07	19.44	67.38	17.99	65.32	17.96	62.12	16.87	57.33	16.04
	7.0	6.0	77.59	19.27	73.07	18.25	67.38	16.81	65.32	16.29	62.12	15.47	57.33	14.41
	9.0	7.9	77.59	18.25	73.07	17.38	67.38	16.10	65.32	15.69	62.12	14.93	57.33	14.01
	11.0	9.8	77.59	17.36	73.07	16.57	67.38	15.46	65.32	15.12	62.12	14.41	57.33	13.60
	13.0	11.8	77.59	16.58	73.07	15.86	67.38	14.90	65.32	14.59	62.12	14.00	57.33	13.26
	15.0	13.7	77.59	15.99	73.07	15.37	67.38	14.47	65.32	14.25	62.12	13.71	57.33	13.07
18.0	16.6	77.59	14.90	73.07	14.32	67.38	13.49	65.32	13.29	62.12	12.76	57.33	12.16	
21.0	19.5	77.59	13.78	73.07	13.25	67.38	12.48	65.32	12.29	62.12	11.79	57.33	11.23	
24.0	22.4	77.59	12.68	73.07	12.24	67.38	11.49	65.32	11.31	62.12	10.86	57.33	10.36	
27.0	25.3	77.59	11.66	73.07	11.22	67.38	10.55	65.32	10.41	62.12	9.96	57.33	9.51	
30.0	28.1	77.59	10.66	73.07	10.25	67.38	9.65	65.32	9.50	62.12	9.10	57.33	8.69	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.27:26HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-30.0	-30.5	65.40	26.80	62.51	25.23	57.91	24.63	55.07	23.94	52.90	23.65	49.47	23.19
	-25.0	-25.4	66.74	26.80	63.78	25.21	59.09	24.60	56.20	23.94	53.98	23.67	50.48	23.23
	-19.8	-20.0	66.74	25.57	63.78	23.87	59.09	23.31	56.20	22.58	53.98	22.25	50.48	21.80
	-16.7	-17.0	67.26	24.81	63.78	23.16	59.09	22.65	56.20	22.01	53.98	21.67	50.48	21.15
	-13.7	-15.0	67.26	24.32	63.78	22.74	59.09	22.17	56.20	21.58	53.98	21.24	50.48	20.77
	-11.8	-13.0	67.26	23.78	63.78	22.30	59.09	21.79	56.20	21.22	53.98	20.88	50.48	20.35
	-9.8	-11.0	67.26	23.32	63.78	21.83	59.09	21.40	56.20	20.77	53.98	20.48	50.48	19.99
	-9.5	-10.0	67.26	23.15	63.78	21.66	59.09	20.87	56.20	20.26	53.98	19.88	50.48	19.41
	-8.5	-9.1	67.26	22.91	63.78	21.52	59.09	20.19	56.20	19.53	53.98	19.19	50.48	18.72
	-7.0	-7.6	67.26	22.64	63.78	21.17	59.09	19.28	56.20	18.67	53.98	18.33	50.48	17.86
	-5.0	-5.6	67.26	21.86	63.78	20.57	59.09	18.75	56.20	18.19	53.98	17.85	50.48	17.32
	-3.0	-3.7	67.26	20.71	63.78	19.93	59.09	18.26	56.20	17.62	53.98	17.29	50.48	16.72
	0.0	-0.7	67.26	19.63	63.78	19.03	59.09	17.47	56.20	16.84	53.98	16.55	50.48	15.96
	3.0	2.2	67.26	18.54	63.78	18.04	59.09	16.37	56.20	15.83	53.98	15.48	50.48	14.89
	5.0	4.1	67.26	17.66	63.78	16.86	59.09	15.77	56.20	15.19	53.98	14.84	50.48	14.28
	7.0	6.0	67.26	16.95	63.78	16.16	59.09	14.96	56.20	14.44	53.98	14.09	50.48	13.48
	9.0	7.9	67.26	16.27	63.78	15.54	59.09	14.48	56.20	13.90	53.98	13.58	50.48	12.92
	11.0	9.8	67.26	15.58	63.78	14.97	59.09	13.89	56.20	13.33	53.98	13.00	50.48	12.37
	13.0	11.8	67.26	15.03	63.78	14.37	59.09	13.21	56.20	12.65	53.98	12.33	50.48	11.69
	15.0	13.7	67.26	14.50	63.78	13.72	59.09	12.68	56.20	12.12	53.98	11.81	50.48	11.16
18.0	16.6	67.26	13.46	63.78	12.80	59.09	11.80	56.20	11.28	53.98	10.99	50.48	10.38	
21.0	19.5	67.26	12.45	63.78	11.83	59.09	10.92	56.20	10.44	53.98	10.19	50.48	9.62	
24.0	22.4	67.26	11.48	63.78	10.90	59.09	10.08	56.20	9.63	53.98	9.39	50.48	8.85	
27.0	25.3	67.26	10.54	63.78	10.02	59.09	9.26	56.20	8.85	53.98	8.61	50.48	8.14	
30.0	28.1	67.26	9.61	63.78	9.14	59.09	8.45	56.20	8.06	53.98	7.86	50.48	7.42	
60%	-30.0	-30.5	56.63	25.03	53.51	23.90	49.38	22.68	48.19	22.53	45.54	21.32	41.96	20.20
	-25.0	-25.4	57.79	25.03	54.60	23.95	50.39	22.70	49.17	22.53	46.47	21.32	42.82	20.22
	-19.8	-20.0	57.79	23.73	54.60	22.85	50.39	21.82	49.17	21.53	46.47	20.35	42.82	19.17
	-16.7	-17.0	57.79	22.40	54.60	21.34	50.39	20.44	49.17	20.00	46.47	18.81	42.82	17.77
	-13.7	-15.0	57.79	21.64	54.60	20.68	50.39	19.76	49.17	19.27	46.47	18.03	42.82	17.04
	-11.8	-13.0	57.79	20.83	54.60	19.91	50.39	19.06	49.17	18.60	46.47	17.28	42.82	16.27
	-9.8	-11.0	57.79	20.18	54.60	19.23	50.39	18.13	49.17	17.73	46.47	16.56	42.82	15.68
	-9.5	-10.0	57.79	19.48	54.60	18.46	50.39	17.36	49.17	17.01	46.47	15.80	42.82	14.83
	-8.5	-9.1	57.79	18.66	54.60	17.74	50.39	16.64	49.17	16.26	46.47	15.08	42.82	13.97
	-7.0	-7.6	57.79	17.93	54.60	16.98	50.39	16.07	49.17	15.68	46.47	14.51	42.82	13.37
	-5.0	-5.6	57.79	17.27	54.60	16.41	50.39	15.25	49.17	15.08	46.47	13.95	42.82	12.74
	-3.0	-3.7	57.79	16.67	54.60	15.72	50.39	14.58	49.17	14.43	46.47	13.30	42.82	12.27
	0.0	-0.7	57.79	16.03	54.60	15.09	50.39	13.94	49.17	13.78	46.47	12.65	42.82	12.06
	3.0	2.2	57.79	15.30	54.60	14.41	50.39	13.41	49.17	13.19	46.47	11.99	42.82	11.59
	5.0	4.1	57.79	14.48	54.60	13.78	50.39	12.89	49.17	12.58	46.47	11.73	42.82	11.37
	7.0	6.0	57.79	13.86	54.60	13.20	50.39	12.29	49.17	12.10	46.47	11.65	42.82	11.16
	9.0	7.9	57.79	13.61	54.60	12.91	50.39	12.12	49.17	11.83	46.47	11.16	42.82	10.63
	11.0	9.8	57.79	13.38	54.60	12.70	50.39	11.78	49.17	11.51	46.47	10.96	42.82	10.47
	13.0	11.8	57.79	13.00	54.60	12.29	50.39	11.42	49.17	11.28	46.47	10.73	42.82	10.21
	15.0	13.7	57.79	12.83	54.60	12.05	50.39	11.09	49.17	11.00	46.47	10.44	42.82	9.91
18.0	16.6	57.79	11.93	54.60	11.21	50.39	10.32	49.17	10.25	46.47	9.69	42.82	9.23	
21.0	19.5	57.79	11.05	54.60	10.38	50.39	9.57	49.17	9.49	46.47	8.98	42.82	8.56	
24.0	22.4	57.79	10.17	54.60	9.54	50.39	8.81	49.17	8.73	46.47	8.28	42.82	7.89	
27.0	25.3	57.79	9.34	54.60	8.77	50.39	8.08	49.17	8.03	46.47	7.60	42.82	7.22	
30.0	28.1	57.79	8.52	54.60	7.99	50.39	7.39	49.17	7.32	46.47	6.95	42.82	6.60	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.27: 26HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	47.10	20.64	45.01	19.96	41.80	19.04	39.56	18.42	38.39	18.18	35.14	16.87
	-25.0	-25.4	48.06	20.62	45.93	20.00	42.65	19.02	40.37	18.43	39.17	18.17	35.86	16.90
	-19.8	-20.0	48.06	19.56	45.93	19.07	42.65	18.35	40.37	17.65	39.17	17.29	35.86	16.02
	-16.7	-17.0	48.06	18.48	45.93	17.83	42.65	17.14	40.37	16.37	39.17	16.05	35.86	14.84
	-13.7	-15.0	48.06	17.85	45.93	17.32	42.65	16.57	40.37	15.79	39.17	15.46	35.86	14.23
	-11.8	-13.0	48.06	17.20	45.93	16.68	42.65	15.95	40.37	15.20	39.17	14.81	35.86	13.58
	-9.8	-11.0	48.06	16.62	45.93	16.06	42.65	15.21	40.37	14.55	39.17	14.17	35.86	13.09
	-9.5	-10.0	48.06	16.05	45.93	15.39	42.65	14.58	40.37	13.92	39.17	13.54	35.86	12.36
	-8.5	-9.1	48.06	15.40	45.93	14.85	42.65	13.97	40.37	13.29	39.17	12.96	35.86	11.67
	-7.0	-7.6	48.06	14.82	45.93	14.20	42.65	13.50	40.37	12.88	39.17	12.45	35.86	11.15
	-5.0	-5.6	48.06	14.25	45.93	13.72	42.65	12.81	40.37	12.34	39.17	11.98	35.86	10.61
	-3.0	-3.7	48.06	13.73	45.93	13.13	42.65	12.21	40.37	11.82	39.17	11.45	35.86	10.23
	0.0	-0.7	48.06	13.21	45.93	12.65	42.65	11.67	40.37	11.26	39.17	10.89	35.86	10.05
	3.0	2.2	48.06	12.62	45.93	12.02	42.65	11.24	40.37	10.82	39.17	10.38	35.86	9.98
	5.0	4.1	48.06	11.98	45.93	11.53	42.65	10.81	40.37	10.31	39.17	10.13	35.86	9.88
	7.0	6.0	48.06	11.43	45.93	11.02	42.65	10.32	40.37	9.90	39.17	9.99	35.86	9.62
	9.0	7.9	48.06	11.20	45.93	10.78	42.65	10.17	40.37	9.68	39.17	9.58	35.86	9.29
	11.0	9.8	48.06	11.06	45.93	10.62	42.65	9.89	40.37	9.45	39.17	9.40	35.86	9.14
	13.0	11.8	48.06	10.71	45.93	10.28	42.65	9.57	40.37	9.24	39.17	9.19	35.86	8.94
15.0	13.7	48.06	10.58	45.93	10.06	42.65	9.32	40.37	9.02	39.17	8.95	35.86	8.68	
18.0	16.6	48.06	9.85	45.93	9.37	42.65	8.65	40.37	8.40	39.17	8.32	35.86	8.09	
21.0	19.5	48.06	9.11	45.93	8.65	42.65	8.02	40.37	7.78	39.17	7.69	35.86	7.49	
24.0	22.4	48.06	8.38	45.93	8.00	42.65	7.39	40.37	7.17	39.17	7.09	35.86	6.89	
27.0	25.3	48.06	7.71	45.93	7.31	42.65	6.77	40.37	6.58	39.17	6.50	35.86	6.34	
30.0	28.1	48.06	7.02	45.93	6.68	42.65	6.18	40.37	6.01	39.17	5.95	35.86	5.79	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table 2-8.28: 28HP heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	69.38	20.84	68.32	20.99	67.08	21.89	67.37	22.69	66.74	23.08	67.11	23.72
	-25.0	-25.4	70.80	20.88	69.71	20.99	68.45	21.87	68.74	22.71	68.10	23.13	68.47	23.74
	-19.8	-20.0	74.42	21.41	73.29	21.60	73.21	22.74	73.48	23.55	72.85	23.98	73.40	24.59
	-16.7	-17.0	76.14	22.04	74.99	22.26	74.92	23.27	75.49	24.06	74.56	24.46	75.12	25.13
	-13.7	-15.0	77.28	22.34	76.12	22.61	76.05	23.63	76.63	24.47	75.71	24.87	76.28	25.47
	-11.8	-13.0	78.44	22.68	77.27	22.97	77.20	24.09	77.79	24.89	76.84	25.33	77.72	25.88
	-9.8	-11.0	79.58	23.00	78.40	23.39	78.33	24.38	78.93	25.16	78.26	25.52	78.86	25.94
	-9.5	-10.0	80.16	23.34	78.97	23.65	79.19	24.68	79.51	25.54	78.83	25.92	79.44	26.31
	-8.5	-9.1	80.73	23.70	79.54	23.94	79.48	25.03	80.09	25.81	79.41	26.19	80.02	26.60
	-7.0	-7.6	81.59	23.73	80.39	24.28	80.62	25.18	80.94	25.97	80.25	26.53	80.88	26.90
	-5.0	-5.6	87.92	24.79	86.64	24.96	86.60	26.04	87.26	26.96	86.23	26.70	86.93	27.27
	-3.0	-3.7	89.06	25.35	87.77	25.36	87.73	26.48	88.40	27.47	87.38	27.07	88.08	27.58
	0.0	-0.7	90.78	26.06	89.47	25.66	89.45	26.78	90.13	27.71	89.08	27.48	90.10	27.87
	3.0	2.2	100.30	27.56	98.00	27.27	97.99	28.15	98.45	28.94	97.61	28.90	98.44	29.51
	5.0	4.1	124.69	33.35	118.33	32.52	116.79	32.55	113.09	31.75	107.58	31.09	99.89	30.06
	7.0	6.0	126.70	33.63	120.61	31.65	116.79	30.98	113.09	30.36	107.58	29.81	99.89	29.05
	9.0	7.9	126.70	32.02	120.61	30.14	116.79	30.01	113.09	29.83	107.58	29.12	99.89	28.44
	11.0	9.8	126.70	30.47	120.61	28.89	116.79	29.01	113.09	28.80	107.58	28.16	99.89	27.28
	13.0	11.8	126.70	28.90	120.61	28.10	116.79	28.15	113.09	28.32	107.58	27.58	99.89	26.78
	15.0	13.7	126.70	28.08	120.61	27.44	116.79	27.39	113.09	27.23	107.58	26.84	99.89	25.79
18.0	16.6	128.08	26.33	121.53	25.77	117.38	25.56	113.39	25.37	107.63	24.96	99.89	24.06	
21.0	19.5	128.83	24.52	121.86	23.86	117.38	23.71	113.39	23.54	107.63	23.11	99.89	22.26	
24.0	22.4	128.94	22.68	121.86	22.01	117.38	21.88	113.39	21.65	107.63	21.32	99.89	20.53	
27.0	25.3	128.94	20.81	121.86	20.19	117.38	20.01	113.39	19.84	107.63	19.56	99.89	18.82	
30.0	28.1	128.94	18.95	121.86	18.46	117.38	18.29	113.39	18.12	107.63	17.83	99.89	17.19	
120%	-30.0	-30.5	68.05	22.48	67.84	23.38	67.20	23.93	67.49	24.75	66.55	25.06	67.69	25.97
	-25.0	-25.4	69.44	22.53	69.22	23.33	68.57	23.98	68.87	24.71	67.91	25.06	69.07	25.92
	-19.8	-20.0	73.63	23.16	73.42	23.92	72.50	24.44	73.06	25.19	72.08	25.53	73.25	26.47
	-16.7	-17.0	75.34	23.81	75.13	24.29	74.20	25.19	74.77	25.90	73.77	26.27	75.26	26.89
	-13.7	-15.0	76.49	24.07	76.27	24.76	75.33	25.24	75.91	26.02	75.19	26.39	76.42	27.19
	-11.8	-13.0	77.62	24.44	77.41	25.02	76.60	25.64	77.06	26.40	76.32	26.73	77.57	27.43
	-9.8	-11.0	78.76	24.59	78.55	25.22	77.88	25.85	78.19	26.64	77.45	27.01	78.72	27.94
	-9.5	-10.0	79.34	24.90	79.13	25.39	78.45	26.08	78.76	26.87	78.01	27.17	79.30	28.36
	-8.5	-9.1	79.91	25.08	79.70	25.79	79.02	26.38	79.34	27.11	78.58	27.43	79.88	28.32
	-7.0	-7.6	80.77	25.61	80.56	26.18	79.87	26.65	80.20	27.44	79.43	27.72	80.75	28.71
	-5.0	-5.6	87.04	25.82	86.84	26.41	85.81	26.92	86.47	27.77	85.65	28.00	87.09	29.13
	-3.0	-3.7	88.18	26.22	87.99	26.81	86.95	27.32	87.62	28.13	86.50	28.38	88.24	29.26
	0.0	-0.7	89.89	26.53	89.69	27.19	88.64	27.53	89.32	28.28	88.47	28.57	89.97	29.52
	3.0	2.2	98.17	28.16	98.27	28.93	97.14	28.87	97.60	29.78	96.67	29.98	92.28	29.19
	5.0	4.1	123.57	31.56	116.26	31.31	107.05	30.46	103.59	30.12	98.65	29.53	92.28	28.37
	7.0	6.0	124.42	31.31	116.26	29.99	107.05	28.98	103.59	28.66	98.65	28.27	92.28	27.62
	9.0	7.9	124.42	30.01	116.26	28.60	107.05	28.05	103.59	27.72	98.65	27.37	92.28	26.83
	11.0	9.8	124.42	29.03	116.26	28.00	107.05	27.16	103.59	26.88	98.65	26.44	92.28	25.76
	13.0	11.8	124.42	28.33	116.26	27.31	107.05	26.35	103.59	26.48	98.65	25.91	92.28	25.27
	15.0	13.7	124.42	27.66	116.26	26.55	107.05	25.65	103.59	25.52	98.65	25.06	92.28	24.36
18.0	16.6	125.77	26.08	117.16	24.81	107.59	23.93	103.86	23.78	98.70	23.32	92.28	22.66	
21.0	19.5	126.51	24.24	117.47	23.06	107.59	22.22	103.86	22.04	98.70	21.62	92.28	20.99	
24.0	22.4	126.62	22.41	117.47	21.29	107.59	20.44	103.86	20.29	98.70	19.88	92.28	19.36	
27.0	25.3	126.62	20.52	117.47	19.48	107.59	18.79	103.86	18.65	98.70	18.28	92.28	17.74	
30.0	28.1	126.62	18.72	117.47	17.79	107.59	17.11	103.86	17.05	98.70	16.69	92.28	16.19	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table 2-8.28: 28HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	68.31	22.96	69.10	23.87	68.30	24.32	68.98	24.10	67.37	24.06	68.64	25.16
	-25.0	-25.4	69.70	23.01	70.51	23.89	69.69	24.25	70.39	24.10	68.75	24.08	70.04	25.21
	-19.8	-20.0	72.72	23.29	73.62	24.25	72.84	24.65	73.47	24.44	71.73	24.39	73.11	25.55
	-16.7	-17.0	74.41	24.03	75.34	24.90	74.55	25.27	75.19	24.97	73.70	24.98	74.83	25.97
	-13.7	-15.0	75.55	24.22	76.49	25.20	75.70	25.49	76.35	25.13	74.83	25.07	75.99	26.22
	-11.8	-13.0	76.67	24.58	77.64	25.53	77.13	25.87	77.50	25.39	75.97	25.35	77.14	26.55
	-9.8	-11.0	77.81	24.56	78.79	25.57	78.27	25.91	78.65	25.85	77.09	25.70	78.28	26.89
	-9.5	-10.0	78.37	24.80	79.65	25.84	78.84	26.21	79.22	25.96	77.66	25.94	78.86	27.16
	-8.5	-9.1	78.94	25.12	79.94	26.04	79.41	26.43	79.80	26.16	78.22	26.23	79.44	27.42
	-7.0	-7.6	79.79	25.38	80.81	26.36	80.27	26.72	80.67	26.56	79.07	26.59	80.30	27.55
	-5.0	-5.6	86.01	25.70	87.13	26.70	86.27	27.06	87.00	26.85	85.28	26.66	84.34	27.18
	-3.0	-3.7	87.15	25.89	88.28	26.89	87.41	27.25	88.16	27.08	86.42	27.04	84.34	26.79
	0.0	-0.7	88.84	26.52	90.00	27.53	89.41	27.82	89.88	27.28	88.10	27.25	84.34	26.32
	3.0	2.2	97.05	27.76	98.63	28.71	97.69	29.02	95.94	28.37	90.37	27.51	84.34	26.18
	5.0	4.1	113.17	30.30	107.25	30.71	99.12	28.39	95.94	27.89	90.37	26.84	84.34	26.05
	7.0	6.0	113.17	29.12	107.25	28.90	99.12	26.96	95.94	26.47	90.37	25.60	84.34	25.37
	9.0	7.9	113.17	27.76	107.25	27.29	99.12	26.03	95.94	25.83	90.37	25.06	84.34	24.94
	11.0	9.8	113.17	26.85	107.25	26.37	99.12	25.22	95.94	24.92	90.37	24.17	84.34	24.09
	13.0	11.8	113.17	26.02	107.25	25.49	99.12	24.50	95.94	24.13	90.37	23.39	84.34	23.33
	15.0	13.7	113.17	25.25	107.25	24.70	99.12	23.63	95.94	23.30	90.37	22.58	84.34	22.44
18.0	16.6	114.40	23.74	108.08	23.13	99.61	22.10	96.19	21.73	90.42	21.01	84.34	20.94	
21.0	19.5	115.07	22.15	108.37	21.43	99.61	20.44	96.19	20.12	90.42	19.44	84.34	19.33	
24.0	22.4	115.17	20.43	108.37	19.79	99.61	18.84	96.19	18.58	90.42	17.93	84.34	17.84	
27.0	25.3	115.17	18.73	108.37	18.16	99.61	17.33	96.19	17.06	90.42	16.47	84.34	16.38	
30.0	28.1	115.17	17.12	108.37	16.60	99.61	15.81	96.19	15.54	90.42	15.04	84.34	14.97	
100%	-30.0	-30.5	67.31	28.29	67.04	28.51	66.57	28.91	66.76	29.05	66.89	29.19	67.27	29.96
	-25.0	-25.4	68.68	28.26	68.41	28.51	67.93	28.88	68.13	28.99	68.26	29.22	68.64	29.90
	-19.8	-20.0	71.88	28.21	71.60	28.57	71.11	29.11	71.32	29.08	71.46	29.32	71.87	29.66
	-16.7	-17.0	74.11	28.39	73.83	28.65	73.61	29.16	73.55	29.16	73.69	29.33	74.13	29.28
	-13.7	-15.0	75.22	28.38	74.95	28.74	74.73	29.23	74.67	29.16	74.81	29.37	75.26	28.96
	-11.8	-13.0	76.33	28.47	76.05	28.78	75.83	29.26	75.77	29.29	75.92	29.49	75.26	28.60
	-9.8	-11.0	76.89	28.48	76.89	28.79	76.39	29.30	76.61	29.23	76.48	29.43	75.26	28.65
	-9.5	-10.0	77.45	28.54	77.17	28.76	76.94	29.37	76.89	29.30	77.04	29.53	75.26	28.41
	-8.5	-9.1	78.29	28.57	78.29	28.79	77.78	29.52	77.73	29.30	77.88	29.56	75.26	27.95
	-7.0	-7.6	84.41	28.55	84.13	28.83	83.89	30.12	83.86	30.34	81.23	28.95	75.26	27.85
	-5.0	-5.6	85.53	28.58	85.25	28.85	85.00	29.40	84.41	29.48	81.23	28.11	75.26	27.09
	-3.0	-3.7	87.20	28.71	86.92	28.89	86.66	28.40	84.41	27.81	81.23	27.19	75.26	26.15
	0.0	-0.7	89.43	28.68	94.44	28.95	87.50	27.61	84.41	26.60	81.23	25.86	75.26	25.03
	3.0	2.2	95.28	28.11	94.44	28.19	87.50	26.87	84.41	25.28	81.23	24.29	75.26	23.75
	5.0	4.1	101.13	27.63	94.44	26.82	87.50	25.57	84.41	24.16	81.23	23.36	75.26	22.74
	7.0	6.0	101.13	27.37	94.44	25.39	87.50	23.97	84.41	22.81	81.23	22.36	75.26	21.72
	9.0	7.9	101.13	25.81	94.44	24.04	87.50	23.30	84.41	22.31	81.23	21.72	75.26	21.02
	11.0	9.8	101.13	24.08	94.44	22.59	87.50	22.54	84.41	21.37	81.23	20.93	75.26	20.12
	13.0	11.8	101.13	22.57	94.44	22.07	87.50	21.66	84.41	20.65	81.23	20.22	75.26	19.48
	15.0	13.7	101.13	21.46	94.44	21.14	87.50	20.86	84.41	19.93	81.23	19.45	75.26	18.73
18.0	16.6	101.13	20.01	94.44	19.66	87.50	19.40	84.41	18.50	81.23	18.13	75.26	17.40	
21.0	19.5	101.13	18.54	94.44	18.15	87.50	17.95	84.41	17.17	81.23	16.75	75.26	16.08	
24.0	22.4	101.13	17.04	94.44	16.78	87.50	16.54	84.41	15.77	81.23	15.46	75.26	14.84	
27.0	25.3	101.13	15.68	94.44	15.35	87.50	15.19	84.41	14.50	81.23	14.17	75.26	13.61	
30.0	28.1	101.13	14.30	94.44	14.02	87.50	13.85	84.41	13.23	81.23	12.95	75.26	12.44	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.28: 28HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	67.84	28.68	68.18	29.25	68.35	29.78	68.55	30.27	67.19	29.74	67.63	28.36
	-25.0	-25.4	69.22	28.71	69.57	29.30	69.74	29.78	69.95	30.27	68.56	29.77	69.01	28.39
	-19.8	-20.0	72.15	29.11	72.63	29.77	72.75	30.29	73.03	30.56	71.58	30.06	69.01	27.74
	-16.7	-17.0	73.84	29.18	74.34	29.84	74.76	30.28	74.75	30.63	73.28	29.36	69.01	26.86
	-13.7	-15.0	74.98	29.22	75.48	29.94	75.91	30.41	75.91	30.64	74.13	28.85	69.01	26.41
	-11.8	-13.0	76.11	29.32	76.63	29.89	77.07	30.41	77.07	30.22	74.13	28.25	69.01	25.86
	-9.8	-11.0	77.24	29.41	78.05	29.99	78.21	30.51	78.51	29.69	74.13	27.70	69.01	25.39
	-9.5	-10.0	77.81	29.42	78.63	30.02	78.79	30.48	78.79	29.32	74.13	27.42	69.01	25.09
	-8.5	-9.1	78.37	29.48	78.91	29.99	79.36	30.38	78.79	29.13	74.13	27.15	69.01	24.95
	-7.0	-7.6	79.22	29.51	80.06	29.68	80.23	30.01	78.79	28.71	74.13	26.82	69.01	24.54
	-5.0	-5.6	85.45	29.47	86.06	28.37	81.66	28.76	78.79	27.77	74.13	25.90	69.01	23.86
	-3.0	-3.7	86.58	29.61	87.21	27.06	81.66	27.31	78.79	26.77	74.13	25.12	69.01	23.23
	0.0	-0.7	88.27	29.56	87.21	25.71	81.66	26.19	78.79	25.46	74.13	23.85	69.01	22.64
	3.0	2.2	92.52	29.60	87.21	24.40	81.66	24.71	78.79	24.52	74.13	22.81	69.01	21.88
	5.0	4.1	92.52	28.93	87.21	23.20	81.66	23.52	78.79	23.27	74.13	21.72	69.01	20.99
	7.0	6.0	92.52	25.17	87.21	22.75	81.66	22.04	78.79	21.27	74.13	20.01	69.01	18.66
	9.0	7.9	92.52	23.63	87.21	22.34	81.66	20.96	78.79	20.23	74.13	19.08	69.01	17.96
	11.0	9.8	92.52	22.19	87.21	21.15	81.66	19.94	78.79	19.32	74.13	18.30	69.01	17.31
	13.0	11.8	92.52	21.01	87.21	20.09	81.66	19.07	78.79	18.53	74.13	17.60	69.01	16.79
	15.0	13.7	92.52	20.10	87.21	19.35	81.66	18.43	78.79	17.96	74.13	17.12	69.01	16.35
18.0	16.6	92.52	18.69	87.21	17.94	81.66	17.14	78.79	16.72	74.13	15.90	69.01	15.21	
21.0	19.5	92.52	17.31	87.21	16.63	81.66	15.85	78.79	15.50	74.13	14.75	69.01	14.11	
24.0	22.4	92.52	15.98	87.21	15.34	81.66	14.60	78.79	14.24	74.13	13.61	69.01	13.01	
27.0	25.3	92.52	14.66	87.21	14.08	81.66	13.38	78.79	13.11	74.13	12.45	69.01	11.91	
30.0	28.1	92.52	13.38	87.21	12.85	81.66	12.23	78.79	11.97	74.13	11.37	69.01	10.88	
80%	-30.0	-30.5	68.19	30.57	68.56	31.25	68.89	30.37	66.97	28.39	65.05	27.45	59.46	24.81
	-25.0	-25.4	69.58	30.57	69.96	31.28	70.29	30.37	68.34	28.36	66.37	27.42	60.67	24.81
	-19.8	-20.0	72.35	29.46	72.75	30.04	72.46	29.02	68.34	27.25	66.37	26.19	60.67	23.61
	-16.7	-17.0	74.05	29.53	74.47	30.17	72.46	28.14	68.34	26.42	66.37	25.39	60.67	22.86
	-13.7	-15.0	75.20	29.66	75.62	30.20	72.46	27.58	68.34	25.86	66.37	24.89	60.67	22.50
	-11.8	-13.0	76.34	29.61	76.78	29.61	72.46	27.10	68.34	25.31	66.37	24.44	60.67	22.05
	-9.8	-11.0	77.47	29.70	77.92	29.07	72.46	26.53	68.34	24.88	66.37	23.95	60.67	21.68
	-9.5	-10.0	78.04	29.71	77.92	28.76	72.46	26.25	68.34	24.62	66.37	23.66	60.67	21.43
	-8.5	-9.1	78.61	29.74	77.92	28.46	72.46	26.09	68.34	24.38	66.37	23.53	60.67	21.29
	-7.0	-7.6	79.47	29.84	77.92	28.09	72.46	25.77	68.34	24.10	66.37	23.14	60.67	20.99
	-5.0	-5.6	82.89	29.24	77.92	27.20	72.46	24.90	68.34	23.32	66.37	22.55	60.67	20.36
	-3.0	-3.7	82.89	30.25	77.92	26.19	72.46	23.87	68.34	22.48	66.37	21.69	60.67	19.85
	0.0	-0.7	82.89	29.81	77.92	24.96	72.46	23.04	68.34	21.82	66.37	21.02	60.67	19.35
	3.0	2.2	82.89	27.57	77.92	23.57	72.46	21.71	68.34	21.05	66.37	20.24	60.67	18.62
	5.0	4.1	82.89	25.16	77.92	22.24	72.46	20.73	68.34	20.19	66.37	19.31	60.67	18.19
	7.0	6.0	82.89	22.11	77.92	20.85	72.46	19.33	68.34	18.25	66.37	17.74	60.67	16.36
	9.0	7.9	82.89	20.92	77.92	19.85	72.46	18.54	68.34	17.60	66.37	17.12	60.67	15.89
	11.0	9.8	82.89	19.92	77.92	18.94	72.46	17.81	68.34	16.97	66.37	16.50	60.67	15.46
	13.0	11.8	82.89	18.97	77.92	18.15	72.46	17.16	68.34	16.39	66.37	16.06	60.67	15.09
	15.0	13.7	82.89	18.31	77.92	17.61	72.46	16.72	68.34	16.03	66.37	15.67	60.67	14.82
18.0	16.6	82.89	17.07	77.92	16.38	72.46	15.57	68.34	14.92	66.37	14.59	60.67	13.81	
21.0	19.5	82.89	15.77	77.92	15.17	72.46	14.39	68.34	13.77	66.37	13.50	60.67	12.78	
24.0	22.4	82.89	14.58	77.92	14.00	72.46	13.30	68.34	12.69	66.37	12.45	60.67	11.76	
27.0	25.3	82.89	13.38	77.92	12.81	72.46	12.16	68.34	11.68	66.37	11.45	60.67	10.79	
30.0	28.1	82.89	12.18	77.92	11.73	72.46	11.12	68.34	10.65	66.37	10.44	60.67	9.87	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table 2-8.28: 28HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	70.34	30.93	66.78	28.95	61.68	28.15	59.29	27.71	57.06	27.37	51.90	26.09
	-25.0	-25.4	71.78	30.96	68.15	28.95	62.94	28.17	60.50	27.68	58.22	27.39	52.96	26.11
	-19.8	-20.0	71.78	29.51	68.15	27.39	62.94	26.55	60.50	26.14	58.22	25.80	52.96	24.60
	-16.7	-17.0	72.35	28.60	68.15	26.55	62.94	25.84	60.50	25.38	58.22	25.01	52.96	23.86
	-13.7	-15.0	72.35	27.98	68.15	26.09	62.94	25.33	60.50	24.88	58.22	24.57	52.96	23.35
	-11.8	-13.0	72.35	27.41	68.15	25.51	62.94	24.93	60.50	24.51	58.22	24.14	52.96	22.90
	-9.8	-11.0	72.35	26.96	68.15	25.02	62.94	24.45	60.50	24.05	58.22	23.71	52.96	22.45
	-9.5	-10.0	72.35	26.72	68.15	24.88	62.94	23.82	60.50	23.38	58.22	23.08	52.96	21.82
	-8.5	-9.1	72.35	26.39	68.15	24.61	62.94	23.05	60.50	22.59	58.22	22.26	52.96	21.05
	-7.0	-7.6	72.35	26.07	68.15	24.28	62.94	22.07	60.50	21.62	58.22	21.28	52.96	20.09
	-5.0	-5.6	72.35	25.28	68.15	23.52	62.94	21.47	60.50	21.00	58.22	20.64	52.96	19.46
	-3.0	-3.7	72.35	23.89	68.15	22.86	62.94	20.85	60.50	20.35	58.22	20.05	52.96	18.84
	0.0	-0.7	72.35	22.67	68.15	21.82	62.94	19.94	60.50	19.44	58.22	19.12	52.96	17.97
	3.0	2.2	72.35	21.40	68.15	20.67	62.94	18.72	60.50	18.28	58.22	17.89	52.96	16.74
	5.0	4.1	72.35	20.42	68.15	19.36	62.94	18.05	60.50	17.52	58.22	17.20	52.96	16.07
	7.0	6.0	72.35	19.62	68.15	18.50	62.94	17.07	60.50	16.66	58.22	16.31	52.96	15.15
	9.0	7.9	72.35	18.78	68.15	17.82	62.94	16.55	60.50	16.05	58.22	15.69	52.96	14.58
	11.0	9.8	72.35	18.00	68.15	17.18	62.94	15.84	60.50	15.38	58.22	15.06	52.96	13.89
	13.0	11.8	72.35	17.31	68.15	16.48	62.94	15.10	60.50	14.61	58.22	14.30	52.96	13.12
	15.0	13.7	72.35	16.73	68.15	15.76	62.94	14.49	60.50	14.02	58.22	13.71	52.96	12.55
18.0	16.6	72.35	15.55	68.15	14.65	62.94	13.50	60.50	13.06	58.22	12.74	52.96	11.66	
21.0	19.5	72.35	14.41	68.15	13.55	62.94	12.48	60.50	12.09	58.22	11.77	52.96	10.83	
24.0	22.4	72.35	13.24	68.15	12.49	62.94	11.51	60.50	11.13	58.22	10.87	52.96	9.97	
27.0	25.3	72.35	12.17	68.15	11.47	62.94	10.57	60.50	10.23	58.22	9.97	52.96	9.14	
30.0	28.1	72.35	11.11	68.15	10.46	62.94	9.64	60.50	9.32	58.22	9.09	52.96	8.35	
60%	-30.0	-30.5	61.55	29.17	57.11	27.39	53.46	26.35	50.91	25.53	48.29	24.22	45.13	23.39
	-25.0	-25.4	62.81	29.20	58.28	27.37	54.55	26.43	51.94	25.51	49.28	24.27	46.05	23.39
	-19.8	-20.0	62.81	27.66	58.28	26.16	54.55	25.40	51.94	24.36	49.28	23.09	46.05	22.13
	-16.7	-17.0	62.81	26.15	58.28	24.45	54.55	23.74	51.94	22.67	49.28	21.39	46.05	20.54
	-13.7	-15.0	62.81	25.22	58.28	23.72	54.55	23.03	51.94	21.78	49.28	20.50	46.05	19.68
	-11.8	-13.0	62.81	24.35	58.28	22.82	54.55	22.08	51.94	21.09	49.28	19.65	46.05	18.80
	-9.8	-11.0	62.81	23.50	58.28	21.95	54.55	21.04	51.94	20.11	49.28	18.80	46.05	18.08
	-9.5	-10.0	62.81	22.68	58.28	21.11	54.55	20.19	51.94	19.26	49.28	18.02	46.05	17.11
	-8.5	-9.1	62.81	21.77	58.28	20.36	54.55	19.34	51.94	18.40	49.28	17.16	46.05	16.10
	-7.0	-7.6	62.81	20.97	58.28	19.45	54.55	18.66	51.94	17.77	49.28	16.47	46.05	15.45
	-5.0	-5.6	62.81	20.19	58.28	18.77	54.55	17.77	51.94	17.08	49.28	15.83	46.05	14.71
	-3.0	-3.7	62.81	19.48	58.28	18.02	54.55	16.95	51.94	16.35	49.28	15.16	46.05	14.19
	0.0	-0.7	62.81	18.66	58.28	17.29	54.55	16.20	51.94	15.56	49.28	14.40	46.05	13.90
	3.0	2.2	62.81	17.84	58.28	16.48	54.55	15.57	51.94	14.97	49.28	13.62	46.05	13.41
	5.0	4.1	62.81	16.92	58.28	15.77	54.55	14.98	51.94	14.26	49.28	13.33	46.05	13.12
	7.0	6.0	62.81	16.12	58.28	15.07	54.55	14.32	51.94	13.68	49.28	13.29	46.05	12.88
	9.0	7.9	62.81	15.87	58.28	14.76	54.55	14.06	51.94	13.38	49.28	12.73	46.05	12.28
	11.0	9.8	62.81	15.64	58.28	14.53	54.55	13.69	51.94	13.06	49.28	12.44	46.05	12.07
	13.0	11.8	62.81	15.12	58.28	14.08	54.55	13.27	51.94	12.75	49.28	12.16	46.05	11.77
	15.0	13.7	62.81	14.96	58.28	13.77	54.55	12.92	51.94	12.48	49.28	11.87	46.05	11.45
18.0	16.6	62.81	13.91	58.28	12.79	54.55	12.00	51.94	11.61	49.28	11.05	46.05	10.65	
21.0	19.5	62.81	12.91	58.28	11.86	54.55	11.09	51.94	10.75	49.28	10.22	46.05	9.88	
24.0	22.4	62.81	11.87	58.28	10.94	54.55	10.22	51.94	9.91	49.28	9.41	46.05	9.08	
27.0	25.3	62.81	10.90	58.28	10.03	54.55	9.39	51.94	9.06	49.28	8.65	46.05	8.34	
30.0	28.1	62.81	9.94	58.28	9.17	54.55	8.57	51.94	8.30	49.28	7.89	46.05	7.61	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.28:28HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	51.00	23.96	48.09	22.90	43.76	21.38	42.23	21.11	41.01	20.79	37.51	19.32
	-25.0	-25.4	52.04	23.99	49.07	22.92	44.66	21.40	43.09	21.11	41.85	20.85	38.28	19.34
	-19.8	-20.0	52.04	22.76	49.07	21.84	44.66	20.60	43.09	20.18	41.85	19.88	38.28	18.36
	-16.7	-17.0	52.04	21.48	49.07	20.48	44.66	19.22	43.09	18.78	41.85	18.36	38.28	16.99
	-13.7	-15.0	52.04	20.68	49.07	19.83	44.66	18.65	43.09	18.08	41.85	17.71	38.28	16.24
	-11.8	-13.0	52.04	19.99	49.07	19.13	44.66	17.91	43.09	17.44	41.85	16.92	38.28	15.52
	-9.8	-11.0	52.04	19.32	49.07	18.43	44.66	17.04	43.09	16.64	41.85	16.22	38.28	14.97
	-9.5	-10.0	52.04	18.67	49.07	17.63	44.66	16.39	43.09	15.95	41.85	15.57	38.28	14.16
	-8.5	-9.1	52.04	17.89	49.07	17.03	44.66	15.67	43.09	15.22	41.85	14.82	38.28	13.37
	-7.0	-7.6	52.04	17.19	49.07	16.30	44.66	15.12	43.09	14.70	41.85	14.27	38.28	12.77
	-5.0	-5.6	52.04	16.58	49.07	15.67	44.66	14.36	43.09	14.09	41.85	13.74	38.28	12.18
	-3.0	-3.7	52.04	15.99	49.07	15.05	44.66	13.76	43.09	13.58	41.85	13.14	38.28	11.74
	0.0	-0.7	52.04	15.37	49.07	14.47	44.66	13.13	43.09	12.88	41.85	12.52	38.28	11.50
	3.0	2.2	52.04	14.67	49.07	13.80	44.66	12.60	43.09	12.35	41.85	11.87	38.28	11.43
	5.0	4.1	52.04	13.89	49.07	13.20	44.66	12.15	43.09	11.81	41.85	11.61	38.28	11.34
	7.0	6.0	52.04	13.24	49.07	12.63	44.66	11.59	43.09	11.35	41.85	11.45	38.28	11.01
	9.0	7.9	52.04	13.04	49.07	12.34	44.66	11.39	43.09	11.07	41.85	10.97	38.28	10.66
	11.0	9.8	52.04	12.81	49.07	12.15	44.66	11.09	43.09	10.79	41.85	10.74	38.28	10.46
	13.0	11.8	52.04	12.42	49.07	11.75	44.66	10.74	43.09	10.59	41.85	10.51	38.28	10.24
15.0	13.7	52.04	12.31	49.07	11.54	44.66	10.43	43.09	10.31	41.85	10.25	38.28	9.95	
18.0	16.6	52.04	11.43	49.07	10.73	44.66	9.72	43.09	9.61	41.85	9.51	38.28	9.28	
21.0	19.5	52.04	10.58	49.07	9.94	44.66	9.00	43.09	8.90	41.85	8.83	38.28	8.57	
24.0	22.4	52.04	9.77	49.07	9.14	44.66	8.30	43.09	8.21	41.85	8.13	38.28	7.90	
27.0	25.3	52.04	8.94	49.07	8.38	44.66	7.62	43.09	7.52	41.85	7.45	38.28	7.25	
30.0	28.1	52.04	8.17	49.07	7.67	44.66	6.95	43.09	6.86	41.85	6.82	38.28	6.62	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table 2-8.29: 30HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	75.55	23.69	75.31	24.11	73.67	25.10	71.98	25.22	72.75	26.26	72.19	26.61
	-25.0	-25.4	77.09	23.67	76.85	24.14	75.17	25.02	73.45	25.29	74.24	26.24	73.66	26.66
	-19.8	-20.0	81.03	24.28	80.80	24.83	80.41	26.11	78.51	26.22	79.41	27.26	78.95	27.60
	-16.7	-17.0	82.91	25.05	82.67	25.63	82.28	26.60	80.65	26.82	81.27	27.81	80.80	28.21
	-13.7	-15.0	84.16	25.32	83.93	26.01	83.53	27.05	81.88	27.22	82.51	28.30	82.05	28.57
	-11.8	-13.0	85.41	25.73	85.17	26.49	84.79	27.56	83.11	27.77	83.76	28.77	83.60	29.03
	-9.8	-11.0	86.66	26.12	86.43	26.88	86.03	27.89	84.33	28.06	85.30	29.06	84.83	29.03
	-9.5	-10.0	87.29	26.56	87.06	27.23	86.98	28.30	84.94	28.39	85.93	29.48	85.45	29.45
	-8.5	-9.1	87.92	26.95	87.69	27.59	87.29	28.66	85.56	28.70	86.55	29.74	86.07	29.86
	-7.0	-7.6	88.85	26.93	88.62	27.95	88.53	28.87	86.48	29.01	87.48	30.25	87.00	30.17
	-5.0	-5.6	95.73	28.14	95.51	28.73	95.11	29.81	93.23	30.03	93.99	30.44	93.51	30.53
	-3.0	-3.7	96.99	28.82	96.76	29.21	96.36	30.33	94.45	30.51	95.23	30.84	94.74	30.91
	0.0	-0.7	98.86	29.63	98.65	29.46	98.24	30.68	96.29	30.86	97.10	31.25	96.91	31.26
	3.0	2.2	109.22	31.39	108.04	31.39	107.62	32.21	105.18	32.24	106.40	32.95	105.89	33.10
	5.0	4.1	135.78	37.92	130.46	37.43	128.27	37.29	120.82	35.36	117.26	35.39	107.44	33.74
	7.0	6.0	137.97	38.19	132.97	36.50	128.27	35.40	120.82	33.78	117.26	33.92	107.44	32.62
	9.0	7.9	137.97	36.35	132.97	34.69	128.27	34.42	120.82	33.16	117.26	33.06	107.44	31.90
	11.0	9.8	137.97	34.53	132.97	33.27	128.27	33.17	120.82	32.08	117.26	32.02	107.44	30.61
	13.0	11.8	137.97	32.81	132.97	32.25	128.27	32.25	120.82	31.50	117.26	31.42	107.44	30.04
	15.0	13.7	137.97	31.89	132.97	31.52	128.27	31.32	120.82	30.32	117.26	30.51	107.44	29.01
18.0	16.6	139.47	29.93	133.99	29.58	128.91	29.34	121.14	28.30	117.32	28.31	107.44	26.93	
21.0	19.5	140.28	27.90	134.35	27.46	128.91	27.14	121.14	26.21	117.32	26.22	107.44	24.98	
24.0	22.4	140.40	25.68	134.35	25.33	128.91	24.99	121.14	24.15	117.32	24.19	107.44	23.03	
27.0	25.3	140.40	23.61	134.35	23.20	128.91	22.95	121.14	22.12	117.32	22.19	107.44	21.06	
30.0	28.1	140.40	21.54	134.35	21.18	128.91	20.94	121.14	20.20	117.32	20.28	107.44	19.27	
120%	-30.0	-30.5	75.02	25.88	74.57	26.77	73.24	27.26	73.43	28.08	73.80	28.98	73.64	29.44
	-25.0	-25.4	76.55	25.90	76.10	26.77	74.74	27.28	74.92	28.08	75.30	29.03	75.14	29.47
	-19.8	-20.0	81.17	26.56	80.70	27.47	79.03	27.76	79.48	28.55	79.92	29.56	79.69	30.03
	-16.7	-17.0	83.06	27.42	82.59	27.92	80.88	28.58	81.34	29.46	81.81	30.40	81.88	30.51
	-13.7	-15.0	84.32	27.72	83.85	28.48	82.11	28.75	82.59	29.52	83.37	30.54	83.14	30.75
	-11.8	-13.0	85.58	28.10	85.10	28.73	83.49	29.15	83.83	29.98	84.63	30.88	84.39	31.10
	-9.8	-11.0	86.84	28.25	86.36	28.98	84.89	29.48	85.07	30.32	85.88	31.19	85.65	31.78
	-9.5	-10.0	87.47	28.63	86.99	29.12	85.51	29.60	85.69	30.46	86.51	31.49	86.28	32.13
	-8.5	-9.1	88.10	28.94	87.62	29.55	86.13	29.98	86.31	30.83	87.14	31.83	86.91	32.14
	-7.0	-7.6	89.04	29.37	88.56	30.10	87.06	30.32	87.25	31.19	88.08	32.08	87.85	32.54
	-5.0	-5.6	95.95	29.64	95.46	30.29	93.53	30.64	94.07	31.48	94.97	32.42	94.74	33.06
	-3.0	-3.7	97.21	30.15	96.72	30.85	94.77	31.03	95.31	31.81	95.91	32.79	96.00	33.30
	0.0	-0.7	99.10	30.51	98.60	31.18	96.62	31.33	97.18	32.17	98.10	33.09	97.88	33.53
	3.0	2.2	108.23	32.42	108.03	33.15	105.89	32.82	106.18	33.69	107.20	34.68	100.39	33.16
	5.0	4.1	136.22	36.34	127.81	35.90	116.68	34.69	112.70	34.16	109.38	34.12	100.39	32.08
	7.0	6.0	137.17	36.11	127.81	34.43	116.68	32.98	112.70	32.58	109.38	32.67	100.39	31.40
	9.0	7.9	137.17	34.55	127.81	32.83	116.68	31.88	112.70	31.51	109.38	31.71	100.39	30.44
	11.0	9.8	137.17	33.35	127.81	32.13	116.68	30.87	112.70	30.58	109.38	30.56	100.39	29.28
	13.0	11.8	137.17	32.55	127.81	31.38	116.68	29.92	112.70	30.06	109.38	30.06	100.39	28.74
	15.0	13.7	137.17	31.89	127.81	30.44	116.68	29.16	112.70	28.95	109.38	28.99	100.39	27.62
18.0	16.6	138.66	29.96	128.79	28.48	117.27	27.23	112.99	27.03	109.44	27.01	100.39	25.72	
21.0	19.5	139.47	27.93	129.14	26.47	117.27	25.26	112.99	25.00	109.44	25.01	100.39	23.79	
24.0	22.4	139.59	25.69	129.14	24.37	117.27	23.22	112.99	23.09	109.44	23.05	100.39	21.93	
27.0	25.3	139.59	23.57	129.14	22.40	117.27	21.36	112.99	21.14	109.44	21.15	100.39	20.14	
30.0	28.1	139.59	21.57	129.14	20.46	117.27	19.47	112.99	19.31	109.44	19.33	100.39	18.41	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.29:30HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	74.23	26.00	74.04	26.71	73.67	27.35	73.70	26.85	74.28	27.74	74.81	28.63
	-25.0	-25.4	75.75	26.03	75.55	26.69	75.17	27.32	75.21	26.82	75.80	27.66	76.34	28.63
	-19.8	-20.0	79.03	26.40	78.87	27.03	78.57	27.66	78.49	27.22	79.08	28.09	79.69	28.97
	-16.7	-17.0	80.88	27.15	80.72	27.81	80.42	28.48	80.34	27.81	81.27	28.68	81.57	29.49
	-13.7	-15.0	82.11	27.46	81.96	28.05	81.65	28.66	81.57	27.99	82.51	28.83	82.82	29.83
	-11.8	-13.0	83.34	27.86	83.19	28.50	83.19	29.15	82.80	28.30	83.76	29.24	84.08	30.10
	-9.8	-11.0	84.57	27.83	84.42	28.55	84.42	29.16	84.03	28.76	85.00	29.53	85.34	30.57
	-9.5	-10.0	85.18	28.12	85.35	28.78	85.04	29.37	84.65	28.83	85.63	29.93	85.96	30.85
	-8.5	-9.1	85.80	28.43	85.66	29.11	85.66	29.74	85.27	29.14	86.25	30.15	86.59	31.17
	-7.0	-7.6	86.72	28.81	86.58	29.47	86.58	30.08	86.19	29.61	87.18	30.56	87.53	31.25
	-5.0	-5.6	93.48	29.10	93.35	29.80	93.04	30.46	92.95	29.88	94.03	30.70	91.92	30.91
	-3.0	-3.7	94.71	29.32	94.58	30.04	94.28	30.65	94.19	30.16	95.27	31.13	91.92	30.42
	0.0	-0.7	96.56	30.09	96.43	30.71	96.43	31.29	96.03	30.38	97.14	31.45	91.92	30.01
	3.0	2.2	105.48	31.43	105.68	32.09	105.37	32.70	102.50	31.57	99.63	31.58	91.92	29.73
	5.0	4.1	123.01	34.30	114.92	34.24	106.90	31.90	102.50	30.96	99.63	30.78	91.92	29.56
	7.0	6.0	123.01	33.06	114.92	32.25	106.90	30.31	102.50	29.48	99.63	29.40	91.92	28.82
	9.0	7.9	123.01	31.53	114.92	30.54	106.90	29.21	102.50	28.72	99.63	28.76	91.92	28.41
	11.0	9.8	123.01	30.40	114.92	29.36	106.90	28.40	102.50	27.75	99.63	27.83	91.92	27.43
	13.0	11.8	123.01	29.53	114.92	28.47	106.90	27.54	102.50	26.86	99.63	26.85	91.92	26.50
	15.0	13.7	123.01	28.70	114.92	27.51	106.90	26.63	102.50	25.94	99.63	25.99	91.92	25.51
18.0	16.6	124.34	26.99	115.80	25.86	107.44	24.87	102.77	24.27	99.68	24.14	91.92	23.78	
21.0	19.5	125.07	25.14	116.11	23.98	107.44	22.98	102.77	22.47	99.68	22.42	91.92	22.02	
24.0	22.4	125.18	23.12	116.11	22.08	107.44	21.18	102.77	20.69	99.68	20.64	91.92	20.31	
27.0	25.3	125.18	21.25	116.11	20.26	107.44	19.47	102.77	18.94	99.68	18.94	91.92	18.63	
30.0	28.1	125.18	19.37	116.11	18.50	107.44	17.77	102.77	17.35	99.68	17.28	91.92	17.02	
100%	-30.0	-30.5	73.44	32.19	73.14	32.44	72.28	32.73	73.70	33.39	73.48	33.48	72.55	33.68
	-25.0	-25.4	74.94	32.16	74.64	32.47	73.75	32.73	75.20	33.42	74.98	33.45	74.03	33.58
	-19.8	-20.0	78.42	32.12	78.12	32.51	77.21	32.96	78.72	33.49	78.50	33.59	77.51	33.38
	-16.7	-17.0	80.85	32.27	80.55	32.59	79.92	33.01	81.18	33.58	80.95	33.65	79.94	32.98
	-13.7	-15.0	82.07	32.32	81.77	32.64	81.13	33.16	82.41	33.65	82.18	33.72	81.16	32.53
	-11.8	-13.0	83.29	32.36	82.98	32.74	82.34	33.16	83.65	33.70	83.40	33.68	81.16	32.16
	-9.8	-11.0	83.90	32.47	83.90	32.79	82.94	33.21	84.57	33.63	84.02	33.77	81.16	32.13
	-9.5	-10.0	84.50	32.41	84.20	32.73	83.54	33.33	84.88	33.73	84.63	33.80	81.16	31.88
	-8.5	-9.1	85.42	32.48	85.42	32.76	84.45	33.43	85.80	33.78	85.55	33.80	81.16	31.43
	-7.0	-7.6	92.10	32.52	91.79	32.81	91.08	34.04	92.56	34.94	89.22	33.14	81.16	31.25
	-5.0	-5.6	93.31	32.59	93.01	32.83	92.28	33.25	93.17	33.95	89.22	32.14	81.16	30.47
	-3.0	-3.7	95.14	32.63	94.83	32.87	94.09	32.22	93.17	31.99	89.22	31.13	81.16	29.40
	0.0	-0.7	97.57	32.67	103.05	32.93	95.00	31.32	93.17	30.57	89.22	29.67	81.16	28.12
	3.0	2.2	103.96	32.02	103.05	32.12	95.00	30.36	93.17	29.08	89.22	27.89	81.16	26.71
	5.0	4.1	110.33	31.45	103.05	30.54	95.00	28.93	93.17	27.80	89.22	26.76	81.16	25.53
	7.0	6.0	110.33	31.08	103.05	28.94	95.00	27.14	93.17	26.34	89.22	25.63	81.16	24.45
	9.0	7.9	110.33	29.27	103.05	27.39	95.00	26.36	93.17	25.70	89.22	24.89	81.16	23.69
	11.0	9.8	110.33	27.42	103.05	25.71	95.00	25.51	93.17	24.59	89.22	23.98	81.16	22.63
	13.0	11.8	110.33	25.73	103.05	25.11	95.00	24.50	93.17	23.71	89.22	23.13	81.16	21.87
	15.0	13.7	110.33	24.47	103.05	24.05	95.00	23.61	93.17	22.88	89.22	22.29	81.16	21.04
18.0	16.6	110.33	22.79	103.05	22.37	95.00	21.97	93.17	21.32	89.22	20.77	81.16	19.59	
21.0	19.5	110.33	21.10	103.05	20.69	95.00	20.30	93.17	19.76	89.22	19.23	81.16	18.14	
24.0	22.4	110.33	19.41	103.05	19.04	95.00	18.71	93.17	18.16	89.22	17.73	81.16	16.70	
27.0	25.3	110.33	17.79	103.05	17.52	95.00	17.20	93.17	16.71	89.22	16.28	81.16	15.31	
30.0	28.1	110.33	16.29	103.05	15.98	95.00	15.67	93.17	15.25	89.22	14.82	81.16	13.98	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.29:30HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	74.51	32.81	74.95	33.56	74.00	33.64	73.17	33.61	73.73	34.10	73.16	31.94
	-25.0	-25.4	76.03	32.87	76.48	33.56	75.51	33.58	74.66	33.61	75.23	34.03	74.65	31.97
	-19.8	-20.0	79.24	33.39	79.84	34.07	78.77	34.10	77.95	34.04	78.55	34.47	74.65	31.33
	-16.7	-17.0	81.11	33.46	81.72	34.25	80.95	34.25	79.80	34.09	80.41	33.60	74.65	30.33
	-13.7	-15.0	82.35	33.55	82.98	34.34	82.20	34.27	81.03	34.15	81.34	33.02	74.65	29.73
	-11.8	-13.0	83.60	33.58	84.24	34.27	83.45	34.40	82.27	33.61	81.34	32.31	74.65	29.19
	-9.8	-11.0	84.84	33.60	85.81	34.46	84.69	34.37	83.81	32.98	81.34	31.68	74.65	28.58
	-9.5	-10.0	85.46	33.73	86.44	34.43	85.32	34.42	84.11	32.66	81.34	31.38	74.65	28.29
	-8.5	-9.1	86.09	33.70	86.76	34.50	85.94	34.30	84.11	32.42	81.34	31.14	74.65	28.14
	-7.0	-7.6	87.02	33.79	88.01	33.97	86.87	33.92	84.11	31.97	81.34	30.60	74.65	27.68
	-5.0	-5.6	93.85	33.83	94.61	32.56	88.42	32.48	84.11	30.90	81.34	29.67	74.65	26.90
	-3.0	-3.7	95.09	33.92	95.86	31.07	88.42	30.83	84.11	29.75	81.34	28.76	74.65	26.17
	0.0	-0.7	96.96	33.96	95.86	29.50	88.42	29.55	84.11	28.36	81.34	27.37	74.65	25.58
	3.0	2.2	101.62	34.01	95.86	28.01	88.42	27.87	84.11	27.29	81.34	26.12	74.65	24.63
	5.0	4.1	101.62	33.17	95.86	26.54	88.42	26.58	84.11	25.88	81.34	24.90	74.65	23.68
	7.0	6.0	101.62	28.75	95.86	26.13	88.42	24.83	84.11	23.66	81.34	22.91	74.65	21.10
	9.0	7.9	101.62	27.05	95.86	25.63	88.42	23.66	84.11	22.53	81.34	21.88	74.65	20.28
	11.0	9.8	101.62	25.46	95.86	24.19	88.42	22.47	84.11	21.53	81.34	20.92	74.65	19.52
	13.0	11.8	101.62	24.03	95.86	23.04	88.42	21.48	84.11	20.62	81.34	20.17	74.65	18.93
	15.0	13.7	101.62	23.03	95.86	22.12	88.42	20.74	84.11	19.97	81.34	19.62	74.65	18.47
18.0	16.6	101.62	21.42	95.86	20.64	88.42	19.35	84.11	18.63	81.34	18.23	74.65	17.18	
21.0	19.5	101.62	19.89	95.86	19.11	88.42	17.88	84.11	17.20	81.34	16.87	74.65	15.91	
24.0	22.4	101.62	18.30	95.86	17.56	88.42	16.51	84.11	15.88	81.34	15.54	74.65	14.63	
27.0	25.3	101.62	16.77	95.86	16.14	88.42	15.12	84.11	14.59	81.34	14.29	74.65	13.44	
30.0	28.1	101.62	15.35	95.86	14.73	88.42	13.79	84.11	13.31	81.34	13.04	74.65	12.27	
80%	-30.0	-30.5	73.76	34.58	74.80	35.62	75.29	34.65	73.77	32.63	70.48	30.95	65.43	28.48
	-25.0	-25.4	75.27	34.58	76.33	35.62	76.83	34.65	75.27	32.56	71.92	30.92	66.76	28.48
	-19.8	-20.0	78.26	33.30	79.37	34.25	79.21	33.11	75.27	31.32	71.92	29.56	66.76	27.14
	-16.7	-17.0	80.11	33.35	81.26	34.32	79.21	32.15	75.27	30.37	71.92	28.72	66.76	26.33
	-13.7	-15.0	81.34	33.45	82.51	34.39	79.21	31.53	75.27	29.69	71.92	28.10	66.76	25.81
	-11.8	-13.0	82.57	33.39	83.77	33.76	79.21	30.90	75.27	29.14	71.92	27.58	66.76	25.37
	-9.8	-11.0	83.81	33.53	85.02	32.98	79.21	30.24	75.27	28.59	71.92	27.05	66.76	24.88
	-9.5	-10.0	84.42	33.50	85.02	32.73	79.21	29.98	75.27	28.26	71.92	26.83	66.76	24.65
	-8.5	-9.1	85.04	33.61	85.02	32.38	79.21	29.77	75.27	28.07	71.92	26.56	66.76	24.39
	-7.0	-7.6	85.96	33.65	85.02	32.00	79.21	29.28	75.27	27.75	71.92	26.20	66.76	24.10
	-5.0	-5.6	89.65	32.92	85.02	30.86	79.21	28.42	75.27	26.79	71.92	25.41	66.76	23.40
	-3.0	-3.7	89.65	34.02	85.02	29.77	79.21	27.22	75.27	25.78	71.92	24.51	66.76	22.71
	0.0	-0.7	89.65	33.59	85.02	28.46	79.21	26.24	75.27	25.10	71.92	23.82	66.76	22.21
	3.0	2.2	89.65	31.10	85.02	26.82	79.21	24.73	75.27	24.17	71.92	22.86	66.76	21.32
	5.0	4.1	89.65	28.40	85.02	25.32	79.21	23.59	75.27	23.20	71.92	21.82	66.76	20.93
	7.0	6.0	89.65	24.96	85.02	23.75	79.21	22.11	75.27	21.00	71.92	20.09	66.76	18.77
	9.0	7.9	89.65	23.60	85.02	22.61	79.21	21.18	75.27	20.25	71.92	19.32	66.76	18.23
	11.0	9.8	89.65	22.47	85.02	21.56	79.21	20.30	75.27	19.43	71.92	18.68	66.76	17.71
	13.0	11.8	89.65	21.44	85.02	20.65	79.21	19.57	75.27	18.84	71.92	18.12	66.76	17.30
	15.0	13.7	89.65	20.66	85.02	20.06	79.21	19.05	75.27	18.40	71.92	17.75	66.76	17.02
18.0	16.6	89.65	19.27	85.02	18.66	79.21	17.77	75.27	17.13	71.92	16.51	66.76	15.80	
21.0	19.5	89.65	17.83	85.02	17.25	79.21	16.42	75.27	15.86	71.92	15.31	66.76	14.68	
24.0	22.4	89.65	16.43	85.02	15.89	79.21	15.12	75.27	14.62	71.92	14.11	66.76	13.53	
27.0	25.3	89.65	15.06	85.02	14.61	79.21	13.88	75.27	13.37	71.92	12.93	66.76	12.41	
30.0	28.1	89.65	13.77	85.02	13.34	79.21	12.68	75.27	12.21	71.92	11.80	66.76	11.33	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.29:30HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	75.94	34.89	73.07	33.03	67.43	32.08	65.37	31.81	62.72	31.42	56.90	29.92
	-25.0	-25.4	77.49	34.82	74.56	33.06	68.80	32.15	66.70	31.81	64.00	31.39	58.06	29.92
	-19.8	-20.0	77.49	33.19	74.56	31.32	68.80	30.30	66.70	30.06	64.00	29.55	58.06	28.13
	-16.7	-17.0	78.11	32.22	74.56	30.32	68.80	29.46	66.70	29.25	64.00	28.70	58.06	27.21
	-13.7	-15.0	78.11	31.52	74.56	29.77	68.80	28.89	66.70	28.59	64.00	28.17	58.06	26.71
	-11.8	-13.0	78.11	30.89	74.56	29.20	68.80	28.38	66.70	28.18	64.00	27.66	58.06	26.17
	-9.8	-11.0	78.11	30.30	74.56	28.61	68.80	27.86	66.70	27.58	64.00	27.10	58.06	25.65
	-9.5	-10.0	78.11	30.01	74.56	28.36	68.80	27.25	66.70	26.91	64.00	26.42	58.06	25.02
	-8.5	-9.1	78.11	29.77	74.56	28.07	68.80	26.30	66.70	25.95	64.00	25.52	58.06	24.06
	-7.0	-7.6	78.11	29.32	74.56	27.65	68.80	25.14	66.70	24.79	64.00	24.36	58.06	22.93
	-5.0	-5.6	78.11	28.40	74.56	26.90	68.80	24.48	66.70	24.11	64.00	23.71	58.06	22.25
	-3.0	-3.7	78.11	26.93	74.56	26.06	68.80	23.72	66.70	23.45	64.00	22.93	58.06	21.52
	0.0	-0.7	78.11	25.50	74.56	24.90	68.80	22.71	66.70	22.40	64.00	21.91	58.06	20.55
	3.0	2.2	78.11	24.02	74.56	23.54	68.80	21.35	66.70	20.98	64.00	20.53	58.06	19.17
	5.0	4.1	78.11	22.91	74.56	22.07	68.80	20.52	66.70	20.17	64.00	19.72	58.06	18.34
	7.0	6.0	78.11	22.06	74.56	21.12	68.80	19.48	66.70	19.17	64.00	18.69	58.06	17.36
	9.0	7.9	78.11	21.11	74.56	20.30	68.80	18.87	66.70	18.48	64.00	17.99	58.06	16.65
	11.0	9.8	78.11	20.26	74.56	19.61	68.80	18.12	66.70	17.70	64.00	17.26	58.06	15.89
	13.0	11.8	78.11	19.51	74.56	18.84	68.80	17.24	66.70	16.80	64.00	16.39	58.06	15.03
	15.0	13.7	78.11	18.81	74.56	17.98	68.80	16.56	66.70	16.15	64.00	15.70	58.06	14.36
18.0	16.6	78.11	17.53	74.56	16.71	68.80	15.39	66.70	15.00	64.00	14.62	58.06	13.38	
21.0	19.5	78.11	16.23	74.56	15.50	68.80	14.23	66.70	13.90	64.00	13.54	58.06	12.39	
24.0	22.4	78.11	14.94	74.56	14.25	68.80	13.13	66.70	12.80	64.00	12.48	58.06	11.41	
27.0	25.3	78.11	13.72	74.56	13.11	68.80	12.06	66.70	11.74	64.00	11.41	58.06	10.48	
30.0	28.1	78.11	12.51	74.56	11.95	68.80	11.00	66.70	10.73	64.00	10.44	58.06	9.56	
60%	-30.0	-30.5	67.09	33.26	62.25	31.11	57.61	29.69	54.85	28.65	53.54	28.08	48.72	26.29
	-25.0	-25.4	68.46	33.22	63.52	31.14	58.79	29.69	55.96	28.59	54.64	28.03	49.72	26.31
	-19.8	-20.0	68.46	31.43	63.52	29.67	58.79	28.57	55.96	27.43	54.64	26.68	49.72	24.94
	-16.7	-17.0	68.46	29.70	63.52	27.83	58.79	26.69	55.96	25.44	54.64	24.71	49.72	23.08
	-13.7	-15.0	68.46	28.66	63.52	26.97	58.79	25.86	55.96	24.49	54.64	23.76	49.72	22.09
	-11.8	-13.0	68.46	27.68	63.52	25.94	58.79	24.86	55.96	23.62	54.64	22.77	49.72	21.17
	-9.8	-11.0	68.46	26.76	63.52	25.02	58.79	23.70	55.96	22.54	54.64	21.81	49.72	20.39
	-9.5	-10.0	68.46	25.78	63.52	23.95	58.79	22.68	55.96	21.60	54.64	20.79	49.72	19.28
	-8.5	-9.1	68.46	24.71	63.52	23.11	58.79	21.75	55.96	20.67	54.64	19.83	49.72	18.18
	-7.0	-7.6	68.46	23.79	63.52	22.18	58.79	20.98	55.96	19.96	54.64	19.05	49.72	17.35
	-5.0	-5.6	68.46	22.91	63.52	21.31	58.79	19.95	55.96	19.13	54.64	18.33	49.72	16.55
	-3.0	-3.7	68.46	22.09	63.52	20.47	58.79	19.04	55.96	18.41	54.64	17.52	49.72	15.96
	0.0	-0.7	68.46	21.22	63.52	19.68	58.79	18.20	55.96	17.50	54.64	16.67	49.72	15.66
	3.0	2.2	68.46	20.25	63.52	18.75	58.79	17.49	55.96	16.82	54.64	15.81	49.72	15.08
	5.0	4.1	68.46	19.20	63.52	17.92	58.79	16.87	55.96	16.03	54.64	15.44	49.72	14.78
	7.0	6.0	68.46	18.32	63.52	17.19	58.79	16.07	55.96	15.37	54.64	15.34	49.72	14.49
	9.0	7.9	68.46	18.04	63.52	16.77	58.79	15.85	55.96	15.04	54.64	14.68	49.72	13.84
	11.0	9.8	68.46	17.79	63.52	16.55	58.79	15.42	55.96	14.70	54.64	14.42	49.72	13.60
	13.0	11.8	68.46	17.21	63.52	15.96	58.79	14.91	55.96	14.37	54.64	14.11	49.72	13.26
	15.0	13.7	68.46	17.02	63.52	15.68	58.79	14.47	55.96	14.00	54.64	13.72	49.72	12.88
18.0	16.6	68.46	15.82	63.52	14.56	58.79	13.47	55.96	13.01	54.64	12.76	49.72	12.00	
21.0	19.5	68.46	14.66	63.52	13.48	58.79	12.50	55.96	12.06	54.64	11.83	49.72	11.12	
24.0	22.4	68.46	13.48	63.52	12.42	58.79	11.48	55.96	11.13	54.64	10.88	49.72	10.22	
27.0	25.3	68.46	12.37	63.52	11.39	58.79	10.56	55.96	10.20	54.64	10.00	49.72	9.40	
30.0	28.1	68.46	11.32	63.52	10.41	58.79	9.63	55.96	9.33	54.64	9.14	49.72	8.57	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.29:30HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	55.48	27.21	51.82	25.73	48.62	24.75	46.43	24.23	44.58	23.58	40.08	21.52
	-25.0	-25.4	56.61	27.21	52.88	25.76	49.61	24.75	47.38	24.21	45.49	23.60	40.90	21.52
	-19.8	-20.0	56.61	25.77	52.88	24.57	49.61	23.83	47.38	23.18	45.49	22.51	40.90	20.41
	-16.7	-17.0	56.61	24.33	52.88	23.01	49.61	22.27	47.38	21.53	45.49	20.84	40.90	18.93
	-13.7	-15.0	56.61	23.46	52.88	22.28	49.61	21.59	47.38	20.71	45.49	20.02	40.90	18.14
	-11.8	-13.0	56.61	22.70	52.88	21.46	49.61	20.74	47.38	20.02	45.49	19.20	40.90	17.31
	-9.8	-11.0	56.61	21.92	52.88	20.65	49.61	19.74	47.38	19.11	45.49	18.43	40.90	16.67
	-9.5	-10.0	56.61	21.14	52.88	19.86	49.61	18.98	47.38	18.26	45.49	17.62	40.90	15.78
	-8.5	-9.1	56.61	20.26	52.88	19.10	49.61	18.16	47.38	17.47	45.49	16.85	40.90	14.84
	-7.0	-7.6	56.61	19.54	52.88	18.30	49.61	17.54	47.38	16.89	45.49	16.17	40.90	14.19
	-5.0	-5.6	56.61	18.76	52.88	17.65	49.61	16.65	47.38	16.19	45.49	15.57	40.90	13.52
	-3.0	-3.7	56.61	18.14	52.88	16.92	49.61	15.91	47.38	15.56	45.49	14.86	40.90	13.07
	0.0	-0.7	56.61	17.39	52.88	16.25	49.61	15.23	47.38	14.79	45.49	14.17	40.90	12.82
	3.0	2.2	56.61	16.60	52.88	15.48	49.61	14.62	47.38	14.18	45.49	13.45	40.90	12.75
	5.0	4.1	56.61	15.77	52.88	14.85	49.61	14.11	47.38	13.54	45.49	13.17	40.90	12.61
	7.0	6.0	56.61	15.05	52.88	14.20	49.61	13.42	47.38	13.02	45.49	12.96	40.90	12.24
	9.0	7.9	56.61	14.78	52.88	13.89	49.61	13.22	47.38	12.70	45.49	12.45	40.90	11.86
	11.0	9.8	56.61	14.54	52.88	13.66	49.61	12.87	47.38	12.40	45.49	12.20	40.90	11.67
	13.0	11.8	56.61	14.12	52.88	13.20	49.61	12.48	47.38	12.14	45.49	11.91	40.90	11.38
15.0	13.7	56.61	13.97	52.88	12.93	49.61	12.09	47.38	11.85	45.49	11.60	40.90	11.10	
18.0	16.6	56.61	12.99	52.88	12.05	49.61	11.26	47.38	11.02	45.49	10.80	40.90	10.30	
21.0	19.5	56.61	11.99	52.88	11.13	49.61	10.44	47.38	10.19	45.49	10.01	40.90	9.56	
24.0	22.4	56.61	11.09	52.88	10.26	49.61	9.63	47.38	9.39	45.49	9.22	40.90	8.81	
27.0	25.3	56.61	10.17	52.88	9.44	49.61	8.82	47.38	8.60	45.49	8.44	40.90	8.07	
30.0	28.1	56.61	9.28	52.88	8.61	49.61	8.04	47.38	7.87	45.49	7.73	40.90	7.38	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.30:32HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	78.85	25.52	79.20	26.18	76.90	26.97	77.37	27.97	75.91	28.30	75.18	28.54
	-25.0	-25.4	80.46	25.50	80.81	26.16	78.46	26.97	78.94	28.05	77.46	28.30	76.71	28.54
	-19.8	-20.0	84.57	26.14	84.96	26.98	83.92	28.10	84.38	29.08	82.87	29.37	82.24	29.59
	-16.7	-17.0	86.53	26.91	86.94	27.82	85.88	28.63	86.70	29.72	84.81	29.93	84.17	30.23
	-13.7	-15.0	87.84	27.28	88.25	28.22	87.19	29.17	88.01	30.17	86.11	30.40	85.46	30.74
	-11.8	-13.0	89.14	27.69	89.57	28.74	88.49	29.74	89.33	30.80	87.41	30.94	87.07	31.14
	-9.8	-11.0	90.44	28.14	90.89	29.16	89.79	30.03	90.64	31.09	89.02	31.24	88.36	31.18
	-9.5	-10.0	91.09	28.56	91.55	29.51	90.77	30.51	91.30	31.55	89.67	31.71	89.01	31.72
	-8.5	-9.1	91.75	28.93	92.21	29.92	91.09	30.82	91.96	31.92	90.31	32.00	89.65	31.99
	-7.0	-7.6	92.73	28.95	93.19	30.38	92.40	31.10	92.95	32.17	91.29	32.48	90.61	32.50
	-5.0	-5.6	99.92	30.27	100.44	31.17	99.26	32.05	100.21	33.40	98.09	32.76	97.39	32.82
	-3.0	-3.7	101.22	31.01	101.75	31.74	100.57	32.57	101.53	33.90	99.38	33.09	98.68	33.28
	0.0	-0.7	103.18	31.94	103.73	32.02	102.53	33.06	103.50	34.24	101.32	33.63	100.93	33.54
	3.0	2.2	113.99	33.75	113.61	34.08	112.32	34.67	113.06	35.69	111.04	35.39	110.28	35.51
	5.0	4.1	141.71	40.77	137.19	40.61	133.87	40.17	129.87	39.23	122.37	38.12	111.90	36.25
	7.0	6.0	143.99	41.06	139.83	39.47	133.87	38.13	129.87	37.58	122.37	36.54	111.90	34.96
	9.0	7.9	143.99	39.13	139.83	37.70	133.87	36.93	129.87	36.82	122.37	35.51	111.90	34.24
	11.0	9.8	143.99	37.24	139.83	36.11	133.87	35.67	129.87	35.58	122.37	34.52	111.90	32.85
	13.0	11.8	143.99	35.35	139.83	35.02	133.87	34.78	129.87	34.95	122.37	33.73	111.90	32.32
	15.0	13.7	143.99	34.24	139.83	34.19	133.87	33.81	129.87	33.63	122.37	32.84	111.90	31.07
18.0	16.6	145.55	32.26	140.90	32.14	134.54	31.57	130.21	31.34	122.43	30.50	111.90	28.98	
21.0	19.5	146.41	30.05	141.28	29.76	134.54	29.18	130.21	28.99	122.43	28.21	111.90	26.78	
24.0	22.4	146.53	27.64	141.28	27.48	134.54	26.95	130.21	26.72	122.43	26.06	111.90	24.71	
27.0	25.3	146.53	25.40	141.28	25.19	134.54	24.72	130.21	24.53	122.43	23.86	111.90	22.65	
30.0	28.1	146.53	23.22	141.28	23.00	134.54	22.60	130.21	22.45	122.43	21.83	111.90	20.70	
120%	-30.0	-30.5	78.15	27.82	77.02	28.54	77.69	29.77	76.70	30.26	76.35	30.93	75.90	31.34
	-25.0	-25.4	79.74	27.79	78.59	28.48	79.28	29.80	78.26	30.26	77.91	30.96	77.45	31.31
	-19.8	-20.0	84.55	28.55	83.35	29.25	83.82	30.34	83.02	30.76	82.70	31.50	82.14	31.98
	-16.7	-17.0	86.52	29.40	85.29	29.70	85.79	31.27	84.97	31.65	84.64	32.42	84.40	32.39
	-13.7	-15.0	87.83	29.80	86.59	30.26	87.09	31.39	86.27	31.81	86.27	32.51	85.69	32.71
	-11.8	-13.0	89.14	30.21	87.89	30.56	88.55	31.90	87.56	32.29	87.56	32.95	86.99	33.08
	-9.8	-11.0	90.46	30.44	89.18	30.84	90.04	32.20	88.87	32.62	88.87	33.37	88.28	33.69
	-9.5	-10.0	91.11	30.79	89.83	31.06	90.69	32.45	89.51	32.87	89.51	33.59	88.93	34.12
	-8.5	-9.1	91.76	30.99	90.48	31.49	91.35	32.78	90.16	33.23	90.16	33.85	89.57	34.16
	-7.0	-7.6	92.75	31.55	91.45	32.03	92.33	33.21	91.14	33.61	91.14	34.28	90.54	34.58
	-5.0	-5.6	99.95	31.81	98.59	32.24	99.21	33.50	98.26	33.84	98.26	34.56	97.66	35.09
	-3.0	-3.7	101.27	32.46	99.89	32.84	100.51	33.96	99.56	34.27	99.24	35.02	98.95	35.28
	0.0	-0.7	103.24	32.80	101.83	33.26	102.48	34.28	101.51	34.63	101.51	35.30	100.89	35.59
	3.0	2.2	112.74	34.86	111.57	35.32	112.31	35.99	110.91	36.32	110.91	37.11	103.48	35.23
	5.0	4.1	141.90	39.07	132.00	38.18	123.76	37.93	117.72	36.77	113.18	36.44	103.48	34.17
	7.0	6.0	142.89	38.80	132.00	36.58	123.76	36.08	117.72	35.07	113.18	34.82	103.48	33.37
	9.0	7.9	142.89	37.11	132.00	34.99	123.76	34.91	117.72	33.89	113.18	33.86	103.48	32.31
	11.0	9.8	142.89	35.90	132.00	34.29	123.76	33.68	117.72	32.92	113.18	32.60	103.48	31.05
	13.0	11.8	142.89	34.97	132.00	33.41	123.76	32.75	117.72	32.40	113.18	32.04	103.48	30.44
	15.0	13.7	142.89	34.20	132.00	32.33	123.76	31.90	117.72	31.25	113.18	30.98	103.48	29.32
18.0	16.6	144.44	32.12	133.01	30.33	124.38	29.85	118.03	29.06	113.24	28.84	103.48	27.33	
21.0	19.5	145.29	29.95	133.37	28.16	124.38	27.56	118.03	26.93	113.24	26.65	103.48	25.31	
24.0	22.4	145.41	27.65	133.37	26.01	124.38	25.43	118.03	24.85	113.24	24.61	103.48	23.32	
27.0	25.3	145.41	25.37	133.37	23.83	124.38	23.30	118.03	22.77	113.24	22.53	103.48	21.38	
30.0	28.1	145.41	23.12	133.37	21.72	124.38	21.32	118.03	20.78	113.24	20.56	103.48	19.52	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.30:32HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	78.36	28.37	78.76	29.29	77.32	29.51	77.73	29.17	78.19	30.09	77.94	30.79
	-25.0	-25.4	79.96	28.37	80.36	29.29	78.90	29.51	79.32	29.26	79.79	30.03	79.53	30.73
	-19.8	-20.0	83.43	28.75	83.90	29.76	82.46	29.94	82.78	29.61	83.24	30.43	83.00	31.17
	-16.7	-17.0	85.37	29.60	85.87	30.58	84.40	30.77	84.72	30.22	85.54	31.19	84.97	31.61
	-13.7	-15.0	86.68	29.89	87.18	30.85	85.69	31.06	86.02	30.44	86.84	31.36	86.28	32.05
	-11.8	-13.0	87.97	30.30	88.48	31.33	87.31	31.50	87.33	30.69	88.16	31.71	87.58	32.32
	-9.8	-11.0	89.27	30.37	89.80	31.28	88.61	31.56	88.62	31.29	89.47	32.02	88.88	32.81
	-9.5	-10.0	89.92	30.70	90.78	31.58	89.25	31.83	89.27	31.42	90.12	32.49	89.55	33.07
	-8.5	-9.1	90.56	31.04	91.11	31.95	89.90	32.23	89.92	31.76	90.78	32.80	90.20	33.48
	-7.0	-7.6	91.54	31.28	92.10	32.26	90.87	32.47	90.89	32.22	91.76	33.21	91.17	33.57
	-5.0	-5.6	98.69	31.76	99.30	32.71	97.66	32.97	98.04	32.53	98.98	33.30	95.75	33.24
	-3.0	-3.7	99.98	31.93	100.61	32.94	98.95	33.11	99.33	32.72	100.29	33.83	95.75	32.62
	0.0	-0.7	101.93	32.73	102.58	33.72	101.22	33.98	101.28	33.02	102.25	34.03	95.75	32.24
	3.0	2.2	111.34	34.19	112.41	35.22	110.59	35.33	108.09	34.37	104.88	34.39	95.75	31.90
	5.0	4.1	129.85	37.35	122.24	37.54	112.21	34.53	108.09	33.76	104.88	33.43	95.75	31.75
	7.0	6.0	129.85	35.90	122.24	35.46	112.21	32.85	108.09	32.03	104.88	31.96	95.75	31.01
	9.0	7.9	129.85	34.27	122.24	33.53	112.21	31.65	108.09	31.27	104.88	31.20	95.75	30.42
	11.0	9.8	129.85	33.07	122.24	32.33	112.21	30.77	108.09	30.16	104.88	30.24	95.75	29.50
	13.0	11.8	129.85	32.16	122.24	31.32	112.21	29.79	108.09	29.26	104.88	29.24	95.75	28.46
	15.0	13.7	129.85	31.21	122.24	30.19	112.21	28.75	108.09	28.28	104.88	28.16	95.75	27.48
18.0	16.6	131.26	29.38	123.18	28.30	112.77	26.93	108.38	26.35	104.93	26.26	95.75	25.52	
21.0	19.5	132.03	27.34	123.51	26.35	112.77	24.91	108.38	24.45	104.93	24.29	95.75	23.60	
24.0	22.4	132.14	25.17	123.51	24.28	112.77	23.00	108.38	22.53	104.93	22.43	95.75	21.78	
27.0	25.3	132.14	23.14	123.51	22.26	112.77	21.06	108.38	20.63	104.93	20.56	95.75	19.98	
30.0	28.1	132.14	21.15	123.51	20.29	112.77	19.25	108.38	18.84	104.93	18.78	95.75	18.24	
100%	-30.0	-30.5	77.90	35.19	77.59	35.54	76.08	35.54	76.60	35.78	77.27	36.32	76.37	36.50
	-25.0	-25.4	79.49	35.16	79.18	35.58	77.63	35.50	78.17	35.82	78.85	36.39	77.93	36.50
	-19.8	-20.0	83.18	35.13	82.87	35.62	81.27	35.72	81.82	35.83	82.54	36.32	81.59	36.24
	-16.7	-17.0	85.77	35.36	85.44	35.75	84.12	35.88	84.39	35.95	85.13	36.57	84.14	35.77
	-13.7	-15.0	87.06	35.38	86.74	35.69	85.40	35.93	85.66	35.96	86.41	36.53	85.43	35.38
	-11.8	-13.0	88.35	35.39	88.03	35.80	86.67	35.98	86.94	36.08	87.70	36.54	85.43	35.03
	-9.8	-11.0	89.00	35.53	89.00	35.89	87.30	36.02	87.90	36.15	88.35	36.69	85.43	34.92
	-9.5	-10.0	89.64	35.54	89.31	35.85	87.93	36.14	88.22	36.09	89.00	36.74	85.43	34.65
	-8.5	-9.1	90.61	35.59	90.61	35.93	88.89	36.29	89.17	36.13	89.96	36.78	85.43	34.16
	-7.0	-7.6	97.70	35.55	97.38	35.94	95.88	36.95	96.21	37.52	93.83	35.98	85.43	34.04
	-5.0	-5.6	98.98	35.60	98.67	36.00	97.14	36.17	96.85	36.42	93.83	34.94	85.43	32.99
	-3.0	-3.7	100.93	35.64	100.60	36.01	99.04	34.94	96.85	34.32	93.83	33.86	85.43	31.89
	0.0	-0.7	103.50	35.69	109.31	35.93	100.00	33.98	96.85	32.73	93.83	32.14	85.43	30.56
	3.0	2.2	110.27	35.08	109.31	35.04	100.00	32.97	96.85	31.17	93.83	30.28	85.43	29.00
	5.0	4.1	117.04	34.41	109.31	33.43	100.00	31.40	96.85	29.83	93.83	29.00	85.43	27.74
	7.0	6.0	117.04	34.02	109.31	31.71	100.00	29.41	96.85	28.17	93.83	27.83	85.43	26.49
	9.0	7.9	117.04	32.07	109.31	29.98	100.00	28.59	96.85	27.46	93.83	27.05	85.43	25.64
	11.0	9.8	117.04	29.98	109.31	28.10	100.00	27.64	96.85	26.41	93.83	26.06	85.43	24.59
	13.0	11.8	117.04	28.10	109.31	27.41	100.00	26.57	96.85	25.43	93.83	25.11	85.43	23.72
	15.0	13.7	117.04	26.78	109.31	26.27	100.00	25.64	96.85	24.59	93.83	24.16	85.43	22.87
18.0	16.6	117.04	24.86	109.31	24.46	100.00	23.85	96.85	22.81	93.83	22.55	85.43	21.25	
21.0	19.5	117.04	23.05	109.31	22.67	100.00	22.08	96.85	21.18	93.83	20.83	85.43	19.64	
24.0	22.4	117.04	21.24	109.31	20.88	100.00	20.35	96.85	19.52	93.83	19.20	85.43	18.13	
27.0	25.3	117.04	19.51	109.31	19.17	100.00	18.64	96.85	17.89	93.83	17.63	85.43	16.64	
30.0	28.1	117.04	17.80	109.31	17.47	100.00	17.02	96.85	16.34	93.83	16.10	85.43	15.19	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.30:32HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	79.02	35.89	78.74	36.41	78.63	36.89	77.60	36.90	76.86	36.63	77.08	34.70
	-25.0	-25.4	80.64	36.00	80.35	36.41	80.23	36.79	79.18	36.86	78.43	36.67	78.65	34.70
	-19.8	-20.0	84.05	36.54	83.87	36.92	83.71	37.39	82.68	37.21	81.90	37.06	78.65	33.97
	-16.7	-17.0	86.02	36.69	85.86	37.12	86.02	37.54	84.64	37.26	83.83	36.20	78.65	33.03
	-13.7	-15.0	87.34	36.67	87.18	37.09	87.34	37.57	85.94	37.38	84.81	35.50	78.65	32.31
	-11.8	-13.0	88.67	36.79	88.50	37.14	88.66	37.69	87.26	36.86	84.81	34.77	78.65	31.73
	-9.8	-11.0	89.98	36.76	90.15	37.33	89.98	37.68	88.88	36.08	84.81	34.02	78.65	31.15
	-9.5	-10.0	90.64	36.88	90.81	37.29	90.66	37.73	89.22	35.81	84.81	33.74	78.65	30.82
	-8.5	-9.1	91.30	36.88	91.14	37.31	91.32	37.65	89.22	35.40	84.81	33.44	78.65	30.49
	-7.0	-7.6	92.29	36.93	92.46	36.88	92.30	37.08	89.22	34.99	84.81	32.99	78.65	30.06
	-5.0	-5.6	99.54	37.02	99.40	35.25	93.96	35.53	89.22	33.75	84.81	31.90	78.65	29.22
	-3.0	-3.7	100.86	37.12	100.71	33.63	93.96	33.80	89.22	32.59	84.81	30.88	78.65	28.50
	0.0	-0.7	102.83	37.16	100.71	32.03	93.96	32.35	89.22	30.98	84.81	29.40	78.65	27.71
	3.0	2.2	107.78	37.19	100.71	30.34	93.96	30.50	89.22	29.83	84.81	28.05	78.65	26.77
	5.0	4.1	107.78	36.27	100.71	28.77	93.96	29.19	89.22	28.33	84.81	26.77	78.65	25.78
	7.0	6.0	107.78	31.52	100.71	28.30	93.96	27.29	89.22	25.84	84.81	24.64	78.65	22.89
	9.0	7.9	107.78	29.56	100.71	27.70	93.96	25.86	89.22	24.70	84.81	23.53	78.65	22.06
	11.0	9.8	107.78	27.85	100.71	26.21	93.96	24.63	89.22	23.57	84.81	22.56	78.65	21.22
	13.0	11.8	107.78	26.34	100.71	24.94	93.96	23.58	89.22	22.58	84.81	21.67	78.65	20.57
	15.0	13.7	107.78	25.22	100.71	23.97	93.96	22.79	89.22	21.86	84.81	21.09	78.65	20.05
18.0	16.6	107.78	23.46	100.71	22.37	93.96	21.22	89.22	20.36	84.81	19.62	78.65	18.65	
21.0	19.5	107.78	21.70	100.71	20.71	93.96	19.61	89.22	18.85	84.81	18.13	78.65	17.29	
24.0	22.4	107.78	20.00	100.71	19.05	93.96	18.07	89.22	17.39	84.81	16.74	78.65	15.90	
27.0	25.3	107.78	18.41	100.71	17.51	93.96	16.58	89.22	15.95	84.81	15.36	78.65	14.61	
30.0	28.1	107.78	16.81	100.71	15.98	93.96	15.16	89.22	14.54	84.81	14.01	78.65	13.32	
80%	-30.0	-30.5	79.13	38.18	78.81	38.71	77.46	36.65	76.69	34.94	74.69	33.88	68.22	30.62
	-25.0	-25.4	80.75	38.25	80.41	38.64	79.05	36.68	78.25	34.91	76.21	33.85	69.61	30.71
	-19.8	-20.0	83.95	36.79	83.63	37.18	81.49	35.09	78.25	33.48	76.21	32.29	69.61	29.20
	-16.7	-17.0	85.94	36.92	85.61	37.27	81.49	34.10	78.25	32.53	76.21	31.39	69.61	28.22
	-13.7	-15.0	87.26	37.03	86.93	37.38	81.49	33.38	78.25	31.91	76.21	30.76	69.61	27.73
	-11.8	-13.0	88.58	37.08	88.26	36.69	81.49	32.70	78.25	31.18	76.21	30.15	69.61	27.22
	-9.8	-11.0	89.90	37.08	89.58	35.84	81.49	32.18	78.25	30.59	76.21	29.56	69.61	26.73
	-9.5	-10.0	90.57	37.13	89.58	35.50	81.49	31.77	78.25	30.29	76.21	29.27	69.61	26.48
	-8.5	-9.1	91.23	37.14	89.58	35.30	81.49	31.51	78.25	30.13	76.21	29.04	69.61	26.28
	-7.0	-7.6	92.21	37.18	89.58	34.77	81.49	31.05	78.25	29.72	76.21	28.68	69.61	25.94
	-5.0	-5.6	96.18	36.41	89.58	33.57	81.49	30.11	78.25	28.78	76.21	27.86	69.61	25.13
	-3.0	-3.7	96.18	37.70	89.58	32.33	81.49	28.80	78.25	27.64	76.21	26.76	69.61	24.42
	0.0	-0.7	96.18	37.22	89.58	30.86	81.49	27.80	78.25	26.88	76.21	26.00	69.61	23.88
	3.0	2.2	96.18	34.43	89.58	29.18	81.49	26.28	78.25	25.93	76.21	25.03	69.61	22.97
	5.0	4.1	96.18	31.42	89.58	27.57	81.49	25.09	78.25	24.85	76.21	23.82	69.61	22.48
	7.0	6.0	96.18	27.59	89.58	25.81	81.49	23.45	78.25	22.51	76.21	21.90	69.61	20.16
	9.0	7.9	96.18	26.12	89.58	24.52	81.49	22.40	78.25	21.66	76.21	21.12	69.61	19.57
	11.0	9.8	96.18	24.89	89.58	23.45	81.49	21.56	78.25	20.87	76.21	20.39	69.61	19.04
	13.0	11.8	96.18	23.76	89.58	22.50	81.49	20.77	78.25	20.19	76.21	19.85	69.61	18.63
	15.0	13.7	96.18	22.89	89.58	21.74	81.49	20.22	78.25	19.73	76.21	19.36	69.61	18.31
18.0	16.6	96.18	21.27	89.58	20.23	81.49	18.81	78.25	18.35	76.21	18.07	69.61	17.03	
21.0	19.5	96.18	19.73	89.58	18.78	81.49	17.43	78.25	16.96	76.21	16.70	69.61	15.79	
24.0	22.4	96.18	18.19	89.58	17.28	81.49	16.05	78.25	15.66	76.21	15.40	69.61	14.52	
27.0	25.3	96.18	16.68	89.58	15.88	81.49	14.71	78.25	14.37	76.21	14.13	69.61	13.35	
30.0	28.1	96.18	15.24	89.58	14.49	81.49	13.46	78.25	13.12	76.21	12.89	69.61	12.17	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.30:32HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	80.09	37.99	75.32	35.14	70.98	34.84	67.31	33.87	65.40	33.79	60.40	32.70
	-25.0	-25.4	81.73	37.88	76.86	35.10	72.43	34.84	68.69	33.84	66.74	33.79	61.64	32.67
	-19.8	-20.0	81.73	36.11	76.86	33.21	72.43	32.96	68.69	31.85	66.74	31.84	61.64	30.76
	-16.7	-17.0	82.37	35.02	76.86	32.19	72.43	32.05	68.69	31.01	66.74	30.84	61.64	29.88
	-13.7	-15.0	82.37	34.36	76.86	31.60	72.43	31.44	68.69	30.41	66.74	30.29	61.64	29.21
	-11.8	-13.0	82.37	33.66	76.86	31.00	72.43	30.82	68.69	29.86	66.74	29.71	61.64	28.66
	-9.8	-11.0	82.37	32.96	76.86	30.37	72.43	30.31	68.69	29.34	66.74	29.19	61.64	28.09
	-9.5	-10.0	82.37	32.66	76.86	30.08	72.43	29.52	68.69	28.60	66.74	28.46	61.64	27.38
	-8.5	-9.1	82.37	32.41	76.86	29.87	72.43	28.56	68.69	27.57	66.74	27.48	61.64	26.34
	-7.0	-7.6	82.37	31.95	76.86	29.42	72.43	27.27	68.69	26.32	66.74	26.16	61.64	25.09
	-5.0	-5.6	82.37	30.90	76.86	28.56	72.43	26.52	68.69	25.64	66.74	25.50	61.64	24.42
	-3.0	-3.7	82.37	29.27	76.86	27.75	72.43	25.83	68.69	24.83	66.74	24.68	61.64	23.63
	0.0	-0.7	82.37	27.71	76.86	26.51	72.43	24.73	68.69	23.74	66.74	23.60	61.64	22.48
	3.0	2.2	82.37	26.20	76.86	25.09	72.43	23.20	68.69	22.29	66.74	22.11	61.64	20.95
	5.0	4.1	82.37	24.96	76.86	23.42	72.43	22.34	68.69	21.42	66.74	21.21	61.64	20.07
	7.0	6.0	82.37	23.96	76.86	22.43	72.43	21.16	68.69	20.31	66.74	20.09	61.64	18.99
	9.0	7.9	82.37	22.95	76.86	21.59	72.43	20.43	68.69	19.61	66.74	19.40	61.64	18.23
	11.0	9.8	82.37	22.02	76.86	20.86	72.43	19.61	68.69	18.77	66.74	18.51	61.64	17.42
	13.0	11.8	82.37	21.21	76.86	19.98	72.43	18.70	68.69	17.82	66.74	17.58	61.64	16.43
	15.0	13.7	82.37	20.47	76.86	19.09	72.43	17.98	68.69	17.13	66.74	16.86	61.64	15.70
18.0	16.6	82.37	19.04	76.86	17.74	72.43	16.71	68.69	15.90	66.74	15.67	61.64	14.64	
21.0	19.5	82.37	17.60	76.86	16.42	72.43	15.47	68.69	14.75	66.74	14.52	61.64	13.55	
24.0	22.4	82.37	16.27	76.86	15.14	72.43	14.27	68.69	13.57	66.74	13.37	61.64	12.49	
27.0	25.3	82.37	14.88	76.86	13.89	72.43	13.10	68.69	12.45	66.74	12.29	61.64	11.45	
30.0	28.1	82.37	13.63	76.86	12.69	72.43	11.94	68.69	11.40	66.74	11.22	61.64	10.47	
60%	-30.0	-30.5	70.02	35.69	64.65	33.35	60.13	31.89	58.90	31.72	56.20	30.39	50.80	28.25
	-25.0	-25.4	71.45	35.76	65.97	33.35	61.35	31.95	60.10	31.72	57.35	30.36	51.83	28.31
	-19.8	-20.0	71.45	33.87	65.97	31.75	61.35	30.66	60.10	30.34	57.35	28.88	51.83	26.82
	-16.7	-17.0	71.45	31.92	65.97	29.73	61.35	28.66	60.10	28.22	57.35	26.74	51.83	24.81
	-13.7	-15.0	71.45	30.85	65.97	28.91	61.35	27.77	60.10	27.14	57.35	25.71	51.83	23.75
	-11.8	-13.0	71.45	29.76	65.97	27.84	61.35	26.72	60.10	26.18	57.35	24.59	51.83	22.73
	-9.8	-11.0	71.45	28.78	65.97	26.73	61.35	25.50	60.10	25.01	57.35	23.56	51.83	21.86
	-9.5	-10.0	71.45	27.80	65.97	25.73	61.35	24.43	60.10	23.94	57.35	22.57	51.83	20.67
	-8.5	-9.1	71.45	26.59	65.97	24.78	61.35	23.38	60.10	22.93	57.35	21.52	51.83	19.51
	-7.0	-7.6	71.45	25.65	65.97	23.72	61.35	22.55	60.10	22.12	57.35	20.69	51.83	18.65
	-5.0	-5.6	71.45	24.65	65.97	22.81	61.35	21.47	60.10	21.22	57.35	19.87	51.83	17.79
	-3.0	-3.7	71.45	23.82	65.97	21.89	61.35	20.48	60.10	20.41	57.35	18.98	51.83	17.13
	0.0	-0.7	71.45	22.86	65.97	21.07	61.35	19.57	60.10	19.43	57.35	18.00	51.83	16.83
	3.0	2.2	71.45	21.84	65.97	20.03	61.35	18.81	60.10	18.62	57.35	17.12	51.83	16.24
	5.0	4.1	71.45	20.73	65.97	19.16	61.35	18.17	60.10	17.78	57.35	16.73	51.83	15.88
	7.0	6.0	71.45	19.76	65.97	18.35	61.35	17.32	60.10	17.06	57.35	16.62	51.83	15.59
	9.0	7.9	71.45	19.40	65.97	17.96	61.35	17.00	60.10	16.68	57.35	15.89	51.83	14.91
	11.0	9.8	71.45	19.09	65.97	17.67	61.35	16.56	60.10	16.28	57.35	15.58	51.83	14.58
	13.0	11.8	71.45	18.54	65.97	17.12	61.35	16.04	60.10	15.90	57.35	15.25	51.83	14.29
	15.0	13.7	71.45	18.28	65.97	16.79	61.35	15.57	60.10	15.53	57.35	14.87	51.83	13.86
18.0	16.6	71.45	17.02	65.97	15.60	61.35	14.51	60.10	14.42	57.35	13.82	51.83	12.91	
21.0	19.5	71.45	15.79	65.97	14.42	61.35	13.43	60.10	13.39	57.35	12.79	51.83	11.96	
24.0	22.4	71.45	14.55	65.97	13.31	61.35	12.39	60.10	12.34	57.35	11.79	51.83	10.99	
27.0	25.3	71.45	13.31	65.97	12.23	61.35	11.37	60.10	11.30	57.35	10.81	51.83	10.09	
30.0	28.1	71.45	12.18	65.97	11.13	61.35	10.36	60.10	10.33	57.35	9.90	51.83	9.22	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.30:32HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-30.0	-30.5	58.84	29.74	55.01	28.24	51.08	26.85	48.31	25.98	46.44	25.35	43.08	23.88
	-25.0	-25.4	60.04	29.77	56.14	28.19	52.12	26.90	49.30	26.01	47.39	25.33	43.96	23.86
	-19.8	-20.0	60.04	28.25	56.14	26.86	52.12	25.82	49.30	24.83	47.39	24.16	43.96	22.68
	-16.7	-17.0	60.04	26.61	56.14	25.13	52.12	24.17	49.30	23.11	47.39	22.38	43.96	20.96
	-13.7	-15.0	60.04	25.72	56.14	24.45	52.12	23.37	49.30	22.22	47.39	21.50	43.96	20.11
	-11.8	-13.0	60.04	24.76	56.14	23.52	52.12	22.52	49.30	21.42	47.39	20.63	43.96	19.19
	-9.8	-11.0	60.04	23.96	56.14	22.65	52.12	21.42	49.30	20.45	47.39	19.77	43.96	18.50
	-9.5	-10.0	60.04	23.10	56.14	21.72	52.12	20.52	49.30	19.57	47.39	18.90	43.96	17.48
	-8.5	-9.1	60.04	22.16	56.14	20.92	52.12	19.70	49.30	18.79	47.39	18.09	43.96	16.49
	-7.0	-7.6	60.04	21.35	56.14	20.08	52.12	19.04	49.30	18.12	47.39	17.36	43.96	15.80
	-5.0	-5.6	60.04	20.54	56.14	19.30	52.12	18.06	49.30	17.40	47.39	16.74	43.96	15.01
	-3.0	-3.7	60.04	19.84	56.14	18.52	52.12	17.23	49.30	16.66	47.39	15.98	43.96	14.46
	0.0	-0.7	60.04	19.04	56.14	17.79	52.12	16.48	49.30	15.86	47.39	15.21	43.96	14.19
	3.0	2.2	60.04	18.20	56.14	16.97	52.12	15.84	49.30	15.23	47.39	14.44	43.96	14.16
	5.0	4.1	60.04	17.23	56.14	16.22	52.12	15.26	49.30	14.54	47.39	14.12	43.96	14.01
	7.0	6.0	60.04	16.47	56.14	15.54	52.12	14.57	49.30	13.94	47.39	13.93	43.96	13.59
	9.0	7.9	60.04	16.17	56.14	15.20	52.12	14.35	49.30	13.61	47.39	13.34	43.96	13.16
	11.0	9.8	60.04	15.94	56.14	14.97	52.12	13.98	49.30	13.28	47.39	13.12	43.96	12.90
	13.0	11.8	60.04	15.44	56.14	14.49	52.12	13.53	49.30	13.03	47.39	12.83	43.96	12.66
	15.0	13.7	60.04	15.27	56.14	14.19	52.12	13.13	49.30	12.71	47.39	12.47	43.96	12.31
18.0	16.6	60.04	14.19	56.14	13.19	52.12	12.23	49.30	11.81	47.39	11.60	43.96	11.42	
21.0	19.5	60.04	13.15	56.14	12.23	52.12	11.31	49.30	10.93	47.39	10.75	43.96	10.60	
24.0	22.4	60.04	12.13	56.14	11.28	52.12	10.41	49.30	10.07	47.39	9.91	43.96	9.77	
27.0	25.3	60.04	11.11	56.14	10.34	52.12	9.55	49.30	9.27	47.39	9.06	43.96	8.96	
30.0	28.1	60.04	10.13	56.14	9.44	52.12	8.74	49.30	8.45	47.39	8.30	43.96	8.19	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table2-8.31:34HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
130%	-30.0	-30.5	83.42	27.46	83.15	27.98	80.73	28.76	81.70	30.09	81.85	31.04	79.69	30.86
	-25.0	-25.4	85.12	27.46	84.85	27.89	82.38	28.84	83.36	30.12	83.53	30.95	81.32	30.86
	-19.8	-20.0	89.47	28.17	89.21	28.83	88.11	29.93	89.10	31.32	89.36	32.22	87.17	31.97
	-16.7	-17.0	91.55	29.01	91.28	29.70	90.16	30.53	91.55	31.94	91.45	32.80	89.22	32.66
	-13.7	-15.0	92.93	29.37	92.67	30.10	91.54	31.14	92.94	32.49	92.85	33.31	90.59	33.07
	-11.8	-13.0	94.31	29.79	94.05	30.62	92.91	31.68	94.33	33.04	94.24	33.98	92.29	33.60
	-9.8	-11.0	95.68	30.27	95.43	31.16	94.27	32.05	95.71	33.35	95.98	34.27	93.66	33.64
	-9.5	-10.0	96.37	30.70	96.12	31.54	95.30	32.57	96.41	33.84	96.68	34.82	94.34	34.10
	-8.5	-9.1	97.06	31.13	96.82	31.95	95.64	32.90	97.11	34.21	97.38	35.14	95.03	34.48
	-7.0	-7.6	98.11	31.18	97.85	32.40	97.01	33.17	98.16	34.48	98.43	35.63	96.05	35.03
	-5.0	-5.6	105.71	32.51	105.46	33.27	104.22	34.24	105.82	35.80	105.76	35.90	103.23	35.34
	-3.0	-3.7	107.09	33.40	106.84	33.82	105.59	34.84	107.21	36.37	107.16	36.33	104.60	35.84
	0.0	-0.7	109.16	34.30	108.92	34.11	107.65	35.25	109.30	36.76	109.25	36.86	106.99	36.09
	3.0	2.2	120.60	36.24	119.29	36.35	117.92	37.11	119.39	38.32	119.73	38.83	116.90	38.39
	5.0	4.1	149.92	43.78	144.05	43.31	140.55	42.80	137.14	42.05	131.94	41.70	118.61	39.11
	7.0	6.0	152.34	44.18	146.81	42.22	140.55	40.66	137.14	40.35	131.94	40.09	118.61	37.76
	9.0	7.9	152.34	42.09	146.81	40.16	140.55	39.42	137.14	39.50	131.94	38.95	118.61	36.83
	11.0	9.8	152.34	39.99	146.81	38.48	140.55	38.11	137.14	38.28	131.94	37.87	118.61	35.45
	13.0	11.8	152.34	38.07	146.81	37.45	140.55	37.13	137.14	37.60	131.94	37.04	118.61	34.84
	15.0	13.7	152.34	36.81	146.81	36.50	140.55	36.09	137.14	36.11	131.94	35.92	118.61	33.59
18.0	16.6	153.99	34.64	147.94	34.28	141.26	33.74	137.50	33.71	132.01	33.53	118.61	31.18	
21.0	19.5	154.89	32.26	148.34	31.77	141.26	31.24	137.50	31.19	132.01	30.95	118.61	28.93	
24.0	22.4	155.03	29.73	148.34	29.36	141.26	28.76	137.50	28.71	132.01	28.58	118.61	26.66	
27.0	25.3	155.03	27.36	148.34	26.94	141.26	26.34	137.50	26.39	132.01	26.20	118.61	24.44	
30.0	28.1	155.03	24.91	148.34	24.53	141.26	24.07	137.50	24.08	132.01	23.90	118.61	22.27	
120%	-30.0	-30.5	82.68	29.90	81.56	30.74	82.90	32.40	82.86	33.29	80.70	33.25	81.23	34.09
	-25.0	-25.4	84.37	29.90	83.23	30.74	84.59	32.40	84.55	33.26	82.35	33.25	82.88	34.12
	-19.8	-20.0	89.45	30.75	88.26	31.41	89.43	32.99	89.69	33.78	87.41	33.89	87.90	34.81
	-16.7	-17.0	91.54	31.63	90.32	31.98	91.54	33.97	91.80	34.90	89.46	34.85	90.32	35.26
	-13.7	-15.0	92.92	32.06	91.70	32.62	92.93	34.17	93.19	35.03	91.18	35.01	91.70	35.65
	-11.8	-13.0	94.30	32.47	93.07	32.97	94.48	34.52	94.59	35.50	92.54	35.48	93.10	36.05
	-9.8	-11.0	95.70	32.71	94.44	33.21	96.07	34.94	96.00	35.89	93.92	35.76	94.48	36.64
	-9.5	-10.0	96.39	33.13	95.13	33.48	96.77	35.22	96.70	36.03	94.61	36.11	95.17	37.11
	-8.5	-9.1	97.08	33.38	95.81	33.88	97.47	35.58	97.40	36.46	95.29	36.46	95.86	37.22
	-7.0	-7.6	98.13	34.05	96.85	34.43	98.52	35.97	98.45	36.94	96.32	36.81	96.90	37.57
	-5.0	-5.6	105.75	34.22	104.41	34.69	105.85	36.32	106.15	37.27	103.86	37.22	104.52	38.24
	-3.0	-3.7	107.14	34.85	105.78	35.26	107.25	36.89	107.55	37.78	104.89	37.68	105.90	38.40
	0.0	-0.7	109.22	35.36	107.83	35.82	109.35	37.16	109.66	38.10	107.29	37.94	107.97	38.67
	3.0	2.2	119.28	37.43	118.14	38.00	119.83	39.09	119.81	39.88	117.22	39.81	110.74	38.28
	5.0	4.1	150.13	41.91	139.78	41.08	132.06	41.16	127.17	40.46	119.62	39.08	110.74	37.12
	7.0	6.0	151.17	41.74	139.78	39.44	132.06	39.08	127.17	38.51	119.62	37.50	110.74	36.25
	9.0	7.9	151.17	39.93	139.78	37.68	132.06	37.96	127.17	37.21	119.62	36.39	110.74	35.10
	11.0	9.8	151.17	38.55	139.78	36.93	132.06	36.63	127.17	36.19	119.62	35.00	110.74	33.87
	13.0	11.8	151.17	37.58	139.78	35.94	132.06	35.65	127.17	35.55	119.62	34.37	110.74	33.24
	15.0	13.7	151.17	36.86	139.78	34.88	132.06	34.59	127.17	34.25	119.62	33.30	110.74	31.95
18.0	16.6	152.81	34.56	140.85	32.63	132.72	32.30	127.51	31.97	119.68	30.90	110.74	29.72	
21.0	19.5	153.71	32.25	141.23	30.36	132.72	30.00	127.51	29.61	119.68	28.67	110.74	27.50	
24.0	22.4	153.84	29.69	141.23	27.92	132.72	27.57	127.51	27.29	119.68	26.37	110.74	25.37	
27.0	25.3	153.84	27.32	141.23	25.64	132.72	25.37	127.51	25.01	119.68	24.24	110.74	23.32	
30.0	28.1	153.84	24.88	141.23	23.46	132.72	23.12	127.51	22.91	119.68	22.12	110.74	21.25	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.31:34HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	82.67	30.37	83.95	31.79	81.88	31.84	82.94	31.69	82.65	32.31	82.45	33.15
	-25.0	-25.4	84.35	30.46	85.67	31.82	83.55	31.87	84.64	31.73	84.33	32.34	84.14	33.12
	-19.8	-20.0	88.01	30.84	89.43	32.26	87.33	32.24	88.33	32.20	87.98	32.80	87.82	33.47
	-16.7	-17.0	90.06	31.81	91.54	33.10	89.38	33.13	90.41	32.77	90.41	33.53	89.90	34.08
	-13.7	-15.0	91.44	32.10	92.93	33.39	90.74	33.52	91.79	32.97	91.79	33.68	91.28	34.48
	-11.8	-13.0	92.80	32.57	94.32	33.87	92.46	33.89	93.18	33.41	93.18	34.01	92.66	34.81
	-9.8	-11.0	94.17	32.52	95.73	33.88	93.83	33.96	94.57	33.96	94.57	34.45	94.04	35.23
	-9.5	-10.0	94.85	32.90	96.77	34.27	94.52	34.35	95.26	34.14	95.26	34.92	94.74	35.58
	-8.5	-9.1	95.54	33.26	97.12	34.71	95.20	34.64	95.95	34.43	95.95	35.25	95.43	36.09
	-7.0	-7.6	96.57	33.59	98.18	35.01	96.23	35.07	96.99	34.87	96.99	35.69	96.46	36.19
	-5.0	-5.6	104.11	34.10	105.85	35.43	103.42	35.51	104.62	35.31	104.62	35.89	101.30	35.76
	-3.0	-3.7	105.47	34.32	107.25	35.79	104.79	35.65	106.00	35.51	106.00	36.29	101.30	35.12
	0.0	-0.7	107.52	35.07	109.35	36.63	107.19	36.56	108.07	35.83	108.07	36.69	101.30	34.69
	3.0	2.2	117.46	36.67	119.83	38.12	117.11	38.13	115.35	37.23	110.85	36.89	101.30	34.35
	5.0	4.1	136.98	40.03	130.31	40.74	118.82	37.29	115.35	36.64	110.85	35.96	101.30	34.19
	7.0	6.0	136.98	38.55	130.31	38.37	118.82	35.30	115.35	34.77	110.85	34.35	101.30	33.39
	9.0	7.9	136.98	36.76	130.31	36.35	118.82	34.08	115.35	34.00	110.85	33.54	101.30	32.76
	11.0	9.8	136.98	35.44	130.31	35.05	118.82	33.17	115.35	32.77	110.85	32.47	101.30	31.67
	13.0	11.8	136.98	34.47	130.31	33.89	118.82	32.04	115.35	31.73	110.85	31.43	101.30	30.62
	15.0	13.7	136.98	33.42	130.31	32.82	118.82	31.02	115.35	30.63	110.85	30.33	101.30	29.54
18.0	16.6	138.47	31.48	131.31	30.68	119.42	29.00	115.65	28.65	110.90	28.25	101.30	27.42	
21.0	19.5	139.28	29.27	131.66	28.57	119.42	26.88	115.65	26.45	110.90	26.14	101.30	25.47	
24.0	22.4	139.40	27.08	131.66	26.30	119.42	24.77	115.65	24.38	110.90	24.04	101.30	23.47	
27.0	25.3	139.40	24.79	131.66	24.15	119.42	22.73	115.65	22.43	110.90	22.06	101.30	21.47	
30.0	28.1	139.40	22.62	131.66	22.02	119.42	20.71	115.65	20.47	110.90	20.14	101.30	19.61	
100%	-30.0	-30.5	81.86	37.56	81.46	37.97	80.65	38.31	81.12	38.61	82.07	39.31	81.82	39.82
	-25.0	-25.4	83.53	37.64	83.12	37.97	82.29	38.31	82.77	38.49	83.74	39.19	83.49	39.82
	-19.8	-20.0	87.41	37.64	86.99	37.94	86.14	38.58	86.65	38.66	87.66	39.35	87.41	39.53
	-16.7	-17.0	90.12	37.70	89.69	38.08	89.17	38.64	89.36	38.76	90.41	39.50	90.15	38.98
	-13.7	-15.0	91.48	37.80	91.06	38.20	90.52	38.74	90.71	38.84	91.77	39.53	91.52	38.52
	-11.8	-13.0	92.84	37.81	92.41	38.21	91.87	38.82	92.06	38.81	93.14	39.54	91.52	38.14
	-9.8	-11.0	93.52	37.96	93.43	38.26	92.54	38.90	93.08	38.89	93.83	39.63	91.52	38.01
	-9.5	-10.0	94.19	38.01	93.76	38.22	93.21	38.92	93.43	38.90	94.52	39.57	91.52	37.69
	-8.5	-9.1	95.21	37.98	95.12	38.35	94.22	39.08	94.43	38.99	95.54	39.72	91.52	37.12
	-7.0	-7.6	102.66	38.06	102.23	38.36	101.63	39.87	101.88	40.36	99.65	38.86	91.52	36.98
	-5.0	-5.6	104.01	38.03	103.58	38.39	102.97	38.99	102.56	39.26	99.65	37.74	91.52	36.02
	-3.0	-3.7	106.05	38.15	105.60	38.44	104.99	37.70	102.56	37.03	99.65	36.50	91.52	34.82
	0.0	-0.7	108.75	38.20	114.75	38.42	106.00	36.63	102.56	35.31	99.65	34.75	91.52	33.24
	3.0	2.2	115.87	37.48	114.75	37.48	106.00	35.58	102.56	33.54	99.65	32.61	91.52	31.61
	5.0	4.1	122.98	36.87	114.75	35.61	106.00	33.85	102.56	32.09	99.65	31.29	91.52	30.26
	7.0	6.0	122.98	36.31	114.75	33.74	106.00	31.74	102.56	30.37	99.65	30.03	91.52	28.93
	9.0	7.9	122.98	34.30	114.75	32.03	106.00	30.82	102.56	29.63	99.65	29.19	91.52	28.00
	11.0	9.8	122.98	32.07	114.75	30.05	106.00	29.85	102.56	28.44	99.65	28.15	91.52	26.83
	13.0	11.8	122.98	30.05	114.75	29.34	106.00	28.67	102.56	27.42	99.65	27.15	91.52	25.88
	15.0	13.7	122.98	28.61	114.75	28.04	106.00	27.64	102.56	26.40	99.65	26.10	91.52	24.89
18.0	16.6	122.98	26.56	114.75	26.06	106.00	25.66	102.56	24.59	99.65	24.30	91.52	23.18	
21.0	19.5	122.98	24.62	114.75	24.15	106.00	23.81	102.56	22.81	99.65	22.55	91.52	21.40	
24.0	22.4	122.98	22.71	114.75	22.26	106.00	21.92	102.56	20.96	99.65	20.74	91.52	19.78	
27.0	25.3	122.98	20.82	114.75	20.46	106.00	20.11	102.56	19.29	99.65	19.03	91.52	18.13	
30.0	28.1	122.98	18.99	114.75	18.69	106.00	18.35	102.56	17.58	99.65	17.39	91.52	16.52	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...



Table2-8.31:34HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	83.13	38.50	82.44	38.72	81.46	38.73	82.18	39.66	82.25	39.91	82.32	37.81
	-25.0	-25.4	84.83	38.50	84.12	38.64	83.13	38.85	83.85	39.70	83.93	39.84	84.00	37.70
	-19.8	-20.0	88.42	39.04	87.82	39.37	86.73	39.37	87.56	40.11	87.64	40.26	84.00	37.02
	-16.7	-17.0	90.49	39.25	89.90	39.47	89.13	39.46	89.63	40.20	89.72	39.41	84.00	35.78
	-13.7	-15.0	91.88	39.18	91.28	39.48	90.49	39.63	91.01	40.21	90.76	38.53	84.00	35.07
	-11.8	-13.0	93.27	39.31	92.66	39.53	91.86	39.64	92.40	39.74	90.76	37.74	84.00	34.47
	-9.8	-11.0	94.66	39.32	94.39	39.73	93.23	39.64	94.12	38.85	90.76	37.10	84.00	33.84
	-9.5	-10.0	95.35	39.45	95.08	39.62	93.92	39.69	94.48	38.53	90.76	36.65	84.00	33.51
	-8.5	-9.1	96.04	39.41	95.43	39.79	94.61	39.68	94.48	38.16	90.76	36.43	84.00	33.15
	-7.0	-7.6	97.08	39.46	96.81	39.26	95.63	39.16	94.48	37.72	90.76	35.88	84.00	32.72
	-5.0	-5.6	104.72	39.64	104.07	37.45	97.34	37.53	94.48	36.41	90.76	34.79	84.00	31.74
	-3.0	-3.7	106.10	39.70	105.45	35.83	97.34	35.55	94.48	35.00	90.76	33.65	84.00	30.90
	0.0	-0.7	108.17	39.67	105.45	34.00	97.34	34.14	94.48	33.36	90.76	31.97	84.00	30.13
	3.0	2.2	113.38	39.77	105.45	32.24	97.34	32.21	94.48	32.09	90.76	30.54	84.00	29.17
	5.0	4.1	113.38	38.72	105.45	30.65	97.34	30.74	94.48	30.47	90.76	29.09	84.00	27.93
	7.0	6.0	113.38	33.74	105.45	30.12	97.34	28.67	94.48	27.86	90.76	26.80	84.00	24.89
	9.0	7.9	113.38	31.64	105.45	29.51	97.34	27.26	94.48	26.57	90.76	25.62	84.00	23.94
	11.0	9.8	113.38	29.79	105.45	27.90	97.34	25.96	94.48	25.38	90.76	24.56	84.00	23.05
	13.0	11.8	113.38	28.18	105.45	26.52	97.34	24.81	94.48	24.27	90.76	23.61	84.00	22.31
	15.0	13.7	113.38	27.00	105.45	25.59	97.34	23.95	94.48	23.54	90.76	22.96	84.00	21.81
18.0	16.6	113.38	25.14	105.45	23.78	97.34	22.28	94.48	21.90	90.76	21.36	84.00	20.25	
21.0	19.5	113.38	23.28	105.45	22.00	97.34	20.69	94.48	20.30	90.76	19.72	84.00	18.80	
24.0	22.4	113.38	21.46	105.45	20.28	97.34	19.07	94.48	18.73	90.76	18.17	84.00	17.31	
27.0	25.3	113.38	19.69	105.45	18.64	97.34	17.46	94.48	17.16	90.76	16.67	84.00	15.85	
30.0	28.1	113.38	17.94	105.45	17.01	97.34	15.94	94.48	15.64	90.76	15.25	84.00	14.49	
80%	-30.0	-30.5	83.01	40.72	81.64	40.76	83.93	40.52	83.01	38.45	79.09	36.42	72.31	33.11
	-25.0	-25.4	84.70	40.76	83.31	40.68	85.64	40.44	84.70	38.52	80.71	36.52	73.79	33.04
	-19.8	-20.0	88.07	39.31	86.64	39.14	88.29	38.76	84.70	36.94	80.71	34.77	73.79	31.39
	-16.7	-17.0	90.15	39.41	88.69	39.24	88.29	37.52	84.70	35.82	80.71	33.77	73.79	30.42
	-13.7	-15.0	91.54	39.42	90.06	39.32	88.29	36.84	84.70	35.04	80.71	33.06	73.79	29.87
	-11.8	-13.0	92.92	39.55	91.44	38.56	88.29	36.02	84.70	34.44	80.71	32.47	73.79	29.31
	-9.8	-11.0	94.30	39.55	92.80	37.81	88.29	35.37	84.70	33.69	80.71	31.86	73.79	28.84
	-9.5	-10.0	95.01	39.52	92.80	37.49	88.29	35.05	84.70	33.36	80.71	31.58	73.79	28.51
	-8.5	-9.1	95.70	39.57	92.80	37.09	88.29	34.77	84.70	33.18	80.71	31.30	73.79	28.24
	-7.0	-7.6	96.73	39.69	92.80	36.58	88.29	34.24	84.70	32.76	80.71	30.89	73.79	27.93
	-5.0	-5.6	100.89	38.83	92.80	35.42	88.29	33.26	84.70	31.64	80.71	30.00	73.79	27.11
	-3.0	-3.7	100.89	40.24	92.80	34.04	88.29	31.79	84.70	30.44	80.71	28.88	73.79	26.37
	0.0	-0.7	100.89	39.70	92.80	32.52	88.29	30.71	84.70	29.64	80.71	28.02	73.79	25.74
	3.0	2.2	100.89	36.69	92.80	30.69	88.29	28.98	84.70	28.50	80.71	26.93	73.79	24.74
	5.0	4.1	100.89	33.54	92.80	29.00	88.29	27.64	84.70	27.37	80.71	25.71	73.79	24.21
	7.0	6.0	100.89	29.48	92.80	27.17	88.29	25.78	84.70	24.81	80.71	23.58	73.79	21.75
	9.0	7.9	100.89	27.88	92.80	25.84	88.29	24.72	84.70	23.83	80.71	22.72	73.79	21.08
	11.0	9.8	100.89	26.47	92.80	24.69	88.29	23.76	84.70	22.99	80.71	21.98	73.79	20.59
	13.0	11.8	100.89	25.31	92.80	23.67	88.29	22.90	84.70	22.24	80.71	21.38	73.79	20.02
	15.0	13.7	100.89	24.46	92.80	22.89	88.29	22.31	84.70	21.69	80.71	20.89	73.79	19.70
18.0	16.6	100.89	22.73	92.80	21.30	88.29	20.75	84.70	20.17	80.71	19.40	73.79	18.32	
21.0	19.5	100.89	21.02	92.80	19.76	88.29	19.24	84.70	18.72	80.71	18.01	73.79	17.02	
24.0	22.4	100.89	19.41	92.80	18.23	88.29	17.69	84.70	17.22	80.71	16.55	73.79	15.65	
27.0	25.3	100.89	17.76	92.80	16.69	88.29	16.23	84.70	15.84	80.71	15.20	73.79	14.35	
30.0	28.1	100.89	16.25	92.80	15.24	88.29	14.84	84.70	14.47	80.71	13.87	73.79	13.11	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.31:34HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
70%	-30.0	-30.5	85.55	41.19	81.37	38.58	75.80	37.92	71.35	36.51	68.60	35.96	63.54	35.04
	-25.0	-25.4	87.29	41.23	83.03	38.51	77.35	37.88	72.81	36.41	70.00	35.92	64.84	35.01
	-19.8	-20.0	87.29	39.31	83.03	36.54	77.35	35.70	72.81	34.44	70.00	33.86	64.84	32.90
	-16.7	-17.0	87.98	38.05	83.03	35.48	77.35	34.78	72.81	33.37	70.00	32.89	64.84	31.87
	-13.7	-15.0	87.98	37.29	83.03	34.77	77.35	34.08	72.81	32.75	70.00	32.24	64.84	31.25
	-11.8	-13.0	87.98	36.57	83.03	34.11	77.35	33.48	72.81	32.16	70.00	31.71	64.84	30.65
	-9.8	-11.0	87.98	35.84	83.03	33.38	77.35	32.90	72.81	31.65	70.00	31.16	64.84	30.08
	-9.5	-10.0	87.98	35.48	83.03	33.07	77.35	32.10	72.81	30.80	70.00	30.32	64.84	29.31
	-8.5	-9.1	87.98	35.21	83.03	32.80	77.35	30.99	72.81	29.72	70.00	29.21	64.84	28.25
	-7.0	-7.6	87.98	34.64	83.03	32.33	77.35	29.66	72.81	28.45	70.00	27.92	64.84	26.86
	-5.0	-5.6	87.98	33.64	83.03	31.36	77.35	28.90	72.81	27.64	70.00	27.14	64.84	26.12
	-3.0	-3.7	87.98	31.83	83.03	30.44	77.35	27.98	72.81	26.76	70.00	26.34	64.84	25.25
	0.0	-0.7	87.98	30.08	83.03	29.08	77.35	26.78	72.81	25.62	70.00	25.12	64.84	24.02
	3.0	2.2	87.98	28.41	83.03	27.57	77.35	25.18	72.81	24.06	70.00	23.54	64.84	22.41
	5.0	4.1	87.98	27.09	83.03	25.79	77.35	24.20	72.81	23.13	70.00	22.59	64.84	21.47
	7.0	6.0	87.98	26.08	83.03	24.71	77.35	22.95	72.81	21.89	70.00	21.42	64.84	20.35
	9.0	7.9	87.98	24.99	83.03	23.70	77.35	22.22	72.81	21.11	70.00	20.62	64.84	19.52
	11.0	9.8	87.98	23.99	83.03	22.92	77.35	21.33	72.81	20.25	70.00	19.78	64.84	18.61
	13.0	11.8	87.98	23.06	83.03	21.96	77.35	20.30	72.81	19.23	70.00	18.73	64.84	17.61
	15.0	13.7	87.98	22.20	83.03	21.02	77.35	19.55	72.81	18.46	70.00	17.96	64.84	16.80
18.0	16.6	87.98	20.65	83.03	19.52	77.35	18.15	72.81	17.19	70.00	16.76	64.84	15.66	
21.0	19.5	87.98	19.16	83.03	18.10	77.35	16.82	72.81	15.90	70.00	15.50	64.84	14.47	
24.0	22.4	87.98	17.62	83.03	16.67	77.35	15.47	72.81	14.66	70.00	14.27	64.84	13.35	
27.0	25.3	87.98	16.21	83.03	15.29	77.35	14.22	72.81	13.42	70.00	13.09	64.84	12.23	
30.0	28.1	87.98	14.78	83.03	13.98	77.35	12.98	72.81	12.29	70.00	11.98	64.84	11.18	
60%	-30.0	-30.5	73.16	37.91	69.19	36.23	63.49	34.24	62.37	34.23	59.74	32.86	54.83	31.00
	-25.0	-25.4	74.66	37.91	70.60	36.34	64.78	34.28	63.64	34.23	60.96	32.86	55.95	31.03
	-19.8	-20.0	74.66	35.90	70.60	34.59	64.78	32.92	63.64	32.71	60.96	31.22	55.95	29.40
	-16.7	-17.0	74.66	33.98	70.60	32.34	64.78	30.78	63.64	30.42	60.96	28.88	55.95	27.24
	-13.7	-15.0	74.66	32.77	70.60	31.38	64.78	29.85	63.64	29.19	60.96	27.84	55.95	26.11
	-11.8	-13.0	74.66	31.55	70.60	30.21	64.78	28.75	63.64	28.27	60.96	26.66	55.95	24.96
	-9.8	-11.0	74.66	30.56	70.60	29.18	64.78	27.35	63.64	26.96	60.96	25.47	55.95	24.00
	-9.5	-10.0	74.66	29.50	70.60	28.01	64.78	26.18	63.64	25.75	60.96	24.40	55.95	22.76
	-8.5	-9.1	74.66	28.27	70.60	27.00	64.78	25.16	63.64	24.70	60.96	23.20	55.95	21.44
	-7.0	-7.6	74.66	27.22	70.60	25.79	64.78	24.28	63.64	23.89	60.96	22.35	55.95	20.52
	-5.0	-5.6	74.66	26.16	70.60	24.85	64.78	23.00	63.64	22.86	60.96	21.48	55.95	19.52
	-3.0	-3.7	74.66	25.31	70.60	23.88	64.78	22.03	63.64	21.98	60.96	20.46	55.95	18.80
	0.0	-0.7	74.66	24.31	70.60	22.89	64.78	21.03	63.64	20.89	60.96	19.45	55.95	18.44
	3.0	2.2	74.66	23.20	70.60	21.86	64.78	20.19	63.64	20.07	60.96	18.49	55.95	17.80
	5.0	4.1	74.66	22.02	70.60	20.86	64.78	19.47	63.64	19.12	60.96	18.09	55.95	17.45
	7.0	6.0	74.66	20.97	70.60	20.00	64.78	18.56	63.64	18.39	60.96	17.95	55.95	17.09
	9.0	7.9	74.66	20.58	70.60	19.57	64.78	18.29	63.64	17.94	60.96	17.18	55.95	16.34
	11.0	9.8	74.66	20.33	70.60	19.29	64.78	17.80	63.64	17.48	60.96	16.87	55.95	16.02
	13.0	11.8	74.66	19.69	70.60	18.60	64.78	17.27	63.64	17.14	60.96	16.52	55.95	15.68
	15.0	13.7	74.66	19.42	70.60	18.27	64.78	16.71	63.64	16.71	60.96	16.10	55.95	15.21
18.0	16.6	74.66	18.08	70.60	17.00	64.78	15.59	63.64	15.54	60.96	14.97	55.95	14.16	
21.0	19.5	74.66	16.77	70.60	15.73	64.78	14.39	63.64	14.40	60.96	13.84	55.95	13.11	
24.0	22.4	74.66	15.43	70.60	14.49	64.78	13.28	63.64	13.28	60.96	12.75	55.95	12.07	
27.0	25.3	74.66	14.17	70.60	13.30	64.78	12.18	63.64	12.16	60.96	11.71	55.95	11.09	
30.0	28.1	74.66	12.95	70.60	12.13	64.78	11.14	63.64	11.13	60.96	10.67	55.95	10.13	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.31:34HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	61.25	31.50	57.60	29.97	54.04	28.89	50.67	27.71	48.85	27.12	44.68	25.17
	-25.0	-25.4	62.50	31.57	58.77	29.97	55.14	28.91	51.71	27.68	49.85	27.14	45.59	25.14
	-19.8	-20.0	62.50	29.89	58.77	28.68	55.14	27.84	51.71	26.50	49.85	25.87	45.59	23.84
	-16.7	-17.0	62.50	28.16	58.77	26.75	55.14	26.01	51.71	24.64	49.85	23.96	45.59	22.07
	-13.7	-15.0	62.50	27.24	58.77	25.97	55.14	25.17	51.71	23.68	49.85	23.02	45.59	21.19
	-11.8	-13.0	62.50	26.20	58.77	25.04	55.14	24.25	51.71	22.85	49.85	22.06	45.59	20.21
	-9.8	-11.0	62.50	25.43	58.77	24.11	55.14	23.09	51.71	21.84	49.85	21.17	45.59	19.50
	-9.5	-10.0	62.50	24.52	58.77	23.16	55.14	22.12	51.71	20.91	49.85	20.24	45.59	18.40
	-8.5	-9.1	62.50	23.45	58.77	22.29	55.14	21.16	51.71	20.03	49.85	19.33	45.59	17.41
	-7.0	-7.6	62.50	22.56	58.77	21.36	55.14	20.48	51.71	19.34	49.85	18.61	45.59	16.62
	-5.0	-5.6	62.50	21.75	58.77	20.58	55.14	19.46	51.71	18.52	49.85	17.86	45.59	15.84
	-3.0	-3.7	62.50	20.99	58.77	19.77	55.14	18.57	51.71	17.76	49.85	17.07	45.59	15.25
	0.0	-0.7	62.50	20.12	58.77	18.95	55.14	17.73	51.71	16.96	49.85	16.30	45.59	15.00
	3.0	2.2	62.50	19.20	58.77	18.06	55.14	17.07	51.71	16.21	49.85	15.47	45.59	14.91
	5.0	4.1	62.50	18.26	58.77	17.30	55.14	16.45	51.71	15.49	49.85	15.13	45.59	14.75
	7.0	6.0	62.50	17.43	58.77	16.55	55.14	15.68	51.71	14.87	49.85	14.91	45.59	14.34
	9.0	7.9	62.50	17.13	58.77	16.19	55.14	15.41	51.71	14.52	49.85	14.26	45.59	13.87
	11.0	9.8	62.50	16.85	58.77	15.97	55.14	15.04	51.71	14.16	49.85	14.01	45.59	13.62
	13.0	11.8	62.50	16.33	58.77	15.38	55.14	14.54	51.71	13.90	49.85	13.72	45.59	13.34
15.0	13.7	62.50	16.12	58.77	15.08	55.14	14.11	51.71	13.55	49.85	13.32	45.59	12.97	
18.0	16.6	62.50	15.00	58.77	14.07	55.14	13.14	51.71	12.58	49.85	12.42	45.59	12.08	
21.0	19.5	62.50	13.93	58.77	12.99	55.14	12.18	51.71	11.65	49.85	11.50	45.59	11.15	
24.0	22.4	62.50	12.82	58.77	12.01	55.14	11.19	51.71	10.76	49.85	10.56	45.59	10.28	
27.0	25.3	62.50	11.78	58.77	10.99	55.14	10.27	51.71	9.88	49.85	9.70	45.59	9.43	
30.0	28.1	62.50	10.76	58.77	10.05	55.14	9.39	51.71	9.02	49.85	8.86	45.59	8.63	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.32:36HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	87.56	29.22	87.70	29.86	86.12	31.12	86.57	32.31	84.86	32.55	85.01	33.36
	-25.0	-25.4	89.34	29.19	89.49	29.86	87.88	31.09	88.33	32.25	86.59	32.52	86.75	33.32
	-19.8	-20.0	93.91	29.90	94.08	30.75	93.99	32.36	94.42	33.59	92.64	33.86	92.99	34.56
	-16.7	-17.0	96.09	30.84	96.27	31.73	96.18	33.04	97.01	34.23	94.81	34.43	95.18	35.30
	-13.7	-15.0	97.54	31.23	97.73	32.19	97.65	33.63	98.48	34.78	96.26	35.07	96.64	35.72
	-11.8	-13.0	98.99	31.74	99.19	32.71	99.11	34.32	99.96	35.40	97.71	35.67	98.46	36.26
	-9.8	-11.0	100.43	32.15	100.65	33.26	100.56	34.58	101.42	35.87	99.51	36.02	99.92	36.37
	-9.5	-10.0	101.15	32.73	101.37	33.66	101.66	35.21	102.16	36.30	100.23	36.51	100.65	36.86
	-8.5	-9.1	101.88	33.16	102.10	34.06	102.02	35.60	102.90	36.77	100.96	36.96	101.37	37.35
	-7.0	-7.6	102.97	33.15	103.19	34.62	103.49	35.86	104.01	37.02	102.05	37.37	102.46	37.80
	-5.0	-5.6	110.95	34.63	111.22	35.55	111.18	36.94	112.13	38.47	109.64	37.69	110.13	38.20
	-3.0	-3.7	112.40	35.44	112.68	36.09	112.64	37.55	113.60	39.08	111.09	38.22	111.59	38.78
	0.0	-0.7	114.58	36.43	114.86	36.52	114.83	38.03	115.82	39.47	113.26	38.69	114.13	39.09
	3.0	2.2	126.58	38.64	125.81	38.87	125.79	40.08	126.51	41.18	124.12	40.72	124.71	41.42
	5.0	4.1	157.36	46.55	151.92	46.32	149.94	46.35	145.32	45.23	136.79	43.77	126.54	42.20
	7.0	6.0	159.89	46.97	154.83	45.02	149.94	44.08	145.32	43.32	136.79	42.08	126.54	40.75
	9.0	7.9	159.89	44.62	154.83	42.87	149.94	42.74	145.32	42.45	136.79	40.93	126.54	39.90
	11.0	9.8	159.89	42.55	154.83	41.19	149.94	41.28	145.32	41.02	136.79	39.80	126.54	38.40
	13.0	11.8	159.89	40.44	154.83	39.94	149.94	40.06	145.32	40.29	136.79	38.85	126.54	37.70
	15.0	13.7	159.89	39.25	154.83	39.11	149.94	38.90	145.32	38.81	136.79	37.74	126.54	36.27
18.0	16.6	161.63	36.87	156.02	36.66	150.69	36.44	145.70	36.13	136.86	35.13	126.54	33.71	
21.0	19.5	162.57	34.37	156.44	33.97	150.69	33.70	145.70	33.45	136.86	32.49	126.54	31.24	
24.0	22.4	162.71	31.64	156.44	31.37	150.69	31.03	145.70	30.86	136.86	30.01	126.54	28.77	
27.0	25.3	162.71	29.06	156.44	28.78	150.69	28.50	145.70	28.31	136.86	27.56	126.54	26.44	
30.0	28.1	162.71	26.51	156.44	26.28	150.69	26.08	145.70	25.83	136.86	25.12	126.54	24.08	
120%	-30.0	-30.5	87.19	31.94	86.18	32.93	87.02	34.35	85.90	34.95	86.34	36.08	86.73	36.92
	-25.0	-25.4	88.97	32.01	87.94	32.87	88.79	34.45	87.66	34.91	88.10	36.01	88.50	36.85
	-19.8	-20.0	94.34	32.85	93.26	33.66	93.87	35.04	92.98	35.46	93.51	36.67	93.85	37.67
	-16.7	-17.0	96.54	33.79	95.43	34.17	96.08	36.16	95.17	36.53	95.71	37.75	96.44	38.19
	-13.7	-15.0	98.00	34.19	96.89	34.92	97.54	36.23	96.62	36.77	97.54	37.89	97.91	38.61
	-11.8	-13.0	99.46	34.73	98.34	35.29	99.17	36.74	98.07	37.23	99.01	38.36	99.40	39.00
	-9.8	-11.0	100.93	34.99	99.79	35.58	100.84	37.15	99.53	37.64	100.48	38.81	100.87	39.69
	-9.5	-10.0	101.66	35.32	100.51	35.73	101.58	37.48	100.25	37.86	101.22	39.11	101.61	40.23
	-8.5	-9.1	102.39	35.66	101.24	36.23	102.31	37.90	100.98	38.31	101.95	39.53	102.35	40.19
	-7.0	-7.6	103.49	36.30	102.33	36.96	103.41	38.21	102.07	38.78	103.05	39.87	103.46	40.77
	-5.0	-5.6	111.52	36.56	110.32	37.24	111.11	38.61	110.06	39.05	111.11	40.31	111.59	41.37
	-3.0	-3.7	113.00	37.23	111.77	37.82	112.57	39.23	111.50	39.55	112.22	40.81	113.07	41.63
	0.0	-0.7	115.18	37.67	113.94	38.30	114.78	39.44	113.69	39.88	114.78	41.09	115.28	41.88
	3.0	2.2	125.79	39.99	124.83	40.80	125.78	41.57	124.22	41.99	125.41	43.20	118.24	41.54
	5.0	4.1	158.33	44.91	147.70	44.06	138.62	43.85	131.85	42.51	127.98	42.50	118.24	40.20
	7.0	6.0	159.43	44.56	147.70	42.18	138.62	41.51	131.85	40.51	127.98	40.54	118.24	39.26
	9.0	7.9	159.43	42.66	147.70	40.37	138.62	40.28	131.85	39.18	127.98	39.50	118.24	38.09
	11.0	9.8	159.43	41.19	147.70	39.49	138.62	38.87	131.85	37.92	127.98	37.95	118.24	36.58
	13.0	11.8	159.43	40.27	147.70	38.47	138.62	37.90	131.85	37.43	127.98	37.27	118.24	35.93
	15.0	13.7	159.43	39.27	147.70	37.38	138.62	36.81	131.85	35.99	127.98	36.10	118.24	34.61
18.0	16.6	161.16	36.96	148.83	34.97	139.31	34.38	132.19	33.53	128.04	33.54	118.24	32.19	
21.0	19.5	162.10	34.39	149.23	32.49	139.31	31.80	132.19	31.11	128.04	31.08	118.24	29.84	
24.0	22.4	162.24	31.78	149.23	29.89	139.31	29.37	132.19	28.70	128.04	28.65	118.24	27.45	
27.0	25.3	162.24	29.13	149.23	27.48	139.31	26.89	132.19	26.25	128.04	26.23	118.24	25.18	
30.0	28.1	162.24	26.66	149.23	25.09	139.31	24.58	132.19	23.98	128.04	24.03	118.24	22.97	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.32:36HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	87.92	41.14	88.03	41.89	87.24	42.16	86.00	42.12	87.66	43.10	87.15	40.47
	-25.0	-25.4	89.72	41.14	89.82	41.85	89.02	42.08	87.76	42.12	89.45	42.98	88.93	40.55
	-19.8	-20.0	93.51	41.84	93.76	42.64	92.87	42.85	91.64	42.44	93.40	43.56	88.93	39.59
	-16.7	-17.0	95.71	41.97	95.98	42.67	95.44	42.82	93.80	42.62	95.61	42.56	88.93	38.41
	-13.7	-15.0	97.17	42.11	97.46	42.84	96.91	43.01	95.25	42.54	96.72	41.73	88.93	37.65
	-11.8	-13.0	98.65	42.20	98.93	42.82	98.37	43.03	96.71	42.08	96.72	40.79	88.93	36.97
	-9.8	-11.0	100.11	42.22	100.78	42.91	99.83	43.02	98.51	41.27	96.72	40.11	88.93	36.30
	-9.5	-10.0	100.84	42.31	101.51	42.87	100.58	43.16	98.87	40.76	96.72	39.70	88.93	35.94
	-8.5	-9.1	101.58	42.23	101.89	43.01	101.31	43.11	98.87	40.53	96.72	39.23	88.93	35.53
	-7.0	-7.6	102.68	42.36	103.36	42.44	102.40	42.46	98.87	39.87	96.72	38.67	88.93	35.02
	-5.0	-5.6	110.75	42.39	111.11	40.64	104.24	40.69	98.87	38.56	96.72	37.47	88.93	34.01
	-3.0	-3.7	112.22	42.50	112.59	38.73	104.24	38.66	98.87	37.21	96.72	36.34	88.93	33.24
	0.0	-0.7	114.41	42.59	112.59	36.79	104.24	37.01	98.87	35.36	96.72	34.56	88.93	32.31
	3.0	2.2	119.92	42.66	112.59	34.91	104.24	34.89	98.87	33.98	96.72	32.98	88.93	31.19
	5.0	4.1	119.92	41.49	112.59	33.23	104.24	33.33	98.87	32.27	96.72	31.41	88.93	29.98
	7.0	6.0	119.92	36.05	112.59	32.56	104.24	31.21	98.87	29.53	96.72	28.94	88.93	26.67
	9.0	7.9	119.92	33.84	112.59	31.96	104.24	29.56	98.87	28.11	96.72	27.66	88.93	25.66
	11.0	9.8	119.92	31.89	112.59	30.22	104.24	28.23	98.87	26.85	96.72	26.47	88.93	24.72
	13.0	11.8	119.92	30.16	112.59	28.70	104.24	26.90	98.87	25.73	96.72	25.45	88.93	23.97
	15.0	13.7	119.92	28.94	112.59	27.69	104.24	26.04	98.87	24.98	96.72	24.79	88.93	23.37
	18.0	16.6	119.92	26.86	112.59	25.73	104.24	24.23	98.87	23.24	96.72	22.99	88.93	21.78
21.0	19.5	119.92	24.95	112.59	23.81	104.24	22.39	98.87	21.47	96.72	21.35	88.93	20.11	
24.0	22.4	119.92	22.97	112.59	21.96	104.24	20.69	98.87	19.79	96.72	19.62	88.93	18.57	
27.0	25.3	119.92	21.05	112.59	20.13	104.24	18.99	98.87	18.16	96.72	18.06	88.93	17.03	
30.0	28.1	119.92	19.26	112.59	18.40	104.24	17.29	98.87	16.63	96.72	16.46	88.93	15.57	
80%	-30.0	-30.5	86.71	43.20	86.52	43.81	86.76	42.37	86.06	40.36	82.86	38.68	75.68	35.06
	-25.0	-25.4	88.48	43.20	88.28	43.77	88.53	42.29	87.81	40.48	84.55	38.75	77.22	34.99
	-19.8	-20.0	91.99	41.55	91.81	42.11	91.27	40.53	87.81	38.74	84.55	37.00	77.22	33.30
	-16.7	-17.0	94.17	41.61	93.98	42.09	91.27	39.27	87.81	37.61	84.55	35.76	77.22	32.34
	-13.7	-15.0	95.62	41.75	95.43	42.26	91.27	38.52	87.81	36.79	84.55	35.11	77.22	31.75
	-11.8	-13.0	97.06	41.72	96.89	41.40	91.27	37.73	87.81	36.16	84.55	34.45	77.22	31.07
	-9.8	-11.0	98.51	41.88	98.34	40.52	91.27	37.02	87.81	35.44	84.55	33.84	77.22	30.49
	-9.5	-10.0	99.24	41.89	98.34	40.17	91.27	36.62	87.81	35.13	84.55	33.48	77.22	30.22
	-8.5	-9.1	99.96	41.91	98.34	39.86	91.27	36.43	87.81	34.83	84.55	33.15	77.22	29.97
	-7.0	-7.6	101.04	41.95	98.34	39.20	91.27	35.90	87.81	34.32	84.55	32.68	77.22	29.55
	-5.0	-5.6	105.39	41.16	98.34	37.92	91.27	34.78	87.81	33.31	84.55	31.84	77.22	28.80
	-3.0	-3.7	105.39	42.62	98.34	36.65	91.27	33.34	87.81	31.96	84.55	30.58	77.22	27.90
	0.0	-0.7	105.39	42.08	98.34	34.85	91.27	32.14	87.81	31.05	84.55	29.73	77.22	27.32
	3.0	2.2	105.39	38.85	98.34	32.96	91.27	30.36	87.81	29.92	84.55	28.63	77.22	26.25
	5.0	4.1	105.39	35.55	98.34	31.11	91.27	28.87	87.81	28.76	84.55	27.28	77.22	25.66
	7.0	6.0	105.39	31.10	98.34	29.15	91.27	26.98	87.81	26.00	84.55	25.02	77.22	23.04
	9.0	7.9	105.39	29.53	98.34	27.74	91.27	25.90	87.81	25.05	84.55	24.09	77.22	22.41
	11.0	9.8	105.39	28.06	98.34	26.44	91.27	24.90	87.81	24.16	84.55	23.35	77.22	21.82
	13.0	11.8	105.39	26.78	98.34	25.39	91.27	23.97	87.81	23.32	84.55	22.67	77.22	21.29
	15.0	13.7	105.39	25.82	98.34	24.63	91.27	23.33	87.81	22.79	84.55	22.17	77.22	20.94
	18.0	16.6	105.39	24.02	98.34	22.93	91.27	21.70	87.81	21.24	84.55	20.62	77.22	19.46
21.0	19.5	105.39	22.26	98.34	21.24	91.27	20.14	87.81	19.61	84.55	19.06	77.22	18.04	
24.0	22.4	105.39	20.54	98.34	19.55	91.27	18.50	87.81	18.07	84.55	17.62	77.22	16.61	
27.0	25.3	105.39	18.84	98.34	17.90	91.27	16.98	87.81	16.58	84.55	16.13	77.22	15.24	
30.0	28.1	105.39	17.18	98.34	16.40	91.27	15.55	87.81	15.14	84.55	14.73	77.22	13.89	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

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Table continued on next page ...

Table 2-8.32: 36HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	-30.0	-30.5	90.56	44.27	86.06	41.38	78.51	39.77	76.84	39.74	73.32	38.99	67.72	37.81
	-25.0	-25.4	92.41	44.27	87.81	41.34	80.11	39.77	78.41	39.82	74.81	38.91	69.10	37.84
	-19.8	-20.0	92.41	42.12	87.81	39.20	80.11	37.48	78.41	37.56	74.81	36.71	69.10	35.59
	-16.7	-17.0	93.14	40.77	87.81	37.91	80.11	36.44	78.41	36.53	74.81	35.62	69.10	34.52
	-13.7	-15.0	93.14	40.04	87.81	37.26	80.11	35.82	78.41	35.79	74.81	34.95	69.10	33.74
	-11.8	-13.0	93.14	39.15	87.81	36.55	80.11	35.14	78.41	35.14	74.81	34.35	69.10	33.20
	-9.8	-11.0	93.14	38.48	87.81	35.83	80.11	34.57	78.41	34.48	74.81	33.75	69.10	32.51
	-9.5	-10.0	93.14	38.02	87.81	35.43	80.11	33.70	78.41	33.55	74.81	32.87	69.10	31.56
	-8.5	-9.1	93.14	37.69	87.81	35.15	80.11	32.50	78.41	32.51	74.81	31.74	69.10	30.51
	-7.0	-7.6	93.14	37.19	87.81	34.65	80.11	31.10	78.41	31.06	74.81	30.30	69.10	29.04
	-5.0	-5.6	93.14	36.12	87.81	33.60	80.11	30.25	78.41	30.11	74.81	29.36	69.10	28.13
	-3.0	-3.7	93.14	34.10	87.81	32.65	80.11	29.37	78.41	29.21	74.81	28.50	69.10	27.30
	0.0	-0.7	93.14	32.33	87.81	31.23	80.11	28.09	78.41	27.99	74.81	27.26	69.10	26.01
	3.0	2.2	93.14	30.50	87.81	29.52	80.11	26.38	78.41	26.18	74.81	25.49	69.10	24.25
	5.0	4.1	93.14	29.05	87.81	27.58	80.11	25.41	78.41	25.25	74.81	24.47	69.10	23.23
	7.0	6.0	93.14	27.95	87.81	26.47	80.11	24.11	78.41	23.97	74.81	23.23	69.10	21.94
	9.0	7.9	93.14	26.77	87.81	25.45	80.11	23.32	78.41	23.09	74.81	22.38	69.10	21.07
	11.0	9.8	93.14	25.68	87.81	24.54	80.11	22.39	78.41	22.08	74.81	21.45	69.10	20.12
	13.0	11.8	93.14	24.76	87.81	23.55	80.11	21.27	78.41	20.97	74.81	20.29	69.10	19.04
	15.0	13.7	93.14	23.83	87.81	22.48	80.11	20.44	78.41	20.15	74.81	19.51	69.10	18.16
18.0	16.6	93.14	22.15	87.81	20.91	80.11	19.03	78.41	18.73	74.81	18.13	69.10	16.87	
21.0	19.5	93.14	20.53	87.81	19.36	80.11	17.64	78.41	17.38	74.81	16.76	69.10	15.62	
24.0	22.4	93.14	18.92	87.81	17.85	80.11	16.27	78.41	16.02	74.81	15.47	69.10	14.40	
27.0	25.3	93.14	17.39	87.81	16.40	80.11	14.92	78.41	14.65	74.81	14.21	69.10	13.22	
30.0	28.1	93.14	15.87	87.81	14.97	80.11	13.59	78.41	13.38	74.81	12.98	69.10	12.08	
60%	-30.0	-30.5	77.38	40.67	72.41	38.52	67.86	37.05	65.22	36.22	62.35	34.70	57.88	33.18
	-25.0	-25.4	78.96	40.63	73.89	38.44	69.24	37.16	66.55	36.18	63.62	34.70	59.06	33.21
	-19.8	-20.0	78.96	38.51	73.89	36.67	69.24	35.72	66.55	34.58	63.62	33.10	59.06	31.47
	-16.7	-17.0	78.96	36.30	73.89	34.31	69.24	33.34	66.55	32.19	63.62	30.53	59.06	29.19
	-13.7	-15.0	78.96	35.08	73.89	33.33	69.24	32.30	66.55	30.92	63.62	29.37	59.06	27.98
	-11.8	-13.0	78.96	33.84	73.89	32.12	69.24	31.08	66.55	29.92	63.62	28.18	59.06	26.67
	-9.8	-11.0	78.96	32.75	73.89	30.93	69.24	29.65	66.55	28.55	63.62	26.95	59.06	25.74
	-9.5	-10.0	78.96	31.64	73.89	29.63	69.24	28.35	66.55	27.28	63.62	25.79	59.06	24.34
	-8.5	-9.1	78.96	30.29	73.89	28.62	69.24	27.22	66.55	26.11	63.62	24.59	59.06	22.91
	-7.0	-7.6	78.96	29.11	73.89	27.31	69.24	26.28	66.55	25.28	63.62	23.63	59.06	21.92
	-5.0	-5.6	78.96	28.09	73.89	26.32	69.24	24.94	66.55	24.25	63.62	22.68	59.06	20.85
	-3.0	-3.7	78.96	27.14	73.89	25.29	69.24	23.88	66.55	23.22	63.62	21.67	59.06	20.14
	0.0	-0.7	78.96	26.00	73.89	24.27	69.24	22.76	66.55	22.17	63.62	20.57	59.06	19.78
	3.0	2.2	78.96	24.79	73.89	23.18	69.24	21.92	66.55	21.26	63.62	19.52	59.06	19.04
	5.0	4.1	78.96	23.54	73.89	22.18	69.24	21.11	66.55	20.25	63.62	19.12	59.06	18.61
	7.0	6.0	78.96	22.47	73.89	21.22	69.24	20.08	66.55	19.48	63.62	19.01	59.06	18.29
	9.0	7.9	78.96	22.12	73.89	20.70	69.24	19.77	66.55	19.02	63.62	18.21	59.06	17.49
	11.0	9.8	78.96	21.79	73.89	20.45	69.24	19.28	66.55	18.55	63.62	17.80	59.06	17.13
	13.0	11.8	78.96	21.12	73.89	19.71	69.24	18.69	66.55	18.17	63.62	17.41	59.06	16.74
	15.0	13.7	78.96	20.83	73.89	19.31	69.24	18.16	66.55	17.69	63.62	16.98	59.06	16.26
18.0	16.6	78.96	19.39	73.89	17.98	69.24	16.87	66.55	16.48	63.62	15.78	59.06	15.17	
21.0	19.5	78.96	17.94	73.89	16.67	69.24	15.62	66.55	15.23	63.62	14.66	59.06	14.01	
24.0	22.4	78.96	16.55	73.89	15.38	69.24	14.41	66.55	14.05	63.62	13.49	59.06	12.93	
27.0	25.3	78.96	15.20	73.89	14.07	69.24	13.20	66.55	12.87	63.62	12.37	59.06	11.88	
30.0	28.1	78.96	13.88	73.89	12.85	69.24	12.06	66.55	11.76	63.62	11.29	59.06	10.85	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.32:36HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	65.28	33.99	61.67	32.56	56.67	30.68	54.83	30.33	51.47	28.89	47.30	27.02
	-25.0	-25.4	66.61	34.02	62.93	32.52	57.83	30.74	55.95	30.36	52.52	28.97	48.26	27.05
	-19.8	-20.0	66.61	32.19	62.93	31.09	57.83	29.57	55.95	29.04	52.52	27.58	48.26	25.59
	-16.7	-17.0	66.61	30.38	62.93	29.05	57.83	27.65	55.95	27.01	52.52	25.59	48.26	23.70
	-13.7	-15.0	66.61	29.33	62.93	28.21	57.83	26.71	55.95	25.95	52.52	24.59	48.26	22.69
	-11.8	-13.0	66.61	28.35	62.93	27.15	57.83	25.69	55.95	25.08	52.52	23.54	48.26	21.70
	-9.8	-11.0	66.61	27.46	62.93	26.11	57.83	24.50	55.95	23.99	52.52	22.59	48.26	20.89
	-9.5	-10.0	66.61	26.43	62.93	25.11	57.83	23.52	55.95	22.92	52.52	21.60	48.26	19.76
	-8.5	-9.1	66.61	25.35	62.93	24.17	57.83	22.47	55.95	21.96	52.52	20.65	48.26	18.67
	-7.0	-7.6	66.61	24.44	62.93	23.20	57.83	21.71	55.95	21.18	52.52	19.84	48.26	17.81
	-5.0	-5.6	66.61	23.51	62.93	22.29	57.83	20.66	55.95	20.35	52.52	19.07	48.26	17.00
	-3.0	-3.7	66.61	22.67	62.93	21.39	57.83	19.72	55.95	19.51	52.52	18.28	48.26	16.38
	0.0	-0.7	66.61	21.73	62.93	20.54	57.83	18.85	55.95	18.58	52.52	17.40	48.26	16.06
	3.0	2.2	66.61	20.80	62.93	19.62	57.83	18.10	55.95	17.84	52.52	16.51	48.26	15.97
	5.0	4.1	66.61	19.71	62.93	18.77	57.83	17.44	55.95	16.99	52.52	16.12	48.26	15.81
	7.0	6.0	66.61	18.80	62.93	17.98	57.83	16.62	55.95	16.31	52.52	15.87	48.26	15.34
	9.0	7.9	66.61	18.48	62.93	17.52	57.83	16.38	55.95	15.95	52.52	15.24	48.26	14.90
	11.0	9.8	66.61	18.18	62.93	17.29	57.83	15.93	55.95	15.58	52.52	14.98	48.26	14.62
	13.0	11.8	66.61	17.63	62.93	16.72	57.83	15.46	55.95	15.21	52.52	14.62	48.26	14.30
15.0	13.7	66.61	17.43	62.93	16.38	57.83	14.98	55.95	14.85	52.52	14.25	48.26	13.90	
18.0	16.6	66.61	16.20	62.93	15.22	57.83	13.97	55.95	13.84	52.52	13.25	48.26	12.92	
21.0	19.5	66.61	15.04	62.93	14.12	57.83	12.93	55.95	12.82	52.52	12.27	48.26	11.98	
24.0	22.4	66.61	13.82	62.93	13.00	57.83	11.90	55.95	11.79	52.52	11.28	48.26	11.03	
27.0	25.3	66.61	12.68	62.93	11.92	57.83	10.94	55.95	10.82	52.52	10.35	48.26	10.12	
30.0	28.1	66.61	11.59	62.93	10.91	57.83	9.97	55.95	9.90	52.52	9.47	48.26	9.23	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.



Table2-8.33:38HP heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	94.46	32.22	92.29	32.17	91.59	33.99	91.20	34.91	91.12	35.83	90.32	36.25
	-25.0	-25.4	96.38	32.29	94.17	32.20	93.46	33.89	93.06	34.81	92.98	35.80	92.17	36.29
	-19.8	-20.0	101.31	33.13	99.01	33.22	99.96	35.27	99.47	36.29	99.47	37.16	98.80	37.55
	-16.7	-17.0	103.66	34.11	101.31	34.15	102.29	36.01	102.20	36.91	101.80	37.90	101.13	38.40
	-13.7	-15.0	105.22	34.54	102.85	34.74	103.85	36.69	103.75	37.61	103.36	38.61	102.68	39.01
	-11.8	-13.0	106.79	35.07	104.38	35.34	105.41	37.37	105.31	38.29	104.91	39.18	104.61	39.59
	-9.8	-11.0	108.34	35.67	105.92	35.93	106.95	37.80	106.85	38.61	106.85	39.57	106.16	39.56
	-9.5	-10.0	109.12	36.20	106.68	36.26	108.12	38.30	107.62	39.18	107.62	40.23	106.94	40.26
	-8.5	-9.1	109.90	36.60	107.45	36.84	108.50	38.73	108.40	39.73	108.40	40.68	107.71	40.63
	-7.0	-7.6	111.09	36.63	108.60	37.25	110.06	39.08	109.57	39.96	109.57	41.26	108.87	41.24
	-5.0	-5.6	119.69	38.22	117.04	38.29	118.24	40.30	118.12	41.44	117.73	41.48	117.01	41.60
	-3.0	-3.7	121.26	39.19	118.58	39.00	119.79	41.05	119.68	42.11	119.28	42.03	118.56	42.23
	0.0	-0.7	123.60	40.29	120.88	39.30	122.13	41.50	122.01	42.64	121.62	42.59	121.27	42.60
	3.0	2.2	136.55	42.66	132.40	41.87	133.78	43.60	133.27	44.45	133.27	44.95	132.50	45.14
	5.0	4.1	169.76	51.63	159.87	49.99	159.46	50.42	153.09	48.82	146.87	48.18	134.44	45.95
	7.0	6.0	172.49	51.90	162.94	48.54	159.46	47.95	153.09	46.67	146.87	46.23	134.44	44.37
	9.0	7.9	172.49	49.45	162.94	46.36	159.46	46.50	153.09	45.82	146.87	45.14	134.44	43.40
	11.0	9.8	172.49	47.07	162.94	44.41	159.46	44.95	153.09	44.28	146.87	43.68	134.44	41.69
	13.0	11.8	172.49	44.81	162.94	43.02	159.46	43.62	153.09	43.57	146.87	42.81	134.44	41.01
	15.0	13.7	172.49	43.28	162.94	42.05	159.46	42.48	153.09	41.77	146.87	41.50	134.44	39.46
18.0	16.6	174.36	40.78	164.19	39.42	160.26	39.64	153.49	39.07	146.95	38.74	134.44	36.67	
21.0	19.5	175.38	37.94	164.63	36.59	160.26	36.74	153.49	36.18	146.95	35.87	134.44	33.95	
24.0	22.4	175.53	35.07	164.63	33.79	160.26	33.89	153.49	33.34	146.95	33.06	134.44	31.32	
27.0	25.3	175.53	32.17	164.63	30.97	160.26	31.06	153.49	30.59	146.95	30.27	134.44	28.79	
30.0	28.1	175.53	29.32	164.63	28.29	160.26	28.34	153.49	27.88	146.95	27.67	134.44	26.22	
120%	-30.0	-30.5	92.64	34.82	93.24	36.46	93.42	37.92	91.18	37.94	91.47	39.14	90.67	39.54
	-25.0	-25.4	94.53	34.85	95.14	36.43	95.33	37.92	93.04	37.91	93.34	39.17	92.52	39.50
	-19.8	-20.0	100.23	35.81	100.90	37.41	100.78	38.49	98.70	38.57	99.08	39.77	98.12	40.26
	-16.7	-17.0	102.57	36.79	103.25	37.98	103.15	39.72	101.02	39.85	101.40	40.94	100.82	40.82
	-13.7	-15.0	104.12	37.33	104.83	38.77	104.73	39.99	102.56	40.04	103.35	41.21	102.36	41.31
	-11.8	-13.0	105.67	37.78	106.39	39.08	106.48	40.43	104.10	40.54	104.90	41.73	103.92	41.69
	-9.8	-11.0	107.23	38.10	107.96	39.39	108.27	40.89	105.65	40.91	106.46	42.14	105.46	42.50
	-9.5	-10.0	108.01	38.54	108.74	39.71	109.05	41.17	106.42	41.19	107.23	42.46	106.23	43.09
	-8.5	-9.1	108.79	38.90	109.53	40.16	109.84	41.71	107.19	41.59	108.01	42.87	107.00	43.13
	-7.0	-7.6	109.95	39.61	110.71	40.92	111.02	42.13	108.35	42.06	109.18	43.37	108.16	43.54
	-5.0	-5.6	118.49	39.85	119.35	41.27	119.29	42.50	116.82	42.48	117.72	43.77	116.67	44.27
	-3.0	-3.7	120.06	40.58	120.92	41.87	120.86	43.17	118.36	43.02	118.89	44.27	118.21	44.50
	0.0	-0.7	122.38	41.02	123.27	42.45	123.23	43.49	120.68	43.47	121.61	44.66	120.52	44.89
	3.0	2.2	133.66	43.50	135.06	45.26	135.04	45.61	131.85	45.59	132.87	46.90	123.62	44.40
	5.0	4.1	168.22	48.76	159.79	48.83	148.82	48.26	139.95	46.29	135.59	46.01	123.62	43.02
	7.0	6.0	169.39	48.52	159.79	46.83	148.82	45.82	139.95	44.06	135.59	44.02	123.62	42.01
	9.0	7.9	169.39	46.41	159.79	44.78	148.82	44.38	139.95	42.58	135.59	42.76	123.62	40.79
	11.0	9.8	169.39	44.94	159.79	43.72	148.82	42.86	139.95	41.33	135.59	41.21	123.62	39.29
	13.0	11.8	169.39	43.72	159.79	42.64	148.82	41.63	139.95	40.59	135.59	40.50	123.62	38.44
	15.0	13.7	169.39	42.84	159.79	41.46	148.82	40.44	139.95	39.15	135.59	39.08	123.62	37.03
18.0	16.6	171.23	40.32	161.02	38.86	149.56	37.80	140.32	36.59	135.66	36.41	123.62	34.41	
21.0	19.5	172.23	37.56	161.45	36.05	149.56	35.04	140.32	33.88	135.66	33.68	123.62	31.89	
24.0	22.4	172.38	34.64	161.45	33.22	149.56	32.35	140.32	31.22	135.66	31.07	123.62	29.42	
27.0	25.3	172.38	31.78	161.45	30.48	149.56	29.65	140.32	28.64	135.66	28.56	123.62	27.02	
30.0	28.1	172.38	28.94	161.45	27.78	149.56	27.03	140.32	26.08	135.66	26.01	123.62	24.60	

Abbreviations:
 CR: Combination ratio
 TC: Total capacity (kW)
 PI: Power input (compressor + outdoor fan motor) (kW)
 Notes:
 Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.33:38HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	94.15	35.97	92.83	36.52	93.87	37.88	93.21	36.98	93.76	38.11	92.66	38.57
	-25.0	-25.4	96.07	35.93	94.72	36.48	95.79	37.85	95.11	36.95	95.67	38.03	94.55	38.68
	-19.8	-20.0	100.23	36.55	98.89	37.03	100.12	38.37	99.27	37.53	99.81	38.61	98.68	39.05
	-16.7	-17.0	102.57	37.59	101.21	38.09	102.46	39.54	101.59	38.35	102.56	39.54	101.02	39.80
	-13.7	-15.0	104.14	37.93	102.75	38.43	104.03	39.84	103.15	38.47	104.13	39.72	102.57	40.23
	-11.8	-13.0	105.69	38.45	104.30	38.91	106.00	40.36	104.71	38.90	105.71	40.15	104.12	40.70
	-9.8	-11.0	107.25	38.50	105.85	38.88	107.58	40.36	106.27	39.59	107.28	40.63	105.67	41.18
	-9.5	-10.0	108.03	38.95	107.00	39.29	108.36	40.79	107.04	39.83	108.06	41.02	106.46	41.51
	-8.5	-9.1	108.80	39.34	107.39	39.83	109.14	41.34	107.82	40.18	108.85	41.53	107.23	42.11
	-7.0	-7.6	109.98	39.69	108.56	40.13	110.32	41.77	108.99	40.69	110.03	41.93	108.39	42.18
	-5.0	-5.6	118.56	40.30	117.05	40.70	118.57	42.25	117.56	41.12	118.68	42.25	113.83	41.73
	-3.0	-3.7	120.12	40.63	118.59	41.07	120.14	42.50	119.12	41.55	120.25	42.84	113.83	41.06
	0.0	-0.7	122.45	41.53	120.91	41.91	122.88	43.58	121.44	41.81	122.60	43.14	113.83	40.48
	3.0	2.2	133.77	43.46	132.50	43.87	134.26	45.32	129.62	43.53	125.75	43.55	113.83	40.08
	5.0	4.1	156.01	47.30	144.09	46.85	136.23	44.33	129.62	42.75	125.75	42.33	113.83	39.90
	7.0	6.0	156.01	45.64	144.09	44.08	136.23	42.13	129.62	40.61	125.75	40.36	113.83	38.96
	9.0	7.9	156.01	43.61	144.09	41.76	136.23	40.67	129.62	39.67	125.75	39.55	113.83	38.19
	11.0	9.8	156.01	42.01	144.09	40.11	136.23	39.39	129.62	38.12	125.75	38.34	113.83	36.95
	13.0	11.8	156.01	40.73	144.09	38.85	136.23	38.20	129.62	37.13	125.75	36.96	113.83	35.73
	15.0	13.7	156.01	39.53	144.09	37.67	136.23	36.94	129.62	35.78	125.75	35.66	113.83	34.43
18.0	16.6	157.70	37.17	145.19	35.28	136.91	34.54	129.96	33.40	125.81	33.22	113.83	32.09	
21.0	19.5	158.62	34.69	145.58	32.72	136.91	31.98	129.96	30.96	125.81	30.79	113.83	29.66	
24.0	22.4	158.76	32.00	145.58	30.13	136.91	29.47	129.96	28.53	125.81	28.35	113.83	27.31	
27.0	25.3	158.76	29.33	145.58	27.69	136.91	26.99	129.96	26.15	125.81	26.04	113.83	25.13	
30.0	28.1	158.76	26.78	145.58	25.27	136.91	24.67	129.96	23.86	125.81	23.73	113.83	22.95	
100%	-30.0	-30.5	92.17	43.96	91.80	44.30	90.54	44.70	91.96	45.37	91.25	45.37	91.59	46.28
	-25.0	-25.4	94.05	43.92	93.68	44.44	92.38	44.65	93.83	45.41	93.11	45.28	93.46	46.32
	-19.8	-20.0	98.42	43.87	98.04	44.36	96.71	44.97	98.22	45.51	97.47	45.28	97.85	45.99
	-16.7	-17.0	101.47	44.07	101.09	44.65	100.11	45.04	101.30	45.58	100.52	45.45	100.91	45.35
	-13.7	-15.0	103.00	44.23	102.62	44.71	101.63	45.20	102.83	45.73	102.04	45.58	102.45	44.77
	-11.8	-13.0	104.53	44.25	104.14	44.81	103.13	45.30	104.36	45.70	103.56	45.64	102.45	44.32
	-9.8	-11.0	105.29	44.38	105.29	44.78	103.89	45.30	105.52	45.70	104.33	45.70	102.45	44.18
	-9.5	-10.0	106.05	44.30	105.67	44.87	104.64	45.46	105.91	45.75	105.09	45.75	102.45	43.93
	-8.5	-9.1	107.20	44.45	107.20	44.93	105.78	45.56	107.05	45.95	106.22	45.71	102.45	43.14
	-7.0	-7.6	115.59	44.45	115.21	44.90	114.09	46.43	115.49	47.61	110.79	44.94	102.45	42.98
	-5.0	-5.6	117.11	44.59	116.74	44.97	115.60	45.35	116.26	46.18	110.79	43.56	102.45	41.78
	-3.0	-3.7	119.41	44.52	119.02	44.89	117.86	43.86	116.26	43.47	110.79	42.12	102.45	40.39
	0.0	-0.7	122.45	44.71	129.33	45.01	119.00	42.65	116.26	41.49	110.79	40.15	102.45	38.67
	3.0	2.2	130.46	43.73	129.33	43.82	119.00	41.51	116.26	39.52	110.79	37.71	102.45	36.85
	5.0	4.1	138.47	43.02	129.33	41.63	119.00	39.50	116.26	37.74	110.79	36.11	102.45	35.21
	7.0	6.0	138.47	42.49	129.33	39.57	119.00	36.96	116.26	35.68	110.79	34.76	102.45	33.56
	9.0	7.9	138.47	40.10	129.33	37.45	119.00	35.96	116.26	34.81	110.79	33.65	102.45	32.54
	11.0	9.8	138.47	37.49	129.33	35.20	119.00	34.76	116.26	33.41	110.79	32.42	102.45	31.15
	13.0	11.8	138.47	35.13	129.33	34.27	119.00	33.39	116.26	32.31	110.79	31.24	102.45	30.04
	15.0	13.7	138.47	33.39	129.33	32.78	119.00	32.19	116.26	31.15	110.79	30.12	102.45	28.96
18.0	16.6	138.47	31.06	129.33	30.53	119.00	29.97	116.26	28.92	110.79	28.10	102.45	26.91	
21.0	19.5	138.47	28.76	129.33	28.29	119.00	27.69	116.26	26.80	110.79	26.02	102.45	24.92	
24.0	22.4	138.47	26.56	129.33	26.08	119.00	25.58	116.26	24.70	110.79	23.96	102.45	22.94	
27.0	25.3	138.47	24.34	129.33	23.90	119.00	23.42	116.26	22.68	110.79	22.00	102.45	21.09	
30.0	28.1	138.47	22.23	129.33	21.87	119.00	21.39	116.26	20.72	110.79	20.03	102.45	19.24	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.33: 38HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-30.0	-30.5	92.35	44.27	92.82	45.31	93.31	46.22	93.22	46.68	91.73	46.21	90.68	43.18
	-25.0	-25.4	94.24	44.35	94.71	45.22	95.21	46.18	95.13	46.77	93.60	46.16	92.53	43.09
	-19.8	-20.0	98.23	45.07	98.87	45.94	99.33	46.84	99.33	47.26	97.74	46.75	92.53	42.32
	-16.7	-17.0	100.53	45.12	101.21	46.10	102.08	46.95	101.68	47.23	100.05	45.53	92.53	40.90
	-13.7	-15.0	102.07	45.31	102.77	46.29	103.65	47.16	103.25	47.38	101.21	44.69	92.53	40.20
	-11.8	-13.0	103.62	45.28	104.32	46.31	105.21	47.17	104.83	46.77	101.21	43.81	92.53	39.37
	-9.8	-11.0	105.16	45.43	106.27	46.32	106.78	47.17	106.78	45.73	101.21	43.00	92.53	38.61
	-9.5	-10.0	105.92	45.44	107.04	46.32	107.58	47.27	107.18	45.44	101.21	42.48	92.53	38.27
	-8.5	-9.1	106.69	45.58	107.44	46.42	108.36	47.26	107.18	45.01	101.21	42.14	92.53	37.90
	-7.0	-7.6	107.85	45.50	108.99	45.89	109.53	46.55	107.18	44.40	101.21	41.50	92.53	37.40
	-5.0	-5.6	116.33	45.57	117.17	43.87	111.49	44.65	107.18	42.90	101.21	40.16	92.53	36.25
	-3.0	-3.7	117.87	45.65	118.72	41.89	111.49	42.38	107.18	41.28	101.21	38.96	92.53	35.39
	0.0	-0.7	120.17	45.79	118.72	39.75	111.49	40.61	107.18	39.27	101.21	36.98	92.53	34.41
	3.0	2.2	125.96	45.91	118.72	37.76	111.49	38.33	107.18	37.85	101.21	35.32	92.53	33.34
	5.0	4.1	125.96	44.64	118.72	35.91	111.49	36.47	107.18	35.84	101.21	33.74	92.53	31.95
	7.0	6.0	125.96	38.84	118.72	35.24	111.49	34.15	107.18	32.88	101.21	31.09	92.53	28.42
	9.0	7.9	125.96	36.49	118.72	34.50	111.49	32.47	107.18	31.25	101.21	29.69	92.53	27.35
	11.0	9.8	125.96	34.38	118.72	32.71	111.49	30.86	107.18	29.84	101.21	28.40	92.53	26.35
	13.0	11.8	125.96	32.49	118.72	31.04	111.49	29.55	107.18	28.66	101.21	27.28	92.53	25.55
	15.0	13.7	125.96	31.08	118.72	29.83	111.49	28.58	107.18	27.77	101.21	26.58	92.53	24.93
18.0	16.6	125.96	28.97	118.72	27.78	111.49	26.53	107.18	25.78	101.21	24.72	92.53	23.14	
21.0	19.5	125.96	26.85	118.72	25.75	111.49	24.57	107.18	23.92	101.21	22.87	92.53	21.43	
24.0	22.4	125.96	24.72	118.72	23.73	111.49	22.67	107.18	22.06	101.21	21.08	92.53	19.81	
27.0	25.3	125.96	22.66	118.72	21.75	111.49	20.81	107.18	20.22	101.21	19.30	92.53	18.15	
30.0	28.1	125.96	20.73	118.72	19.84	111.49	19.01	107.18	18.43	101.21	17.68	92.53	16.56	
80%	-30.0	-30.5	92.48	47.23	92.98	48.27	94.31	47.14	93.28	44.86	88.21	42.16	80.33	38.06
	-25.0	-25.4	94.37	47.18	94.88	48.13	96.24	47.28	95.18	44.90	90.01	42.16	81.97	38.18
	-19.8	-20.0	98.12	45.37	98.68	46.35	99.21	45.14	95.18	43.02	90.01	40.37	81.97	36.30
	-16.7	-17.0	100.44	45.58	101.01	46.38	99.21	43.82	95.18	41.84	90.01	39.05	81.97	35.18
	-13.7	-15.0	101.98	45.64	102.57	46.47	99.21	42.90	95.18	40.93	90.01	38.35	81.97	34.47
	-11.8	-13.0	103.53	45.65	104.14	45.70	99.21	42.15	95.18	40.15	90.01	37.63	81.97	33.87
	-9.8	-11.0	105.07	45.65	105.69	44.64	99.21	41.35	95.18	39.31	90.01	36.89	81.97	33.16
	-9.5	-10.0	105.85	45.80	105.69	44.26	99.21	40.82	95.18	39.04	90.01	36.52	81.97	32.94
	-8.5	-9.1	106.62	45.81	105.69	43.92	99.21	40.57	95.18	38.64	90.01	36.13	81.97	32.60
	-7.0	-7.6	107.77	45.85	105.69	43.27	99.21	40.06	95.18	38.11	90.01	35.65	81.97	32.15
	-5.0	-5.6	112.41	44.91	105.69	41.78	99.21	38.81	95.18	36.98	90.01	34.74	81.97	31.27
	-3.0	-3.7	112.41	46.45	105.69	40.30	99.21	37.12	95.18	35.55	90.01	33.37	81.97	30.44
	0.0	-0.7	112.41	45.96	105.69	38.40	99.21	35.80	95.18	34.48	90.01	32.44	81.97	29.74
	3.0	2.2	112.41	42.47	105.69	36.27	99.21	33.84	95.18	33.28	90.01	31.20	81.97	28.52
	5.0	4.1	112.41	38.87	105.69	34.31	99.21	32.25	95.18	31.93	90.01	29.70	81.97	27.97
	7.0	6.0	112.41	34.03	105.69	32.14	99.21	30.17	95.18	28.89	90.01	27.35	81.97	25.11
	9.0	7.9	112.41	32.22	105.69	30.54	99.21	28.82	95.18	27.81	90.01	26.31	81.97	24.31
	11.0	9.8	112.41	30.71	105.69	29.18	99.21	27.73	95.18	26.80	90.01	25.42	81.97	23.69
	13.0	11.8	112.41	29.25	105.69	28.01	99.21	26.69	95.18	25.90	90.01	24.70	81.97	23.09
	15.0	13.7	112.41	28.29	105.69	27.08	99.21	26.03	95.18	25.35	90.01	24.19	81.97	22.78
18.0	16.6	112.41	26.23	105.69	25.22	99.21	24.17	95.18	23.54	90.01	22.52	81.97	21.13	
21.0	19.5	112.41	24.29	105.69	23.40	99.21	22.38	95.18	21.84	90.01	20.79	81.97	19.56	
24.0	22.4	112.41	22.41	105.69	21.50	99.21	20.63	95.18	20.13	90.01	19.22	81.97	18.08	
27.0	25.3	112.41	20.56	105.69	19.78	99.21	18.92	95.18	18.43	90.01	17.60	81.97	16.56	
30.0	28.1	112.41	18.79	105.69	18.01	99.21	17.30	95.18	16.83	90.01	16.10	81.97	15.11	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.33: 38HP heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
°C DB		°C WB		kW		kW		kW		kW		kW		
70%	-30.0	-30.5	95.03	47.46	91.09	44.76	83.42	43.18	80.72	42.86	77.23	42.08	71.41	40.81
	-25.0	-25.4	96.97	47.46	92.95	44.84	85.12	43.31	82.36	42.77	78.81	42.00	72.86	40.85
	-19.8	-20.0	96.97	45.28	92.95	42.48	85.12	40.89	82.36	40.42	78.81	39.58	72.86	38.46
	-16.7	-17.0	97.74	43.79	92.95	41.12	85.12	39.76	82.36	39.28	78.81	38.45	72.86	37.26
	-13.7	-15.0	97.74	42.96	92.95	40.41	85.12	38.96	82.36	38.55	78.81	37.76	72.86	36.42
	-11.8	-13.0	97.74	42.05	92.95	39.53	85.12	38.34	82.36	37.89	78.81	37.11	72.86	35.87
	-9.8	-11.0	97.74	41.29	92.95	38.79	85.12	37.65	82.36	37.15	78.81	36.39	72.86	35.09
	-9.5	-10.0	97.74	40.92	92.95	38.47	85.12	36.70	82.36	36.11	78.81	35.45	72.86	34.20
	-8.5	-9.1	97.74	40.56	92.95	38.13	85.12	35.39	82.36	34.95	78.81	34.15	72.86	32.97
	-7.0	-7.6	97.74	39.99	92.95	37.65	85.12	33.83	82.36	33.43	78.81	32.64	72.86	31.31
	-5.0	-5.6	97.74	38.75	92.95	36.52	85.12	32.94	82.36	32.50	78.81	31.73	72.86	30.39
	-3.0	-3.7	97.74	36.70	92.95	35.45	85.12	31.95	82.36	31.47	78.81	30.76	72.86	29.43
	0.0	-0.7	97.74	34.69	92.95	33.84	85.12	30.58	82.36	30.13	78.81	29.42	72.86	28.11
	3.0	2.2	97.74	32.79	92.95	31.96	85.12	28.81	82.36	28.26	78.81	27.52	72.86	26.15
	5.0	4.1	97.74	31.27	92.95	30.00	85.12	27.64	82.36	27.17	78.81	26.41	72.86	25.12
	7.0	6.0	97.74	30.11	92.95	28.69	85.12	26.23	82.36	25.79	78.81	25.04	72.86	23.75
	9.0	7.9	97.74	28.76	92.95	27.60	85.12	25.42	82.36	24.83	78.81	24.11	72.86	22.79
	11.0	9.8	97.74	27.64	92.95	26.64	85.12	24.40	82.36	23.79	78.81	23.10	72.86	21.76
	13.0	11.8	97.74	26.62	92.95	25.50	85.12	23.23	82.36	22.59	78.81	21.94	72.86	20.51
	15.0	13.7	97.74	25.67	92.95	24.36	85.12	22.32	82.36	21.71	78.81	21.00	72.86	19.66
	18.0	16.6	97.74	23.81	92.95	22.70	85.12	20.72	82.36	20.18	78.81	19.53	72.86	18.23
	21.0	19.5	97.74	22.11	92.95	21.02	85.12	19.23	82.36	18.70	78.81	18.10	72.86	16.90
24.0	22.4	97.74	20.38	92.95	19.34	85.12	17.67	82.36	17.19	78.81	16.67	72.86	15.60	
27.0	25.3	97.74	18.64	92.95	17.74	85.12	16.24	82.36	15.80	78.81	15.29	72.86	14.27	
30.0	28.1	97.74	17.06	92.95	16.20	85.12	14.83	82.36	14.44	78.81	13.99	72.86	13.05	
60%	-30.0	-30.5	83.96	45.29	77.16	41.94	72.24	40.43	69.96	39.82	66.94	38.22	61.55	36.13
	-25.0	-25.4	85.67	45.33	78.73	41.98	73.71	40.51	71.38	39.86	68.31	38.11	62.81	36.13
	-19.8	-20.0	85.67	42.88	78.73	40.01	73.71	38.94	71.38	38.09	68.31	36.43	62.81	34.33
	-16.7	-17.0	85.67	40.39	78.73	37.51	73.71	36.44	71.38	35.40	68.31	33.63	62.81	31.75
	-13.7	-15.0	85.67	38.99	78.73	36.37	73.71	35.34	71.38	34.00	68.31	32.30	62.81	30.41
	-11.8	-13.0	85.67	37.65	78.73	34.98	73.71	33.97	71.38	32.93	68.31	30.92	62.81	29.13
	-9.8	-11.0	85.67	36.51	78.73	33.78	73.71	32.29	71.38	31.40	68.31	29.69	62.81	27.98
	-9.5	-10.0	85.67	35.20	78.73	32.40	73.71	30.96	71.38	30.08	68.31	28.36	62.81	26.45
	-8.5	-9.1	85.67	33.67	78.73	31.26	73.71	29.70	71.38	28.71	68.31	27.01	62.81	24.99
	-7.0	-7.6	85.67	32.45	78.73	29.92	73.71	28.70	71.38	27.77	68.31	25.95	62.81	23.90
	-5.0	-5.6	85.67	31.19	78.73	28.77	73.71	27.24	71.38	26.67	68.31	24.99	62.81	22.75
	-3.0	-3.7	85.67	30.20	78.73	27.67	73.71	26.01	71.38	25.55	68.31	23.85	62.81	21.98
	0.0	-0.7	85.67	28.89	78.73	26.50	73.71	24.81	71.38	24.30	68.31	22.64	62.81	21.56
	3.0	2.2	85.67	27.66	78.73	25.31	73.71	23.91	71.38	23.38	68.31	21.53	62.81	20.79
	5.0	4.1	85.67	26.19	78.73	24.17	73.71	22.98	71.38	22.26	68.31	21.04	62.81	20.34
	7.0	6.0	85.67	25.02	78.73	23.20	73.71	21.91	71.38	21.36	68.31	20.92	62.81	19.96
	9.0	7.9	85.67	24.61	78.73	22.65	73.71	21.61	71.38	20.92	68.31	20.01	62.81	19.03
	11.0	9.8	85.67	24.19	78.73	22.29	73.71	21.08	71.38	20.39	68.31	19.59	62.81	18.71
	13.0	11.8	85.67	23.50	78.73	21.59	73.71	20.41	71.38	19.93	68.31	19.16	62.81	18.30
	15.0	13.7	85.67	23.22	78.73	21.11	73.71	19.79	71.38	19.44	68.31	18.69	62.81	17.73
	18.0	16.6	85.67	21.53	78.73	19.68	73.71	18.37	71.38	18.13	68.31	17.42	62.81	16.54
	21.0	19.5	85.67	19.96	78.73	18.20	73.71	17.03	71.38	16.76	68.31	16.13	62.81	15.31
24.0	22.4	85.67	18.39	78.73	16.75	73.71	15.69	71.38	15.45	68.31	14.87	62.81	14.11	
27.0	25.3	85.67	16.86	78.73	15.36	73.71	14.38	71.38	14.18	68.31	13.60	62.81	12.93	
30.0	28.1	85.67	15.43	78.73	14.07	73.71	13.17	71.38	12.93	68.31	12.43	62.81	11.80	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.33:38HP heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	68.90	36.79	64.85	35.14	60.38	33.48	58.20	33.00	55.79	32.17	50.35	29.42
	-25.0	-25.4	70.31	36.79	66.17	35.11	61.62	33.48	59.39	33.03	56.93	32.14	51.38	29.51
	-19.8	-20.0	70.31	34.88	66.17	33.43	61.62	32.26	59.39	31.56	56.93	30.69	51.38	27.90
	-16.7	-17.0	70.31	32.86	66.17	31.27	61.62	30.17	59.39	29.35	56.93	28.45	51.38	25.88
	-13.7	-15.0	70.31	31.72	66.17	30.33	61.62	29.23	59.39	28.23	56.93	27.36	51.38	24.78
	-11.8	-13.0	70.31	30.63	66.17	29.30	61.62	28.05	59.39	27.31	56.93	26.22	51.38	23.67
	-9.8	-11.0	70.31	29.61	66.17	28.19	61.62	26.70	59.39	26.02	56.93	25.06	51.38	22.84
	-9.5	-10.0	70.31	28.55	66.17	27.05	61.62	25.64	59.39	24.91	56.93	24.05	51.38	21.60
	-8.5	-9.1	70.31	27.38	66.17	26.08	61.62	24.57	59.39	23.84	56.93	22.96	51.38	20.33
	-7.0	-7.6	70.31	26.41	66.17	24.97	61.62	23.71	59.39	23.08	56.93	22.03	51.38	19.48
	-5.0	-5.6	70.31	25.45	66.17	24.02	61.62	22.54	59.39	22.09	56.93	21.17	51.38	18.55
	-3.0	-3.7	70.31	24.54	66.17	23.09	61.62	21.56	59.39	21.22	56.93	20.31	51.38	17.84
	0.0	-0.7	70.31	23.52	66.17	22.20	61.62	20.60	59.39	20.20	56.93	19.30	51.38	17.56
	3.0	2.2	70.31	22.47	66.17	21.12	61.62	19.77	59.39	19.36	56.93	18.37	51.38	17.44
	5.0	4.1	70.31	21.31	66.17	20.21	61.62	19.03	59.39	18.49	56.93	17.97	51.38	17.23
	7.0	6.0	70.31	20.37	66.17	19.33	61.62	18.19	59.39	17.76	56.93	17.64	51.38	16.75
	9.0	7.9	70.31	19.97	66.17	18.88	61.62	17.91	59.39	17.37	56.93	16.91	51.38	16.24
	11.0	9.8	70.31	19.70	66.17	18.67	61.62	17.40	59.39	16.93	56.93	16.60	51.38	15.92
	13.0	11.8	70.31	19.09	66.17	18.00	61.62	16.89	59.39	16.58	56.93	16.23	51.38	15.57
15.0	13.7	70.31	18.83	66.17	17.68	61.62	16.39	59.39	16.18	56.93	15.79	51.38	15.15	
18.0	16.6	70.31	17.57	66.17	16.42	61.62	15.26	59.39	15.02	56.93	14.73	51.38	14.12	
21.0	19.5	70.31	16.22	66.17	15.20	61.62	14.13	59.39	13.95	56.93	13.62	51.38	13.09	
24.0	22.4	70.31	14.98	66.17	14.01	61.62	13.00	59.39	12.84	56.93	12.54	51.38	12.06	
27.0	25.3	70.31	13.73	66.17	12.86	61.62	11.94	59.39	11.78	56.93	11.52	51.38	11.05	
30.0	28.1	70.31	12.55	66.17	11.74	61.62	10.88	59.39	10.76	56.93	10.52	51.38	10.09	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table2-8.34:40HP Heating capacity

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130%	-30.0	-30.5	96.06	33.41	95.76	33.98	93.77	35.31	95.07	37.06	94.27	37.74	92.56	37.81
	-25.0	-25.4	98.03	33.38	97.71	34.05	95.69	35.34	97.01	36.98	96.20	37.70	94.45	37.88
	-19.8	-20.0	103.04	34.25	102.73	35.06	102.34	36.75	103.70	38.52	102.91	39.25	101.25	39.17
	-16.7	-17.0	105.43	35.30	105.12	36.15	104.73	37.52	106.54	39.21	105.33	39.96	103.63	40.13
	-13.7	-15.0	107.02	35.71	106.71	36.70	106.32	38.23	108.16	39.89	106.93	40.62	105.22	40.64
	-11.8	-13.0	108.61	36.36	108.31	37.30	107.92	38.90	109.78	40.60	108.54	41.35	107.20	41.25
	-9.8	-11.0	110.19	36.91	109.90	37.99	109.50	39.31	111.39	41.02	110.55	41.75	108.79	41.34
	-9.5	-10.0	110.98	37.46	110.70	38.30	110.70	39.87	112.20	41.63	111.35	42.37	109.58	41.86
	-8.5	-9.1	111.78	37.88	111.49	38.88	111.09	40.36	113.01	42.13	112.15	42.77	110.38	42.38
	-7.0	-7.6	112.98	37.98	112.68	39.35	112.68	40.68	114.23	42.49	113.37	43.45	111.56	42.93
	-5.0	-5.6	121.73	39.56	121.44	40.49	121.05	42.04	123.14	44.12	121.81	43.73	119.91	43.52
	-3.0	-3.7	123.32	40.56	123.04	41.23	122.65	42.64	124.76	44.74	123.41	44.26	121.50	43.95
	0.0	-0.7	125.71	41.82	125.43	41.55	125.04	43.24	127.20	45.22	125.83	44.90	124.27	44.30
	3.0	2.2	138.88	44.23	137.38	44.32	136.97	45.47	138.94	47.18	137.89	47.25	135.78	47.04
	5.0	4.1	172.65	53.44	165.88	52.70	163.26	52.59	159.60	51.87	151.96	50.90	137.77	48.02
	7.0	6.0	175.43	53.81	169.07	51.38	163.26	50.06	159.60	49.54	151.96	48.79	137.77	46.27
	9.0	7.9	175.43	51.13	169.07	48.97	163.26	48.45	159.60	48.64	151.96	47.45	137.77	45.22
	11.0	9.8	175.43	48.76	169.07	46.96	163.26	46.88	159.60	47.04	151.96	46.00	137.77	43.61
	13.0	11.8	175.43	46.24	169.07	45.53	163.26	45.44	159.60	46.29	151.96	45.08	137.77	42.81
	15.0	13.7	175.43	44.83	169.07	44.55	163.26	44.22	159.60	44.38	151.96	43.84	137.77	41.19
18.0	16.6	177.33	42.16	170.37	41.64	164.07	41.38	160.02	41.47	152.03	40.68	137.77	38.36	
21.0	19.5	178.37	39.30	170.83	38.73	164.07	38.28	160.02	38.29	152.03	37.74	137.77	35.52	
24.0	22.4	178.53	36.25	170.83	35.63	164.07	35.31	160.02	35.32	152.03	34.82	137.77	32.70	
27.0	25.3	178.53	33.23	170.83	32.78	164.07	32.40	160.02	32.41	152.03	31.85	137.77	29.94	
30.0	28.1	178.53	30.41	170.83	29.85	164.07	29.56	160.02	29.59	152.03	29.17	137.77	27.37	
120%	-30.0	-30.5	96.22	36.74	95.56	38.03	94.75	39.05	94.52	40.00	93.83	40.82	95.52	42.42
	-25.0	-25.4	98.18	36.78	97.51	38.07	96.68	39.05	96.45	40.00	95.74	40.94	97.47	42.38
	-19.8	-20.0	104.10	37.75	103.41	38.98	102.21	39.72	102.31	40.75	101.63	41.64	103.36	43.16
	-16.7	-17.0	106.53	38.90	105.82	39.58	104.62	40.94	104.72	42.06	104.01	42.78	106.21	43.84
	-13.7	-15.0	108.14	39.40	107.43	40.40	106.21	41.26	106.31	42.13	106.01	42.98	107.84	44.32
	-11.8	-13.0	109.75	39.95	109.04	40.84	107.99	41.80	107.91	42.70	107.60	43.48	109.47	44.78
	-9.8	-11.0	111.37	40.24	110.65	41.09	109.80	42.15	109.52	43.21	109.20	43.99	111.10	45.69
	-9.5	-10.0	112.18	40.63	111.45	41.38	110.60	42.44	110.31	43.55	110.00	44.37	111.91	46.27
	-8.5	-9.1	112.98	41.14	112.25	42.01	111.40	42.96	111.11	43.94	110.79	44.85	112.72	46.23
	-7.0	-7.6	114.20	41.88	113.46	42.68	112.60	43.39	112.31	44.47	111.99	45.28	113.95	46.72
	-5.0	-5.6	123.06	42.18	122.32	43.01	120.98	43.85	121.10	44.87	120.75	45.65	122.91	47.54
	-3.0	-3.7	124.69	42.83	123.93	43.76	122.58	44.46	122.69	45.40	121.95	46.21	124.53	47.75
	0.0	-0.7	127.10	43.50	126.33	44.32	124.98	44.87	125.10	45.92	124.74	46.72	126.97	48.21
	3.0	2.2	138.81	46.13	138.42	47.12	136.96	47.07	136.68	48.11	136.29	48.87	130.23	47.73
	5.0	4.1	174.71	51.66	163.76	50.93	150.93	49.75	145.08	48.76	139.08	48.03	130.23	46.15
	7.0	6.0	175.93	51.25	163.76	48.80	150.93	47.19	145.08	46.41	139.08	45.95	130.23	45.12
	9.0	7.9	175.93	49.02	163.76	46.67	150.93	45.80	145.08	44.98	139.08	44.68	130.23	43.77
	11.0	9.8	175.93	47.47	163.76	45.65	150.93	44.23	145.08	43.57	139.08	43.06	130.23	42.03
	13.0	11.8	175.93	46.32	163.76	44.56	150.93	42.96	145.08	42.96	139.08	42.28	130.23	41.20
	15.0	13.7	175.93	45.25	163.76	43.20	150.93	41.77	145.08	41.40	139.08	40.80	130.23	39.77
18.0	16.6	177.84	42.51	165.02	40.50	151.69	39.12	145.46	38.57	139.15	38.09	130.23	36.99	
21.0	19.5	178.88	39.71	165.46	37.56	151.69	36.19	145.46	35.72	139.15	35.27	130.23	34.22	
24.0	22.4	179.03	36.60	165.46	34.65	151.69	33.29	145.46	32.85	139.15	32.44	130.23	31.51	
27.0	25.3	179.03	33.61	165.46	31.73	151.69	30.60	145.46	30.20	139.15	29.79	130.23	28.99	
30.0	28.1	179.03	30.66	165.46	29.06	151.69	27.97	145.46	27.61	139.15	27.15	130.23	26.45	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table 2-8.34: 40HP Heating capacity (continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°C DB	°C WB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110%	-30.0	-30.5	97.96	38.06	97.79	39.18	95.29	39.13	97.44	39.41	97.10	40.13	97.05	41.14
	-25.0	-25.4	99.96	38.06	99.79	39.10	97.23	39.09	99.43	39.41	99.08	40.10	99.03	41.26
	-19.8	-20.0	104.29	38.61	104.18	39.61	101.63	39.70	103.78	39.95	103.36	40.63	103.36	41.78
	-16.7	-17.0	106.72	39.86	106.63	40.79	104.01	40.84	106.21	40.70	106.21	41.64	105.81	42.45
	-13.7	-15.0	108.36	40.14	108.25	41.19	105.60	41.23	107.84	41.03	107.84	41.83	107.44	42.91
	-11.8	-13.0	109.97	40.74	109.87	41.83	107.60	41.69	109.47	41.38	109.47	42.33	109.06	43.36
	-9.8	-11.0	111.59	40.71	111.51	41.72	109.20	41.73	111.10	42.22	111.10	42.79	110.69	43.84
	-9.5	-10.0	112.40	41.23	112.72	42.20	110.00	42.21	111.91	42.32	111.91	43.25	111.51	44.28
	-8.5	-9.1	113.21	41.64	113.14	42.61	110.79	42.70	112.72	42.77	112.72	43.70	112.32	44.91
	-7.0	-7.6	114.43	42.17	114.36	43.10	111.99	43.06	113.95	43.44	113.95	44.33	113.53	44.90
	-5.0	-5.6	123.37	42.61	123.30	43.62	120.36	43.64	122.91	43.82	122.91	44.45	119.23	44.42
	-3.0	-3.7	124.99	43.01	124.93	44.02	121.95	43.86	124.53	44.24	124.53	45.12	119.23	43.80
	0.0	-0.7	127.42	44.03	127.38	44.97	124.74	44.88	126.97	44.60	126.97	45.48	119.23	43.05
	3.0	2.2	139.19	45.91	139.59	46.98	136.29	46.90	135.51	46.25	130.23	45.82	119.23	42.80
	5.0	4.1	162.33	50.16	151.79	50.22	138.28	45.83	135.51	45.42	130.23	44.67	119.23	42.52
	7.0	6.0	162.33	48.31	151.79	47.34	138.28	43.52	135.51	43.19	130.23	42.63	119.23	41.52
	9.0	7.9	162.33	46.11	151.79	44.80	138.28	41.89	135.51	42.11	130.23	41.66	119.23	40.74
	11.0	9.8	162.33	44.42	151.79	43.07	138.28	40.72	135.51	40.62	130.23	40.42	119.23	39.42
	13.0	11.8	162.33	43.15	151.79	41.77	138.28	39.46	135.51	39.45	130.23	38.92	119.23	38.15
	15.0	13.7	162.33	41.88	151.79	40.30	138.28	38.12	135.51	38.12	130.23	37.63	119.23	36.80
	18.0	16.6	164.09	39.46	152.96	37.81	138.98	35.60	135.87	35.52	130.29	35.09	119.23	34.20
21.0	19.5	165.05	36.71	153.37	35.07	138.98	33.06	135.87	32.96	130.29	32.40	119.23	31.63	
24.0	22.4	165.19	33.90	153.37	32.39	138.98	30.38	135.87	30.34	130.29	29.86	119.23	29.18	
27.0	25.3	165.19	31.13	153.37	29.65	138.98	27.93	135.87	27.81	130.29	27.42	119.23	26.80	
30.0	28.1	165.19	28.35	153.37	27.16	138.98	25.48	135.87	25.45	130.29	25.04	119.23	24.40	
100%	-30.0	-30.5	94.99	46.02	94.98	46.71	93.58	46.93	95.32	47.88	95.51	48.31	93.94	48.31
	-25.0	-25.4	96.93	46.16	96.92	46.80	95.49	46.98	97.27	47.97	97.46	48.26	95.85	48.26
	-19.8	-20.0	101.43	46.02	101.44	46.77	99.96	47.32	101.82	48.03	102.02	48.31	100.36	47.87
	-16.7	-17.0	104.58	46.19	104.59	46.89	103.47	47.48	105.01	48.20	105.21	48.59	103.50	47.34
	-13.7	-15.0	106.15	46.31	106.18	47.09	105.04	47.60	106.60	48.26	106.80	48.49	105.08	46.69
	-11.8	-13.0	107.73	46.37	107.75	47.06	106.60	47.67	108.18	48.22	108.39	48.60	105.08	46.18
	-9.8	-11.0	108.52	46.46	108.94	47.26	107.38	47.66	109.38	48.32	109.20	48.71	105.08	46.12
	-9.5	-10.0	109.30	46.48	109.33	47.26	108.16	47.74	109.78	48.38	110.00	48.67	105.08	45.77
	-8.5	-9.1	110.48	46.58	110.91	47.32	109.33	47.89	110.97	48.39	111.18	48.81	105.08	45.16
	-7.0	-7.6	119.13	46.72	119.20	47.19	117.93	48.95	119.72	50.15	115.97	47.90	105.08	45.00
	-5.0	-5.6	120.69	46.78	120.78	47.32	119.49	47.72	120.52	48.68	115.97	46.33	105.08	43.74
	-3.0	-3.7	123.06	46.80	123.14	47.33	121.82	46.19	120.52	45.92	115.97	44.85	105.08	42.29
	0.0	-0.7	126.20	46.76	133.80	47.27	123.00	44.97	120.52	43.79	115.97	42.67	105.08	40.32
	3.0	2.2	134.45	45.83	133.80	46.10	123.00	43.68	120.52	41.67	115.97	40.23	105.08	38.38
	5.0	4.1	142.71	45.23	133.80	43.94	123.00	41.60	120.52	39.87	115.97	38.61	105.08	36.72
	7.0	6.0	142.71	44.62	133.80	41.59	123.00	38.92	120.52	37.77	115.97	37.04	105.08	35.13
	9.0	7.9	142.71	41.99	133.80	39.40	123.00	37.87	120.52	36.74	115.97	35.87	105.08	33.96
	11.0	9.8	142.71	39.37	133.80	37.04	123.00	36.54	120.52	35.37	115.97	34.55	105.08	32.48
	13.0	11.8	142.71	36.93	133.80	36.06	123.00	35.17	120.52	34.03	115.97	33.36	105.08	31.46
	15.0	13.7	142.71	35.02	133.80	34.56	123.00	33.90	120.52	32.87	115.97	32.17	105.08	30.23
	18.0	16.6	142.71	32.61	133.80	32.15	123.00	31.47	120.52	30.58	115.97	29.93	105.08	28.07
21.0	19.5	142.71	30.17	133.80	29.74	123.00	29.14	120.52	28.26	115.97	27.68	105.08	25.96	
24.0	22.4	142.71	27.86	133.80	27.46	123.00	26.91	120.52	26.09	115.97	25.49	105.08	23.93	
27.0	25.3	142.71	25.56	133.80	25.15	123.00	24.64	120.52	23.92	115.97	23.45	105.08	22.02	
30.0	28.1	142.71	23.29	133.80	23.01	123.00	22.50	120.52	21.84	115.97	21.38	105.08	20.07	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.34:40HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	96.65	47.22	97.04	48.18	94.90	47.84	96.45	49.17	94.63	48.43	93.73	45.38
	-25.0	-25.4	98.62	47.18	99.02	48.18	96.83	47.79	98.42	49.31	96.56	48.48	95.64	45.34
	-19.8	-20.0	102.80	48.03	103.36	48.95	101.03	48.62	102.77	49.68	100.83	49.04	95.64	44.52
	-16.7	-17.0	105.21	48.18	105.81	49.17	103.82	48.58	105.20	49.79	103.22	47.96	95.64	43.16
	-13.7	-15.0	106.82	48.20	107.44	49.28	105.41	48.80	106.82	49.80	104.42	46.84	95.64	42.26
	-11.8	-13.0	108.44	48.31	109.06	49.29	107.01	48.91	108.46	49.21	104.42	46.01	95.64	41.46
	-9.8	-11.0	110.05	48.46	111.10	49.45	108.60	48.81	110.48	48.22	104.42	45.15	95.64	40.63
	-9.5	-10.0	110.86	48.43	111.91	49.45	109.41	48.87	110.89	47.81	104.42	44.60	95.64	40.27
	-8.5	-9.1	111.66	48.48	112.32	49.51	110.21	48.82	110.89	47.40	104.42	44.21	95.64	39.92
	-7.0	-7.6	112.87	48.49	113.95	48.71	111.40	48.22	110.89	46.67	104.42	43.58	95.64	39.27
	-5.0	-5.6	121.75	48.71	122.49	46.70	113.39	46.16	110.89	45.10	104.42	42.26	95.64	38.14
	-3.0	-3.7	123.36	48.79	124.12	44.63	113.39	43.78	110.89	43.47	104.42	40.83	95.64	37.24
	0.0	-0.7	125.77	48.71	124.12	42.39	113.39	41.95	110.89	41.36	104.42	38.83	95.64	36.20
	3.0	2.2	131.82	48.93	124.12	40.12	113.39	39.55	110.89	39.82	104.42	37.16	95.64	35.05
	5.0	4.1	131.82	47.58	124.12	38.11	113.39	37.74	110.89	37.82	104.42	35.40	95.64	33.66
	7.0	6.0	131.82	41.39	124.12	37.52	113.39	35.34	110.89	34.63	104.42	32.55	95.64	29.88
	9.0	7.9	131.82	38.81	124.12	36.73	113.39	33.57	110.89	32.98	104.42	31.17	95.64	28.74
	11.0	9.8	131.82	36.57	124.12	34.72	113.39	32.03	110.89	31.49	104.42	29.77	95.64	27.80
	13.0	11.8	131.82	34.56	124.12	33.07	113.39	30.55	110.89	30.12	104.42	28.71	95.64	26.83
15.0	13.7	131.82	33.12	124.12	31.85	113.39	29.49	110.89	29.19	104.42	27.91	95.64	26.20	
18.0	16.6	131.82	30.81	124.12	29.60	113.39	27.49	110.89	27.20	104.42	25.96	95.64	24.37	
21.0	19.5	131.82	28.53	124.12	27.43	113.39	25.48	110.89	25.21	104.42	23.99	95.64	22.55	
24.0	22.4	131.82	26.29	124.12	25.21	113.39	23.48	110.89	23.19	104.42	22.16	95.64	20.82	
27.0	25.3	131.82	24.12	124.12	23.20	113.39	21.50	110.89	21.32	104.42	20.33	95.64	19.06	
30.0	28.1	131.82	22.03	124.12	21.16	113.39	19.65	110.89	19.41	104.42	18.51	95.64	17.43	
80%	-30.0	-30.5	95.32	49.40	96.84	51.13	95.74	48.84	94.42	46.29	92.75	45.28	83.91	40.57
	-25.0	-25.4	97.27	49.50	98.82	51.04	97.70	48.74	96.35	46.20	94.64	45.19	85.62	40.60
	-19.8	-20.0	101.13	47.60	102.77	49.15	100.72	46.62	96.35	44.43	94.64	43.15	85.62	38.53
	-16.7	-17.0	103.52	47.68	105.20	49.23	100.72	45.30	96.35	43.04	94.64	41.90	85.62	37.38
	-13.7	-15.0	105.11	47.78	106.82	49.37	100.72	44.35	96.35	42.23	94.64	40.98	85.62	36.70
	-11.8	-13.0	106.70	47.94	108.46	48.32	100.72	43.41	96.35	41.26	94.64	40.29	85.62	35.95
	-9.8	-11.0	108.29	47.89	110.08	47.34	100.72	42.71	96.35	40.49	94.64	39.46	85.62	35.31
	-9.5	-10.0	109.10	48.09	110.08	46.94	100.72	42.25	96.35	40.21	94.64	39.11	85.62	35.04
	-8.5	-9.1	109.89	48.16	110.08	46.62	100.72	41.91	96.35	39.75	94.64	38.81	85.62	34.64
	-7.0	-7.6	111.08	48.06	110.08	45.80	100.72	41.26	96.35	39.37	94.64	38.25	85.62	34.20
	-5.0	-5.6	115.85	47.11	110.08	44.30	100.72	39.97	96.35	38.05	94.64	37.09	85.62	33.26
	-3.0	-3.7	115.85	48.83	110.08	42.74	100.72	38.38	96.35	36.58	94.64	35.77	85.62	32.32
	0.0	-0.7	115.85	48.21	110.08	40.80	100.72	37.01	96.35	35.58	94.64	34.74	85.62	31.64
	3.0	2.2	115.85	44.60	110.08	38.50	100.72	34.85	96.35	34.34	94.64	33.38	85.62	30.37
	5.0	4.1	115.85	40.77	110.08	36.31	100.72	33.28	96.35	32.85	94.64	31.81	85.62	29.69
	7.0	6.0	115.85	35.66	110.08	34.09	100.72	31.16	96.35	29.81	94.64	29.29	85.62	26.71
	9.0	7.9	115.85	33.87	110.08	32.45	100.72	29.82	96.35	28.72	94.64	28.14	85.62	25.91
	11.0	9.8	115.85	32.15	110.08	30.89	100.72	28.61	96.35	27.65	94.64	27.25	85.62	25.18
	13.0	11.8	115.85	30.65	110.08	29.73	100.72	27.63	96.35	26.67	94.64	26.46	85.62	24.61
	15.0	13.7	115.85	29.62	110.08	28.75	100.72	26.89	96.35	26.14	94.64	25.88	85.62	24.23
18.0	16.6	115.85	27.60	110.08	26.79	100.72	25.01	96.35	24.31	94.64	24.10	85.62	22.50	
21.0	19.5	115.85	25.56	110.08	24.79	100.72	23.14	96.35	22.47	94.64	22.31	85.62	20.83	
24.0	22.4	115.85	23.51	110.08	22.80	100.72	21.35	96.35	20.73	94.64	20.58	85.62	19.18	
27.0	25.3	115.85	21.59	110.08	20.98	100.72	19.60	96.35	19.04	94.64	18.83	85.62	17.61	
30.0	28.1	115.85	19.72	110.08	19.16	100.72	17.87	96.35	17.33	94.64	17.25	85.62	16.07	

Abbreviations:
 CR: Combination ratio
 TC: Total capacity (kW)
 PI: Power input (compressor + outdoor fan motor) (kW)
 Notes:
 Shaded cells indicate rating condition.

Table continued on next page ...

V8 VRF 50/60Hz



Table2-8.34:40HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	
	-30.0	-30.5	98.70	50.23	94.51	47.32	87.30	46.02	83.67	45.27	80.60	44.63	74.37	43.36
	-25.0	-25.4	100.72	50.33	96.44	47.32	89.09	46.06	85.38	45.23	82.24	44.76	75.89	43.36
	-19.8	-20.0	100.72	47.84	96.44	44.78	89.09	43.49	85.38	42.62	82.24	42.14	75.89	40.78
	-16.7	-17.0	101.51	46.30	96.44	43.44	89.09	42.33	85.38	41.37	82.24	40.97	75.89	39.43
	-13.7	-15.0	101.51	45.47	96.44	42.60	89.09	41.52	85.38	40.57	82.24	40.13	75.89	38.70
	-11.8	-13.0	101.51	44.59	96.44	41.83	89.09	40.82	85.38	39.95	82.24	39.43	75.89	37.96
	-9.8	-11.0	101.51	43.71	96.44	40.94	89.09	40.04	85.38	39.21	82.24	38.59	75.89	37.21
	-9.5	-10.0	101.51	43.22	96.44	40.67	89.09	39.11	85.38	38.15	82.24	37.59	75.89	36.24
	-8.5	-9.1	101.51	42.81	96.44	40.28	89.09	37.68	85.38	36.92	82.24	36.40	75.89	34.89
	-7.0	-7.6	101.51	42.37	96.44	39.77	89.09	36.09	85.38	35.28	82.24	34.69	75.89	33.21
	-5.0	-5.6	101.51	41.02	96.44	38.50	89.09	35.10	85.38	34.20	82.24	33.71	75.89	32.32
	-3.0	-3.7	101.51	38.85	96.44	37.40	89.09	34.05	85.38	33.18	82.24	32.66	75.89	31.24
	0.0	-0.7	101.51	36.71	96.44	35.81	89.09	32.60	85.38	31.82	82.24	31.23	75.89	29.72
	3.0	2.2	101.51	34.68	96.44	33.82	89.09	30.68	85.38	29.79	82.24	29.21	75.89	27.75
	5.0	4.1	101.51	33.13	96.44	31.66	89.09	29.54	85.38	28.59	82.24	28.15	75.89	26.59
	7.0	6.0	101.51	31.77	96.44	30.33	89.09	27.95	85.38	27.19	82.24	26.66	75.89	25.14
	9.0	7.9	101.51	30.47	96.44	29.07	89.09	27.07	85.38	26.15	82.24	25.62	75.89	24.10
	11.0	9.8	101.51	29.17	96.44	28.14	89.09	26.01	85.38	25.13	82.24	24.55	75.89	23.01
	13.0	11.8	101.51	28.09	96.44	26.99	89.09	24.70	85.38	23.87	82.24	23.32	75.89	21.75
15.0	13.7	101.51	27.12	96.44	25.78	89.09	23.79	85.38	22.91	82.24	22.38	75.89	20.80	
18.0	16.6	101.51	25.20	96.44	23.94	89.09	22.13	85.38	21.27	82.24	20.78	75.89	19.37	
21.0	19.5	101.51	23.34	96.44	22.21	89.09	20.47	85.38	19.72	82.24	19.26	75.89	17.90	
24.0	22.4	101.51	21.53	96.44	20.47	89.09	18.89	85.38	18.19	82.24	17.75	75.89	16.55	
27.0	25.3	101.51	19.73	96.44	18.78	89.09	17.28	85.38	16.69	82.24	16.30	75.89	15.18	
30.0	28.1	101.51	18.02	96.44	17.11	89.09	15.78	85.38	15.20	82.24	14.87	75.89	13.84	
60%	-30.0	-30.5	86.87	47.65	80.67	44.74	74.74	42.58	72.45	41.99	68.60	39.87	63.20	37.87
	-25.0	-25.4	88.64	47.75	82.32	44.65	76.26	42.66	73.93	41.99	70.00	39.87	64.49	37.80
	-19.8	-20.0	88.64	45.12	82.32	42.64	76.26	41.09	73.93	40.20	70.00	37.92	64.49	35.92
	-16.7	-17.0	88.64	42.58	82.32	39.93	76.26	38.38	73.93	37.28	70.00	35.08	64.49	33.25
	-13.7	-15.0	88.64	41.07	82.32	38.72	76.26	37.12	73.93	35.95	70.00	33.79	64.49	31.87
	-11.8	-13.0	88.64	39.62	82.32	37.31	76.26	35.75	73.93	34.64	70.00	32.25	64.49	30.35
	-9.8	-11.0	88.64	38.42	82.32	35.86	76.26	33.97	73.93	33.07	70.00	30.97	64.49	29.33
	-9.5	-10.0	88.64	37.08	82.32	34.52	76.26	32.68	73.93	31.62	70.00	29.55	64.49	27.70
	-8.5	-9.1	88.64	35.42	82.32	33.22	76.26	31.25	73.93	30.29	70.00	28.18	64.49	26.10
	-7.0	-7.6	88.64	34.18	82.32	31.76	76.26	30.16	73.93	29.31	70.00	27.15	64.49	25.00
	-5.0	-5.6	88.64	32.88	82.32	30.60	76.26	28.69	73.93	28.03	70.00	25.99	64.49	23.82
	-3.0	-3.7	88.64	31.74	82.32	29.46	76.26	27.36	73.93	26.91	70.00	24.90	64.49	22.90
	0.0	-0.7	88.64	30.43	82.32	28.27	76.26	26.20	73.93	25.69	70.00	23.60	64.49	22.51
	3.0	2.2	88.64	29.04	82.32	26.90	76.26	25.14	73.93	24.58	70.00	22.44	64.49	21.66
	5.0	4.1	88.64	27.56	82.32	25.78	76.26	24.21	73.93	23.47	70.00	21.88	64.49	21.22
	7.0	6.0	88.64	26.30	82.32	24.63	76.26	23.12	73.93	22.54	70.00	21.76	64.49	20.80
	9.0	7.9	88.64	25.90	82.32	24.09	76.26	22.72	73.93	22.01	70.00	20.91	64.49	19.92
	11.0	9.8	88.64	25.48	82.32	23.71	76.26	22.13	73.93	21.46	70.00	20.44	64.49	19.54
	13.0	11.8	88.64	24.68	82.32	22.94	76.26	21.50	73.93	21.03	70.00	19.99	64.49	19.07
	15.0	13.7	88.64	24.40	82.32	22.52	76.26	20.80	73.93	20.51	70.00	19.51	64.49	18.56
18.0	16.6	88.64	22.68	82.32	20.91	76.26	19.35	73.93	19.12	70.00	18.13	64.49	17.23	
21.0	19.5	88.64	21.02	82.32	19.36	76.26	17.97	73.93	17.65	70.00	16.82	64.49	16.00	
24.0	22.4	88.64	19.39	82.32	17.83	76.26	16.56	73.93	16.32	70.00	15.48	64.49	14.71	
27.0	25.3	88.64	17.77	82.32	16.39	76.26	15.19	73.93	14.95	70.00	14.20	64.49	13.50	
30.0	28.1	88.64	16.22	82.32	14.98	76.26	13.85	73.93	13.66	70.00	12.97	64.49	12.33	

Abbreviations:
 CR: Combination ratio
 TC: Total capacity (kW)
 PI: Power input (compressor + outdoor fan motor) (kW)
 Notes:
 Shaded cells indicate rating condition.

Table continued on next page ...

Table2-8.34:40HP Heating capacity(continued)

CR	Outdoor air temp.		Indoor air temp. °C DB											
			16.0		18.0		20.0		21.0		22.0		24.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50%	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-30.0	-30.5	71.70	39.06	67.73	37.26	63.07	35.71	59.59	34.42	57.23	33.59	51.89	30.96
	-25.0	-25.4	73.16	39.02	69.11	37.34	64.36	35.71	60.81	34.49	58.40	33.55	52.95	30.87
	-19.8	-20.0	73.16	36.91	69.11	35.65	64.36	34.31	60.81	32.98	58.40	32.01	52.95	29.29
	-16.7	-17.0	73.16	34.81	69.11	33.26	64.36	32.12	60.81	30.56	58.40	29.67	52.95	27.18
	-13.7	-15.0	73.16	33.64	69.11	32.26	64.36	31.05	60.81	29.50	58.40	28.51	52.95	26.02
	-11.8	-13.0	73.16	32.49	69.11	31.10	64.36	29.92	60.81	28.44	58.40	27.32	52.95	24.83
	-9.8	-11.0	73.16	31.37	69.11	29.92	64.36	28.42	60.81	27.19	58.40	26.19	52.95	23.96
	-9.5	-10.0	73.16	30.28	69.11	28.80	64.36	27.29	60.81	25.98	58.40	25.09	52.95	22.59
	-8.5	-9.1	73.16	28.98	69.11	27.77	64.36	26.15	60.81	24.89	58.40	23.97	52.95	21.33
	-7.0	-7.6	73.16	28.00	69.11	26.50	64.36	25.19	60.81	24.01	58.40	23.02	52.95	20.44
	-5.0	-5.6	73.16	26.94	69.11	25.59	64.36	23.97	60.81	23.00	58.40	22.15	52.95	19.40
	-3.0	-3.7	73.16	26.02	69.11	24.55	64.36	22.86	60.81	22.15	58.40	21.21	52.95	18.74
	0.0	-0.7	73.16	24.95	69.11	23.54	64.36	21.89	60.81	21.02	58.40	20.15	52.95	18.38
	3.0	2.2	73.16	23.76	69.11	22.46	64.36	21.06	60.81	20.20	58.40	19.12	52.95	18.33
	5.0	4.1	73.16	22.56	69.11	21.47	64.36	20.26	60.81	19.26	58.40	18.73	52.95	18.09
	7.0	6.0	73.16	21.52	69.11	20.58	64.36	19.34	60.81	18.54	58.40	18.47	52.95	17.61
	9.0	7.9	73.16	21.15	69.11	20.13	64.36	19.03	60.81	18.06	58.40	17.69	52.95	17.04
	11.0	9.8	73.16	20.89	69.11	19.79	64.36	18.50	60.81	17.63	58.40	17.38	52.95	16.70
	13.0	11.8	73.16	20.20	69.11	19.16	64.36	17.96	60.81	17.24	58.40	16.98	52.95	16.37
15.0	13.7	73.16	19.97	69.11	18.77	64.36	17.41	60.81	16.82	58.40	16.53	52.95	15.89	
18.0	16.6	73.16	18.56	69.11	17.46	64.36	16.23	60.81	15.68	58.40	15.38	52.95	14.83	
21.0	19.5	73.16	17.20	69.11	16.18	64.36	15.00	60.81	14.52	58.40	14.24	52.95	13.72	
24.0	22.4	73.16	15.85	69.11	14.93	64.36	13.81	60.81	13.37	58.40	13.10	52.95	12.64	
27.0	25.3	73.16	14.54	69.11	13.66	64.36	12.68	60.81	12.28	58.40	12.02	52.95	11.61	
30.0	28.1	73.16	13.28	69.11	12.48	64.36	11.57	60.81	11.21	58.40	10.96	52.95	10.58	

Abbreviations:

CR: Combination ratio

TC: Total capacity (kW)

PI: Power input (compressor + outdoor fan motor) (kW)

Notes:

Shaded cells indicate rating condition.

8.3 Capacity Correction Factors for Piping Length and Level Difference

Figure 2-8.1: Rate of change icooling capacity

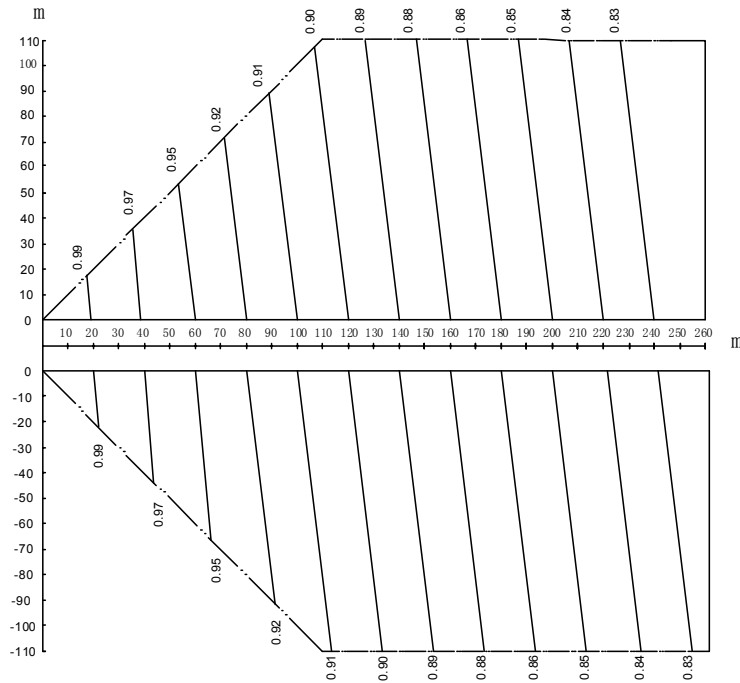
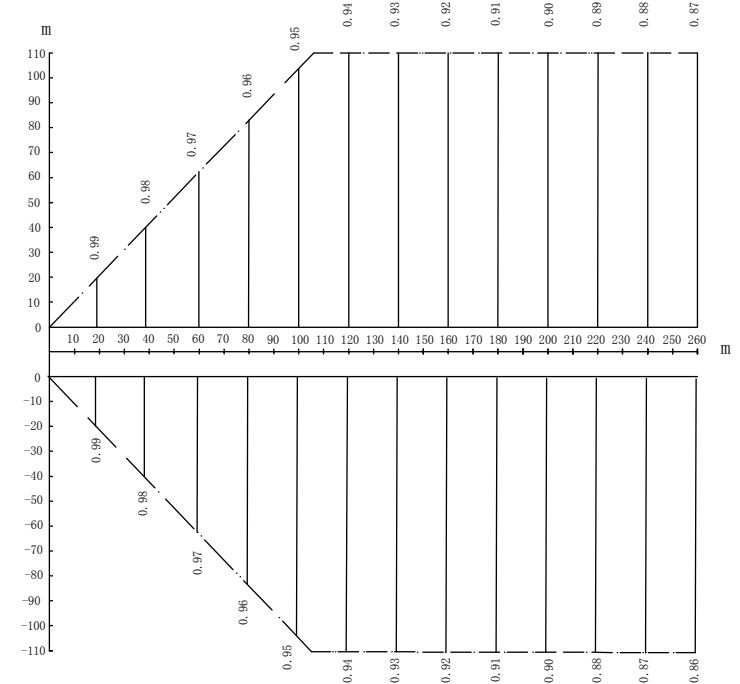


Figure 2-8.2: Rate of change iheating capacity



- Notes:
1. The horizontal axis shows equivalent length of piping between farthest indoor unit and first outdoor branch joint; the vertical axis shows the largest level difference between indoor unit and outdoor unit. For level differences, positive values indicate that the outdoor unit is above the indoor unit, negative values indicate that the outdoor unit is below the indoor unit.
 2. These figures illustrate the rate of change in capacity of a system with only standard indoor units at maximum load (with the thermostat set to maximum) under standard conditions. Under partial load conditions there is only a minor deviation from the rate of change in capacity shown in these figures.
 3. The capacity of the system is either the total capacity of the indoor units obtained from indoor unit capacity tables or the corrected capacity of the outdoor units as per the calculations below, whichever is smaller.

Corrected capacity of outdoor units	=	Capacity of outdoor units obtained from outdoor unit capacity tables at the combination ratio	x	Capacity correction factor
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8.4 Capacity Correction Factors for Frost Accumulation

The heating capacity tables do not take account of the reduction in capacity when frost has accumulated or while the defrosting operation is in progress. If snow has accumulated against the outside surface of the outdoor unit heat exchanger heating capacity is reduced. The reduction in heating capacity is dependent on a number of factors including the outdoor temperature, the relative humidity and the amount of frosting which has occurred.

Corrected heating capacity values, which take these factors into account, can be calculated as follows, using the correction factors for frost accumulation given in Table 2-8.27:

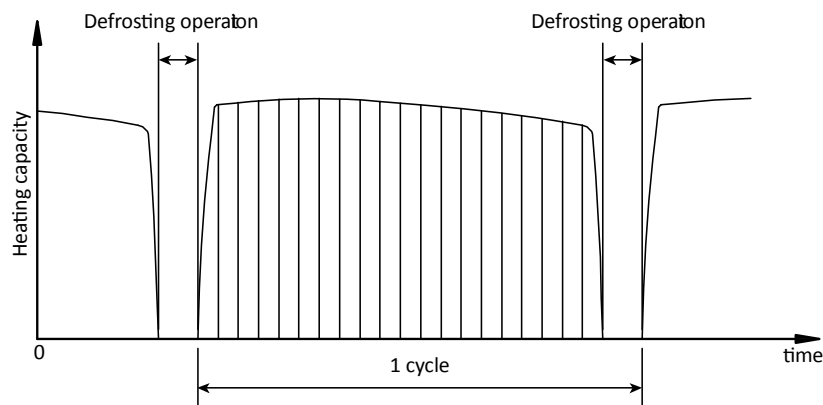
$$\text{Corrected heating capacity} = \text{Value given in outdoor heating capacity table} \times \text{Correction factor for frost accumulation}$$

Table 2-8.27: Correction factor for frost accumulation

Heat exchanger inlet port temperature (°C / RH 85%)	-7	-5	-2	0	2	5	7
Correction factor for frost accumulation	0.94	0.93	0.89	0.84	0.83	0.91	1.00

Corrected heating capacities express the heating capacity over the heating/defrosting cycle shown in Figure 2-8.43.

Figure 2-8.3: Defrosting cycle



9 Operating Limits

Figure 2-9.1: Cooling operating limits

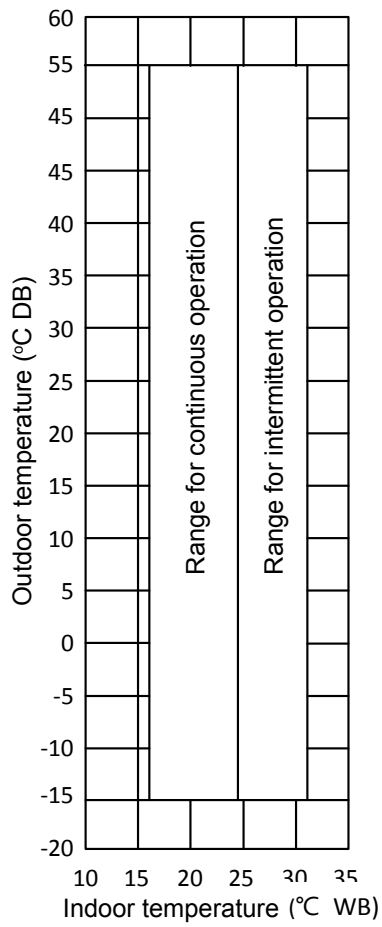
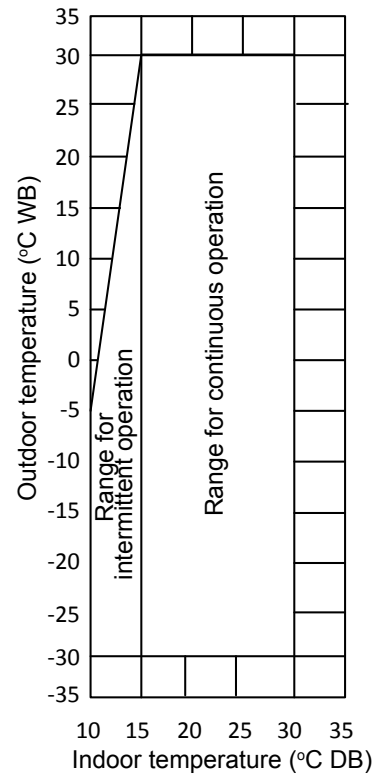


Figure 2-9.2: Heating operating limits



Notes:

- These figures assume the following operating conditions:
 - Equivalent piping length: 5m
 - Level difference: 0

10 Sound Levels

10.1 Overall

Table 2-10.1: Sound pressure level

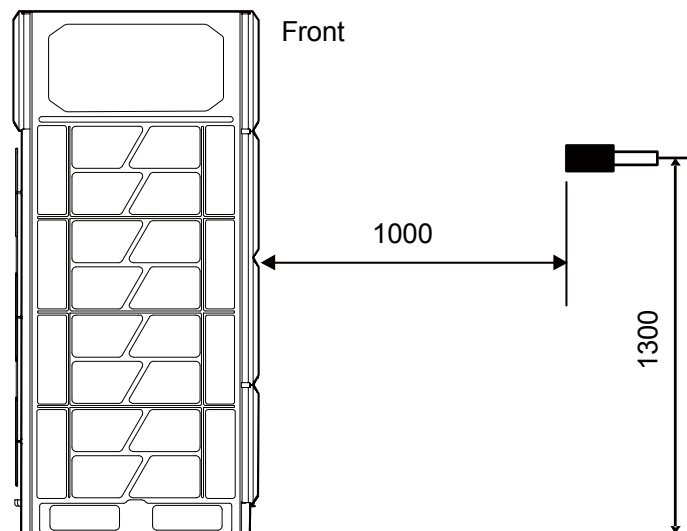
Model	dB(A)
8HP	56
10HP	57
12HP	59
14HP	59
16HP	60
18HP	61
20HP	62
22HP	62
24HP	62
26HP	62
28HP	63
30HP	64
32HP	64
34HP	66
36HP	66
38HP	67
40HP	67
42HP	65
44HP	65

Model	dB(A)
46HP	65
48HP	65
50HP	67
52HP	67
54HP	67
56HP	68
58HP	68
60HP	68
62HP	68
64HP	68
66HP	68
68HP	68
70HP	69
72HP	69
74HP	70
76HP	70
78HP	70
80HP	70
82HP	69

Model	dB(A)
84HP	69
86HP	69
88HP	69
90HP	70
92HP	70
94HP	70
96HP	70
98HP	70
100HP	70
102HP	70
104HP	70
106HP	71
108HP	71
110HP	71
112HP	71
114HP	72
116HP	72
118HP	72
120HP	72

- Notes:
1. Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Figure 2-10.1: Sound pressure level measurement (unit: mm)



10.2 Octave Band Levels

Figure 2-10.2: 8HP octave band level

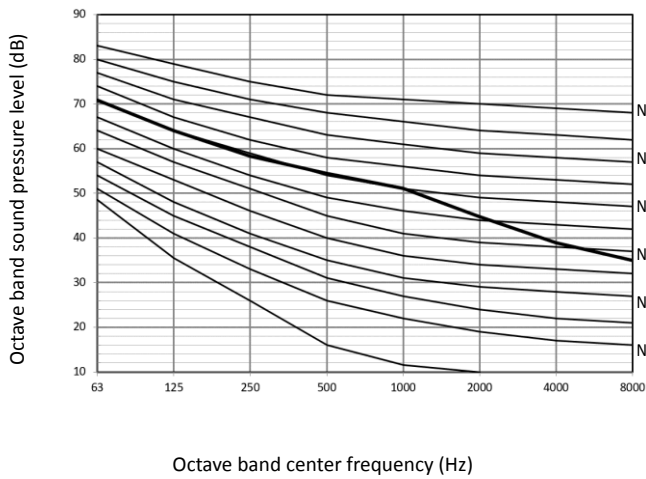


Figure 2-10.3: 10HP octave band level

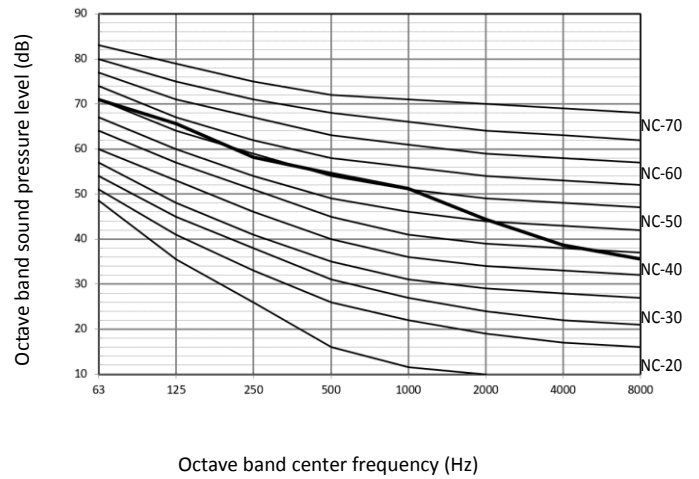


Figure 2-10.4: 12HP octave band level

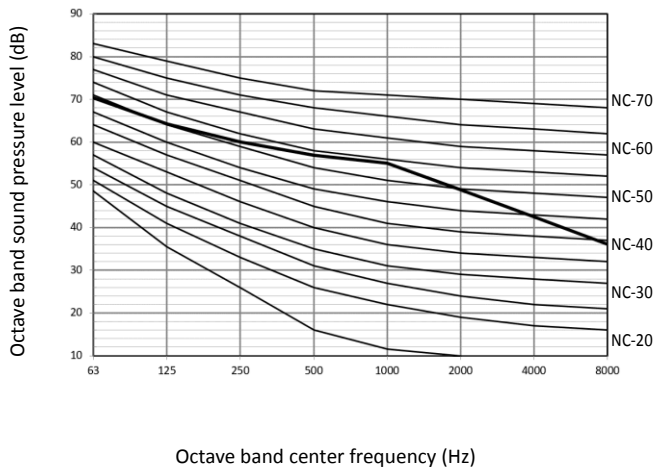


Figure 2-10.5: 14HP octave band level

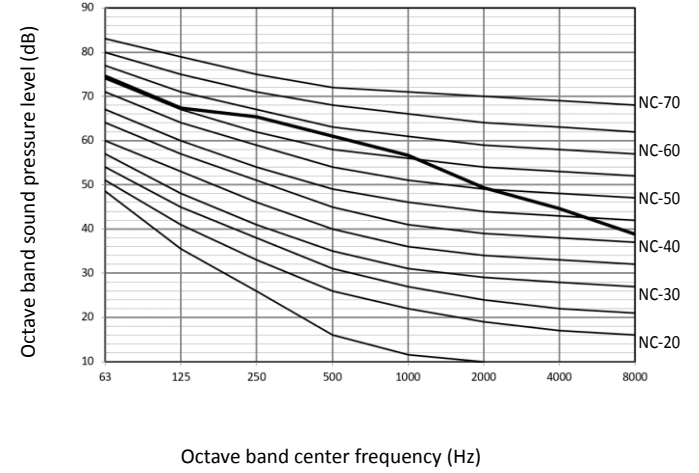


Figure 2-10.6: 16HP octave band level

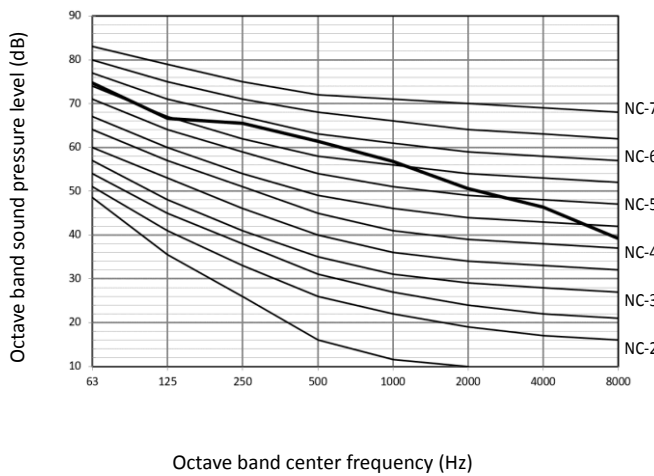


Figure 2-10.7: 18HP octave band level

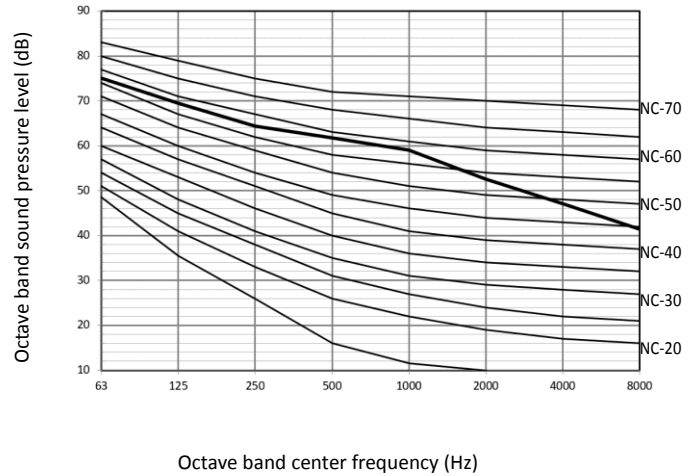


Figure 2-10.8: 20HP octave band level

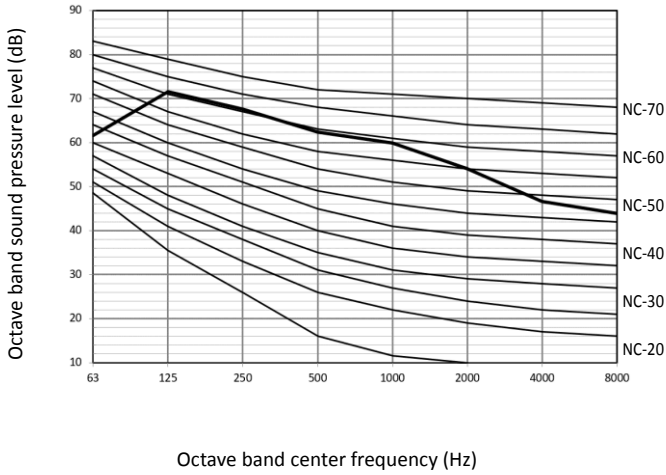


Figure 2-10.9: 22HP octave band level

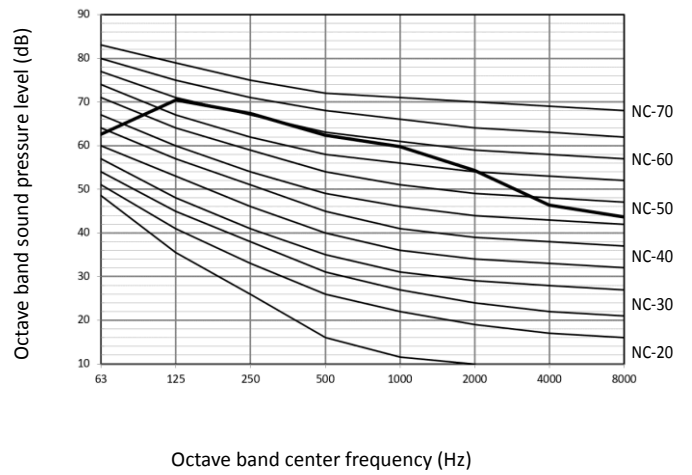


Figure 2-10.10: 24HP octave band level

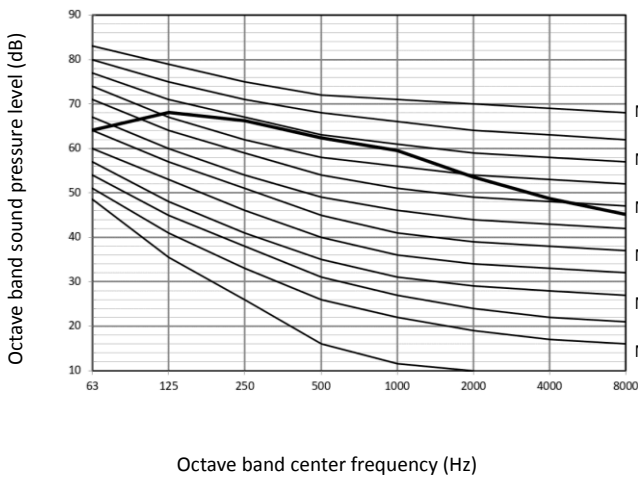


Figure 2-10.11: 26HP octave band level

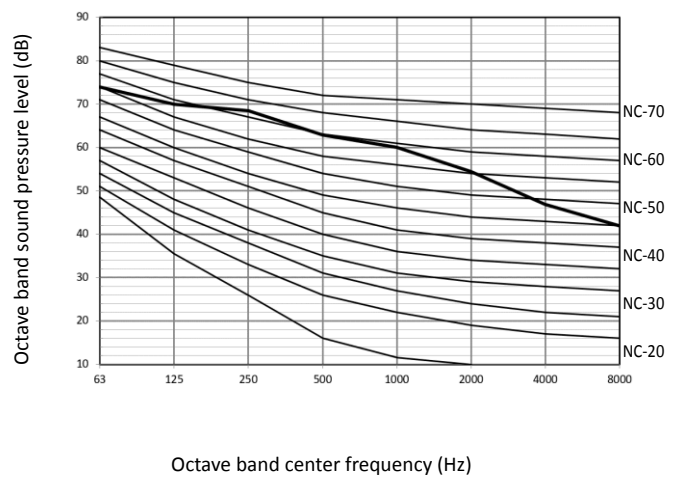


Figure 2-10.12: 28HP octave band level

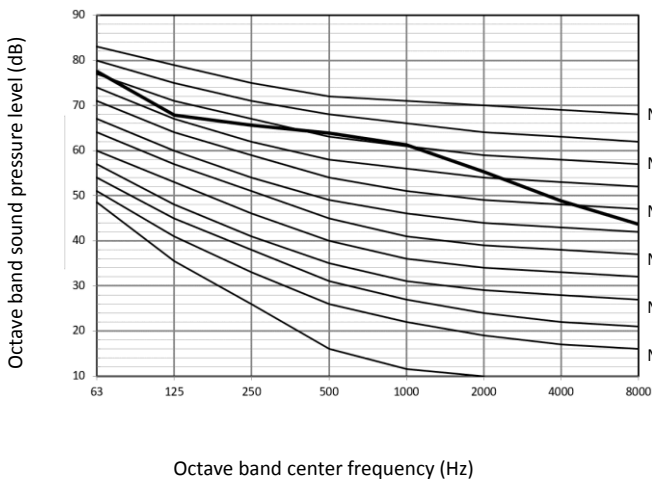


Figure 2-10.13: 30HP octave band level

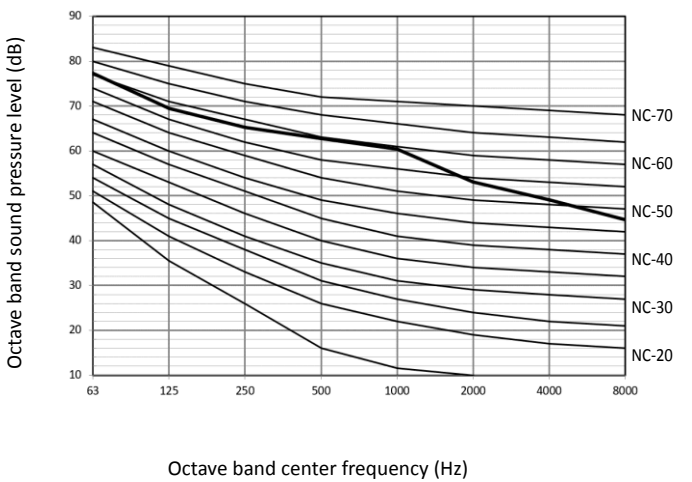


Figure 2-10.14: 32HP octave band level

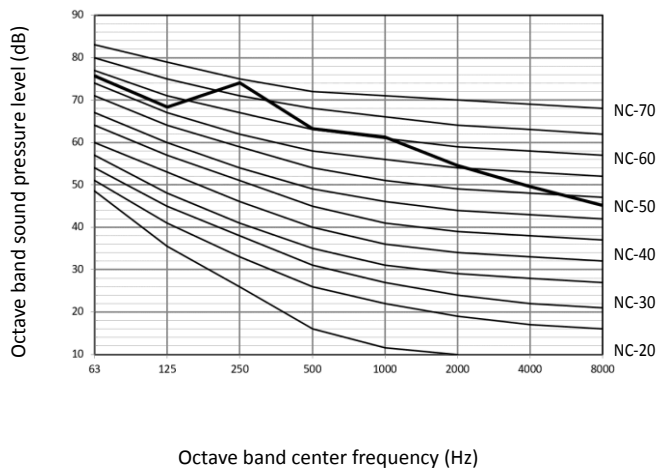


Figure 2-10.15: 34HP octave band level

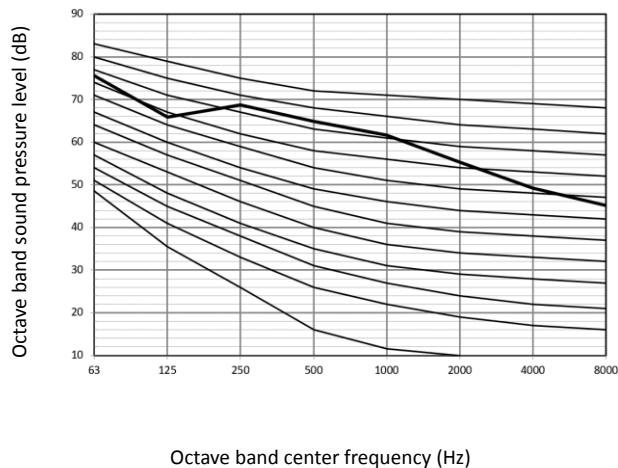


Figure 2-10.14: 36HP octave band level

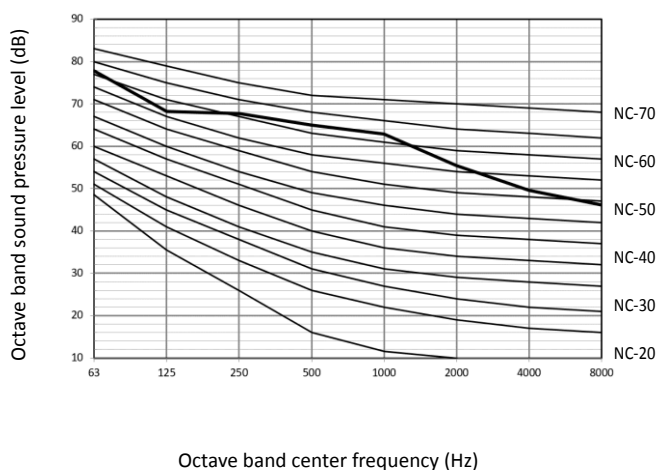


Figure 2-10.15: 38HP octave band level

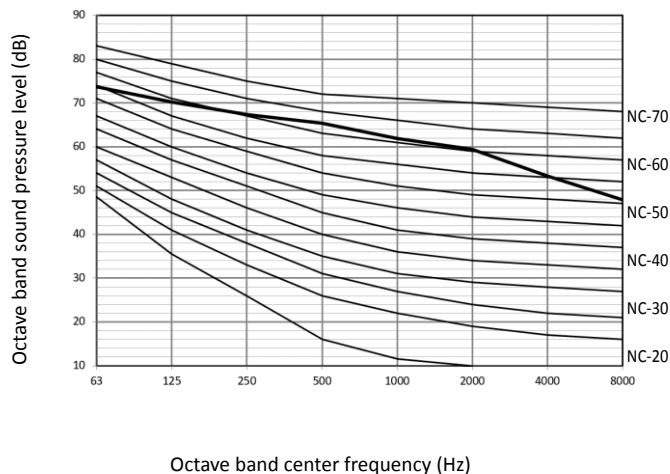
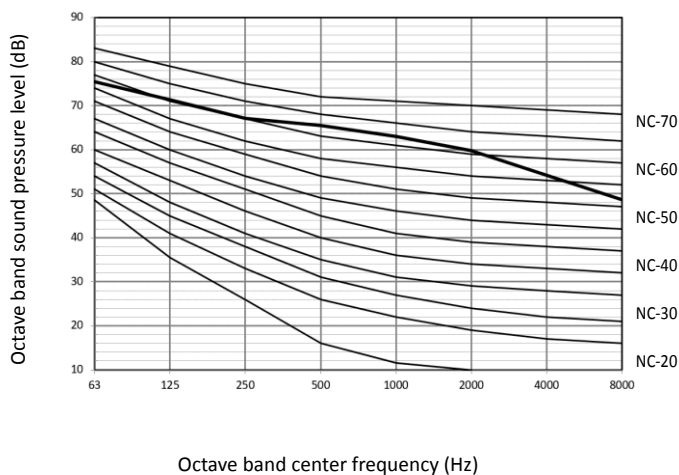





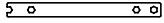
Figure 2-10.16: 40HP octave band level



11 Accessories

11.1 Standard Accessories

Table 2-11.1: Standard accessories

Name	Shape	Quantity	Function
Installation and operation manual		1	
L-shaped connection pipe		2	Connecting gas and liquid pipes
Matched resistor		1	Enhances communication stability
Wrench		1	Removing side plate

L-shaped pipe

Figure 2-11.1: L-shaped pipe size (unit: mm)

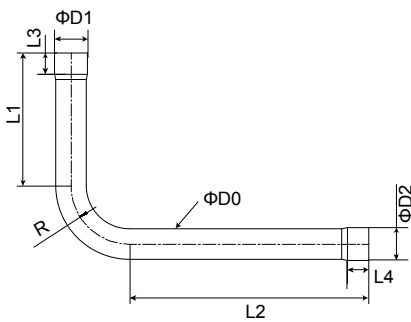


Table 2-11.2: L-shaped pipe size (unit: mm)

	8-12HP		14-18HP		20-24HP		26-28HP		30-40HP	
	Gas	Liquid	Gas	Liquid	Gas	Liquid	Gas	Liquid	Gas	Liquid
ΦD0(OD)	25.4	12.7	28.6	15.9	31.8	19.1	31.8	22.2	38.1	22.2
ΦD1(ID)	25.4	12.7	28.6	15.9	28.6	15.9	31.8	22.2	34.9	22.2
ΦD2(ID)	25.4	12.7	28.6	15.9	31.8	19.1	31.8	22.2	38.1	22.2
L1	130	160	125	155	130	162	130	165	155	165
L2	230	265	225	255	220	245	130	165	115	165
L3	20	15	20	15	25	15	25	20	20	20
L4	20	15	20	15	20	15	25	20	20	20
R	50	25	55	30	60	40	60	40	80	40

11.2 Optional Accessories

Table 2-11.3: Optional accessories

Optional accessories	Model	Packed dimensions (mm)	Net/gross weight (kg)	Function
Outdoor branch joint kits	FQZHW-02N1E	255×150×185	1.8 / 2.0	Distribute refrigerant to indoor units and balance flow resistance between outdoor units
	FQZHW-02N1G	405×120×270	2.3/2.8	
	FQZHW-03N1E	345×160×285	3.7 / 4.3	
	FQZHW-03N1G	585×140×340	4.2/5.0	
Indoor branch joint kits	FQZHN-01D	290×105×100	0.3 / 0.4	
	FQZHN-02D	290×105×100	0.4 / 0.6	
	FQZHN-03D	310×130×125	0.6 / 0.9	
	FQZHN-04D	350×170×180	1.1 / 1.5	
	FQZHN-05D	365×195×215	1.4 / 1.9	
	FQZHN-06D	390×230×255	2.5 / 3.1	
	FQZHN-07D	390×230×255	2.8 / 3.4	

Part 3

System Design and Installation

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1 Preface to Part 3

1.1 Notes for Installers Boxes

The information contained in this Engineering Data Book may primarily be of use during the system design stage of a MDV V8 Series VRF project. Additional important information which may primarily be of use during field installation has been placed in boxes, such as the example below, titled “Notes for installers”.

Notes for installers



- Notes for installers boxes contain important information which may primarily be of use during field installation, rather than during desk-based system design.

1.2 Definitions

In this Engineering Data Book, the term “applicable legislation” refers to all national, local and other laws, standards, codes, rules, regulations and other legislation that apply in a given situation.

1.3 Precautions

All system installation including installation of piping and electrical works must only be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation.

2 Unit Placement and Installation

2.1 Outdoor Units

2.1.1 Placement considerations

Placement of outdoor units should take account of the following considerations:

- Air conditioners should not be exposed to direct radiation from a high-temperature heat source.
- Air conditioners should not be installed in positions where dust or dirt may affect heat exchangers.
- Air conditioners should not be installed in locations where exposure to oil or to corrosive or harmful gases, such as acidic or alkaline gases, may occur.
- Air conditioners should not be installed in locations where exposure to salinity may occur unless the anti-corrosion treatment for high-salinity areas customization option has been added and the precautions described in Part 3, 10 “Installation in Areas of High Salinity” are taken.
- Outdoor units should be installed in well-drained, well-ventilated positions that are as close as possible to the indoor units.

2.1.2 Spacing

Outdoor units must be spaced such that sufficient air may flow through each unit. Sufficient airflow across heat exchangers is essential for outdoor units to function properly. Figures 3-2.1 to 3-2.3 show spacing requirements in three different scenarios.

If the particular circumstances of an installation require a unit to be placed closer to a wall than specified in Figures 3-2.1 to 3-2.3, a discharge duct should be installed. Refer to Part 3, 3 “Outdoor Unit Ducting and Shielding”. Depending on the height of adjacent walls relative to the height of the units, ducting may be required. Refer to Part 3, 3 “Outdoor Unit Ducting and Shielding”.

Figure 3-2.1: Single unit installation (unit: mm)

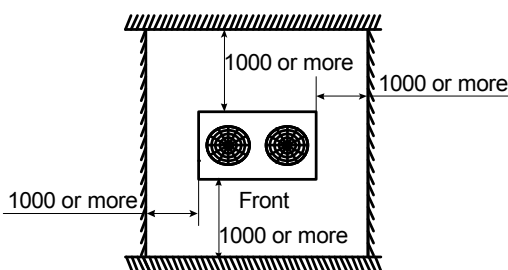


Figure 3-2.2: Single row installation (unit: mm)

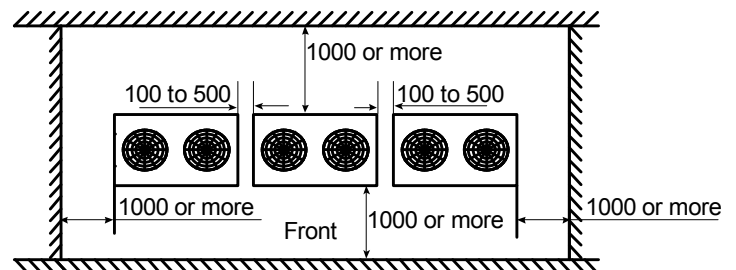
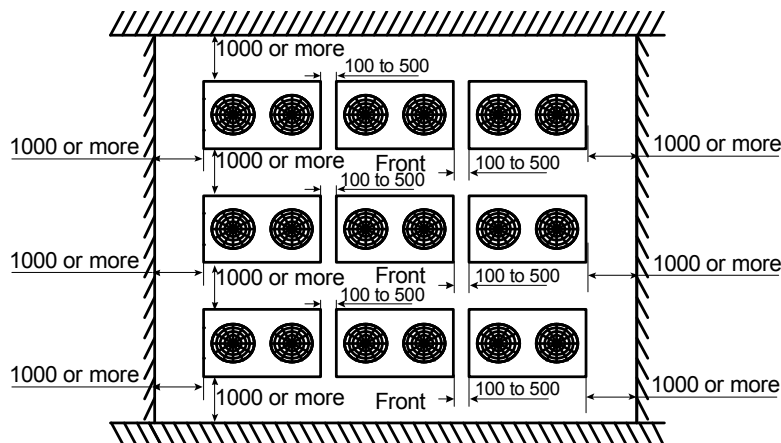


Figure 3-2.3: Multi-row installation (unit: mm)



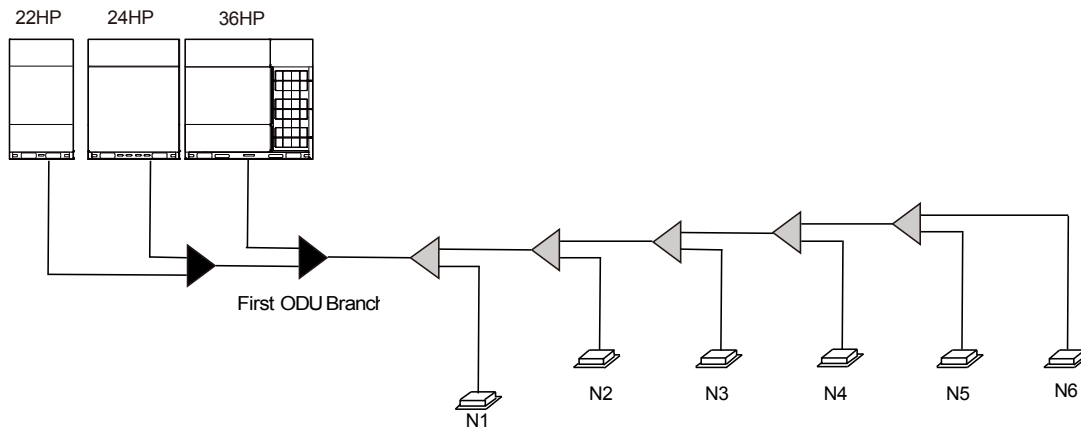
2.1.3 Master and slave unit positioning

In systems with multiple outdoor units, the units should be placed in order from largest capacity unit to smallest capacity unit. The largest capacity unit must be placed on the first branch, and be set as the master unit, while the others should be set as slave units. Refer to the V8 Service Manual, Part 4 for details of how to set units as master/slave.

The example in Figure 3-2.4 illustrates the placing of units in a 82 (36+24+22) HP combination:

- Place the 36HP unit on the first branch and set it as the master unit.
- Place the 24HP and 22HP units on the next branches and set them as slave units.

Figure 3-2.4: Positioning of master and slave units



2.1.4 Base structures

Outdoor unit base structure design should take account of the following considerations:

- A solid base prevents excess vibration and noise. Outdoor unit bases should be constructed on solid ground or on structures of sufficient strength to support the units' weight.
- Bases should be at least 200mm high to provide sufficient access for installation of piping.
- Either steel or concrete bases may be suitable.
- A typical concrete base design is shown in Figure 3-2.5. A typical concrete specification is 1 part cement, 2 parts sand and 4 parts crushed stone with $\Phi 8$ mm steel reinforcing bar. The edges of the base should be chamfered.
- Use four ground bolts (M8) to secure the unit in place. Best is to screw in the ground bolt until it is embedded in the base surface by at least 3 threads.
- To ensure that all contact points are equally secure, bases should be completely level. Base design should ensure that the points on the units' bases designed for weight-bearing support are fully supported. Bolt spacings should be as per Figure 3-2.6 and Table 3-2.1.
- A drainage ditch should be provided to allow drainage of condensate that may form on the heat exchangers when the units are running in heating mode. The drainage should ensure that condensate is directed away from roadways and footpaths, especially in locations where the climate is such that condensate may freeze.

Figure 3-2.5: Outdoor unit typical concrete base structure design (unit: mm)

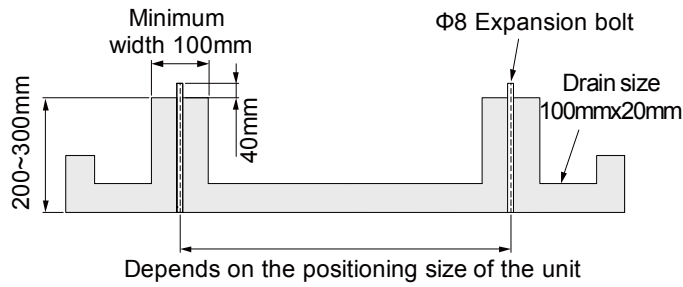


Figure 3-2.6: Expansion bolt positioning

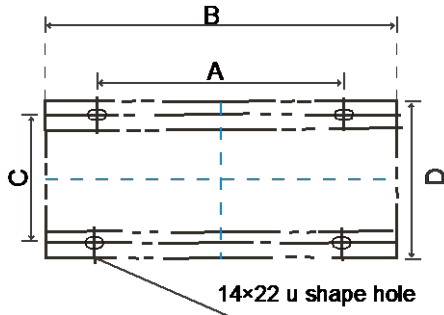


Table 3-2.1: Expansion bolt spacings (unit: mm)

Dimension	8-18HP	20-24HP	26-40HP
A	705	1105	1645
B	960	1360	1900
C	710	710	710
D	850	850	850

2.1.5 Acceptance and unpacking

Notes for installers



- When units are delivered check whether any damage occurred during shipment. If there is damage to the surface or outside of a unit, submit a written report to the shipping company.
- Check that the model, specifications and quantity of the units delivered are as ordered.
- Check that all accessories ordered have been included. Retain the Installation and Owner's Manual for future reference.

2.1.6 Hoisting

Notes for installers



- Do not remove any packaging before hoisting. If units are not packaged or if the packaging is damaged, use suitable boards or packing material to protect the units.
- Hoist one unit at a time, using two ropes to ensure stability.
- Keep units upright during hoisting, ensuring that the angle to the vertical does not exceed 30°.
- It is better to use a crane and two long belts to lift the unit as per Figure 3-2.7.
- Handle the unit carefully to protect it, and note the position of the center of gravity of the unit.

Figure 3-2.7: Hoisting

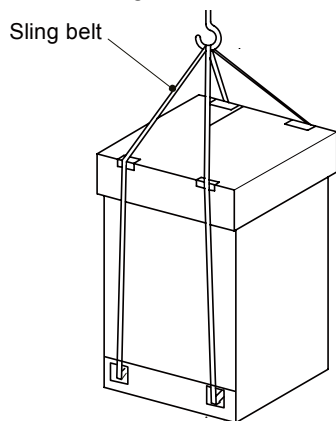


Figure 3-2.8: 8-18HP Center of gravity

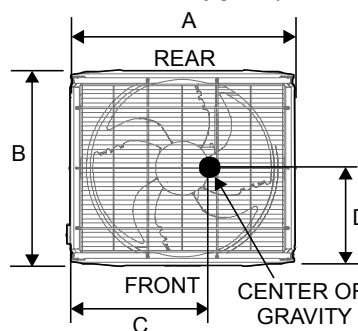
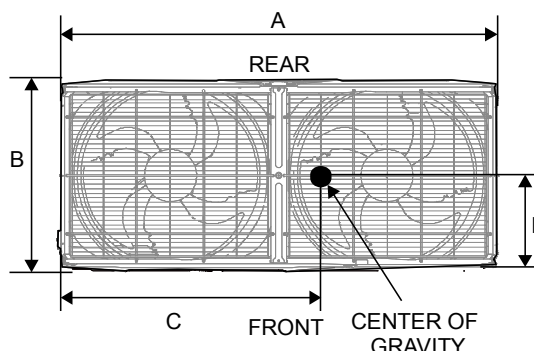


Figure 3-2.9: 20-40HP Center of gravity



Dimension	8-18HP	20-24HP	26-40HP
A	940	1340	1880
B	825	825	825
C	449	609	842
D	487	424	476

2.2 Indoor Units

2.2.1 Placement considerations

Placement of indoor units should take account of the following considerations:

- Sufficient space for drain piping and for access during servicing and maintenance should be allowed.
- To ensure a good cooling/heating effect, short-circuit ventilation (where outlet air returns quickly to a unit’s air inlet) should be avoided.
- To prevent excessive noise or vibration during operation, suspension rods or other weight-bearing fixings should typically be able to bear twice the unit’s weight.

Notes for installers



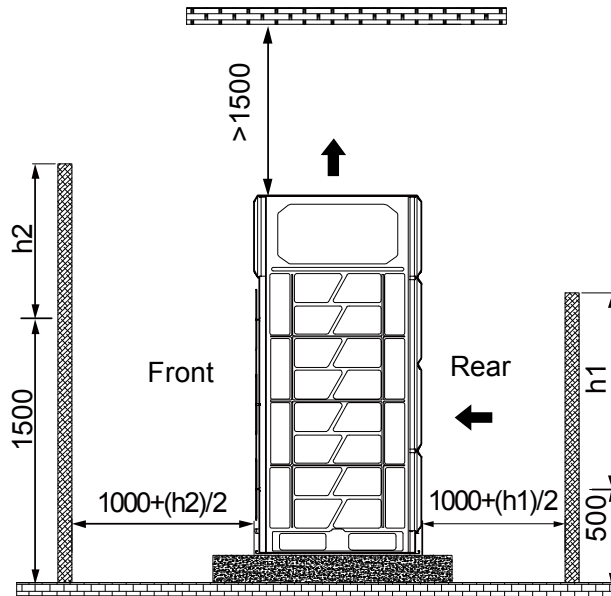
- Before installing an indoor unit, check that the model to be installed is as specified in the construction drawings and confirm the correct orientation of the unit.
- Ensure that units are installed at the correct height.
- To allow smooth condensate drainage and to ensure unit stability (to prevent excessive noise or vibration), ensure that units are level to within 1° of the horizontal. If a unit is not level to within 1° of the horizontal, water leakage or abnormal vibration/noise may occur.

3 Outdoor Unit Ducting and Shielding

3.1 Ducting Requirements

Depending on the height of adjacent walls relative to the height of the units, ducting may be required to ensure proper air discharge. In the situation depicted in Figure 3-3.1, when the space over the unit is less than 1500mm, ducting is required to ensure proper air discharge. When the space over the unit is greater than 1500mm, ducting may be required if the air discharge is not smooth.

Figure 3-3.1: Top of unit below top of adjacent wall unit (mm)

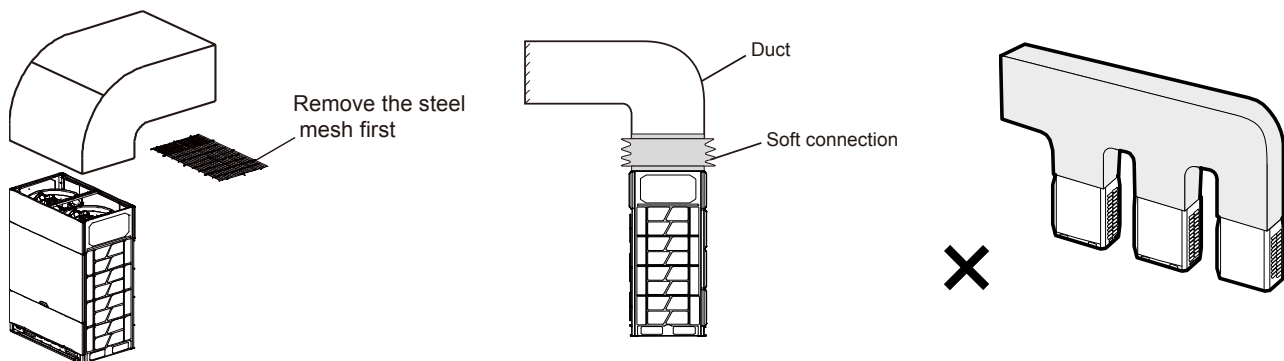


3.2 Design Considerations

Outdoor unit ducting design should take account of the following:

- Each duct should contain no more than one bend.
- Vibration isolation should be added to the connection between the unit and the ducting to avoid vibration/noise.
- If more than one outdoor units need ducting, each outdoor unit should have independent ducting, it cannot share one ducting for more than one outdoor units.
- Installing louvers is required as doing for safety, they should be installed at an angle no greater than 15° to the horizontal, to minimize the impact on airflow.

Figure 3-3.2: Ducting requirements



3.3 Transverse Ducting

Figure 3-3.2: Transverse ducting (unit: mm)

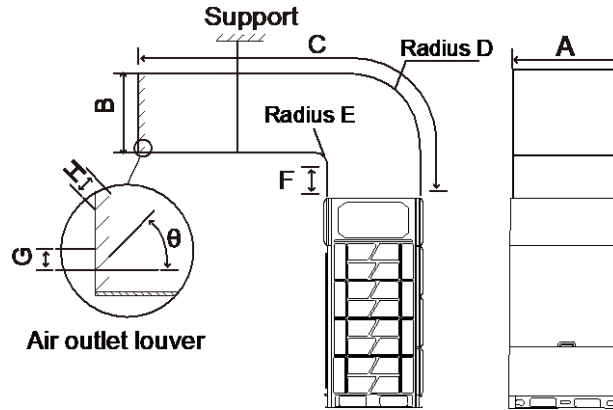


Table 3-3.1: Duct dimensions (unit: mm)

	8-18HP	20-24HP	26-40HP
A	800	1290	1680
B	$770 \leq B \leq 800$	$770 \leq B \leq 800$	$770 \leq B \leq 800$
C	≤ 3000	≤ 3000	≤ 3000
D	$D = E + 770$	$D = E + 770$	$D = E + 770$
E	≥ 300	≥ 300	≥ 300
F	≥ 250	≥ 250	≥ 250
θ	$\theta \leq 15^\circ$	$\theta \leq 15^\circ$	$\theta \leq 15^\circ$
G	≥ 100	≥ 100	≥ 100
H	≤ 90	≤ 90	≤ 90

Table 3-3.2: External static pressure

ESP (Pa)	Remarks
0	Factory default
0 – 20	Remove steel mesh and connect to duct < 3m long
> 20	Customization option

3.4 Longitudinal Ducting

Figure 3-3.3: Longitudinal ducting units (unit: mm)

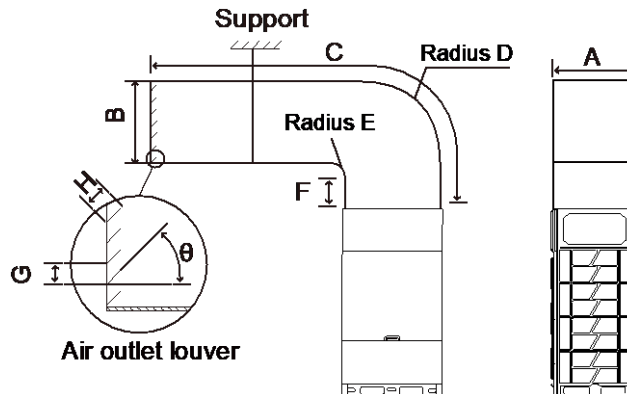


Table 3-3.3: Duct dimensions (unit: mm)

	8-18HP	20-24HP	26-40HP
A	770	770	770
B	820	1310	1700
C	≤ 3000	≤ 3000	≤ 3000
D	$D = E + 800$	$D = E + 1290$	$D = E + 1680$
E	≥ 300	≥ 300	≥ 300
F	≥ 250	≥ 250	≥ 250
θ	$\theta \leq 15^\circ$	$\theta \leq 15^\circ$	$\theta \leq 15^\circ$
G	≥ 100	≥ 100	≥ 100
H	≤ 90	≤ 90	≤ 90

Table 3-3.4: External static pressure

ESP (Pa)	Remarks
0	Factory default
0 – 20	Remove steel mesh and connect to duct < 3m long
> 20	Customization option

3.5 Fan Performance

The default external static pressure of outdoor units' air outlets is zero. With the steel mesh cover removed the external static pressure is 20Pa. Static pressure exceeds 20Pa needs to be customized.

Figure 3-3.9: 8-12HP units fan performance

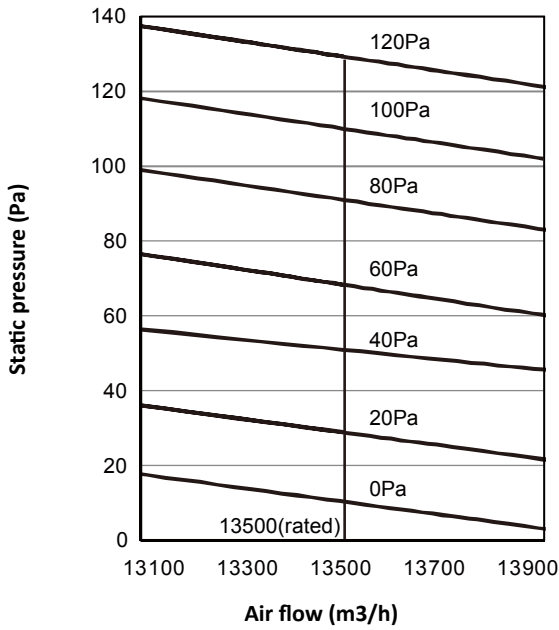


Figure 3-3.10: 14-18HP units fan performance

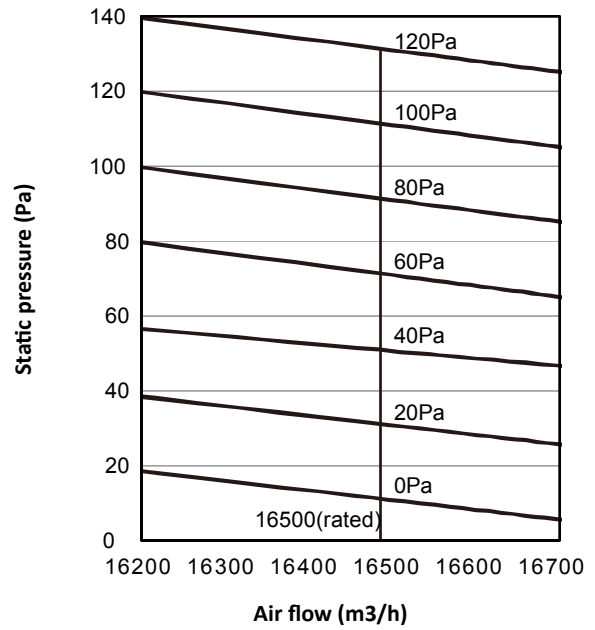


Figure 3-3.11: 20-24HP units fan performance

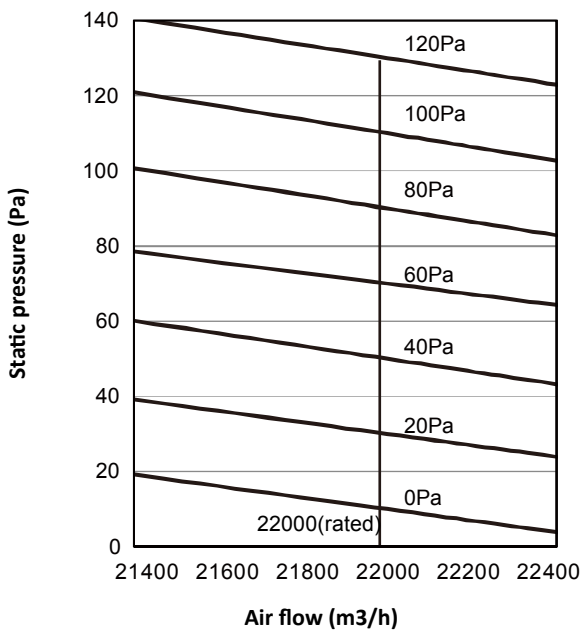


Figure 3-3.12: 26-36HP units fan performance

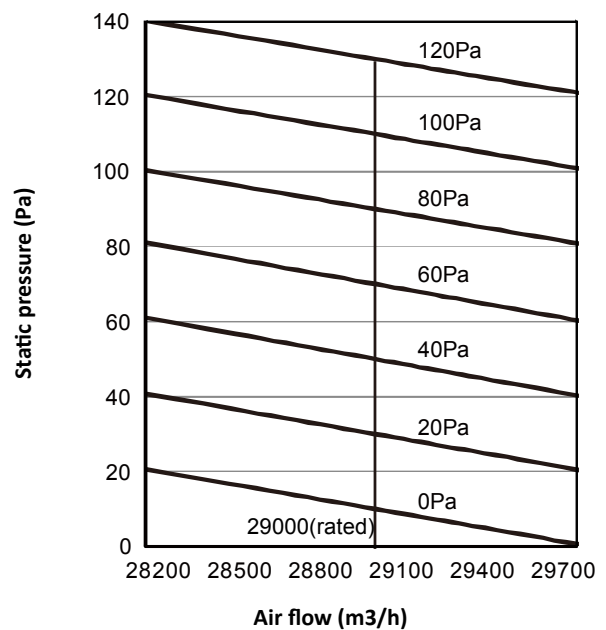
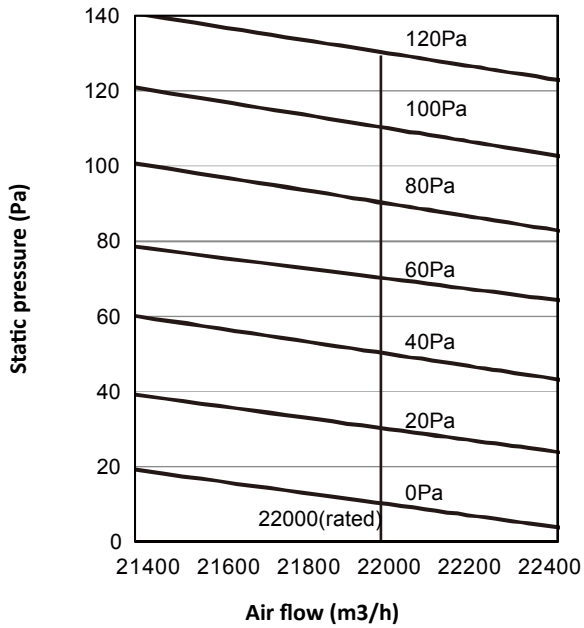


Figure 3-3.11: 38-40HP units fan performance



Notes for installers



- Before installing outdoor unit ducting, be sure to remove the unit's steel mesh cover, otherwise airflow will be adversely affected.

Notes for installers

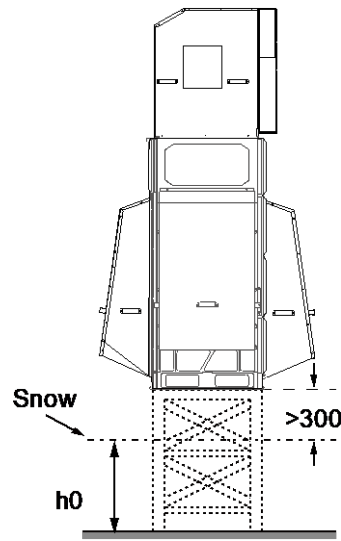


- Before installing outdoor unit ducting, be sure to remove the unit's steel mesh cover, otherwise airflow will be adversely affected.

3.6 Snow Shielding

In areas of high snowfall, snow shields should be installed on air inlets and outlets to prevent snow from entering the units. Additionally, the foundation or base height of ODU is required to be the expected maximum snowfall thickness $h_0 + 300\text{mm}$, preventing the snow from exceeding the bottom of the unit.

Figure 3-3.14: Outdoor unit snow shielding



4 Refrigerant Piping Design

4.1 Design Considerations

Refrigerant piping design should take account of the following considerations:

- The amount of brazing required should be kept to a minimum.
- On the two inside sides of the first indoor branch joint (“A” in Figures 3-4.2, 3-4.3 and 3-4.4) the system should, as far as possible, be equal in terms of number of units, total capacities and total piping lengths.

4.2 Material Specification

Only seamless phosphorus-deoxidized copper piping that complies with all applicable legislation should be used. Temper grades and minimum thicknesses for different diameters of piping are specified in Table 3-4.1.

Table 3-4.1: Piping temper and thickness

Piping outer diameter (mm)	Temper ¹	Minimum thickness (mm)
Φ6.35	O (annealed)	0.8
Φ9.53		0.8
Φ12.7		0.8
Φ15.9		1.0
Φ19.1		1.0
Φ22.2	1/2H (half hard)	1.2
Φ25.4		1.2
Φ28.6		1.3
Φ31.8		1.5
Φ38.1		1.5
Φ41.3		1.5
Φ44.5		1.5
Φ50.8		1.8
Φ54.0		1.8
Φ63.5		2.1

Notes:

1. O: coiled piping; 1/2H: straight piping.

4.3 Permitted Piping Lengths and Level Differences

The piping length and level difference requirements that apply are summarized in Table 3-4.3 and are fully described as follows (refer to Figure 3-4.2):

1. **Requirement 1:** The total length of piping in one refrigerant system should not exceed 1100m. When calculating the total length of piping, the actual length of the indoor main pipes (the piping between the first indoor branch joint and all other indoor branch joints, L_2 to L_{10}) should be doubled.
2. **Requirement 2:** The piping between the farthest indoor unit (N_{11}) and the first outdoor branch joint (L) should not exceed 220m (actual length) and 260m (equivalent length). (The equivalent length of each branch joint is 0.5m.)
3. **Requirement 3:** The piping between the farthest indoor unit (N_{11}) and first indoor branch joint (A) should not exceed 40m in length ($\sum\{L_6 \text{ to } L_{10}\} + k \leq 40\text{m}$) unless the following conditions are met and the following measures are taken, in which case the permitted length is up to 120m:

Conditions:

- a) Each indoor auxiliary pipe (from each indoor unit to its nearest branch joint) joint does not exceed 40m in length (a to k each $\leq 40\text{m}$).
- b) The difference in length between {the piping from first indoor branch joint (A) to the farthest indoor unit (N_{11})} and {the piping from the first indoor branch joint (A) to the nearest indoor unit (N_1)} does not exceed 40m. That is: $(\sum\{L_6 \text{ to } L_{10}\} + k) - (L_2 + a) \leq 40\text{m}$.

Measures:

- a) Increase the diameter of the indoor main pipes (the gas and liquid piping between the first indoor branch joint and all other indoor branch joints, L_2 to L_{10}) as per Table 3-4.2, except for indoor main pipes which are already the same size as the main pipe (L_1), for which no diameter increases are required.
4. **Requirement 4:** The largest level difference between indoor unit and outdoor unit should not exceed 110m. Additionally: (i) If the outdoor unit is above and the level difference is greater than 20m, it is recommended that an oil return bend with dimensions as specified in Figure 3-4.1 is set every 10m in the gas pipe of the main pipe; and (ii) if the level difference is more than 50m (the outdoor unit is above) or 40m (the outdoor unit is below), the liquid pipe of the main pipe (L_1) should be selected according to Table 3-4.5 when equivalent length to the farthest IDU $\geq 90\text{m}$.

Table 3-4.2: Diameter increase requirements

Original (mm)	Increased (mm)
Φ9.52	Φ12.7
Φ12.7	Φ15.9
Φ15.9	Φ19.1
Φ19.1	Φ22.2
Φ22.2	Φ25.4
Φ25.4	Φ28.6
Φ28.6	Φ31.8
Φ31.8	Φ38.1
Φ38.1	Φ41.3
Φ41.3	Φ44.5
Φ44.5	Φ50.8
Φ50.8	Φ54.0

Figure 3-4.1: Oil return bend

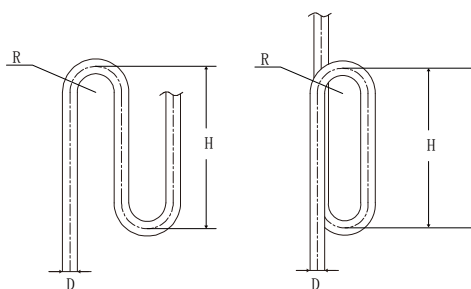


Table 3-4.3: Oil return bend requirements unit (mm)

Pipe dimension	Bend radius R	Hight H
Φ19.1	≥ 31	≥ 300
Φ25.4	≥ 45	≥ 300
Φ31.8	≥ 60	≥ 300
Φ41.3	≥ 80	≥ 500
Φ50.8	≥ 90	≥ 500
Φ63.5	≥ 90	≥ 500

5. **Requirement 5:** The largest level difference between indoor units should not exceed 40m.

Figure 3-4.2: Permitted refrigerant piping lengths and level differences

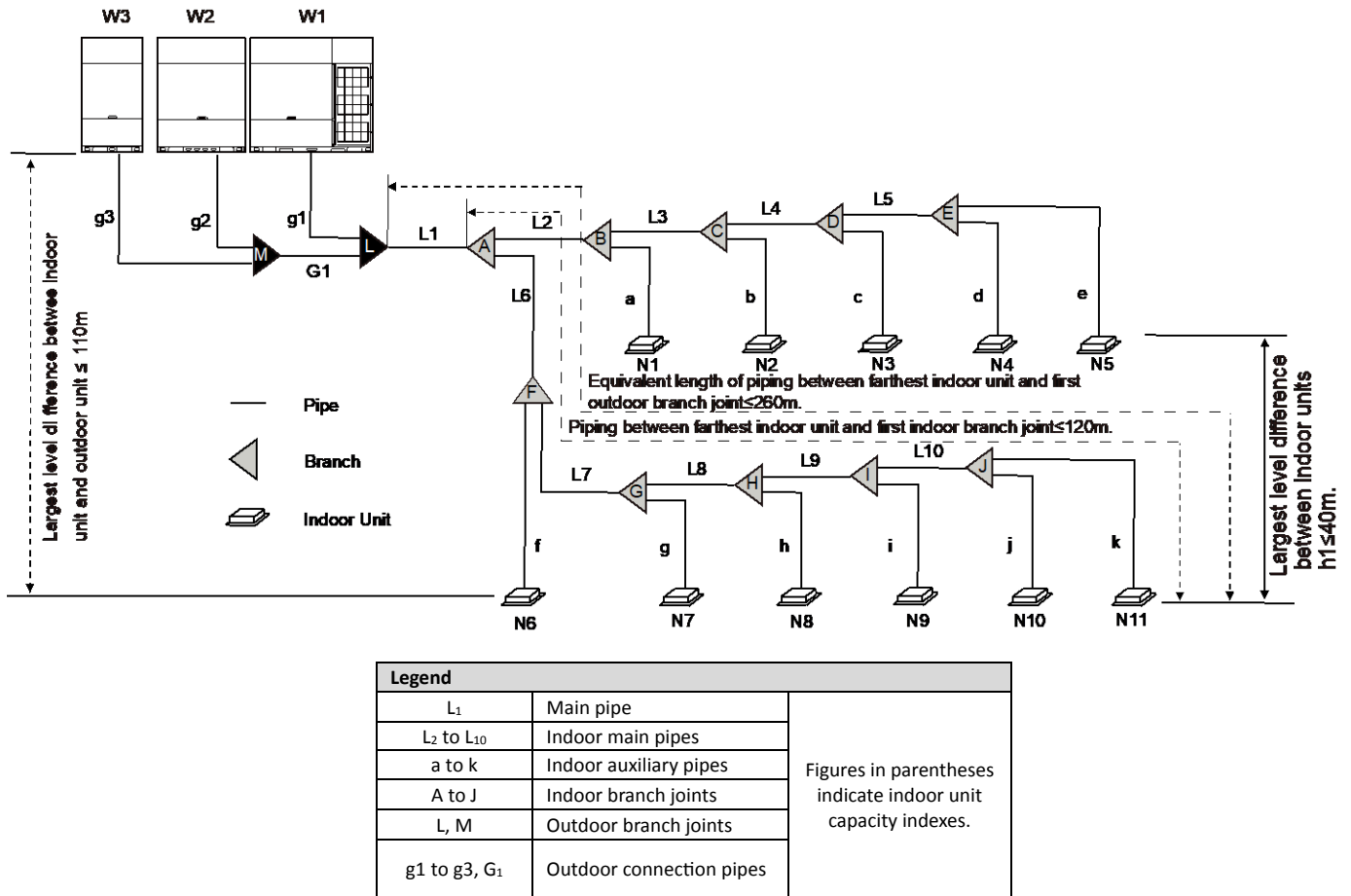


Table 3-4.4: Summary of permitted refrigerant piping lengths and level differences

		Permitted values	Piping in Figure 3-4.2
Piping lengths	Total piping length ¹	≤ 1100m	$L_1 + 2 \times \sum\{L_2 \text{ to } L_{10}\} + \sum\{a \text{ to } k\}$
	Piping between farthest indoor unit and first outdoor branch joint ²	Actual length	≤ 220m
		Equivalent length	≤ 260m
	Piping between farthest indoor unit and first indoor branch joint ³	≤ 40m/120m	$\sum\{L_6 \text{ to } L_{10}\} + k$
Piping between outdoor unit and outdoor branch joint	≤ 10m	$g_1 + G_1 \leq 10\text{m}; g_2 + G_1 \leq 10\text{m}; g_3 \leq 10\text{m}$	
Level differences	Largest level difference between indoor unit and outdoor unit ⁴	≤ 110m	
	Largest level difference between indoor units ⁵	≤ 40m	

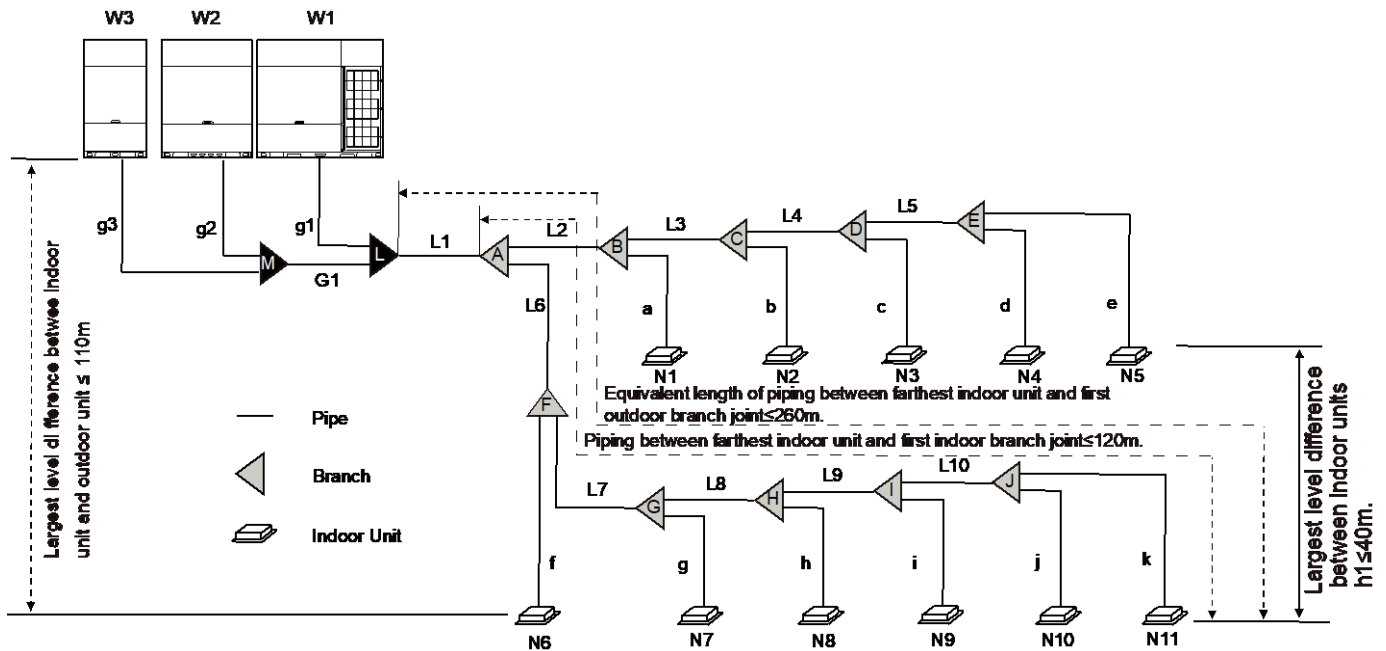
Notes:

1. Refer to Requirement 1, above.
2. Refer to Requirement 2, above.
3. Refer to Requirement 3, above.
4. Refer to Requirement 4, above.
5. Refer to Requirement 5, above.

4.4 Selecting Piping Diameters

Tables 3-4.5 to 3-4.9, below, specify the required pipe diameters for the indoor and outdoor piping. The main pipe (L₁) and first indoor branch joint (A) should be sized according to 3-4.5.

Figure 3-4.3: Selecting piping diameters



Legend		Figures in parentheses indicate indoor unit capacity indexes.
L ₁	Main pipe	
L ₂ to L ₁₀	Indoor main pipes	
a to k	Indoor auxiliary pipes	
A to J	Indoor branch joints	
L, M	Outdoor branch joints	
g ₁ to g ₃ , G ₁	Outdoor connection pipes	

Table 3-4.5: Main pipe¹ (L₁) and first indoor branch joint (A)

Total capacity of outdoor units	Equivalent length to the farthest IDU < 90m			Equivalent length to the farthest IDU ≥ 90m		
	Gas pipe (mm)	Liquid pipe (mm)	Branch joint kit	Gas pipe (mm)	Liquid pipe (mm)	Branch joint kit
8HP	Φ19.1	Φ9.52	FQZHN-01D	Φ22.2	Φ12.7	FQZHN-02D
10HP	Φ22.2	Φ9.53	FQZHN-02D	Φ25.4	Φ12.7	FQZHN-02D
12-14HP	Φ25.4	Φ12.7	FQZHN-02D	Φ28.6	Φ15.9	FQZHN-03D
16HP	Φ28.6	Φ12.7	FQZHN-03D	Φ31.8	Φ15.9	FQZHN-03D
18HP	Φ28.6	Φ15.9	FQZHN-03D	Φ31.8	Φ15.9	FQZHN-03D
20-24HP	Φ28.6	Φ15.9	FQZHN-03D	Φ31.8	Φ19.1	FQZHN-03D
26-34HP	Φ31.8	Φ19.1	FQZHN-03D	Φ38.1	Φ22.2	FQZHN-04D
36-54HP	Φ38.1	Φ19.1	FQZHN-04D	Φ41.3	Φ22.2	FQZHN-05D
56-66HP	Φ41.3	Φ19.1	FQZHN-05D	Φ44.5	Φ22.2	FQZHN-05D
68-82HP	Φ44.5	Φ22.2	FQZHN-05D	Φ50.8	Φ25.4	FQZHN-06D
84-88HP	Φ50.8	Φ22.2	FQZHN-06D	Φ54.0	Φ25.4	FQZHN-06D
90-92HP	Φ50.8	Φ25.4	FQZHN-06D	Φ54.0	Φ25.4	FQZHN-06D
94-108HP	Φ50.8	Φ25.4	FQZHN-06D	Φ54.0	Φ28.6	FQZHN-07D
110-120HP	Φ54.0	Φ28.6	FQZHN-07D	Φ63.5	Φ28.6	FQZHN-07D

Notes:

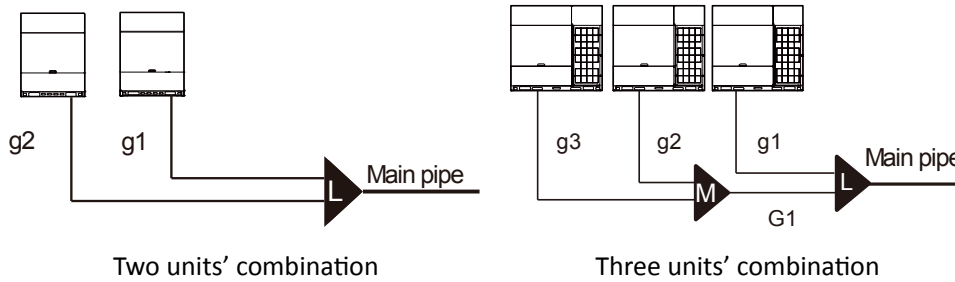
1. If the level difference is more than 50m (the outdoor unit is above) or 40m (the outdoor unit is below), the liquid pipe of the main pipe (L₁) should be selected according to equivalent length to the farthest IDU ≥ 90m.

Table 3-4.6: Indoor main pipes (L_2 to L_{10}) and indoor branch joint kits

Total capacity indexes of indoor units	Gas pipe (mm)	Liquid pipe (mm)	Branch joint kit
Capacity indexes < 168	Φ15.9	Φ9.52	FQZHN-01D
168 ≤ Capacity indexes < 224	Φ19.1	Φ9.52	FQZHN-01D
224 ≤ Capacity indexes < 330	Φ22.2	Φ9.52	FQZHN-02D
330 ≤ Capacity indexes < 470	Φ28.6	Φ12.7	FQZHN-03D
470 ≤ Capacity indexes < 710	Φ28.6	Φ15.9	FQZHN-03D
710 ≤ Capacity indexes < 1040	Φ31.8	Φ19.1	FQZHN-03D
1040 ≤ Capacity indexes < 1540	Φ38.1	Φ19.1	FQZHN-04D
1540 ≤ Capacity indexes < 1900	Φ41.3	Φ19.1	FQZHN-05D
1900 ≤ Capacity indexes < 2350	Φ44.5	Φ22.2	FQZHN-05D
2350 ≤ Capacity indexes < 500	Φ50.8	Φ22.2	FQZHN-06D
2500 ≤ Capacity indexes < 3024	Φ50.8	Φ25.4	FQZHN-06D
3024 ≤ Capacity indexes	Φ54.0	Φ28.6	FQZHN-07D

Notes:

- If indoor main pipes (L_2 to L_{10}) are larger than the main pipe (L_1), indoor main pipes should reduce to the main pipe's size.

Figure 3-4.4: Outdoor connection pipes

Table 3-4.7: Two units' combination outdoor connection pipes (g_1 to g_2)

Pipes	Total outdoor unit capacity	Outdoor unit capacity	Gas pipe (mm)	Liquid pipe (mm)
g_1 to g_2	< 56 HP	8-12HP	Φ25.4	Φ12.7
		14-24HP	Φ31.8	Φ15.9
		26-40HP	Φ38.1	Φ19.1
	≥ 56HP	20-24HP	Φ31.8	Φ15.9
		26-40HP	Φ38.1	Φ19.1

Table 3-4.8: Three units' combination outdoor connection pipes (g_1 to g_3 , G_1)

Pipes	Total outdoor unit capacity	Outdoor unit capacity	Gas pipe (mm)	Liquid pipe (mm)
g_1 to g_3	< 98HP	8-12HP	Φ25.4	Φ12.7
		14-24HP	Φ31.8	Φ15.9
		26-40HP	Φ38.1	Φ19.1
	≥ 98HP	20-24HP	Φ31.8	Φ15.9
		26-40HP	Φ38.1	Φ19.1
G_1	< 98HP	/	Φ41.3	Φ22.2
	≥ 98HP	/	Φ44.5	Φ22.2

Table 3-4.0: Outdoor branch joint kits (L to M)

No. of outdoor units	Outdoor unit capacity	Branch joint kit
2	< 56 HP	FQZHW-02N1E
	≥ 56HP	FQZHW-02N1G
3	< 98HP	FQZHW-03N1E
	≥ 98HP	FQZHW-03N1G

Table 3-4.10: Indoor auxiliary pipes (a to k)

Capacity of indoor unit (kW)	Gas pipe (mm)	Liquid pipe (mm)
Capacity ≤ 5.6	Φ12.7	Φ6.35
5.6 < Capacity ≤ 16	Φ15.9	Φ9.52
16 < Capacity ≤ 22.4	Φ19.1	Φ9.52
22.4 < Capacity ≤ 28	Φ22.2	Φ12.7
28 < Capacity ≤ 40	Φ25.4	Φ12.7
40 < Capacity ≤ 56	Φ28.6	Φ15.9

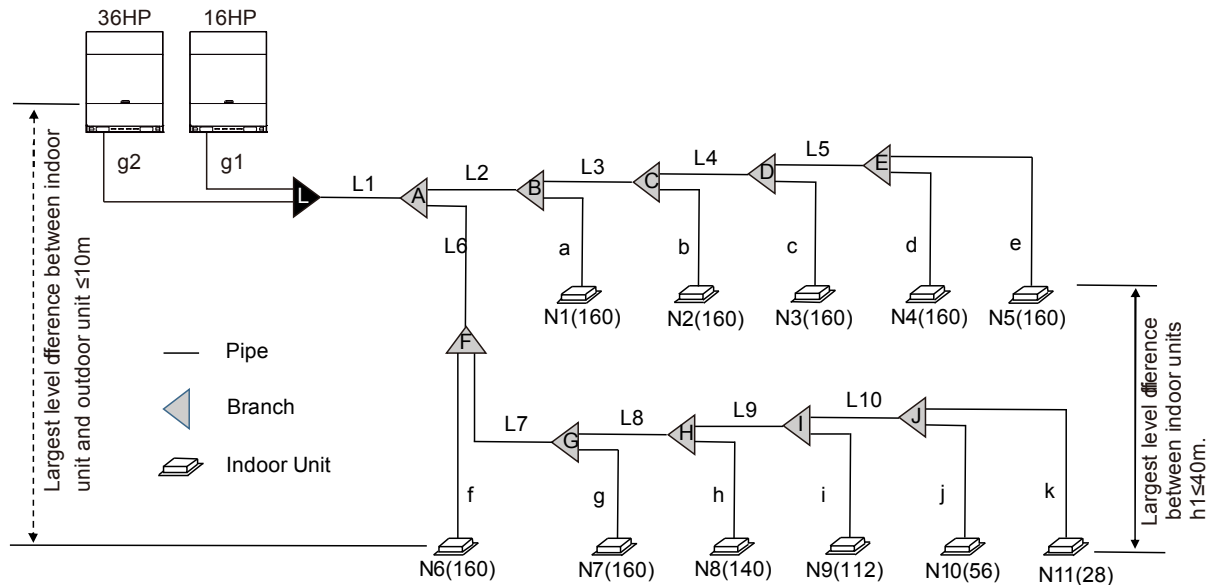
Notes:

- The size of indoor side branch pipe shall not be larger than that of main pipe. If the size of main pipe selected according to the above table is larger than that of main pipe, the size of branch pipe shall be reduced to make it the same as that of main pipe.
- If the indoor unit capacity exceeds the range in the table above, select the pipe diameter according to the manual of the indoor unit.

4.5 Refrigerant Piping Selection Example

The example below illustrates the piping selection procedure for a system consisting of two outdoor units (36HP + 16HP) and 11 indoor units. The system's equivalent length of all liquid pipes is in excess of 90m; the piping between the farthest indoor unit and the first indoor branch joint is less than 40m in length.

Figure 3-4.4: Refrigerant piping selection example



Legend	
L ₁	Main pipe
L ₂ to L ₁₀	Indoor main pipes
a to k	Indoor auxiliary pipes
A to J	Indoor branch joints
L	Outdoor branch joints
G ₁ , g ₂	Outdoor connection pipes
Figures in parentheses indicate indoor unit capacity indexes.	

Step 1: Select indoor auxiliary pipes

- Indoor units N₁ to N₉ are of capacity greater than 5.6kW. Refer to Table 3-4.8. Indoor auxiliary pipes a to i are Φ15.9 / Φ9.52.
- Indoor units N₁₀ and N₁₁ are of capacity 5.6kW or less. Refer to Table 3-4.8. Indoor auxiliary pipes g and l are Φ12.7 / Φ6.35.

Step 2: Select indoor main pipes and indoor branch joints B to J

- The indoor units (N₄ and N₅) downstream of indoor branch E have total capacity of 16 x 2=32kW. Refer to Table 3-4.6. Indoor main pipe L₅ is Φ22.2 / Φ9.52. Indoor branch joint E is FQZHN-02D.
- The indoor units (N₃ to N₅) downstream of indoor branch E have total capacity of 16 x 3=48kW. Refer to Table 3-4.6.

Indoor main pipe L4 is $\Phi 28.6 / \Phi 15.9$. Indoor branch joint D is FQZHN-03D.

- The indoor units (N2 to N5) downstream of indoor branch C have total capacity of $16 \times 4 = 64 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L3 is $\Phi 28.6 / \Phi 15.9$. Indoor branch joint C is FQZHN-03D.
- The indoor units (N1 to N5) downstream of indoor branch B have total capacity of $16 \times 5 = 80 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L2 is $\Phi 31.8 / \Phi 19.1$. Indoor branch joint B is FQZHN-03D.
- The indoor units (N10 and N11) downstream of indoor branch J have total capacity of $5.6 + 2.8 = 8.4 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L10 is $\Phi 15.9 / \Phi 9.52$. Indoor branch joint J is FQZHN-01D.
- The indoor units (N9 to N11) downstream of indoor branch I have total capacity of $8.4 + 11.2 = 19.6 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L9 is $\Phi 19.1 / \Phi 9.52$. Indoor branch joint I is FQZHN-01D.
- The indoor units (N8 to N11) downstream of indoor branch H have total capacity of $19.6 + 14 = 33.6 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L8 is $\Phi 28.6 / \Phi 12.7$. Indoor branch joint H is FQZHN-03D.
- The indoor units (N7 to N11) downstream of indoor branch G have total capacity of $33.6 + 16 = 49.6 \text{ kW}$. Indoor main pipe L7 is $\Phi 28.6 / \Phi 15.9$. Indoor branch joint G is FQZHN-03D.
- The indoor units (N6 to N11) downstream of indoor branch F have total capacity of $49.6 + 16 = 65.6 \text{ kW}$. Refer to Table 3-4.6. Indoor main pipe L6 is $\Phi 28.6 / \Phi 15.9$. Indoor branch joint F is FQZHN-03D.

Step 3: Select main pipe and indoor branch joint A

- The system's equivalent length of all liquid pipes is in excess of 90m. The total capacity of the outdoor units is $36 + 16 = 52 \text{ HP}$. Refer to Tables 3-4.5. Main pipe L₁ is the larger of $\Phi 38.1 / \Phi 19.1$. Indoor branch joint A is FQZHN-04D.

Step 4: Select outdoor connection pipes and outdoor branch joints

- The master unit is 36HP and the slave units is 16HP. Refer to Table 3-4.7. Outdoor connection pipes g1 is $\Phi 38.1 / 19.1$, g2 is $\Phi 31.8 / \Phi 15.9$.
- There are two outdoor units in the system. Refer to Table 3-4.8. Outdoor branch joints L is FQZHW-02N1E.

4.6 Branch Joints

Branch joint design should take account of the following:

- U-shaped branch joints should be used – tee joints are not suitable. Branch joint dimensions are given in Tables 3-4.9 to 3-4.11.
- To avoid accumulation of oil in the outdoor units, outdoor branch joints should be installed horizontally and must not be higher than the outdoor unit refrigerant outlets. Refer to Figure 3-5.8 in Part 3, 5.6 “Branch Joints”. Indoor branch joints may be installed either horizontally or vertically.
- To ensure even distribution of refrigerant, branch joints should not be installed within 500mm of a 90° bend, another branch joint or the straight section of piping leading to an indoor unit, with the minimum 500mm being measured from the point where the branch joint is connected to the piping, as shown in Figure 3-4.5.

Figure 3-4.5: Branch joint spacing and separation from bends (unit: mm)

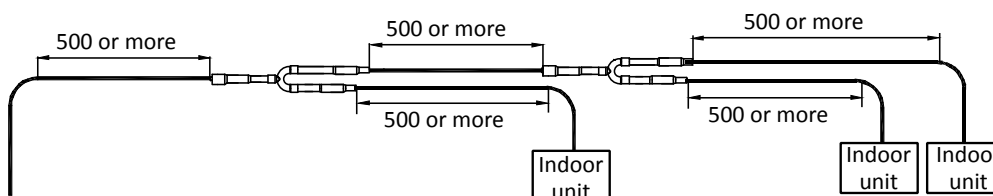


Table 3-4.9: Indoor branch joint dimensions (unit: mm)

Model	Gas side joints	Liquid side joints
FQZHN-01D		
FQZHN-02D		
FQZHN-03D		
FQZHN-04D		
FQZHN-05D		
FQZHN-06D		

Table continued on next page ...

Table 3-4.9: Indoor branch joint dimensions (unit: mm) (continued)

Model	Gas side joints	Liquid side joints
FQZHN-07D		

Table 3-4.10: Outdoor branch joint dimensions for 2 unit's combination (unit: mm)

Model	Gas side joints	Liquid side joints
FQZHW-02N1E		
FQZHW-02N1G		

Table 3-4.11: Outdoor branch joint dimensions for 3 unit's combination (unit: mm)

Model	Gas side joints	Liquid side joints
FQZHW-03N1E		
FQZHW-03N1G		

4.7 Refrigerant Leakage Precautions

R410A refrigerant is not flammable in air at temperatures up to 100°C at atmospheric pressure and is generally considered a safe substance to use in air conditioning systems. Nevertheless, precautions should be taken to avoid danger to life in the unlikely event of a major refrigerant leakage. Precautions should be taken in accordance with all applicable legislation. Where no applicable legislation exists, the following may be used as a guide:

- Air conditioned rooms should be large enough that if leakage of all the refrigerant in the system occurs, the concentration of the refrigerant in the room does not reach a level dangerous to health.
- A critical concentration (at which point R410A becomes dangerous to human health) of 0.44 kg/m³ can be used.
- The potential concentration of refrigerant in a room following a leak can be calculated as follows:
 - Calculate the total amount in of refrigerant in the system (“A”) as the nameplate charge (the charge in the system when delivered from the factory) plus the additional charge added as per Part 3, 8.1 “Calculating Additional Refrigerant Charge”.
 - Calculate the total volume (“B”) of the smallest room into which refrigerant could potentially leak.
 - Calculate the potential refrigerant concentration as A divided by B.
 - If A/B is not less than 0.44 kg/m³, countermeasures such installing mechanical ventilators (either ventilating regularly or controlled by refrigerant leakage detectors) should be taken.
- Since R410A is heavier than air, particular consideration should be given to leak scenarios in basement rooms.

Figure 3-4.6: Potential refrigerant leak scenario

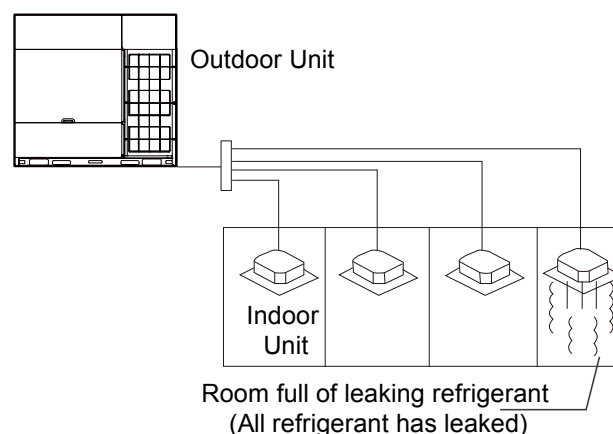
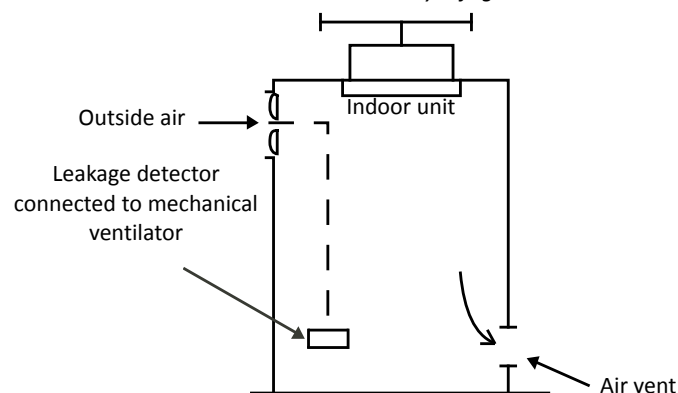


Figure 3-4.7: Mechanical ventilator controlled by refrigerant leak detector



5 Refrigerant Piping Installation

5.1 Procedure and Principles

5.1.1 Installation procedure

Notes for installers

Installation of the refrigerant piping system should proceed in the following order:

Note: Pipe flushing should be performed once the brazed connections have been completed with the exception of the final connections to the indoor units. That is, flushing should be performed once the outdoor units have been connected but before the indoor units are connected.

5.1.2 Three principles for refrigerant piping

	Reasons	Measures
CLEAN	Particles such as oxide produced during brazing and/or building dust can lead to compressor malfunction	<ul style="list-style-type: none"> ▪ Seal piping during storage¹ ▪ Flow nitrogen during brazing² ▪ Pipe flushing³
DRY	Moisture can lead to ice formation or oxidization of internal components leading to abnormal operation or compressor damage	<ul style="list-style-type: none"> ▪ Pipe flushing³ ▪ Vacuum drying⁴
SEALED	Imperfect seals can lead to refrigerant leakage	<ul style="list-style-type: none"> ▪ Pipe manipulation⁵ and brazing² techniques ▪ Gastightness test⁶

Notes:

1. See Part 3, 5.2.1 "Pipe delivery, storage and sealing".
2. See Part 3, 5.5 "Brazing".
3. See Part 3, 5.8 "Pipe Flushing".
4. See Part 3, 5.10 "Vacuum Drying".
5. See Part 3, 5.3 "Manipulating Copper Piping".
6. See Part 3, 5.9 "Gastightness Test".

5.2 Storing Copper Piping

5.2.1 Pipe delivery, storage and sealing

Notes for installers



- Ensure that piping does not get bent or deformed during delivery or whilst stored.
- On construction sites store piping in a designated location.
- To prevent dust or moisture entering, piping should be kept sealed whilst in storage and until it is about to be connected. If piping is to be used soon, seal the openings with plugs or adhesive tape. If piping is to be stored for a long time, charge the piping with nitrogen at 0.2-0.5MPa and seal the openings by brazing.
- Storing piping directly on the ground risks dust or water ingress. Wooden supports can be used to raise piping off the ground.
- During installation, ensure that piping to be inserted through a hole in a wall is sealed to ensure dust and/or fragments of wall do not enter.
- Be sure to seal piping being installed outdoors (especially if being installed vertically) to prevent rain entering.

5.3 Manipulating Copper Piping

5.3.1 De-oiling

Notes for installers



- Lubrication oil used during some copper pipe manufacturing processes can cause deposits to form in R410A refrigerant systems, causing system errors. Oil-free copper piping should therefore be selected. If ordinary (oily) copper piping is used, it must be cleaned with gauze dipped in tetrachloroethylene solution prior to installation.

Caution

- Never use carbon tetrachloride (CCl₄) for pipe cleansing or flushing, as doing so will seriously damage the system.

5.3.2 Cutting copper piping and removing burrs

Notes for installers



- Use a pipe cutter rather than a saw or cutting machine to cut piping. Rotate the piping evenly and slowly, applying even force to ensure that the piping does not become deformed during cutting. Using a saw or cutting machine to cut piping runs the risk of copper shavings entering the piping. Copper shavings are difficult to remove and pose a serious risk to the system if they enter the compressor or block the throttling unit.
- After cutting using a pipe cutter, use a reamer/scrapper to remove any burrs that have formed at the opening, keeping the opening of the piping downwards to avoid copper shavings from entering the piping.
- Remove burrs carefully to avoid scratches, which may prevent a proper seal being formed and lead to refrigerant leakage.

5.3.3 Expanding copper piping ends

Notes for installers

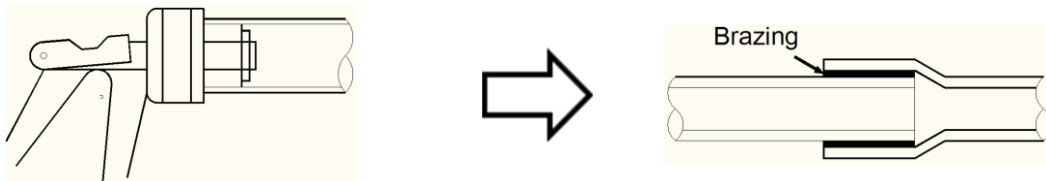


- Ends of copper piping can be expanded so that another length of piping can be inserted and the joint brazed.
- Insert the expanding head of the pipe expander into the pipe. After completing pipe expansion, rotate the copper pipe a few degrees to rectify the straight line mark left by the expanding head.

Caution

- Ensure that the expanded section of piping is smooth and even. Remove any burrs that remain after cutting.

Figure 3-5.1: Expanding copper piping ends



5.3.4 Flared joints

Flared joints should be used where a screw thread connection is required.

Notes for installers

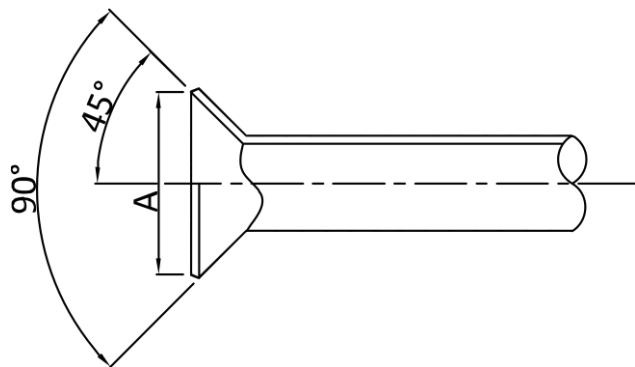


- Before flaring 1/2H (half hard) piping, anneal the end of the pipe to be flared.
- Remember to place the flare nut on the piping before flaring.
- Ensure the flared opening is not cracked, deformed or scratched, otherwise it will not form a good seal and refrigerant leakage may occur.
- The diameter of the flared opening should be within the ranges specified in Table 3-5.1. Refer to Figure 3-5.2.

Table 3-5.1: Flared opening size ranges

Pipe (mm)	Flared opening diameter (A) (mm)
Φ6.35	8.7 - 9.1
Φ9.53	12.8 - 13.2
Φ12.7	16.2 - 16.6
Φ15.9	19.3 - 19.7
Φ19.1	23.6 - 24.0

Figure 3-5.2: Flared opening



- When connecting a flared joint, apply some compressor oil to the inner and outer surfaces of the flared opening

5.3.5 Bending piping

Bending copper piping reduces the number of brazed joints required and can improve quality and save material.

Notes for installers



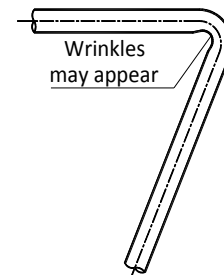
Piping bending methods

- Hand bending is suitable for thin copper piping ($\Phi 6.35\text{mm} - \Phi 12.7\text{mm}$).
- Mechanical bending (using a bending spring, manual bending machine or powered bending machine) is suitable for a wide range of diameters ($\Phi 6.35\text{mm} - \Phi 54.0\text{mm}$).

Caution

- When using a spring bender, ensure that the bender is clean before inserting it in the piping.
- After bending a copper pipe, ensure that there are no wrinkles or deformation on either side of the pipe.
- Ensure that bend angles do not exceed 90° , otherwise wrinkles may appear on the inner side of the pipe, and the pipe may buckle or crack. Refer to Figure 3-5.3.
- Do not use a pipe that has buckled during the bending process; ensure that the cross section at the bend is greater than $2/3$ of the original area.

Figure 3-5.3: Pipe bending in excess of 90°



5.4 Refrigerant Piping Supports

When the air conditioning is running, the refrigerant piping will deform (shrink, expand, droop). To avoid damage to piping, hangers or supports should be spaced as per the criteria in the Table 3-5.2. In general, the gas and liquid pipes should be suspended in parallel and the interval between support points should be selected according to the diameter of the gas pipe.

Table 3-5.2: Refrigerant piping support spacings

Pipe (mm)	Interval between support points (m)	
	Horizontal Piping	Vertical Piping
$< \Phi 20$	1	1.5
$\Phi 20 - \Phi 40$	1.5	2
$> \Phi 40$	2	2.5

Suitable insulation should be provided between the piping and the supports. If wooden dowels or blocks are to be used, use wood that has undergone preservative treatment.

Changes in refrigerant flow direction and refrigerant temperature result in movement, expansion and shrinkage of the refrigerant piping. Piping should therefore not be fixed too tightly, otherwise stress concentrations may occur in the piping, with the potential for rupturing.

5.5 Brazing

Care must be taken to prevent oxide forming on the inside of copper piping during brazing. The presence of oxide in a refrigerant system adversely affects the operation of valves and compressors, potentially leading to low efficiency or even compressor failure. To prevent oxidation, during brazing nitrogen should be flowed through the refrigerant piping.

Notes for installers



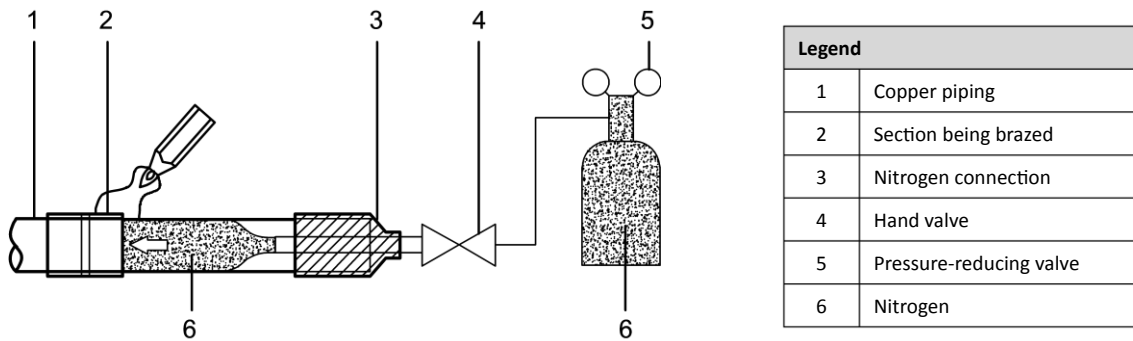
Warning

- Never flow oxygen through piping as doing so aids oxidation and could easily lead to explosion and as such is extremely dangerous.
- Take appropriate safety precautions such as having a fire extinguisher to hand whilst brazing.

Flowing nitrogen during brazing

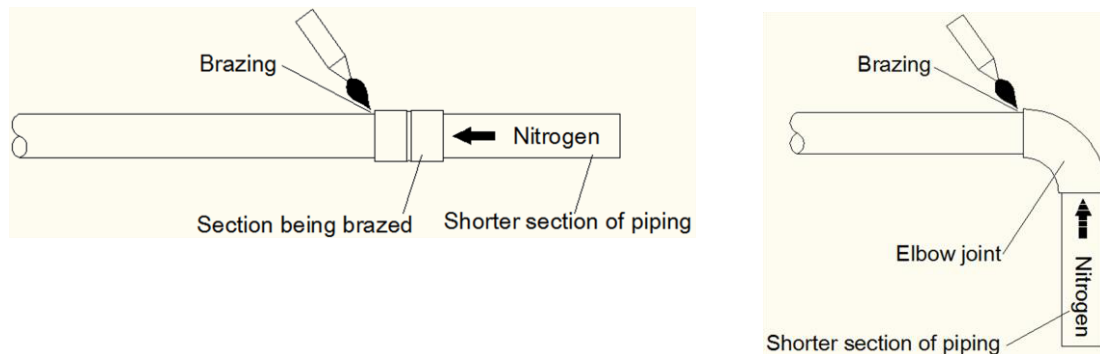
- Use a pressure reducing valve to flow nitrogen through copper piping at 0.02-0.03MPa during brazing.
- Start the flow before brazing starts and ensure that the nitrogen continuously passes through the section being brazed until the brazing is complete and the copper has cooled down completely.

Figure 3-5.4: Flowing nitrogen through piping during brazing



- When joining a shorter section of piping to a longer section, flow nitrogen from the shorter side to allow better displacement of air with nitrogen.
- If the distance from the point where nitrogen enters the piping to the joint to be brazed is long, ensure that the nitrogen is flowed for sufficient time to discharge all the air from the section to be brazed before commencing brazing.

Figure 3-5.5: Flowing nitrogen from shorter side during brazing



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Piping orientation during brazing

Brazing should be conducted downwards or horizontally to avoid filler leakage.

Figure 3-5.6: Piping orientation during brazing

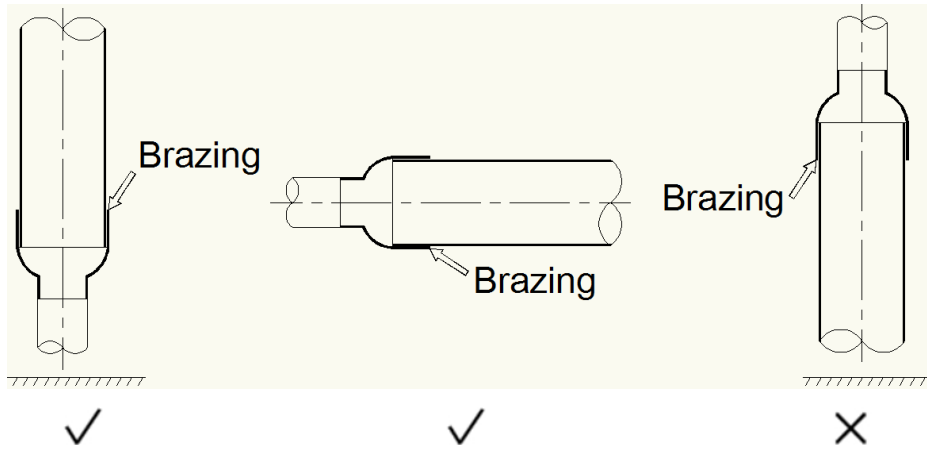
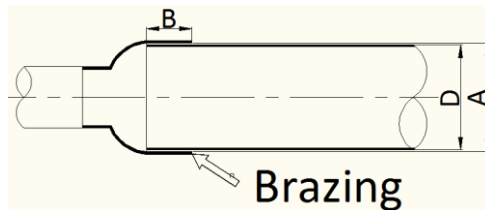

Piping overlap during brazing

Table 3-5.3 specifies the minimum permissible piping overlap and the range of permissible gap sizes for brazed joints on piping of different diameters. Refer also to Figure 3-5.7.

Figure 3-5.7: Piping overlap and gap for brazed joints



Legend	
A	Inner diameter of larger pipe
D	Outer diameter of smaller pipe
B	Inlaid depth (overlap)

Table 3-5.3: Piping overlap and gap for brazed joints¹

D (mm)	Minimum permissible B (mm)	Permissible A – D (mm)
5 < D < 8	6	0.05 - 0.21
8 < D < 12	7	
12 < D < 16	8	0.05 - 0.27
16 < D < 25	10	
25 < D < 35	12	0.05 - 0.35
35 < D < 45	14	

Notes:

1. A, B, D refer to the dimensions shown in Figure 3-5.7.

Filler

- Use a copper/phosphorus brazing alloy (BCuP) filler that does not require flux.
- Do not use flux. Flux can cause corrosion of piping and can affect the performance of compressor oil.
- Do not use anti-oxidants when brazing. Residue can clog piping and damage components.

5.6 Branch Joints

Notes for installers



- Use U-shaped branch joints as specified on the construction drawings – do not replace U-shaped branch joints with tee joints.
- To avoid accumulation of oil in the outdoor units, outdoor branch joints should be installed horizontally and must not be higher than the outdoor unit refrigerant outlets. Refer to Figure 3-5.9.
- Indoor branch joints may be installed either horizontally or vertically. Horizontal branch joints must be installed at an angle to the horizontal not exceeding 10° in order to avoid uneven distribution of refrigerant and possible malfunction. Refer to Figure 3-5.8.

Figure 3-5.8: Branch joint orientation

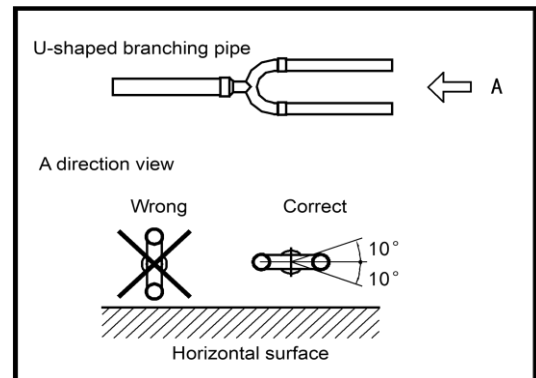
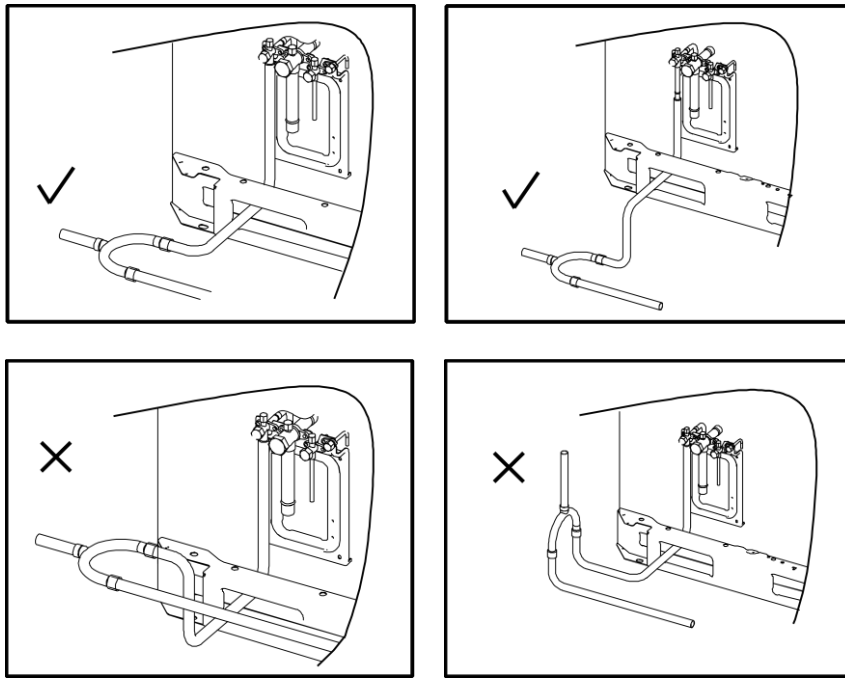


Figure 3-5.9: Installation of outdoor branch joints

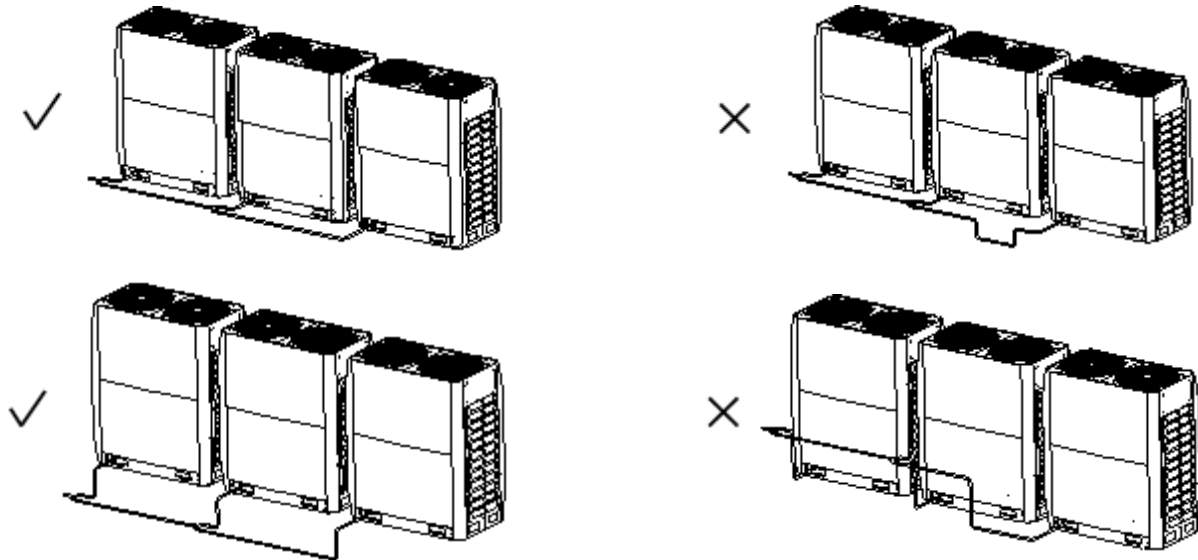


- To ensure even distribution of refrigerant, a limitation is placed on how close branch joints may be installed to bends, other branch joints and the straight sections of piping leading to indoor units. Refer to Part 3, 4.6 “Branch Joints”.

5.7 Piping Connections between Outdoor Units

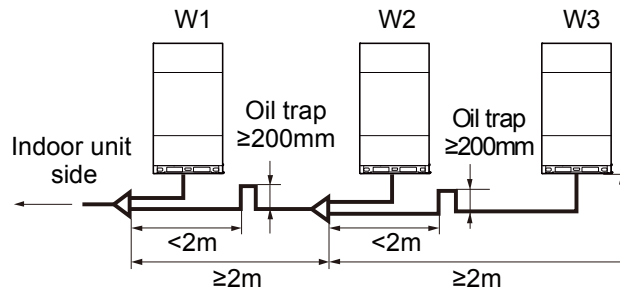
The piping connecting the outdoor units should be horizontal and must not be higher than the refrigerant outlets. If necessary, to avoid obstacles the piping may be vertically offset below the outlets. When inserting a vertical offset to avoid an obstacle, the whole outdoor piping should be offset, rather than just the section adjacent to the obstacle. Refer to Figure 3-5.10.

Figure 3-5.10: Piping connections between outdoor units



In case that the piping length between outdoor units is 2m or more, the oil trap for the gas pipe should be provided so that accumulation of refrigerant oil may not occur.

Figure 3-5.11: Oil trap between outdoor units



Outdoor piping should be installed in a metal casing to protect against exposure to sunlight, rain, wind and other potential causes of damage.

5.8 Pipe Flushing

5.8.1 Purpose

To remove dust, other particles and moisture, which could cause compressor malfunction if not flushed out before the system is run, the refrigerant piping should be flushed using nitrogen. As described in Part 3, 5.1.1 "Installation procedure", pipe flushing should be performed once the piping connections have been completed with the exception of the final connections to the indoor units. That is, flushing should be performed once the outdoor units have been connected but before the indoor units are connected.

Notes for installers



Warning

Only use nitrogen for flushing. Using carbon dioxide risks leaving condensation in the piping. Oxygen, air, refrigerant, flammable gases and toxic gases must not be used for flushing. Use of such gases may result in fire or explosion.

Procedure

The liquid and gas sides can be flushed simultaneously; alternatively, one side can be flushed first and then Steps 1 to 8 repeated, for the other side. The flushing procedure is as follows:

1. Cover the inlets and outlets of the indoor units to prevent dirt getting blown in during pipe flushing. (Pipe flushing should be carried out before connecting the indoor units to the piping system.)
2. Attach a pressure reducing valve to a nitrogen cylinder.
3. Connect the pressure reducing valve outlet to the inlet on the liquid (or gas) side of the outdoor unit.
4. Use blind plugs to block all liquid (gas) side openings, except for the opening at the indoor unit which is furthest from the outdoor units ("Indoor unit A" in Figure 3-5.12).
5. Start to open the nitrogen cylinder valve and gradually increase the pressure to 0.5MPa.
6. Allow time for nitrogen to flow as far as the opening at indoor unit A.
7. Flush the first opening:
 - a) Using suitable material, such as a bag or cloth, press firmly against the opening at indoor unit A.
 - b) When the pressure becomes too high to block with your hand, suddenly remove your hand allowing gas to rush out.
 - c) Repeatedly flush in this manner until no further dirt or moisture is emitted from the piping. Use a clean cloth to check for dirt or moisture being emitted. Seal the opening once it has been flushed.
8. Flush the other openings in the same manner, working in sequence from indoor unit A towards the outdoor units. Refer to Figure 3-5.13.
9. Once flushing is complete, seal all openings to prevent dust and moisture from entering.

Figure 3-5.12: Pipe flushing using nitrogen

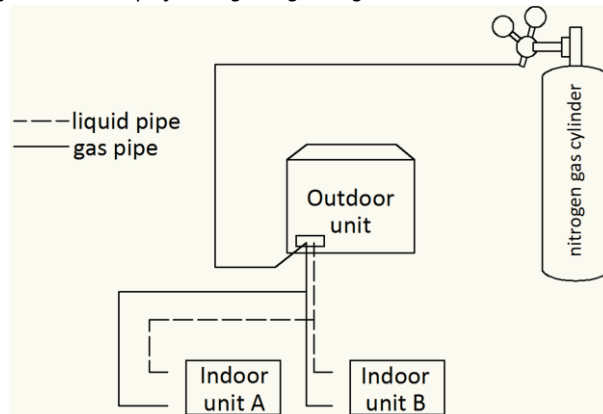
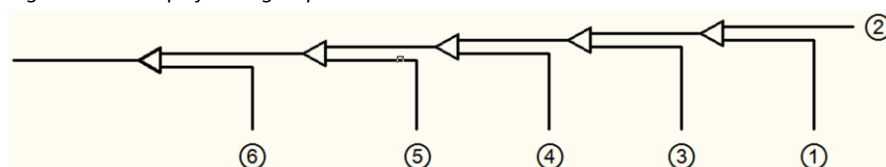


Figure 3-5.13: Pipe flushing sequence¹



Notes:

1. 1-2-3-4-5-6 working towards the outdoor units.

5.9 Gastightness Test

5.9.1 Purpose

To prevent faults caused by refrigerant leakage, a gastightness test should be performed before system commissioning.

5.9.2 Procedure

Notes for installers



Warning

Only dry nitrogen should be used for gastightness testing. Oxygen, air, flammable gases and toxic gases must not be used for gastightness testing. Use of such gases may result in fire or explosion.

Procedure

The gastightness test procedure is as follows:

Step 1

- Once the piping system is complete and the indoor and outdoor units have been connected, vacuum the piping to -0.1MPa.

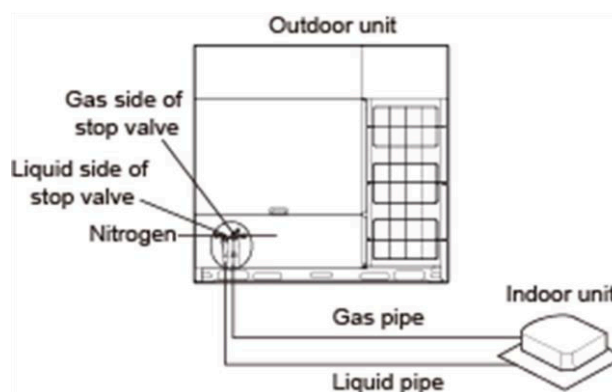
Step 2

- Charge the indoor piping with nitrogen at 0.3MPa through the needle valves on the liquid and gas stop valves and leave for at least 3 minutes (do not open the liquid or gas stop valves). Observe the pressure gauge to check for large leakages. If there is a large leakage, the pressure gauge will drop quickly.
- If there are no large leakages, charge the piping with nitrogen at 1.5MPa and leave for at least 3 minutes. Observe the pressure gauge to check for small leakages. If there is a small leakage, the pressure gauge will drop distinctly.
- If there are no small leakages, charge the piping with nitrogen at 4.2MPa and leave for at least 24 hours to check for micro leakages. Micro leakages are difficult to detect. To check for micro leakages, allow for any change in ambient temperature over the test period by adjusting the reference pressure by 0.01MPa per 1°C of temperature difference. Adjusted reference pressure = Pressure at pressurization + (temperature at observation – temperature at pressurization) x 0.01MPa. Compare the observed pressure with the adjusted reference pressure. If they are the same, the piping has passed the gastightness test. If the observed pressure is lower than the adjusted reference pressure, the piping has a micro leakage.
- If the leakage is detected, refer to Part 3, 5.9.3 “Leak detection”. Once the leak has been found and fixed, the gastightness test should be repeated.

Step 3

- If not continuing straight to vacuum drying (see Part 3, 5.10 “Vacuum Drying”) once the gastightness test is complete, reduce the system pressure to 0.5-0.8MPa and leave the system pressurized until ready to carry out the vacuum drying procedure.

Figure 3-5.14: Gastightness test



5.9.3 Leak detection

Notes for installers



The general methods for identifying the source of a leak are as follows:

1. Audio detection: relatively large leaks are audible.
2. Touch detection: place your hand at joints to feel for escaping gas.
3. Soapy water detection: small leaks can be detected by the formation of bubbles when soapy water is applied to a joint.
4. Refrigerant leak detection: for leaks that are difficult to detect, refrigerant leak detection may be used as follows:
 - a) Pressurize the piping with nitrogen at 0.3MPa.
 - b) Add refrigerant into the piping until the pressure reaches 0.5MPa.
 - c) Use a halogen refrigerant detector to find the leak.
 - d) If the leak source cannot be found, continuing charging with refrigerant to a pressure of 4MPa and then search again.

5.10 Vacuum Drying

5.10.1 Purpose

Vacuum drying should be performed in order to remove moisture and non-condensable gases from the system. Removing moisture prevents ice formation and oxidization of copper piping or other internal components. The presence of ice particles in the system would cause abnormal operation, whilst particles of oxidized copper can cause compressor damage. The presence of non-condensable gases in the system would lead to pressure fluctuations and poor heat exchange performance.

Vacuum drying also provides additional leak detection (in addition to the gastightness test).

5.10.2 Procedure
Notes for installers


During vacuum drying, a vacuum pump is used to lower the pressure in the piping to the extent that any moisture present evaporates. At 5mmHg (755mmHg below typical atmospheric pressure) the boiling point of water is 0°C. Therefore a vacuum pump capable of maintaining a pressure of -756mmHg or lower should be used. Using a vacuum pump with a discharge in excess of 4L/s and a precision level of 0.02mmHg is recommended.

Caution

- Before performing vacuum drying, make sure that all the outdoor unit stop valves are firmly closed.
- Once the vacuum drying is complete and the vacuum pump is stopped, the low pressure in the piping could suck vacuum pump lubricant into the air conditioning system. The same could happen if the vacuum pump stops unexpectedly during the vacuum drying procedure. Mixing of pump lubricant with compressor oil could cause compressor malfunction and a one-way valve should therefore be used to prevent vacuum pump lubricant seeping into the piping system.

Procedure

The vacuum drying procedure is as follows:

Step 1

- Connect the blue (low pressure side) hose of a pressure gauge to the master unit gas pipe stop valve, the red (high pressure side) hose to the master unit liquid pipe stop valve and the yellow hose to the vacuum pump.

Step 2

- Start the vacuum pump and then open the pressure gauge valves to start vacuum the system.
- After 30 minutes, close the pressure gauge valves.
- After a further 5 to 10 minutes check the pressure gauge. If the gauge has returned to zero, check for leakages in the refrigerant piping.

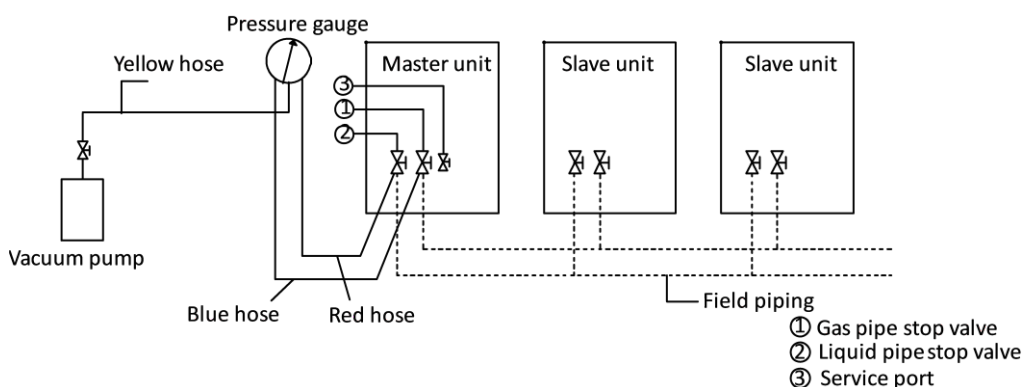
Step 3

- Re-open the pressure gauge valves and continue vacuum drying for at least 2 hours and until a pressure difference of 756mmHg or more has been achieved. Once the pressure difference of at least 756mmHg has been achieved, continue vacuum drying for 2 hours.

Step 4

- Close the pressure gauge valves and then stop the vacuum pump.
- After 1 hour, check the pressure gauge. If the pressure in the piping has not increased, the procedure is finished. If the pressure has increased, check for leakages.
- After vacuum drying, **keep the blue and red hoses connected to the pressure gauge and to the master unit stop valves**, in preparation for refrigerant charging (see Part 3, 8 “Charging Refrigerant”).

Figure 3-5.15: Vacuum drying



Pressure gauge

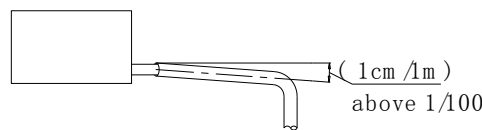
6 Drain Piping

6.1 Design Considerations

Drain piping design should take account of the following considerations:

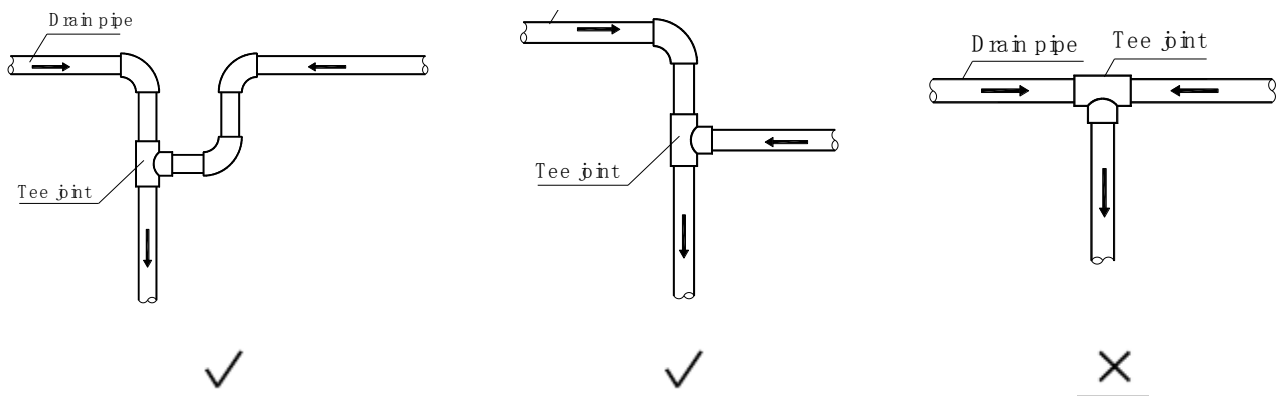
- Indoor unit condensate drain piping needs to be of sufficient diameter to carry the volume of condensate produced at the indoor units and installed at a slope sufficient to allow drainage. Discharge as close as possible to the indoor units is usually preferable.
- To prevent the drain piping becoming excessively long, consideration should be given to installing multiple drain piping systems, with each system having its own drainage point and providing drainage for a subset of the overall set of indoor units.
- The routing of drain piping should take into consideration the need to maintain sufficient slope for drainage whilst avoiding obstacles such as beams and ducting. The drain piping slope should be at least 1:100 away from indoor units. Refer to Figure 3-6.1.

Figure 3-6.1: Drain piping minimum slope requirement



- To avoid backflow and other potential complications, two horizontal drain pipes should not meet at the same level. Refer to the Figure 3-6.2 for suitable connection arrangements. Such arrangements also allow the slope of the two horizontal pipes to be selected independently.

Figure 3-6.2: Drain piping joints – correct and incorrect configurations



- Branch drain piping should join main drain piping from the top, as shown in Figure 3-6.3.
- Recommended support/hanger spacing is 0.8 – 1.0m for horizontal piping and 1.5 – 2.0m for vertical piping. Each vertical section should be fitted with at least two supports. For horizontal piping, spacing greater than those recommended leads to sagging and deformation of the pipe profile at the supports which impedes water flow and should therefore be avoided.
- Air vents should be fitted at the highest point of each drain piping system to ensure that condensation is discharged smoothly. U-bends or elbow joints should be used such that the vents face downwards, to prevent dust entering the piping. Refer to Figure 3-6.5. Air vents should not be installed too close to indoor unit lift pumps.

Figure 3-6.3: Branch drain piping joining main drain piping

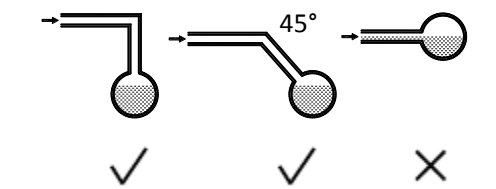


Figure 3-6.4: Effect of insufficient drain piping support

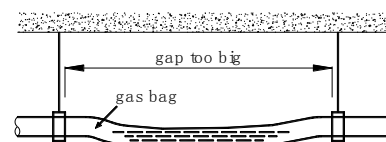
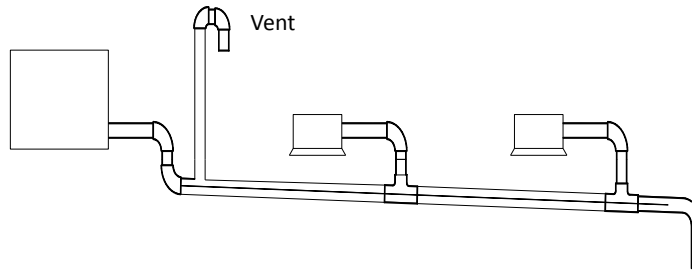
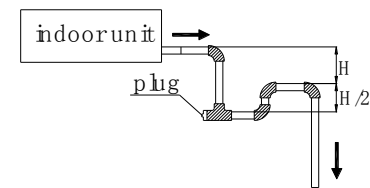


Figure 3-6.5: Drain piping air vents


- Air conditioner drain piping should be installed separately from waste, rainwater and other drain piping and should not come into direct contact with the ground.
- Drain piping diameter should be not less than the indoor units' drain piping connection.
- To allow inspection and maintenance, the piping clamps shipped with units should be used to attach drain piping to indoor units – adhesive should not be used.
- Thermal insulation should be added to drain piping to prevent condensation forming. Thermal insulation should extend all the way to the connection with the indoor unit.
- Units with drain pumps should have separate drain piping systems from systems that use natural drainage.

6.2 Water Traps

For indoor units with a high negative pressure differential at the outlet of the drainage pan, a trap should be fitted to the drain piping to prevent poor drainage and/or water being blown back into the drainage pan. Traps should be arranged as in Figure 3-6.6. The vertical separation H should be in excess of 50mm. A plug may be fitted to allow cleaning or inspection.

Figure 3-6.6: Drain piping water traps


6.3 Selecting Piping Diameters

Select branch drainage piping (the drain piping connection to each unit) diameters according to indoor unit flow volume and select main drainage piping diameters according to the combined flow volume of the upstream indoor units. Use a design assumption of 2 liters of condensate per horsepower per hour. For example, the combined flow volume of three 2HP units and two 1.5HP units would be calculated as follows:

$$\begin{aligned}
 \text{Combined flow volume} &= 3 \times 2 \text{ L/HP/h} \times 2\text{HP} + 2 \times 2 \text{ L/HP/h} \times 1.5\text{HP} = 18 \text{ L/h}
 \end{aligned}$$

Tables 3-6.1 and 3-6.2 specify the required piping diameters for horizontal and vertical branch piping and for main piping. Note that main piping should use PVC40 or larger.

Table 3-6.1: Horizontal drain piping diameters

PVC piping	Nominal diameter (mm)	Capacity (L/h)		Remarks
		Slope 1:50	Slope 1:100	
PVC25	25	39	27	Branch piping only
PVC32	32	70	50	
PVC40	40	125	88	Branch or main piping
PVC50	50	247	175	
PVC63	63	473	334	

Table 3-6.2: Vertical drain piping diameters

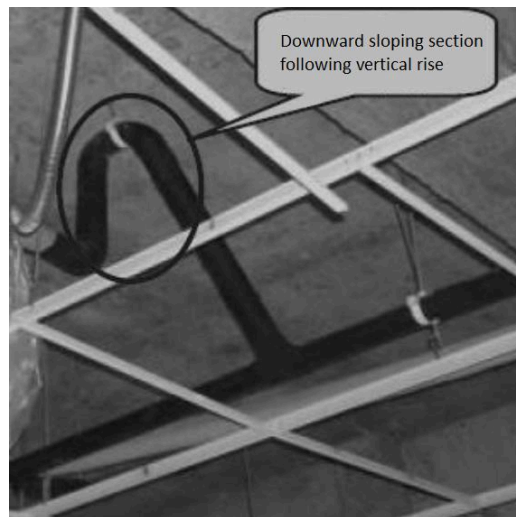
PVC piping	Nominal diameter (mm)	Capacity (L/h)	Remarks
PVC25	25	220	Branch piping only
PVC32	32	410	
PVC40	40	730	Branch or main piping
PVC50	50	1440	
PVC63	63	2760	
PVC75	75	5710	
PVC90	90	8280	

6.4 Drain Piping for Units with Lift Pumps

Drain piping for units with lift pumps should take account of the following additional considerations:

- A downward sloping section should immediately follow the vertically rising section adjacent to the unit, otherwise a water pump error will occur. Refer to Figure 3-6.7.
- Air vents should not be installed on vertically rising sections of drain piping, otherwise water may be discharged through the air vent or water flow may be impeded.

Figure 3-6.7: Downward sloping section of drain piping



6.5 Drain Piping Installation

Notes for installers



Installation of the drain piping should proceed in the following order:



Caution

- Ensure that all joints are firm and once the drain piping is all connected conduct a watertightness test and water flow test.
- Do not connect air conditioner drain piping to waste, rainwater or other drain piping and do not let air conditioner drain piping come into direct contact with the ground.
- For units with drain pumps, test that the drain pump functions properly by adding water to the unit’s drainage pan and running the unit. To allow inspection and maintenance, the pipe clamps shipped with units should be used to attach drain piping to indoor units – adhesive should not be used.

6.6 Watertightness Test and Water Flow Test

Once installation of a drainage piping system is complete, watertightness and water flow tests should be performed.

Notes for installers



Watertightness test

- Fill the piping with water and test for leakages over a 24-hour period.

Water flow test (natural drainage test)

- Slowly fill the drainage pan of each indoor unit with at least 600ml of water through the inspection port and check that the water is discharged through the outlet of the drain piping.

Caution

- The drain plug in the drainage pan is for removing accumulated water prior to performing indoor unit maintenance. During normal operation, the drain should be plugged to prevent leakage.

7 Insulation

7.1 Refrigerant Piping Insulation

7.1.1 Purpose

During operation, the temperature of the refrigerant piping varies. Insulation is required to ensure unit performance and compressor lifespan. During cooling, the gas pipe temperature can be very low. Insulation prevents condensation forming on the piping. During heating, the gas pipe temperature can rise to as high as 100°C. Insulation serves as necessary protection from burns.

7.1.2 Selecting insulation materials

Refrigerant piping insulation should be closed-cell foam of B1 fire resistance rating that can withstand a constant temperature of over 120°C and that complies with all applicable legislation.

7.1.3 Thickness of insulation

Minimum thicknesses for refrigerant piping insulation are specified in Table 3-7.1. In hot, humid environments, the thickness of insulation should be increased over and above the specifications in Table 3-7.1.

Table 3-7.1: Refrigerant piping insulation thickness

Pipe outer diameter (mm)	Minimum insulation thickness (mm) Humidity < 80%RH	Minimum insulation thickness (mm) Humidity ≥ 80%RH
Φ6.35	15	20
Φ9.53		
Φ12.7		
Φ15.9		
Φ19.1		
Φ22.2		
Φ25.4		
Φ28.6		
Φ31.8		
Φ38.1		
Φ41.3	20	25
Φ44.5		
Φ54.0		

7.1.4 Installation of piping insulation

With the exception of joint insulation, insulation should be applied to piping before fixing the piping in place. Insulation at joints in refrigerant piping should be applied after the gastightness test has been completed.

Notes for installers



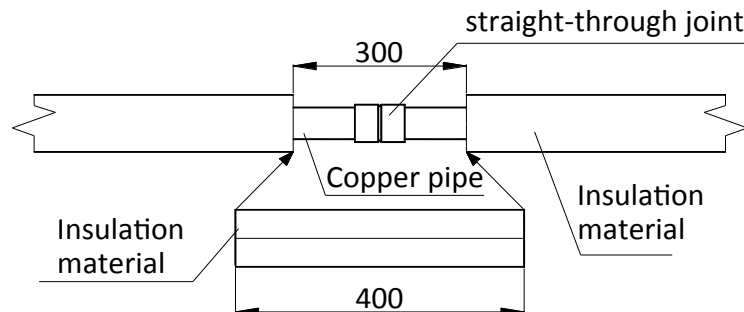
- Installation of insulation should be carried out in a manner suited to the type of insulation material being used.
- Ensure there are no gaps at the joints between sections of insulation.
- Do not apply tape too tightly as doing so may shrink insulation, reducing its insulating properties leading to condensation and loss of efficiency.
- Insulate gas and liquid pipes separately, otherwise heat exchange between the two sides will greatly impact efficiency.
- Do not bind the separately insulated gas and liquid pipes together too tightly as doing so can damage the joints between sections of insulation.

7.1.5 Installation of joint insulation

Insulation at joints in the refrigerant piping should be installed after the gastightness test has been successfully completed. The procedure at each joint is as follows:

1. Cut a section of insulation 50 to 100mm longer than the gap to be filled. Ensure that the cross-sectional and longitudinal openings are all cut evenly.
2. Embed the section into the gap ensuring that the ends abut tightly to the sections of insulation either side of the gap.
3. Glue the longitudinal cut and the joints with the sections of insulation either side of the gap.
4. Seal the seams with tape.

Figure 3-7.1: Installation of joint insulation (unit: mm)



7.2 Drain Piping Insulation

- Use rubber/plastic insulating tube with a B1 fire resistance rating.
- The insulation should typically be in excess of 10mm thick.
- For drain piping installed inside a wall, insulation is not required.
- Use suitable adhesive to seal seams and joints in the insulation and then bind with cloth reinforced tape of width not less than 50mm. Ensure tape is fixed firmly to avoid condensation.
- Ensure the drain piping insulation adjacent to the indoor unit drainage water outlet is fixed to the unit itself using adhesive, to prevent condensation and dripping.

7.3 Ducting Insulation

- Suitable insulation should be added to ducting in according with all applicable legislation.

8 Charging Refrigerant

8.1 Calculating Additional Refrigerant Charge

The additional refrigerant charge required depends on the lengths and diameters of the outdoor and indoor liquid pipes. Table 3-8.1 shows the additional refrigerant charge required per meter of equivalent pipe length for different diameters of pipe. The total additional refrigerant charge is obtained by summing the additional charge requirements for each of the outdoor and indoor liquid pipes, as in the following formula, where L_1 to L_8 represent the equivalent lengths of the pipes of different diameters. Assume 0.5m for the equivalent pipe length of each branch joint.

$$\begin{aligned}
 \text{Additional refrigerant charge R (kg)} &= L_1 (\mathbf{\Phi 6.35}) \times 0.022 \\
 &+ L_2 (\mathbf{\Phi 9.52}) \times 0.057 \\
 &+ L_3 (\mathbf{\Phi 12.7}) \times 0.110 \\
 &+ L_4 (\mathbf{\Phi 15.9}) \times 0.170 \\
 &+ L_5 (\mathbf{\Phi 19.1}) \times 0.260 \\
 &+ L_6 (\mathbf{\Phi 22.2}) \times 0.360 \\
 &+ L_7 (\mathbf{\Phi 25.4}) \times 0.520 \\
 &+ L_8 (\mathbf{\Phi 28.6}) \times 0.680
 \end{aligned}$$

Table 3-8.1: Additional refrigerant charge

Liquid side piping (mm)	Additional refrigerant charge per meter of equivalent length of piping (kg)
Φ6.35	0.022
Φ9.52	0.057
Φ12.7	0.110
Φ15.9	0.170
Φ19.1	0.260
Φ22.2	0.360
Φ25.4	0.520
Φ28.6	0.680

Strictly following the additional refrigerant charging amount calculation method, and determine that the additional amount shall not exceed the maximum refrigerant additional amount shown in table 3-8.2. If the additional refrigerant amount exceeds the limits, the total length of the pipeline construction scheme shall be shortened and the refrigerant charging amount shall be recalculated to meet the requirements.

Table 3-8.2: Maximum additional refrigerant charge amount (unit: kg)

Model	Maximum additional refrigerant	Model	Maximum additional refrigerant	Model	Maximum additional refrigerant
8HP	30.9	46HP	72.0	84HP	95.1
10HP	32.6	48HP	72.3	86HP	95.4
12HP	35.5	50HP	72.5	88HP	95.7
14HP	37	52HP	72.8	90HP	96
16HP	38.8	54HP	73.1	92HP	96.2
18HP	40.2	56HP	73.4	94HP	114.1
20HP	41.9	58HP	73.6	96HP	114.4
22HP	41.9	60HP	73.9	98HP	114.7
24HP	41.9	62HP	74.2	100HP	115
26HP	66.1	64HP	74.6	102HP	115.2
28HP	66.1	66HP	74.8	104HP	115.6
30HP	69.6	68HP	92.7	106HP	115.9
32HP	69.9	70HP	93	108HP	116.1
34HP	70.2	72HP	93.3	110HP	116.5
36HP	70.5	74HP	93.6	112HP	116.7
38HP	70.7	76HP	93.9	114HP	117.0
40HP	71.0	78HP	94.1	116HP	117.3
42HP	71.4	80HP	94.4	118HP	117.6
44HP	71.7	82HP	94.8	120HP	117.9

Notes:

1. The maximum addition refrigerant charge amount is based on the recommended combination.

Notes for installers



Caution

- Only charge refrigerant after performing a gastightness test and vacuum drying.
- Never charge more refrigerant than required as doing so can lead to liquid hammering.
- Only use refrigerant R410A - charging with an unsuitable substance may cause explosions or accidents.
- Use tools and equipment designed for use with R410A to ensure required pressure resistance and to prevent foreign materials from entering the system.
- Refrigerant must be treated in accordance with applicable legislation.
- Always use protective gloves and protect your eyes when charging refrigerant.
- Open refrigerant containers slowly.

Procedure

The procedure for adding refrigerant is as follows:

Step 1

- Calculate additional refrigerant charge R (kg) (see Part 3, 8.1 “Calculating Additional Refrigerant Charge”)

Step 2

- Place a tank of R410A refrigerant on a weighing scale. Turn the tank upside down to ensure refrigerant is charged in a liquid state. (R410A is a blend of two different chemicals compounds. Charging gaseous R410A into the system could mean that the refrigerant charged is not of the correct composition).
- After vacuum drying (see Part 3, 5.10 “Vacuum Drying”), the blue and red pressure gauge hoses should still be connected to the pressure gauge and to the master unit stop valves.
- Connect the yellow hose from the pressure gauge to the R410A refrigerant tank.

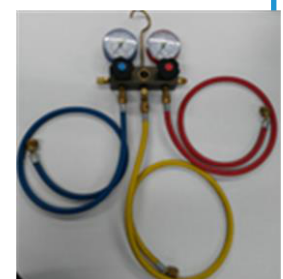
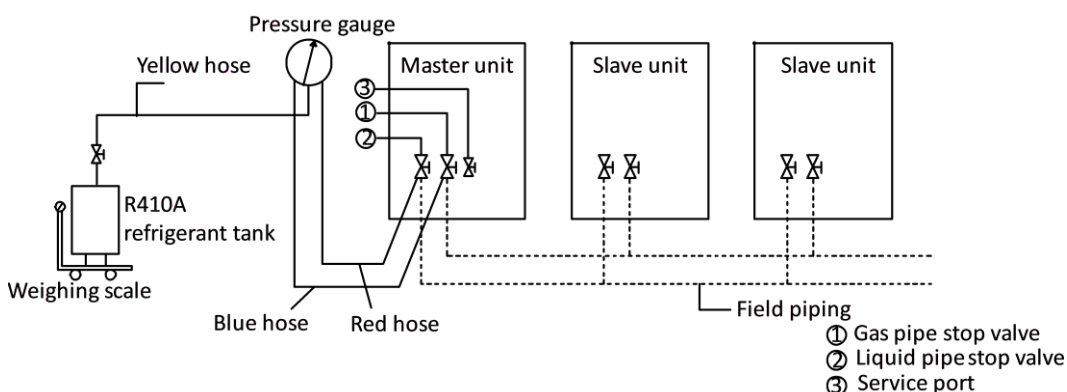
Step 3

- Open the valve where the yellow hose meets the pressure gauge, and open the refrigerant tank slightly to let the refrigerant eliminate the air. Caution: open the tank slowly to avoid freezing your hand.
- Set the weighing scale to zero.

Step 4

- Open the three valves on the pressure gauge to begin charging refrigerant.
- When the amount charged reaches R (kg), close the three valves. If the amount charged has not reached R (kg) but no additional refrigerant can be charged, close the three valves on the pressure gauge, run the outdoor units in cooling mode, and then open the yellow and blue valves. Continue charging until the full R (kg) of refrigerant has been charged, then close the yellow and blue valves. Note: Before running the system, be sure to complete all the pre-commissioning checks as listed in Part 3, 11.3 “Pre-commissioning Checks” and be sure to open all stop valves as running the system with the stop valves closed would damage the compressor.

Figure 3-8.1: Charging refrigerant



Pressure gauge

9 Electrical Wiring

9.1 General

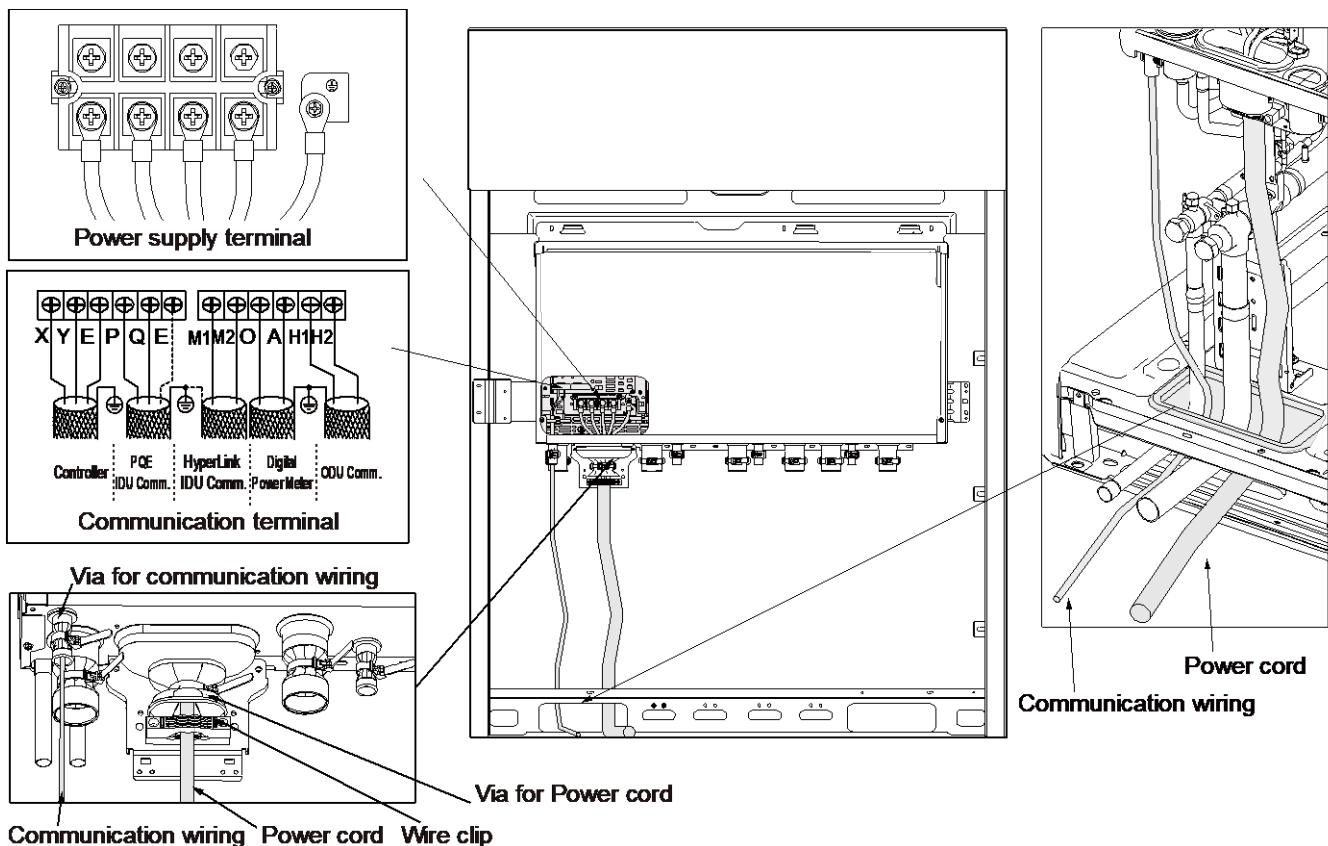
Notes for installers



Caution

- All installation and wiring must be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation.
- Electrical systems should be grounded in accordance with all applicable legislation.
- Overcurrent circuit breakers and residual-current circuit breakers (ground fault circuit interrupters) should be used in accordance with all applicable legislation.
- Wiring patterns shown in this data book are general connection guides only and are not intended for, or to include all details for, any specific installation.
- The refrigerant piping, power wiring and communication wiring are typically run in parallel. However, if HyperLink communication is not activated, the communication wiring should not be bound together with the refrigerant piping or power wiring. To prevent signal interference, the power wiring and communication wiring should not be run in the same conduit. If the power supply is less than 10A, a separation of at least 300mm between power wiring and communication wiring conduits should be maintained; if the power supply is in the range 10A to 50A then a separation of at least 500mm should be maintained.

Figure 3-9.1: Wiring layout



9.2 Power Supply Wiring

Power supply wiring design and installation should adhere to the following requirements:

- Separate power supplies should be provided for the indoor units and outdoor units.
- Where five or more outdoor units are installed, additional residual current protection (leakage protection) should be installed as shown in Figure 3-9.1.
- All the indoor units in a system (i.e. all the indoor units connected to the same set of outdoor units) should be tied into the same power circuit with the same power supply, overcurrent and residual current protection (leakage protection) and manual switch, as shown in Figure 3-9.2. Do not install separate protectors or manual switches for each indoor unit. Powering on and shutting down all indoor units in a system should be done simultaneously. The reason for this is that if an indoor unit that is running were to suddenly power off whilst the other indoor units continued running, the evaporator of the powered-off unit would freeze since refrigerant would continue flowing to that unit (its expansion valve would still be open) but its fan would have stopped. The indoor units that remain running would not get sufficient refrigerant so their performance would suffer. Additionally, liquid refrigerant returning directly to the compressor from the powered-off unit would cause liquid hammering, potentially damaging the compressor.
- Indoor units can be powered separate when HyperLink communication is activated, refer to Part3, 9.3.4 “M1 M2 communication”.
- For outdoor unit power wire sizing and circuit breaker sizing, refer to Table 2-6.1 in Part 2, 6 “Electrical Characteristics”.

Figure 3-9.2: Outdoor unit power supply wiring

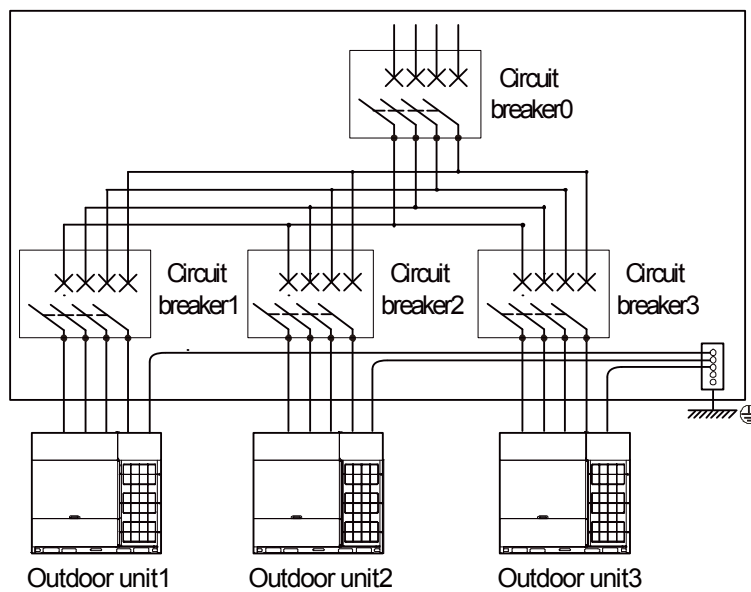
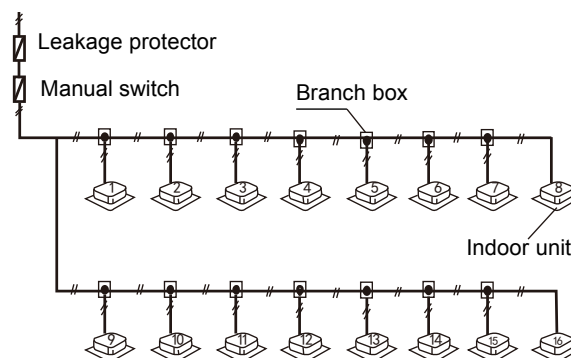


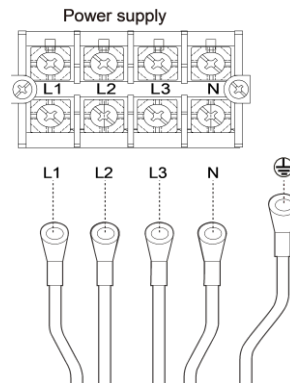
Figure 3-9.3: Indoor unit unified power supply wiring



Notes for installers


The 3-phase, 380-415V, 50 or 60Hz power supply should be connected to the outdoor unit power supply terminals as shown in Figure 3-9.4.

Figure 3-9.4: Outdoor unit 3-phase power supply terminals


9.3 Communication Wiring

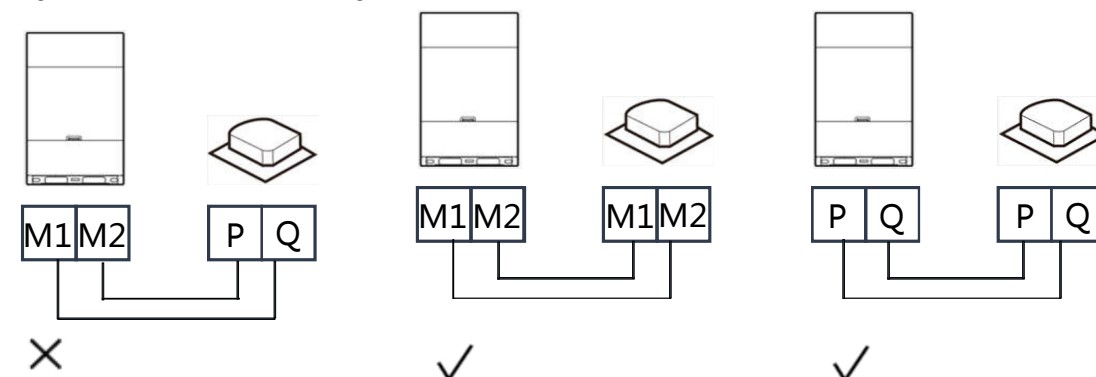
Communication wiring design and installation should adhere to the following requirements:

- Do not connect the communication line when the power is on.
- Connect the shielding nets at both ends of the shielded wire to the sheet metal “⊕” of the electronic control box.
- Do not connect the power cable to the terminal of communication line, otherwise, the motherboard will be damaged.
- Do not connect a system with both HyperLink (M1 M2) communication lines and P Q communication lines.
- It is forbidden to reverse the connection of the two communication ports (to up IDU) and (to down IDU) of the repeater.
- The communication wiring of the indoor and ODUs can only be connected to the master ODU.
- The ODU is often parallel type of multi modules, and the communication lines between the ODUs must be connected in series.
- When a single communication wire is not long enough, the joint must be crimped or soldered, and the copper wire at the joint shall not be exposed.
- V8 outdoor unit compatible with different generation indoor units, the communication connection type should follow table 3-9.1.

Table 3-9.1: Communication connection between ODU and IDUs

Indoor unit generation	Communication connection type	Wire diameter (mm ²)	Length limitation (m)
All V8 indoor units and unified power supply	M1 M2 / P Q	2x0.75	2000 / 1200
All V8 indoor units and separate power supply	M1 M2	2x1.5	600
Once there is 2 nd generation indoor unit in the system	P Q E	3x0.75	1200

Figure 3-9.5: Communication wiring

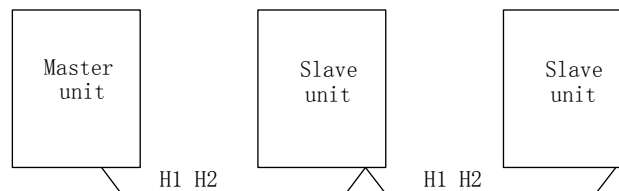


9.3.1 Outdoor units' H1 H2 communication

The outdoor unit's combined system, and the communication lines between the ODUs must be connected in series.

- The H1 H2 communication wires should be connected one unit after another in a daisy chain from the master outdoor unit to the final slave outdoor unit.
- 0.75mm² two-core shielded cable should be used for communication wiring.
- Connect the shielding nets at both ends of the shielded wire to the sheet metal “⊕” of the electronic control box.

Figure 3-9.6: Outdoor units' communication

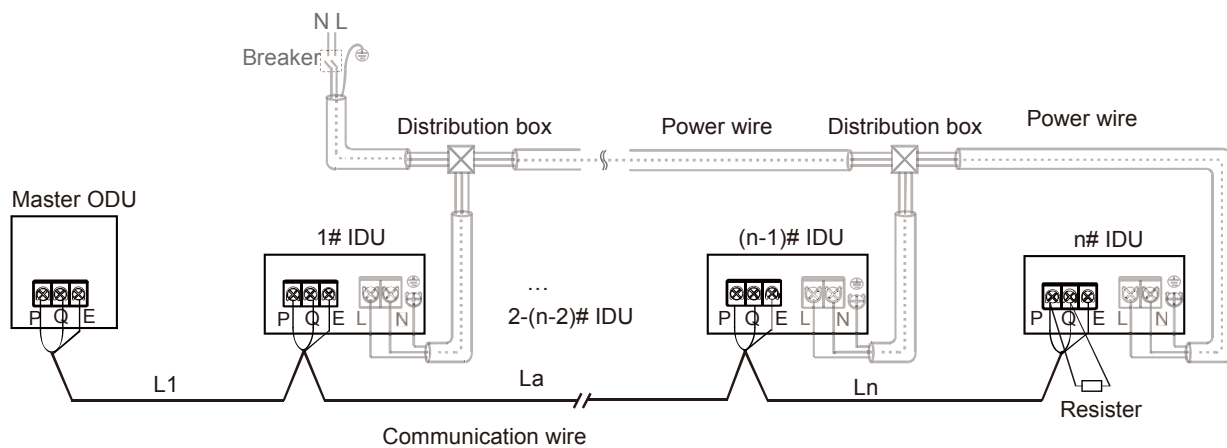


9.3.2 Outdoor unit and indoor units' P Q E communication

Communication wiring design and installation should adhere to the following requirements:

- 0.75mm² three-core shielded cable should be used for communication wiring. Using other types of cable can lead to interference and malfunction.
- The P Q E communication wires should be connected one unit after another in a daisy chain from the outdoor unit to the final indoor unit as shown in Figure 3-9.7. At the final indoor unit, a 120Ω resistor should be connected between the P and Q terminals. After the final indoor unit, the communication wiring should NOT be continued back to the outdoor unit – that is, do not attempt to form a closed loop.
- The P and Q communication wires should NOT be connecting to E.
- The shielding nets of the communication wires should be connected together and grounded. Grounding can be achieved by connecting to the metal casing adjacent to the P Q E terminals of the outdoor unit electrical control box.

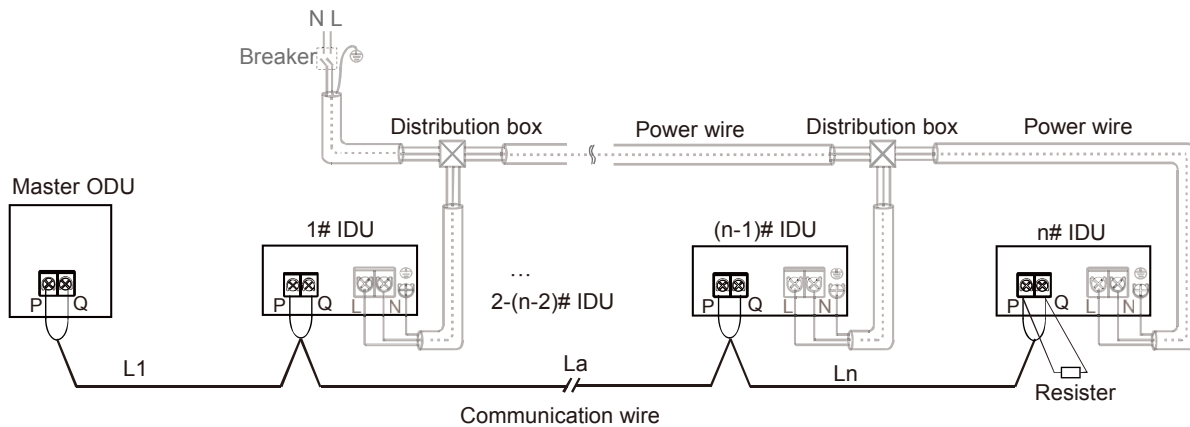
Figure 3-9.7: P Q E communication wiring configuration – IDUs uniform power supplied



9.3.3 Outdoor unit and indoor units' P Q communication

Communication wiring design and installation should adhere to the following requirements:

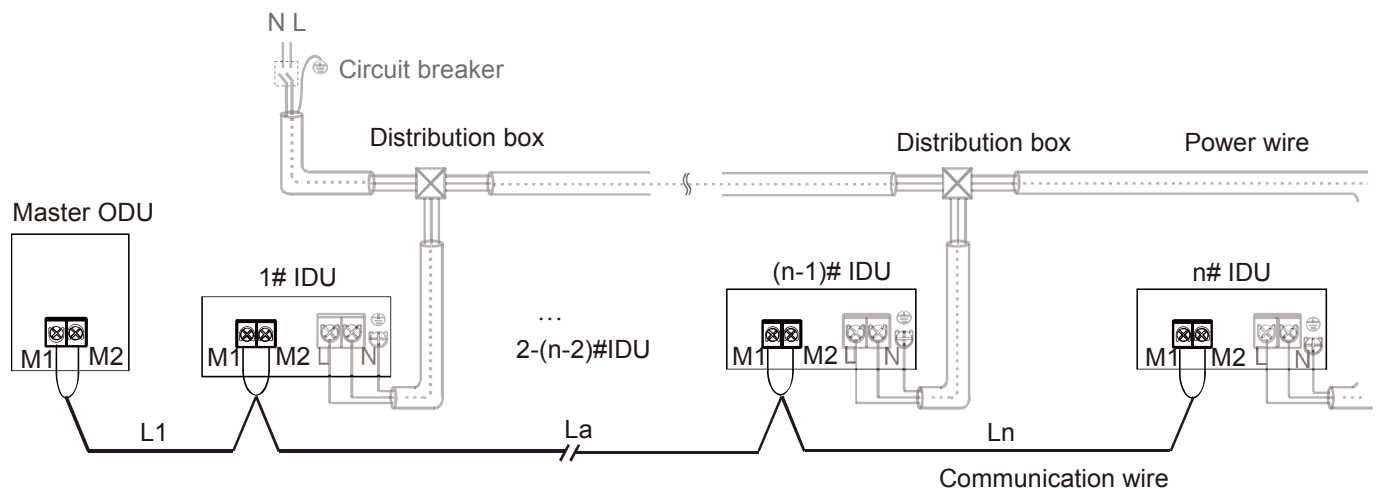
- 0.75mm² two-core shielded cable should be used for communication wiring. Using other types of cable can lead to interference and malfunction.
- The P Q communication wires should be connected one unit after another in a daisy chain from the outdoor unit to the final indoor unit as shown in Figure 3-9.8. At the final indoor unit, a 120Ω resistor should be connected between the P and Q terminals. After the final indoor unit, the communication wiring should NOT be continued back to the outdoor unit – that is, do not attempt to form a closed loop.
- The P and Q communication wires should NOT be connecting to E.
- The shielding nets of the communication wires should be connected together and grounded. Grounding can be achieved by connecting to the metal casing adjacent to the P Q E terminals of the outdoor unit electrical control box.
- All IDUs in a system must be powered through a uniform power supply so that they can be powered on or off at the same time

Figure 3-9.8: P Q communication wiring configuration – IDUs uniform power supplied


9.3.4 Outdoor unit and indoor units' M1, M2 communication-IDUs uniform power supplied

Communication wiring design and installation should adhere to the following requirements when all IDUs uniform power supplied:

- 0.75mm² two-core cable should be used for communication wiring when all the indoor units are uniform power supplied.
- All indoor units in the system are V8 indoor units.
- After the final indoor unit, the communication wiring CAN be continued back to the outdoor unit to ensure communication in case of disconnection point. In this situation, M1 M2 are polarized and M1 should connect to M1, M2 should connect to M2.

Figure 3-9.9: M1 M2 communication wiring configuration – IDUs uniform power supplied


9.3.5 Outdoor unit and indoor units' M1, M2 communication- IDUs with separate power supply

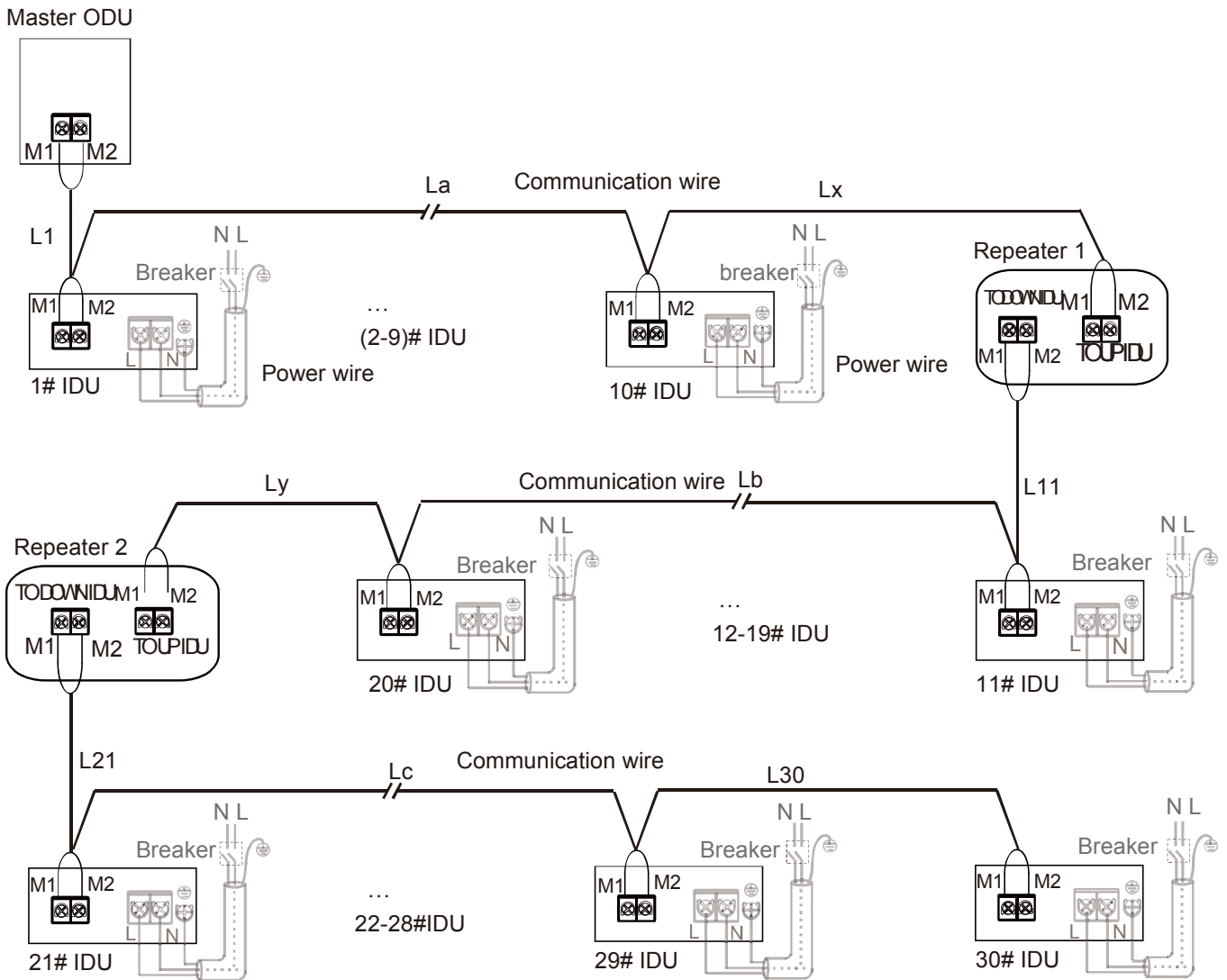
Communication wiring design and installation should adhere to the following requirements when IDUs separate power supplied.

- 1.5mm² two-core cable should be used for communication wiring when there is indoor unit separate power supplied.
- All indoor units in the system are V8 indoor units.
- If the total distance is less than or equal to 200m and the total number of IDUs is less than or equal to 10 sets, the valve is powered and controlled by the master ODU.
- If the total distance is longer than 200m or the total number of IDUs is more than 10 sets, a repeater is required to increase the bus voltage. The load capacity of the repeater is the same as that of the ODU, and it can load a bus length of 200m or 10 IDUs.
- Maximum two repeaters can be installed in the same refrigerant system.
- The number of IDUs requiring power supply in the same refrigerant system is less than or equal to 30 sets.
- Keep the power on/off for both the repeater and the ODUs, or the repeater use an uninterruptible power supply.
- For repeater installation, please refer to the repeater installation manual. Do not reversely connect the upstream and

downstream IDU ports of the repeater; otherwise, it will cause a communication failure

- After the final indoor unit, the communication wiring CAN be continued back to the outdoor unit. In this situation, M1 M2 are polarized and M1 should connect to M1, M2 should connect to M2. Repeaters CANNOT be installed in the refrigerant system, and the total number of IDUs CANNOT exceed 10 sets.

Figure 3-9.10: M1 M2 communication wiring configuration – IDUs separate power supplied



- $L1+La+Lx \leq 200m, L11+Lb+Ly \leq 200m, L21+Lc+L30 \leq 200mm$

Notes for installers



The communication wires should be connected to the master outdoor unit terminals indicated in Figure 3-9.11 and Table 3-9.2.

Caution

- Communication wiring has polarity. Care should be taken to connect the poles correctly.

Figure 3-9.11: Master outdoor unit communication terminals

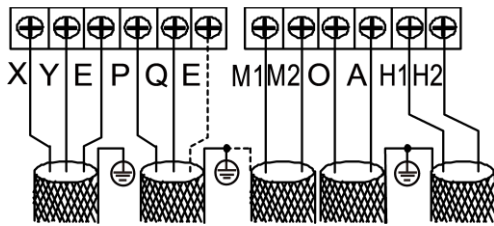


Table 3-9.2: Communication connections

Terminals	Connection
X Y E	Connect to centralized controller
P Q E	Communication connection between indoor units and master outdoor unit
M1 M2	HyperLink communication connection between indoor units and master outdoor unit
O A	Connect to digital energy meter
H1 H2	Connect between outdoor units

V8 VRF 50/60Hz

10 Installation in Areas of High Salinity

10.1 Caution

Do not install outdoor units where they could be directly exposed to sea air. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.

Outdoor units installed in seaside locations should be placed such as to avoid direct exposure to the sea air and additional anticorrosion treatment options should be selected, otherwise the service life of the outdoor units will be seriously affected.

Air conditioning installed in seaside locations should be run regularly as the running of the outdoor unit fans helps prevent build-up of salt on the outdoor unit heat exchangers.

10.2 Placement and Installation

Outdoor units should be installed 300m or more from the sea. If possible, well-ventilated indoor locations should be chosen. (When installing outdoor units indoors, outdoor unit discharge ducts should be added. See Part 3, 3 “Outdoor Unit Ducting and Shielding”.) Refer to Figure 3-10.1. If it is necessary to install outdoor units outside, direct exposure to the sea air should be avoided. A canopy should be added to shield the units from sea air and rain, as shown in Figure 3-10.2.

Ensure that base structures drain well so that outdoor unit footings do not become waterlogged. Check that outdoor unit casing drainage holes are not blocked.

Figure 3-10.1: Installation in a well-ventilated indoor area

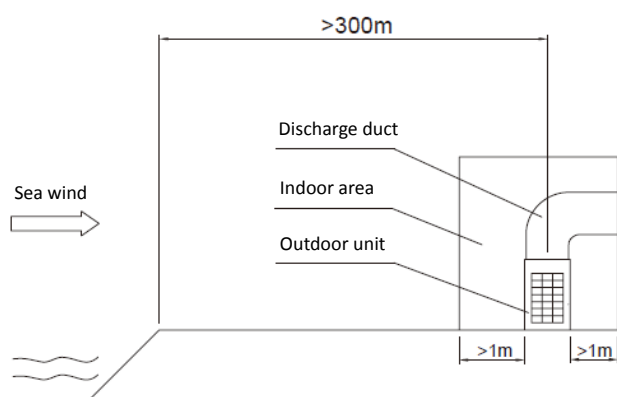
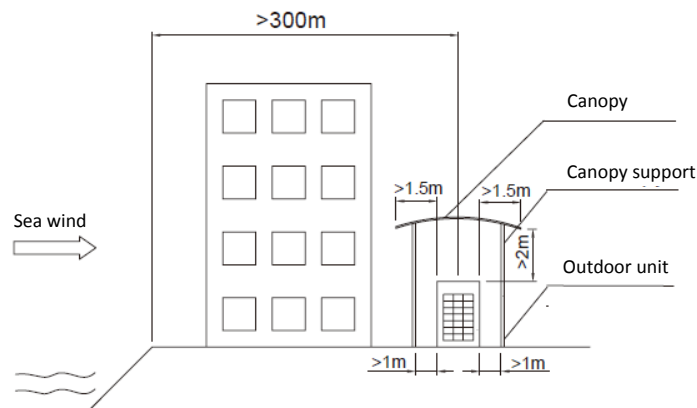


Figure 3-10.2: Installation outdoors under a canopy



10.3 Inspection and maintenance

In addition to standard outdoor unit servicing and maintenance, the following additional inspections and maintenance should be undertaken for outdoor units installed in seaside locations:

- A comprehensive post-installation inspection should check for any scratches or other damage to painted surfaces and any damaged areas should be repainted/repaired immediately.
- The units should be regularly cleaned using (non-salty) water to remove any salt that has accumulated. Areas cleaned should include the condenser, the refrigerant piping system, the outside surface of the unit casing and the outside surface of the electric control box.
- Regular inspections should check for corrosion and if necessary corroded components should be replaced and/or anti-corrosion treatments should be added.

11 Commissioning

11.1 Outdoor Unit Address and Communication Type Setting

Step 1: Power on

Cover the lower panel of the ODU, and power on all IDUs and ODUs.

Step 2: Enter commissioning mode

When the ODU is first powered on, it displays "-. -. -. -.", which means the unit is not commissioned. Long press the "DOWN" and "UP" buttons simultaneously for 5s on the master ODU to enter commissioning mode.

Step 3: Set the number of IDUs in a system

Set the total number of IDUs of the refrigerant system on the master ODU by the menu. The digital display of the master ODU displays "01 01". The 3rd and 4th digits represent the number of IDUs, the initial value is 1, and the value range is 1–64, short press the "DOWN" or "UP" button to change the number. Once the number of IDUs has been set, short press the "OK" button to confirm and automatically proceed to the next step.

Step 4: Select the system communication protocol

Enter the communication protocol setting interface, the digital display of master ODU displays "02 0". The 4th digit of the digital display represents the communication protocol type, the initial value is 0. Short press the "DOWN" or "UP" button to change the communication protocol.

If the system is **all V8 indoor units**, and the V8 protocol RS-485 (P Q) communication function is required to be enabled, set the 4th digit of the master ODU digital display to **0**, ODU factory default V8 protocol RS-485 (P Q) communication.

If the system has **2nd generation DC/AC indoor units**, and the non-V8 protocol RS-485 (P Q E) communication function is required to be enabled, set the 4th digit of the master ODU digital display to **1**.

If the system is **all V8 indoor units**, and the HyperLink (M1 M2) communication function is required to be enabled, and there is **uniform power supply** for indoor units, set the 4th digit of the master ODU digital display to **2**.

If the system is **all V8 indoor units**, and the HyperLink (M1 M2) communication function is required to be enabled, and there is **separate power supply** for indoor units, set the 4th digit of the master ODU digital display to **3**.

Once the communication protocol has been set, short press the "OK" button to confirm and automatically proceed to the next step.

Step 5: IDU and ODUs address setting

Auto address: Enter the auto addressing function, the digital display of master ODU flashes "AU Ad" and "X YZ" in rotation. "AU Ad" means the auto addressing is in progress, "X" represents the address of the ODU, "YZ" represents the number of detected IDUs, the auto addressing takes about 5-7 minutes, and automatically proceed to the next step after completion.

Step 6: System initialization

Entering system initialization, the digital display of master ODU flashes "AU Ad" and "X YZ" in rotation. "INIt" means initialization is in progress, "X" represents the address of the ODU, "YZ" represents the number of detected IDUs, the system initialization takes about 3-5 minutes, and automatically proceed to the next step after completion.

Step 7: Test run

During a test run, the system automatically diagnoses the air outlet static pressure of the ODU, the stop valve status, the consistency of the refrigerant piping and communication wiring, and the installation environment.

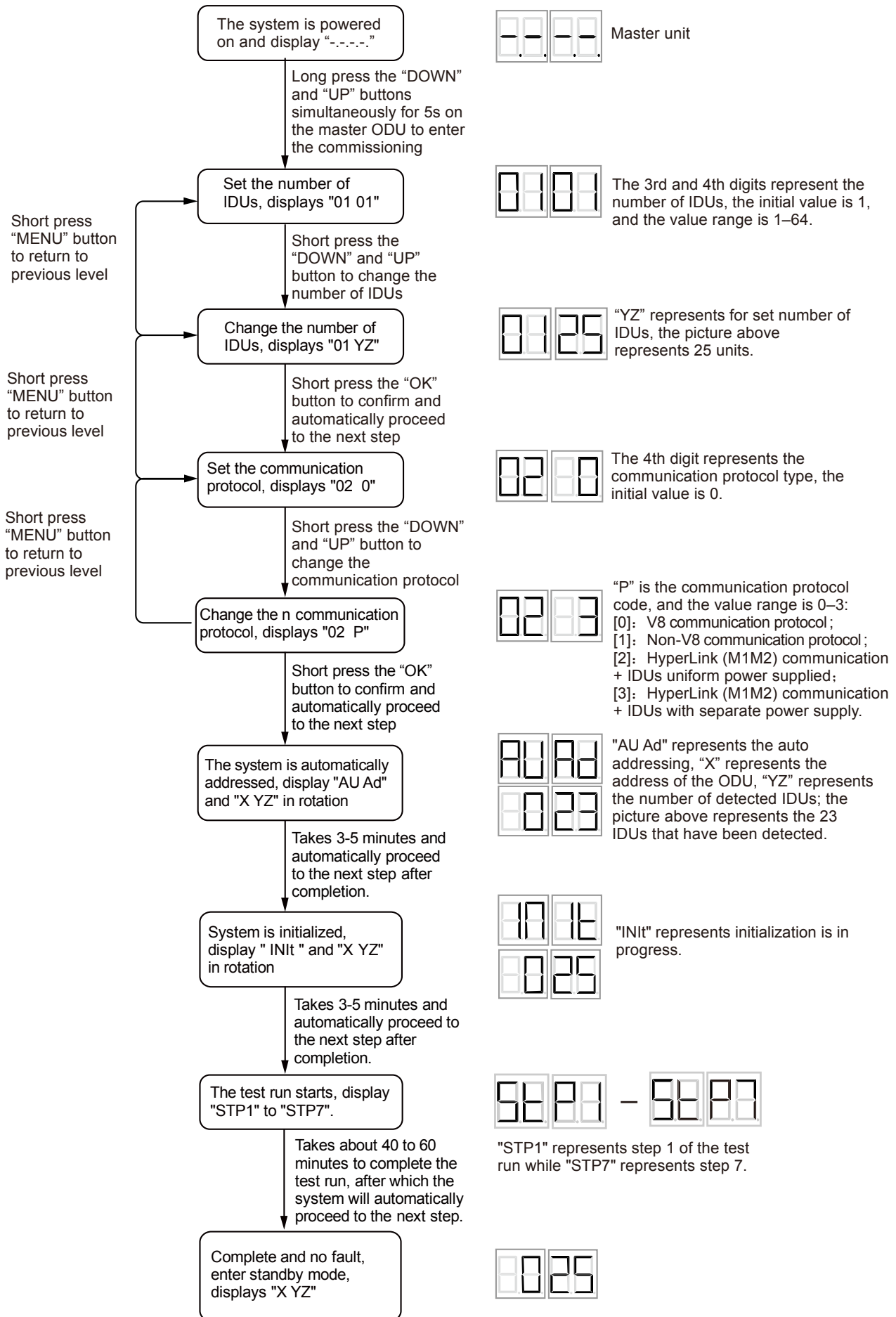
If the system is wired and installed correctly, the test run will last for about 40 to 60 minutes, the ODU digital display will show "STP1" to "STP7". After the test run, the digital display will show "End", 10 seconds after which the system will automatically proceed to the next step.

If the ODU detects a fault, the digital display will show an error code. Please refer to the Error Code Table for troubleshooting. After troubleshooting, the test run will restart through the menu "n11-2" on the master unit until the digital display shows "End" and the system proceeds to the next step. Then, the test run is completed.

Step 8: End

After system test run, all ODUs will enter standby mode and the digital display will display "X YZ" ("X" represents the address of the ODUs, "YZ" represents the number of detected IDUs), and the unit can be turned on normally.

Figure 3-11.1: Commissioning Procedure



11.2 Multi-system Projects

For projects with multiple refrigerant systems, each independent refrigeration system (i.e. each system of up to three outdoor units and their connected indoor units) should be given a test run independently, before the multiple systems that make up a project are run simultaneously.

11.3 Pre-commissioning Checks

Before turning on the power to the indoor and outdoor units, ensure the following:

1. All indoor and outdoor refrigeration piping and communication wiring has been connected to the correct refrigeration system and the system to which each indoor and outdoor unit belongs is clearly marked on each unit or recorded in some other suitable place.
2. Pipe flushing, gastightness testing and vacuum drying have been satisfactorily completed as per instructions.
3. All condensate drain piping is complete and a water tightness test has been satisfactorily completed.
4. All power and communication wiring is connected to the correct terminals on units and controllers. (Check that the different phases of the 3-phase power supplies have been connected to the correct terminals).
5. No wiring has been connected in a short-circuit except HyperLink M1 M2 communication.
6. The power supplies to indoor and outdoor units have been checked and the power supply voltages are within $\pm 10\%$ of the rated voltages for each product.
7. All control wiring is selected according to Part 3, 9.3 "Communication Wiring" and the shielding has been grounded.
8. All other indoor and outdoor unit field settings have been set as required.
9. The additional refrigerant charge has been added as per Part 3, 8 "Charging Refrigerant". Note: In some circumstances it may be necessary to run the system in cooling mode during the refrigerant charging procedure. In such circumstances, points 1 to 8 above should be checked before running the system for the purpose of charging refrigerant and the outdoor unit liquid, gas and oil balance valves should be opened.

During commissioning, it is important that you:

- Keep a supply of R410A refrigerant at hand.
- Keep the system layout, system piping and control wiring diagrams at hand.

11.4 Operating the system

11.4.1 Operating single refrigerant system

After completing the above steps, operate the system and operation reports (see Part 3, 12 “Appendix to Part 3 – System Operating Report”) should be completed as a record of the operating status of the system.

Note: When operating the system, if the combination ratio is 100% or less, run all the indoor units and if the combination ratio is more than 100%, run indoor units with total capacity equal to the total capacity of the outdoor units.

The Operating procedure is as follows:

1. Ensure that the liquid and gas stop valves of outdoor unit has been opened.
2. Ensure that both the indoor and outdoor units have been powered on
3. If manual addressing is being used, set the addresses of each indoor unit.
4. Leave the power on for a minimum of 12 hours prior to running the system to ensure that the crankcase heaters have heated the compressor oil sufficiently.
5. Operating the system:
 - a) Run the system in cooling mode with the following settings: temperature 17°C; fan speed high.
 - b) After one hour, complete Sheet A of the system operating report then check the system parameters using the UP/DOWN button on each outdoor unit’s main PCB and complete the cooling mode columns of one Sheet D and one Sheet E of the system operating report for each outdoor unit.
 - c) Run the system in heating mode with the following settings: temperature 30°C; fan speed high.
 - d) After one hour, complete Sheet B of the system operating report then check the system parameters using the UP/DOWN button on each outdoor unit’s main PCB and complete the heating mode columns of one Sheet D and one Sheet E of the system operating report for each outdoor unit.
6. Finally, complete Sheet C of the system operating report.

11.4.2 Operating multiple refrigerant systems

Once the operating of each refrigerant system has been satisfactorily completed as per Part 3, “Operating single refrigerant system”, run the multiple systems that make up a project simultaneously and check for any abnormalities.

12 Appendix to Part 3 – System Commissioning Report

A total of up to 11 report sheets should be completed for each system:

- One Sheet A, one Sheet B and one Sheet C per system.
- One Sheet D and one Sheet E per outdoor unit.

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V8 Series System Commissioning Report – Sheet B

Project name and location	System name
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HEATING MODE PARAMETER RECORD (After running in heating mode for one hour)	OUTDOOR UNITS												
		Master unit			Slave unit 1			Slave unit 2					
	Compressor suction pipe temperature												
	System pressure at check port												
		L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
	Phase currents (A)												
	Within normal range?												
	INDOOR UNITS												
	(Sample of over 20% of the indoor units including the unit farthest from the outdoor units)												
	Room no.	Model	Address	Set temp. (°C)	Inlet temp. (°C)	Outlet temp. (°C)	Drainage OK?	Abnormal noise/vibration?					

Part 3 - System Design and Installation

V8 Series System Commissioning Report – Sheet C

Project name and location	System name
----------------------------------	--------------------

RECORD OF ISSUES SEEN DURING COMMISSIONING				
No.	Description of observed issue	Suspected cause	Troubleshooting undertaken	Serial no. of relevant unit
1				
2				
3				

OUTDOOR UNIT FINAL CHECKLIST				
	Master unit	Slave unit 1	Slave unit 2	Slave unit 3
System check performed?				
Any abnormal noise?				
Any abnormal vibration?				
Fan rotation normal?				

	Commissioning engineer	Dealer	MDV representative
Name:			
Signature:			
Date:			

MDV V8 Series Engineering Data Book

V8 Series System Commissioning Report – Sheet D

Project name and location		System name		
DSP1 content	Parameters displayed on DSP2	Remarks	Observed values	
			Cooling mode	Heating mode
--	"Standby (ODU address+ IDU number)/frequency/special status"			
0--	Outdoor unit address	Master unit: 0; slave units: 1, 2 255 represents invalid address.		
1--	Outdoor unit capacity	Actual value = value displayed (HP)		
2--	Number of outdoor units	Only available for master unit, 1-4		
3--	Number of indoor units set	Only available for master unit, 1-64		
4--	Total capacity of outdoor unit	Only available for master unit, 0 displayed on slave units has no sense		
5--	Target frequency of this ODU	Refer to Note 1		
6--	Target frequency of ODU system	Target frequency= value displayed ×10		
7--	Inverter compressor A actual frequency (Hz)	Actual value = value displayed		
8--	Inverter compressor B actual frequency (Hz)	Actual value = value displayed		
9--	Operating mode	Refer to Note 2		
10--	Fan A speed index (rpm)	Actual value = value displayed		
11--	Fan B speed index (rpm)	Actual value = value displayed		
12--	Indoor heat exchanger pipe (T2) average temperature (°C)	Actual value = value displayed		
13--	Indoor heat exchanger pipe (T2B) average temperature (°C)	Actual value = value displayed		
14--	Main heat exchanger pipe (T3) temperature (°C)	Actual value = value displayed		
15--	Outdoor ambient (T4) temperature (°C)	Actual value = value displayed		
16--	Liquid pipe (T5) temperature (°C)	Actual value = value displayed		
17--	Microchannel heat exchanger inlet pipe (T6A) temperature (°C)	Actual value = value displayed		
18--	Microchannel heat exchanger outlet pipe (T6B) temperature (°C)	Actual value = value displayed		
19--	Inverter compressor A discharge (T7C1)temperature (°C)	Actual value = value displayed		
20--	Inverter compressor B discharge (T7C2) temperature (°C)	Actual value = value displayed		
21--	Inverter compressor A suction (T71) temperature (°C)	Actual value = value displayed		
22--	Inverter compressor B suction (T72) temperature (°C)	Actual value = value displayed		
23--	Outdoor heat exchanger gas (T8) temperature (°C)	Actual value = value displayed		
24--	Inverter module heatsink (Ntc)temperature (°C)	Actual value = value displayed		
25--	Reserved for heat recovery unit's T9 temperature (°C)	Actual value = value displayed		
26--	Outdoor heat exchanger liquid (TL)temperature (°C)	Actual value = value displayed		
27--	Discharge superheat degree (°C)	Actual value = value displayed		
28--	Primary current (A)	Actual value = value displayed /10		
29--	Inverter compressor A current (A)	Actual value = value displayed /10		
30--	Inverter compressor B current (A)	Actual value = value displayed /10		
31--	EXVA position	Actual value = value displayed × 24		
32--	EXVB position	Actual value = value displayed × 24		
33--	EXVC position	Actual value = value displayed × 4		

Table continued on next page ...

V8 Series System Commissioning Report – Sheet E

Project name and location	System name
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... table continued from previous page

DSP1 content	Parameters displayed on DSP2	Remarks	Observed values	
			Cooling mode	Heating mode
34.--	EXVD position	Actual value = value displayed × 4		
35.--	Compressor discharge pressure (MPa)	Actual value = value displayed × 0.01		
36.--	Compressor suction pressure (MPa)	Actual value = value displayed × 0.01		
37.--	Number of indoor units on line	Actual value = value displayed		
38.--	Number of indoor units operating	Displayed on master unit PCB only		
39.--	Heat exchanger status (outdoor unit)	Refer to Note 3		
40.--	Special mode	Refer to Note 4		
41.--	Silent mode	0-14 ,14 represents the most silent		
42.--	Static pressure mode	Refer to Note 5		
43.--	Target evaporator (Tes) temperature (°C)	Actual value = value displayed Refer to Note 6		
43.--	Target condenser (Tcs) temperature (°C)	Actual value = value displayed Refer to Note 6		
45.--	DC Voltage (V)	Actual value = value displayed		
46.--	AC Voltage (V)	Actual value = value displayed		
47.---	Number of cooling mode IDUs	Actual value = value displayed		
48.--	Number of heating mode IDUs	Actual value = value displayed		
49.--	Capacity of cooling mode IDUs (HP)	Actual value = value displayed		
50.--	Capacity of heating mode IDUs (HP)	Actual value = value displayed		
51.--	Refrigerant volume judgment	Refer to Note 7		
52.---	Dirty blockage rate	0~10, 10 represents the worst		
53.--	Fan error			
54.---	Software version			
55.--	Most recent error or protection code			
-- --	--	End		

- Notes:
- Need to convert to current compressor output volume, example: compressor output volume is 98, Target frequency = Actual frequency * 98 / 60Outdoor unit capacity setting:
 - Operating mode:
 - 0: off; 2: cooling; 3: heating; 5: main cooling (for heat recovery unit); 6: main heating (for heat recovery unit).
 - Heat exchanger status:
 - 0: off; 1: C1 (cooling mode) 2: D1: Disabled (cooling mode, (or heat recovery unit); 3: D2: Compressor OFF (cooling mode); 4: E1: (cooling mode) 5: F1 Disabled (heating mode, for heat recovery unit); 6: F2: Compressor OFF (heating mode)
 - Special mode:
 - 0: no special mode; 1: oil return; 2: defrost; 3: start up; 4: stop; 5: quick check; 6: self cleaning.
 - Static pressure mode:
 - 0: 0 Pa; 1: 20 Pa; 2: 40 Pa; 3: 60 Pa; 4: 80 Pa; 5: 100 Pa; 6: 120 Pa.
 - Te: Low pressure equivalent saturation temperature (°C) Tes: Target Te value.
Tc: High pressure equivalent saturation temperature (°C) Tcs: Target Tc value.
 - Refrigerant volume:
 - 0: no result; 1: significantly insufficient; 2: insufficient; 3: normal; 4: excessive; 5: significantly insufficient.

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Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.

