VRF CVT9

CVT9-Y 252T÷ 900T

Compact heat pump outdoor units



R-32

TECHNICAL BULLETIN

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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
Q1DN	One-way Cassette
Q2DN	Two-way Cassette
Q4AN	Compact Four-way Cassette
Q4DN	Four-way Cassette
CNT3	Low Static Pressure Slim Ductt
CNT2	Medium Static Pressure Duct

Abbreviation code	Type
CN	High Static Pressure Duct
GWMN	Wall-mounted
DDLC	Ceiling & Floor
DZ	Floor Standing (Exposed/Concealed)

Table 1-1.2: Standard indoor unit capacity range

Capacity		Capacity index	Q1DN	Q2DN	Q4AN	Q4DN	CNT3	CNT2	CN	GWMN	DDLC	DZ
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	—	—	—
25.2	9	252	—	—	—	—	—	—	252	—	—	—
28.0	10	280	—	—	—	—	—	—	280	—	—	—
33.5	12	335	—	—	—	—	—	—	335	—	—	—
40.0	14	400	—	—	—	—	—	—	400	—	—	—
45.0	16	450	—	—	—	—	—	—	450	—	—	—
56.0	20	560	—	—	—	—	—	—	560	—	—	—

1.1.2 Fresh air processing unit

Table 1-1.3: Fresh air processing unit capacity range

Capacity	9kW	14kW	16kW
Capacity index	90	140	160

1.2 Heat recovery ventilator

Table 1-1.4: Heat recovery ventilator capacity range

Airflow rate	200m³/h	300m³/h	400m³/h	500m³/h	800m³/h	1000m³/h	1500m³/h	2000m³/h

1.3 Outdoor Units

Table 1-1.5: Outdoor unit capacity range

Capacity	Model Name	Combination Type
8HP	CVT9-Y 252T	/
10HP	CVT9-Y 280T	/
12HP	CVT9-Y 335T	/
14HP	CVT9-Y 400T	/
16HP	CVT9-Y 450T	/
18HP	CVT9-Y 500T	8HP+10HP
20HP	CVT9-Y 560T	10HP+10HP
22HP	CVT9-Y 615T	10HP+12HP
24HP	CVT9-Y 670T	12HP+12HP
26HP	CVT9-Y 730T	12HP+14HP
28HP	CVT9-Y 785T	14HP+14HP
30HP	CVT9-Y 850T	14HP+16HP
32HP	CVT9-Y 900T	16HP+16HP

Notes:

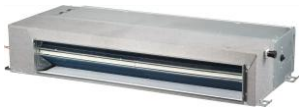
1. The combinations of units shown in the table are factory-recommended. For other combinations of units please contact your local distributor or technical support engineer.

2 External Appearance

2.1 Indoor Units

2.1.1 Standard indoor units

Table 1-2.1: Standard indoor unit appearance

One-way Cassette Q1DN 	Two-way Cassette Q2DN 
Compact Four-way Cassette Q4AN 	Four-way Cassette Q4DN 
Low Static Pressure Slim Duct CNT3 	Medium Static Pressure Duct CNT2 
High Static Pressure Duct CN 	Ceiling & Floor DDLC 
Wall-mounted GWMN 	Floor Standing DZ 

2.1.2 Fresh air processing unit

Table 1-2.2: Fresh air processing unit appearance

Small Airflow Rate Fresh Air Processing Unit CNFA 

2.2 Heat Recovery Ventilator

Table 1-2.3: Heat recovery ventilator appearance



2.3 Outdoor Units

2.3.1 Single units

Table 1-2.4: Single outdoor unit appearance

8/10/12/14/16HP


2.3.2 Combinations of units

Table 1-2.5: Combination outdoor unit appearance

18/20/22/24/26/28/30/32HP


3 Outdoor Unit Combinations

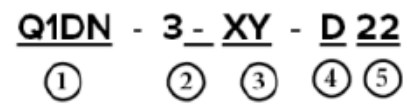
Table 1-3.1: Outdoor unit combinations

System capacity		No. of units	Modules[1]					Outdoor branch joint kit[2]
kW	HP		8	10	12	14	16	
25.2	8	1	●					-
28.0	10	1		●				
33.5	12	1			●			
40.0	14	1				●		
45.0	16	1					●	
50.0	18	2	●	●				FQZHW-02N1E
56.0	20	2		●●				
61.5	22	2		●	●			
67.0	24	2			●●			
73.0	26	2			●	●		
78.5	28	2				●●		
85.0	30	2				●	●	
90.0	32	2					●●	

Notes:

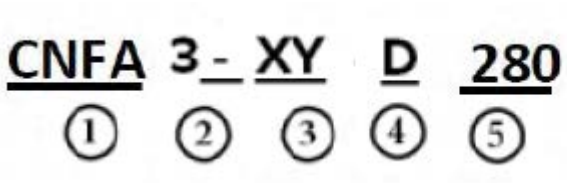
1. The combinations of units shown in the table are factory-recommended. For other combinations of units please contact your local distributor or technical support engineer.

DC Indoor Units



Legend		
NO.	**Code**	**Remarks**
1	**Q1DN**	Indoor unit type Q1DN: One-way Cassette Q2DN: Two-way Cassette Q4AN: Four-way Cassette Compact Q4DN: Four-way Cassette CNT2: Medium Static Pressure Duct CN: High Static Pressure Duct GWMN: Wall-mounted DDLC: Ceiling & Floor DZ: Floor Standing
2	**3**	3nd generation indoor unit
3	**XY**	Multirefrigerant X: R410, Y: R32
4	**D**	Series category (D: DC series)
5	**22**	Capacity index (the capacity in kW multiplied by 10)

Fresh air processing unit



Legend		
NO.	**Code**	**Remarks**
1	**CNFA**	Fresh Air Processing Unit
2	**3**	3nd generation indoor unit
3	**XY**	Multirefrigerant X:R410A Y:R32
4	**D**	Series category (D: DC series)
5	**140**	Capacity index (the capacity in kW multiplied by 10)

4.1.3 Heat recovery ventilator

DC Series

HRV - 3 200
① ② ③

Legend		
No.	**Code**	**Remarks**
1	HRV	Heat recovery ventilator
2	3	Series category (3: Serie 3)
3	200	Airflow in m^3/h

4.2 Outdoor Units

CVT 9 - Y 450 T
1 2 3 4 5

Legend		
NO.	**Code**	**Remarks**
1	CVT	CVT: Clivet VRF Technology
2	9	The 9th generation heat pump VRF
3	Y	R32
4	450	Capacity index (The capacity in kW multiplied by 10)
5	T	Power supply T: 3 phase, 380-415V, 50 Hz

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
V9 Series outdoor units	50%	200%[1,2] (Single ODU) 130% (Combined ODU)	100%	100%[3]

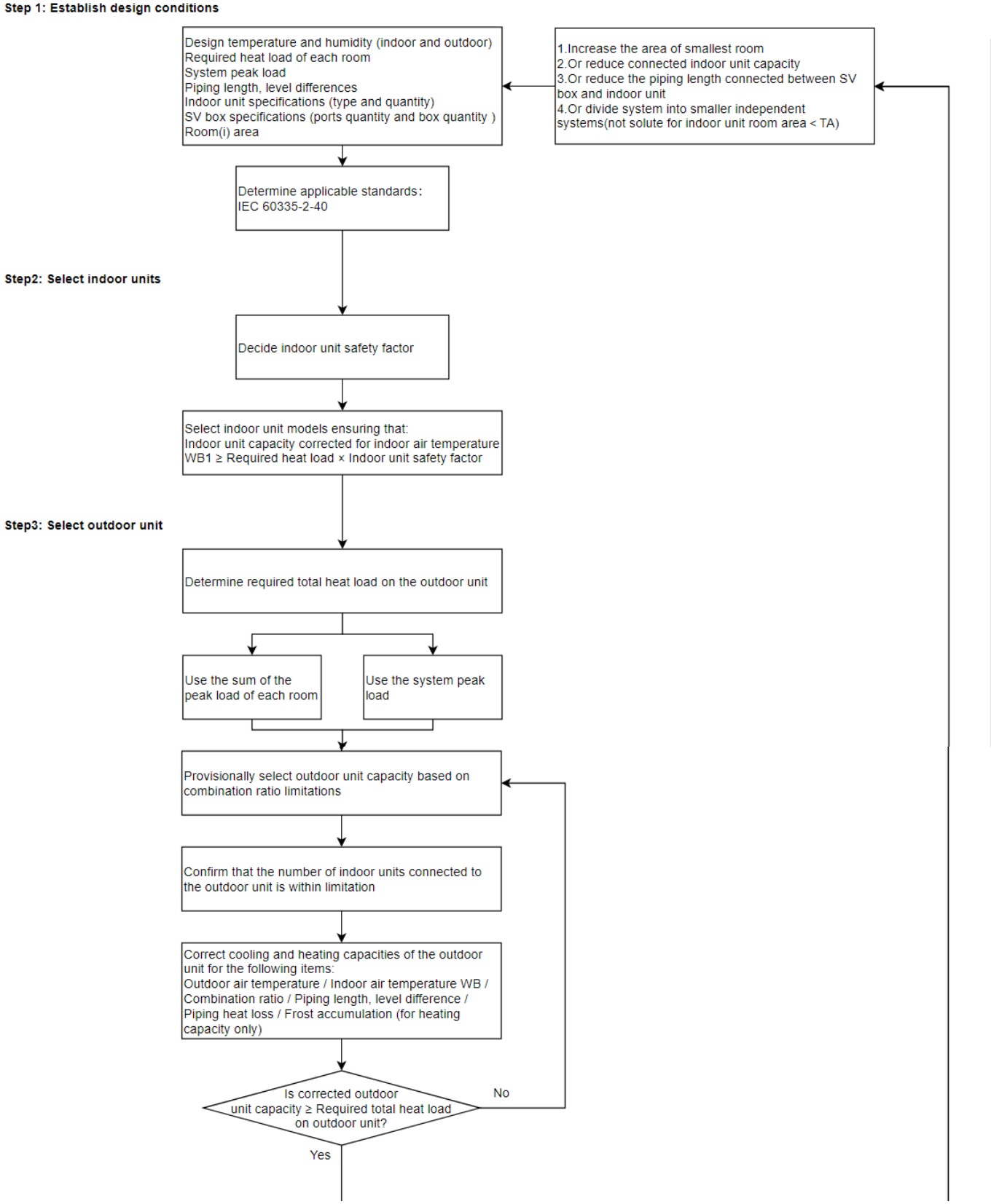
Notes:

1. 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.
2. Piping between farthest indoor unit and first indoor branch joint should less than 40m.
3. 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%.
4. The combinations of units shown in the table are factory-recommended. For other combinations of units please contact your local distributor or technical support engineer.

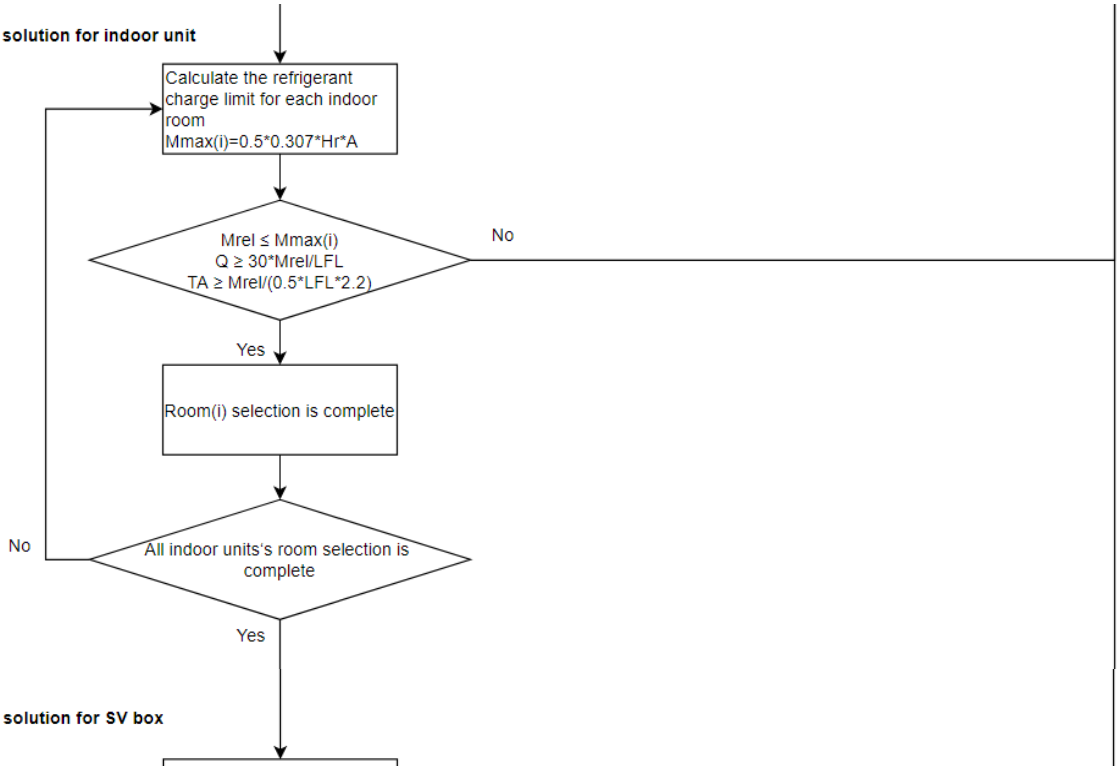
Table 1-5.2: Combinations of indoor and outdoor units

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

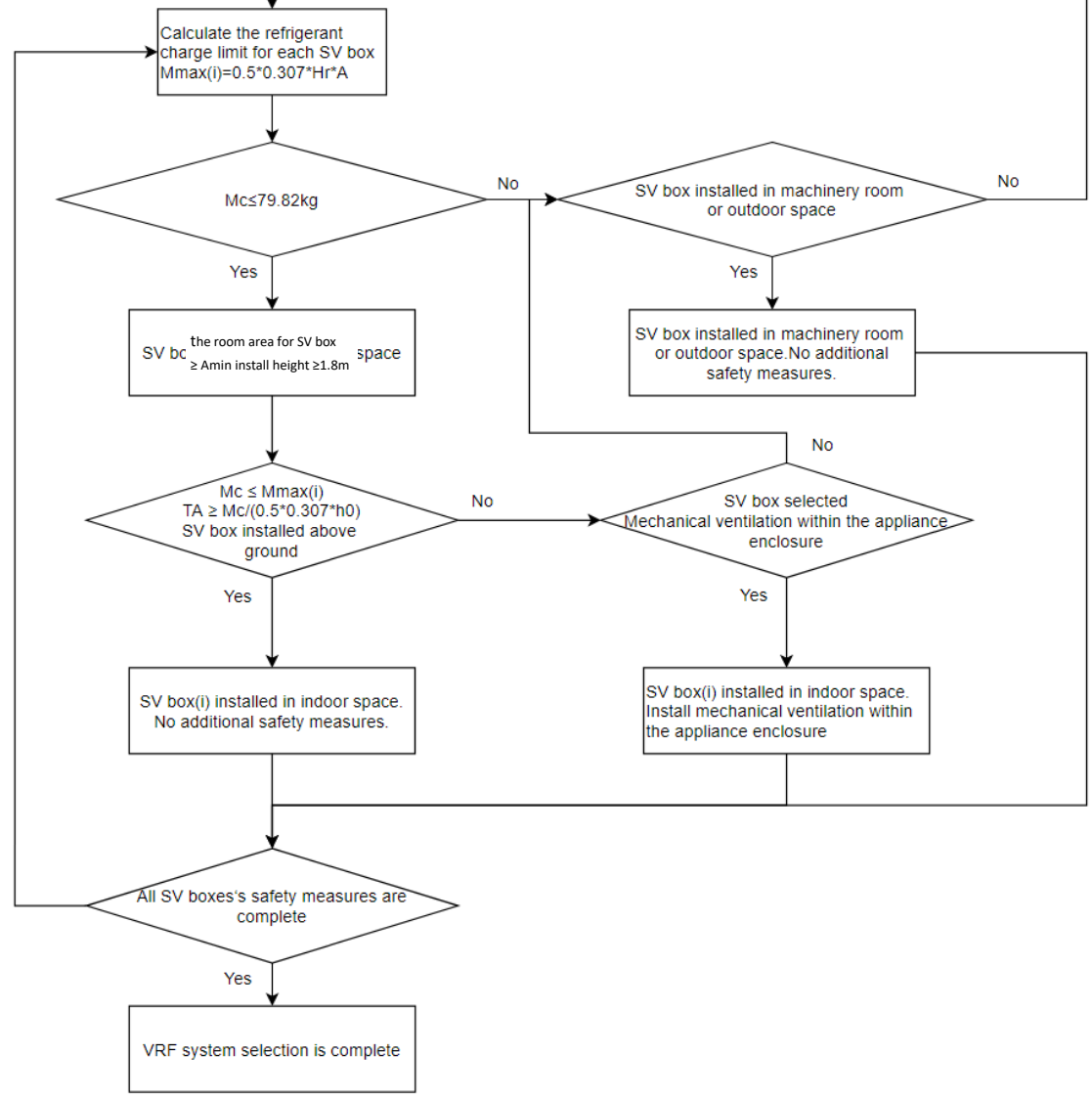
6 Selection Procedure



Step4: R32 refrigerant solution for indoor unit



Step5: R32 refrigerant solution for SV box



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.
2. Mc：Total weight of refrigerant in the system；
   Mrel：Weight that can be released in case of refrigerant leakage;
   Mmax: weight of the refrigerant calculated based on the actual room area
3. h0：base on the varying installation heights of the SV box, h0 is defined differently.
   - 1.8 < ho < 2.2m, h0 = room height that installed SV box.
   - h0 ≥ 2.2m，h0 = height between the bottom of SV box to the room floor
4. Machinery room ：For appliances installed in machinery rooms as defined in IEC60335-2-40.
5. Outdoor space：SV box can be installed in outdoor environments. In addition to requiring snow protection measures, SV box must adopt natural drainage.

Part 2
Outdoor Unit
Engineering Data

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1 Specifications

1.1 Outdoor Unit Specifications

8-16HP

Table 2-1.1: 8-16HP specifications – single units

HP			8	10	12	14	16
Model			CVT9-Y 252T	CVT9-Y 280T	CVT9-Y 335T	CVT9-Y 400T	CVT9-Y 450T
Power supply		V/Ph/Hz	380-415/3/50				
Cooling	Capacity[1,2]	kW	25.2	28	33.5	40	45
	Power input[1]	kW	6.3	7.9	9.7	12.1	14.5
	EER[1]		4.00	3.55	3.45	3.30	3.10
	EER[2]		4.00	3.55	3.45	3.30	3.25
	SEER[1]		8.58	8.38	8.18	8.13	8.00
	ηs,c[1]		340.2%	332.2%	324.2%	322.2%	317.0%
Heating (rated)	Capacity[3,4]	kW	25.2	28	33.5	40	45
	Power input[3]	kW	5.5	6.3	8.1	9.9	11.3
	COP[3]		4.55	4.45	4.15	4.05	4.00
	COP[4]		4.55	4.45	4.15	4.05	4.00
	SCOP[3]		4.88	4.89	4.80	4.80	4.76
	ηs,h[3]		192.2%	192.6%	189.0%	189.0%	187.4%
Heating (max)	Capacity[3]	kW	27	31.5	37.5	45	50
	Power input[3]	kW	6.6	8.1	10.7	12.3	14.5
	COP[3]		4.10	3.90	3.50	3.65	3.45
Connected indoor unit	Total capacity		50-130%	50-130%	50-130%	50-130%	50-130%
	Maximum quantity		13	16	19	23	26
Compressor	Type		DC inverter				
	Quantity		1				
	Oil type		FW68CA/FW68HT				
	Start-up method		Soft start				
Fan	Type		Propeller				
	Motor type		DC				
	Quantity		1				
	Motor output	kW	0.56×1	0.56×1	0.56×1	0.92×1	0.92×1
	Airflow rate	m³/h	12600	12600	14400	15600	15600
	Static Pressure	Pa	0-120				
	Drive type		Direct				
Refrigerant	Type (GWP)		R32 (675)				
	Factory charge	kg	6.7	6.7	6.7	8.5	8.5
	Equivalent CO2	tonnes	4.52	4.52	4.52	5.74	5.74
Pipe Connections[5]	Liquid pipe	mm	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9
	Gas pipe	mm	Φ25.4	Φ25.4	Φ25.4	Φ28.6	Φ28.6
Sound pressure level[6]		dB(A)	58	58	61	63	65
Sound power level[6]		dB(A)	78	79	82	84	85
Net dimensions (W×H×D)		mm	960×1760×840				
Packed dimensions (W×H×D)		mm	1045×1945×925				
Net weight		kg	207	207	207	224	224
Gross weight		kg	233	233	233	250	250
Ambient temp. operation	Cooling	°C	-15 to 55				
	Heating	°C	-30 to 30				

Notes:

1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
2. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
3. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
4. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
5. Diameters given are those of the unit's stop valve.
6. 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.

18-24HP

Table 2-1.2: 18-24HP specifications – combined units

HP			18	20	22	24
Model			CVT9-Y 500T	CVT9-Y 560T	CVT9-Y 615T	CVT9-Y 670T
Combination type			8HP+10HP	10HP+10HP	10HP+12HP	12HP+12HP
Power supply		V/Ph/Hz	380-415/3/50			
Cooling	Capacity[1,2]	kW	50	56	61.5	67
	Power input[1]	kW	13.3	15.8	17.6	19.4
	EER[1]		3.75	3.55	3.49	3.45
	EER[2]		3.75	3.55	3.49	3.45
	SEER[1]		8.53	8.44	8.36	8.29
	ηs,c[1]		338.2%	334.6%	331.4%	328.6%
Heating (rated)	Capacity[3,4]	kW	50	56	61.5	67
	Power input[3]	kW	11.1	12.6	14.4	16.1
	COP[3]		4.5	4.45	4.28	4.15
	COP[4]		4.5	4.45	4.28	4.15
	SCOP[3]		4.93	4.91	4.86	4.82
	ηs,h[3]		194.2%	193.4%	191.4%	189.8%
Heating (max)	Capacity[3]	kW	56	63	69	75
	Power input[3]	kW	14.0	16.2	18.8	21.4
	COP[3]		3.99	3.9	3.67	3.5
Connected indoor unit	Total capacity		50-130%			
	Maximum quantity		29	33	36	39
Compressor	Type		DC inverter			
	Quantity		1+1			
	Oil type		FW68CA/FW68HT			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1+1			
	Motor output	kW	0.56+0.56	0.56+0.56	0.56+0.56	0.56+0.56
	Airflow rate	m^3/h	12600+12600	12600+12600	12600+14400	14400+14400
	Static Pressure	Pa	0-120			
	Drive type		Direct			
Refrigerant	Type (GWP)		R32 (675)			
	Factory charge	kg	13.4	13.4	13.4	13.4
	Equivalent CO2	tonnes	9.05	9.05	9.05	9.05
Pipe connections[5]	Liquid pipe	mm	Φ15.9	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ31.8	Φ31.8	Φ31.8	Φ31.8
Sound pressure level[6]		dB(A)	61	61	63	64
Sound power level[6]		dB(A)	82	82	84	85
Net dimensions (W×H×D)		mm	(960×1760×840) ×2			
Packed dimensions (W×H×D)		mm	(1045×1945×925) ×2			
Net weight		kg	207+207	207+207	207+207	207+207
Gross weight		kg	233+233	233+233	233+233	233+233
Ambient temp. operation range	Cooling	°C	-15 to 55			
	Heating	°C	-30 to 30			

Notes:

1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
2. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
3. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
4. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
5. 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.
6. 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.

26-32HP

Table 2-1.3: 26-32HP specifications – combined units

HP			26	28	30	32
Model			CVT9-Y 730T	CVT9-Y 785T	CVY9-Y 850T	CVT9-Y 900T
Combination type			12HP+14HP	14HP+14HP	14HP+16HP	16HP+16HP
Power supply		V/Ph/Hz	380-415/3/50			
Cooling	Capacity[1,2]	kW	73	78.5	85	90
	Power input[1]	kW	21.7	23.8	26.6	29.0
	EER[1]		3.37	3.30	3.19	3.10
	EER[2]		3.37	3.30	3.27	3.25
	SEER[1]		8.21	8.17	8.09	8.01
	ηs,c[1]		325.4%	323.8%	320.6%	317.4%
Heating (rated)	Capacity[3,4]	kW	73	78.5	85	90
	Power input[3]	kW	17.8	19.4	21.1	22.5
	COP[3]		4.09	4.05	4.02	4
	COP[4]		4.09	4.05	4.02	4
	SCOP[3]		4.82	4.82	4.83	4.83
	ηs,h[3]		189.8%	189.8%	190.2%	190.2%
Heating (max)	Capacity[3]	kW	81.5	87.5	95	100
	Power input[3]	kW	22.8	24.0	26.8	29.0
	COP[3]			3.65	3.54	3.45
Connected indoor unit	Total capacity		50-130%			
	Maximum quantity		43	46	50	53
Compressor	Type		DC inverter			
	Quantity		1+1			
	Oil type		FW68CA/FW68HT			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1+1			
	Motor output	kW	0.56+0.92	0.92+0.92	0.92+0.92	0.92+0.92
	Airflow rate	m³/h	14400+15600	15600+15600	15600+15600	15600+15600
	Static Pressure	Pa	0-120			
	Drive type		Direct			
Refrigerant	Type (GWP)		R32 (675)			
	Factory charge	kg	15.2	17	17	17
	Equivalent CO2	tonnes	10.26	11.48	11.48	11.48
Pipe connections[5]	Liquid pipe	mm	Φ22.2	Φ22.2	Φ22.2	Φ22.2
	Gas pipe	mm	Φ38.1	Φ38.1	Φ38.1	Φ38.1
Sound pressure level[6]		dB(A)	65	66	67	68
Sound power level[6]		dB(A)	86	87	88	88
Net dimensions (W×H×D)		mm	(960×1760×840) ×2			
Packed dimensions (W×H×D)		mm	(1045×1945×925) ×2			
Net weight		kg	207+224	224+224	224+224	224+224
Gross weight		kg	233+250	250+250	250+250	250+250
Ambient temp. operation range	Cooling	°C	-15 to 55			
	Heating	°C	-30 to 30			

Notes:

1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
2. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
3. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to Eurovent test conditions
4. Indoor air temperature 20°C DB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Four-Way Cassette indoor unit. Data according to EN14511 test conditions
5. 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.
6. 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.

1.2 SV Box Specifications

Table 2-1.4: SV-box specification

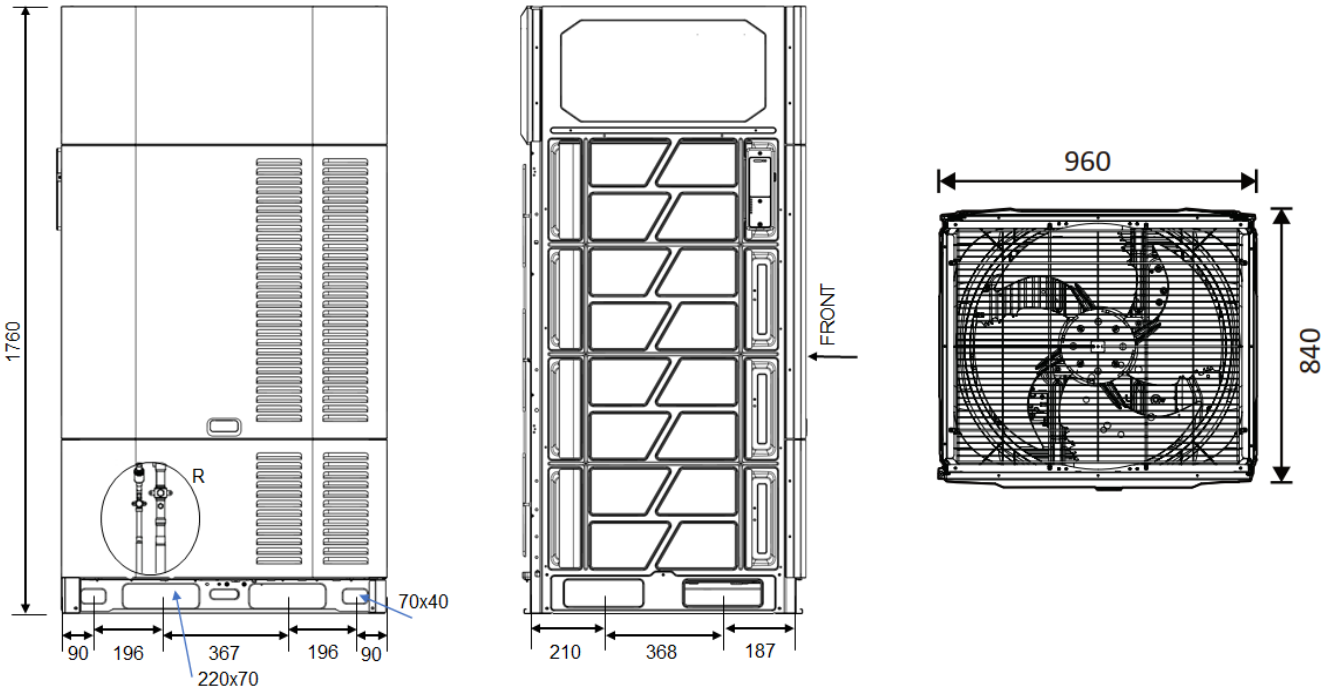
Model			**N8SV-01A**	**N8SV-04A**	**N8SV-06A**	**N8SV-08A**
Power supply			220-240V-1Ph-50Hz			
Number of ports			1	4	6	8
Maximum indoor units per port			9	5	5	5
Maximum indoor units per box			9	20	30	40
Maximum combined capacity per port		kW	33.5	16	16	16
Maximum connected capacity per box		kW	33.5	64	96	96
Net dimensions (W×H×D)		mm	720×295×780	720×295×780	920×295×780	920×295×780
Packed dimensions (W×H×D)		mm	810×480×910	810×480×910	1010×480×910	1010×480×910
Net weight		kg	25	28.6	37.4	39.9
Gross weight		kg	51	55	65	67.5
Pipe connections	Gas pipe	mm	Φ28.6	Φ28.6	Φ28.6	Φ28.6
	Liquid pipe	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
	Drain pipe	mm	Φ25	Φ25	Φ25	Φ25
	Water pump head	mm	1200	1200	1200	1200

2 Dimensions

2.1 Single Units

8/10/12/14/16 HP

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



Detail R

Figure 2-2.2: Detail R (unit: mm)

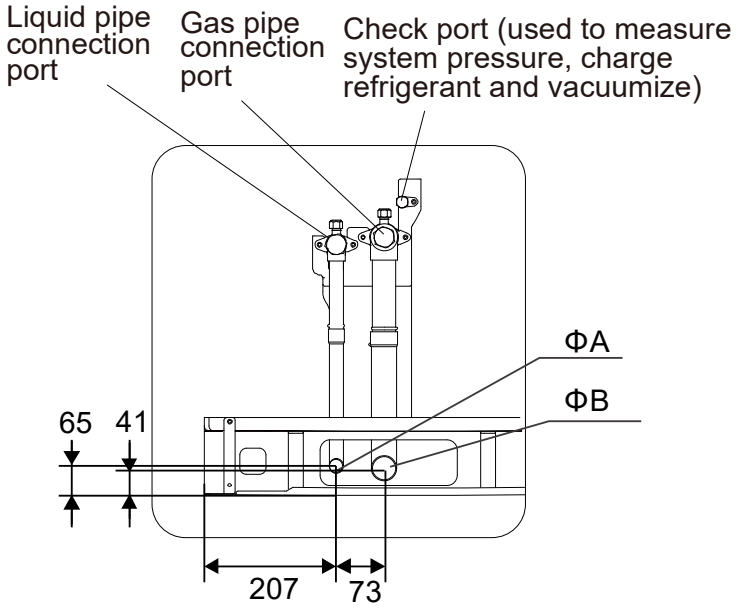
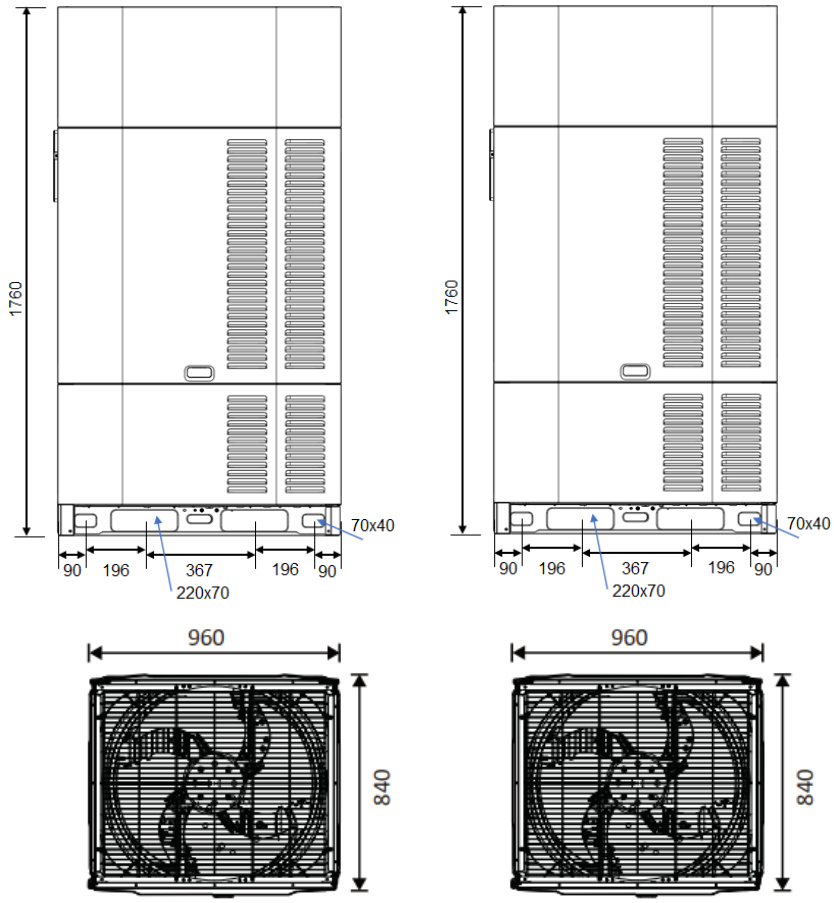


Table 2-2.1: Connection piping diameter (unit: mm)

Size	ΦA(Liquid)	ΦB(Gas)
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

2.2 Combinations of Units 18/20/22/24/26/28/30/32HP

Figure 2-2.3: 18/20/22/24/26/28/30/32HP dimensions (unit: mm)



2.3 SV BOX Dimensions

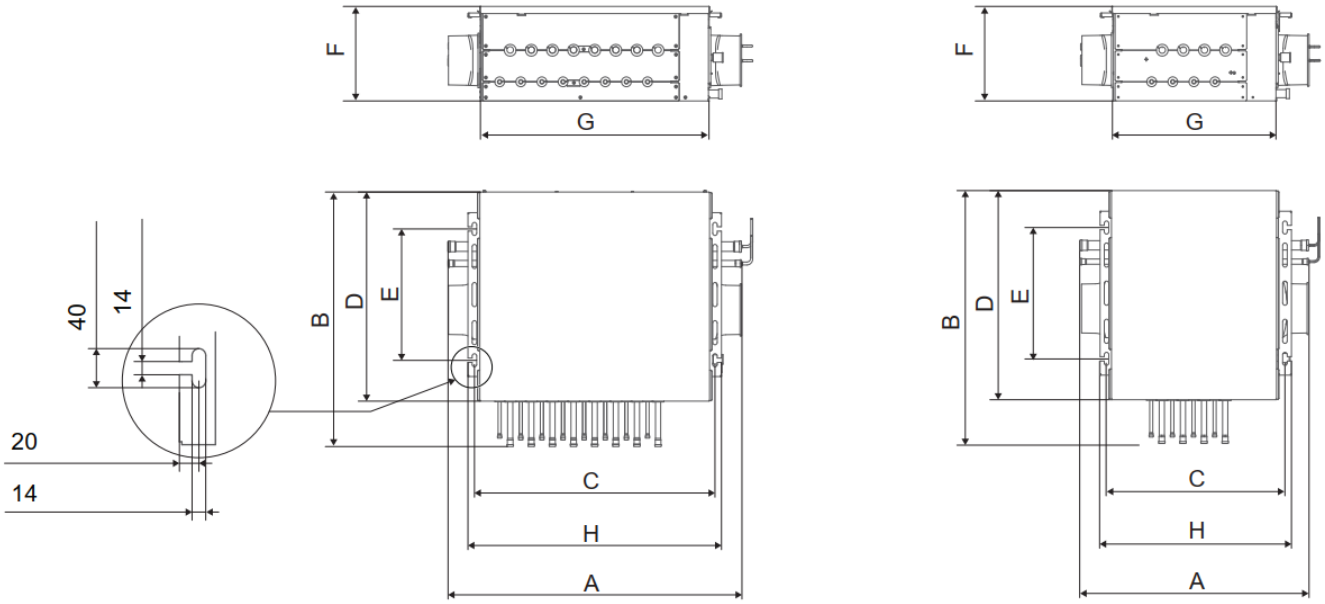


Table 2-2.2: SV box dimensions (unit: mm)

Model	A	B	C	D	E	F	G	H
N8SV-01A	705	780	540	640	403	295	500	580
N8SV-04A	705	780	540	640	403	295	500	580
N8SV-06A	905	780	740	640	403	295	700	780
N8SV-08A	905	780	740	640	403	295	700	780

3 Installation Space Requirements

3.1 Outdoor Unit Installation Space Requirements

Make sure there is sufficient space around the unit for maintenance work, and the minimum space for air inlet and air outlet is reserved (see below to select a feasible method).

Ensure there is enough space for maintenance. The units in the same system must be placed at the same height.

Outdoor units must be spaced so that sufficient air may flow through each unit. Sufficient airflow across heat exchangers is essential for outdoor units to function properly.

For single unit installation

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

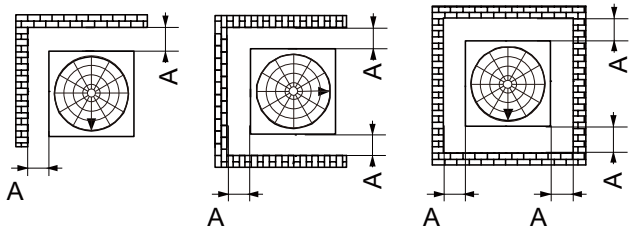
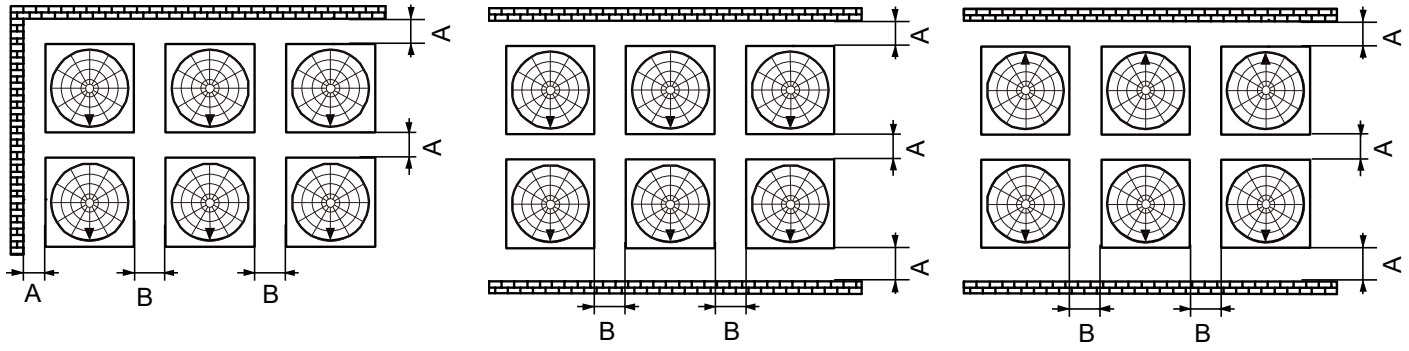


Table 2-3.1: significance of symbol

Symbol	Significance	Value
arrow ▼	the front of the unit	-
A	distance	A≧1000mm
B	distance	500mm≧B≧100mm

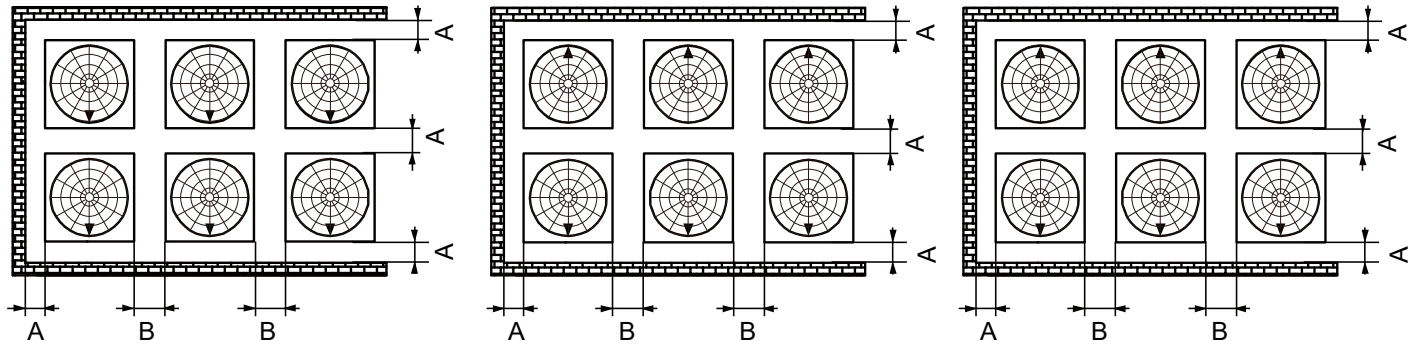
Installation with walls in two directions

Figure 2-3.2: installation with walls in two directions (unit: mm)



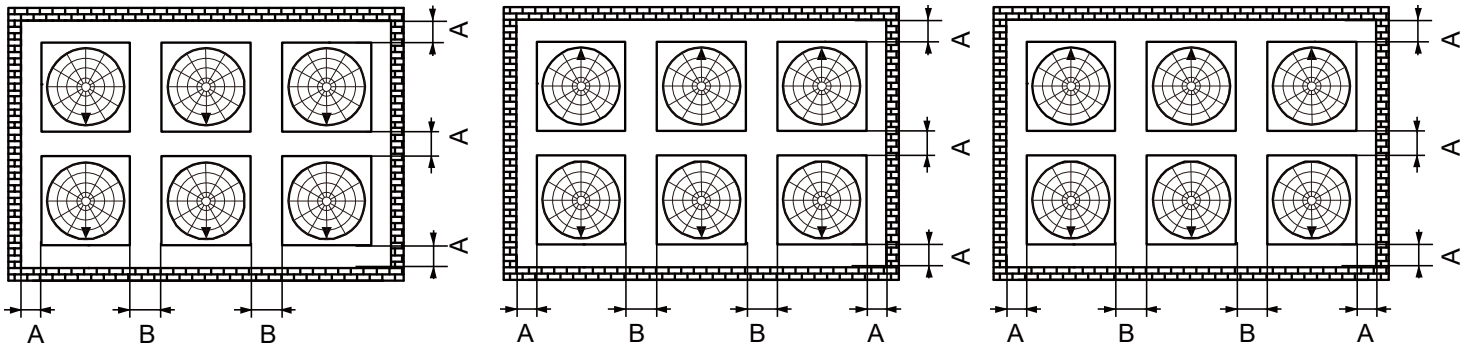
Installation with walls in three directions

Figure 2-3.3: installation with walls in three directions (unit: mm)



Installation with walls in four directions

Figure 2-3.4: installation with walls in four directions (unit: mm)

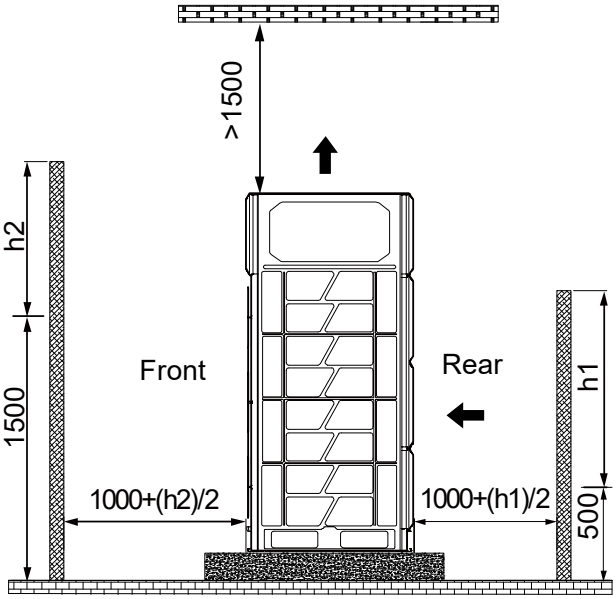


- The dimensions in the above figures provide sufficient space for operation and maintenance under normal operating conditions (refrigeration mode at an outdoor temperature of 35°C).
- If the outdoor temperature is higher and ventilation short circuiting may occur, choose the most suitable dimensions by calculating the return air flow.
- Keep the inlet and outlet of each ODU open and avoid interference.
- If there is an obstacle in the space over the unit, the four sides of the unit should be open.

In the situation depicted in following Figure 2-3.5

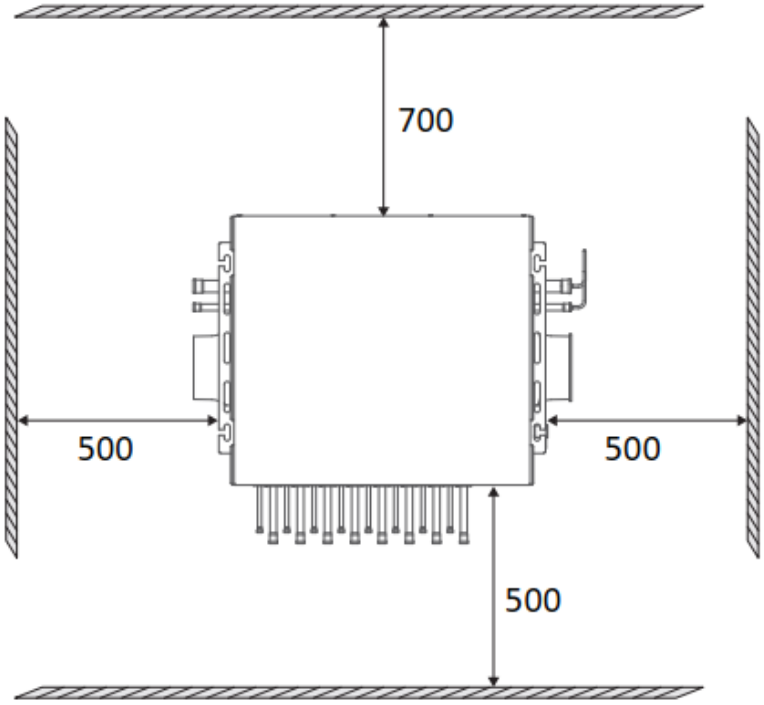
- If there are no walls in front of or behind the unit, it is necessary to reserve a space of 1000mm on both sides.
- If the front wall is higher than 1500mm, a space of at least (1000 + (h2)/2) mm is required at the front
- If the rear wall is higher than 500mm, a space of at least (1000 + (h1)/2) mm is required at the back.
- When the space above the unit is less than 1500mm, an air ducting device shall be installed to prevent ventilation from short circuiting.
- When the space over the unit is greater than 1500mm, an air ducting device shall be installed if the air circulation is not smooth at the top of the unit.

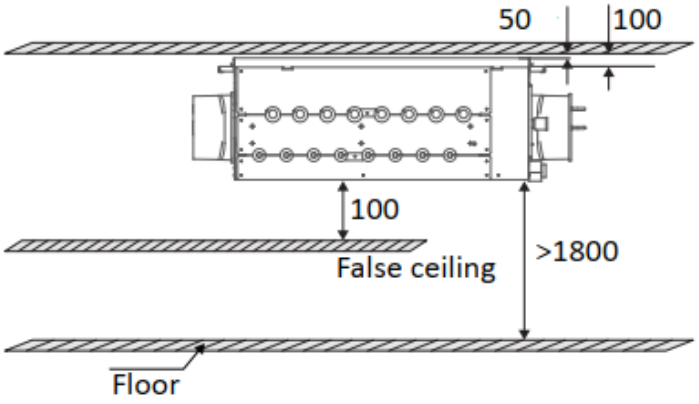
Figure 2-3.5: Top of unit below top of adjacent wall unit (mm)



3.2 SV Box Installation Space Requirements

Figure 2-3.6: SV box installation space requirements (unit: mm)

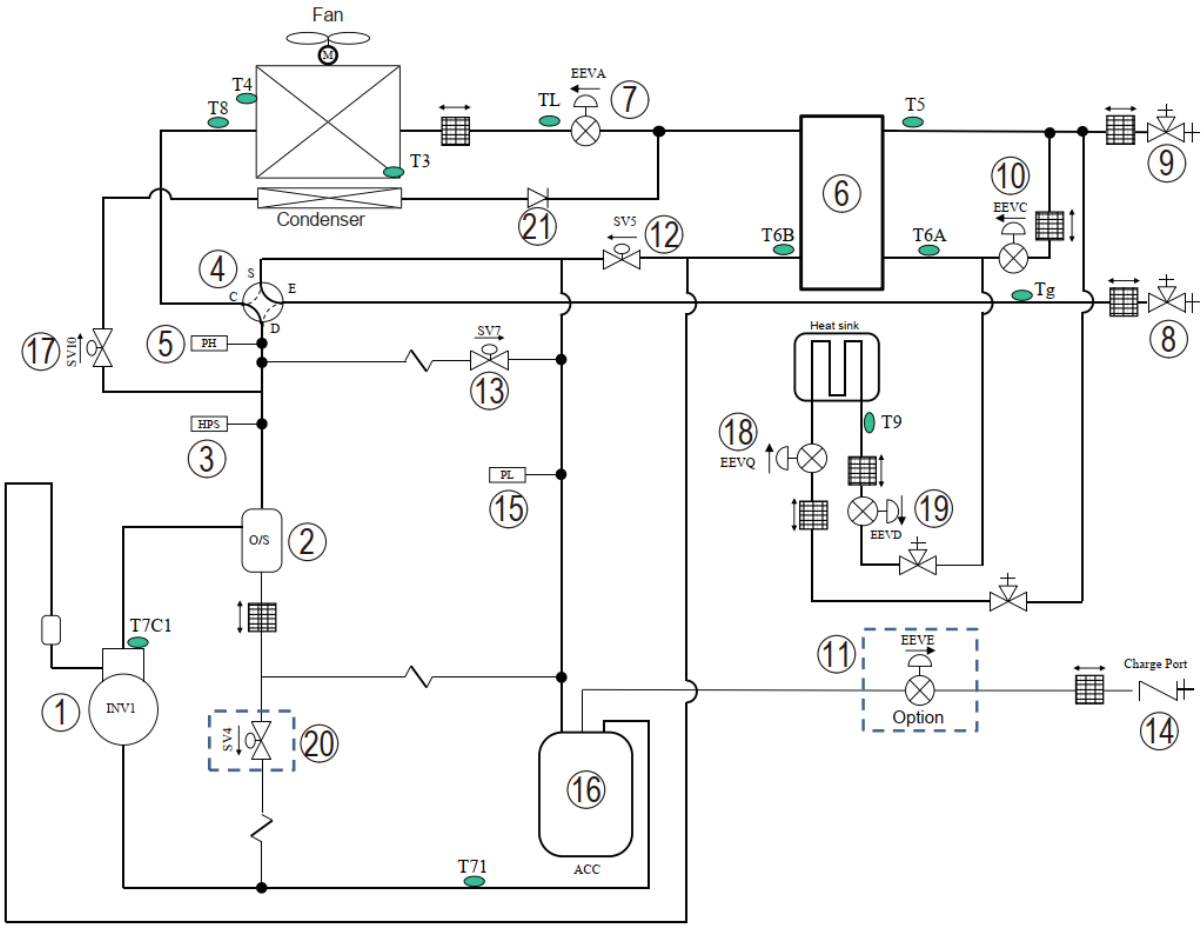




4 Piping Diagrams

8-16HP

Figure 2-4.1: 8-16HP piping diagram



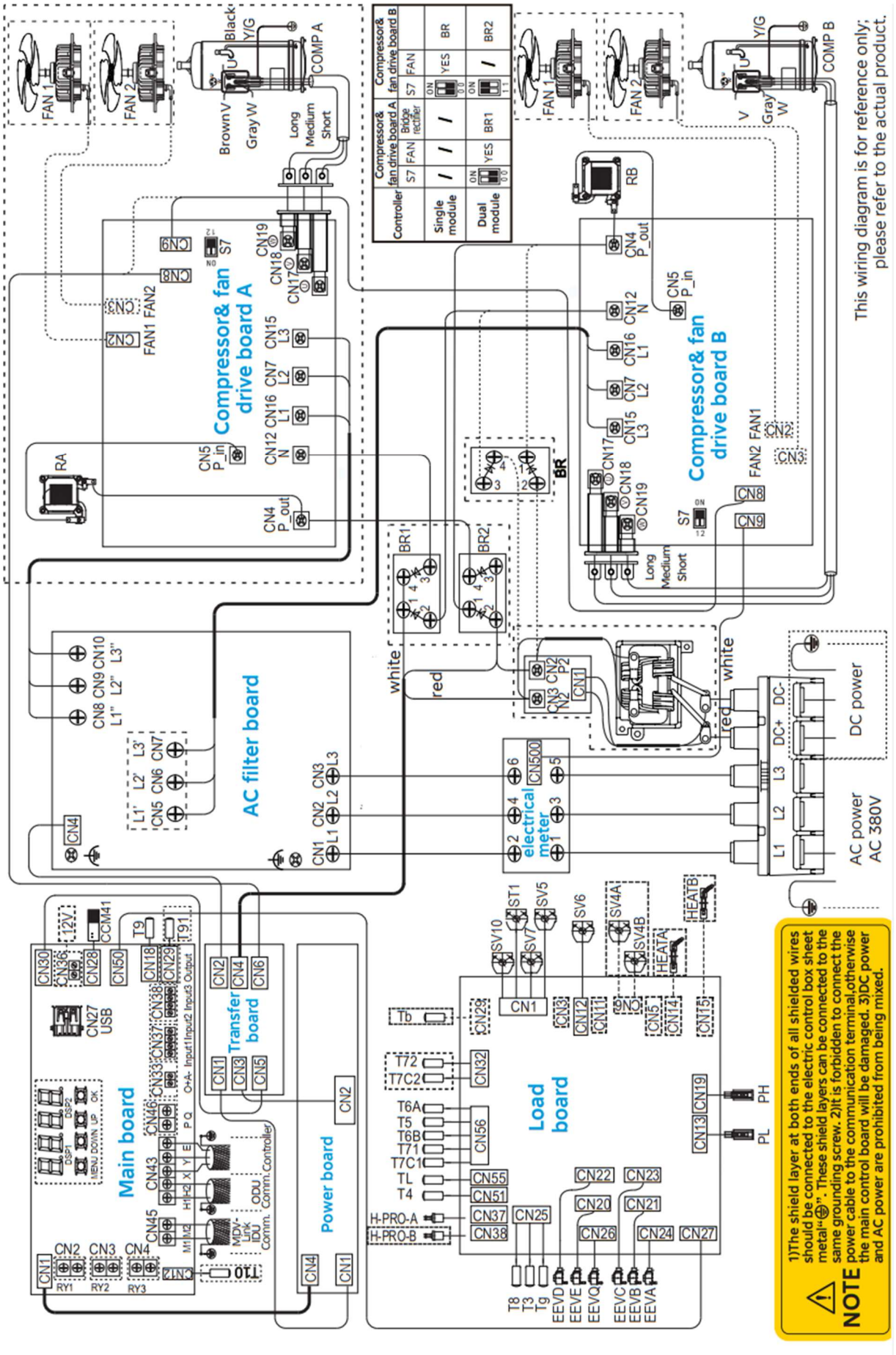
Legend				
No.	**Parts name**		**No.**	**Parts name**
1	Inverter Compressor		18	Electronic control radiating electronic expansion valve (EEVQ)
2	Oil separator		19	Electronic control radiating subcooling electronic expansion valve (EEVD)
3	High pressure switch		20	Oil return solenoid valve SV4 (optional)
4	Four-way valve (ST1)		21	Check valve
5	High pressure sensor		**Sensor Code**	**Description**
6	Brazing plates heating exchanger		T3	Main exchanger pipe temperature sensor
7	Electronic expansion valve (EEVA)		T4	Outdoor ambient temperature sensor
8	Stop valve (gas side)		T5	Liquid pipe temperature sensor
9	Stop valve (liquid side)		T6A	Brazing plates heat exchanger inlet temperature sensor
10	Electronic expansion valve (EEVC)		T6B	Brazing plates heat exchanger outlet temperature sensor
11	Electronic expansion valve (Optional EEVE)		T71	Suction temperature sensor
12	Injection bypass solenoid valve (SV5)		T8	Condenser inlet temperature sensor
13	Hot gas bypass solenoid valve (SV7)		Tg	Gas pipe temperature sensor
14	Charge port		TL	Condenser outlet temperature sensor
15	Low pressure sensor		T7C1	Compressor discharge temperature sensor
16	Gas-liquid separator		T9	Heat sink inlet temperature sensor
17	Defrost solenoid valve (SV10)			

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. **Brazing plates 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 SV4:**
   Some models have this solenoid valve. Switching on or off this solenoid valve can affect the oil loading rate of the compressor, which is used to improve the energy efficiency of the ODU in the case of low load and low frequency, and the compressor oil discharge rate is low.
7. **Solenoid valve SV5:**
   Controls the refrigerant from microchannel heat exchanger to gas-liquid separator.
8. **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.
9. **Solenoid valve SV7:**
   Bypass pressure at start-up stage and control capacity at low load condition; High-pressure-rise prevention; Discharge superheat protection.
10. **Solenoid valve SV10:**
    In heating mode, the high-temperature gas refrigerant on the exhaust side of the compressor is controlled to the bottom of the outdoor unit heat exchanger, which is used to improve the defrost and ice melting effect of the heat exchanger in extreme cold conditions.
11. **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.
12. **High/Low pressure sensor**
    Used to detect the system high/low pressure.

5 Wiring Diagrams

Figure 2-5.1: V9 outdoor unit wiring diagram



Legend				
Code	**Name**		**Code**	**Name**
COMP A/COMP B	Compressor		PH	High pressure sensor
FAN1/FAN2	DC Fan		PL	Low pressure sensor
EEVA	Electronic expansion valve A		H-PRO-A	High pressure switch A
EEVB	Electronic expansion valve B		H-PRO-B	High pressure switch B
EEVC	Electronic expansion valve C		T91	Heat sink outlet temperature sensor
EEVD	Electronic expansion valve D		T3	Main exchanger pipe temperature sensor
EEVE	Electronic expansion valve E		T4	Outdoor ambient temperature sensor
EEVQ	Electronic expansion valve Q		T5	Liquid pipe temperature sensor
RA/RB	Reactance		T6A	Subcooling heat exchanger inlet temperature sensor
BR/BR1/BR2	Anti-reverse bridge capacitor		T6B	Subcooling heat exchanger outlet temperature sensor
CCM41	Bluetooth terminal (Optional)		T71	Suction temperature sensor 1
ST1	4-way Valve		T72	Suction temperature sensor 2
SV4A	Solenoid valve (Oil Return)		T7C1	Discharge temperature sensor 1
SV4B	Solenoid valve (Subcooling)		T7C2	Discharge temperature sensor 2
SV5	Solenoid valve (Subcooling)		T8	Condenser inlet temperature sensor
SV6	Solenoid valve (Liquid bypass)		T9	Heat sink inlet temperature sensor
SV7	Solenoid valve (Hot-gas bypass)		T10	Outdoor ambient temperature sensor (Optional)
SV10	Solenoid valve (Defrosting)		TL	Condenser outlet temperature sensor
			Tg	Gas pipe 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.

6 Electrical Characteristics

6.1 Outdoor Unit Electrical Characteristics

Table 2-6.1: Outdoor unit electrical characteristics

Model			Power Supply[1]							Compressor		OFM	
Capacity	Modules		Hz	Volts	Min. volts	Max. volts	MCA[2] (A)	TOCA[3] (A)	MFA[4] (A)	MSC[5]	RLA[6] (A)	Power(kW)	FLA (A)
8HP	-	-	50	380~415	342	456.5	17	33.0	20	-	17	0.56	1.7
10HP	-	-	50	380~415	342	456.5	18.8	33.0	25	-	17.5	0.56	1.7
12HP	-	-	50	380~415	342	456.5	23	33.5	32	-	18.5	0.56	1.8
14HP	-	-	50	380~415	342	456.5	26.2	44.5	32	-	23.0	0.92	2.8
16HP	-	-	50	380~415	342	456.5	31.4	44.5	40	-	25.0	0.92	3
18HP	10HP	8HP	50	380~415	342	456.5	35.8	66	25+20	-	17.5+17	0.56+0.56	1.7+1.7
20HP	10HP	10HP	50	380~415	342	456.5	37.6	66	25+25	-	17.5+17.5	0.56+0.56	1.7+1.7
22HP	12HP	10HP	50	380~415	342	456.5	41.8	66.5	32+25	-	18.5+17.5	0.56+0.56	1.8+1.7
24HP	12HP	12HP	50	380~415	342	456.5	46	67	32+32	-	18.5+18.5	0.56+0.56	1.8+1.8
26HP	14HP	12HP	50	380~415	342	456.5	49.2	78	32+32	-	23.0+18.5	0.92+0.56	2.8+1.8
28HP	14HP	14HP	50	380~415	342	456.5	52.4	89	32+32	-	23.0+23.0	0.92+0.92	2.8+2.8
30HP	16HP	14HP	50	380~415	342	456.5	57.6	89	40+32	-	25.0+23.0	0.92+0.92	3+2.8
32HP	16HP	16HP	50	380~415	342	456.5	62.8	89	40+40	-	25.0+25.0	0.92+0.92	3+3

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:

1. 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%.
2. Select wire size based on the value of MCA.
3. TOCA indicates the total overcurrent amps value of each OC set.
4. MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
5. MSC indicates the maximum current on compressor start-up in amps.
6. RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB

6.2 SV Box Electrical Characteristics

Table 2-6.2: SV-box electrical characteristics

SV Box Model		N8SV-01A	N8SV-04A	N8SV-06A	N8SV-08A
Power supply		220-240V-1Ph-50Hz			
MCA	A	0.3	0.43	0.56	0.72
MOP	A	10	10	10	10
Max fuse of HACR breaker	A	15	15	15	15
Input	W	20	30	40	50
Power wiring	AWG	Sized per NEC and Local Codes based on Nameplate Electrical Data			

Abbreviations:

MCA: Minimum Circuit Amps; MOP: Maximum Overcurrent Protection amps

7 Functional Components and Safety Devices

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

Item		8HP	10HP	12HP	14HP	16HP
Compressor	Compressor top and discharge pipe temperature sensors	115°C = 5kΩ ± 3%				
	Crankcase heater	/				
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				

8 Tables Capacity

8.1 Cooling Capacity Tables

Table 2-8.1: 8HP cooling capacity

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130%	-15	22.75	2.47	27.37	3.00	31.74	3.21	32.53	3.35	34.61	3.48	35.39	3.74	35.85	3.77
	-10	22.75	2.66	27.37	3.26	31.74	3.54	32.53	3.56	34.61	3.78	35.39	4.09	35.85	4.00
	-5	22.75	2.89	27.37	3.55	31.74	3.79	32.53	3.91	34.61	4.01	35.39	4.38	35.85	4.31
	-2	22.75	2.90	27.37	3.59	31.74	3.75	32.53	3.93	34.61	4.07	35.39	4.50	35.85	4.38
	0	22.75	2.94	27.37	3.63	31.74	3.86	32.53	4.06	34.61	4.28	35.39	4.50	35.85	4.43
	2	22.75	2.95	27.37	3.69	31.74	4.10	32.53	4.30	34.61	4.33	35.39	4.52	35.85	4.48
	4	22.75	3.01	27.37	3.69	31.74	4.16	32.53	4.39	34.61	4.40	35.39	4.57	35.85	4.61
	6	22.75	3.12	27.37	3.83	31.74	4.28	32.53	4.34	34.22	4.56	35.00	4.66	35.46	4.60
	8	22.75	3.15	27.37	3.85	31.74	4.56	32.53	4.58	33.75	4.63	34.61	4.65	35.00	4.69
	10	22.75	3.20	27.37	3.94	31.74	4.69	32.53	4.72	33.36	4.76	34.22	4.77	34.61	4.79
	12	22.75	3.26	27.37	4.04	31.74	4.79	32.46	4.85	33.26	4.79	33.75	4.86	34.15	4.92
	14	22.75	3.34	27.37	4.16	31.11	4.94	32.01	4.86	33.24	4.91	33.36	4.94	33.76	4.97
	16	22.75	3.41	27.37	4.24	30.96	4.91	31.93	4.94	33.01	5.01	32.89	5.02	33.30	5.00
	18	22.75	3.44	27.37	4.27	30.76	5.07	32.01	5.06	32.89	5.14	32.50	5.16	32.92	5.10
	20	22.75	3.52	27.37	4.57	30.82	5.22	31.74	5.29	32.86	5.39	32.03	5.40	32.45	5.39
	21	22.75	3.59	27.37	4.69	30.67	5.43	31.77	5.32	32.87	5.47	31.88	5.56	32.30	5.55
	23	22.75	3.91	27.37	5.10	30.61	5.58	31.67	5.58	32.72	5.64	31.41	5.72	31.84	5.71
	25	22.75	4.16	27.37	5.48	30.36	5.87	31.59	5.88	32.62	5.91	31.02	6.04	31.45	6.07
	27	22.75	4.41	27.37	5.82	30.47	6.14	31.36	6.11	32.24	6.21	30.55	6.37	30.99	6.32
	29	22.75	4.79	27.37	6.13	29.98	6.32	30.83	6.30	31.74	6.45	30.16	6.64	30.60	6.50
	31	22.75	5.07	27.37	6.49	29.26	6.93	30.04	6.94	30.86	6.94	29.69	6.81	30.14	6.80
	33	22.75	5.36	26.54	6.77	28.38	6.94	29.17	6.97	29.93	6.98	29.38	7.15	29.68	7.05
	35	21.79	5.45	24.82	6.30	26.71	6.59	27.84	6.78	28.85	6.91	28.91	7.25	29.29	7.37
	37	21.79	5.72	24.43	6.26	26.30	6.55	27.42	6.74	28.42	6.89	28.49	7.54	28.88	7.57
	39	21.79	5.82	24.04	6.22	25.90	6.53	27.01	6.71	27.99	6.87	28.08	7.04	28.47	7.12
	41	21.79	5.93	23.74	6.24	25.59	6.50	26.80	6.75	27.67	6.81	27.76	6.71	27.35	6.53
	43	21.79	6.04	23.55	6.29	25.49	6.60	26.59	6.76	27.46	6.93	27.24	6.71	27.04	6.47
	46	21.79	6.15	23.45	6.40	25.18	6.65	26.38	6.85	27.03	6.88	26.52	6.65	26.53	6.50
	48	21.79	6.54	23.35	6.64	24.77	6.85	25.96	7.04	26.71	7.16	25.89	6.77	25.91	6.61
	50	19.61	6.43	21.02	6.48	22.30	6.49	23.36	6.63	24.04	6.70	23.30	6.34	23.32	6.25
	52	15.69	5.85	16.81	5.79	17.84	5.69	18.69	5.77	19.23	5.78	18.64	5.54	18.66	5.70
	55	10.98	5.00	11.77	4.75	12.49	4.59	13.08	4.65	13.46	4.62	13.05	5.04	13.06	5.25
120%	-15	21.17	2.36	24.95	2.83	29.04	3.38	30.69	3.66	32.23	3.83	32.94	3.92	34.25	4.11
	-10	21.17	2.60	24.95	3.11	29.04	3.64	30.69	3.96	32.23	4.09	32.94	4.23	34.25	4.47
	-5	21.17	2.80	24.95	3.36	29.04	3.93	30.69	4.23	32.23	4.44	32.94	4.56	34.25	4.83
	-2	21.17	2.82	24.95	3.33	29.04	3.95	30.69	4.25	32.23	4.52	32.94	4.56	34.25	4.81
	0	21.17	2.80	24.95	3.41	29.04	4.06	30.69	4.25	32.23	4.57	32.94	4.59	34.25	4.78
	2	21.17	2.83	24.95	3.39	29.04	4.04	30.69	4.35	32.23	4.61	32.94	4.65	34.25	4.80
	4	21.17	2.88	24.95	3.43	29.04	4.10	30.69	4.34	32.23	4.62	32.94	4.70	34.25	4.79
	6	21.17	2.91	24.95	3.46	29.04	4.17	30.69	4.38	32.23	4.69	32.94	4.76	34.25	4.83
	8	21.17	2.91	24.95	3.57	29.04	4.18	30.69	4.47	32.23	4.71	32.94	4.69	34.25	4.83
	10	21.17	2.93	24.95	3.62	29.04	4.24	30.69	4.52	32.23	4.75	32.94	4.77	34.25	4.92
	12	21.17	2.97	24.95	3.62	29.04	4.34	30.69	4.64	31.77	4.79	32.48	4.74	33.78	4.96
	14	21.17	3.06	24.95	3.73	29.04	4.42	30.69	4.70	31.32	4.81	32.10	4.86	33.47	5.06
	16	21.17	3.14	24.95	3.82	29.04	4.46	30.54	4.80	30.93	4.80	31.64	4.92	33.00	5.13
	18	21.17	3.21	24.95	3.88	29.04	4.66	30.08	4.88	30.47	4.91	31.18	4.96	32.61	5.20
	20	21.17	3.29	24.95	4.06	29.04	4.97	29.70	5.12	30.17	5.28	30.80	5.18	32.15	5.32
	21	21.17	3.32	24.95	4.17	29.04	5.15	29.39	5.31	29.86	5.38	30.64	5.34	31.91	5.56
	23	21.17	3.47	24.95	4.52	29.04	5.61	29.01	5.49	29.48	5.50	30.18	5.54	31.44	5.81
	25	21.17	3.71	24.95	4.77	28.97	6.21	28.55	5.75	29.02	5.90	29.80	5.82	31.13	6.08
	27	21.17	4.02	24.95	5.10	29.09	6.30	28.25	6.06	28.64	6.12	29.34	6.08	30.67	6.29
	29	21.17	4.31	24.95	5.44	28.79	6.55	27.79	6.17	28.25	6.25	28.89	6.32	30.28	6.44
	31	21.17	4.60	24.95	5.75	28.28	6.77	27.41	6.49	27.87	6.60	28.50	6.62	29.81	6.84
	33	21.17	4.78	24.79	6.15	27.47	6.80	26.95	6.82	27.41	6.76	28.04	6.87	29.34	7.00
	35	20.17	4.88	23.65	5.97	25.90	6.46	26.49	6.93	27.03	7.10	27.74	7.07	28.95	7.16
	37	20.17	5.19	23.65	6.11	25.60	6.42	26.08	6.46	26.62	6.50	27.23	6.70	28.44	6.92
	39	20.17	5.37	23.55	6.14	25.09	6.36	25.68	6.39	26.21	6.47	26.93	6.50	28.13	6.62
	41	20.17	5.52	23.36	6.19	24.89	6.37	25.48	6.45	26.01	6.46	26.72	6.49	27.30	6.53
	43	20.17	5.66	23.26	6.28	24.69	6.43	25.27	6.44	25.80	6.55	26.22	6.47	26.89	6.46
	46	20.17	5.78	23.16	6.40	24.49	6.53	24.97	6.53	25.50	6.55	25.71	6.44	26.58	6.51
	48	20.17	6.16	22.97	6.64	24.19	6.73	24.56	6.70	25.29	6.80	25.30	6.62	26.27	6.70
	50	18.15	6.03	20.67	6.44	21.77	6.39	22.11	6.34	22.76	6.40	22.77	6.21	23.64	6.31
	52	14.52	5.47	16.54	5.74	17.41	5.59	17.68	5.50	18.21	5.51	18.22	5.39	18.91	5.69
	55	10.16	4.63	11.58	4.67	12.19	4.47	12.38	4.39	12.75	4.36	12.75	4.65	13.24	5.06

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 …

Table 2-8.1: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	19.21	2.05	23.21	2.60	26.85	3.13	28.47	3.29	29.93	3.53	32.34	3.62	33.01	3.74
	-10	19.21	2.25	23.21	2.83	26.85	3.31	28.47	3.50	29.93	3.80	32.34	3.93	33.01	4.01
	-5	19.21	2.42	23.21	2.99	26.85	3.61	28.47	3.84	29.93	4.13	32.34	4.22	33.01	4.44
	-2	19.21	2.42	23.21	3.05	26.85	3.63	28.47	3.85	29.93	4.14	32.34	4.35	33.01	4.45
	0	19.21	2.51	23.21	3.06	26.85	3.67	28.47	3.90	29.93	4.13	32.34	4.39	33.01	4.39
	2	19.21	2.57	23.21	3.16	26.85	3.66	28.47	3.95	29.93	4.21	32.34	4.42	33.01	4.51
	4	19.21	2.54	23.21	3.18	26.85	3.73	28.47	3.98	29.93	4.25	32.34	4.45	33.01	4.52
	6	19.21	2.60	23.21	3.19	26.85	3.82	28.47	4.02	29.93	4.25	32.34	4.44	33.01	4.60
	8	19.21	2.61	23.21	3.21	26.85	3.86	28.47	4.07	29.93	4.41	32.34	4.55	33.01	4.68
	10	19.21	2.66	23.21	3.25	26.85	3.93	28.47	4.15	29.93	4.45	32.34	4.55	33.01	4.74
	12	19.21	2.71	23.21	3.35	26.85	4.01	28.47	4.28	29.93	4.55	32.04	4.60	32.55	4.79
	14	19.21	2.76	23.21	3.38	26.85	4.05	28.47	4.33	29.93	4.64	31.58	4.62	32.17	4.76
	16	19.21	2.82	23.21	3.50	26.85	4.16	28.47	4.36	29.93	4.71	31.19	4.79	31.71	4.82
	18	19.21	2.84	23.21	3.56	26.85	4.16	28.47	4.57	29.93	4.92	30.73	4.95	31.33	5.02
	20	19.21	2.92	23.21	3.61	26.85	4.40	28.47	4.82	29.47	5.17	30.35	5.17	30.87	5.20
	21	19.21	2.94	23.21	3.73	26.85	4.66	28.47	5.01	29.32	5.28	30.04	5.38	30.72	5.32
	23	19.21	3.11	23.21	4.02	26.85	4.94	28.47	5.45	28.86	5.54	29.74	5.54	30.26	5.67
	25	19.21	3.33	23.21	4.22	26.85	5.35	28.47	5.71	28.48	5.80	29.28	5.85	29.88	5.93
	27	19.21	3.51	23.21	4.55	26.85	5.59	28.01	6.03	28.02	6.06	28.89	6.07	29.42	6.10
	29	19.21	3.74	23.21	4.83	26.85	6.02	27.62	6.28	27.71	6.28	28.43	6.31	29.04	6.40
	31	19.21	4.02	23.21	5.16	26.85	6.53	27.16	6.63	27.25	6.55	28.05	6.60	28.58	6.57
	33	19.21	4.29	23.21	5.48	26.62	6.72	26.78	6.88	26.87	6.79	27.59	6.87	28.27	6.89
	35	18.59	4.32	22.48	5.63	25.09	6.32	26.31	7.04	26.41	6.97	27.13	7.05	27.82	7.17
	37	18.59	4.68	22.48	5.85	24.69	6.24	25.90	6.71	26.01	6.54	26.82	6.48	27.31	6.79
	39	18.59	4.93	22.48	5.91	24.29	6.19	25.39	6.32	25.60	6.35	26.31	6.09	27.00	6.38
	41	18.59	5.12	22.48	6.02	24.09	6.22	25.19	6.42	25.40	6.36	26.01	6.35	26.19	6.27
	43	18.59	5.29	22.48	6.14	23.90	6.27	25.08	6.41	25.20	6.43	25.80	6.38	25.79	6.22
	46	18.59	5.41	22.48	6.29	23.70	6.39	24.78	6.53	24.99	6.47	25.50	6.38	25.48	6.24
	48	18.59	5.78	22.48	6.61	23.30	6.53	24.37	6.69	24.69	6.65	25.09	6.57	25.18	6.43
	50	16.73	5.64	20.23	6.37	20.97	6.22	21.93	6.35	22.22	6.30	22.58	6.17	22.66	6.03
	52	13.38	5.10	16.19	5.66	16.78	5.43	17.54	5.50	17.77	5.42	18.07	5.31	18.13	5.52
	55	9.37	4.27	11.33	4.58	11.74	4.30	12.28	4.34	12.44	4.24	12.65	4.33	12.69	4.48
100%	-15	17.05	1.86	20.54	2.26	23.85	2.64	25.20	2.83	27.28	3.11	30.55	3.49	32.37	3.64
	-10	17.05	1.98	20.54	2.41	23.85	2.84	25.20	3.03	27.28	3.31	30.55	3.79	32.37	3.96
	-5	17.05	2.14	20.54	2.60	23.85	3.07	25.20	3.29	27.28	3.66	30.55	4.06	32.37	4.26
	-2	17.05	2.15	20.54	2.66	23.85	3.14	25.20	3.34	27.28	3.65	30.55	4.19	32.37	4.37
	0	17.05	2.22	20.54	2.67	23.85	3.13	25.20	3.39	27.28	3.67	30.55	4.18	32.37	4.40
	2	17.05	2.25	20.54	2.73	23.85	3.17	25.20	3.42	27.28	3.69	30.55	4.29	32.37	4.46
	4	17.05	2.25	20.54	2.72	23.85	3.25	25.20	3.48	27.28	3.75	30.55	4.31	32.37	4.49
	6	17.05	2.29	20.54	2.78	23.85	3.30	25.20	3.53	27.28	3.87	30.55	4.43	32.37	4.60
	8	17.05	2.35	20.54	2.83	23.85	3.38	25.20	3.61	27.28	3.93	30.55	4.44	32.37	4.62
	10	17.05	2.37	20.54	2.87	23.85	3.41	25.20	3.66	27.28	3.98	30.55	4.50	32.37	4.73
	12	17.05	2.37	20.54	2.92	23.85	3.43	25.20	3.73	27.28	4.04	30.55	4.57	32.37	4.72
	14	17.05	2.46	20.54	2.96	23.85	3.56	25.20	3.77	27.28	4.13	30.55	4.68	32.37	4.73
	16	17.05	2.48	20.54	3.03	23.85	3.60	25.20	3.88	27.28	4.24	30.55	4.71	32.37	4.82
	18	17.05	2.52	20.54	3.07	23.85	3.68	25.20	3.93	27.28	4.29	30.55	4.84	32.37	4.99
	20	17.05	2.61	20.54	3.18	23.85	3.77	25.20	4.15	27.28	4.57	30.55	5.10	32.37	5.21
	21	17.05	2.58	20.54	3.21	23.85	3.93	25.20	4.32	27.28	4.80	30.55	5.25	32.37	5.28
	23	17.05	2.68	20.54	3.42	23.85	4.19	25.20	4.56	27.28	5.13	30.55	5.46	32.37	5.51
	25	17.05	2.82	20.54	3.62	23.85	4.45	25.20	4.95	27.28	5.41	30.55	5.74	32.37	5.88
	27	17.05	3.08	20.54	3.85	23.85	4.84	25.20	5.25	27.28	5.92	30.55	5.95	32.37	6.06
	29	17.05	3.21	20.54	4.10	23.85	5.08	25.20	5.66	27.28	6.17	30.55	6.28	32.37	6.34
	31	17.05	3.43	20.54	4.39	23.85	5.48	25.20	5.98	27.28	6.38	30.33	6.58	32.00	6.65
	33	17.05	3.63	20.54	4.70	23.85	5.81	25.20	6.24	27.28	6.69	29.57	7.04	31.14	7.06
	35	17.05	3.91	20.54	4.96	23.85	6.23	25.20	6.30	26.34	6.54	28.31	6.84	30.07	6.99
	37	17.05	4.14	20.54	5.30	23.85	6.08	24.70	6.22	25.92	6.42	27.87	6.77	29.62	6.96
	39	17.05	4.36	20.54	5.44	23.85	6.11	24.40	6.08	25.51	6.37	27.44	6.68	29.17	6.95
	41	17.05	4.73	20.54	5.55	23.85	6.21	24.00	6.15	25.30	6.39	27.01	6.63	28.71	6.88
	43	17.05	4.92	20.54	5.68	23.85	6.30	23.60	6.06	25.10	6.44	27.12	6.72	28.26	6.84
	46	17.05	5.05	20.54	5.83	23.85	6.50	23.10	6.14	24.99	6.53	26.90	6.73	27.70	6.79
	48	17.05	5.41	20.54	6.14	23.85	6.74	22.20	6.14	24.89	6.73	25.27	6.63	27.03	6.90
	50	15.35	5.26	18.48	5.89	21.46	6.44	19.98	5.85	22.40	6.42	22.74	6.23	24.32	6.44
	52	12.28	4.73	14.79	5.21	17.17	5.60	15.98	5.06	17.92	5.51	18.20	5.31	19.46	5.55
	55	8.59	3.92	10.35	4.19	12.02	4.39	11.19	3.95	12.54	4.25	12.74	4.05	13.62	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 2-8.1: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	15.85	1.68	18.93	2.00	22.01	2.35	23.12	2.56	25.01	2.73	27.86	3.11	31.25	3.68
	-10	15.85	1.81	18.93	2.17	22.01	2.53	23.12	2.74	25.01	2.98	27.86	3.45	31.25	3.92
	-5	15.85	1.98	18.93	2.36	22.01	2.76	23.12	3.00	25.01	3.23	27.86	3.64	31.25	4.27
	-2	15.85	1.99	18.93	2.34	22.01	2.81	23.12	2.99	25.01	3.24	27.86	3.74	31.25	4.27
	0	15.85	2.02	18.93	2.42	22.01	2.84	23.12	3.02	25.01	3.26	27.86	3.70	31.25	4.36
	2	15.85	2.03	18.93	2.40	22.01	2.88	23.12	3.13	25.01	3.30	27.86	3.83	31.25	4.37
	4	15.85	2.05	18.93	2.50	22.01	2.92	23.12	3.16	25.01	3.40	27.86	3.88	31.25	4.47
	6	15.85	2.08	18.93	2.50	22.01	3.01	23.12	3.20	25.01	3.43	27.86	3.95	31.25	4.57
	8	15.85	2.14	18.93	2.58	22.01	3.09	23.12	3.22	25.01	3.55	27.86	4.01	31.25	4.61
	10	15.85	2.15	18.93	2.61	22.01	3.12	23.12	3.27	25.01	3.62	27.86	4.01	31.25	4.69
	12	15.85	2.22	18.93	2.67	22.01	3.11	23.12	3.39	25.01	3.67	27.86	4.10	31.25	4.66
	14	15.85	2.25	18.93	2.69	22.01	3.21	23.12	3.37	25.01	3.73	27.86	4.23	31.25	4.81
	16	15.85	2.32	18.93	2.76	22.01	3.29	23.12	3.50	25.01	3.85	27.86	4.28	31.10	4.91
	18	15.85	2.30	18.93	2.86	22.01	3.30	23.12	3.52	25.01	3.82	27.86	4.40	30.78	5.00
	20	15.85	2.35	18.93	2.88	22.01	3.38	23.12	3.60	25.01	4.04	27.86	4.75	30.32	5.24
	21	15.85	2.37	18.93	2.88	22.01	3.46	23.12	3.75	25.01	4.21	27.86	4.97	30.08	5.41
	23	15.85	2.41	18.93	3.00	22.01	3.76	23.12	4.00	25.01	4.43	27.86	5.25	29.61	5.71
	25	15.85	2.56	18.93	3.26	22.01	4.01	23.12	4.27	25.01	4.78	27.86	5.56	29.22	5.94
	27	15.85	2.75	18.93	3.46	22.01	4.28	23.12	4.50	25.01	5.09	27.86	5.94	28.75	6.23
	29	15.85	2.89	18.93	3.69	22.01	4.48	23.12	4.85	25.01	5.41	27.63	6.34	28.44	6.40
	31	15.85	3.11	18.93	3.92	22.01	4.77	23.12	5.18	25.01	5.78	27.16	6.51	27.97	6.61
	33	15.85	3.28	18.93	4.09	22.01	5.07	23.12	5.61	25.01	6.22	26.78	6.81	27.58	6.90
	35	15.85	3.50	18.93	4.44	22.01	5.41	23.12	5.86	25.01	6.52	26.31	6.79	27.11	7.04
	37	15.85	3.86	18.93	4.75	22.01	5.76	23.12	6.00	25.01	6.39	25.80	6.29	26.70	6.63
	39	15.85	4.17	18.93	5.13	22.01	5.79	23.12	5.97	25.01	6.40	25.49	6.28	26.28	6.41
	41	15.85	4.46	18.93	5.24	22.01	5.85	23.12	6.05	25.01	6.43	25.28	6.32	26.07	6.36
	43	15.85	4.66	18.93	5.33	22.01	5.93	23.12	6.06	25.01	6.48	25.18	6.36	25.87	6.35
	46	15.85	4.78	18.93	5.48	22.01	6.09	23.12	6.25	25.01	6.65	24.98	6.36	25.45	6.27
	48	15.85	5.20	18.93	5.81	22.01	6.36	23.12	6.50	25.01	6.82	24.77	6.55	24.83	6.37
	50	14.26	5.10	17.04	5.60	19.81	6.08	20.81	6.20	22.51	6.54	22.29	6.12	22.34	5.89
	52	11.41	4.61	13.63	4.97	15.85	5.30	16.65	5.37	18.01	5.62	17.83	5.24	17.87	5.07
	55	7.99	4.09	9.54	4.06	11.09	4.16	11.65	4.19	12.60	4.34	12.48	4.00	12.51	3.87
80%	-15	13.97	1.45	16.80	1.77	19.29	2.04	20.74	2.21	22.30	2.38	24.53	2.67	27.74	3.09
	-10	13.97	1.60	16.80	1.88	19.29	2.21	20.74	2.36	22.30	2.54	24.53	2.93	27.74	3.42
	-5	13.97	1.72	16.80	2.05	19.29	2.42	20.74	2.52	22.30	2.74	24.53	3.15	27.74	3.68
	-2	13.97	1.72	16.80	2.09	19.29	2.39	20.74	2.58	22.30	2.78	24.53	3.15	27.74	3.72
	0	13.97	1.75	16.80	2.08	19.29	2.43	20.74	2.65	22.30	2.84	24.53	3.20	27.74	3.79
	2	13.97	1.77	16.80	2.13	19.29	2.44	20.74	2.64	22.30	2.89	24.53	3.27	27.74	3.86
	4	13.97	1.85	16.80	2.15	19.29	2.50	20.74	2.70	22.30	2.97	24.53	3.30	27.74	3.84
	6	13.97	1.85	16.80	2.23	19.29	2.59	20.74	2.79	22.30	2.98	24.53	3.37	27.74	3.94
	8	13.97	1.91	16.80	2.23	19.29	2.58	20.74	2.80	22.30	3.11	24.53	3.46	27.74	4.01
	10	13.97	1.89	16.80	2.30	19.29	2.69	20.74	2.94	22.30	3.17	24.53	3.53	27.74	4.00
	12	13.97	1.95	16.80	2.36	19.29	2.73	20.74	2.98	22.30	3.18	24.53	3.52	27.74	4.17
	14	13.97	1.98	16.80	2.37	19.29	2.79	20.74	3.03	22.30	3.30	24.53	3.62	27.74	4.24
	16	13.97	1.99	16.80	2.45	19.29	2.86	20.74	3.03	22.30	3.30	24.53	3.73	27.74	4.26
	18	13.97	2.05	16.80	2.45	19.29	2.90	20.74	3.09	22.30	3.34	24.53	3.76	27.74	4.31
	20	13.97	2.07	16.80	2.57	19.29	2.97	20.74	3.18	22.30	3.45	24.53	3.95	27.74	4.72
	21	13.97	2.11	16.80	2.58	19.29	2.94	20.74	3.21	22.30	3.56	24.53	4.05	27.74	4.83
	23	13.97	2.12	16.80	2.64	19.29	3.08	20.74	3.45	22.30	3.75	24.53	4.33	27.74	5.17
	25	13.97	2.21	16.80	2.78	19.29	3.32	20.74	3.68	22.30	4.08	24.53	4.62	27.74	5.53
	27	13.97	2.37	16.80	2.96	19.29	3.52	20.74	3.96	22.30	4.35	24.53	5.00	27.74	5.95
	29	13.97	2.47	16.80	3.10	19.29	3.78	20.74	4.12	22.30	4.55	24.53	5.37	27.74	6.34
	31	13.97	2.67	16.80	3.37	19.29	4.07	20.74	4.41	22.30	4.88	24.53	5.74	27.27	6.56
	33	13.97	2.82	16.80	3.54	19.29	4.25	20.74	4.72	22.30	5.21	24.53	6.09	26.96	6.62
	35	13.97	2.94	16.80	3.75	19.29	4.60	20.74	4.97	22.30	5.58	24.53	6.20	26.49	6.80
	37	13.97	3.13	16.80	3.99	19.29	4.83	20.74	5.41	22.30	5.83	24.53	5.93	26.07	6.57
	39	13.97	3.38	16.80	4.25	19.29	5.11	20.74	5.67	22.30	5.87	24.53	6.13	25.66	6.41
	41	13.97	3.99	16.80	4.77	19.29	5.24	20.74	5.55	22.30	5.85	24.53	6.25	25.45	6.34
	43	13.97	4.19	16.80	4.82	19.29	5.31	20.74	5.55	22.30	5.84	24.53	6.32	25.34	6.32
	46	13.97	4.31	16.80	4.96	19.29	5.42	20.74	5.71	22.30	6.04	24.53	6.37	25.03	6.21
	48	13.97	4.76	16.80	5.30	19.29	5.71	20.74	5.92	22.30	6.14	24.53	6.54	24.82	6.41
	50	12.57	4.71	15.12	5.16	17.36	5.47	18.67	5.67	20.07	5.92	22.08	6.08	22.34	5.86
	52	10.06	4.30	12.09	4.59	13.89	4.77	14.93	4.92	16.06	5.10	17.66	5.24	17.87	5.04
	55	7.04	3.67	8.47	3.82	9.72	3.76	10.45	3.84	11.24	3.93	12.36	3.99	12.51	3.88

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 …

Table 2-8.1: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	12.06	1.29	14.47	1.52	16.77	1.71	17.99	1.87	19.27	2.00	21.58	2.26	24.02	2.64
	-10	12.06	1.40	14.47	1.64	16.77	1.86	17.99	1.98	19.27	2.11	21.58	2.46	24.02	2.80
	-5	12.06	1.49	14.47	1.80	16.77	1.99	17.99	2.13	19.27	2.32	21.58	2.62	24.02	3.01
	-2	12.06	1.51	14.47	1.79	16.77	2.02	17.99	2.19	19.27	2.33	21.58	2.70	24.02	3.12
	0	12.06	1.52	14.47	1.82	16.77	2.06	17.99	2.24	19.27	2.39	21.58	2.72	24.02	3.16
	2	12.06	1.55	14.47	1.81	16.77	2.07	17.99	2.27	19.27	2.43	21.58	2.78	24.02	3.21
	4	12.06	1.57	14.47	1.83	16.77	2.16	17.99	2.32	19.27	2.51	21.58	2.82	24.02	3.26
	6	12.06	1.58	14.47	1.92	16.77	2.17	17.99	2.37	19.27	2.56	21.58	2.92	24.02	3.31
	8	12.06	1.62	14.47	1.93	16.77	2.24	17.99	2.40	19.27	2.60	21.58	2.94	24.02	3.40
	10	12.06	1.63	14.47	1.99	16.77	2.33	17.99	2.48	19.27	2.67	21.58	3.00	24.02	3.38
	12	12.06	1.68	14.47	1.99	16.77	2.33	17.99	2.56	19.27	2.69	21.58	3.07	24.02	3.47
	14	12.06	1.73	14.47	2.02	16.77	2.39	17.99	2.58	19.27	2.75	21.58	3.14	24.02	3.58
	16	12.06	1.73	14.47	2.09	16.77	2.45	17.99	2.58	19.27	2.84	21.58	3.24	24.02	3.60
	18	12.06	1.79	14.47	2.12	16.77	2.49	17.99	2.66	19.27	2.85	21.58	3.29	24.02	3.66
	20	12.06	1.81	14.47	2.17	16.77	2.56	17.99	2.69	19.27	2.91	21.58	3.31	24.02	3.79
	21	12.06	1.83	14.47	2.16	16.77	2.56	17.99	2.74	19.27	2.93	21.58	3.38	24.02	3.89
	23	12.06	1.83	14.47	2.24	16.77	2.62	17.99	2.86	19.27	3.14	21.58	3.64	24.02	4.23
	25	12.06	1.91	14.47	2.30	16.77	2.79	17.99	3.07	19.27	3.33	21.58	3.90	24.02	4.53
	27	12.06	1.97	14.47	2.44	16.77	2.96	17.99	3.23	19.27	3.57	21.58	4.13	24.02	4.78
	29	12.06	2.11	14.47	2.62	16.77	3.19	17.99	3.40	19.27	3.79	21.58	4.38	24.02	5.16
	31	12.06	2.21	14.47	2.79	16.77	3.36	17.99	3.66	19.27	3.97	21.58	4.65	24.02	5.33
	33	12.06	2.41	14.47	2.92	16.77	3.59	17.99	3.93	19.27	4.29	21.58	5.01	24.02	5.49
	35	12.06	2.49	14.47	3.07	16.77	3.77	17.99	4.18	19.27	4.60	21.58	5.34	24.02	5.66
	37	12.06	2.62	14.47	3.30	16.77	4.00	17.99	4.37	19.27	4.88	21.58	5.68	24.02	5.98
	39	12.06	2.81	14.47	3.51	16.77	4.25	17.99	4.64	19.27	5.07	21.58	5.88	24.02	6.07
	41	12.06	3.09	14.47	3.62	16.77	4.60	17.99	4.90	19.27	5.16	21.58	5.61	24.02	6.08
	43	12.06	3.68	14.47	4.22	16.77	4.71	17.99	4.94	19.27	5.18	21.58	5.66	24.02	6.09
	46	12.06	3.84	14.47	4.40	16.77	4.83	17.99	5.06	19.27	5.31	21.58	5.72	24.02	6.09
	48	12.06	4.27	14.47	4.74	16.77	5.13	17.99	5.32	19.27	5.50	21.58	5.90	24.02	6.32
	50	10.86	4.21	13.02	4.62	15.09	4.94	16.19	5.11	17.34	5.30	19.43	5.53	21.62	5.84
	52	8.68	3.81	10.42	4.09	12.07	4.31	12.95	4.44	13.88	4.59	15.54	4.78	17.29	5.01
	55	6.08	3.57	7.29	3.37	8.45	3.38	9.07	3.44	9.71	3.52	10.88	3.64	12.11	3.88
60%	-15	10.52	1.13	12.62	1.30	14.37	1.48	15.37	1.59	16.50	1.74	18.54	1.96	20.40	2.18
	-10	10.52	1.22	12.62	1.41	14.37	1.61	15.37	1.71	16.50	1.87	18.54	2.12	20.40	2.38
	-5	10.52	1.31	12.62	1.51	14.37	1.75	15.37	1.83	16.50	2.02	18.54	2.28	20.40	2.56
	-2	10.52	1.31	12.62	1.55	14.37	1.76	15.37	1.86	16.50	2.02	18.54	2.28	20.40	2.62
	0	10.52	1.35	12.62	1.58	14.37	1.80	15.37	1.90	16.50	2.06	18.54	2.33	20.40	2.65
	2	10.52	1.37	12.62	1.58	14.37	1.83	15.37	1.93	16.50	2.12	18.54	2.40	20.40	2.62
	4	10.52	1.39	12.62	1.63	14.37	1.85	15.37	1.98	16.50	2.16	18.54	2.39	20.40	2.74
	6	10.52	1.40	12.62	1.66	14.37	1.91	15.37	2.01	16.50	2.16	18.54	2.50	20.40	2.79
	8	10.52	1.44	12.62	1.67	14.37	1.93	15.37	2.06	16.50	2.25	18.54	2.53	20.40	2.82
	10	10.52	1.47	12.62	1.73	14.37	1.97	15.37	2.09	16.50	2.28	18.54	2.55	20.40	2.81
	12	10.52	1.48	12.62	1.73	14.37	2.02	15.37	2.12	16.50	2.27	18.54	2.60	20.40	2.90
	14	10.52	1.50	12.62	1.79	14.37	2.04	15.37	2.17	16.50	2.37	18.54	2.69	20.40	2.97
	16	10.52	1.55	12.62	1.82	14.37	2.04	15.37	2.20	16.50	2.39	18.54	2.70	20.40	3.04
	18	10.52	1.55	12.62	1.84	14.37	2.10	15.37	2.27	16.50	2.42	18.54	2.73	20.40	3.04
	20	10.52	1.61	12.62	1.87	14.37	2.11	15.37	2.31	16.50	2.50	18.54	2.83	20.40	3.17
	21	10.52	1.58	12.62	1.88	14.37	2.15	15.37	2.35	16.50	2.52	18.54	2.82	20.40	3.18
	23	10.52	1.64	12.62	1.94	14.37	2.19	15.37	2.37	16.50	2.53	18.54	2.98	20.40	3.31
	25	10.52	1.64	12.62	1.94	14.37	2.31	15.37	2.45	16.50	2.67	18.54	3.16	20.40	3.54
	27	10.52	1.72	12.62	2.08	14.37	2.42	15.37	2.67	16.50	2.86	18.54	3.39	20.40	3.85
	29	10.52	1.80	12.62	2.21	14.37	2.63	15.37	2.82	16.50	3.05	18.54	3.57	20.40	4.14
	31	10.52	1.95	12.62	2.33	14.37	2.72	15.37	3.01	16.50	3.25	18.54	3.82	20.40	4.32
	33	10.52	2.05	12.62	2.50	14.37	2.95	15.37	3.15	16.50	3.49	18.54	4.00	20.40	4.68
	35	10.52	2.16	12.62	2.60	14.37	3.06	15.37	3.39	16.50	3.71	18.54	4.35	20.40	4.89
	37	10.52	2.29	12.62	2.82	14.37	3.26	15.37	3.63	16.50	3.93	18.54	4.59	20.40	5.24
	39	10.52	2.37	12.62	2.96	14.37	3.47	15.37	3.80	16.50	4.14	18.54	4.83	20.40	5.60
	41	10.52	2.66	12.62	3.07	14.37	3.59	15.37	4.27	16.50	4.64	18.54	4.93	20.40	5.26
	43	10.52	3.27	12.62	3.76	14.37	3.78	15.37	4.35	16.50	4.57	18.54	4.97	20.40	5.27
	46	10.52	3.48	12.62	3.96	14.37	4.26	15.37	4.43	16.50	4.64	18.54	5.03	20.40	5.30
	48	10.52	3.88	12.62	4.31	14.37	4.57	15.37	4.73	16.50	4.90	18.54	5.23	20.40	5.49
	50	9.47	3.80	11.36	4.20	12.93	4.43	13.84	4.56	14.85	4.72	16.68	4.94	18.36	5.14
	52	7.57	3.42	9.09	3.70	10.34	3.85	11.07	3.97	11.88	4.11	13.35	4.29	14.69	4.40
	55	5.30	3.08	6.36	3.02	7.24	3.00	7.75	3.06	8.31	3.14	9.34	3.26	10.28	3.41

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 …

Table 2-8.1: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	8.71	0.96	10.33	1.11	12.22	1.31	12.85	1.33	13.63	1.42	15.46	1.62	17.26	1.77
	-10	8.71	1.04	10.33	1.19	12.22	1.38	12.85	1.44	13.63	1.54	15.46	1.73	17.26	1.88
	-5	8.71	1.11	10.33	1.30	12.22	1.53	12.85	1.55	13.63	1.64	15.46	1.87	17.26	2.03
	-2	8.71	1.13	10.33	1.31	12.22	1.52	12.85	1.56	13.63	1.66	15.46	1.88	17.26	2.05
	0	8.71	1.15	10.33	1.34	12.22	1.54	12.85	1.59	13.63	1.67	15.46	1.95	17.26	2.12
	2	8.71	1.18	10.33	1.35	12.22	1.56	12.85	1.61	13.63	1.72	15.46	1.98	17.26	2.12
	4	8.71	1.19	10.33	1.39	12.22	1.60	12.85	1.62	13.63	1.75	15.46	2.00	17.26	2.22
	6	8.71	1.19	10.33	1.40	12.22	1.63	12.85	1.68	13.63	1.77	15.46	2.01	17.26	2.29
	8	8.71	1.22	10.33	1.43	12.22	1.64	12.85	1.74	13.63	1.83	15.46	2.08	17.26	2.35
	10	8.71	1.26	10.33	1.43	12.22	1.69	12.85	1.73	13.63	1.88	15.46	2.12	17.26	2.37
	12	8.71	1.26	10.33	1.48	12.22	1.72	12.85	1.79	13.63	1.92	15.46	2.15	17.26	2.41
	14	8.71	1.30	10.33	1.48	12.22	1.73	12.85	1.83	13.63	1.94	15.46	2.20	17.26	2.42
	16	8.71	1.30	10.33	1.50	12.22	1.75	12.85	1.82	13.63	1.95	15.46	2.26	17.26	2.47
	18	8.71	1.32	10.33	1.55	12.22	1.78	12.85	1.86	13.63	2.00	15.46	2.26	17.26	2.54
	20	8.71	1.33	10.33	1.53	12.22	1.81	12.85	1.92	13.63	2.03	15.46	2.32	17.26	2.60
	21	8.71	1.35	10.33	1.55	12.22	1.80	12.85	1.93	13.63	2.06	15.46	2.33	17.26	2.61
	23	8.71	1.36	10.33	1.61	12.22	1.86	12.85	1.93	13.63	2.07	15.46	2.39	17.26	2.67
	25	8.71	1.40	10.33	1.63	12.22	1.91	12.85	2.02	13.63	2.14	15.46	2.49	17.26	2.83
	27	8.71	1.40	10.33	1.67	12.22	2.00	12.85	2.13	13.63	2.26	15.46	2.65	17.26	3.04
	29	8.71	1.50	10.33	1.78	12.22	2.14	12.85	2.27	13.63	2.44	15.46	2.83	17.26	3.24
	31	8.71	1.58	10.33	1.88	12.22	2.26	12.85	2.41	13.63	2.62	15.46	3.02	17.26	3.45
	33	8.71	1.65	10.33	1.96	12.22	2.37	12.85	2.53	13.63	2.77	15.46	3.22	17.26	3.62
	35	8.71	1.77	10.33	2.09	12.22	2.50	12.85	2.69	13.63	2.91	15.46	3.40	17.26	3.84
	37	8.71	1.86	10.33	2.24	12.22	2.68	12.85	2.85	13.63	3.09	15.46	3.59	17.26	4.08
	39	8.71	1.97	10.33	2.35	12.22	2.83	12.85	3.03	13.63	3.28	15.46	3.81	17.26	4.33
	41	8.71	2.03	10.33	2.45	12.22	2.92	12.85	3.11	13.63	3.39	15.46	4.05	17.26	4.60
	43	8.71	2.16	10.33	2.60	12.22	3.06	12.85	3.29	13.63	3.47	15.46	4.26	17.26	4.55
	46	8.71	2.53	10.33	2.68	12.22	3.48	12.85	3.82	13.63	3.93	15.46	4.32	17.26	4.61
	48	8.71	3.37	10.33	3.71	12.22	4.07	12.85	4.13	13.63	4.24	15.46	4.52	17.26	4.77
	50	7.84	3.28	9.29	3.61	11.00	3.96	11.57	4.01	12.27	4.10	13.92	4.31	15.53	4.53
	52	6.27	2.92	7.43	3.14	8.80	3.43	9.25	3.49	9.81	3.57	11.13	3.75	12.43	3.87
	55	4.39	2.53	5.20	2.54	6.16	2.66	6.48	2.67	6.87	2.73	7.79	2.86	8.70	3.01

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

Table 2-8.2: 10HP cooling capacity

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130%	-15	25.28	3.09	30.41	3.76	35.27	4.02	36.15	4.20	38.46	4.36	39.33	4.69	39.83	4.72
	-10	25.28	3.33	30.41	4.09	35.27	4.44	36.15	4.46	38.46	4.74	39.33	5.13	39.83	5.02
	-5	25.28	3.62	30.41	4.45	35.27	4.76	36.15	4.90	38.46	5.03	39.33	5.49	39.83	5.41
	-2	25.28	3.63	30.41	4.50	35.27	4.71	36.15	4.93	38.46	5.10	39.33	5.65	39.83	5.49
	0	25.28	3.68	30.41	4.55	35.27	4.84	36.15	5.10	38.46	5.36	39.33	5.64	39.83	5.55
	2	25.28	3.70	30.41	4.62	35.27	5.14	36.15	5.39	38.46	5.43	39.33	5.67	39.83	5.62
	4	25.28	3.77	30.41	4.62	35.27	5.22	36.15	5.51	38.46	5.51	39.33	5.73	39.83	5.78
	6	25.28	3.91	30.41	4.80	35.27	5.36	36.15	5.44	38.02	5.71	38.89	5.85	39.40	5.77
	8	25.28	3.95	30.41	4.83	35.27	5.72	36.15	5.74	37.50	5.80	38.46	5.83	38.89	5.89
	10	25.28	4.02	30.41	4.94	35.27	5.88	36.15	5.92	37.07	5.97	38.02	5.98	38.46	6.01
	12	25.28	4.09	30.41	5.06	35.27	6.00	36.06	6.09	36.95	6.01	37.50	6.10	37.94	6.18
	14	25.28	4.19	30.41	5.22	34.56	6.20	35.57	6.10	36.93	6.16	37.07	6.20	37.52	6.23
	16	25.28	4.28	30.41	5.32	34.40	6.16	35.47	6.20	36.68	6.29	36.55	6.29	37.00	6.26
	18	25.28	4.32	30.41	5.36	34.18	6.36	35.56	6.34	36.54	6.44	36.11	6.47	36.57	6.40
	20	25.28	4.42	30.41	5.73	34.24	6.54	35.27	6.63	36.52	6.75	35.59	6.77	36.06	6.76
	21	25.28	4.50	30.41	5.88	34.07	6.81	35.30	6.67	36.52	6.86	35.42	6.97	35.89	6.96
	23	25.28	4.90	30.41	6.39	34.01	7.00	35.19	6.99	36.36	7.07	34.90	7.17	35.37	7.16
	25	25.28	5.22	30.41	6.87	33.74	7.37	35.10	7.37	36.24	7.42	34.46	7.58	34.95	7.61
	27	25.28	5.54	30.41	7.29	33.85	7.70	34.85	7.67	35.82	7.78	33.94	7.98	34.43	7.92
	29	25.28	6.01	30.41	7.68	33.32	7.93	34.25	7.90	35.27	8.09	33.51	8.33	34.00	8.15
	31	25.28	6.35	30.41	8.14	32.51	8.69	33.38	8.70	34.29	8.71	32.99	8.54	33.49	8.53
	33	25.28	6.72	29.49	8.49	31.53	8.71	32.42	8.75	33.25	8.76	32.64	8.96	32.98	8.84
	35	24.21	6.83	27.58	7.90	29.68	8.27	30.94	8.50	32.05	8.67	32.12	9.09	32.55	9.25
	37	24.21	7.17	27.14	7.85	29.23	8.21	30.47	8.46	31.58	8.64	31.66	9.46	32.09	9.49
	39	24.21	7.29	26.71	7.79	28.77	8.19	30.01	8.41	31.10	8.61	31.20	8.82	31.64	8.93
	41	24.21	7.43	26.38	7.82	28.43	8.16	29.77	8.47	30.74	8.54	30.85	8.42	30.39	8.19
	43	24.21	7.57	26.16	7.89	28.32	8.28	29.54	8.48	30.51	8.69	30.27	8.41	30.04	8.11
	46	24.21	7.71	26.06	8.02	27.98	8.34	29.31	8.59	30.03	8.63	29.46	8.34	29.48	8.14
	48	24.21	8.21	25.95	8.33	27.53	8.59	28.84	8.83	29.68	8.98	28.77	8.49	28.79	8.28
	50	21.79	8.06	23.35	8.12	24.77	8.13	25.96	8.32	26.71	8.41	25.89	7.95	25.91	7.83
	52	17.43	7.34	18.68	7.26	19.82	7.13	20.77	7.23	21.37	7.25	20.71	6.95	20.73	7.15
	55	12.20	6.27	13.08	5.95	13.87	5.76	14.54	5.84	14.96	5.79	14.50	6.32	14.51	6.58
120%	-15	23.52	2.96	27.72	3.54	32.27	4.24	34.10	4.59	35.82	4.80	36.60	4.91	38.05	5.15
	-10	23.52	3.27	27.72	3.91	32.27	4.56	34.10	4.97	35.82	5.13	36.60	5.31	38.05	5.60
	-5	23.52	3.51	27.72	4.21	32.27	4.92	34.10	5.31	35.82	5.57	36.60	5.71	38.05	6.06
	-2	23.52	3.54	27.72	4.17	32.27	4.95	34.10	5.33	35.82	5.66	36.60	5.72	38.05	6.03
	0	23.52	3.51	27.72	4.28	32.27	5.09	34.10	5.33	35.82	5.73	36.60	5.75	38.05	5.99
	2	23.52	3.55	27.72	4.25	32.27	5.06	34.10	5.45	35.82	5.78	36.60	5.83	38.05	6.01
	4	23.52	3.62	27.72	4.30	32.27	5.14	34.10	5.45	35.82	5.79	36.60	5.89	38.05	6.00
	6	23.52	3.65	27.72	4.34	32.27	5.23	34.10	5.50	35.82	5.88	36.60	5.97	38.05	6.06
	8	23.52	3.66	27.72	4.48	32.27	5.24	34.10	5.60	35.82	5.91	36.60	5.88	38.05	6.05
	10	23.52	3.68	27.72	4.54	32.27	5.32	34.10	5.66	35.82	5.96	36.60	5.98	38.05	6.17
	12	23.52	3.73	27.72	4.54	32.27	5.44	34.10	5.81	35.31	6.00	36.09	5.94	37.53	6.21
	14	23.52	3.84	27.72	4.67	32.27	5.54	34.10	5.90	34.79	6.03	35.66	6.09	37.19	6.34
	16	23.52	3.94	27.72	4.79	32.27	5.60	33.93	6.02	34.37	6.01	35.15	6.16	36.67	6.43
	18	23.52	4.03	27.72	4.87	32.27	5.84	33.42	6.12	33.86	6.15	34.64	6.22	36.24	6.52
	20	23.52	4.12	27.72	5.09	32.27	6.23	33.00	6.41	33.52	6.62	34.22	6.50	35.72	6.67
	21	23.52	4.17	27.72	5.23	32.27	6.46	32.66	6.65	33.18	6.75	34.05	6.70	35.46	6.97
	23	23.52	4.35	27.72	5.66	32.27	7.04	32.23	6.88	32.75	6.90	33.54	6.95	34.94	7.28
	25	23.52	4.66	27.72	5.99	32.19	7.79	31.72	7.21	32.24	7.39	33.11	7.29	34.59	7.62
	27	23.52	5.04	27.72	6.39	32.32	7.90	31.39	7.60	31.82	7.68	32.60	7.62	34.07	7.88
	29	23.52	5.41	27.72	6.82	31.99	8.22	30.88	7.73	31.39	7.84	32.10	7.92	33.64	8.07
	31	23.52	5.77	27.72	7.22	31.43	8.49	30.45	8.14	30.97	8.28	31.67	8.30	33.12	8.58
	33	23.52	6.00	27.55	7.71	30.52	8.53	29.94	8.55	30.46	8.47	31.16	8.62	32.60	8.78
	35	22.41	6.12	26.28	7.48	28.78	8.10	29.43	8.69	30.03	8.90	30.82	8.86	32.17	8.98
	37	22.41	6.51	26.28	7.66	28.44	8.05	28.98	8.10	29.58	8.15	30.26	8.41	31.60	8.67
	39	22.41	6.73	26.17	7.70	27.88	7.97	28.53	8.01	29.12	8.11	29.92	8.15	31.25	8.30
	41	22.41	6.92	25.95	7.77	27.66	7.99	28.31	8.09	28.90	8.09	29.69	8.14	30.33	8.18
	43	22.41	7.10	25.85	7.88	27.43	8.07	28.08	8.08	28.67	8.21	29.13	8.11	29.87	8.10
	46	22.41	7.25	25.74	8.02	27.21	8.19	27.74	8.19	28.33	8.21	28.56	8.08	29.53	8.16
	48	22.41	7.73	25.52	8.33	26.87	8.44	27.29	8.40	28.10	8.53	28.11	8.30	29.18	8.40
	50	20.17	7.57	22.97	8.07	24.19	8.02	24.56	7.95	25.29	8.03	25.30	7.78	26.27	7.91
	52	16.13	6.86	18.38	7.19	19.35	7.01	19.65	6.89	20.24	6.91	20.24	6.76	21.01	7.14
	55	11.29	5.81	12.86	5.86	13.54	5.61	13.75	5.51	14.16	5.46	14.17	5.83	14.71	6.35

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 …

Table 2-8.2: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	21.35	2.57	25.78	3.25	29.84	3.93	31.64	4.12	33.25	4.42	35.94	4.54	36.68	4.69
	-10	21.35	2.82	25.78	3.55	29.84	4.15	31.64	4.38	33.25	4.77	35.94	4.93	36.68	5.03
	-5	21.35	3.03	25.78	3.75	29.84	4.53	31.64	4.81	33.25	5.18	35.94	5.30	36.68	5.57
	-2	21.35	3.03	25.78	3.83	29.84	4.55	31.64	4.83	33.25	5.19	35.94	5.45	36.68	5.59
	0	21.35	3.14	25.78	3.84	29.84	4.61	31.64	4.89	33.25	5.18	35.94	5.50	36.68	5.51
	2	21.35	3.22	25.78	3.96	29.84	4.59	31.64	4.96	33.25	5.28	35.94	5.54	36.68	5.66
	4	21.35	3.19	25.78	3.98	29.84	4.68	31.64	4.99	33.25	5.33	35.94	5.58	36.68	5.67
	6	21.35	3.27	25.78	4.00	29.84	4.79	31.64	5.05	33.25	5.33	35.94	5.57	36.68	5.76
	8	21.35	3.27	25.78	4.02	29.84	4.84	31.64	5.10	33.25	5.53	35.94	5.70	36.68	5.87
	10	21.35	3.34	25.78	4.08	29.84	4.93	31.64	5.21	33.25	5.58	35.94	5.71	36.68	5.95
	12	21.35	3.40	25.78	4.20	29.84	5.03	31.64	5.36	33.25	5.70	35.60	5.77	36.17	6.01
	14	21.35	3.46	25.78	4.24	29.84	5.08	31.64	5.43	33.25	5.82	35.08	5.79	35.75	5.97
	16	21.35	3.54	25.78	4.39	29.84	5.22	31.64	5.47	33.25	5.91	34.66	6.00	35.24	6.04
	18	21.35	3.56	25.78	4.47	29.84	5.21	31.64	5.73	33.25	6.17	34.15	6.20	34.81	6.29
	20	21.35	3.66	25.78	4.52	29.84	5.52	31.64	6.05	32.74	6.48	33.72	6.49	34.30	6.52
	21	21.35	3.68	25.78	4.68	29.84	5.85	31.64	6.28	32.57	6.63	33.38	6.75	34.13	6.67
	23	21.35	3.90	25.78	5.04	29.84	6.19	31.64	6.83	32.06	6.95	33.04	6.95	33.62	7.10
	25	21.35	4.18	25.78	5.29	29.84	6.71	31.64	7.16	31.64	7.27	32.53	7.33	33.20	7.43
	27	21.35	4.41	25.78	5.71	29.84	7.01	31.12	7.57	31.13	7.61	32.10	7.61	32.69	7.65
	29	21.35	4.70	25.78	6.06	29.84	7.55	30.69	7.88	30.79	7.88	31.59	7.91	32.26	8.02
	31	21.35	5.04	25.78	6.47	29.84	8.19	30.18	8.31	30.28	8.22	31.17	8.28	31.76	8.24
	33	21.35	5.38	25.78	6.87	29.58	8.42	29.75	8.63	29.86	8.51	30.66	8.61	31.42	8.64
	35	20.65	5.42	24.98	7.06	27.87	7.93	29.24	8.83	29.35	8.75	30.15	8.84	30.91	8.99
	37	20.65	5.86	24.98	7.34	27.43	7.83	28.78	8.41	28.90	8.21	29.81	8.13	30.34	8.51
	39	20.65	6.18	24.98	7.41	26.99	7.76	28.21	7.93	28.45	7.96	29.24	7.63	30.00	8.01
	41	20.65	6.42	24.98	7.54	26.77	7.80	27.98	8.04	28.22	7.97	28.90	7.96	29.10	7.86
	43	20.65	6.63	24.98	7.71	26.55	7.86	27.87	8.04	27.99	8.06	28.67	8.00	28.65	7.80
	46	20.65	6.79	24.98	7.89	26.33	8.01	27.53	8.19	27.77	8.12	28.33	8.01	28.31	7.83
	48	20.65	7.25	24.98	8.29	25.89	8.19	27.07	8.39	27.43	8.34	27.88	8.24	27.97	8.06
	50	18.59	7.08	22.48	7.99	23.30	7.81	24.37	7.96	24.69	7.91	25.09	7.74	25.18	7.56
	52	14.87	6.39	17.99	7.09	18.64	6.81	19.49	6.90	19.75	6.79	20.07	6.66	20.14	6.92
	55	10.41	5.36	12.59	5.74	13.05	5.39	13.65	5.45	13.82	5.31	14.05	5.43	14.10	5.62
100%	-15	18.95	2.33	22.82	2.83	26.50	3.31	28.00	3.55	30.31	3.90	33.95	4.37	35.97	4.57
	-10	18.95	2.49	22.82	3.02	26.50	3.56	28.00	3.80	30.31	4.16	33.95	4.75	35.97	4.97
	-5	18.95	2.68	22.82	3.26	26.50	3.85	28.00	4.12	30.31	4.59	33.95	5.10	35.97	5.34
	-2	18.95	2.69	22.82	3.33	26.50	3.93	28.00	4.19	30.31	4.58	33.95	5.26	35.97	5.48
	0	18.95	2.78	22.82	3.35	26.50	3.92	28.00	4.25	30.31	4.60	33.95	5.24	35.97	5.52
	2	18.95	2.82	22.82	3.43	26.50	3.98	28.00	4.29	30.31	4.62	33.95	5.37	35.97	5.59
	4	18.95	2.83	22.82	3.41	26.50	4.07	28.00	4.36	30.31	4.70	33.95	5.41	35.97	5.62
	6	18.95	2.88	22.82	3.49	26.50	4.14	28.00	4.43	30.31	4.85	33.95	5.56	35.97	5.77
	8	18.95	2.95	22.82	3.55	26.50	4.24	28.00	4.53	30.31	4.92	33.95	5.57	35.97	5.79
	10	18.95	2.97	22.82	3.60	26.50	4.27	28.00	4.59	30.31	4.99	33.95	5.64	35.97	5.93
	12	18.95	2.98	22.82	3.66	26.50	4.30	28.00	4.67	30.31	5.06	33.95	5.73	35.97	5.92
	14	18.95	3.08	22.82	3.71	26.50	4.46	28.00	4.73	30.31	5.17	33.95	5.86	35.97	5.93
	16	18.95	3.11	22.82	3.80	26.50	4.51	28.00	4.86	30.31	5.31	33.95	5.90	35.97	6.05
	18	18.95	3.15	22.82	3.85	26.50	4.61	28.00	4.93	30.31	5.38	33.95	6.07	35.97	6.25
	20	18.95	3.27	22.82	3.99	26.50	4.73	28.00	5.21	30.31	5.74	33.95	6.40	35.97	6.53
	21	18.95	3.23	22.82	4.02	26.50	4.93	28.00	5.41	30.31	6.02	33.95	6.59	35.97	6.62
	23	18.95	3.35	22.82	4.28	26.50	5.26	28.00	5.72	30.31	6.44	33.95	6.84	35.97	6.91
	25	18.95	3.54	22.82	4.54	26.50	5.58	28.00	6.20	30.31	6.79	33.95	7.20	35.97	7.37
	27	18.95	3.86	22.82	4.83	26.50	6.07	28.00	6.58	30.31	7.42	33.95	7.47	35.97	7.60
	29	18.95	4.03	22.82	5.14	26.50	6.37	28.00	7.09	30.31	7.74	33.95	7.88	35.97	7.95
	31	18.95	4.30	22.82	5.51	26.50	6.87	28.00	7.50	30.31	8.00	33.70	8.25	35.56	8.34
	33	18.95	4.55	22.82	5.89	26.50	7.29	28.00	7.83	30.31	8.38	32.86	8.83	34.60	8.85
	35	18.95	4.90	22.82	6.23	26.50	7.81	28.00	7.90	29.26	8.20	31.45	8.58	33.41	8.76
	37	18.95	5.19	22.82	6.64	26.50	7.62	27.44	7.80	28.80	8.05	30.97	8.49	32.91	8.72
	39	18.95	5.46	22.82	6.82	26.50	7.66	27.11	7.63	28.34	7.98	30.49	8.38	32.41	8.72
	41	18.95	5.93	22.82	6.96	26.50	7.79	26.67	7.71	28.11	8.01	30.01	8.31	31.91	8.62
	43	18.95	6.17	22.82	7.13	26.50	7.90	26.22	7.59	27.89	8.07	30.13	8.43	31.40	8.58
	46	18.95	6.33	22.82	7.31	26.50	8.15	25.67	7.70	27.77	8.19	29.89	8.44	30.78	8.51
	48	18.95	6.79	22.82	7.70	26.50	8.45	24.67	7.70	27.66	8.44	28.08	8.31	30.03	8.65
	50	17.05	6.60	20.54	7.38	23.85	8.08	22.20	7.34	24.89	8.05	25.27	7.81	27.03	8.08
	52	13.64	5.93	16.43	6.53	19.08	7.03	17.76	6.34	19.91	6.90	20.22	6.66	21.62	6.97
	55	9.55	4.92	11.50	5.25	13.36	5.50	12.43	4.95	13.94	5.33	14.15	5.08	15.13	5.26

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 2-8.2: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	17.61	2.11	21.04	2.50	24.46	2.95	25.69	3.21	27.79	3.42	30.95	3.90	34.73	4.62
	-10	17.61	2.26	21.04	2.72	24.46	3.17	25.69	3.44	27.79	3.73	30.95	4.32	34.73	4.91
	-5	17.61	2.48	21.04	2.96	24.46	3.46	25.69	3.77	27.79	4.05	30.95	4.56	34.73	5.35
	-2	17.61	2.49	21.04	2.93	24.46	3.52	25.69	3.75	27.79	4.07	30.95	4.69	34.73	5.35
	0	17.61	2.53	21.04	3.03	24.46	3.56	25.69	3.79	27.79	4.09	30.95	4.64	34.73	5.47
	2	17.61	2.54	21.04	3.01	24.46	3.61	25.69	3.92	27.79	4.14	30.95	4.81	34.73	5.48
	4	17.61	2.57	21.04	3.13	24.46	3.66	25.69	3.96	27.79	4.27	30.95	4.86	34.73	5.61
	6	17.61	2.61	21.04	3.13	24.46	3.77	25.69	4.01	27.79	4.30	30.95	4.95	34.73	5.73
	8	17.61	2.68	21.04	3.24	24.46	3.87	25.69	4.04	27.79	4.45	30.95	5.03	34.73	5.78
	10	17.61	2.69	21.04	3.27	24.46	3.91	25.69	4.09	27.79	4.54	30.95	5.03	34.73	5.88
	12	17.61	2.79	21.04	3.35	24.46	3.90	25.69	4.25	27.79	4.60	30.95	5.14	34.73	5.85
	14	17.61	2.82	21.04	3.37	24.46	4.03	25.69	4.23	27.79	4.67	30.95	5.30	34.73	6.03
	16	17.61	2.91	21.04	3.46	24.46	4.12	25.69	4.39	27.79	4.82	30.95	5.37	34.55	6.16
	18	17.61	2.89	21.04	3.58	24.46	4.14	25.69	4.41	27.79	4.80	30.95	5.52	34.20	6.27
	20	17.61	2.95	21.04	3.61	24.46	4.24	25.69	4.52	27.79	5.07	30.95	5.95	33.68	6.57
	21	17.61	2.97	21.04	3.61	24.46	4.34	25.69	4.70	27.79	5.28	30.95	6.23	33.42	6.78
	23	17.61	3.02	21.04	3.76	24.46	4.71	25.69	5.01	27.79	5.56	30.95	6.59	32.90	7.17
	25	17.61	3.21	21.04	4.09	24.46	5.03	25.69	5.35	27.79	6.00	30.95	6.98	32.47	7.44
	27	17.61	3.45	21.04	4.33	24.46	5.37	25.69	5.65	27.79	6.38	30.95	7.45	31.95	7.81
	29	17.61	3.62	21.04	4.63	24.46	5.62	25.69	6.09	27.79	6.78	30.70	7.96	31.60	8.02
	31	17.61	3.90	21.04	4.92	24.46	5.98	25.69	6.50	27.79	7.25	30.18	8.16	31.08	8.29
	33	17.61	4.11	21.04	5.13	24.46	6.35	25.69	7.04	27.79	7.80	29.75	8.54	30.64	8.66
	35	17.61	4.39	21.04	5.57	24.46	6.78	25.69	7.35	27.79	8.18	29.23	8.52	30.12	8.83
	37	17.61	4.83	21.04	5.95	24.46	7.22	25.69	7.53	27.79	8.01	28.66	7.89	29.66	8.31
	39	17.61	5.23	21.04	6.44	24.46	7.26	25.69	7.49	27.79	8.03	28.32	7.88	29.20	8.03
	41	17.61	5.59	21.04	6.57	24.46	7.34	25.69	7.59	27.79	8.07	28.09	7.93	28.97	7.98
	43	17.61	5.84	21.04	6.68	24.46	7.44	25.69	7.59	27.79	8.12	27.98	7.97	28.74	7.97
	46	17.61	6.00	21.04	6.87	24.46	7.63	25.69	7.84	27.79	8.34	27.75	7.98	28.28	7.86
	48	17.61	6.51	21.04	7.28	24.46	7.98	25.69	8.15	27.79	8.55	27.52	8.21	27.58	7.99
	50	15.85	6.40	18.93	7.03	22.01	7.63	23.12	7.78	25.01	8.20	24.77	7.68	24.83	7.39
	52	12.68	5.78	15.15	6.24	17.61	6.65	18.50	6.74	20.01	7.05	19.82	6.58	19.86	6.36
	55	8.87	5.13	10.60	5.10	12.33	5.22	12.95	5.25	14.00	5.44	13.87	5.01	13.90	4.85
80%	-15	15.52	1.82	18.66	2.22	21.43	2.56	23.04	2.77	24.78	2.98	27.26	3.34	30.82	3.87
	-10	15.52	2.01	18.66	2.36	21.43	2.78	23.04	2.95	24.78	3.18	27.26	3.67	30.82	4.29
	-5	15.52	2.16	18.66	2.57	21.43	3.03	23.04	3.17	24.78	3.43	27.26	3.95	30.82	4.61
	-2	15.52	2.16	18.66	2.63	21.43	2.99	23.04	3.24	24.78	3.49	27.26	3.95	30.82	4.66
	0	15.52	2.19	18.66	2.60	21.43	3.05	23.04	3.32	24.78	3.56	27.26	4.01	30.82	4.76
	2	15.52	2.22	18.66	2.67	21.43	3.07	23.04	3.31	24.78	3.62	27.26	4.10	30.82	4.84
	4	15.52	2.31	18.66	2.69	21.43	3.13	23.04	3.39	24.78	3.73	27.26	4.14	30.82	4.82
	6	15.52	2.32	18.66	2.80	21.43	3.25	23.04	3.50	24.78	3.74	27.26	4.22	30.82	4.94
	8	15.52	2.40	18.66	2.80	21.43	3.24	23.04	3.50	24.78	3.90	27.26	4.34	30.82	5.02
	10	15.52	2.38	18.66	2.89	21.43	3.37	23.04	3.68	24.78	3.98	27.26	4.42	30.82	5.02
	12	15.52	2.45	18.66	2.96	21.43	3.43	23.04	3.74	24.78	3.99	27.26	4.42	30.82	5.23
	14	15.52	2.49	18.66	2.97	21.43	3.50	23.04	3.80	24.78	4.13	27.26	4.54	30.82	5.31
	16	15.52	2.50	18.66	3.07	21.43	3.58	23.04	3.80	24.78	4.14	27.26	4.68	30.82	5.34
	18	15.52	2.57	18.66	3.07	21.43	3.63	23.04	3.88	24.78	4.19	27.26	4.72	30.82	5.41
	20	15.52	2.59	18.66	3.22	21.43	3.72	23.04	3.99	24.78	4.32	27.26	4.96	30.82	5.92
	21	15.52	2.65	18.66	3.23	21.43	3.69	23.04	4.02	24.78	4.47	27.26	5.08	30.82	6.05
	23	15.52	2.66	18.66	3.31	21.43	3.87	23.04	4.32	24.78	4.71	27.26	5.43	30.82	6.49
	25	15.52	2.77	18.66	3.49	21.43	4.17	23.04	4.62	24.78	5.11	27.26	5.79	30.82	6.93
	27	15.52	2.97	18.66	3.71	21.43	4.41	23.04	4.97	24.78	5.46	27.26	6.27	30.82	7.46
	29	15.52	3.09	18.66	3.89	21.43	4.74	23.04	5.16	24.78	5.71	27.26	6.73	30.82	7.95
	31	15.52	3.35	18.66	4.23	21.43	5.10	23.04	5.53	24.78	6.11	27.26	7.19	30.30	8.23
	33	15.52	3.53	18.66	4.44	21.43	5.33	23.04	5.92	24.78	6.53	27.26	7.64	29.95	8.31
	35	15.52	3.68	18.66	4.70	21.43	5.77	23.04	6.23	24.78	7.00	27.26	7.77	29.43	8.53
	37	15.52	3.92	18.66	5.00	21.43	6.05	23.04	6.79	24.78	7.32	27.26	7.44	28.97	8.24
	39	15.52	4.24	18.66	5.33	21.43	6.41	23.04	7.11	24.78	7.36	27.26	7.69	28.51	8.03
	41	15.52	5.01	18.66	5.98	21.43	6.57	23.04	6.97	24.78	7.34	27.26	7.84	28.28	7.95
	43	15.52	5.25	18.66	6.04	21.43	6.66	23.04	6.96	24.78	7.33	27.26	7.92	28.16	7.93
	46	15.52	5.40	18.66	6.22	21.43	6.80	23.04	7.15	24.78	7.58	27.26	7.98	27.81	7.78
	48	15.52	5.96	18.66	6.65	21.43	7.15	23.04	7.43	24.78	7.70	27.26	8.20	27.58	8.03
	50	13.97	5.91	16.80	6.47	19.29	6.86	20.74	7.11	22.30	7.43	24.53	7.63	24.82	7.35
	52	11.17	5.39	13.44	5.76	15.43	5.98	16.59	6.17	17.84	6.40	19.62	6.57	19.86	6.31
	55	7.82	4.61	9.41	4.80	10.80	4.72	11.61	4.81	12.49	4.93	13.74	5.00	13.90	4.87

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 2-8.2: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	13.40	1.62	16.08	1.91	18.63	2.15	19.99	2.34	21.41	2.51	23.98	2.83	26.69	3.30
	-10	13.40	1.76	16.08	2.05	18.63	2.33	19.99	2.48	21.41	2.65	23.98	3.08	26.69	3.51
	-5	13.40	1.87	16.08	2.25	18.63	2.49	19.99	2.67	21.41	2.92	23.98	3.29	26.69	3.78
	-2	13.40	1.90	16.08	2.24	18.63	2.53	19.99	2.75	21.41	2.92	23.98	3.38	26.69	3.91
	0	13.40	1.90	16.08	2.29	18.63	2.58	19.99	2.81	21.41	2.99	23.98	3.41	26.69	3.97
	2	13.40	1.94	16.08	2.27	18.63	2.60	19.99	2.84	21.41	3.05	23.98	3.49	26.69	4.02
	4	13.40	1.97	16.08	2.30	18.63	2.71	19.99	2.92	21.41	3.14	23.98	3.54	26.69	4.09
	6	13.40	1.98	16.08	2.40	18.63	2.72	19.99	2.98	21.41	3.21	23.98	3.66	26.69	4.14
	8	13.40	2.03	16.08	2.42	18.63	2.81	19.99	3.02	21.41	3.26	23.98	3.68	26.69	4.26
	10	13.40	2.04	16.08	2.49	18.63	2.92	19.99	3.11	21.41	3.35	23.98	3.77	26.69	4.24
	12	13.40	2.11	16.08	2.50	18.63	2.92	19.99	3.21	21.41	3.38	23.98	3.85	26.69	4.35
	14	13.40	2.17	16.08	2.54	18.63	3.00	19.99	3.24	21.41	3.44	23.98	3.94	26.69	4.49
	16	13.40	2.17	16.08	2.63	18.63	3.07	19.99	3.24	21.41	3.56	23.98	4.06	26.69	4.51
	18	13.40	2.24	16.08	2.66	18.63	3.13	19.99	3.34	21.41	3.57	23.98	4.12	26.69	4.59
	20	13.40	2.27	16.08	2.73	18.63	3.21	19.99	3.38	21.41	3.65	23.98	4.15	26.69	4.76
	21	13.40	2.30	16.08	2.71	18.63	3.21	19.99	3.43	21.41	3.68	23.98	4.23	26.69	4.88
	23	13.40	2.30	16.08	2.81	18.63	3.29	19.99	3.59	21.41	3.94	23.98	4.56	26.69	5.30
	25	13.40	2.39	16.08	2.88	18.63	3.49	19.99	3.85	21.41	4.17	23.98	4.89	26.69	5.68
	27	13.40	2.48	16.08	3.05	18.63	3.71	19.99	4.05	21.41	4.48	23.98	5.18	26.69	5.99
	29	13.40	2.65	16.08	3.28	18.63	4.00	19.99	4.27	21.41	4.75	23.98	5.49	26.69	6.47
	31	13.40	2.77	16.08	3.50	18.63	4.21	19.99	4.60	21.41	4.98	23.98	5.83	26.69	6.69
	33	13.40	3.02	16.08	3.67	18.63	4.50	19.99	4.92	21.41	5.38	23.98	6.28	26.69	6.88
	35	13.40	3.13	16.08	3.85	18.63	4.73	19.99	5.24	21.41	5.77	23.98	6.69	26.69	7.09
	37	13.40	3.29	16.08	4.14	18.63	5.01	19.99	5.48	21.41	6.12	23.98	7.12	26.69	7.49
	39	13.40	3.53	16.08	4.40	18.63	5.33	19.99	5.81	21.41	6.36	23.98	7.37	26.69	7.61
	41	13.40	3.88	16.08	4.54	18.63	5.77	19.99	6.15	21.41	6.47	23.98	7.04	26.69	7.62
	43	13.40	4.61	16.08	5.30	18.63	5.91	19.99	6.20	21.41	6.50	23.98	7.10	26.69	7.64
	46	13.40	4.82	16.08	5.51	18.63	6.06	19.99	6.34	21.41	6.66	23.98	7.18	26.69	7.63
	48	13.40	5.35	16.08	5.94	18.63	6.43	19.99	6.67	21.41	6.90	23.98	7.40	26.69	7.93
	50	12.06	5.27	14.47	5.79	16.77	6.20	17.99	6.40	19.27	6.64	21.58	6.94	24.02	7.33
	52	9.65	4.78	11.58	5.13	13.41	5.40	14.39	5.57	15.42	5.75	17.27	6.00	19.22	6.28
	55	6.75	4.48	8.10	4.23	9.39	4.24	10.08	4.32	10.79	4.42	12.09	4.56	13.45	4.86
60%	-15	11.69	1.41	14.02	1.62	15.96	1.85	17.08	2.00	18.33	2.19	20.60	2.46	22.67	2.74
	-10	11.69	1.53	14.02	1.76	15.96	2.01	17.08	2.14	18.33	2.34	20.60	2.66	22.67	2.98
	-5	11.69	1.64	14.02	1.89	15.96	2.19	17.08	2.29	18.33	2.54	20.60	2.86	22.67	3.21
	-2	11.69	1.64	14.02	1.94	15.96	2.21	17.08	2.33	18.33	2.54	20.60	2.86	22.67	3.29
	0	11.69	1.69	14.02	1.98	15.96	2.26	17.08	2.39	18.33	2.59	20.60	2.92	22.67	3.32
	2	11.69	1.72	14.02	1.99	15.96	2.29	17.08	2.42	18.33	2.66	20.60	3.01	22.67	3.28
	4	11.69	1.74	14.02	2.04	15.96	2.32	17.08	2.48	18.33	2.71	20.60	3.00	22.67	3.44
	6	11.69	1.75	14.02	2.09	15.96	2.40	17.08	2.52	18.33	2.70	20.60	3.14	22.67	3.50
	8	11.69	1.81	14.02	2.09	15.96	2.42	17.08	2.58	18.33	2.82	20.60	3.17	22.67	3.53
	10	11.69	1.84	14.02	2.17	15.96	2.48	17.08	2.62	18.33	2.86	20.60	3.20	22.67	3.52
	12	11.69	1.86	14.02	2.17	15.96	2.53	17.08	2.65	18.33	2.85	20.60	3.27	22.67	3.63
	14	11.69	1.88	14.02	2.24	15.96	2.56	17.08	2.72	18.33	2.97	20.60	3.37	22.67	3.72
	16	11.69	1.95	14.02	2.28	15.96	2.55	17.08	2.75	18.33	3.00	20.60	3.38	22.67	3.82
	18	11.69	1.94	14.02	2.31	15.96	2.64	17.08	2.85	18.33	3.04	20.60	3.43	22.67	3.81
	20	11.69	2.02	14.02	2.34	15.96	2.65	17.08	2.89	18.33	3.13	20.60	3.55	22.67	3.98
	21	11.69	1.99	14.02	2.35	15.96	2.69	17.08	2.95	18.33	3.16	20.60	3.54	22.67	3.99
	23	11.69	2.06	14.02	2.43	15.96	2.74	17.08	2.97	18.33	3.17	20.60	3.74	22.67	4.15
	25	11.69	2.05	14.02	2.43	15.96	2.89	17.08	3.07	18.33	3.35	20.60	3.96	22.67	4.44
	27	11.69	2.15	14.02	2.61	15.96	3.04	17.08	3.34	18.33	3.58	20.60	4.25	22.67	4.83
	29	11.69	2.26	14.02	2.77	15.96	3.29	17.08	3.54	18.33	3.83	20.60	4.47	22.67	5.19
	31	11.69	2.44	14.02	2.93	15.96	3.41	17.08	3.77	18.33	4.08	20.60	4.79	22.67	5.41
	33	11.69	2.58	14.02	3.14	15.96	3.69	17.08	3.95	18.33	4.38	20.60	5.01	22.67	5.87
	35	11.69	2.71	14.02	3.26	15.96	3.84	17.08	4.25	18.33	4.65	20.60	5.46	22.67	6.13
	37	11.69	2.87	14.02	3.54	15.96	4.09	17.08	4.55	18.33	4.93	20.60	5.75	22.67	6.57
	39	11.69	2.98	14.02	3.71	15.96	4.35	17.08	4.76	18.33	5.19	20.60	6.05	22.67	7.02
	41	11.69	3.34	14.02	3.85	15.96	4.50	17.08	5.36	18.33	5.82	20.60	6.18	22.67	6.60
	43	11.69	4.11	14.02	4.71	15.96	4.74	17.08	5.45	18.33	5.73	20.60	6.23	22.67	6.61
	46	11.69	4.37	14.02	4.96	15.96	5.34	17.08	5.56	18.33	5.82	20.60	6.31	22.67	6.65
	48	11.69	4.87	14.02	5.40	15.96	5.73	17.08	5.93	18.33	6.14	20.60	6.55	22.67	6.88
	50	10.52	4.77	12.62	5.27	14.37	5.55	15.37	5.72	16.50	5.92	18.54	6.19	20.40	6.45
	52	8.41	4.29	10.10	4.63	11.49	4.83	12.30	4.97	13.20	5.15	14.83	5.37	16.32	5.51
	55	5.89	3.87	7.07	3.78	8.05	3.76	8.61	3.84	9.24	3.94	10.38	4.09	11.43	4.28

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 2-8.2: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	9.68	1.20	11.47	1.39	13.58	1.65	14.28	1.67	15.14	1.78	17.18	2.03	19.17	2.22
	-10	9.68	1.30	11.47	1.49	13.58	1.73	14.28	1.81	15.14	1.93	17.18	2.17	19.17	2.36
	-5	9.68	1.39	11.47	1.63	13.58	1.91	14.28	1.95	15.14	2.05	17.18	2.34	19.17	2.54
	-2	9.68	1.41	11.47	1.64	13.58	1.90	14.28	1.96	15.14	2.08	17.18	2.36	19.17	2.58
	0	9.68	1.44	11.47	1.68	13.58	1.94	14.28	1.99	15.14	2.10	17.18	2.45	19.17	2.66
	2	9.68	1.48	11.47	1.70	13.58	1.96	14.28	2.02	15.14	2.16	17.18	2.48	19.17	2.66
	4	9.68	1.49	11.47	1.74	13.58	2.01	14.28	2.04	15.14	2.19	17.18	2.50	19.17	2.78
	6	9.68	1.49	11.47	1.76	13.58	2.04	14.28	2.11	15.14	2.22	17.18	2.52	19.17	2.87
	8	9.68	1.53	11.47	1.79	13.58	2.06	14.28	2.18	15.14	2.30	17.18	2.61	19.17	2.95
	10	9.68	1.58	11.47	1.80	13.58	2.12	14.28	2.17	15.14	2.35	17.18	2.66	19.17	2.97
	12	9.68	1.59	11.47	1.86	13.58	2.15	14.28	2.24	15.14	2.41	17.18	2.70	19.17	3.02
	14	9.68	1.63	11.47	1.86	13.58	2.17	14.28	2.29	15.14	2.43	17.18	2.76	19.17	3.03
	16	9.68	1.63	11.47	1.88	13.58	2.19	14.28	2.29	15.14	2.45	17.18	2.84	19.17	3.09
	18	9.68	1.66	11.47	1.94	13.58	2.23	14.28	2.33	15.14	2.51	17.18	2.83	19.17	3.19
	20	9.68	1.67	11.47	1.92	13.58	2.27	14.28	2.40	15.14	2.54	17.18	2.91	19.17	3.26
	21	9.68	1.70	11.47	1.95	13.58	2.26	14.28	2.42	15.14	2.59	17.18	2.92	19.17	3.28
	23	9.68	1.71	11.47	2.02	13.58	2.34	14.28	2.42	15.14	2.60	17.18	3.00	19.17	3.34
	25	9.68	1.75	11.47	2.04	13.58	2.39	14.28	2.53	15.14	2.69	17.18	3.12	19.17	3.55
	27	9.68	1.75	11.47	2.10	13.58	2.50	14.28	2.68	15.14	2.83	17.18	3.32	19.17	3.81
	29	9.68	1.88	11.47	2.23	13.58	2.68	14.28	2.85	15.14	3.05	17.18	3.55	19.17	4.07
	31	9.68	1.98	11.47	2.36	13.58	2.83	14.28	3.02	15.14	3.29	17.18	3.78	19.17	4.33
	33	9.68	2.07	11.47	2.46	13.58	2.97	14.28	3.17	15.14	3.47	17.18	4.03	19.17	4.54
	35	9.68	2.22	11.47	2.63	13.58	3.13	14.28	3.38	15.14	3.65	17.18	4.27	19.17	4.82
	37	9.68	2.34	11.47	2.81	13.58	3.36	14.28	3.57	15.14	3.87	17.18	4.51	19.17	5.12
	39	9.68	2.47	11.47	2.95	13.58	3.54	14.28	3.81	15.14	4.12	17.18	4.78	19.17	5.43
	41	9.68	2.55	11.47	3.08	13.58	3.66	14.28	3.90	15.14	4.25	17.18	5.07	19.17	5.77
	43	9.68	2.71	11.47	3.26	13.58	3.83	14.28	4.13	15.14	4.35	17.18	5.34	19.17	5.70
	46	9.68	3.17	11.47	3.37	13.58	4.36	14.28	4.79	15.14	4.92	17.18	5.41	19.17	5.78
	48	9.68	4.23	11.47	4.65	13.58	5.10	14.28	5.18	15.14	5.31	17.18	5.66	19.17	5.98
	50	8.71	4.11	10.33	4.52	12.22	4.97	12.85	5.03	13.63	5.14	15.46	5.40	17.26	5.68
	52	6.97	3.66	8.26	3.94	9.78	4.30	10.28	4.37	10.90	4.48	12.37	4.71	13.81	4.85
	55	4.88	3.17	5.78	3.18	6.84	3.33	7.20	3.35	7.63	3.42	8.66	3.58	9.66	3.77

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

Table 2-8.3: 12HP cooling capacity

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130%	-15	30.24	3.80	36.39	4.61	42.19	4.94	43.25	5.16	46.01	5.35	47.05	5.76	47.65	5.80
	-10	30.24	4.09	36.39	5.02	42.19	5.45	43.25	5.47	46.01	5.82	47.05	6.30	47.65	6.16
	-5	30.24	4.44	36.39	5.47	42.19	5.84	43.25	6.01	46.01	6.17	47.05	6.74	47.65	6.64
	-2	30.24	4.46	36.39	5.52	42.19	5.78	43.25	6.05	46.01	6.26	47.05	6.93	47.65	6.74
	0	30.24	4.52	36.39	5.59	42.19	5.95	43.25	6.26	46.01	6.59	47.05	6.92	47.65	6.81
	2	30.24	4.54	36.39	5.67	42.19	6.31	43.25	6.62	46.01	6.66	47.05	6.96	47.65	6.90
	4	30.24	4.64	36.39	5.67	42.19	6.41	43.25	6.76	46.01	6.77	47.05	7.03	47.65	7.09
	6	30.24	4.80	36.39	5.89	42.19	6.58	43.25	6.68	45.49	7.01	46.53	7.18	47.14	7.08
	8	30.24	4.85	36.39	5.93	42.19	7.02	43.25	7.05	44.87	7.13	46.01	7.16	46.52	7.23
	10	30.24	4.93	36.39	6.07	42.19	7.22	43.25	7.27	44.35	7.33	45.49	7.34	46.01	7.38
	12	30.24	5.02	36.39	6.22	42.19	7.37	43.14	7.47	44.21	7.38	44.87	7.49	45.40	7.58
	14	30.24	5.14	36.39	6.41	41.35	7.61	42.56	7.48	44.19	7.57	44.35	7.61	44.89	7.65
	16	30.24	5.25	36.39	6.53	41.16	7.56	42.44	7.61	43.88	7.72	43.73	7.73	44.27	7.69
	18	30.24	5.30	36.39	6.58	40.89	7.80	42.55	7.79	43.72	7.91	43.21	7.95	43.76	7.86
	20	30.24	5.42	36.39	7.03	40.97	8.04	42.20	8.15	43.69	8.29	42.58	8.32	43.14	8.30
	21	30.24	5.53	36.39	7.22	40.77	8.37	42.24	8.19	43.70	8.42	42.38	8.56	42.94	8.54
	23	30.24	6.01	36.39	7.85	40.69	8.60	42.10	8.59	43.50	8.68	41.75	8.80	42.32	8.79
	25	30.24	6.41	36.39	8.43	40.36	9.04	41.99	9.05	43.36	9.10	41.23	9.30	41.81	9.34
	27	30.24	6.80	36.39	8.95	40.50	9.45	41.69	9.41	42.86	9.56	40.61	9.80	41.20	9.73
	29	30.24	7.38	36.39	9.43	39.86	9.74	40.98	9.70	42.20	9.93	40.09	10.23	40.68	10.00
	31	30.24	7.80	36.39	10.00	38.90	10.67	39.94	10.68	41.02	10.69	39.47	10.48	40.07	10.47
	33	30.24	8.25	35.29	10.43	37.73	10.69	38.78	10.74	39.79	10.75	39.05	11.00	39.45	10.86
	35	28.96	8.38	32.99	9.71	35.51	10.15	37.01	10.44	38.35	10.64	38.43	11.16	38.94	11.35
	37	28.96	8.80	32.47	9.64	34.97	10.08	36.46	10.38	37.78	10.61	37.88	11.62	38.40	11.65
	39	28.96	8.96	31.95	9.57	34.43	10.05	35.90	10.33	37.21	10.58	37.32	10.83	37.85	10.96
	41	28.96	9.13	31.56	9.61	34.02	10.02	35.62	10.40	36.78	10.49	36.91	10.34	36.35	10.06
	43	28.96	9.29	31.30	9.69	33.88	10.16	35.34	10.41	36.50	10.67	36.22	10.33	35.95	9.96
	46	28.96	9.47	31.17	9.85	33.48	10.24	35.07	10.55	35.93	10.60	35.25	10.23	35.27	10.00
	48	28.96	10.08	31.04	10.23	32.93	10.54	34.51	10.84	35.51	11.03	34.42	10.42	34.45	10.17
	50	26.07	9.90	27.94	9.97	29.64	9.99	31.06	10.21	31.96	10.32	30.98	9.76	31.00	9.62
	52	20.85	9.01	22.35	8.92	23.71	8.75	24.85	8.88	25.56	8.90	24.78	8.54	24.80	8.78
	55	14.60	7.70	15.65	7.31	16.60	7.07	17.39	7.16	17.89	7.11	17.35	7.76	17.36	8.08
120%	-15	28.14	3.63	33.16	4.35	38.61	5.20	40.80	5.63	42.85	5.89	43.78	6.03	45.53	6.32
	-10	28.14	4.01	33.16	4.79	38.61	5.60	40.80	6.10	42.85	6.30	43.78	6.52	45.53	6.88
	-5	28.14	4.31	33.16	5.17	38.61	6.04	40.80	6.52	42.85	6.84	43.78	7.02	45.53	7.44
	-2	28.14	4.35	33.16	5.12	38.61	6.08	40.80	6.54	42.85	6.96	43.78	7.03	45.53	7.41
	0	28.14	4.31	33.16	5.25	38.61	6.25	40.80	6.55	42.85	7.04	43.78	7.06	45.53	7.36
	2	28.14	4.36	33.16	5.22	38.61	6.21	40.80	6.70	42.85	7.10	43.78	7.15	45.53	7.38
	4	28.14	4.44	33.16	5.28	38.61	6.31	40.80	6.69	42.85	7.11	43.78	7.23	45.53	7.37
	6	28.14	4.48	33.16	5.33	38.61	6.42	40.80	6.75	42.85	7.22	43.78	7.33	45.53	7.44
	8	28.14	4.49	33.16	5.50	38.61	6.44	40.80	6.88	42.85	7.26	43.78	7.22	45.53	7.43
	10	28.14	4.51	33.16	5.57	38.61	6.54	40.80	6.95	42.85	7.32	43.78	7.34	45.53	7.58
	12	28.14	4.58	33.16	5.57	38.61	6.68	40.80	7.14	42.24	7.37	43.17	7.29	44.91	7.63
	14	28.14	4.72	33.16	5.74	38.61	6.81	40.80	7.24	41.63	7.40	42.67	7.48	44.49	7.79
	16	28.14	4.83	33.16	5.88	38.61	6.87	40.59	7.39	41.12	7.39	42.06	7.57	43.87	7.90
	18	28.14	4.94	33.16	5.98	38.61	7.17	39.99	7.51	40.51	7.55	41.45	7.64	43.35	8.01
	20	28.14	5.06	33.16	6.25	38.61	7.64	39.48	7.88	40.10	8.13	40.94	7.98	42.73	8.19
	21	28.14	5.12	33.16	6.42	38.61	7.94	39.07	8.17	39.70	8.28	40.74	8.23	42.42	8.56
	23	28.14	5.35	33.16	6.95	38.61	8.64	38.56	8.45	39.19	8.47	40.13	8.54	41.80	8.94
	25	28.14	5.72	33.16	7.35	38.52	9.56	37.96	8.85	38.58	9.08	39.62	8.96	41.39	9.36
	27	28.14	6.19	33.16	7.85	38.67	9.70	37.55	9.34	38.07	9.42	39.01	9.36	40.77	9.68
	29	28.14	6.64	33.16	8.37	38.28	10.09	36.94	9.49	37.56	9.63	38.40	9.73	40.25	9.91
	31	28.14	7.09	33.16	8.86	37.60	10.42	36.43	10.00	37.05	10.16	37.89	10.19	39.63	10.54
	33	28.14	7.36	32.96	9.47	36.51	10.47	35.82	10.50	36.44	10.40	37.28	10.58	39.01	10.78
	35	26.81	7.52	31.44	9.19	34.43	9.94	35.22	10.67	35.93	10.93	36.88	10.88	38.49	11.03
	37	26.81	7.99	31.44	9.40	34.03	9.88	34.68	9.95	35.39	10.01	36.20	10.32	37.80	10.65
	39	26.81	8.26	31.31	9.45	33.36	9.79	34.14	9.83	34.85	9.96	35.80	10.00	37.39	10.19
	41	26.81	8.50	31.05	9.53	33.09	9.82	33.87	9.94	34.57	9.94	35.52	10.00	36.29	10.05
	43	26.81	8.71	30.92	9.68	32.82	9.91	33.60	9.92	34.30	10.08	34.85	9.96	35.74	9.94
	46	26.81	8.90	30.79	9.85	32.55	10.05	33.19	10.06	33.90	10.08	34.17	9.92	35.33	10.02
	48	26.81	9.49	30.53	10.22	32.15	10.36	32.65	10.32	33.62	10.47	33.63	10.19	34.92	10.32
	50	24.13	9.29	27.48	9.91	28.94	9.84	29.39	9.76	30.26	9.86	30.27	9.56	31.42	9.72
	52	19.30	8.42	21.99	8.83	23.15	8.61	23.51	8.46	24.21	8.48	24.22	8.30	25.14	8.77
	55	13.51	7.13	15.39	7.19	16.20	6.89	16.46	6.76	16.95	6.71	16.95	7.16	17.60	7.80

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 …

Table 2-8.3: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	25.54	3.15	30.85	4.00	35.70	4.82	37.85	5.06	39.78	5.43	42.99	5.57	43.89	5.76
	-10	25.54	3.46	30.85	4.36	35.70	5.10	37.85	5.38	39.78	5.85	42.99	6.05	43.89	6.17
	-5	25.54	3.73	30.85	4.61	35.70	5.56	37.85	5.91	39.78	6.36	42.99	6.50	43.89	6.83
	-2	25.54	3.72	30.85	4.70	35.70	5.59	37.85	5.93	39.78	6.37	42.99	6.69	43.89	6.86
	0	25.54	3.86	30.85	4.71	35.70	5.66	37.85	6.00	39.78	6.36	42.99	6.76	43.89	6.76
	2	25.54	3.95	30.85	4.86	35.70	5.64	37.85	6.09	39.78	6.49	42.99	6.80	43.89	6.95
	4	25.54	3.91	30.85	4.89	35.70	5.74	37.85	6.12	39.78	6.55	42.99	6.85	43.89	6.96
	6	25.54	4.01	30.85	4.91	35.70	5.88	37.85	6.20	39.78	6.54	42.99	6.84	43.89	7.08
	8	25.54	4.02	30.85	4.94	35.70	5.94	37.85	6.27	39.78	6.79	42.99	7.00	43.89	7.20
	10	25.54	4.10	30.85	5.01	35.70	6.06	37.85	6.40	39.78	6.86	42.99	7.01	43.89	7.30
	12	25.54	4.17	30.85	5.16	35.70	6.18	37.85	6.58	39.78	7.00	42.59	7.08	43.28	7.38
	14	25.54	4.25	30.85	5.20	35.70	6.24	37.85	6.66	39.78	7.14	41.98	7.11	42.77	7.33
	16	25.54	4.35	30.85	5.39	35.70	6.41	37.85	6.71	39.78	7.26	41.47	7.37	42.16	7.42
	18	25.54	4.37	30.85	5.49	35.70	6.40	37.85	7.04	39.78	7.57	40.86	7.62	41.65	7.72
	20	25.54	4.49	30.85	5.55	35.70	6.77	37.85	7.43	39.17	7.96	40.35	7.96	41.04	8.01
	21	25.54	4.52	30.85	5.74	35.70	7.18	37.85	7.71	38.97	8.14	39.94	8.28	40.84	8.19
	23	25.54	4.79	30.85	6.19	35.70	7.60	37.85	8.39	38.36	8.53	39.53	8.53	40.23	8.72
	25	25.54	5.13	30.85	6.50	35.70	8.23	37.85	8.79	37.85	8.93	38.92	9.00	39.72	9.12
	27	25.54	5.41	30.85	7.01	35.70	8.61	37.24	9.29	37.25	9.34	38.41	9.34	39.11	9.39
	29	25.54	5.77	30.85	7.44	35.70	9.26	36.72	9.68	36.84	9.68	37.80	9.71	38.60	9.85
	31	25.54	6.19	30.85	7.95	35.70	10.05	36.11	10.21	36.23	10.09	37.29	10.17	37.99	10.11
	33	25.54	6.60	30.85	8.43	35.39	10.34	35.59	10.60	35.72	10.45	36.68	10.57	37.59	10.61
	35	24.71	6.66	29.89	8.67	33.35	9.73	34.98	10.84	35.11	10.74	36.07	10.86	36.98	11.03
	37	24.71	7.20	29.89	9.01	32.82	9.61	34.43	10.33	34.57	10.08	35.66	9.98	36.30	10.45
	39	24.71	7.59	29.89	9.09	32.29	9.53	33.75	9.73	34.03	9.78	34.98	9.37	35.90	9.83
	41	24.71	7.88	29.89	9.26	32.03	9.58	33.48	9.88	33.76	9.79	34.58	9.78	34.82	9.65
	43	24.71	8.14	29.89	9.46	31.77	9.65	33.35	9.88	33.49	9.89	34.30	9.82	34.28	9.57
	46	24.71	8.33	29.89	9.69	31.50	9.83	32.94	10.06	33.22	9.97	33.90	9.83	33.87	9.61
	48	24.71	8.91	29.89	10.17	30.98	10.06	32.39	10.31	32.82	10.24	33.35	10.12	33.47	9.89
	50	22.24	8.69	26.90	9.81	27.88	9.58	29.15	9.78	29.54	9.71	30.02	9.50	30.12	9.28
	52	17.79	7.84	21.52	8.71	22.30	8.36	23.32	8.47	23.63	8.34	24.02	8.18	24.10	8.50
	55	12.45	6.58	15.06	7.05	15.61	6.62	16.33	6.69	16.54	6.52	16.81	6.66	16.87	6.91
100%	-15	22.67	2.86	27.30	3.47	31.70	4.07	33.50	4.36	36.27	4.79	40.62	5.37	43.03	5.61
	-10	22.67	3.06	27.30	3.71	31.70	4.38	33.50	4.67	36.27	5.10	40.62	5.83	43.03	6.10
	-5	22.67	3.30	27.30	4.00	31.70	4.73	33.50	5.06	36.27	5.64	40.62	6.26	43.03	6.56
	-2	22.67	3.31	27.30	4.09	31.70	4.83	33.50	5.15	36.27	5.62	40.62	6.45	43.03	6.73
	0	22.67	3.41	27.30	4.11	31.70	4.82	33.50	5.22	36.27	5.65	40.62	6.44	43.03	6.78
	2	22.67	3.46	27.30	4.21	31.70	4.89	33.50	5.27	36.27	5.68	40.62	6.60	43.03	6.87
	4	22.67	3.47	27.30	4.18	31.70	5.00	33.50	5.35	36.27	5.77	40.62	6.64	43.03	6.91
	6	22.67	3.53	27.30	4.29	31.70	5.08	33.50	5.44	36.27	5.95	40.62	6.83	43.03	7.08
	8	22.67	3.63	27.30	4.36	31.70	5.20	33.50	5.56	36.27	6.05	40.62	6.84	43.03	7.11
	10	22.67	3.65	27.30	4.42	31.70	5.25	33.50	5.63	36.27	6.13	40.62	6.93	43.03	7.28
	12	22.67	3.66	27.30	4.50	31.70	5.28	33.50	5.74	36.27	6.22	40.62	7.04	43.03	7.27
	14	22.67	3.78	27.30	4.56	31.70	5.48	33.50	5.81	36.27	6.35	40.62	7.20	43.03	7.28
	16	22.67	3.82	27.30	4.66	31.70	5.54	33.50	5.97	36.27	6.52	40.62	7.25	43.03	7.43
	18	22.67	3.87	27.30	4.72	31.70	5.67	33.50	6.05	36.27	6.61	40.62	7.45	43.03	7.68
	20	22.67	4.01	27.30	4.90	31.70	5.81	33.50	6.39	36.27	7.04	40.62	7.85	43.03	8.02
	21	22.67	3.97	27.30	4.94	31.70	6.05	33.50	6.65	36.27	7.40	40.62	8.09	43.03	8.13
	23	22.67	4.12	27.30	5.26	31.70	6.45	33.50	7.02	36.27	7.90	40.62	8.40	43.03	8.48
	25	22.67	4.34	27.30	5.57	31.70	6.85	33.50	7.61	36.27	8.34	40.62	8.84	43.03	9.05
	27	22.67	4.74	27.30	5.93	31.70	7.46	33.50	8.08	36.27	9.11	40.62	9.17	43.03	9.33
	29	22.67	4.95	27.30	6.31	31.70	7.82	33.50	8.71	36.27	9.50	40.62	9.67	43.03	9.77
	31	22.67	5.28	27.30	6.76	31.70	8.44	33.50	9.21	36.27	9.83	40.32	10.13	42.54	10.24
	33	22.67	5.58	27.30	7.23	31.70	8.95	33.50	9.61	36.27	10.29	39.31	10.84	41.40	10.87
	35	22.67	6.02	27.30	7.64	31.70	9.59	33.50	9.70	35.01	10.07	37.63	10.54	39.97	10.76
	37	22.67	6.37	27.30	8.16	31.70	9.36	32.84	9.58	34.46	9.88	37.06	10.42	39.37	10.71
	39	22.67	6.71	27.30	8.38	31.70	9.40	32.44	9.36	33.91	9.80	36.48	10.29	38.77	10.70
	41	22.67	7.28	27.30	8.54	31.70	9.56	31.90	9.47	33.64	9.84	35.90	10.21	38.17	10.59
	43	22.67	7.58	27.30	8.75	31.70	9.70	31.37	9.32	33.36	9.91	36.05	10.35	37.57	10.54
	46	22.67	7.78	27.30	8.98	31.70	10.00	30.71	9.45	33.23	10.06	35.76	10.36	36.83	10.45
	48	22.67	8.33	27.30	9.46	31.70	10.38	29.51	9.46	33.09	10.36	33.60	10.21	35.93	10.63
	50	20.40	8.10	24.57	9.06	28.53	9.92	26.56	9.01	29.78	9.88	30.24	9.59	32.33	9.92
	52	16.32	7.28	19.66	8.01	22.83	8.63	21.25	7.79	23.82	8.48	24.19	8.18	25.87	8.55
	55	11.42	6.04	13.76	6.45	15.98	6.76	14.87	6.08	16.68	6.55	16.93	6.24	18.11	6.46

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 2-8.3: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	21.06	2.59	25.17	3.07	29.26	3.63	30.74	3.94	33.25	4.20	37.03	4.79	41.55	5.67
	-10	21.06	2.78	25.17	3.35	29.26	3.89	30.74	4.22	33.25	4.59	37.03	5.30	41.55	6.03
	-5	21.06	3.05	25.17	3.64	29.26	4.24	30.74	4.62	33.25	4.98	37.03	5.60	41.55	6.57
	-2	21.06	3.06	25.17	3.60	29.26	4.32	30.74	4.60	33.25	4.99	37.03	5.76	41.55	6.57
	0	21.06	3.11	25.17	3.72	29.26	4.37	30.74	4.65	33.25	5.02	37.03	5.70	41.55	6.72
	2	21.06	3.12	25.17	3.70	29.26	4.44	30.74	4.81	33.25	5.08	37.03	5.90	41.55	6.73
	4	21.06	3.16	25.17	3.85	29.26	4.49	30.74	4.87	33.25	5.24	37.03	5.97	41.55	6.89
	6	21.06	3.21	25.17	3.85	29.26	4.63	30.74	4.92	33.25	5.28	37.03	6.08	41.55	7.03
	8	21.06	3.29	25.17	3.97	29.26	4.75	30.74	4.96	33.25	5.46	37.03	6.18	41.55	7.10
	10	21.06	3.30	25.17	4.01	29.26	4.80	30.74	5.03	33.25	5.58	37.03	6.17	41.55	7.21
	12	21.06	3.42	25.17	4.11	29.26	4.79	30.74	5.22	33.25	5.65	37.03	6.31	41.55	7.18
	14	21.06	3.46	25.17	4.14	29.26	4.95	30.74	5.19	33.25	5.74	37.03	6.51	41.55	7.41
	16	21.06	3.57	25.17	4.25	29.26	5.06	30.74	5.39	33.25	5.92	37.03	6.59	41.34	7.56
	18	21.06	3.55	25.17	4.40	29.26	5.08	30.74	5.42	33.25	5.89	37.03	6.77	40.92	7.70
	20	21.06	3.62	25.17	4.43	29.26	5.20	30.74	5.55	33.25	6.22	37.03	7.31	40.30	8.06
	21	21.06	3.65	25.17	4.43	29.26	5.33	30.74	5.77	33.25	6.48	37.03	7.65	39.99	8.33
	23	21.06	3.70	25.17	4.62	29.26	5.79	30.74	6.15	33.25	6.82	37.03	8.09	39.36	8.80
	25	21.06	3.94	25.17	5.03	29.26	6.18	30.74	6.57	33.25	7.36	37.03	8.57	38.85	9.14
	27	21.06	4.24	25.17	5.32	29.26	6.60	30.74	6.93	33.25	7.84	37.03	9.14	38.22	9.59
	29	21.06	4.44	25.17	5.69	29.26	6.90	30.74	7.47	33.25	8.33	36.73	9.77	37.81	9.85
	31	21.06	4.79	25.17	6.04	29.26	7.35	30.74	7.98	33.25	8.90	36.11	10.02	37.18	10.18
	33	21.06	5.05	25.17	6.30	29.26	7.80	30.74	8.64	33.25	9.58	35.59	10.48	36.66	10.63
	35	21.06	5.39	25.17	6.83	29.26	8.32	30.74	9.02	33.25	10.05	34.98	10.46	36.04	10.84
	37	21.06	5.94	25.17	7.31	29.26	8.86	30.74	9.24	33.25	9.83	34.29	9.69	35.49	10.20
	39	21.06	6.42	25.17	7.90	29.26	8.92	30.74	9.19	33.25	9.86	33.88	9.68	34.94	9.87
	41	21.06	6.87	25.17	8.07	29.26	9.01	30.74	9.32	33.25	9.91	33.61	9.73	34.66	9.80
	43	21.06	7.17	25.17	8.21	29.26	9.13	30.74	9.32	33.25	9.97	33.47	9.79	34.38	9.78
	46	21.06	7.36	25.17	8.44	29.26	9.37	30.74	9.62	33.25	10.24	33.20	9.80	33.83	9.65
	48	21.06	8.00	25.17	8.94	29.26	9.79	30.74	10.00	33.25	10.50	32.93	10.08	33.00	9.81
	50	18.96	7.85	22.65	8.63	26.34	9.36	27.66	9.55	29.92	10.07	29.63	9.43	29.70	9.07
	52	15.17	7.10	18.12	7.66	21.07	8.16	22.13	8.27	23.94	8.66	23.71	8.07	23.76	7.81
	55	10.62	6.29	12.68	6.26	14.75	6.41	15.49	6.45	16.76	6.68	16.60	6.16	16.63	5.96
80%	-15	18.57	2.23	22.33	2.72	25.64	3.15	27.57	3.41	29.65	3.66	32.61	4.11	36.87	4.76
	-10	18.57	2.47	22.33	2.90	25.64	3.41	27.57	3.63	29.65	3.90	32.61	4.51	36.87	5.27
	-5	18.57	2.65	22.33	3.16	25.64	3.72	27.57	3.89	29.65	4.21	32.61	4.85	36.87	5.66
	-2	18.57	2.65	22.33	3.22	25.64	3.68	27.57	3.97	29.65	4.28	32.61	4.85	36.87	5.72
	0	18.57	2.69	22.33	3.20	25.64	3.75	27.57	4.08	29.65	4.37	32.61	4.92	36.87	5.84
	2	18.57	2.73	22.33	3.27	25.64	3.76	27.57	4.06	29.65	4.44	32.61	5.03	36.87	5.95
	4	18.57	2.84	22.33	3.31	25.64	3.85	27.57	4.16	29.65	4.58	32.61	5.09	36.87	5.92
	6	18.57	2.85	22.33	3.44	25.64	3.99	27.57	4.30	29.65	4.59	32.61	5.19	36.87	6.06
	8	18.57	2.94	22.33	3.44	25.64	3.98	27.57	4.30	29.65	4.78	32.61	5.33	36.87	6.17
	10	18.57	2.92	22.33	3.54	25.64	4.14	27.57	4.52	29.65	4.88	32.61	5.43	36.87	6.16
	12	18.57	3.00	22.33	3.63	25.64	4.21	27.57	4.59	29.65	4.90	32.61	5.42	36.87	6.42
	14	18.57	3.06	22.33	3.65	25.64	4.29	27.57	4.66	29.65	5.08	32.61	5.58	36.87	6.52
	16	18.57	3.07	22.33	3.77	25.64	4.40	27.57	4.67	29.65	5.08	32.61	5.75	36.87	6.56
	18	18.57	3.16	22.33	3.77	25.64	4.46	27.57	4.76	29.65	5.15	32.61	5.79	36.87	6.64
	20	18.57	3.19	22.33	3.95	25.64	4.57	27.57	4.89	29.65	5.31	32.61	6.09	36.87	7.26
	21	18.57	3.25	22.33	3.97	25.64	4.53	27.57	4.94	29.65	5.48	32.61	6.24	36.87	7.43
	23	18.57	3.27	22.33	4.07	25.64	4.75	27.57	5.31	29.65	5.78	32.61	6.67	36.87	7.96
	25	18.57	3.40	22.33	4.28	25.64	5.12	27.57	5.67	29.65	6.28	32.61	7.11	36.87	8.51
	27	18.57	3.64	22.33	4.56	25.64	5.42	27.57	6.10	29.65	6.71	32.61	7.70	36.87	9.16
	29	18.57	3.80	22.33	4.77	25.64	5.82	27.57	6.34	29.65	7.01	32.61	8.27	36.87	9.76
	31	18.57	4.11	22.33	5.19	25.64	6.26	27.57	6.79	29.65	7.51	32.61	8.83	36.25	10.10
	33	18.57	4.34	22.33	5.45	25.64	6.55	27.57	7.27	29.65	8.02	32.61	9.38	35.83	10.20
	35	18.57	4.52	22.33	5.77	25.64	7.08	27.57	7.65	29.65	8.60	32.61	9.54	35.21	10.47
	37	18.57	4.81	22.33	6.14	25.64	7.43	27.57	8.33	29.65	8.98	32.61	9.13	34.66	10.12
	39	18.57	5.21	22.33	6.55	25.64	7.87	27.57	8.73	29.65	9.04	32.61	9.44	34.11	9.87
	41	18.57	6.15	22.33	7.35	25.64	8.07	27.57	8.55	29.65	9.01	32.61	9.63	33.83	9.76
	43	18.57	6.45	22.33	7.42	25.64	8.17	27.57	8.55	29.65	9.00	32.61	9.73	33.69	9.74
	46	18.57	6.63	22.33	7.64	25.64	8.35	27.57	8.79	29.65	9.30	32.61	9.80	33.28	9.56
	48	18.57	7.32	22.33	8.16	25.64	8.79	27.57	9.12	29.65	9.46	32.61	10.06	33.00	9.86
	50	16.71	7.25	20.10	7.94	23.08	8.42	24.81	8.73	26.68	9.12	29.35	9.37	29.70	9.02
	52	13.37	6.62	16.08	7.07	18.46	7.34	19.85	7.58	21.35	7.86	23.48	8.06	23.76	7.75
	55	9.36	5.66	11.25	5.89	12.92	5.79	13.90	5.90	14.94	6.06	16.43	6.14	16.63	5.98

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 …

Table 2-8.3: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	16.03	1.99	19.24	2.34	22.29	2.64	23.92	2.88	25.62	3.08	28.69	3.47	31.93	4.06
	-10	16.03	2.16	19.24	2.52	22.29	2.86	23.92	3.04	25.62	3.25	28.69	3.78	31.93	4.30
	-5	16.03	2.29	19.24	2.76	22.29	3.06	23.92	3.28	25.62	3.58	28.69	4.04	31.93	4.64
	-2	16.03	2.33	19.24	2.75	22.29	3.11	23.92	3.37	25.62	3.59	28.69	4.15	31.93	4.80
	0	16.03	2.34	19.24	2.81	22.29	3.17	23.92	3.45	25.62	3.67	28.69	4.19	31.93	4.87
	2	16.03	2.38	19.24	2.78	22.29	3.19	23.92	3.49	25.62	3.74	28.69	4.28	31.93	4.94
	4	16.03	2.41	19.24	2.82	22.29	3.33	23.92	3.58	25.62	3.86	28.69	4.35	31.93	5.02
	6	16.03	2.43	19.24	2.95	22.29	3.34	23.92	3.66	25.62	3.94	28.69	4.50	31.93	5.09
	8	16.03	2.49	19.24	2.97	22.29	3.45	23.92	3.70	25.62	4.00	28.69	4.52	31.93	5.23
	10	16.03	2.51	19.24	3.06	22.29	3.59	23.92	3.81	25.62	4.11	28.69	4.63	31.93	5.20
	12	16.03	2.59	19.24	3.07	22.29	3.59	23.92	3.94	25.62	4.15	28.69	4.73	31.93	5.34
	14	16.03	2.66	19.24	3.11	22.29	3.68	23.92	3.97	25.62	4.23	28.69	4.84	31.93	5.51
	16	16.03	2.66	19.24	3.22	22.29	3.77	23.92	3.98	25.62	4.37	28.69	4.99	31.93	5.54
	18	16.03	2.75	19.24	3.27	22.29	3.84	23.92	4.10	25.62	4.38	28.69	5.06	31.93	5.64
	20	16.03	2.79	19.24	3.35	22.29	3.94	23.92	4.15	25.62	4.48	28.69	5.10	31.93	5.84
	21	16.03	2.82	19.24	3.33	22.29	3.94	23.92	4.21	25.62	4.52	28.69	5.20	31.93	5.99
	23	16.03	2.82	19.24	3.46	22.29	4.03	23.92	4.41	25.62	4.83	28.69	5.60	31.93	6.51
	25	16.03	2.93	19.24	3.54	22.29	4.29	23.92	4.73	25.62	5.13	28.69	6.01	31.93	6.98
	27	16.03	3.04	19.24	3.75	22.29	4.55	23.92	4.97	25.62	5.50	28.69	6.36	31.93	7.36
	29	16.03	3.25	19.24	4.03	22.29	4.91	23.92	5.24	25.62	5.83	28.69	6.74	31.93	7.94
	31	16.03	3.40	19.24	4.30	22.29	5.17	23.92	5.64	25.62	6.12	28.69	7.16	31.93	8.21
	33	16.03	3.71	19.24	4.50	22.29	5.52	23.92	6.05	25.62	6.61	28.69	7.71	31.93	8.45
	35	16.03	3.84	19.24	4.73	22.29	5.80	23.92	6.43	25.62	7.09	28.69	8.22	31.93	8.71
	37	16.03	4.03	19.24	5.09	22.29	6.16	23.92	6.72	25.62	7.51	28.69	8.74	31.93	9.20
	39	16.03	4.33	19.24	5.41	22.29	6.55	23.92	7.14	25.62	7.81	28.69	9.05	31.93	9.35
	41	16.03	4.76	19.24	5.58	22.29	7.08	23.92	7.55	25.62	7.95	28.69	8.64	31.93	9.36
	43	16.03	5.66	19.24	6.50	22.29	7.25	23.92	7.61	25.62	7.98	28.69	8.72	31.93	9.38
	46	16.03	5.92	19.24	6.77	22.29	7.44	23.92	7.79	25.62	8.18	28.69	8.81	31.93	9.37
	48	16.03	6.57	19.24	7.29	22.29	7.90	23.92	8.19	25.62	8.47	28.69	9.09	31.93	9.73
	50	14.43	6.48	17.31	7.11	20.06	7.61	21.53	7.86	23.06	8.16	25.82	8.52	28.74	9.00
	52	11.55	5.87	13.85	6.30	16.05	6.63	17.22	6.84	18.45	7.06	20.66	7.36	22.99	7.71
	55	8.08	5.50	9.70	5.19	11.23	5.20	12.06	5.30	12.91	5.43	14.46	5.61	16.09	5.97
60%	-15	13.98	1.74	16.78	1.99	19.10	2.28	20.44	2.45	21.93	2.68	24.64	3.02	27.12	3.36
	-10	13.98	1.88	16.78	2.17	19.10	2.47	20.44	2.63	21.93	2.88	24.64	3.27	27.12	3.66
	-5	13.98	2.01	16.78	2.32	19.10	2.69	20.44	2.82	21.93	3.12	24.64	3.51	27.12	3.94
	-2	13.98	2.01	16.78	2.38	19.10	2.71	20.44	2.86	21.93	3.12	24.64	3.51	27.12	4.03
	0	13.98	2.08	16.78	2.43	19.10	2.78	20.44	2.93	21.93	3.18	24.64	3.59	27.12	4.08
	2	13.98	2.11	16.78	2.44	19.10	2.81	20.44	2.97	21.93	3.27	24.64	3.69	27.12	4.03
	4	13.98	2.14	16.78	2.51	19.10	2.85	20.44	3.05	21.93	3.32	24.64	3.68	27.12	4.22
	6	13.98	2.15	16.78	2.56	19.10	2.94	20.44	3.10	21.93	3.32	24.64	3.86	27.12	4.30
	8	13.98	2.22	16.78	2.57	19.10	2.97	20.44	3.17	21.93	3.46	24.64	3.89	27.12	4.34
	10	13.98	2.26	16.78	2.66	19.10	3.04	20.44	3.21	21.93	3.51	24.64	3.93	27.12	4.32
	12	13.98	2.28	16.78	2.67	19.10	3.11	20.44	3.26	21.93	3.50	24.64	4.01	27.12	4.46
	14	13.98	2.31	16.78	2.76	19.10	3.14	20.44	3.34	21.93	3.65	24.64	4.14	27.12	4.57
	16	13.98	2.39	16.78	2.80	19.10	3.14	20.44	3.38	21.93	3.68	24.64	4.15	27.12	4.68
	18	13.98	2.38	16.78	2.83	19.10	3.24	20.44	3.50	21.93	3.73	24.64	4.21	27.12	4.68
	20	13.98	2.48	16.78	2.87	19.10	3.25	20.44	3.55	21.93	3.84	24.64	4.36	27.12	4.88
	21	13.98	2.44	16.78	2.89	19.10	3.30	20.44	3.62	21.93	3.88	24.64	4.35	27.12	4.90
	23	13.98	2.53	16.78	2.99	19.10	3.37	20.44	3.65	21.93	3.89	24.64	4.59	27.12	5.10
	25	13.98	2.52	16.78	2.98	19.10	3.55	20.44	3.77	21.93	4.11	24.64	4.86	27.12	5.45
	27	13.98	2.64	16.78	3.21	19.10	3.73	20.44	4.10	21.93	4.40	24.64	5.22	27.12	5.93
	29	13.98	2.78	16.78	3.40	19.10	4.04	20.44	4.34	21.93	4.70	24.64	5.49	27.12	6.38
	31	13.98	3.00	16.78	3.59	19.10	4.19	20.44	4.63	21.93	5.01	24.64	5.89	27.12	6.65
	33	13.98	3.16	16.78	3.85	19.10	4.54	20.44	4.85	21.93	5.38	24.64	6.15	27.12	7.20
	35	13.98	3.33	16.78	4.01	19.10	4.71	20.44	5.21	21.93	5.71	24.64	6.70	27.12	7.53
	37	13.98	3.53	16.78	4.35	19.10	5.03	20.44	5.59	21.93	6.05	24.64	7.06	27.12	8.07
	39	13.98	3.66	16.78	4.56	19.10	5.34	20.44	5.85	21.93	6.37	24.64	7.43	27.12	8.62
	41	13.98	4.10	16.78	4.73	19.10	5.53	20.44	6.58	21.93	7.14	24.64	7.59	27.12	8.10
	43	13.98	5.04	16.78	5.79	19.10	5.82	20.44	6.70	21.93	7.03	24.64	7.65	27.12	8.11
	46	13.98	5.36	16.78	6.10	19.10	6.55	20.44	6.83	21.93	7.14	24.64	7.75	27.12	8.16
	48	13.98	5.98	16.78	6.63	19.10	7.04	20.44	7.28	21.93	7.54	24.64	8.05	27.12	8.45
	50	12.58	5.86	15.10	6.47	17.19	6.82	18.39	7.02	19.74	7.27	22.18	7.60	24.41	7.91
	52	10.07	5.27	12.08	5.69	13.75	5.93	14.72	6.11	15.79	6.32	17.74	6.60	19.53	6.77
	55	7.05	4.75	8.46	4.65	9.63	4.62	10.30	4.71	11.05	4.84	12.42	5.02	13.67	5.26

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 2-8.3: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	11.58	1.48	13.73	1.71	16.24	2.02	17.08	2.05	18.12	2.19	20.56	2.49	22.94	2.72
	-10	11.58	1.59	13.73	1.83	16.24	2.13	17.08	2.22	18.12	2.37	20.56	2.67	22.94	2.90
	-5	11.58	1.71	13.73	2.00	16.24	2.35	17.08	2.39	18.12	2.52	20.56	2.87	22.94	3.12
	-2	11.58	1.73	13.73	2.01	16.24	2.33	17.08	2.40	18.12	2.56	20.56	2.90	22.94	3.16
	0	11.58	1.77	13.73	2.06	16.24	2.38	17.08	2.44	18.12	2.58	20.56	3.00	22.94	3.26
	2	11.58	1.81	13.73	2.09	16.24	2.41	17.08	2.48	18.12	2.65	20.56	3.05	22.94	3.27
	4	11.58	1.83	13.73	2.14	16.24	2.47	17.08	2.50	18.12	2.69	20.56	3.07	22.94	3.42
	6	11.58	1.82	13.73	2.16	16.24	2.51	17.08	2.59	18.12	2.73	20.56	3.09	22.94	3.52
	8	11.58	1.88	13.73	2.20	16.24	2.53	17.08	2.68	18.12	2.82	20.56	3.20	22.94	3.62
	10	11.58	1.95	13.73	2.21	16.24	2.60	17.08	2.66	18.12	2.89	20.56	3.27	22.94	3.65
	12	11.58	1.95	13.73	2.28	16.24	2.64	17.08	2.75	18.12	2.96	20.56	3.31	22.94	3.71
	14	11.58	2.00	13.73	2.28	16.24	2.67	17.08	2.81	18.12	2.98	20.56	3.38	22.94	3.72
	16	11.58	2.00	13.73	2.31	16.24	2.69	17.08	2.81	18.12	3.00	20.56	3.48	22.94	3.80
	18	11.58	2.04	13.73	2.38	16.24	2.74	17.08	2.87	18.12	3.08	20.56	3.48	22.94	3.92
	20	11.58	2.05	13.73	2.36	16.24	2.79	17.08	2.95	18.12	3.12	20.56	3.57	22.94	4.01
	21	11.58	2.08	13.73	2.39	16.24	2.78	17.08	2.97	18.12	3.17	20.56	3.59	22.94	4.02
	23	11.58	2.10	13.73	2.48	16.24	2.87	17.08	2.98	18.12	3.19	20.56	3.68	22.94	4.11
	25	11.58	2.15	13.73	2.51	16.24	2.94	17.08	3.11	18.12	3.30	20.56	3.83	22.94	4.36
	27	11.58	2.15	13.73	2.57	16.24	3.07	17.08	3.29	18.12	3.47	20.56	4.08	22.94	4.68
	29	11.58	2.30	13.73	2.74	16.24	3.29	17.08	3.49	18.12	3.75	20.56	4.36	22.94	5.00
	31	11.58	2.43	13.73	2.89	16.24	3.47	17.08	3.70	18.12	4.03	20.56	4.64	22.94	5.32
	33	11.58	2.54	13.73	3.02	16.24	3.65	17.08	3.89	18.12	4.27	20.56	4.95	22.94	5.58
	35	11.58	2.73	13.73	3.22	16.24	3.84	17.08	4.15	18.12	4.48	20.56	5.24	22.94	5.91
	37	11.58	2.87	13.73	3.45	16.24	4.13	17.08	4.39	18.12	4.75	20.56	5.53	22.94	6.29
	39	11.58	3.03	13.73	3.62	16.24	4.35	17.08	4.67	18.12	5.05	20.56	5.87	22.94	6.67
	41	11.58	3.13	13.73	3.78	16.24	4.49	17.08	4.79	18.12	5.22	20.56	6.23	22.94	7.09
	43	11.58	3.32	13.73	4.01	16.24	4.70	17.08	5.07	18.12	5.34	20.56	6.55	22.94	7.00
	46	11.58	3.89	13.73	4.13	16.24	5.36	17.08	5.88	18.12	6.04	20.56	6.65	22.94	7.10
	48	11.58	5.19	13.73	5.71	16.24	6.26	17.08	6.36	18.12	6.52	20.56	6.95	22.94	7.34
	50	10.42	5.05	12.35	5.55	14.62	6.10	15.37	6.18	16.31	6.31	18.50	6.63	20.65	6.97
	52	8.34	4.50	9.88	4.84	11.70	5.29	12.30	5.37	13.04	5.50	14.80	5.78	16.52	5.95
	55	5.84	3.89	6.92	3.90	8.19	4.09	8.61	4.11	9.13	4.20	10.36	4.40	11.56	4.63

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

Table 2-8.4: 14HP cooling capacity

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130%	-15	36.69	4.93	43.16	6.01	50.71	6.49	52.56	6.80	55.26	6.90	55.32	7.49	57.96	7.65
	-10	36.69	5.42	43.16	6.45	50.71	7.00	52.56	7.24	55.26	7.50	55.32	8.06	57.96	8.20
	-5	36.69	5.72	43.16	7.09	50.71	7.64	52.56	7.82	55.26	8.12	55.32	8.57	57.96	8.80
	-2	36.69	5.86	43.16	7.11	50.71	7.57	52.56	7.98	55.26	8.16	55.32	8.67	57.96	8.90
	0	36.69	5.96	43.16	7.28	50.71	7.81	52.56	8.40	55.26	8.67	55.32	8.96	57.96	9.14
	2	36.69	5.94	43.16	7.34	50.71	8.15	52.56	8.89	55.26	8.77	55.32	8.91	57.96	9.17
	4	36.69	6.12	43.16	7.38	50.71	8.45	52.56	8.74	55.26	8.72	55.32	9.04	57.96	9.42
	6	36.69	6.32	43.16	7.55	50.71	8.70	52.56	9.01	54.61	9.03	54.68	9.14	57.40	9.52
	8	36.69	6.33	43.16	7.82	50.71	9.07	52.56	9.33	53.96	9.32	54.05	9.18	56.65	9.66
	10	36.69	6.63	43.16	7.88	50.71	9.64	52.56	9.77	53.31	9.63	53.41	9.34	56.00	9.76
	12	36.69	6.70	43.16	8.07	50.71	9.66	51.82	10.00	52.66	9.73	52.69	9.42	55.26	9.87
	14	36.69	6.71	43.16	8.28	50.62	9.88	51.26	9.87	51.92	9.94	52.14	9.75	54.61	10.03
	16	36.69	6.98	43.16	8.41	49.97	9.96	50.52	10.26	51.18	10.01	51.41	9.73	53.87	10.45
	18	36.69	6.97	43.16	8.59	49.22	10.02	49.78	10.33	50.62	10.24	50.78	10.20	53.39	10.04
	20	35.99	7.17	41.82	9.03	48.48	10.60	49.13	10.82	49.87	10.68	50.18	10.63	53.18	10.20
	21	35.88	7.46	41.45	9.31	48.20	10.76	48.85	10.79	49.60	11.10	50.20	10.95	53.01	10.26
	23	35.94	7.96	41.55	10.10	47.65	11.51	48.11	11.25	48.85	11.63	49.93	11.43	52.91	10.46
	25	36.07	8.46	41.30	10.39	46.90	11.72	47.37	12.05	48.20	12.18	50.17	11.70	52.68	10.79
	27	36.03	9.05	41.37	10.55	46.25	12.45	46.81	12.32	47.46	12.52	49.47	12.52	51.82	11.27
	29	36.13	9.59	41.23	10.80	45.51	13.02	46.07	12.91	46.90	13.15	48.77	13.28	51.05	11.77
	31	36.30	9.91	40.75	11.17	44.77	13.39	45.42	13.46	46.16	13.56	47.91	13.61	50.31	12.30
	33	36.06	10.38	40.12	11.62	43.35	12.71	44.68	13.92	44.80	13.19	47.13	13.24	49.48	12.82
	35	35.97	11.10	39.39	12.07	41.74	12.37	44.13	14.37	43.99	12.90	46.41	12.99	48.70	13.36
	37	35.97	11.81	38.77	12.37	41.11	12.91	43.46	13.43	43.34	12.89	45.74	13.02	48.02	13.98
	39	35.97	11.91	38.15	12.40	40.47	12.85	42.80	13.45	42.69	13.37	45.07	13.37	47.34	14.54
	41	35.97	12.17	37.68	12.44	39.99	12.92	42.47	13.48	42.20	13.17	44.57	12.89	45.47	13.86
	43	35.97	12.25	37.37	12.53	39.83	13.03	42.13	13.60	41.88	13.40	43.74	13.20	44.96	13.87
	46	35.97	12.76	37.22	12.77	39.35	13.03	41.80	13.57	41.22	13.40	42.57	12.93	44.10	13.84
	48	35.97	13.52	37.06	13.39	38.72	13.45	41.14	14.08	40.73	13.75	41.57	13.15	43.08	13.49
	50	32.37	12.80	33.36	12.65	34.85	12.64	37.03	13.20	36.66	12.78	37.41	12.39	38.77	14.02
	52	25.90	11.07	26.69	10.80	27.88	11.55	29.62	12.01	29.33	11.80	29.93	11.88	31.02	12.09
	55	18.13	8.83	18.68	8.63	19.51	10.00	20.73	11.23	20.53	11.08	20.95	11.50	21.71	11.59
120%	-15	32.54	4.34	38.84	5.42	44.64	6.40	48.63	7.26	49.39	7.28	51.61	7.38	53.15	7.69
	-10	32.54	4.78	38.84	5.99	44.64	7.07	48.63	7.84	49.39	7.94	51.61	7.92	53.15	8.19
	-5	32.54	5.19	38.84	6.35	44.64	7.46	48.63	8.55	49.39	8.56	51.61	8.66	53.15	8.77
	-2	32.54	5.30	38.84	6.53	44.64	7.61	48.63	8.52	49.39	8.50	51.61	8.61	53.15	9.02
	0	32.54	5.32	38.84	6.50	44.64	7.61	48.63	8.56	49.39	8.56	51.61	8.74	53.15	9.03
	2	32.54	5.40	38.84	6.55	44.64	7.85	48.63	8.71	49.39	8.70	51.61	8.81	53.15	9.20
	4	32.54	5.57	38.84	6.66	44.64	7.86	48.63	8.66	49.39	8.74	51.61	9.04	53.15	9.10
	6	32.54	5.54	38.84	6.67	44.64	8.01	48.63	8.70	49.39	9.00	51.61	9.04	53.15	9.33
	8	32.54	5.65	38.84	6.74	44.64	8.13	48.63	9.02	49.39	9.10	51.61	9.09	53.15	9.40
	10	32.54	5.67	38.84	6.89	44.64	8.06	48.63	9.20	49.39	9.23	51.61	9.25	53.15	9.64
	12	32.54	5.75	38.84	7.14	44.64	8.31	48.63	9.40	49.39	9.34	51.06	9.43	52.42	9.72
	14	32.54	5.90	38.84	7.24	44.64	8.43	48.63	9.48	49.39	9.62	50.33	9.49	51.87	9.80
	16	32.54	5.93	38.84	7.33	44.64	8.69	48.36	9.73	49.39	9.74	49.69	9.46	51.73	10.11
	18	32.54	6.10	38.84	7.46	44.64	8.92	47.64	9.83	49.39	10.18	48.97	10.03	52.08	10.09
	20	32.54	6.25	38.84	7.70	44.64	9.21	47.01	10.17	48.64	10.65	49.03	10.44	51.84	10.22
	21	32.54	6.23	38.84	7.77	44.64	9.61	46.56	10.66	48.36	10.94	48.88	10.82	51.56	10.21
	23	32.54	6.54	38.84	8.44	44.64	10.37	46.02	11.02	47.61	11.53	48.85	11.31	51.71	10.38
	25	32.54	7.02	38.84	9.00	44.64	11.08	45.30	11.54	46.95	12.03	48.67	11.75	51.48	10.71
	27	32.54	7.59	38.84	9.55	44.64	11.84	44.76	11.95	46.20	12.51	48.62	12.14	50.68	11.18
	29	32.54	8.05	38.84	10.22	44.64	12.52	44.04	12.56	45.64	13.08	47.87	12.55	49.78	11.68
	31	32.54	8.43	38.84	10.84	42.51	12.97	43.41	13.12	44.89	13.34	46.67	13.39	49.49	12.15
	33	32.54	8.94	38.84	11.64	41.61	12.63	42.69	13.50	43.59	12.73	46.27	13.81	48.60	12.71
	35	32.54	9.54	38.84	12.47	40.60	12.27	41.77	13.28	43.01	12.49	45.21	14.19	47.79	13.24
	37	32.54	10.33	38.84	12.45	40.13	12.64	41.13	12.83	42.36	12.97	44.38	13.32	46.93	13.78
	39	32.54	10.92	36.83	12.05	39.34	12.52	40.49	12.76	41.71	13.07	43.89	13.94	46.42	14.24
	41	32.54	11.02	36.53	12.12	39.02	12.66	40.17	12.84	41.39	13.01	43.56	13.01	45.05	13.76
	43	32.54	11.18	36.38	12.29	38.71	12.80	39.85	12.89	41.06	13.08	42.73	13.42	44.37	13.73
	46	32.54	11.59	36.23	12.64	38.39	12.87	39.37	12.83	40.58	13.33	41.90	13.40	43.86	13.69
	48	32.54	12.41	35.92	13.06	37.92	13.27	38.73	13.37	40.25	13.70	41.24	13.22	43.35	13.73
	50	27.89	11.16	32.33	12.34	34.12	12.51	34.86	12.64	36.23	12.64	37.11	12.73	39.01	13.72
	52	22.31	9.61	25.86	10.49	27.30	10.68	27.89	11.13	28.98	11.52	29.69	11.64	31.21	12.32
	55	15.62	7.68	18.10	8.36	19.11	9.29	19.52	9.70	20.29	10.40	20.78	10.97	21.85	11.60

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 2-8.4: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	29.83	6.66	35.95	8.43	42.30	9.41	44.80	6.31	48.21	6.83	51.75	7.54	52.25	9.15
	-10	29.83	7.50	35.95	8.14	42.30	9.54	44.80	6.85	48.21	7.48	51.75	8.20	52.12	9.61
	-5	29.83	6.42	35.95	8.45	42.30	9.66	44.80	7.37	48.21	7.98	51.75	8.64	51.13	9.86
	-2	29.83	7.31	35.95	8.13	42.30	9.55	44.80	7.52	48.21	8.08	51.75	8.73	51.24	9.59
	0	29.83	6.74	35.95	8.42	42.30	9.97	44.80	7.63	48.21	8.20	51.75	9.09	51.56	9.31
	2	29.83	7.09	35.95	8.43	42.30	9.89	44.80	7.73	48.21	8.34	51.75	9.14	51.09	9.85
	4	29.83	7.29	35.95	8.61	42.30	9.68	44.80	7.94	48.21	8.39	51.75	9.11	51.29	9.60
	6	29.83	7.18	35.95	8.36	42.30	10.14	44.80	8.00	48.21	8.44	51.75	9.47	51.13	9.96
	8	29.83	7.26	35.95	8.92	42.30	9.90	44.80	8.16	48.21	8.62	51.75	9.47	51.05	9.99
	10	29.83	7.34	35.95	8.73	42.30	10.40	44.80	8.17	48.21	8.87	51.75	9.71	51.25	9.79
	12	29.83	6.61	35.95	8.83	42.30	10.17	44.80	8.27	48.21	8.93	51.73	10.06	50.57	10.11
	14	29.83	7.14	35.95	8.68	42.30	10.23	44.80	8.53	48.21	9.09	50.90	10.21	50.86	9.89
	16	29.83	7.11	35.95	8.99	42.30	10.09	44.80	8.67	48.21	9.34	50.39	10.05	50.34	10.09
	18	29.83	6.47	35.95	8.05	42.30	10.51	44.80	8.88	48.21	9.58	49.66	10.30	50.51	10.23
	20	29.83	6.68	35.95	8.44	42.30	10.38	44.80	9.25	47.35	10.06	49.04	10.57	50.67	10.30
	21	29.83	6.70	35.95	8.62	42.30	10.40	44.80	9.62	47.05	10.20	48.62	10.90	50.18	10.30
	23	29.83	6.83	35.95	8.80	42.30	10.51	44.80	10.37	46.49	10.90	48.00	11.18	50.34	10.35
	25	29.83	6.63	35.95	8.50	42.30	10.48	44.80	11.00	46.19	11.54	47.28	11.69	50.18	10.57
	27	29.83	6.80	35.95	8.85	42.30	10.74	44.16	11.60	45.20	12.29	46.65	11.92	49.82	10.97
	29	29.83	7.19	35.95	9.29	42.30	10.99	43.55	12.23	44.71	12.90	45.93	12.46	49.04	11.55
	31	29.83	7.58	35.95	9.73	42.30	11.56	42.83	12.75	43.29	12.95	45.82	13.06	48.33	12.08
	33	29.83	7.99	35.95	10.16	41.83	12.14	42.22	13.65	43.04	13.07	44.95	13.40	47.38	12.56
	35	29.83	8.58	35.95	10.73	41.08	12.53	41.51	14.35	42.28	12.91	44.49	14.10	46.63	13.09
	37	29.83	9.15	35.95	11.40	40.43	12.87	40.86	12.76	41.63	12.89	43.99	13.22	45.78	13.48
	39	29.83	9.50	35.95	11.77	39.78	12.89	40.05	12.69	40.98	12.82	43.16	13.40	45.27	13.82
	41	29.83	10.04	35.95	11.98	39.45	12.89	39.73	12.82	40.65	12.78	42.65	13.22	43.91	13.55
	43	29.83	10.39	35.95	12.42	39.13	12.95	39.57	12.84	40.33	12.95	42.32	13.30	43.23	13.33
	46	29.83	10.90	35.95	12.72	38.80	13.22	39.09	12.89	40.00	13.16	41.82	13.44	42.72	13.33
	48	29.83	11.44	35.95	13.21	38.15	13.44	38.44	13.33	39.51	13.49	41.15	13.55	42.21	13.47
	50	26.84	10.74	32.34	12.43	34.34	12.68	34.60	12.55	35.56	12.64	37.03	12.65	37.99	13.08
	52	21.47	9.27	25.87	10.59	27.47	10.76	27.68	10.81	28.45	10.99	29.63	11.44	30.39	12.05
	55	15.03	7.32	18.11	8.22	19.23	8.48	19.37	9.48	19.91	9.77	20.74	10.68	21.27	11.35
100%	-15	27.53	3.70	32.56	4.51	37.76	5.30	40.00	5.63	43.04	6.10	48.82	7.11	51.08	7.41
	-10	27.53	4.03	32.56	4.82	37.76	5.63	40.00	6.12	43.04	6.68	48.82	7.73	51.08	7.88
	-5	27.53	4.31	32.56	5.23	37.76	6.11	40.00	6.58	43.04	7.12	48.82	8.15	51.08	8.46
	-2	27.53	4.37	32.56	5.31	37.76	6.27	40.00	6.72	43.04	7.22	48.82	8.24	51.08	8.46
	0	27.53	4.45	32.56	5.24	37.76	6.29	40.00	6.82	43.04	7.33	48.82	8.57	51.08	8.69
	2	27.53	4.58	32.56	5.45	37.76	6.43	40.00	6.90	43.04	7.45	48.82	8.62	51.08	8.79
	4	27.53	4.51	32.56	5.49	37.76	6.38	40.00	7.09	43.04	7.49	48.82	8.60	51.08	8.91
	6	27.53	4.67	32.56	5.51	37.76	6.63	40.00	7.14	43.04	7.54	48.82	8.93	51.08	8.95
	8	27.53	4.70	32.56	5.69	37.76	6.75	40.00	7.29	43.04	7.69	48.82	8.93	51.08	9.21
	10	27.53	4.84	32.56	5.71	37.76	6.84	40.00	7.29	43.04	7.92	48.82	9.16	51.08	9.35
	12	27.53	4.80	32.56	5.82	37.76	6.82	40.00	7.39	43.04	7.98	48.82	9.38	50.36	9.42
	14	27.53	5.02	32.56	5.95	37.76	7.08	40.00	7.61	43.04	8.12	48.82	9.58	49.74	9.61
	16	27.53	5.03	32.56	6.07	37.76	7.17	40.00	7.74	43.04	8.34	48.55	9.59	49.31	9.66
	18	27.53	5.15	32.56	6.23	37.76	7.42	40.00	7.93	43.04	8.55	48.01	9.87	49.08	10.29
	20	27.53	5.21	32.56	6.31	37.76	7.59	40.00	8.26	43.04	9.14	47.28	10.27	49.09	10.27
	21	27.53	5.28	32.56	6.42	37.76	7.85	40.00	8.59	43.04	9.33	47.01	10.65	49.08	10.27
	23	27.53	5.38	32.56	6.73	37.76	8.41	40.00	9.26	43.04	10.09	46.37	11.09	48.98	10.32
	25	27.53	5.85	32.56	7.25	37.76	8.85	40.00	9.82	43.04	10.76	45.93	11.19	48.96	10.51
	27	27.53	6.23	32.56	7.69	37.76	9.60	40.00	10.51	43.04	11.22	46.25	11.28	48.63	10.88
	29	27.53	6.58	32.56	8.17	37.76	10.12	40.00	11.24	42.97	11.53	45.51	11.44	47.95	11.37
	31	27.53	6.96	32.56	8.84	37.76	11.02	40.00	11.90	42.38	11.71	44.75	11.62	47.32	11.88
	33	27.53	7.40	32.56	9.48	37.76	11.75	40.00	13.05	41.68	11.81	44.15	12.10	46.53	12.38
	35	27.53	7.84	32.56	9.86	37.76	12.46	40.00	12.10	41.09	12.28	43.48	12.59	45.87	12.90
	37	27.53	8.45	32.56	10.52	37.76	12.14	39.21	11.92	40.45	12.66	42.81	12.97	45.18	13.45
	39	27.53	8.95	32.56	11.15	37.76	12.20	38.73	12.32	39.80	12.51	42.15	12.97	44.50	13.49
	41	27.53	9.30	32.56	10.88	37.76	12.28	38.10	12.32	39.48	12.58	41.48	12.91	43.81	13.46
	43	27.53	9.69	32.56	11.29	37.76	12.57	37.46	12.23	39.16	12.59	41.65	13.10	43.12	13.30
	46	27.53	10.16	32.56	11.60	37.76	12.94	36.67	12.30	39.00	12.87	41.31	13.25	42.26	13.16
	48	27.53	10.69	32.56	12.14	37.76	13.50	35.24	12.40	38.83	13.38	38.82	13.04	41.23	13.22
	50	24.78	10.04	29.31	11.34	33.98	12.69	31.71	11.64	34.95	12.52	34.93	11.82	37.11	12.46
	52	19.82	8.59	23.45	9.62	27.19	10.64	25.37	9.72	27.96	10.53	27.95	10.69	29.69	11.91
	55	13.88	6.82	16.41	7.41	19.03	8.72	17.76	8.22	19.57	9.06	19.56	9.41	20.78	11.08

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 2-8.4: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	25.10	5.88	31.90	7.28	37.01	8.32	37.15	5.17	39.19	5.51	44.87	6.47	49.87	7.23
	-10	25.10	6.13	31.90	7.11	37.01	8.72	37.15	5.52	39.19	5.84	44.87	6.94	49.87	7.96
	-5	25.10	5.34	31.90	7.28	37.01	8.68	37.15	6.05	39.19	6.39	44.87	7.54	49.87	8.51
	-2	25.10	6.10	31.90	7.12	37.01	8.69	37.15	6.00	39.19	6.40	44.87	7.60	49.87	8.58
	0	25.10	5.68	31.90	7.72	37.01	8.79	37.15	6.24	39.19	6.49	44.87	7.64	49.87	8.80
	2	25.10	5.89	31.90	7.39	37.01	8.81	37.15	6.26	39.19	6.53	44.87	7.71	49.87	8.91
	4	25.10	6.03	31.90	7.68	37.01	8.68	37.15	6.27	39.19	6.59	44.87	7.97	49.87	8.96
	6	25.10	5.91	31.90	7.49	37.01	9.13	37.15	6.45	39.19	6.80	44.87	7.97	49.87	9.06
	8	25.10	5.87	31.90	7.87	37.01	8.85	37.15	6.62	39.19	7.02	44.87	8.20	49.87	9.10
	10	25.10	5.92	31.90	7.77	37.01	9.30	37.15	6.73	39.19	7.07	44.87	8.24	49.47	9.39
	12	25.10	5.18	31.90	7.60	37.01	9.13	37.15	6.80	39.19	7.16	44.87	8.37	48.69	10.09
	14	25.10	5.75	31.90	7.45	37.01	9.07	37.15	6.85	39.19	7.44	44.87	8.48	48.42	10.06
	16	25.10	5.65	31.90	7.86	37.01	9.12	37.15	7.11	39.19	7.55	44.87	8.61	48.19	10.11
	18	25.10	5.19	31.90	6.78	37.01	9.12	37.15	7.19	39.19	7.60	44.87	8.95	47.98	10.26
	20	25.10	5.25	31.90	7.04	37.01	9.08	37.15	7.30	39.19	7.90	44.87	9.51	47.94	10.24
	21	25.10	5.21	31.90	7.27	37.01	9.14	37.15	7.63	39.19	8.14	44.87	9.96	47.89	10.24
	23	25.10	5.19	31.90	7.45	37.01	9.31	37.15	8.16	39.19	8.82	44.87	10.51	47.83	10.31
	25	25.10	5.23	31.90	7.14	37.01	9.13	37.15	8.77	39.19	9.29	44.87	10.67	47.78	10.50
	27	25.10	5.30	31.90	7.44	37.01	9.42	37.15	9.28	39.19	10.14	44.87	10.90	47.47	10.83
	29	25.10	5.55	31.90	7.90	37.01	9.62	37.15	9.83	39.19	10.75	44.44	11.19	46.84	11.30
	31	25.10	5.95	31.90	8.32	37.01	10.16	37.15	10.65	39.19	11.44	43.68	11.49	46.44	11.80
	33	25.10	6.27	31.90	8.65	37.01	10.68	37.15	11.39	39.19	12.20	43.12	11.99	45.71	12.25
	35	25.10	6.78	31.90	9.22	37.01	11.33	37.15	12.07	39.19	12.99	42.65	12.46	45.00	12.76
	37	25.10	7.26	31.90	9.93	37.01	11.83	37.15	12.63	39.19	12.36	41.81	12.76	44.31	13.34
	39	25.10	7.79	31.90	10.36	37.01	12.01	37.15	11.96	39.19	12.43	41.31	12.79	43.62	13.26
	41	25.10	8.40	31.90	10.65	37.01	12.11	37.15	12.07	39.19	12.54	40.98	12.84	43.27	13.35
	43	25.10	8.81	31.90	11.10	37.01	12.40	37.15	12.20	39.19	12.65	40.81	12.87	42.93	13.25
	46	25.10	9.31	31.90	11.42	37.01	12.75	37.15	12.51	39.19	12.97	40.48	12.98	42.24	13.20
	48	25.10	9.80	31.90	11.98	37.01	13.33	37.15	13.11	39.19	13.55	40.15	13.66	41.21	13.35
	50	22.35	9.15	28.71	11.17	33.31	12.50	33.43	12.34	35.27	12.68	36.13	12.36	37.08	12.47
	52	17.88	7.87	22.97	9.53	26.65	10.51	26.75	10.35	28.22	10.73	28.91	11.00	29.67	11.58
	55	12.51	6.22	16.08	7.38	18.65	8.51	18.72	8.51	19.75	10.15	20.23	10.12	20.77	10.24
80%	-15	22.53	2.93	26.84	3.51	30.85	4.10	33.05	4.38	34.98	4.61	39.23	5.35	43.37	6.11
	-10	22.53	3.24	26.84	3.76	30.85	4.45	33.05	4.69	34.98	4.98	39.23	5.81	43.37	6.61
	-5	22.53	3.45	26.84	4.10	30.85	4.84	33.05	5.12	34.98	5.49	39.23	6.28	43.37	7.19
	-2	22.53	3.55	26.84	4.20	30.85	4.90	33.05	5.18	34.98	5.52	39.23	6.37	43.37	7.26
	0	22.53	3.61	26.84	4.20	30.85	4.89	33.05	5.23	34.98	5.57	39.23	6.40	43.37	7.43
	2	22.53	3.68	26.84	4.22	30.85	4.96	33.05	5.34	34.98	5.73	39.23	6.63	43.37	7.49
	4	22.53	3.70	26.84	4.38	30.85	5.04	33.05	5.47	34.98	5.86	39.23	6.76	43.37	7.50
	6	22.53	3.73	26.84	4.43	30.85	5.20	33.05	5.60	34.98	5.86	39.23	6.87	43.37	7.73
	8	22.53	3.83	26.84	4.49	30.85	5.27	33.05	5.67	34.98	6.01	39.23	6.83	43.37	7.93
	10	22.53	3.90	26.84	4.63	30.85	5.41	33.05	5.82	34.98	6.27	39.23	7.11	43.37	7.98
	12	22.53	3.90	26.84	4.72	30.85	5.52	33.05	6.02	34.98	6.36	39.23	7.18	43.37	8.16
	14	22.53	4.04	26.84	4.76	30.85	5.62	33.05	6.09	34.98	6.51	39.23	7.22	43.37	8.27
	16	22.53	4.07	26.84	4.92	30.85	5.74	33.05	6.05	34.98	6.60	39.23	7.47	43.37	8.40
	18	22.53	4.10	26.84	5.03	30.85	5.85	33.05	6.30	34.98	6.77	39.23	7.59	43.37	8.53
	20	22.53	4.20	26.84	5.08	30.85	5.95	33.05	6.42	34.98	6.77	39.23	7.99	43.37	9.26
	21	22.53	4.31	26.84	5.08	30.85	5.95	33.05	6.49	34.98	6.93	39.23	8.13	43.37	9.57
	23	22.53	4.29	26.84	5.25	30.85	6.33	33.05	6.97	34.98	7.54	39.23	8.86	43.37	10.19
	25	22.53	4.47	26.84	5.61	30.85	6.73	33.05	7.26	34.98	8.05	39.23	9.28	43.37	10.89
	27	22.53	4.76	26.84	5.98	30.85	7.11	33.05	7.84	34.98	8.42	39.23	10.10	43.37	11.70
	29	22.53	5.02	26.84	6.25	30.85	7.59	33.05	8.27	34.98	9.04	39.23	10.81	43.37	12.34
	31	22.53	5.42	26.84	6.69	30.85	8.11	33.05	8.87	34.98	9.76	39.23	11.46	42.64	13.18
	33	22.53	5.77	26.84	7.08	30.85	8.72	33.05	9.61	34.98	10.22	39.23	12.13	42.10	13.33
	35	22.53	6.10	26.84	7.65	30.85	9.12	33.05	10.14	34.98	11.04	39.23	13.16	41.37	13.91
	37	22.53	6.33	26.84	8.09	30.85	9.81	33.05	10.86	34.98	11.65	39.23	13.74	40.72	14.35
	39	22.53	6.77	26.84	8.63	30.85	10.45	33.05	11.37	34.98	12.27	39.23	12.53	40.07	13.06
	41	22.53	7.03	26.84	8.64	30.85	10.41	33.05	10.79	34.98	11.24	39.23	12.38	39.75	12.46
	43	22.53	7.14	26.84	9.38	30.85	10.40	33.05	10.92	34.98	11.33	39.23	12.41	39.59	12.24
	46	22.53	8.02	26.84	9.65	30.85	10.69	33.05	11.17	34.98	11.62	39.23	12.57	39.10	12.26
	48	22.53	8.85	26.84	10.16	30.85	11.20	33.05	11.71	34.98	12.14	39.23	13.52	38.78	12.70
	50	20.27	8.40	24.16	9.45	27.76	10.46	29.75	11.04	31.49	11.35	35.31	12.21	34.90	11.75
	52	16.22	7.27	19.33	8.11	22.21	8.83	23.80	9.31	25.19	9.68	28.24	10.69	27.92	10.60
	55	11.35	5.71	13.53	6.31	15.55	7.07	16.66	7.43	17.63	8.54	19.77	9.19	19.54	8.91

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 2-8.4: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	19.69	2.68	23.28	3.05	26.94	3.52	28.98	3.70	31.09	4.03	34.26	4.56	38.42	5.21
	-10	19.69	2.85	23.28	3.34	26.94	3.73	28.98	4.04	31.09	4.30	34.26	4.85	38.42	5.61
	-5	19.69	3.08	23.28	3.62	26.94	4.10	28.98	4.38	31.09	4.68	34.26	5.32	38.42	6.15
	-2	19.69	3.11	23.28	3.63	26.94	4.14	28.98	4.44	31.09	4.73	34.26	5.41	38.42	6.20
	0	19.69	3.11	23.28	3.62	26.94	4.20	28.98	4.51	31.09	4.92	34.26	5.43	38.42	6.38
	2	19.69	3.18	23.28	3.71	26.94	4.27	28.98	4.63	31.09	5.01	34.26	5.68	38.42	6.35
	4	19.69	3.17	23.28	3.71	26.94	4.36	28.98	4.79	31.09	5.01	34.26	5.63	38.42	6.48
	6	19.69	3.26	23.28	3.80	26.94	4.41	28.98	4.89	31.09	5.20	34.26	5.86	38.42	6.62
	8	19.69	3.28	23.28	3.94	26.94	4.53	28.98	4.87	31.09	5.32	34.26	5.94	38.42	6.85
	10	19.69	3.41	23.28	4.05	26.94	4.60	28.98	5.03	31.09	5.37	34.26	6.02	38.42	6.85
	12	19.69	3.47	23.28	4.06	26.94	4.73	28.98	5.10	31.09	5.47	34.26	6.18	38.42	7.06
	14	19.69	3.56	23.28	4.15	26.94	4.83	28.98	5.25	31.09	5.66	34.26	6.34	38.42	7.11
	16	19.69	3.59	23.28	4.24	26.94	4.89	28.98	5.32	31.09	5.82	34.26	6.49	38.42	7.33
	18	19.69	3.63	23.28	4.31	26.94	5.07	28.98	5.46	31.09	5.76	34.26	6.59	38.42	7.38
	20	19.69	3.68	23.28	4.38	26.94	5.07	28.98	5.49	31.09	5.88	34.26	6.58	38.42	7.63
	21	19.69	3.76	23.28	4.46	26.94	5.15	28.98	5.51	31.09	5.94	34.26	6.75	38.42	7.97
	23	19.69	3.80	23.28	4.44	26.94	5.22	28.98	5.80	31.09	6.30	34.26	7.31	38.42	8.57
	25	19.69	3.91	23.28	4.64	26.94	5.58	28.98	6.10	31.09	6.81	34.26	7.69	38.42	9.09
	27	19.69	4.09	23.28	4.95	26.94	6.04	28.98	6.48	31.09	7.18	34.26	8.31	38.42	9.73
	29	19.69	4.33	23.28	5.26	26.94	6.41	28.98	7.02	31.09	7.66	34.26	8.76	38.42	10.42
	31	19.69	4.62	23.28	5.56	26.94	6.85	28.98	7.46	31.09	8.22	34.26	9.33	38.42	10.73
	33	19.69	4.95	23.28	5.88	26.94	7.26	28.98	7.80	31.09	8.57	34.26	9.96	38.42	10.96
	35	19.69	5.12	23.28	6.35	26.94	7.66	28.98	8.38	31.09	9.11	34.26	10.76	38.42	11.22
	37	19.69	5.48	23.28	6.78	26.94	8.08	28.98	9.04	31.09	9.76	34.26	11.24	38.42	11.64
	39	19.69	5.70	23.28	7.15	26.94	8.69	28.98	9.48	31.09	10.49	34.26	11.87	38.42	12.16
	41	19.69	6.01	23.28	7.23	26.94	8.86	28.98	9.80	31.09	10.73	34.26	11.32	38.42	11.92
	43	19.69	6.53	23.28	7.83	26.94	9.37	28.98	9.66	31.09	10.12	34.26	10.87	38.42	12.03
	46	19.69	6.73	23.28	8.04	26.94	9.43	28.98	9.99	31.09	10.49	34.26	11.04	38.42	12.08
	48	19.69	7.97	23.28	8.96	26.94	9.92	28.98	10.44	31.09	10.99	34.26	12.15	38.42	12.66
	50	17.72	7.48	20.95	8.43	24.25	9.31	26.08	9.82	27.98	10.33	30.83	10.94	34.57	11.78
	52	14.18	6.50	16.76	7.21	19.40	7.91	20.86	8.29	22.38	8.72	24.66	9.09	27.66	9.92
	55	9.92	5.18	11.73	5.59	13.58	6.06	14.60	6.32	15.67	6.59	17.26	6.88	19.36	7.50
60%	-15	16.56	2.21	20.15	2.66	22.94	2.97	24.98	3.25	26.39	3.45	29.43	3.83	32.90	4.56
	-10	16.56	2.38	20.15	2.82	22.94	3.22	24.98	3.51	26.39	3.75	29.43	4.22	32.90	4.91
	-5	16.56	2.58	20.15	3.11	22.94	3.48	24.98	3.77	26.39	4.05	29.43	4.53	32.90	5.31
	-2	16.56	2.57	20.15	3.13	22.94	3.54	24.98	3.85	26.39	4.09	29.43	4.60	32.90	5.20
	0	16.56	2.63	20.15	3.11	22.94	3.57	24.98	3.94	26.39	4.20	29.43	4.61	32.90	5.38
	2	16.56	2.70	20.15	3.25	22.94	3.63	24.98	4.02	26.39	4.25	29.43	4.74	32.90	5.45
	4	16.56	2.80	20.15	3.29	22.94	3.74	24.98	4.01	26.39	4.32	29.43	4.79	32.90	5.45
	6	16.56	2.81	20.15	3.40	22.94	3.80	24.98	4.08	26.39	4.42	29.43	4.95	32.90	5.63
	8	16.56	2.84	20.15	3.38	22.94	3.95	24.98	4.16	26.39	4.44	29.43	5.07	32.90	5.76
	10	16.56	2.92	20.15	3.47	22.94	3.96	24.98	4.28	26.39	4.54	29.43	5.06	32.90	5.78
	12	16.56	2.98	20.15	3.50	22.94	4.05	24.98	4.43	26.39	4.67	29.43	5.19	32.90	5.94
	14	16.56	2.95	20.15	3.55	22.94	4.03	24.98	4.41	26.39	4.67	29.43	5.26	32.90	6.08
	16	16.56	3.04	20.15	3.60	22.94	4.16	24.98	4.56	26.39	4.78	29.43	5.42	32.90	6.08
	18	16.56	3.10	20.15	3.70	22.94	4.24	24.98	4.65	26.39	4.93	29.43	5.56	32.90	6.23
	20	16.56	3.14	20.15	3.81	22.94	4.28	24.98	4.70	26.39	4.99	29.43	5.67	32.90	6.41
	21	16.56	3.18	20.15	3.85	22.94	4.34	24.98	4.71	26.39	5.00	29.43	5.74	32.90	6.42
	23	16.56	3.23	20.15	3.91	22.94	4.43	24.98	4.86	26.39	5.17	29.43	5.96	32.90	6.82
	25	16.56	3.23	20.15	3.95	22.94	4.63	24.98	5.08	26.39	5.40	29.43	6.33	32.90	7.32
	27	16.56	3.37	20.15	4.19	22.94	4.92	24.98	5.44	26.39	5.74	29.43	6.67	32.90	7.83
	29	16.56	3.57	20.15	4.44	22.94	5.17	24.98	5.74	26.39	6.22	29.43	7.23	32.90	8.38
	31	16.56	3.77	20.15	4.71	22.94	5.49	24.98	6.05	26.39	6.54	29.43	7.65	32.90	8.84
	33	16.56	4.03	20.15	4.91	22.94	5.94	24.98	6.43	26.39	6.89	29.43	8.09	32.90	9.36
	35	16.56	4.29	20.15	5.33	22.94	6.17	24.98	6.90	26.39	7.46	29.43	8.51	32.90	10.00
	37	16.56	4.49	20.15	5.59	22.94	6.55	24.98	7.31	26.39	7.84	29.43	9.19	32.90	10.22
	39	16.56	4.72	20.15	5.95	22.94	7.06	24.98	7.71	26.39	8.36	29.43	9.70	32.90	10.41
	41	16.56	4.87	20.15	6.14	22.94	7.27	24.98	8.08	26.39	8.74	29.43	10.31	32.90	10.58
	43	16.56	5.12	20.15	6.49	22.94	7.55	24.98	8.35	26.39	8.87	29.43	10.75	32.90	11.11
	46	16.56	5.29	20.15	6.80	22.94	7.70	24.98	8.61	26.39	9.51	29.43	9.55	32.90	10.42
	48	16.56	6.54	20.15	7.57	22.94	8.38	24.98	8.92	26.39	9.30	29.43	10.15	32.90	10.73
	50	14.91	6.21	18.14	7.14	20.64	7.78	22.48	8.36	23.75	8.63	26.48	9.27	29.61	9.94
	52	11.93	5.35	14.51	6.08	16.51	6.58	17.99	7.04	19.00	7.25	21.19	7.90	23.69	8.84
	55	8.35	4.17	10.16	4.73	11.56	5.07	12.59	5.33	13.30	5.59	14.83	6.46	16.58	7.54

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 …

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	14.06	1.97	16.56	2.24	19.34	2.56	20.70	2.72	21.71	2.80	24.63	3.26	27.72	3.49
	-10	14.06	2.13	16.56	2.43	19.34	2.75	20.70	2.92	21.71	3.06	24.63	3.54	27.72	3.81
	-5	14.06	2.31	16.56	2.60	19.34	3.04	20.70	3.15	21.71	3.28	24.63	3.79	27.72	4.13
	-2	14.06	2.30	16.56	2.62	19.34	3.06	20.70	3.18	21.71	3.36	24.63	3.85	27.72	4.15
	0	14.06	2.31	16.56	2.69	19.34	3.15	20.70	3.23	21.71	3.41	24.63	3.94	27.72	4.20
	2	14.06	2.38	16.56	2.76	19.34	3.14	20.70	3.27	21.71	3.48	24.63	3.94	27.72	4.29
	4	14.06	2.41	16.56	2.74	19.34	3.20	20.70	3.31	21.71	3.48	24.63	4.05	27.72	4.41
	6	14.06	2.47	16.56	2.79	19.34	3.22	20.70	3.47	21.71	3.63	24.63	4.09	27.72	4.60
	8	14.06	2.53	16.56	2.86	19.34	3.26	20.70	3.55	21.71	3.67	24.63	4.13	27.72	4.68
	10	14.06	2.57	16.56	2.94	19.34	3.31	20.70	3.53	21.71	3.77	24.63	4.22	27.72	4.84
	12	14.06	2.58	16.56	2.91	19.34	3.42	20.70	3.60	21.71	3.87	24.63	4.33	27.72	4.82
	14	14.06	2.65	16.56	2.98	19.34	3.40	20.70	3.67	21.71	3.84	24.63	4.43	27.72	4.93
	16	14.06	2.67	16.56	2.97	19.34	3.53	20.70	3.81	21.71	3.90	24.63	4.43	27.72	5.03
	18	14.06	2.70	16.56	3.08	19.34	3.54	20.70	3.77	21.71	3.95	24.63	4.63	27.72	5.20
	20	14.06	2.75	16.56	3.13	19.34	3.65	20.70	3.90	21.71	4.04	24.63	4.60	27.72	5.28
	21	14.06	2.77	16.56	3.13	19.34	3.68	20.70	3.89	21.71	4.07	24.63	4.70	27.72	5.32
	23	14.06	2.82	16.56	3.17	19.34	3.68	20.70	3.97	21.71	4.14	24.63	4.78	27.72	5.45
	25	14.06	2.82	16.56	3.20	19.34	3.82	20.70	4.04	21.71	4.27	24.63	4.97	27.72	5.85
	27	14.06	2.90	16.56	3.34	19.34	3.95	20.70	4.28	21.71	4.59	24.63	5.29	27.72	6.21
	29	14.06	3.01	16.56	3.61	19.34	4.23	20.70	4.65	21.71	4.88	24.63	5.70	27.72	6.62
	31	14.06	3.24	16.56	3.82	19.34	4.41	20.70	4.86	21.71	5.23	24.63	6.05	27.72	6.89
	33	14.06	3.35	16.56	4.01	19.34	4.76	20.70	5.19	21.71	5.46	24.63	6.40	27.72	7.49
	35	14.06	3.63	16.56	4.26	19.34	5.01	20.70	5.43	21.71	5.79	24.63	6.78	27.72	7.96
	37	14.06	3.82	16.56	4.44	19.34	5.29	20.70	5.81	21.71	6.25	24.63	7.23	27.72	8.48
	39	14.06	3.96	16.56	4.75	19.34	5.69	20.70	6.09	21.71	6.49	24.63	7.62	27.72	8.78
	41	14.06	4.12	16.56	4.93	19.34	5.74	20.70	6.41	21.71	6.78	24.63	8.00	27.72	8.98
	43	14.06	4.48	16.56	5.27	19.34	6.00	20.70	6.71	21.71	6.93	24.63	8.40	27.72	9.28
	46	14.06	4.52	16.56	5.35	19.34	6.40	20.70	7.30	21.71	7.26	24.63	8.98	27.72	9.62
	48	14.06	4.59	16.56	5.49	19.34	6.85	20.70	7.79	21.71	7.62	24.63	8.52	27.72	9.12
	50	12.66	4.95	14.91	5.55	17.40	6.50	18.63	6.82	19.54	7.03	22.17	7.72	24.95	8.37
	52	10.13	4.46	11.93	4.94	13.92	5.44	14.90	5.69	15.63	5.82	17.73	6.68	19.96	7.63
	55	7.09	3.39	8.35	3.76	9.74	4.14	10.43	4.31	10.94	4.62	12.41	5.90	13.97	6.87

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

Table 2-8.5: 16HP cooling capacity

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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130%	-15	41.27	5.91	48.56	7.20	57.05	7.78	59.13	8.14	62.17	8.27	62.24	8.97	65.20	9.16
	-10	41.27	6.49	48.56	7.73	57.05	8.38	59.13	8.67	62.17	8.99	62.24	9.66	65.20	9.83
	-5	41.27	6.85	48.56	8.50	57.05	9.15	59.13	9.37	62.17	9.73	62.24	10.27	65.20	10.54
	-2	41.27	7.02	48.56	8.52	57.05	9.07	59.13	9.57	62.17	9.78	62.24	10.39	65.20	10.66
	0	41.27	7.14	48.56	8.73	57.05	9.36	59.13	10.06	62.17	10.39	62.24	10.74	65.20	10.95
	2	41.27	7.12	48.56	8.79	57.05	9.76	59.13	10.65	62.17	10.52	62.24	10.68	65.20	10.99
	4	41.27	7.34	48.56	8.84	57.05	10.13	59.13	10.47	62.17	10.44	62.24	10.84	65.20	11.29
	6	41.27	7.57	48.56	9.04	57.05	10.42	59.13	10.79	61.44	10.82	61.52	10.95	64.57	11.41
	8	41.27	7.59	48.56	9.37	57.05	10.87	59.13	11.18	60.71	11.17	60.81	11.00	63.74	11.58
	10	41.27	7.94	48.56	9.45	57.05	11.55	59.13	11.70	59.98	11.53	60.09	11.19	63.01	11.69
	12	41.27	8.03	48.56	9.67	57.05	11.57	58.30	11.99	59.24	11.66	59.27	11.29	62.17	11.82
	14	41.27	8.05	48.56	9.92	56.95	11.85	57.67	11.83	58.41	11.91	58.66	11.68	61.44	12.02
	16	41.27	8.36	48.56	10.08	56.21	11.93	56.84	12.30	57.57	11.99	57.84	11.66	60.60	12.52
	18	41.27	8.35	48.56	10.29	55.38	12.01	56.00	12.37	56.95	12.28	57.13	12.23	60.06	12.03
	20	40.49	8.59	47.05	10.82	54.54	12.71	55.27	12.97	56.11	12.80	56.45	12.73	59.83	12.22
	21	40.37	8.94	46.63	11.15	54.23	12.90	54.96	12.93	55.80	13.31	56.48	13.13	59.64	12.30
	23	40.43	9.53	46.74	12.10	53.60	13.79	54.13	13.48	54.96	13.94	56.18	13.69	59.53	12.53
	25	40.58	10.14	46.47	12.45	52.77	14.04	53.29	14.45	54.23	14.60	56.44	14.02	59.27	12.93
	27	40.54	10.85	46.54	12.64	52.03	14.92	52.67	14.76	53.39	15.00	55.66	15.00	58.29	13.51
	29	40.64	11.49	46.39	12.95	51.20	15.60	51.83	15.47	52.77	15.76	54.86	15.91	57.43	14.11
	31	40.84	11.88	45.84	13.39	50.36	16.04	51.10	16.13	51.93	16.25	53.90	16.31	56.60	14.74
	33	40.56	12.43	45.13	13.92	48.77	15.23	50.27	16.68	50.40	15.81	53.02	15.87	55.67	15.37
	35	40.46	13.30	44.31	14.46	46.96	14.82	49.64	17.22	49.49	15.46	52.21	15.57	54.79	16.01
	37	40.46	14.16	43.62	14.82	46.25	15.47	48.89	16.10	48.76	15.44	51.46	15.60	54.02	16.76
	39	40.46	14.27	42.92	14.86	45.53	15.40	48.15	16.12	48.03	16.02	50.70	16.02	53.26	17.43
	41	40.46	14.58	42.40	14.91	44.99	15.48	47.77	16.15	47.48	15.78	50.14	15.45	51.15	16.61
	43	40.46	14.69	42.05	15.02	44.81	15.62	47.40	16.30	47.11	16.06	49.20	15.82	50.58	16.62
	46	40.46	15.29	41.87	15.31	44.27	15.62	47.03	16.26	46.38	16.06	47.89	15.50	49.62	16.58
	48	40.46	16.20	41.70	16.05	43.56	16.12	46.28	16.88	45.83	16.47	46.76	15.75	48.47	16.17
	50	36.42	15.34	37.53	15.16	39.20	15.15	41.65	15.82	41.24	15.32	42.08	14.85	43.62	16.80
	52	29.13	13.26	30.02	12.94	31.36	13.84	33.32	14.39	33.00	14.14	33.67	14.24	34.90	14.49
	55	20.39	10.58	21.02	10.35	21.95	11.98	23.33	13.46	23.10	13.28	23.57	13.79	24.43	13.89
120%	-15	34.87	4.96	41.61	6.19	47.82	7.30	55.83	8.88	55.01	8.64	58.06	8.84	59.79	9.21
	-10	34.87	5.45	41.61	6.84	47.82	8.07	55.83	9.58	55.01	9.42	58.06	9.50	59.79	9.82
	-5	34.87	5.92	41.61	7.24	47.82	8.52	55.83	10.45	55.01	10.16	58.06	10.37	59.79	10.51
	-2	34.87	6.05	41.61	7.45	47.82	8.68	55.83	10.42	55.01	10.08	58.06	10.32	59.79	10.81
	0	34.87	6.07	41.61	7.42	47.82	8.69	55.83	10.47	55.01	10.15	58.06	10.47	59.79	10.82
	2	34.87	6.16	41.61	7.47	47.82	8.96	55.83	10.65	55.01	10.32	58.06	10.56	59.79	11.02
	4	34.87	6.35	41.61	7.61	47.82	8.97	55.83	10.58	55.01	10.37	58.06	10.84	59.79	10.91
	6	34.87	6.32	41.61	7.62	47.82	9.14	55.83	10.64	55.01	10.68	58.06	10.83	59.79	11.18
	8	34.87	6.45	41.61	7.70	47.82	9.27	55.83	11.03	55.01	10.79	58.06	10.89	59.79	11.27
	10	34.87	6.47	41.61	7.86	47.82	9.20	55.83	11.25	55.01	10.96	58.06	11.08	59.79	11.55
	12	34.87	6.56	41.61	8.14	47.82	9.49	55.83	11.49	55.01	11.08	57.44	11.31	58.97	11.65
	14	34.87	6.73	41.61	8.27	47.82	9.62	55.83	11.59	55.01	11.41	56.62	11.38	58.35	11.75
	16	34.87	6.77	41.61	8.36	47.82	9.92	55.52	11.90	55.01	11.55	55.91	11.33	58.20	12.12
	18	34.87	6.96	41.61	8.52	47.82	10.18	54.69	12.02	55.01	12.08	55.09	12.02	58.59	12.09
	20	34.87	7.14	41.61	8.79	47.82	10.52	53.97	12.44	54.18	12.63	55.16	12.51	58.32	12.25
	21	34.87	7.11	41.61	8.86	47.82	10.97	53.45	13.03	53.86	12.98	54.99	12.97	58.00	12.24
	23	34.87	7.46	41.61	9.63	47.82	11.83	52.83	13.47	53.03	13.69	54.95	13.55	58.17	12.44
	25	34.87	8.01	41.61	10.27	47.82	12.65	52.01	14.11	52.30	14.27	54.75	14.07	57.91	12.83
	27	34.87	8.66	41.61	10.90	47.82	13.51	51.38	14.61	51.46	14.84	54.69	14.55	57.02	13.40
	29	34.87	9.19	41.61	11.67	47.82	14.29	50.56	15.36	50.84	15.52	53.86	15.04	56.00	14.00
	31	34.87	9.62	41.61	12.37	47.82	15.54	49.83	16.04	50.00	15.83	52.50	16.05	55.68	14.56
	33	34.87	10.20	41.61	13.29	46.82	15.13	49.01	16.51	49.04	15.26	52.05	16.55	54.68	15.23
	35	34.87	10.89	41.61	14.23	45.68	14.70	46.99	15.91	48.39	14.97	50.86	17.00	53.76	15.86
	37	34.87	11.79	41.61	14.21	45.14	15.15	46.27	15.37	47.66	15.54	49.93	15.96	52.80	16.51
	39	34.87	12.46	41.44	14.44	44.25	15.01	45.55	15.29	46.93	15.66	49.37	16.70	52.22	17.06
	41	34.87	12.58	41.10	14.53	43.90	15.17	45.19	15.38	46.56	15.60	49.00	15.59	50.69	16.49
	43	34.87	12.76	40.93	14.73	43.54	15.33	44.83	15.45	46.19	15.67	48.07	16.08	49.92	16.46
	46	34.87	13.23	40.75	15.15	43.19	15.42	44.29	15.37	45.65	15.98	47.14	16.05	49.34	16.41
	48	34.87	14.17	40.41	15.66	42.65	15.90	43.57	16.02	45.28	16.42	46.39	15.85	48.77	16.45
	50	31.38	13.37	36.37	14.78	38.39	14.99	39.21	15.15	40.75	15.15	41.75	15.26	43.89	16.44
	52	25.10	11.52	29.10	12.58	30.71	12.80	31.37	13.33	32.60	13.81	33.40	13.95	35.11	14.77
	55	17.57	9.20	20.37	10.02	21.50	11.13	21.96	11.63	22.82	12.46	23.38	13.15	24.58	13.91

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 2-8.5: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	33.92	8.06	41.11	10.27	44.43	10.53	45.00	6.75	48.43	7.31	54.93	8.52	58.79	10.97
	-10	33.92	9.08	41.11	9.91	44.43	10.67	45.00	7.33	48.43	8.00	54.93	9.27	58.64	11.51
	-5	33.92	7.78	41.11	10.29	44.43	10.80	45.00	7.89	48.43	8.53	54.93	9.77	57.52	11.81
	-2	33.92	8.85	41.11	9.90	44.43	10.68	45.00	8.05	48.43	8.65	54.93	9.87	57.65	11.50
	0	33.92	8.16	41.11	10.25	44.43	11.15	45.00	8.17	48.43	8.78	54.93	10.27	58.00	11.16
	2	33.92	8.59	41.11	10.27	44.43	11.07	45.00	8.27	48.43	8.93	54.93	10.33	57.47	11.81
	4	33.92	8.83	41.11	10.48	44.43	10.83	45.00	8.50	48.43	8.98	54.93	10.30	57.70	11.50
	6	33.92	8.70	41.11	10.19	44.43	11.34	45.00	8.56	48.43	9.04	54.93	10.70	57.52	11.94
	8	33.92	8.79	41.11	10.86	44.43	11.08	45.00	8.74	48.43	9.22	54.93	10.70	57.43	11.97
	10	33.92	8.89	41.11	10.63	44.43	11.63	45.00	8.74	48.43	9.49	54.93	10.98	57.66	11.73
	12	33.92	8.00	41.11	10.75	44.43	11.38	45.00	8.85	48.43	9.56	54.24	11.24	56.90	12.11
	14	33.92	8.65	41.11	10.57	44.43	11.44	45.00	9.12	48.43	9.73	53.73	11.48	57.21	11.85
	16	33.92	8.61	41.11	10.95	44.43	11.29	45.00	9.28	48.43	10.00	54.07	11.49	56.64	12.09
	18	33.92	7.84	41.11	9.80	44.43	11.76	45.00	9.50	48.43	10.25	53.54	11.83	56.82	12.25
	20	33.92	8.09	41.11	10.28	44.43	11.61	45.00	9.89	48.43	10.96	53.59	12.30	57.00	12.34
	21	33.92	8.12	41.11	10.50	44.43	11.64	45.00	10.29	48.43	11.18	53.46	12.76	56.46	12.34
	23	33.92	8.28	41.11	10.72	44.43	11.76	45.00	11.10	48.43	12.09	53.56	13.29	56.64	12.40
	25	33.92	8.03	41.11	10.35	44.43	11.72	45.00	11.77	48.43	12.89	53.31	14.04	56.45	12.67
	27	33.92	8.24	41.11	10.78	44.43	12.02	45.00	12.59	48.43	14.03	53.20	14.47	56.05	13.15
	29	33.92	8.71	41.11	11.32	44.43	12.29	45.00	13.46	48.22	14.82	52.27	15.11	55.17	13.84
	31	33.92	9.19	41.11	11.85	44.43	12.94	45.00	14.26	48.22	15.36	51.55	15.65	54.37	14.48
	33	33.92	9.68	41.11	12.37	44.43	13.74	45.00	15.49	47.94	15.51	50.57	16.06	53.30	15.05
	35	34.57	10.59	41.11	13.07	44.43	14.44	45.00	16.57	47.09	15.32	50.06	16.90	52.46	15.69
	37	34.57	11.29	41.11	13.89	43.73	14.82	44.30	14.74	46.37	15.29	49.49	15.84	51.50	16.16
	39	34.57	11.73	41.11	14.33	43.03	14.85	43.42	14.65	45.64	15.22	48.55	16.05	50.93	16.56
	41	34.57	12.40	41.11	14.60	42.68	14.85	43.07	14.81	45.28	15.17	47.99	15.84	49.40	16.23
	43	34.57	12.82	41.11	15.12	42.33	14.92	42.90	14.83	44.92	15.37	47.61	15.94	48.63	15.97
	46	34.57	13.45	41.11	15.49	41.97	15.24	42.37	14.89	44.55	15.61	47.05	16.10	48.06	15.97
	48	34.57	14.12	41.11	16.10	41.27	15.48	41.67	15.39	44.01	16.01	46.29	16.24	47.48	16.14
	50	31.11	13.27	37.93	15.53	37.14	14.62	37.51	14.49	39.61	15.00	41.66	15.15	42.73	15.68
	52	24.89	11.45	30.35	13.24	29.72	12.40	30.00	12.48	31.69	13.03	33.33	13.71	34.19	14.44
	55	17.42	9.04	21.24	10.27	20.80	9.77	21.00	10.95	22.18	11.60	23.33	12.80	23.93	13.60
100%	-15	30.98	4.43	36.63	5.40	42.48	6.35	45.00	6.75	48.43	7.31	54.93	8.52	57.47	8.88
	-10	30.98	4.82	36.63	5.78	42.48	6.74	45.00	7.33	48.43	8.00	54.93	9.27	57.47	9.45
	-5	30.98	5.16	36.63	6.26	42.48	7.32	45.00	7.89	48.43	8.53	54.93	9.77	57.47	10.14
	-2	30.98	5.24	36.63	6.37	42.48	7.52	45.00	8.05	48.43	8.65	54.93	9.87	57.47	10.14
	0	30.98	5.34	36.63	6.28	42.48	7.54	45.00	8.17	48.43	8.78	54.93	10.27	57.47	10.41
	2	30.98	5.48	36.63	6.53	42.48	7.71	45.00	8.27	48.43	8.93	54.93	10.33	57.47	10.54
	4	30.98	5.41	36.63	6.58	42.48	7.64	45.00	8.50	48.43	8.98	54.93	10.30	57.47	10.68
	6	30.98	5.60	36.63	6.60	42.48	7.94	45.00	8.56	48.43	9.04	54.93	10.70	57.47	10.72
	8	30.98	5.63	36.63	6.82	42.48	8.09	45.00	8.74	48.43	9.22	54.93	10.70	57.47	11.04
	10	30.98	5.80	36.63	6.85	42.48	8.19	45.00	8.74	48.43	9.49	54.93	10.98	57.47	11.21
	12	30.98	5.75	36.63	6.97	42.48	8.18	45.00	8.85	48.43	9.56	54.93	11.24	56.66	11.28
	14	30.98	6.01	36.63	7.13	42.48	8.48	45.00	9.12	48.43	9.73	54.93	11.48	55.95	11.52
	16	30.98	6.03	36.63	7.27	42.48	8.59	45.00	9.28	48.43	10.00	54.62	11.49	55.47	11.58
	18	30.98	6.17	36.63	7.46	42.48	8.89	45.00	9.50	48.43	10.25	54.01	11.83	55.21	12.33
	20	30.98	6.24	36.63	7.56	42.48	9.10	45.00	9.89	48.43	10.96	53.19	12.30	55.22	12.31
	21	30.98	6.33	36.63	7.70	42.48	9.40	45.00	10.29	48.43	11.18	52.88	12.76	55.22	12.30
	23	30.98	6.45	36.63	8.06	42.48	10.07	45.00	11.10	48.43	12.09	52.17	13.29	55.10	12.37
	25	30.98	7.01	36.63	8.69	42.48	10.61	45.00	11.77	48.43	12.89	51.67	13.41	55.08	12.60
	27	30.98	7.47	36.63	9.22	42.48	11.50	45.00	12.59	48.43	13.45	52.03	13.52	54.71	13.04
	29	30.98	7.89	36.63	9.79	42.48	12.12	45.00	13.46	48.34	13.82	51.20	13.71	53.94	13.63
	31	30.98	8.34	36.63	10.60	42.48	13.20	45.00	14.26	47.67	14.03	50.34	13.92	53.24	14.24
	33	30.98	8.86	36.63	11.36	42.48	14.08	45.00	15.64	46.89	14.15	49.67	14.49	52.34	14.84
	35	30.98	9.39	36.63	11.81	42.48	14.93	45.00	14.50	46.23	14.72	48.91	15.09	51.61	15.46
	37	30.98	10.12	36.63	12.61	42.48	14.55	44.11	14.29	45.50	15.17	48.17	15.54	50.83	16.12
	39	30.98	10.72	36.63	13.36	42.48	14.62	43.57	14.77	44.78	14.99	47.42	15.54	50.06	16.16
	41	30.98	11.15	36.63	13.04	42.48	14.72	42.86	14.76	44.41	15.08	46.67	15.47	49.29	16.12
	43	30.98	11.61	36.63	13.53	42.48	15.07	42.14	14.65	44.05	15.09	46.85	15.70	48.51	15.94
	46	30.98	12.18	36.63	13.90	42.48	15.50	41.25	14.74	43.87	15.42	46.48	15.88	47.55	15.77
	48	30.98	12.80	36.63	14.54	42.48	16.18	39.64	14.86	43.69	16.03	43.67	15.62	46.39	15.85
	50	27.88	12.03	32.97	13.59	38.23	15.21	35.68	13.95	39.32	15.01	39.30	14.16	41.75	14.94
	52	22.30	10.29	26.38	11.53	30.58	12.75	28.54	11.65	31.46	12.61	31.44	12.81	33.40	14.27
	55	15.61	8.18	18.46	8.88	21.41	10.45	19.98	9.85	22.02	10.85	22.01	11.28	23.38	13.28

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 2-8.5: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	27.93	6.97	35.89	8.72	39.33	9.41	41.79	6.19	44.09	6.61	50.47	7.75	56.11	8.67
	-10	27.93	7.27	35.89	8.52	39.33	9.87	41.79	6.62	44.09	6.99	50.47	8.32	56.11	9.54
	-5	27.93	6.33	35.89	8.72	39.33	9.83	41.79	7.26	44.09	7.65	50.47	9.04	56.11	10.20
	-2	27.93	7.23	35.89	8.53	39.33	9.83	41.79	7.20	44.09	7.67	50.47	9.11	56.11	10.29
	0	27.93	6.74	35.89	9.25	39.33	9.95	41.79	7.47	44.09	7.77	50.47	9.15	56.11	10.54
	2	27.93	6.98	35.89	8.85	39.33	9.97	41.79	7.50	44.09	7.82	50.47	9.24	56.11	10.68
	4	27.93	7.15	35.89	9.20	39.33	9.83	41.79	7.52	44.09	7.89	50.47	9.55	56.11	10.74
	6	27.93	7.00	35.89	8.97	39.33	10.33	41.79	7.73	44.09	8.15	50.47	9.55	56.11	10.86
	8	27.93	6.96	35.89	9.43	39.33	10.02	41.79	7.93	44.09	8.41	50.47	9.83	56.11	10.90
	10	27.93	7.02	35.89	9.32	39.33	10.52	41.79	8.07	44.09	8.47	50.47	9.88	55.65	11.25
	12	27.93	6.14	35.89	9.11	39.33	10.33	41.79	8.15	44.09	8.58	50.47	10.03	54.78	12.09
	14	27.93	6.82	35.89	8.93	39.33	10.26	41.79	8.21	44.09	8.92	50.47	10.16	54.47	12.05
	16	27.93	6.70	35.89	9.42	39.33	10.33	41.79	8.53	44.09	9.04	50.47	10.32	54.21	12.11
	18	27.93	6.15	35.89	8.12	39.33	10.33	41.79	8.62	44.09	9.11	50.47	10.72	53.98	12.29
	20	27.93	6.22	35.89	8.44	39.33	10.27	41.79	8.74	44.09	9.47	50.47	11.40	53.93	12.27
	21	27.93	6.18	35.89	8.71	39.33	10.34	41.79	9.14	44.09	9.76	50.47	11.93	53.88	12.27
	23	27.93	6.15	35.89	8.93	39.33	10.54	41.79	9.78	44.09	10.58	50.47	12.59	53.81	12.36
	25	27.93	6.20	35.89	8.55	39.33	10.34	41.79	10.52	44.09	11.13	50.47	12.79	53.76	12.58
	27	27.93	6.28	35.89	8.91	39.33	10.66	41.79	11.12	44.09	12.16	50.47	13.06	53.41	12.98
	29	27.93	6.58	35.89	9.47	39.33	10.89	41.79	11.78	44.09	12.88	50.00	13.41	52.69	13.54
	31	27.93	7.05	35.89	9.97	39.33	11.50	41.79	12.76	44.09	13.71	49.14	13.77	52.24	14.13
	33	27.93	7.44	35.89	10.36	39.33	12.09	41.79	13.65	44.09	14.62	48.51	14.37	51.43	14.68
	35	27.93	8.04	35.89	11.04	39.33	12.83	41.79	14.46	44.09	15.56	47.98	14.93	50.62	15.29
	37	27.93	8.61	35.89	11.90	39.33	13.39	41.79	15.14	44.09	14.81	47.04	15.29	49.85	15.99
	39	27.93	9.23	35.89	12.41	39.33	13.59	41.79	14.33	44.09	14.90	46.48	15.32	49.07	15.89
	41	27.93	9.96	35.89	12.76	39.33	13.71	41.79	14.46	44.09	15.03	46.10	15.39	48.68	16.00
	43	27.93	10.45	35.89	13.30	39.33	14.03	41.79	14.62	44.09	15.16	45.92	15.43	48.30	15.88
	46	27.93	11.03	35.89	13.68	39.33	14.43	41.79	14.99	44.09	15.55	45.54	15.55	47.52	15.82
	48	27.93	11.62	35.89	14.35	39.33	15.09	41.79	15.72	44.09	16.24	45.17	16.36	46.36	16.00
	50	25.14	10.97	32.30	13.38	35.39	14.14	37.61	14.78	39.68	15.19	40.65	14.81	41.72	14.95
	52	20.11	9.43	25.84	11.42	28.31	11.89	30.09	12.41	31.74	12.86	32.52	13.18	33.38	13.87
	55	14.08	7.45	18.09	8.84	19.82	9.64	21.06	10.20	22.22	12.16	22.76	12.13	23.36	12.27
80%	-15	25.34	3.51	30.20	4.21	34.71	4.91	37.18	5.25	39.36	5.53	44.13	6.41	48.79	7.32
	-10	25.34	3.88	30.20	4.51	34.71	5.34	37.18	5.63	39.36	5.97	44.13	6.96	48.79	7.92
	-5	25.34	4.13	30.20	4.92	34.71	5.80	37.18	6.13	39.36	6.58	44.13	7.52	48.79	8.61
	-2	25.34	4.25	30.20	5.04	34.71	5.87	37.18	6.21	39.36	6.61	44.13	7.63	48.79	8.70
	0	25.34	4.33	30.20	5.04	34.71	5.86	37.18	6.27	39.36	6.67	44.13	7.66	48.79	8.90
	2	25.34	4.41	30.20	5.06	34.71	5.95	37.18	6.40	39.36	6.86	44.13	7.94	48.79	8.98
	4	25.34	4.43	30.20	5.25	34.71	6.04	37.18	6.55	39.36	7.03	44.13	8.10	48.79	8.99
	6	25.34	4.47	30.20	5.31	34.71	6.24	37.18	6.71	39.36	7.02	44.13	8.24	48.79	9.26
	8	25.34	4.60	30.20	5.38	34.71	6.32	37.18	6.79	39.36	7.20	44.13	8.18	48.79	9.50
	10	25.34	4.68	30.20	5.55	34.71	6.49	37.18	6.97	39.36	7.52	44.13	8.52	48.79	9.56
	12	25.34	4.68	30.20	5.66	34.71	6.62	37.18	7.22	39.36	7.62	44.13	8.61	48.79	9.78
	14	25.34	4.84	30.20	5.71	34.71	6.73	37.18	7.29	39.36	7.80	44.13	8.65	48.79	9.91
	16	25.34	4.88	30.20	5.89	34.71	6.88	37.18	7.25	39.36	7.90	44.13	8.95	48.79	10.06
	18	25.34	4.92	30.20	6.02	34.71	7.01	37.18	7.55	39.36	8.11	44.13	9.09	48.79	10.22
	20	25.34	5.03	30.20	6.09	34.71	7.13	37.18	7.70	39.36	8.11	44.13	9.57	48.79	11.09
	21	25.34	5.16	30.20	6.09	34.71	7.13	37.18	7.78	39.36	8.30	44.13	9.74	48.79	11.47
	23	25.34	5.15	30.20	6.29	34.71	7.59	37.18	8.36	39.36	9.03	44.13	10.62	48.79	12.21
	25	25.34	5.35	30.20	6.72	34.71	8.07	37.18	8.70	39.36	9.65	44.13	11.13	48.79	13.05
	27	25.34	5.71	30.20	7.17	34.71	8.52	37.18	9.39	39.36	10.09	44.13	12.10	48.79	14.02
	29	25.34	6.02	30.20	7.49	34.71	9.10	37.18	9.91	39.36	10.84	44.13	12.96	48.79	14.78
	31	25.34	6.49	30.20	8.02	34.71	9.72	37.18	10.63	39.36	11.70	44.13	13.73	47.98	15.80
	33	25.34	6.91	30.20	8.49	34.71	10.45	37.18	11.51	39.36	12.24	44.13	14.54	47.36	15.98
	35	25.34	7.31	30.20	9.16	34.71	10.93	37.18	12.15	39.36	13.23	44.13	15.77	46.54	16.67
	37	25.34	7.58	30.20	9.70	34.71	11.76	37.18	13.02	39.36	13.97	44.13	16.46	45.81	17.20
	39	25.34	8.12	30.20	10.34	34.71	12.53	37.18	13.63	39.36	14.70	44.13	15.01	45.08	15.66
	41	25.34	8.42	30.20	10.35	34.71	12.47	37.18	12.93	39.36	13.47	44.13	14.84	44.72	14.93
	43	25.34	8.55	30.20	11.24	34.71	12.46	37.18	13.09	39.36	13.58	44.13	14.87	44.54	14.66
	46	25.34	9.60	30.20	11.57	34.71	12.81	37.18	13.39	39.36	13.93	44.13	15.07	43.99	14.69
	48	25.34	10.61	30.20	12.17	34.71	13.42	37.18	14.03	39.36	14.55	44.13	16.20	43.62	15.22
	50	22.81	10.07	27.18	11.32	31.23	12.54	33.47	13.23	35.42	13.61	39.72	14.63	39.26	14.08
	52	18.25	8.71	21.74	9.72	24.99	10.58	26.77	11.16	28.34	11.61	31.77	12.81	31.41	12.71
	55	12.77	6.84	15.22	7.57	17.49	8.47	18.74	8.90	19.84	10.23	22.24	11.02	21.99	10.68

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 2-8.5: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	22.15	3.21	26.19	3.65	30.31	4.21	32.60	4.43	34.97	4.83	38.54	5.47	43.22	6.25
	-10	22.15	3.42	26.19	4.00	30.31	4.47	32.60	4.84	34.97	5.15	38.54	5.81	43.22	6.72
	-5	22.15	3.69	26.19	4.34	30.31	4.91	32.60	5.24	34.97	5.60	38.54	6.38	43.22	7.37
	-2	22.15	3.72	26.19	4.35	30.31	4.96	32.60	5.32	34.97	5.67	38.54	6.49	43.22	7.43
	0	22.15	3.73	26.19	4.34	30.31	5.03	32.60	5.40	34.97	5.90	38.54	6.51	43.22	7.65
	2	22.15	3.81	26.19	4.45	30.31	5.11	32.60	5.55	34.97	6.00	38.54	6.80	43.22	7.60
	4	22.15	3.79	26.19	4.45	30.31	5.23	32.60	5.74	34.97	6.00	38.54	6.75	43.22	7.76
	6	22.15	3.91	26.19	4.55	30.31	5.28	32.60	5.86	34.97	6.23	38.54	7.02	43.22	7.93
	8	22.15	3.93	26.19	4.72	30.31	5.43	32.60	5.84	34.97	6.37	38.54	7.11	43.22	8.21
	10	22.15	4.09	26.19	4.85	30.31	5.52	32.60	6.03	34.97	6.43	38.54	7.21	43.22	8.21
	12	22.15	4.16	26.19	4.86	30.31	5.66	32.60	6.11	34.97	6.55	38.54	7.41	43.22	8.46
	14	22.15	4.27	26.19	4.98	30.31	5.79	32.60	6.29	34.97	6.78	38.54	7.60	43.22	8.52
	16	22.15	4.31	26.19	5.08	30.31	5.86	32.60	6.37	34.97	6.98	38.54	7.78	43.22	8.78
	18	22.15	4.35	26.19	5.17	30.31	6.08	32.60	6.54	34.97	6.91	38.54	7.90	43.22	8.85
	20	22.15	4.40	26.19	5.25	30.31	6.07	32.60	6.58	34.97	7.04	38.54	7.89	43.22	9.15
	21	22.15	4.51	26.19	5.34	30.31	6.17	32.60	6.61	34.97	7.12	38.54	8.09	43.22	9.55
	23	22.15	4.55	26.19	5.32	30.31	6.26	32.60	6.95	34.97	7.55	38.54	8.75	43.22	10.26
	25	22.15	4.69	26.19	5.56	30.31	6.69	32.60	7.31	34.97	8.16	38.54	9.22	43.22	10.90
	27	22.15	4.90	26.19	5.93	30.31	7.24	32.60	7.77	34.97	8.60	38.54	9.96	43.22	11.67
	29	22.15	5.19	26.19	6.31	30.31	7.68	32.60	8.41	34.97	9.18	38.54	10.50	43.22	12.49
	31	22.15	5.53	26.19	6.67	30.31	8.20	32.60	8.94	34.97	9.85	38.54	11.18	43.22	12.86
	33	22.15	5.93	26.19	7.05	30.31	8.70	32.60	9.35	34.97	10.27	38.54	11.93	43.22	13.13
	35	22.15	6.13	26.19	7.61	30.31	9.18	32.60	10.04	34.97	10.91	38.54	12.90	43.22	13.44
	37	22.15	6.56	26.19	8.13	30.31	9.68	32.60	10.83	34.97	11.69	38.54	13.47	43.22	13.95
	39	22.15	6.83	26.19	8.57	30.31	10.42	32.60	11.36	34.97	12.57	38.54	14.23	43.22	14.57
	41	22.15	7.20	26.19	8.66	30.31	10.62	32.60	11.75	34.97	12.86	38.54	13.56	43.22	14.28
	43	22.15	7.83	26.19	9.38	30.31	11.23	32.60	11.58	34.97	12.13	38.54	13.03	43.22	14.42
	46	22.15	8.06	26.19	9.63	30.31	11.30	32.60	11.97	34.97	12.57	38.54	13.23	43.22	14.47
	48	22.15	9.55	26.19	10.74	30.31	11.89	32.60	12.51	34.97	13.17	38.54	14.56	43.22	15.17
	50	19.94	8.96	23.57	10.10	27.28	11.16	29.34	11.77	31.48	12.37	34.68	13.10	38.90	14.11
	52	15.95	7.79	18.85	8.64	21.82	9.48	23.47	9.94	25.18	10.45	27.75	10.89	31.12	11.88
	55	11.16	6.20	13.20	6.70	15.28	7.26	16.43	7.58	17.63	7.90	19.42	8.25	21.78	8.99
60%	-15	18.64	2.64	22.67	3.19	25.80	3.55	28.10	3.90	29.69	4.14	33.11	4.58	37.01	5.46
	-10	18.64	2.85	22.67	3.38	25.80	3.86	28.10	4.21	29.69	4.50	33.11	5.05	37.01	5.89
	-5	18.64	3.09	22.67	3.73	25.80	4.17	28.10	4.52	29.69	4.85	33.11	5.43	37.01	6.36
	-2	18.64	3.08	22.67	3.75	25.80	4.24	28.10	4.62	29.69	4.90	33.11	5.51	37.01	6.23
	0	18.64	3.15	22.67	3.73	25.80	4.28	28.10	4.73	29.69	5.03	33.11	5.52	37.01	6.44
	2	18.64	3.24	22.67	3.89	25.80	4.35	28.10	4.81	29.69	5.09	33.11	5.68	37.01	6.54
	4	18.64	3.36	22.67	3.95	25.80	4.48	28.10	4.81	29.69	5.18	33.11	5.74	37.01	6.53
	6	18.64	3.36	22.67	4.07	25.80	4.56	28.10	4.89	29.69	5.29	33.11	5.93	37.01	6.74
	8	18.64	3.40	22.67	4.05	25.80	4.73	28.10	4.98	29.69	5.32	33.11	6.07	37.01	6.91
	10	18.64	3.50	22.67	4.16	25.80	4.74	28.10	5.13	29.69	5.44	33.11	6.07	37.01	6.93
	12	18.64	3.57	22.67	4.19	25.80	4.86	28.10	5.31	29.69	5.60	33.11	6.22	37.01	7.12
	14	18.64	3.54	22.67	4.26	25.80	4.83	28.10	5.29	29.69	5.60	33.11	6.31	37.01	7.29
	16	18.64	3.64	22.67	4.32	25.80	4.98	28.10	5.46	29.69	5.73	33.11	6.50	37.01	7.28
	18	18.64	3.71	22.67	4.44	25.80	5.09	28.10	5.57	29.69	5.91	33.11	6.67	37.01	7.46
	20	18.64	3.76	22.67	4.57	25.80	5.13	28.10	5.63	29.69	5.97	33.11	6.79	37.01	7.68
	21	18.64	3.81	22.67	4.62	25.80	5.19	28.10	5.64	29.69	5.99	33.11	6.88	37.01	7.69
	23	18.64	3.87	22.67	4.68	25.80	5.31	28.10	5.82	29.69	6.19	33.11	7.15	37.01	8.17
	25	18.64	3.88	22.67	4.73	25.80	5.55	28.10	6.09	29.69	6.47	33.11	7.58	37.01	8.77
	27	18.64	4.04	22.67	5.03	25.80	5.90	28.10	6.52	29.69	6.88	33.11	8.00	37.01	9.39
	29	18.64	4.28	22.67	5.32	25.80	6.19	28.10	6.88	29.69	7.46	33.11	8.67	37.01	10.04
	31	18.64	4.52	22.67	5.65	25.80	6.58	28.10	7.25	29.69	7.84	33.11	9.16	37.01	10.59
	33	18.64	4.83	22.67	5.89	25.80	7.11	28.10	7.70	29.69	8.26	33.11	9.69	37.01	11.22
	35	18.64	5.14	22.67	6.39	25.80	7.39	28.10	8.27	29.69	8.94	33.11	10.20	37.01	11.99
	37	18.64	5.37	22.67	6.70	25.80	7.85	28.10	8.76	29.69	9.39	33.11	11.02	37.01	12.25
	39	18.64	5.66	22.67	7.13	25.80	8.46	28.10	9.24	29.69	10.02	33.11	11.62	37.01	12.47
	41	18.64	5.84	22.67	7.36	25.80	8.71	28.10	9.68	29.69	10.48	33.11	12.35	37.01	12.68
	43	18.64	6.14	22.67	7.78	25.80	9.05	28.10	10.00	29.69	10.63	33.11	12.88	37.01	13.31
	46	18.64	6.34	22.67	8.15	25.80	9.23	28.10	10.32	29.69	11.40	33.11	11.45	37.01	12.48
	48	18.64	7.84	22.67	9.07	25.80	10.04	28.10	10.69	29.69	11.14	33.11	12.16	37.01	12.86
	50	16.77	7.44	20.41	8.56	23.22	9.32	25.29	10.01	26.72	10.34	29.79	11.11	33.31	11.92
	52	13.42	6.42	16.32	7.29	18.58	7.89	20.23	8.44	21.38	8.69	23.84	9.46	26.65	10.59
	55	9.39	5.00	11.43	5.67	13.00	6.08	14.16	6.39	14.96	6.69	16.68	7.74	18.65	9.03

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 2-8.5: 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
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	15.82	2.36	18.64	2.69	21.75	3.07	23.29	3.26	24.42	3.35	27.71	3.91	31.18	4.18
	-10	15.82	2.56	18.64	2.91	21.75	3.30	23.29	3.50	24.42	3.67	27.71	4.25	31.18	4.56
	-5	15.82	2.77	18.64	3.11	21.75	3.64	23.29	3.77	24.42	3.93	27.71	4.54	31.18	4.95
	-2	15.82	2.76	18.64	3.14	21.75	3.67	23.29	3.82	24.42	4.03	27.71	4.61	31.18	4.98
	0	15.82	2.77	18.64	3.22	21.75	3.77	23.29	3.87	24.42	4.09	27.71	4.73	31.18	5.03
	2	15.82	2.86	18.64	3.31	21.75	3.77	23.29	3.92	24.42	4.17	27.71	4.73	31.18	5.14
	4	15.82	2.89	18.64	3.29	21.75	3.83	23.29	3.97	24.42	4.17	27.71	4.85	31.18	5.29
	6	15.82	2.96	18.64	3.35	21.75	3.86	23.29	4.15	24.42	4.35	27.71	4.90	31.18	5.51
	8	15.82	3.04	18.64	3.43	21.75	3.90	23.29	4.25	24.42	4.39	27.71	4.95	31.18	5.61
	10	15.82	3.08	18.64	3.53	21.75	3.97	23.29	4.22	24.42	4.52	27.71	5.06	31.18	5.80
	12	15.82	3.09	18.64	3.49	21.75	4.09	23.29	4.32	24.42	4.63	27.71	5.19	31.18	5.78
	14	15.82	3.18	18.64	3.57	21.75	4.07	23.29	4.40	24.42	4.60	27.71	5.30	31.18	5.91
	16	15.82	3.19	18.64	3.56	21.75	4.23	23.29	4.56	24.42	4.67	27.71	5.30	31.18	6.02
	18	15.82	3.24	18.64	3.69	21.75	4.24	23.29	4.52	24.42	4.73	27.71	5.55	31.18	6.24
	20	15.82	3.29	18.64	3.75	21.75	4.37	23.29	4.68	24.42	4.84	27.71	5.51	31.18	6.33
	21	15.82	3.32	18.64	3.76	21.75	4.41	23.29	4.67	24.42	4.87	27.71	5.64	31.18	6.38
	23	15.82	3.38	18.64	3.80	21.75	4.41	23.29	4.76	24.42	4.96	27.71	5.73	31.18	6.53
	25	15.82	3.38	18.64	3.83	21.75	4.57	23.29	4.84	24.42	5.12	27.71	5.95	31.18	7.01
	27	15.82	3.47	18.64	4.00	21.75	4.74	23.29	5.12	24.42	5.50	27.71	6.34	31.18	7.44
	29	15.82	3.61	18.64	4.32	21.75	5.07	23.29	5.57	24.42	5.85	27.71	6.83	31.18	7.94
	31	15.82	3.88	18.64	4.57	21.75	5.29	23.29	5.82	24.42	6.27	27.71	7.25	31.18	8.26
	33	15.82	4.02	18.64	4.80	21.75	5.70	23.29	6.22	24.42	6.54	27.71	7.67	31.18	8.97
	35	15.82	4.35	18.64	5.10	21.75	6.00	23.29	6.50	24.42	6.94	27.71	8.13	31.18	9.54
	37	15.82	4.58	18.64	5.32	21.75	6.34	23.29	6.96	24.42	7.48	27.71	8.66	31.18	10.16
	39	15.82	4.74	18.64	5.69	21.75	6.82	23.29	7.30	24.42	7.78	27.71	9.13	31.18	10.52
	41	15.82	4.93	18.64	5.90	21.75	6.88	23.29	7.68	24.42	8.12	27.71	9.59	31.18	10.76
	43	15.82	5.37	18.64	6.32	21.75	7.19	23.29	8.04	24.42	8.30	27.71	10.07	31.18	11.12
	46	15.82	5.42	18.64	6.41	21.75	7.67	23.29	8.74	24.42	8.70	27.71	10.76	31.18	11.53
	48	15.82	5.49	18.64	6.58	21.75	8.21	23.29	9.33	24.42	9.13	27.71	10.21	31.18	10.93
	50	14.24	5.93	16.77	6.65	19.58	7.79	20.96	8.17	21.98	8.42	24.94	9.25	28.06	10.03
	52	11.39	5.35	13.42	5.92	15.66	6.52	16.77	6.82	17.59	6.97	19.95	8.00	22.45	9.14
	55	7.97	4.06	9.39	4.50	10.96	4.97	11.74	5.16	12.31	5.54	13.97	7.07	15.72	8.24

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

Table 2-8.6: 8HP 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-30.0	-30.5	20.84	8.20	20.98	9.05	20.35	9.17	20.20	9.39	20.14	10.72	20.03	7.97
	-25.0	-25.4	21.27	8.53	21.41	9.13	20.76	8.72	20.61	8.93	20.56	8.65	20.44	8.54
	-19.8	-20.0	22.36	7.71	22.50	8.20	22.20	8.55	22.03	8.70	21.99	8.62	21.90	8.71
	-18.8	-19.0	22.53	7.60	22.68	8.05	22.38	8.38	22.29	8.56	22.16	8.54	22.08	8.64
	-16.7	-17.0	22.87	7.36	23.03	7.79	22.72	8.09	22.64	8.26	22.50	8.45	22.42	8.49
	-13.7	-15.0	23.22	7.09	23.37	7.49	23.07	7.75	22.98	7.92	22.85	8.06	22.77	8.22
	-11.8	-13.0	23.56	6.96	23.73	7.32	23.42	7.59	23.33	7.75	23.19	7.89	23.20	8.11
	-9.8	-11.0	23.91	6.74	24.07	7.11	23.76	7.32	23.67	7.48	23.62	7.64	23.54	7.79
	-9.5	-10.0	24.08	6.97	24.25	7.03	24.02	7.29	23.84	7.41	23.80	7.56	23.71	7.74
	-8.5	-9.1	24.25	7.09	24.42	6.98	24.10	7.20	24.01	7.33	23.96	7.49	23.89	7.73
	-7.0	-7.6	24.52	7.05	24.69	6.87	24.45	7.12	24.27	7.22	24.22	7.36	24.14	7.55
	-5.0	-5.6	26.41	6.85	26.60	7.19	26.27	7.41	26.16	7.54	26.03	7.60	25.94	7.72
	-3.0	-3.7	26.76	6.76	26.95	7.09	26.61	7.30	26.51	7.32	26.37	7.37	26.29	7.50
	0.0	-0.7	27.27	6.47	27.47	6.87	27.13	6.93	27.02	6.98	26.89	7.03	26.89	7.22
	3.0	2.2	30.13	7.09	30.09	7.11	29.72	7.17	29.52	7.20	29.46	7.27	29.38	7.45
	5.0	4.1	37.46	8.56	36.33	8.42	35.42	8.23	33.91	8.14	32.47	7.75	29.81	7.29
	7.0	6.0	38.07	8.49	37.03	8.48	35.42	8.27	33.91	7.65	32.47	7.10	29.81	6.94
	9.0	7.9	38.07	8.43	37.03	8.27	35.42	7.73	33.91	7.31	32.47	7.20	29.81	6.95
	11.0	9.8	38.07	8.22	37.03	7.61	35.42	7.33	33.91	7.01	32.47	7.05	29.81	6.80
	13.0	11.8	38.07	7.15	37.03	6.39	35.42	7.14	33.91	7.04	32.47	6.92	29.81	6.54
	15.0	13.7	38.07	6.78	37.03	6.40	35.42	6.84	33.91	6.57	32.47	6.44	29.81	6.20
	18.0	16.6	38.07	5.85	37.03	5.77	35.42	6.19	33.91	6.10	32.47	5.74	29.81	5.17
	21.0	19.5	38.07	5.22	37.03	5.19	35.42	6.01	33.91	5.67	32.47	5.39	29.81	4.91
	24.0	22.4	38.07	5.03	37.03	5.00	35.42	5.64	33.91	5.36	32.47	5.10	29.81	4.60
	27.0	25.3	38.07	4.95	37.03	4.99	35.42	5.06	33.91	5.09	32.47	4.82	29.81	4.37
	30.0	28.1	38.07	4.65	37.03	5.16	35.42	5.16	33.91	4.97	32.47	4.70	29.81	4.24
120%	-30.0	-30.5	20.28	9.13	20.21	9.97	20.51	10.78	20.53	10.97	20.29	11.94	20.09	10.12
	-25.0	-25.4	20.69	8.74	20.62	9.29	20.93	9.63	20.95	9.88	20.71	9.72	20.50	9.90
	-19.8	-20.0	21.94	7.96	21.87	8.40	22.13	9.00	22.21	9.29	21.98	9.27	21.74	9.49
	-18.8	-19.0	22.11	7.84	22.04	8.24	22.30	8.81	22.39	9.10	22.15	9.12	21.91	9.35
	-16.7	-17.0	22.45	7.58	22.38	7.96	22.65	8.49	22.74	8.75	22.50	8.91	22.34	9.11
	-13.7	-15.0	22.79	7.29	22.72	7.63	23.00	8.11	23.08	8.35	22.93	8.50	22.68	8.71
	-11.8	-13.0	23.13	7.14	23.07	7.46	23.38	7.94	23.43	8.16	23.28	8.31	23.02	8.52
	-9.8	-11.0	23.47	6.91	23.40	7.21	23.78	7.66	23.78	7.86	23.62	7.99	23.36	8.10
	-9.5	-10.0	23.64	6.64	23.57	7.14	23.95	7.59	23.95	7.78	23.79	7.88	23.54	8.10
	-8.5	-9.1	23.81	6.57	23.75	7.08	24.12	7.52	24.13	7.70	23.97	7.77	23.71	8.04
	-7.0	-7.6	24.06	6.50	24.00	6.97	24.38	7.36	24.38	7.58	24.22	7.69	23.96	7.81
	-5.0	-5.6	25.93	7.01	25.87	7.24	26.20	7.71	26.30	7.87	26.12	7.90	25.85	7.90
	-3.0	-3.7	26.28	6.88	26.21	7.29	26.54	7.54	26.64	7.63	26.38	7.63	26.19	7.69
	0.0	-0.7	26.79	6.58	26.72	6.91	27.06	7.10	27.16	7.21	26.98	7.26	26.70	7.38
	3.0	2.2	29.25	7.02	29.27	7.15	29.65	7.37	29.68	7.47	29.48	7.51	27.39	7.17
	5.0	4.1	36.82	8.58	34.64	8.24	32.68	7.84	31.50	7.77	30.09	7.42	27.39	6.94
	7.0	6.0	37.08	8.49	34.64	8.11	32.68	7.74	31.50	7.34	30.09	6.93	27.39	6.62
	9.0	7.9	37.08	8.43	34.64	7.97	32.68	7.46	31.50	7.19	30.09	7.05	27.39	6.67
	11.0	9.8	37.08	8.21	34.64	7.44	32.68	7.15	31.50	6.95	30.09	6.86	27.39	6.38
	13.0	11.8	37.08	6.85	34.64	6.06	32.68	6.44	31.50	6.34	30.09	6.18	27.39	5.74
	15.0	13.7	37.08	6.42	34.64	5.89	32.68	6.10	31.50	5.96	30.09	5.80	27.39	5.50
	18.0	16.6	37.08	5.78	34.64	5.53	32.68	5.66	31.50	5.57	30.09	5.22	27.39	4.71
	21.0	19.5	37.08	5.24	34.64	5.05	32.68	5.40	31.50	5.11	30.09	4.90	27.39	4.43
	24.0	22.4	37.08	5.02	34.64	4.75	32.68	5.04	31.50	4.87	30.09	4.60	27.39	4.17
	27.0	25.3	37.08	4.96	34.64	4.75	32.68	4.67	31.50	4.69	30.09	4.45	27.39	3.93
	30.0	28.1	37.08	4.70	34.64	4.86	32.68	4.74	31.50	4.57	30.09	4.22	27.39	3.89

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 2-8.6: 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	kW
110%	-30.0	-30.5	20.92	10.63	20.18	11.22	20.65	12.41	20.85	12.65	20.59	13.20	20.49	12.74
	-25.0	-25.4	21.35	9.50	20.59	9.82	21.07	10.58	21.28	10.91	21.01	10.90	20.91	11.47
	-19.8	-20.0	22.27	8.51	21.50	8.71	22.03	9.48	22.20	9.84	21.93	9.93	21.83	10.42
	-18.8	-19.0	22.44	8.36	21.67	8.53	22.19	9.27	22.37	9.62	22.10	9.71	21.99	10.20
	-16.7	-17.0	22.79	8.07	22.01	8.21	22.54	8.90	22.72	9.23	22.53	9.42	22.34	9.78
	-13.7	-15.0	23.14	7.74	22.34	7.86	22.89	8.47	23.07	8.75	22.87	8.92	22.68	9.26
	-11.8	-13.0	23.49	7.57	22.68	7.68	23.32	8.30	23.42	8.55	23.22	8.69	23.03	9.01
	-9.8	-11.0	23.83	7.31	23.01	7.39	23.66	7.96	23.77	8.20	23.56	8.33	23.37	8.48
	-9.5	-10.0	24.00	7.13	23.27	7.35	23.84	7.89	23.94	8.12	23.74	8.20	23.54	8.52
	-8.5	-9.1	24.18	7.05	23.35	7.26	24.01	7.81	24.12	8.03	23.91	8.04	23.72	8.41
	-7.0	-7.6	24.44	6.96	23.60	7.14	24.27	7.60	24.37	7.90	24.17	8.00	23.98	8.13
	-5.0	-5.6	26.34	7.41	25.45	7.37	26.09	8.00	26.29	8.16	26.07	8.17	25.18	7.92
	-3.0	-3.7	26.69	7.24	25.78	7.39	26.43	7.78	26.64	7.90	26.41	7.91	25.18	7.61
	0.0	-0.7	27.21	6.92	26.29	6.92	27.03	7.29	27.16	7.42	26.93	7.46	25.18	7.17
	3.0	2.2	29.72	7.28	28.81	7.19	29.54	7.56	28.99	7.52	27.62	7.26	25.18	6.82
	5.0	4.1	34.66	8.23	31.33	7.61	29.97	7.42	28.99	7.35	27.62	7.04	25.18	6.61
	7.0	6.0	34.66	8.15	31.33	7.51	29.97	7.21	28.99	6.98	27.62	6.70	25.18	6.33
	9.0	7.9	34.66	8.09	31.33	7.43	29.97	7.15	28.99	6.99	27.62	6.83	25.18	6.41
	11.0	9.8	34.66	7.88	31.33	7.04	29.97	6.92	28.99	6.84	27.62	6.62	25.18	6.00
	13.0	11.8	34.66	6.30	31.33	5.56	29.97	5.75	28.99	5.64	27.62	5.45	25.18	5.00
	15.0	13.7	34.66	5.81	31.33	5.24	29.97	5.40	28.99	5.33	27.62	5.15	25.18	4.85
	18.0	16.6	34.66	5.49	31.33	5.14	29.97	5.13	28.99	5.02	27.62	4.69	25.18	4.29
	21.0	19.5	34.66	5.06	31.33	4.78	29.97	4.79	28.99	4.54	27.62	4.39	25.18	3.99
	24.0	22.4	34.66	4.83	31.33	4.37	29.97	4.45	28.99	4.35	27.62	4.09	25.18	3.77
	27.0	25.3	34.66	4.79	31.33	4.39	29.97	4.28	28.99	4.27	27.62	4.08	25.18	3.51
	30.0	28.1	34.66	4.56	31.33	4.43	29.97	4.32	28.99	4.15	27.62	3.72	25.18	3.56
100%	-30.0	-30.5	20.78	11.79	20.45	12.66	20.54	13.93	20.77	14.14	20.55	14.19	20.06	15.14
	-25.0	-25.4	21.20	9.96	20.87	10.55	20.96	11.45	21.19	11.78	20.97	11.93	20.47	12.58
	-19.8	-20.0	22.19	8.93	21.84	9.34	21.94	9.99	22.18	10.43	21.95	10.66	21.43	11.13
	-18.8	-19.0	22.54	8.82	22.18	9.21	22.29	9.84	22.53	10.26	22.30	10.46	21.76	10.92
	-16.7	-17.0	22.88	8.50	22.52	8.82	22.71	9.44	22.87	9.80	22.64	9.98	22.10	10.36
	-13.7	-15.0	23.23	8.12	22.86	8.43	23.06	8.95	23.22	9.24	22.98	9.42	22.43	9.71
	-11.8	-13.0	23.57	7.93	23.20	8.22	23.40	8.72	23.56	9.01	23.32	9.15	22.43	9.26
	-9.8	-11.0	23.74	7.59	23.46	7.86	23.57	8.27	23.83	8.58	23.50	8.67	22.43	8.51
	-9.5	-10.0	23.91	7.52	23.54	7.75	23.74	8.20	23.91	8.47	23.67	8.52	22.43	8.53
	-8.5	-9.1	24.17	7.47	23.88	7.74	24.00	8.14	24.18	8.40	23.93	8.35	22.43	8.31
	-7.0	-7.6	26.06	7.84	25.67	8.09	25.89	8.41	26.08	8.80	24.96	8.61	22.43	7.91
	-5.0	-5.6	26.41	7.72	26.01	7.78	26.23	8.37	26.26	8.45	24.96	8.10	22.43	7.26
	-3.0	-3.7	26.92	7.56	26.52	7.92	26.74	8.15	26.26	8.07	24.96	7.74	22.43	6.99
	0.0	-0.7	27.61	7.28	28.81	7.78	27.00	7.49	26.26	7.39	24.96	7.12	22.43	6.60
	3.0	2.2	29.42	7.36	28.81	7.40	27.00	7.13	26.26	7.03	24.96	6.78	22.43	6.29
	5.0	4.1	31.22	7.56	28.81	7.17	27.00	6.91	26.26	6.84	24.96	6.59	22.43	6.12
	7.0	6.0	31.22	7.55	28.81	7.07	27.00	6.60	26.26	6.53	24.96	6.37	22.43	5.86
	9.0	7.9	31.22	7.50	28.81	7.05	27.00	6.57	26.26	6.53	24.96	6.42	22.43	5.99
	11.0	9.8	31.22	7.29	28.81	6.77	27.00	6.58	26.26	6.62	24.96	6.30	22.43	5.49
	13.0	11.8	31.22	5.57	28.81	5.20	27.00	5.04	26.26	4.92	24.96	4.69	22.43	4.18
	15.0	13.7	31.22	5.05	28.81	4.72	27.00	4.68	26.26	4.68	24.96	4.47	22.43	4.11
	18.0	16.6	31.22	5.03	28.81	4.86	27.00	4.56	26.26	4.43	24.96	4.12	22.43	3.78
	21.0	19.5	31.22	4.72	28.81	4.63	27.00	4.14	26.26	3.93	24.96	3.85	22.43	3.46
	24.0	22.4	31.22	4.49	28.81	4.09	27.00	3.81	26.26	3.79	24.96	3.53	22.43	3.30
	27.0	25.3	31.22	4.47	28.81	4.13	27.00	3.86	26.26	3.83	24.96	3.67	22.43	3.02
	30.0	28.1	31.22	4.29	28.81	4.11	27.00	3.86	26.26	3.70	24.96	3.20	22.43	3.16

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 2-8.6: 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	kW
90%	-30.0	-30.5	20.85	12.48	20.25	13.20	20.53	14.04	20.72	15.39	20.86	15.64	20.54	15.82
	-25.0	-25.4	21.27	10.49	20.67	10.99	20.94	11.74	21.14	12.55	21.28	12.90	20.96	13.33
	-19.8	-20.0	22.18	9.29	21.58	9.68	21.85	10.38	22.08	10.84	22.23	11.27	20.96	11.38
	-18.8	-19.0	22.35	9.11	21.74	9.42	22.02	10.15	22.25	10.57	22.40	10.98	20.96	10.98
	-16.7	-17.0	22.70	8.79	22.09	8.58	22.45	9.75	22.60	10.20	22.75	10.49	20.96	10.21
	-13.7	-15.0	23.04	8.41	22.42	8.62	22.79	9.24	22.95	9.54	23.02	9.85	20.96	9.53
	-11.8	-13.0	23.39	8.21	22.76	8.42	23.14	9.00	23.30	9.30	23.02	9.37	20.96	9.00
	-9.8	-11.0	23.74	7.92	23.19	8.11	23.49	8.55	23.73	8.80	23.02	8.86	20.96	8.18
	-9.5	-10.0	23.91	7.85	23.36	8.04	23.66	8.42	23.82	8.81	23.02	8.63	20.96	8.09
	-8.5	-9.1	24.09	7.78	23.44	7.88	23.83	8.45	23.82	8.60	23.02	8.37	20.96	7.86
	-7.0	-7.6	24.35	7.62	23.78	7.84	24.09	8.06	23.82	8.17	23.02	8.01	20.96	7.47
	-5.0	-5.6	26.26	7.85	25.57	7.84	24.52	8.01	23.82	7.74	23.02	7.56	20.96	7.02
	-3.0	-3.7	26.61	7.67	25.91	7.80	24.52	7.59	23.82	7.42	23.02	7.27	20.96	6.73
	0.0	-0.7	27.13	7.37	25.91	7.22	24.52	7.10	23.82	6.92	23.02	6.84	20.96	6.34
	3.0	2.2	28.43	7.34	25.91	6.88	24.52	6.70	23.82	6.63	23.02	6.45	20.96	5.97
	5.0	4.1	28.43	7.13	25.91	6.68	24.52	6.52	23.82	6.37	23.02	6.20	20.96	5.87
	7.0	6.0	28.43	6.99	25.91	6.55	24.52	6.19	23.82	6.20	23.02	6.07	20.96	5.76
	9.0	7.9	28.43	7.05	25.91	6.63	24.52	6.41	23.82	6.28	23.02	6.15	20.96	5.79
	11.0	9.8	28.43	6.89	25.91	6.32	24.52	6.14	23.82	5.96	23.02	5.60	20.96	4.83
	13.0	11.8	28.43	5.14	25.91	4.72	24.52	4.56	23.82	4.43	23.02	4.45	20.96	3.88
	15.0	13.7	28.43	4.69	25.91	4.45	24.52	4.34	23.82	4.26	23.02	4.12	20.96	3.80
	18.0	16.6	28.43	4.65	25.91	4.33	24.52	4.11	23.82	3.99	23.02	3.87	20.96	3.55
	21.0	19.5	28.43	4.28	25.91	4.04	24.52	3.73	23.82	3.61	23.02	3.51	20.96	3.20
	24.0	22.4	28.43	3.99	25.91	3.74	24.52	3.51	23.82	3.42	23.02	3.31	20.96	3.09
	27.0	25.3	28.43	4.04	25.91	3.67	24.52	3.40	23.82	3.46	23.02	3.34	20.96	2.90
	30.0	28.1	28.43	3.94	25.91	3.51	24.52	3.46	23.82	3.29	23.02	3.18	20.96	3.00
80%	-30.0	-30.5	20.89	13.16	20.07	13.73	20.67	14.25	20.62	16.60	20.09	16.27	18.30	14.37
	-25.0	-25.4	21.31	11.00	20.48	11.42	21.09	12.12	21.04	13.28	20.50	13.19	18.67	12.27
	-19.8	-20.0	22.16	9.66	21.29	10.00	21.74	10.75	21.04	10.77	20.50	10.85	18.67	10.58
	-18.8	-19.0	22.33	9.48	21.46	9.69	21.74	10.45	21.04	10.40	20.50	10.49	18.67	10.21
	-16.7	-17.0	22.68	9.15	21.80	8.39	21.74	9.84	21.04	9.99	20.50	9.86	18.67	9.45
	-13.7	-15.0	23.03	8.75	22.14	8.87	21.74	9.19	21.04	9.12	20.50	9.15	18.67	8.92
	-11.8	-13.0	23.38	8.55	22.47	8.66	21.74	8.82	21.04	8.76	20.50	8.65	18.67	8.33
	-9.8	-11.0	23.72	8.25	22.81	8.31	21.74	8.21	21.04	8.04	20.50	8.22	18.67	7.51
	-9.5	-10.0	23.90	8.18	22.81	8.19	21.74	7.98	21.04	8.11	20.50	7.99	18.67	7.33
	-8.5	-9.1	24.08	8.11	22.81	7.96	21.74	8.05	21.04	7.89	20.50	7.76	18.67	7.09
	-7.0	-7.6	24.34	7.92	22.81	7.86	21.74	7.49	21.04	7.34	20.50	7.19	18.67	6.73
	-5.0	-5.6	25.38	7.76	22.81	7.17	21.74	7.28	21.04	6.90	20.50	6.82	18.67	6.49
	-3.0	-3.7	25.38	7.52	22.81	6.93	21.74	6.84	21.04	6.65	20.50	6.60	18.67	6.19
	0.0	-0.7	25.38	7.11	22.81	6.57	21.74	6.57	21.04	6.31	20.50	6.36	18.67	5.83
	3.0	2.2	25.38	6.78	22.81	6.27	21.74	6.15	21.04	6.08	20.50	5.94	18.67	5.42
	5.0	4.1	25.38	6.59	22.81	6.10	21.74	6.00	21.04	5.79	20.50	5.65	18.67	5.40
	7.0	6.0	25.38	6.34	22.81	5.94	21.74	5.68	21.04	5.74	20.50	5.61	18.67	5.43
	9.0	7.9	25.38	6.00	22.81	5.78	21.74	5.49	21.04	5.68	20.50	5.53	18.67	5.35
	11.0	9.8	25.38	5.58	22.81	5.51	21.74	5.39	21.04	5.22	20.50	4.76	18.67	4.00
	13.0	11.8	25.38	4.66	22.81	4.21	21.74	4.01	21.04	3.88	20.50	4.09	18.67	3.43
	15.0	13.7	25.38	4.29	22.81	4.14	21.74	3.94	21.04	3.78	20.50	3.67	18.67	3.34
	18.0	16.6	25.38	4.22	22.81	3.77	21.74	3.62	21.04	3.49	20.50	3.53	18.67	3.18
	21.0	19.5	25.38	3.80	22.81	3.43	21.74	3.28	21.04	3.24	20.50	3.08	18.67	2.82
	24.0	22.4	25.38	3.45	22.81	3.35	21.74	3.17	21.04	3.00	20.50	3.00	18.67	2.76
	27.0	25.3	25.38	3.57	22.81	3.18	21.74	2.90	21.04	3.05	20.50	2.93	18.67	2.67
	30.0	28.1	25.38	3.56	22.81	2.91	21.74	3.01	21.04	2.84	20.50	3.09	18.67	2.72

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 2-8.6: 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	kW
70%	-30.0	-30.5	21.92	13.84	19.62	13.23	18.92	13.06	18.00	14.42	17.27	13.91	16.30	12.47
	-25.0	-25.4	22.37	11.78	20.02	11.24	19.31	11.22	18.37	11.62	17.62	11.28	16.64	11.08
	-19.8	-20.0	22.37	10.11	20.02	9.63	19.31	9.72	18.37	9.53	17.62	9.35	16.64	9.44
	-18.8	-19.0	22.55	9.99	20.02	9.32	19.31	9.47	18.37	9.24	17.62	9.12	16.64	9.12
	-16.7	-17.0	22.55	9.54	20.02	8.28	19.31	8.99	18.37	8.86	17.62	8.66	16.64	8.50
	-13.7	-15.0	22.55	9.03	20.02	8.42	19.31	8.49	18.37	8.23	17.62	8.19	16.64	8.11
	-11.8	-13.0	22.55	8.76	20.02	8.11	19.31	8.18	18.37	7.97	17.62	7.74	16.64	7.65
	-9.8	-11.0	22.55	8.29	20.02	7.65	19.31	7.64	18.37	7.34	17.62	7.26	16.64	6.92
	-9.5	-10.0	22.55	8.16	20.02	7.55	19.31	7.49	18.37	7.34	17.62	7.08	16.64	6.80
	-8.5	-9.1	22.55	8.05	20.02	7.39	19.31	7.42	18.37	7.12	17.62	6.92	16.64	6.61
	-7.0	-7.6	22.55	7.79	20.02	7.20	19.31	6.97	18.37	6.73	17.62	6.51	16.64	6.31
	-5.0	-5.6	22.55	7.38	20.02	6.69	19.31	6.76	18.37	6.35	17.62	6.18	16.64	6.05
	-3.0	-3.7	22.55	7.10	20.02	6.44	19.31	6.38	18.37	6.11	17.62	5.95	16.64	5.76
	0.0	-0.7	22.55	6.66	20.02	6.05	19.31	6.07	18.37	5.75	17.62	5.67	16.64	5.41
	3.0	2.2	22.55	6.29	20.02	5.72	19.31	5.66	18.37	5.49	17.62	5.30	16.64	5.05
	5.0	4.1	22.55	6.05	20.02	5.51	19.31	5.44	18.37	5.15	17.62	4.90	16.64	4.85
	7.0	6.0	22.55	5.76	20.02	5.31	19.31	5.07	18.37	5.03	17.62	4.76	16.64	4.78
	9.0	7.9	22.55	5.77	20.02	5.34	19.31	5.18	18.37	4.97	17.62	4.68	16.64	4.66
	11.0	9.8	22.55	5.53	20.02	4.93	19.31	4.84	18.37	4.46	17.62	4.07	16.64	3.66
	13.0	11.8	22.55	4.16	20.02	3.73	19.31	3.62	18.37	3.45	17.62	3.52	16.64	3.15
	15.0	13.7	22.55	3.88	20.02	3.65	19.31	3.54	18.37	3.34	17.62	3.21	16.64	3.05
	18.0	16.6	22.55	3.78	20.02	3.35	19.31	3.26	18.37	3.10	17.62	3.07	16.64	2.91
	21.0	19.5	22.55	3.43	20.02	3.08	19.31	2.99	18.37	2.90	17.62	2.74	16.64	2.64
	24.0	22.4	22.55	3.17	20.02	3.01	19.31	2.89	18.37	2.73	17.62	2.68	16.64	2.58
	27.0	25.3	22.55	3.25	20.02	2.86	19.31	2.69	18.37	2.72	17.62	2.65	16.64	2.48
	30.0	28.1	22.55	3.29	20.02	2.70	19.31	2.76	18.37	2.57	17.62	2.68	16.64	2.44
60%	-30.0	-30.5	18.13	11.48	16.68	11.07	16.28	11.25	15.95	12.70	14.94	11.94	13.91	10.32
	-25.0	-25.4	18.50	9.95	17.02	9.62	16.62	9.76	16.27	10.31	15.24	9.69	14.19	9.60
	-19.8	-20.0	18.50	8.68	17.02	8.39	16.62	8.52	16.27	8.57	15.24	8.11	14.19	8.07
	-18.8	-19.0	18.50	8.56	17.02	8.17	16.62	8.34	16.27	8.35	15.24	7.99	14.19	7.80
	-16.7	-17.0	18.50	8.23	17.02	7.55	16.62	7.96	16.27	8.00	15.24	7.67	14.19	7.34
	-13.7	-15.0	18.50	7.83	17.02	7.52	16.62	7.61	16.27	7.57	15.24	7.41	14.19	7.07
	-11.8	-13.0	18.50	7.65	17.02	7.27	16.62	7.37	16.27	7.38	15.24	7.00	14.19	6.75
	-9.8	-11.0	18.50	7.21	17.02	6.85	16.62	6.90	16.27	6.84	15.24	6.47	14.19	6.14
	-9.5	-10.0	18.50	7.10	17.02	6.77	16.62	6.84	16.27	6.78	15.24	6.34	14.19	6.07
	-8.5	-9.1	18.50	7.02	17.02	6.68	16.62	6.66	16.27	6.55	15.24	6.23	14.19	5.94
	-7.0	-7.6	18.50	6.81	17.02	6.42	16.62	6.33	16.27	6.30	15.24	5.96	14.19	5.71
	-5.0	-5.6	18.50	6.51	17.02	6.08	16.62	6.13	16.27	5.98	15.24	5.69	14.19	5.46
	-3.0	-3.7	18.50	6.23	17.02	5.85	16.62	5.83	16.27	5.75	15.24	5.45	14.19	5.19
	0.0	-0.7	18.50	5.81	17.02	5.46	16.62	5.47	16.27	5.37	15.24	5.14	14.19	4.86
	3.0	2.2	18.50	5.44	17.02	5.11	16.62	5.10	16.27	5.08	15.24	4.80	14.19	4.57
	5.0	4.1	18.50	5.17	17.02	4.86	16.62	4.81	16.27	4.68	15.24	4.29	14.19	4.19
	7.0	6.0	18.50	4.86	17.02	4.62	16.62	4.39	16.27	4.48	15.24	4.05	14.19	4.01
	9.0	7.9	18.50	4.74	17.02	4.51	16.62	4.33	16.27	4.36	15.24	3.86	14.19	3.85
	11.0	9.8	18.50	4.37	17.02	4.01	16.62	3.99	16.27	3.85	15.24	3.50	14.19	3.23
	13.0	11.8	18.50	3.45	17.02	3.21	16.62	3.17	16.27	3.13	15.24	3.05	14.19	2.79
	15.0	13.7	18.50	3.26	17.02	3.12	16.62	3.08	16.27	3.02	15.24	2.85	14.19	2.69
	18.0	16.6	18.50	3.13	17.02	2.90	16.62	2.87	16.27	2.82	15.24	2.70	14.19	2.56
	21.0	19.5	18.50	2.89	17.02	2.70	16.62	2.67	16.27	2.66	15.24	2.49	14.19	2.40
	24.0	22.4	18.50	2.72	17.02	2.63	16.62	2.57	16.27	2.54	15.24	2.43	14.19	2.34
	27.0	25.3	18.50	2.75	17.02	2.51	16.62	2.44	16.27	2.47	15.24	2.45	14.19	2.24
	30.0	28.1	18.50	2.84	17.02	2.48	16.62	2.47	16.27	2.39	15.24	2.34	14.19	2.10

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 2-8.6: 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	kW
50%	-30.0	-30.5	15.01	9.53	14.31	9.35	13.58	9.39	13.44	10.63	13.16	10.43	11.83	8.46
	-25.0	-25.4	15.32	8.41	14.60	8.31	13.86	8.24	13.71	8.71	13.43	8.47	12.07	8.32
	-19.8	-20.0	15.32	7.47	14.60	7.38	13.86	7.26	13.71	7.33	13.43	7.16	12.07	6.88
	-18.8	-19.0	15.32	7.40	14.60	7.25	13.86	7.12	13.71	7.18	13.43	7.14	12.07	6.65
	-16.7	-17.0	15.32	7.16	14.60	6.95	13.86	6.86	13.71	6.87	13.43	6.94	12.07	6.32
	-13.7	-15.0	15.32	6.85	14.60	6.80	13.86	6.64	13.71	6.64	13.43	6.87	12.07	6.16
	-11.8	-13.0	15.32	6.74	14.60	6.59	13.86	6.46	13.71	6.53	13.43	6.47	12.07	5.97
	-9.8	-11.0	15.32	6.34	14.60	6.21	13.86	6.08	13.71	6.08	13.43	5.92	12.07	5.47
	-9.5	-10.0	15.32	6.26	14.60	6.16	13.86	6.08	13.71	5.99	13.43	5.82	12.07	5.45
	-8.5	-9.1	15.32	6.20	14.60	6.12	13.86	5.84	13.71	5.77	13.43	5.77	12.07	5.38
	-7.0	-7.6	15.32	6.04	14.60	5.81	13.86	5.61	13.71	5.66	13.43	5.63	12.07	5.22
	-5.0	-5.6	15.32	5.83	14.60	5.62	13.86	5.42	13.71	5.42	13.43	5.40	12.07	4.98
	-3.0	-3.7	15.32	5.57	14.60	5.41	13.86	5.22	13.71	5.21	13.43	5.17	12.07	4.75
	0.0	-0.7	15.32	5.17	14.60	5.03	13.86	4.85	13.71	4.85	13.43	4.82	12.07	4.44
	3.0	2.2	15.32	4.82	14.60	4.68	13.86	4.53	13.71	4.54	13.43	4.52	12.07	4.19
	5.0	4.1	15.32	4.52	14.60	4.38	13.86	4.16	13.71	4.09	13.43	3.84	12.07	3.63
	7.0	6.0	15.32	4.18	14.60	4.09	13.86	3.70	13.71	3.81	13.43	3.49	12.07	3.33
	9.0	7.9	15.32	3.92	14.60	3.83	13.86	3.45	13.71	3.61	13.43	3.16	12.07	3.11
	11.0	9.8	15.32	3.42	14.60	3.22	13.86	3.11	13.71	3.11	13.43	3.05	12.07	2.88
	13.0	11.8	15.32	2.89	14.60	2.80	13.86	2.72	13.71	2.72	13.43	2.70	12.07	2.51
	15.0	13.7	15.32	2.79	14.60	2.70	13.86	2.61	13.71	2.62	13.43	2.59	12.07	2.40
	18.0	16.6	15.32	2.63	14.60	2.54	13.86	2.46	13.71	2.46	13.43	2.44	12.07	2.28
	21.0	19.5	15.32	2.47	14.60	2.41	13.86	2.34	13.71	2.35	13.43	2.34	12.07	2.21
	24.0	22.4	15.32	2.39	14.60	2.34	13.86	2.25	13.71	2.30	13.43	2.28	12.07	2.16
	27.0	25.3	15.32	2.38	14.60	2.25	13.86	2.19	13.71	2.16	13.43	2.36	12.07	2.06
	30.0	28.1	15.32	2.52	14.60	2.35	13.86	2.18	13.71	2.15	13.43	2.10	12.07	1.81

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

Table 2-8.7: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-30.0	-30.5	24.58	10.18	24.12	10.94	23.58	11.18	23.59	11.53	23.40	13.10	23.10	9.67
	-25.0	-25.4	25.08	10.58	24.61	11.04	24.06	10.63	24.07	10.97	23.87	10.56	23.57	10.36
	-19.8	-20.0	26.36	9.57	25.87	9.92	25.73	10.42	25.73	10.69	25.54	10.54	25.26	10.56
	-18.8	-19.0	26.56	9.43	26.07	9.74	25.94	10.21	26.03	10.52	25.74	10.43	25.46	10.48
	-16.7	-17.0	26.97	9.13	26.47	9.43	26.33	9.87	26.43	10.15	26.14	10.33	25.86	10.30
	-13.7	-15.0	27.38	8.79	26.87	9.05	26.73	9.45	26.83	9.72	26.54	9.85	26.26	9.97
	-11.8	-13.0	27.78	8.63	27.28	8.86	27.14	9.25	27.24	9.52	26.94	9.64	26.75	9.84
	-9.8	-11.0	28.20	8.36	27.68	8.59	27.54	8.93	27.64	9.19	27.44	9.33	27.15	9.45
	-9.5	-10.0	28.40	8.65	27.88	8.51	27.84	8.88	27.84	9.10	27.64	9.24	27.35	9.39
	-8.5	-9.1	28.60	8.79	28.07	8.44	27.93	8.78	28.04	9.00	27.83	9.15	27.55	9.38
	-7.0	-7.6	28.91	8.74	28.38	8.31	28.34	8.68	28.34	8.88	28.14	9.00	27.84	9.16
	-5.0	-5.6	31.15	8.50	30.58	8.70	30.44	9.03	30.55	9.26	30.23	9.28	29.92	9.37
	-3.0	-3.7	31.55	8.39	30.98	8.57	30.84	8.90	30.95	9.00	30.63	9.00	30.32	9.10
	0.0	-0.7	32.16	8.03	31.58	8.30	31.44	8.45	31.56	8.57	31.23	8.59	31.01	8.76
	3.0	2.2	35.53	8.80	34.59	8.60	34.44	8.74	34.47	8.85	34.22	8.89	33.89	9.04
	5.0	4.1	44.18	10.62	41.77	10.19	41.05	10.04	39.60	10.00	37.71	9.47	34.38	8.84
	7.0	6.0	44.89	10.54	42.57	10.25	41.05	10.09	39.60	9.40	37.71	8.67	34.38	8.42
	9.0	7.9	44.89	10.46	42.57	10.00	41.05	9.42	39.60	8.98	37.71	8.80	34.38	8.43
	11.0	9.8	44.89	10.20	42.57	9.20	41.05	8.94	39.60	8.61	37.71	8.61	34.38	8.25
	13.0	11.8	44.89	8.87	42.57	7.73	41.05	8.71	39.60	8.65	37.71	8.45	34.38	7.93
	15.0	13.7	44.89	8.42	42.57	7.74	41.05	8.33	39.60	8.07	37.71	7.87	34.38	7.52
	18.0	16.6	44.89	7.26	42.57	6.98	41.05	7.55	39.60	7.49	37.71	7.02	34.38	6.27
	21.0	19.5	44.89	6.48	42.57	6.28	41.05	7.32	39.60	6.97	37.71	6.59	34.38	5.96
	24.0	22.4	44.89	6.23	42.57	6.05	41.05	6.87	39.60	6.59	37.71	6.23	34.38	5.58
	27.0	25.3	44.89	6.14	42.57	6.04	41.05	6.16	39.60	6.25	37.71	5.89	34.38	5.31
	30.0	28.1	44.89	5.77	42.57	6.24	41.05	6.29	39.60	6.10	37.71	5.74	34.38	5.15
120%	-30.0	-30.5	23.83	11.29	22.83	11.85	23.86	13.18	23.55	13.25	23.70	14.66	23.80	12.61
	-25.0	-25.4	24.31	10.80	23.30	11.04	24.35	11.78	24.03	11.93	24.18	11.94	24.28	12.33
	-19.8	-20.0	25.78	9.84	24.71	9.99	25.74	11.02	25.49	11.21	25.67	11.38	25.75	11.83
	-18.8	-19.0	25.98	9.69	24.91	9.79	25.94	10.79	25.69	10.98	25.87	11.20	25.95	11.65
	-16.7	-17.0	26.38	9.37	25.29	9.46	26.35	10.39	26.09	10.57	26.27	10.95	26.46	11.35
	-13.7	-15.0	26.78	9.01	25.68	9.07	26.75	9.92	26.49	10.08	26.77	10.45	26.86	10.86
	-11.8	-13.0	27.18	8.83	26.06	8.86	27.20	9.72	26.89	9.85	27.18	10.21	27.27	10.62
	-9.8	-11.0	27.58	8.54	26.45	8.57	27.65	9.37	27.28	9.48	27.58	9.81	27.67	10.09
	-9.5	-10.0	27.78	8.20	26.64	8.49	27.86	9.29	27.48	9.39	27.78	9.68	27.88	10.09
	-8.5	-9.1	27.98	8.12	26.83	8.42	28.06	9.21	27.68	9.29	27.98	9.54	28.08	10.01
	-7.0	-7.6	28.28	8.03	27.12	8.29	28.36	9.01	27.98	9.14	28.28	9.44	28.38	9.73
	-5.0	-5.6	30.48	8.66	29.23	8.60	30.47	9.43	30.17	9.49	30.50	9.70	30.62	9.85
	-3.0	-3.7	30.88	8.51	29.62	8.66	30.87	9.23	30.57	9.21	30.80	9.37	31.02	9.58
	0.0	-0.7	31.48	8.13	30.20	8.22	31.47	8.69	31.17	8.70	31.50	8.92	31.63	9.20
	3.0	2.2	34.38	8.68	33.08	8.50	34.49	9.01	34.06	9.01	34.43	9.22	32.44	8.94
	5.0	4.1	43.27	10.61	39.14	9.80	38.01	9.59	36.15	9.38	35.13	9.12	32.44	8.64
	7.0	6.0	43.57	10.50	39.14	9.64	38.01	9.47	36.15	8.86	35.13	8.52	32.44	8.25
	9.0	7.9	43.57	10.42	39.14	9.47	38.01	9.12	36.15	8.67	35.13	8.65	32.44	8.31
	11.0	9.8	43.57	10.16	39.14	8.85	38.01	8.75	36.15	8.39	35.13	8.43	32.44	7.95
	13.0	11.8	43.57	8.47	39.14	7.20	38.01	7.88	36.15	7.65	35.13	7.59	32.44	7.15
	15.0	13.7	43.57	7.94	39.14	7.00	38.01	7.47	36.15	7.19	35.13	7.12	32.44	6.86
	18.0	16.6	43.57	7.15	39.14	6.57	38.01	6.92	36.15	6.72	35.13	6.41	32.44	5.87
	21.0	19.5	43.57	6.47	39.14	6.00	38.01	6.61	36.15	6.17	35.13	6.02	32.44	5.52
	24.0	22.4	43.57	6.21	39.14	5.64	38.01	6.17	36.15	5.87	35.13	5.65	32.44	5.20
	27.0	25.3	43.57	6.13	39.14	5.65	38.01	5.71	36.15	5.66	35.13	5.47	32.44	4.89
	30.0	28.1	43.57	5.81	39.14	5.77	38.01	5.80	36.15	5.51	35.13	5.18	32.44	4.84

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 2-8.7: 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	kW
110%	-30.0	-30.5	23.62	12.63	23.93	13.99	23.95	15.14	24.05	15.35	23.75	16.01	23.59	15.43
	-25.0	-25.4	24.10	11.29	24.42	12.25	24.44	12.90	24.54	13.24	24.24	13.23	24.07	13.89
	-19.8	-20.0	25.14	10.11	25.49	10.87	25.54	11.56	25.61	11.94	25.29	12.04	25.12	12.61
	-18.8	-19.0	25.34	9.92	25.69	10.64	25.74	11.30	25.81	11.67	25.49	11.78	25.32	12.35
	-16.7	-17.0	25.73	9.59	26.09	10.24	26.14	10.85	26.21	11.20	25.99	11.42	25.72	11.84
	-13.7	-15.0	26.12	9.19	26.49	9.80	26.54	10.33	26.61	10.62	26.38	10.82	26.11	11.21
	-11.8	-13.0	26.51	8.99	26.89	9.57	27.04	10.12	27.02	10.37	26.78	10.55	26.51	10.91
	-9.8	-11.0	26.90	8.68	27.28	9.22	27.44	9.71	27.42	9.95	27.18	10.10	26.90	10.27
	-9.5	-10.0	27.10	8.46	27.59	9.17	27.64	9.62	27.62	9.86	27.38	9.95	27.10	10.32
	-8.5	-9.1	27.30	8.38	27.69	9.06	27.84	9.53	27.82	9.75	27.58	9.75	27.30	10.18
	-7.0	-7.6	27.59	8.26	27.98	8.91	28.14	9.27	28.12	9.58	27.88	9.71	27.60	9.84
	-5.0	-5.6	29.74	8.80	30.18	9.19	30.25	9.76	30.33	9.91	30.07	9.91	28.98	9.58
	-3.0	-3.7	30.13	8.60	30.57	9.21	30.64	9.48	30.73	9.59	30.47	9.60	28.98	9.22
	0.0	-0.7	30.72	8.22	31.17	8.62	31.34	8.89	31.33	9.01	31.06	9.05	28.98	8.69
	3.0	2.2	33.55	8.65	34.15	8.97	34.25	9.22	33.45	9.13	31.86	8.81	28.98	8.26
	5.0	4.1	39.13	9.78	37.15	9.50	34.75	9.05	33.45	8.92	31.86	8.55	28.98	8.01
	7.0	6.0	39.13	9.68	37.15	9.36	34.75	8.79	33.45	8.47	31.86	8.13	28.98	7.66
	9.0	7.9	39.13	9.61	37.15	9.27	34.75	8.72	33.45	8.49	31.86	8.29	28.98	7.77
	11.0	9.8	39.13	9.36	37.15	8.78	34.75	8.44	33.45	8.30	31.86	8.04	28.98	7.27
	13.0	11.8	39.13	7.48	37.15	6.94	34.75	7.02	33.45	6.84	31.86	6.61	28.98	6.06
	15.0	13.7	39.13	6.90	37.15	6.53	34.75	6.59	33.45	6.47	31.86	6.25	28.98	5.88
	18.0	16.6	39.13	6.52	37.15	6.41	34.75	6.26	33.45	6.09	31.86	5.69	28.98	5.19
	21.0	19.5	39.13	6.00	37.15	5.96	34.75	5.84	33.45	5.51	31.86	5.33	28.98	4.83
	24.0	22.4	39.13	5.74	37.15	5.45	34.75	5.43	33.45	5.28	31.86	4.96	28.98	4.57
	27.0	25.3	39.13	5.69	37.15	5.48	34.75	5.22	33.45	5.19	31.86	4.95	28.98	4.25
	30.0	28.1	39.13	5.42	37.15	5.52	34.75	5.27	33.45	5.03	31.86	4.52	28.98	4.31
100%	-30.0	-30.5	23.87	14.24	23.82	15.51	23.97	17.10	24.18	17.32	24.02	17.45	23.74	18.85
	-25.0	-25.4	24.35	12.04	24.31	12.93	24.46	14.05	24.67	14.43	24.52	14.67	24.23	15.67
	-19.8	-20.0	25.49	10.79	25.44	11.45	25.60	12.26	25.82	12.78	25.66	13.11	25.37	13.86
	-18.8	-19.0	25.89	10.65	25.83	11.28	26.00	12.08	26.23	12.57	26.06	12.86	25.76	13.60
	-16.7	-17.0	26.28	10.27	26.23	10.81	26.50	11.59	26.63	12.00	26.46	12.28	26.17	12.90
	-13.7	-15.0	26.68	9.82	26.63	10.32	26.90	10.99	27.04	11.32	26.86	11.58	26.56	12.09
	-11.8	-13.0	27.07	9.58	27.02	10.07	27.30	10.70	27.44	11.03	27.26	11.25	26.56	11.53
	-9.8	-11.0	27.27	9.17	27.32	9.62	27.50	10.15	27.74	10.51	27.46	10.66	26.56	10.60
	-9.5	-10.0	27.47	9.09	27.42	9.50	27.70	10.07	27.84	10.37	27.67	10.48	26.56	10.62
	-8.5	-9.1	27.76	9.03	27.81	9.48	28.00	9.99	28.15	10.29	27.97	10.26	26.56	10.35
	-7.0	-7.6	29.94	9.48	29.89	9.91	30.20	10.32	30.37	10.78	29.17	10.59	26.56	9.86
	-5.0	-5.6	30.33	9.33	30.29	9.54	30.60	10.28	30.57	10.36	29.17	9.96	26.56	9.04
	-3.0	-3.7	30.92	9.13	30.88	9.70	31.20	10.00	30.57	9.88	29.17	9.51	26.56	8.71
	0.0	-0.7	31.71	8.80	33.55	9.54	31.50	9.19	30.57	9.05	29.17	8.76	26.56	8.21
	3.0	2.2	33.79	8.89	33.55	9.06	31.50	8.75	30.57	8.61	29.17	8.34	26.56	7.83
	5.0	4.1	35.86	9.14	33.55	8.79	31.50	8.48	30.57	8.38	29.17	8.10	26.56	7.62
	7.0	6.0	35.86	9.13	33.55	8.66	31.50	8.10	30.57	8.00	29.17	7.84	26.56	7.30
	9.0	7.9	35.86	9.06	33.55	8.63	31.50	8.06	30.57	8.00	29.17	7.90	26.56	7.46
	11.0	9.8	35.86	8.80	33.55	8.29	31.50	8.08	30.57	8.11	29.17	7.75	26.56	6.84
	13.0	11.8	35.86	6.73	33.55	6.36	31.50	6.19	30.57	6.02	29.17	5.77	26.56	5.20
	15.0	13.7	35.86	6.10	33.55	5.79	31.50	5.74	30.57	5.73	29.17	5.50	26.56	5.12
	18.0	16.6	35.86	6.08	33.55	5.96	31.50	5.60	30.57	5.43	29.17	5.07	26.56	4.70
	21.0	19.5	35.86	5.70	33.55	5.68	31.50	5.08	30.57	4.81	29.17	4.74	26.56	4.31
	24.0	22.4	35.86	5.42	33.55	5.02	31.50	4.68	30.57	4.65	29.17	4.34	26.56	4.11
	27.0	25.3	35.86	5.40	33.55	5.07	31.50	4.74	30.57	4.69	29.17	4.51	26.56	3.77
	30.0	28.1	35.86	5.18	33.55	5.03	31.50	4.74	30.57	4.53	29.17	3.93	26.56	3.94

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 …

Table 2-8.7: 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	kW
90%	-30.0	-30.5	23.79	14.98	23.55	16.14	23.81	17.13	23.52	18.37	24.00	18.93	23.90	19.37
	-25.0	-25.4	24.27	12.58	24.03	13.44	24.30	14.33	24.00	14.98	24.49	15.61	24.39	16.32
	-19.8	-20.0	25.30	11.16	25.09	11.84	25.35	12.66	25.06	12.94	25.57	13.64	24.39	13.93
	-18.8	-19.0	25.50	10.94	25.28	11.52	25.55	12.39	25.26	12.62	25.77	13.29	24.39	13.45
	-16.7	-17.0	25.90	10.55	25.68	10.49	26.05	11.90	25.65	12.18	26.18	12.69	24.39	12.50
	-13.7	-15.0	26.29	10.09	26.07	10.55	26.45	11.28	26.05	11.38	26.48	11.92	24.39	11.66
	-11.8	-13.0	26.69	9.86	26.47	10.29	26.85	10.99	26.44	11.10	26.48	11.34	24.39	11.02
	-9.8	-11.0	27.08	9.50	26.96	9.92	27.25	10.44	26.93	10.51	26.48	10.72	24.39	10.02
	-9.5	-10.0	27.28	9.42	27.16	9.83	27.45	10.28	27.03	10.51	26.48	10.44	24.39	9.91
	-8.5	-9.1	27.48	9.34	27.26	9.64	27.65	10.31	27.03	10.27	26.48	10.13	24.39	9.62
	-7.0	-7.6	27.78	9.15	27.65	9.59	27.96	9.83	27.03	9.75	26.48	9.69	24.39	9.14
	-5.0	-5.6	29.97	9.42	29.73	9.59	28.45	9.78	27.03	9.24	26.48	9.15	24.39	8.60
	-3.0	-3.7	30.36	9.20	30.12	9.54	28.45	9.26	27.03	8.86	26.48	8.79	24.39	8.24
	0.0	-0.7	30.95	8.85	30.12	8.83	28.45	8.66	27.03	8.26	26.48	8.28	24.39	7.76
	3.0	2.2	32.44	8.81	30.12	8.41	28.45	8.17	27.03	7.91	26.48	7.81	24.39	7.31
	5.0	4.1	32.44	8.55	30.12	8.17	28.45	7.95	27.03	7.61	26.48	7.51	24.39	7.19
	7.0	6.0	32.44	8.39	30.12	8.01	28.45	7.55	27.03	7.40	26.48	7.35	24.39	7.05
	9.0	7.9	32.44	8.46	30.12	8.11	28.45	7.82	27.03	7.50	26.48	7.45	24.39	7.09
	11.0	9.8	32.44	8.27	30.12	7.74	28.45	7.50	27.03	7.12	26.48	6.78	24.39	5.92
	13.0	11.8	32.44	6.17	30.12	5.78	28.45	5.56	27.03	5.29	26.48	5.39	24.39	4.75
	15.0	13.7	32.44	5.63	30.12	5.45	28.45	5.30	27.03	5.08	26.48	4.99	24.39	4.65
	18.0	16.6	32.44	5.58	30.12	5.30	28.45	5.02	27.03	4.76	26.48	4.69	24.39	4.34
	21.0	19.5	32.44	5.13	30.12	4.94	28.45	4.55	27.03	4.31	26.48	4.25	24.39	3.92
	24.0	22.4	32.44	4.78	30.12	4.57	28.45	4.29	27.03	4.09	26.48	4.01	24.39	3.78
	27.0	25.3	32.44	4.84	30.12	4.49	28.45	4.15	27.03	4.13	26.48	4.05	24.39	3.56
	30.0	28.1	32.44	4.73	30.12	4.30	28.45	4.22	27.03	3.92	26.48	3.85	24.39	3.67
80%	-30.0	-30.5	23.91	15.85	23.17	16.67	24.43	17.73	24.24	20.53	23.40	19.94	21.60	17.85
	-25.0	-25.4	24.39	13.24	23.64	13.87	24.93	15.08	24.74	16.42	23.88	16.17	22.04	15.24
	-19.8	-20.0	25.36	11.63	24.58	12.15	25.70	13.37	24.74	13.32	23.88	13.29	22.04	13.14
	-18.8	-19.0	25.56	11.42	24.78	11.76	25.70	12.99	24.74	12.87	23.88	12.86	22.04	12.68
	-16.7	-17.0	25.96	11.01	25.17	10.19	25.70	12.24	24.74	12.35	23.88	12.08	22.04	11.73
	-13.7	-15.0	26.36	10.54	25.56	10.78	25.70	11.43	24.74	11.28	23.88	11.21	22.04	11.07
	-11.8	-13.0	26.76	10.30	25.94	10.52	25.70	10.97	24.74	10.83	23.88	10.61	22.04	10.35
	-9.8	-11.0	27.16	9.93	26.33	10.10	25.70	10.21	24.74	9.94	23.88	10.07	22.04	9.32
	-9.5	-10.0	27.36	9.85	26.33	9.95	25.70	9.93	24.74	10.03	23.88	9.79	22.04	9.10
	-8.5	-9.1	27.56	9.77	26.33	9.66	25.70	10.01	24.74	9.75	23.88	9.52	22.04	8.80
	-7.0	-7.6	27.86	9.53	26.33	9.55	25.70	9.31	24.74	9.08	23.88	8.82	22.04	8.35
	-5.0	-5.6	29.05	9.35	26.33	8.71	25.70	9.05	24.74	8.53	23.88	8.36	22.04	8.06
	-3.0	-3.7	29.05	9.05	26.33	8.42	25.70	8.51	24.74	8.23	23.88	8.08	22.04	7.68
	0.0	-0.7	29.05	8.56	26.33	7.97	25.70	8.17	24.74	7.80	23.88	7.79	22.04	7.23
	3.0	2.2	29.05	8.16	26.33	7.61	25.70	7.64	24.74	7.52	23.88	7.28	22.04	6.73
	5.0	4.1	29.05	7.94	26.33	7.41	25.70	7.47	24.74	7.16	23.88	6.93	22.04	6.70
	7.0	6.0	29.05	7.64	26.33	7.22	25.70	7.06	24.74	7.10	23.88	6.87	22.04	6.74
	9.0	7.9	29.05	7.23	26.33	7.02	25.70	6.83	24.74	7.03	23.88	6.78	22.04	6.65
	11.0	9.8	29.05	6.72	26.33	6.69	25.70	6.70	24.74	6.45	23.88	5.84	22.04	4.97
	13.0	11.8	29.05	5.61	26.33	5.12	25.70	4.99	24.74	4.80	23.88	5.01	22.04	4.26
	15.0	13.7	29.05	5.16	26.33	5.03	25.70	4.90	24.74	4.67	23.88	4.50	22.04	4.14
	18.0	16.6	29.05	5.08	26.33	4.58	25.70	4.50	24.74	4.31	23.88	4.32	22.04	3.95
	21.0	19.5	29.05	4.57	26.33	4.16	25.70	4.08	24.74	4.01	23.88	3.77	22.04	3.50
	24.0	22.4	29.05	4.16	26.33	4.07	25.70	3.94	24.74	3.71	23.88	3.68	22.04	3.42
	27.0	25.3	29.05	4.30	26.33	3.87	25.70	3.61	24.74	3.77	23.88	3.60	22.04	3.32
	30.0	28.1	29.05	4.29	26.33	3.53	25.70	3.74	24.74	3.51	23.88	3.79	22.04	3.37

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 2-8.7: 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	kW
70%	-30.0	-30.5	24.93	16.57	22.70	16.10	21.69	15.75	21.07	17.75	20.13	17.05	18.82	15.14
	-25.0	-25.4	25.44	14.10	23.17	13.68	22.13	13.52	21.50	14.30	20.54	13.83	19.20	13.45
	-19.8	-20.0	25.44	12.10	23.17	11.72	22.13	11.72	21.50	11.73	20.54	11.46	19.20	11.46
	-18.8	-19.0	25.65	11.96	23.17	11.34	22.13	11.42	21.50	11.38	20.54	11.19	19.20	11.07
	-16.7	-17.0	25.65	11.42	23.17	10.08	22.13	10.84	21.50	10.92	20.54	10.62	19.20	10.33
	-13.7	-15.0	25.65	10.81	23.17	10.24	22.13	10.23	21.50	10.14	20.54	10.04	19.20	9.84
	-11.8	-13.0	25.65	10.48	23.17	9.87	22.13	9.86	21.50	9.81	20.54	9.50	19.20	9.29
	-9.8	-11.0	25.65	9.91	23.17	9.32	22.13	9.21	21.50	9.04	20.54	8.90	19.20	8.40
	-9.5	-10.0	25.65	9.77	23.17	9.20	22.13	9.03	21.50	9.04	20.54	8.68	19.20	8.25
	-8.5	-9.1	25.65	9.63	23.17	9.00	22.13	8.95	21.50	8.76	20.54	8.48	19.20	8.02
	-7.0	-7.6	25.65	9.32	23.17	8.76	22.13	8.41	21.50	8.28	20.54	7.98	19.20	7.66
	-5.0	-5.6	25.65	8.83	23.17	8.14	22.13	8.16	21.50	7.82	20.54	7.58	19.20	7.35
	-3.0	-3.7	25.65	8.49	23.17	7.84	22.13	7.70	21.50	7.52	20.54	7.30	19.20	6.99
	0.0	-0.7	25.65	7.96	23.17	7.37	22.13	7.31	21.50	7.08	20.54	6.96	19.20	6.56
	3.0	2.2	25.65	7.53	23.17	6.97	22.13	6.82	21.50	6.76	20.54	6.50	19.20	6.13
	5.0	4.1	25.65	7.24	23.17	6.71	22.13	6.56	21.50	6.34	20.54	6.01	19.20	5.89
	7.0	6.0	25.65	6.89	23.17	6.46	22.13	6.11	21.50	6.20	20.54	5.84	19.20	5.80
	9.0	7.9	25.65	6.91	23.17	6.50	22.13	6.24	21.50	6.13	20.54	5.74	19.20	5.66
	11.0	9.8	25.65	6.62	23.17	6.00	22.13	5.83	21.50	5.50	20.54	4.99	19.20	4.44
	13.0	11.8	25.65	4.98	23.17	4.54	22.13	4.36	21.50	4.24	20.54	4.32	19.20	3.82
	15.0	13.7	25.65	4.64	23.17	4.44	22.13	4.26	21.50	4.12	20.54	3.94	19.20	3.70
	18.0	16.6	25.65	4.52	23.17	4.08	22.13	3.93	21.50	3.82	20.54	3.77	19.20	3.53
	21.0	19.5	25.65	4.11	23.17	3.75	22.13	3.61	21.50	3.57	20.54	3.36	19.20	3.20
	24.0	22.4	25.65	3.79	23.17	3.66	22.13	3.48	21.50	3.36	20.54	3.28	19.20	3.13
	27.0	25.3	25.65	3.89	23.17	3.48	22.13	3.24	21.50	3.34	20.54	3.25	19.20	3.01
	30.0	28.1	25.65	3.94	23.17	3.29	22.13	3.32	21.50	3.16	20.54	3.29	19.20	2.96
60%	-30.0	-30.5	21.50	14.32	19.90	13.90	18.88	13.72	18.47	15.48	17.69	14.87	15.71	12.25
	-25.0	-25.4	21.94	12.41	20.30	12.07	19.26	11.90	18.85	12.57	18.05	12.07	16.03	11.40
	-19.8	-20.0	21.94	10.83	20.30	10.52	19.26	10.39	18.85	10.44	18.05	10.10	16.03	9.58
	-18.8	-19.0	21.94	10.68	20.30	10.26	19.26	10.17	18.85	10.17	18.05	9.95	16.03	9.26
	-16.7	-17.0	21.94	10.26	20.30	9.48	19.26	9.71	18.85	9.75	18.05	9.56	16.03	8.71
	-13.7	-15.0	21.94	9.76	20.30	9.44	19.26	9.28	18.85	9.22	18.05	9.23	16.03	8.40
	-11.8	-13.0	21.94	9.54	20.30	9.12	19.26	8.99	18.85	9.00	18.05	8.71	16.03	8.01
	-9.8	-11.0	21.94	8.99	20.30	8.59	19.26	8.42	18.85	8.33	18.05	8.06	16.03	7.30
	-9.5	-10.0	21.94	8.86	20.30	8.50	19.26	8.34	18.85	8.26	18.05	7.90	16.03	7.21
	-8.5	-9.1	21.94	8.75	20.30	8.38	19.26	8.13	18.85	7.98	18.05	7.76	16.03	7.06
	-7.0	-7.6	21.94	8.50	20.30	8.06	19.26	7.72	18.85	7.68	18.05	7.43	16.03	6.79
	-5.0	-5.6	21.94	8.12	20.30	7.63	19.26	7.47	18.85	7.29	18.05	7.08	16.03	6.49
	-3.0	-3.7	21.94	7.78	20.30	7.34	19.26	7.10	18.85	7.01	18.05	6.79	16.03	6.17
	0.0	-0.7	21.94	7.25	20.30	6.85	19.26	6.67	18.85	6.54	18.05	6.40	16.03	5.77
	3.0	2.2	21.94	6.79	20.30	6.42	19.26	6.22	18.85	6.19	18.05	5.98	16.03	5.42
	5.0	4.1	21.94	6.45	20.30	6.10	19.26	5.87	18.85	5.71	18.05	5.34	16.03	4.98
	7.0	6.0	21.94	6.07	20.30	5.79	19.26	5.35	18.85	5.46	18.05	5.05	16.03	4.76
	9.0	7.9	21.94	5.91	20.30	5.65	19.26	5.27	18.85	5.31	18.05	4.80	16.03	4.57
	11.0	9.8	21.94	5.45	20.30	5.03	19.26	4.86	18.85	4.69	18.05	4.35	16.03	3.84
	13.0	11.8	21.94	4.30	20.30	4.03	19.26	3.87	18.85	3.81	18.05	3.80	16.03	3.32
	15.0	13.7	21.94	4.06	20.30	3.91	19.26	3.76	18.85	3.68	18.05	3.55	16.03	3.20
	18.0	16.6	21.94	3.90	20.30	3.64	19.26	3.49	18.85	3.44	18.05	3.37	16.03	3.04
	21.0	19.5	21.94	3.60	20.30	3.39	19.26	3.26	18.85	3.24	18.05	3.10	16.03	2.85
	24.0	22.4	21.94	3.39	20.30	3.29	19.26	3.14	18.85	3.10	18.05	3.02	16.03	2.78
	27.0	25.3	21.94	3.43	20.30	3.15	19.26	2.97	18.85	3.01	18.05	3.05	16.03	2.66
	30.0	28.1	21.94	3.54	20.30	3.11	19.26	3.01	18.85	2.91	18.05	2.92	16.03	2.49

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 2-8.7: 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	kW
50%	-30.0	-30.5	17.93	11.97	16.48	11.33	15.64	11.37	15.47	12.88	14.85	12.38	13.63	10.25
	-25.0	-25.4	18.30	10.57	16.81	10.07	15.96	9.98	15.79	10.55	15.15	10.06	13.91	10.08
	-19.8	-20.0	18.30	9.38	16.81	8.94	15.96	8.79	15.79	8.88	15.15	8.50	13.91	8.33
	-18.8	-19.0	18.30	9.30	16.81	8.78	15.96	8.63	15.79	8.70	15.15	8.47	13.91	8.06
	-16.7	-17.0	18.30	9.00	16.81	8.42	15.96	8.30	15.79	8.32	15.15	8.24	13.91	7.66
	-13.7	-15.0	18.30	8.61	16.81	8.23	15.96	8.04	15.79	8.04	15.15	8.15	13.91	7.47
	-11.8	-13.0	18.30	8.47	16.81	7.98	15.96	7.83	15.79	7.91	15.15	7.68	13.91	7.23
	-9.8	-11.0	18.30	7.97	16.81	7.52	15.96	7.36	15.79	7.37	15.15	7.02	13.91	6.63
	-9.5	-10.0	18.30	7.87	16.81	7.46	15.96	7.36	15.79	7.26	15.15	6.91	13.91	6.60
	-8.5	-9.1	18.30	7.79	16.81	7.41	15.96	7.07	15.79	6.99	15.15	6.84	13.91	6.51
	-7.0	-7.6	18.30	7.59	16.81	7.04	15.96	6.79	15.79	6.86	15.15	6.68	13.91	6.33
	-5.0	-5.6	18.30	7.32	16.81	6.80	15.96	6.57	15.79	6.57	15.15	6.40	13.91	6.04
	-3.0	-3.7	18.30	7.00	16.81	6.55	15.96	6.32	15.79	6.31	15.15	6.13	13.91	5.75
	0.0	-0.7	18.30	6.50	16.81	6.10	15.96	5.87	15.79	5.87	15.15	5.72	13.91	5.37
	3.0	2.2	18.30	6.06	16.81	5.66	15.96	5.48	15.79	5.49	15.15	5.36	13.91	5.08
	5.0	4.1	18.30	5.67	16.81	5.30	15.96	5.04	15.79	4.95	15.15	4.56	13.91	4.40
	7.0	6.0	18.30	5.25	16.81	4.95	15.96	4.48	15.79	4.61	15.15	4.14	13.91	4.03
	9.0	7.9	18.30	4.93	16.81	4.63	15.96	4.18	15.79	4.37	15.15	3.75	13.91	3.77
	11.0	9.8	18.30	4.30	16.81	3.90	15.96	3.77	15.79	3.77	15.15	3.61	13.91	3.49
	13.0	11.8	18.30	3.63	16.81	3.39	15.96	3.29	15.79	3.29	15.15	3.21	13.91	3.04
	15.0	13.7	18.30	3.50	16.81	3.27	15.96	3.16	15.79	3.17	15.15	3.08	13.91	2.91
	18.0	16.6	18.30	3.30	16.81	3.08	15.96	2.98	15.79	2.98	15.15	2.90	13.91	2.77
	21.0	19.5	18.30	3.10	16.81	2.92	15.96	2.84	15.79	2.84	15.15	2.78	13.91	2.68
	24.0	22.4	18.30	3.01	16.81	2.83	15.96	2.73	15.79	2.78	15.15	2.70	13.91	2.62
	27.0	25.3	18.30	2.99	16.81	2.73	15.96	2.65	15.79	2.62	15.15	2.80	13.91	2.49
	30.0	28.1	18.30	3.17	16.81	2.85	15.96	2.65	15.79	2.60	15.15	2.49	13.91	2.19

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

Table 2-8.8: 12HP 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-30.0	-30.5	29.60	13.60	29.03	14.62	28.38	14.93	28.36	15.39	28.53	17.73	27.60	12.82
	-25.0	-25.4	30.21	14.13	29.63	14.74	28.95	14.20	28.94	14.63	29.11	14.30	28.17	13.74
	-19.8	-20.0	31.75	12.78	31.14	13.25	30.96	13.92	30.93	14.26	31.14	14.26	30.19	14.00
	-18.8	-19.0	31.99	12.60	31.39	13.01	31.21	13.63	31.30	14.03	31.39	14.11	30.42	13.90
	-16.7	-17.0	32.49	12.20	31.87	12.59	31.69	13.17	31.78	13.54	31.87	13.97	30.90	13.66
	-13.7	-15.0	32.98	11.75	32.35	12.09	32.17	12.61	32.26	12.97	32.36	13.32	31.37	13.22
	-11.8	-13.0	33.47	11.54	32.84	11.83	32.65	12.35	32.75	12.70	32.85	13.04	31.97	13.05
	-9.8	-11.0	33.96	11.18	33.32	11.48	33.13	11.92	33.23	12.26	33.46	12.63	32.44	12.53
	-9.5	-10.0	34.20	11.56	33.56	11.36	33.50	11.86	33.47	12.14	33.70	12.50	32.68	12.46
	-8.5	-9.1	34.45	11.75	33.80	11.27	33.61	11.72	33.71	12.01	33.94	12.38	32.91	12.44
	-7.0	-7.6	34.82	11.69	34.16	11.11	34.10	11.58	34.08	11.84	34.31	12.17	33.27	12.15
	-5.0	-5.6	37.52	11.36	36.82	11.62	36.63	12.05	36.73	12.35	36.86	12.56	35.75	12.42
	-3.0	-3.7	38.00	11.22	37.30	11.45	37.11	11.88	37.21	12.00	37.35	12.18	36.23	12.06
	0.0	-0.7	38.74	10.73	38.02	11.09	37.83	11.28	37.94	11.43	38.08	11.63	37.06	11.61
	3.0	2.2	42.80	11.76	41.65	11.48	41.44	11.67	41.44	11.81	41.73	12.02	40.49	11.99
	5.0	4.1	53.21	14.20	50.29	13.61	49.40	13.40	47.61	13.34	45.98	12.82	41.08	11.72
	7.0	6.0	54.07	14.08	51.25	13.69	49.40	13.47	47.61	12.54	45.98	11.73	41.08	11.17
	9.0	7.9	54.07	13.98	51.25	13.36	49.40	12.58	47.61	11.98	45.98	11.90	41.08	11.18
	11.0	9.8	54.07	13.64	51.25	12.29	49.40	11.94	47.61	11.49	45.98	11.65	41.08	10.94
	13.0	11.8	54.07	11.85	51.25	10.32	49.40	11.63	47.61	11.54	45.98	11.43	41.08	10.52
	15.0	13.7	54.07	11.25	51.25	10.34	49.40	11.13	47.61	10.76	45.98	10.64	41.08	9.97
	18.0	16.6	54.07	9.70	51.25	9.33	49.40	10.08	47.61	9.99	45.98	9.49	41.08	8.32
	21.0	19.5	54.07	8.66	51.25	8.38	49.40	9.78	47.61	9.29	45.98	8.92	41.08	7.90
	24.0	22.4	54.07	8.33	51.25	8.08	49.40	9.18	47.61	8.79	45.98	8.43	41.08	7.40
	27.0	25.3	54.07	8.20	51.25	8.06	49.40	8.23	47.61	8.33	45.98	7.97	41.08	7.03
	30.0	28.1	54.07	7.72	51.25	8.34	49.40	8.40	47.61	8.14	45.98	7.77	41.08	6.82
120%	-30.0	-30.5	28.43	14.94	27.81	16.01	28.25	17.32	28.36	17.70	28.37	19.48	27.51	16.18
	-25.0	-25.4	29.01	14.30	28.37	14.92	28.82	15.48	28.94	15.94	28.95	15.86	28.07	15.82
	-19.8	-20.0	30.76	13.03	30.09	13.50	30.47	14.47	30.69	14.98	30.73	15.12	29.77	15.17
	-18.8	-19.0	31.00	12.82	30.33	13.24	30.71	14.17	30.93	14.67	30.96	14.88	30.00	14.95
	-16.7	-17.0	31.47	12.40	30.80	12.78	31.19	13.65	31.41	14.12	31.45	14.54	30.59	14.56
	-13.7	-15.0	31.95	11.92	31.27	12.25	31.67	13.03	31.89	13.46	32.05	13.88	31.05	13.93
	-11.8	-13.0	32.42	11.68	31.74	11.98	32.20	12.76	32.37	13.17	32.54	13.56	31.53	13.62
	-9.8	-11.0	32.90	11.30	32.20	11.58	32.74	12.31	32.85	12.67	33.01	13.03	31.99	12.94
	-9.5	-10.0	33.14	10.86	32.44	11.47	32.98	12.20	33.09	12.54	33.26	12.86	32.23	12.95
	-8.5	-9.1	33.38	10.75	32.68	11.37	33.22	12.09	33.33	12.41	33.50	12.67	32.46	12.84
	-7.0	-7.6	33.74	10.63	33.02	11.20	33.57	11.83	33.69	12.22	33.86	12.54	32.81	12.48
	-5.0	-5.6	36.36	11.47	35.60	11.63	36.08	12.39	36.33	12.69	36.51	12.89	35.40	12.63
	-3.0	-3.7	36.84	11.26	36.07	11.70	36.55	12.12	36.81	12.30	36.87	12.45	35.86	12.29
	0.0	-0.7	37.55	10.76	36.77	11.10	37.26	11.41	37.53	11.63	37.71	11.85	36.56	11.80
	3.0	2.2	41.01	11.49	40.28	11.48	40.83	11.84	41.01	12.04	41.21	12.25	37.50	11.47
	5.0	4.1	51.62	14.04	47.66	13.24	45.00	12.60	43.52	12.53	42.06	12.11	37.50	11.09
	7.0	6.0	51.98	13.89	47.66	13.02	45.00	12.45	43.52	11.84	42.06	11.31	37.50	10.59
	9.0	7.9	51.98	13.80	47.66	12.80	45.00	11.98	43.52	11.59	42.06	11.50	37.50	10.66
	11.0	9.8	51.98	13.44	47.66	11.96	45.00	11.49	43.52	11.22	42.06	11.20	37.50	10.20
	13.0	11.8	51.98	11.22	47.66	9.73	45.00	10.35	43.52	10.22	42.06	10.08	37.50	9.18
	15.0	13.7	51.98	10.50	47.66	9.46	45.00	9.81	43.52	9.60	42.06	9.46	37.50	8.79
	18.0	16.6	51.98	9.46	47.66	8.88	45.00	9.09	43.52	8.98	42.06	8.52	37.50	7.53
	21.0	19.5	51.98	8.57	47.66	8.11	45.00	8.68	43.52	8.25	42.06	8.00	37.50	7.09
	24.0	22.4	51.98	8.22	47.66	7.63	45.00	8.11	43.52	7.85	42.06	7.51	37.50	6.67
	27.0	25.3	51.98	8.12	47.66	7.64	45.00	7.50	43.52	7.56	42.06	7.27	37.50	6.28
	30.0	28.1	51.98	7.69	47.66	7.80	45.00	7.62	43.52	7.36	42.06	6.88	37.50	6.21

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 …

Table 2-8.8: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-30.0	-30.5	28.99	17.20	28.06	18.20	28.56	20.04	28.43	20.13	28.87	21.59	28.52	20.70
	-25.0	-25.4	29.58	15.37	28.63	15.94	29.15	17.08	29.01	17.36	29.46	17.84	29.10	18.63
	-19.8	-20.0	30.86	13.77	29.89	14.14	30.46	15.30	30.27	15.66	30.74	16.24	30.37	16.92
	-18.8	-19.0	31.10	13.52	30.12	13.85	30.70	14.96	30.50	15.31	30.98	15.89	30.61	16.56
	-16.7	-17.0	31.59	13.06	30.59	13.33	31.18	14.37	30.98	14.68	31.59	15.41	31.09	15.88
	-13.7	-15.0	32.06	12.52	31.06	12.76	31.65	13.67	31.45	13.93	32.07	14.60	31.56	15.04
	-11.8	-13.0	32.55	12.25	31.53	12.46	32.26	13.40	31.93	13.60	32.56	14.23	32.04	14.63
	-9.8	-11.0	33.02	11.83	31.99	12.00	32.73	12.85	32.40	13.05	33.04	13.63	32.52	13.77
	-9.5	-10.0	33.27	11.53	32.35	11.93	32.97	12.74	32.64	12.93	33.28	13.42	32.76	13.84
	-8.5	-9.1	33.51	11.41	32.46	11.78	33.21	12.61	32.88	12.78	33.53	13.16	33.00	13.65
	-7.0	-7.6	33.86	11.25	32.81	11.59	33.57	12.27	33.23	12.57	33.88	13.10	33.36	13.20
	-5.0	-5.6	36.50	11.98	35.38	11.95	36.08	12.91	35.85	12.99	36.55	13.37	35.03	12.86
	-3.0	-3.7	36.99	11.71	35.85	11.99	36.55	12.55	36.32	12.58	37.03	12.94	35.03	12.36
	0.0	-0.7	37.71	11.20	36.55	11.22	37.39	11.77	37.03	11.81	37.76	12.21	35.03	11.65
	3.0	2.2	41.19	11.78	40.05	11.66	40.86	12.21	39.53	11.97	38.73	11.88	35.03	11.07
	5.0	4.1	48.03	13.32	43.56	12.35	41.45	11.98	39.53	11.69	38.73	11.53	35.03	10.74
	7.0	6.0	48.03	13.19	43.56	12.18	41.45	11.64	39.53	11.11	38.73	10.97	35.03	10.27
	9.0	7.9	48.03	13.09	43.56	12.06	41.45	11.55	39.53	11.13	38.73	11.18	35.03	10.42
	11.0	9.8	48.03	12.75	43.56	11.43	41.45	11.18	39.53	10.88	38.73	10.84	35.03	9.75
	13.0	11.8	48.03	10.19	43.56	9.03	41.45	9.29	39.53	8.97	38.73	8.91	35.03	8.12
	15.0	13.7	48.03	9.40	43.56	8.50	41.45	8.72	39.53	8.48	38.73	8.43	35.03	7.88
	18.0	16.6	48.03	8.88	43.56	8.33	41.45	8.28	39.53	7.98	38.73	7.67	35.03	6.97
	21.0	19.5	48.03	8.18	43.56	7.76	41.45	7.74	39.53	7.22	38.73	7.19	35.03	6.48
	24.0	22.4	48.03	7.82	43.56	7.09	41.45	7.19	39.53	6.92	38.73	6.69	35.03	6.13
	27.0	25.3	48.03	7.75	43.56	7.13	41.45	6.91	39.53	6.80	38.73	6.67	35.03	5.71
	30.0	28.1	48.03	7.38	43.56	7.19	41.45	6.97	39.53	6.60	38.73	6.09	35.03	5.78
100%	-30.0	-30.5	28.85	19.10	28.35	20.48	28.53	22.58	28.31	22.51	28.88	23.27	28.31	24.95
	-25.0	-25.4	29.44	16.14	28.93	17.07	29.12	18.56	28.89	18.75	29.47	19.56	28.89	20.74
	-19.8	-20.0	30.80	14.47	30.27	15.11	30.47	16.20	30.24	16.60	30.84	17.48	30.25	18.34
	-18.8	-19.0	31.29	14.28	30.75	14.90	30.95	15.95	30.72	16.33	31.33	17.15	30.72	17.99
	-16.7	-17.0	31.76	13.77	31.21	14.27	31.55	15.31	31.19	15.60	31.80	16.37	31.20	17.07
	-13.7	-15.0	32.24	13.17	31.69	13.63	32.03	14.52	31.66	14.71	32.29	15.45	31.67	16.00
	-11.8	-13.0	32.72	12.85	32.16	13.29	32.50	14.13	32.13	14.33	32.77	15.01	31.67	15.26
	-9.8	-11.0	32.96	12.30	32.51	12.71	32.74	13.41	32.49	13.66	33.01	14.22	31.67	14.03
	-9.5	-10.0	33.20	12.19	32.63	12.54	32.98	13.30	32.61	13.48	33.25	13.97	31.67	14.05
	-8.5	-9.1	33.55	12.11	33.10	12.52	33.33	13.19	32.96	13.37	33.62	13.69	31.67	13.69
	-7.0	-7.6	36.18	12.71	35.58	13.09	35.96	13.63	35.56	14.01	35.06	14.13	31.67	13.04
	-5.0	-5.6	36.66	12.51	36.05	12.59	36.43	13.57	35.80	13.46	35.06	13.28	31.67	11.96
	-3.0	-3.7	37.37	12.24	36.75	12.81	37.14	13.21	35.80	12.84	35.06	12.69	31.67	11.52
	0.0	-0.7	38.33	11.80	39.93	12.59	37.50	12.15	35.80	11.76	35.06	11.68	31.67	10.87
	3.0	2.2	40.84	11.92	39.93	11.97	37.50	11.56	35.80	11.19	35.06	11.12	31.67	10.36
	5.0	4.1	43.34	12.25	39.93	11.60	37.50	11.21	35.80	10.89	35.06	10.80	31.67	10.09
	7.0	6.0	43.34	12.24	39.93	11.44	37.50	10.70	35.80	10.40	35.06	10.45	31.67	9.65
	9.0	7.9	43.34	12.15	39.93	11.40	37.50	10.64	35.80	10.39	35.06	10.53	31.67	9.87
	11.0	9.8	43.34	11.81	39.93	10.95	37.50	10.67	35.80	10.54	35.06	10.33	31.67	9.05
	13.0	11.8	43.34	9.03	39.93	8.41	37.50	8.18	35.80	7.82	35.06	7.70	31.67	6.88
	15.0	13.7	43.34	8.19	39.93	7.64	37.50	7.58	35.80	7.44	35.06	7.33	31.67	6.77
	18.0	16.6	43.34	8.15	39.93	7.86	37.50	7.39	35.80	7.05	35.06	6.76	31.67	6.22
	21.0	19.5	43.34	7.64	39.93	7.50	37.50	6.71	35.80	6.26	35.06	6.32	31.67	5.70
	24.0	22.4	43.34	7.28	39.93	6.62	37.50	6.18	35.80	6.04	35.06	5.79	31.67	5.43
	27.0	25.3	43.34	7.24	39.93	6.69	37.50	6.26	35.80	6.09	35.06	6.02	31.67	4.98
	30.0	28.1	43.34	6.95	39.93	6.65	37.50	6.26	35.80	5.88	35.06	5.24	31.67	5.21

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 …

Table 2-8.8: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-30.0	-30.5	29.00	20.27	27.70	21.07	28.42	22.69	28.21	24.46	28.77	25.18	28.63	25.74
	-25.0	-25.4	29.59	17.02	28.26	17.54	29.00	18.97	28.78	19.94	29.36	20.76	29.21	21.69
	-19.8	-20.0	30.85	15.09	29.51	15.45	30.25	16.77	30.06	17.22	30.65	18.15	29.21	18.51
	-18.8	-19.0	31.09	14.80	29.74	15.03	30.49	16.41	30.30	16.80	30.90	17.68	29.21	17.87
	-16.7	-17.0	31.57	14.27	30.20	13.69	31.09	15.75	30.77	16.21	31.38	16.88	29.21	16.61
	-13.7	-15.0	32.05	13.65	30.67	13.77	31.56	14.94	31.25	15.15	31.75	15.86	29.21	15.50
	-11.8	-13.0	32.54	13.34	31.13	13.44	32.05	14.55	31.72	14.78	31.75	15.08	29.21	14.64
	-9.8	-11.0	33.02	12.86	31.71	12.94	32.52	13.82	32.31	13.99	31.75	14.26	29.21	13.32
	-9.5	-10.0	33.27	12.75	31.95	12.83	32.76	13.62	32.43	13.99	31.75	13.89	29.21	13.17
	-8.5	-9.1	33.51	12.63	32.06	12.59	33.00	13.66	32.43	13.67	31.75	13.48	29.21	12.78
	-7.0	-7.6	33.87	12.37	32.52	12.52	33.36	13.02	32.43	12.98	31.75	12.89	29.21	12.15
	-5.0	-5.6	36.53	12.75	34.97	12.52	33.96	12.95	32.43	12.30	31.75	12.17	29.21	11.42
	-3.0	-3.7	37.01	12.45	35.43	12.45	33.96	12.26	32.43	11.80	31.75	11.70	29.21	10.95
	0.0	-0.7	37.74	11.97	35.43	11.53	33.96	11.48	32.43	10.99	31.75	11.02	29.21	10.32
	3.0	2.2	39.55	11.92	35.43	10.98	33.96	10.83	32.43	10.53	31.75	10.39	29.21	9.72
	5.0	4.1	39.55	11.57	35.43	10.66	33.96	10.54	32.43	10.12	31.75	9.99	29.21	9.56
	7.0	6.0	39.55	11.35	35.43	10.46	33.96	10.00	32.43	9.85	31.75	9.77	29.21	9.37
	9.0	7.9	39.55	11.45	35.43	10.59	33.96	10.36	32.43	9.98	31.75	9.91	29.21	9.42
	11.0	9.8	39.55	11.19	35.43	10.10	33.96	9.93	32.43	9.47	31.75	9.02	29.21	7.86
	13.0	11.8	39.55	8.35	35.43	7.54	33.96	7.36	32.43	7.04	31.75	7.16	29.21	6.31
	15.0	13.7	39.55	7.62	35.43	7.11	33.96	7.01	32.43	6.77	31.75	6.64	29.21	6.18
	18.0	16.6	39.55	7.55	35.43	6.92	33.96	6.65	32.43	6.33	31.75	6.24	29.21	5.77
	21.0	19.5	39.55	6.94	35.43	6.45	33.96	6.03	32.43	5.74	31.75	5.65	29.21	5.21
	24.0	22.4	39.55	6.47	35.43	5.97	33.96	5.68	32.43	5.44	31.75	5.33	29.21	5.02
	27.0	25.3	39.55	6.55	35.43	5.86	33.96	5.49	32.43	5.50	31.75	5.38	29.21	4.73
	30.0	28.1	39.55	6.40	35.43	5.61	33.96	5.59	32.43	5.22	31.75	5.13	29.21	4.88
80%	-30.0	-30.5	27.98	20.58	28.38	22.66	28.79	23.18	28.89	27.15	27.71	26.20	25.51	23.39
	-25.0	-25.4	28.55	17.20	28.96	18.86	29.37	19.71	29.48	21.72	28.28	21.24	26.03	19.97
	-19.8	-20.0	29.69	15.10	30.12	16.51	30.28	17.48	29.48	17.61	28.28	17.47	26.03	17.21
	-18.8	-19.0	29.91	14.83	30.36	15.99	30.28	16.98	29.48	17.02	28.28	16.89	26.03	16.61
	-16.7	-17.0	30.39	14.30	30.83	13.85	30.28	16.00	29.48	16.33	28.28	15.87	26.03	15.37
	-13.7	-15.0	30.85	13.68	31.31	14.65	30.28	14.94	29.48	14.91	28.28	14.73	26.03	14.51
	-11.8	-13.0	31.32	13.38	31.78	14.30	30.28	14.34	29.48	14.33	28.28	13.94	26.03	13.56
	-9.8	-11.0	31.78	12.90	32.26	13.73	30.28	13.35	29.48	13.15	28.28	13.23	26.03	12.21
	-9.5	-10.0	32.02	12.80	32.26	13.53	30.28	12.98	29.48	13.27	28.28	12.87	26.03	11.93
	-8.5	-9.1	32.26	12.69	32.26	13.13	30.28	13.09	29.48	12.90	28.28	12.50	26.03	11.53
	-7.0	-7.6	32.61	12.38	32.26	12.98	30.28	12.17	29.48	12.00	28.28	11.58	26.03	10.95
	-5.0	-5.6	34.01	12.14	32.26	11.84	30.28	11.84	29.48	11.29	28.28	10.99	26.03	10.56
	-3.0	-3.7	34.01	11.76	32.26	11.45	30.28	11.12	29.48	10.88	28.28	10.62	26.03	10.07
	0.0	-0.7	34.01	11.11	32.26	10.84	30.28	10.69	29.48	10.32	28.28	10.24	26.03	9.48
	3.0	2.2	34.01	10.60	32.26	10.34	30.28	9.99	29.48	9.95	28.28	9.56	26.03	8.82
	5.0	4.1	34.01	10.31	32.26	10.07	30.28	9.76	29.48	9.46	28.28	9.10	26.03	8.78
	7.0	6.0	34.01	9.92	32.26	9.81	30.28	9.23	29.48	9.40	28.28	9.03	26.03	8.83
	9.0	7.9	34.01	9.39	32.26	9.54	30.28	8.93	29.48	9.29	28.28	8.91	26.03	8.71
	11.0	9.8	34.01	8.73	32.26	9.09	30.28	8.76	29.48	8.54	28.28	7.67	26.03	6.51
	13.0	11.8	34.01	7.29	32.26	6.95	30.28	6.52	29.48	6.34	28.28	6.58	26.03	5.58
	15.0	13.7	34.01	6.70	32.26	6.84	30.28	6.41	29.48	6.18	28.28	5.91	26.03	5.43
	18.0	16.6	34.01	6.60	32.26	6.23	30.28	5.88	29.48	5.70	28.28	5.68	26.03	5.18
	21.0	19.5	34.01	5.94	32.26	5.66	30.28	5.33	29.48	5.30	28.28	4.96	26.03	4.58
	24.0	22.4	34.01	5.40	32.26	5.54	30.28	5.15	29.48	4.91	28.28	4.83	26.03	4.49
	27.0	25.3	34.01	5.58	32.26	5.26	30.28	4.72	29.48	4.99	28.28	4.72	26.03	4.35
	30.0	28.1	34.01	5.57	32.26	4.80	30.28	4.89	29.48	4.64	28.28	4.98	26.03	4.42

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 2-8.8: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-30.0	-30.5	28.57	21.06	27.32	21.50	25.77	20.76	24.77	23.17	24.02	22.57	21.60	19.29
	-25.0	-25.4	29.15	17.92	27.88	18.27	26.30	17.83	25.28	18.66	24.51	18.31	22.05	17.13
	-19.8	-20.0	29.15	15.39	27.88	15.65	26.30	15.45	25.28	15.31	24.51	15.17	22.05	14.60
	-18.8	-19.0	29.39	15.20	27.88	15.14	26.30	15.06	25.28	14.85	24.51	14.81	22.05	14.10
	-16.7	-17.0	29.39	14.52	27.88	13.46	26.30	14.29	25.28	14.24	24.51	14.06	22.05	13.15
	-13.7	-15.0	29.39	13.75	27.88	13.68	26.30	13.49	25.28	13.23	24.51	13.29	22.05	12.54
	-11.8	-13.0	29.39	13.33	27.88	13.18	26.30	13.00	25.28	12.80	24.51	12.57	22.05	11.83
	-9.8	-11.0	29.39	12.61	27.88	12.44	26.30	12.14	25.28	11.80	24.51	11.78	22.05	10.71
	-9.5	-10.0	29.39	12.42	27.88	12.28	26.30	11.91	25.28	11.80	24.51	11.49	22.05	10.51
	-8.5	-9.1	29.39	12.24	27.88	12.02	26.30	11.80	25.28	11.43	24.51	11.23	22.05	10.22
	-7.0	-7.6	29.39	11.85	27.88	11.70	26.30	11.08	25.28	10.81	24.51	10.56	22.05	9.75
	-5.0	-5.6	29.39	11.23	27.88	10.87	26.30	10.75	25.28	10.20	24.51	10.03	22.05	9.36
	-3.0	-3.7	29.39	10.80	27.88	10.47	26.30	10.15	25.28	9.81	24.51	9.66	22.05	8.91
	0.0	-0.7	29.39	10.13	27.88	9.84	26.30	9.64	25.28	9.23	24.51	9.21	22.05	8.36
	3.0	2.2	29.39	9.57	27.88	9.30	26.30	9.00	25.28	8.82	24.51	8.60	22.05	7.81
	5.0	4.1	29.39	9.21	27.88	8.96	26.30	8.65	25.28	8.28	24.51	7.96	22.05	7.51
	7.0	6.0	29.39	8.76	27.88	8.63	26.30	8.05	25.28	8.09	24.51	7.73	22.05	7.39
	9.0	7.9	29.39	8.79	27.88	8.68	26.30	8.23	25.28	7.99	24.51	7.59	22.05	7.21
	11.0	9.8	29.39	8.41	27.88	8.01	26.30	7.69	25.28	7.17	24.51	6.61	22.05	5.66
	13.0	11.8	29.39	6.34	27.88	6.06	26.30	5.75	25.28	5.54	24.51	5.71	22.05	4.87
	15.0	13.7	29.39	5.90	27.88	5.93	26.30	5.62	25.28	5.37	24.51	5.22	22.05	4.72
	18.0	16.6	29.39	5.75	27.88	5.45	26.30	5.19	25.28	4.99	24.51	4.99	22.05	4.49
	21.0	19.5	29.39	5.23	27.88	5.01	26.30	4.76	25.28	4.66	24.51	4.45	22.05	4.08
	24.0	22.4	29.39	4.82	27.88	4.88	26.30	4.59	25.28	4.38	24.51	4.34	22.05	3.99
	27.0	25.3	29.39	4.94	27.88	4.65	26.30	4.27	25.28	4.36	24.51	4.30	22.05	3.84
	30.0	28.1	29.39	5.00	27.88	4.40	26.30	4.38	25.28	4.12	24.51	4.35	22.05	3.77
60%	-30.0	-30.5	25.30	18.70	24.45	18.95	22.65	18.26	21.61	20.10	21.11	19.70	19.53	16.91
	-25.0	-25.4	25.82	16.21	24.95	16.46	23.11	15.85	22.06	16.32	21.54	15.99	19.93	15.73
	-19.8	-20.0	25.82	14.15	24.95	14.35	23.11	13.84	22.06	13.55	21.54	13.37	19.93	13.22
	-18.8	-19.0	25.82	13.95	24.95	13.99	23.11	13.54	22.06	13.20	21.54	13.18	19.93	12.78
	-16.7	-17.0	25.82	13.40	24.95	12.93	23.11	12.93	22.06	12.65	21.54	12.66	19.93	12.03
	-13.7	-15.0	25.82	12.75	24.95	12.87	23.11	12.36	22.06	11.98	21.54	12.22	19.93	11.59
	-11.8	-13.0	25.82	12.46	24.95	12.43	23.11	11.96	22.06	11.68	21.54	11.54	19.93	11.06
	-9.8	-11.0	25.82	11.74	24.95	11.72	23.11	11.21	22.06	10.82	21.54	10.68	19.93	10.07
	-9.5	-10.0	25.82	11.57	24.95	11.59	23.11	11.10	22.06	10.73	21.54	10.46	19.93	9.95
	-8.5	-9.1	25.82	11.43	24.95	11.43	23.11	10.82	22.06	10.36	21.54	10.28	19.93	9.74
	-7.0	-7.6	25.82	11.10	24.95	10.98	23.11	10.27	22.06	9.97	21.54	9.84	19.93	9.36
	-5.0	-5.6	25.82	10.60	24.95	10.40	23.11	9.95	22.06	9.47	21.54	9.38	19.93	8.95
	-3.0	-3.7	25.82	10.15	24.95	10.00	23.11	9.46	22.06	9.10	21.54	9.00	19.93	8.51
	0.0	-0.7	25.82	9.46	24.95	9.34	23.11	8.88	22.06	8.49	21.54	8.48	19.93	7.97
	3.0	2.2	25.82	8.87	24.95	8.75	23.11	8.28	22.06	8.03	21.54	7.93	19.93	7.48
	5.0	4.1	25.82	8.43	24.95	8.32	23.11	7.81	22.06	7.41	21.54	7.07	19.93	6.87
	7.0	6.0	25.82	7.92	24.95	7.90	23.11	7.13	22.06	7.09	21.54	6.69	19.93	6.57
	9.0	7.9	25.82	7.72	24.95	7.71	23.11	7.02	22.06	6.89	21.54	6.36	19.93	6.31
	11.0	9.8	25.82	7.12	24.95	6.86	23.11	6.47	22.06	6.09	21.54	5.77	19.93	5.30
	13.0	11.8	25.82	5.61	24.95	5.49	23.11	5.15	22.06	4.94	21.54	5.04	19.93	4.58
	15.0	13.7	25.82	5.31	24.95	5.34	23.11	5.00	22.06	4.78	21.54	4.70	19.93	4.42
	18.0	16.6	25.82	5.10	24.95	4.96	23.11	4.65	22.06	4.46	21.54	4.46	19.93	4.20
	21.0	19.5	25.82	4.70	24.95	4.62	23.11	4.34	22.06	4.21	21.54	4.10	19.93	3.93
	24.0	22.4	25.82	4.43	24.95	4.49	23.11	4.18	22.06	4.02	21.54	4.00	19.93	3.84
	27.0	25.3	25.82	4.48	24.95	4.30	23.11	3.96	22.06	3.91	21.54	4.04	19.93	3.67
	30.0	28.1	25.82	4.63	24.95	4.24	23.11	4.01	22.06	3.77	21.54	3.87	19.93	3.44

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 2-8.8: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-30.0	-30.5	21.98	16.29	19.82	15.12	18.87	15.22	18.16	16.77	18.23	16.86	16.72	13.96
	-25.0	-25.4	22.43	14.38	20.22	13.43	19.25	13.36	18.53	13.74	18.60	13.70	17.06	13.72
	-19.8	-20.0	22.43	12.76	20.22	11.93	19.25	11.77	18.53	11.57	18.60	11.58	17.06	11.34
	-18.8	-19.0	22.43	12.65	20.22	11.72	19.25	11.55	18.53	11.33	18.60	11.54	17.06	10.97
	-16.7	-17.0	22.43	12.24	20.22	11.24	19.25	11.11	18.53	10.84	18.60	11.23	17.06	10.42
	-13.7	-15.0	22.43	11.71	20.22	10.99	19.25	10.77	18.53	10.47	18.60	11.11	17.06	10.16
	-11.8	-13.0	22.43	11.53	20.22	10.65	19.25	10.48	18.53	10.31	18.60	10.46	17.06	9.84
	-9.8	-11.0	22.43	10.84	20.22	10.03	19.25	9.86	18.53	9.59	18.60	9.56	17.06	9.03
	-9.5	-10.0	22.43	10.70	20.22	9.95	19.25	9.86	18.53	9.45	18.60	9.42	17.06	8.99
	-8.5	-9.1	22.43	10.59	20.22	9.89	19.25	9.46	18.53	9.10	18.60	9.32	17.06	8.87
	-7.0	-7.6	22.43	10.33	20.22	9.39	19.25	9.09	18.53	8.93	18.60	9.10	17.06	8.61
	-5.0	-5.6	22.43	9.96	20.22	9.08	19.25	8.79	18.53	8.55	18.60	8.72	17.06	8.21
	-3.0	-3.7	22.43	9.52	20.22	8.74	19.25	8.46	18.53	8.22	18.60	8.35	17.06	7.83
	0.0	-0.7	22.43	8.84	20.22	8.14	19.25	7.86	18.53	7.64	18.60	7.79	17.06	7.32
	3.0	2.2	22.43	8.24	20.22	7.56	19.25	7.34	18.53	7.15	18.60	7.30	17.06	6.92
	5.0	4.1	22.43	7.72	20.22	7.08	19.25	6.75	18.53	6.45	18.60	6.21	17.06	5.99
	7.0	6.0	22.43	7.15	20.22	6.61	19.25	6.00	18.53	6.01	18.60	5.64	17.06	5.49
	9.0	7.9	22.43	6.70	20.22	6.19	19.25	5.60	18.53	5.69	18.60	5.11	17.06	5.13
	11.0	9.8	22.43	5.85	20.22	5.20	19.25	5.05	18.53	4.91	18.60	4.93	17.06	4.76
	13.0	11.8	22.43	4.93	20.22	4.53	19.25	4.40	18.53	4.29	18.60	4.37	17.06	4.14
	15.0	13.7	22.43	4.77	20.22	4.36	19.25	4.24	18.53	4.13	18.60	4.20	17.06	3.96
	18.0	16.6	22.43	4.49	20.22	4.11	19.25	3.99	18.53	3.89	18.60	3.95	17.06	3.76
	21.0	19.5	22.43	4.22	20.22	3.89	19.25	3.80	18.53	3.70	18.60	3.78	17.06	3.64
	24.0	22.4	22.43	4.09	20.22	3.78	19.25	3.65	18.53	3.63	18.60	3.68	17.06	3.56
	27.0	25.3	22.43	4.07	20.22	3.64	19.25	3.55	18.53	3.41	18.60	3.81	17.06	3.39
	30.0	28.1	22.43	4.31	20.22	3.81	19.25	3.54	18.53	3.39	18.60	3.39	17.06	2.98

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

Table 2-8.9: 14HP 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-30.0	-30.5	35.47	20.97	34.86	19.38	33.94	19.97	33.79	20.24	34.08	20.62	33.69	21.13
	-25.0	-25.4	36.19	16.16	35.57	16.73	34.64	17.16	34.48	17.49	34.78	17.94	34.38	18.49
	-19.8	-20.0	38.05	14.91	37.39	15.39	37.04	15.95	36.85	16.30	37.20	16.81	36.84	17.42
	-18.8	-19.0	38.34	14.71	37.68	15.14	37.33	15.71	37.29	16.06	37.50	16.52	37.13	17.17
	-16.7	-17.0	38.93	14.28	38.26	14.72	37.91	15.20	37.86	15.59	38.08	16.04	37.71	16.61
	-13.7	-15.0	39.51	13.80	38.84	14.19	38.48	14.70	38.44	15.02	38.66	15.44	38.29	15.97
	-11.8	-13.0	40.10	13.53	39.42	13.89	39.06	14.40	39.02	14.71	39.24	15.14	39.01	15.72
	-9.8	-11.0	40.69	13.14	40.00	13.52	39.64	13.97	39.59	14.25	39.97	14.70	39.59	15.20
	-9.5	-10.0	40.98	13.00	40.29	13.37	40.07	13.87	39.88	14.11	40.26	14.55	39.88	15.07
	-8.5	-9.1	41.28	12.89	40.58	13.23	40.21	13.69	40.16	13.98	40.55	14.43	40.17	14.92
	-7.0	-7.6	41.72	12.70	41.02	13.02	40.79	13.53	40.60	13.76	40.99	14.18	40.60	14.67
	-5.0	-5.6	44.95	13.27	44.20	13.58	43.82	14.06	43.76	14.34	44.04	14.74	43.63	15.21
	-3.0	-3.7	45.54	12.93	44.78	13.28	44.39	13.70	44.34	14.00	44.62	14.38	44.21	14.85
	0.0	-0.7	46.42	12.46	45.65	12.79	45.25	13.23	45.20	13.48	45.50	13.85	45.23	14.38
	3.0	2.2	51.28	13.09	50.00	13.35	49.58	13.81	49.38	14.03	49.85	14.49	49.42	14.97
	5.0	4.1	63.75	15.81	60.37	15.63	59.09	15.97	56.72	15.68	54.93	15.50	50.14	14.74
	7.0	6.0	64.78	15.92	61.53	16.44	59.09	16.19	56.72	15.86	54.93	15.63	50.14	14.66
	9.0	7.9	64.78	15.99	61.53	15.91	59.09	15.24	56.72	14.96	54.93	14.85	50.14	13.94
	11.0	9.8	64.78	13.03	61.53	13.35	59.09	13.31	56.72	13.01	54.93	12.75	50.14	12.82
	13.0	11.8	64.78	12.54	61.53	13.47	59.09	13.21	56.72	13.05	54.93	12.94	50.14	12.15
	15.0	13.7	64.78	12.37	61.53	12.87	59.09	12.46	56.72	12.25	54.93	11.65	50.14	11.14
	18.0	16.6	64.78	11.64	61.53	12.59	59.09	11.72	56.72	11.51	54.93	11.38	50.14	10.83
	21.0	19.5	64.78	11.47	61.53	12.39	59.09	11.61	56.72	11.36	54.93	11.34	50.14	10.72
	24.0	22.4	64.78	10.15	61.53	11.91	59.09	10.26	56.72	11.11	54.93	11.10	50.14	10.04
	27.0	25.3	64.78	10.54	61.53	11.92	59.09	10.59	56.72	9.95	54.93	9.79	50.14	9.42
	30.0	28.1	64.78	10.30	61.53	10.83	59.09	9.17	56.72	9.78	54.93	9.69	50.14	9.16
120%	-30.0	-30.5	33.89	19.62	32.66	18.47	33.99	20.18	33.96	19.67	34.18	19.89	33.46	19.84
	-25.0	-25.4	34.59	15.83	33.32	16.04	34.68	17.50	34.65	17.59	34.88	17.99	34.14	18.20
	-19.8	-20.0	36.67	14.78	35.34	14.93	36.67	16.23	36.75	16.68	37.03	17.22	36.21	17.61
	-18.8	-19.0	36.96	14.57	35.62	14.70	36.96	15.98	37.04	16.38	37.31	16.90	36.49	16.90
	-16.7	-17.0	37.52	14.18	36.17	14.32	37.54	15.50	37.61	15.90	37.90	16.49	37.21	16.47
	-13.7	-15.0	38.10	13.72	36.72	13.82	38.11	15.00	38.18	15.37	38.62	15.89	37.77	16.15
	-11.8	-13.0	38.66	13.47	37.27	13.56	38.75	14.74	38.76	15.08	39.21	15.61	38.35	15.63
	-9.8	-11.0	39.23	13.09	37.82	13.19	39.40	14.33	39.33	14.62	39.78	15.11	38.91	15.35
	-9.5	-10.0	39.52	12.97	38.10	13.07	39.69	14.19	39.62	14.49	40.08	14.97	39.20	15.20
	-8.5	-9.1	39.80	12.87	38.37	12.94	39.97	14.07	39.91	14.37	40.37	14.84	39.49	15.06
	-7.0	-7.6	40.23	12.69	38.78	12.76	40.40	13.88	40.34	14.15	40.80	14.61	39.91	14.76
	-5.0	-5.6	43.35	13.27	41.81	13.32	43.41	14.45	43.50	14.78	44.00	15.26	43.05	15.39
	-3.0	-3.7	43.93	12.98	42.36	13.05	43.98	14.11	44.07	14.46	44.43	14.88	43.62	15.10
	0.0	-0.7	44.78	12.56	43.18	12.62	44.84	13.67	44.93	13.98	45.45	14.34	44.47	14.54
	3.0	2.2	48.90	13.09	47.31	13.23	49.13	14.26	49.10	14.48	49.66	14.92	45.61	14.17
	5.0	4.1	61.55	16.04	55.97	15.22	54.15	15.22	52.11	14.91	50.68	14.78	45.61	13.58
	7.0	6.0	61.98	15.31	55.97	14.84	54.15	14.82	52.11	14.56	50.68	14.44	45.61	13.29
	9.0	7.9	61.98	15.31	55.97	14.48	54.15	14.19	52.11	13.97	50.68	13.85	45.61	12.73
	11.0	9.8	61.98	13.11	55.97	12.38	54.15	12.83	52.11	12.55	50.68	12.26	45.61	11.73
	13.0	11.8	61.98	12.80	55.97	12.00	54.15	12.49	52.11	12.24	50.68	11.85	45.61	10.83
	15.0	13.7	61.98	12.44	55.97	12.28	54.15	11.95	52.11	11.53	50.68	10.93	45.61	10.11
	18.0	16.6	61.98	11.87	55.97	11.06	54.15	10.93	52.11	10.65	50.68	10.48	45.61	9.69
	21.0	19.5	61.98	11.73	55.97	11.41	54.15	10.77	52.11	10.45	50.68	10.37	45.61	9.54
	24.0	22.4	61.98	10.35	55.97	10.46	54.15	9.67	52.11	10.10	50.68	10.03	45.61	8.99
	27.0	25.3	61.98	10.58	55.97	10.67	54.15	9.70	52.11	9.23	50.68	9.05	45.61	8.46
	30.0	28.1	61.98	10.20	55.97	9.42	54.15	8.77	52.11	9.03	50.68	9.00	45.61	8.23

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 2-8.9: 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	34.03	19.31	34.49	19.93	34.46	20.74	34.44	19.24	34.22	19.24	34.45	19.40
	-25.0	-25.4	34.73	16.23	35.19	17.35	35.16	17.99	35.14	17.87	34.92	18.06	35.15	18.70
	-19.8	-20.0	36.23	14.92	36.74	15.79	36.75	16.80	36.68	16.99	36.44	17.46	36.69	18.33
	-18.8	-19.0	36.51	14.80	37.02	15.61	37.03	16.46	36.96	16.77	36.72	17.08	36.97	17.04
	-16.7	-17.0	37.08	14.47	37.60	15.36	37.62	15.93	37.54	16.23	37.44	16.84	37.56	16.66
	-13.7	-15.0	37.64	13.97	38.17	14.83	38.19	15.47	38.11	15.74	38.01	16.12	38.13	16.81
	-11.8	-13.0	38.21	13.72	38.75	14.47	38.91	15.18	38.69	15.43	38.59	15.83	38.71	15.91
	-9.8	-11.0	38.77	13.36	39.32	14.16	39.49	14.92	39.26	15.03	39.16	15.32	39.29	15.95
	-9.5	-10.0	39.05	13.23	39.76	14.14	39.78	14.71	39.55	14.92	39.44	15.29	39.58	15.86
	-8.5	-9.1	39.34	13.16	39.90	13.86	40.07	14.51	39.84	14.86	39.73	15.04	39.87	15.57
	-7.0	-7.6	39.75	12.89	40.32	13.77	40.49	14.44	40.26	14.59	40.16	14.82	40.30	15.39
	-5.0	-5.6	42.85	13.52	43.49	14.37	43.53	15.09	43.44	15.40	43.32	15.64	42.33	15.47
	-3.0	-3.7	43.42	13.35	44.06	14.05	44.10	14.64	44.01	15.02	43.89	15.22	42.33	15.09
	0.0	-0.7	44.27	12.92	44.92	13.75	45.11	14.32	44.87	14.58	44.75	14.71	42.33	14.19
	3.0	2.2	48.35	13.55	49.22	14.41	49.29	14.85	47.89	14.69	45.90	14.30	42.33	13.49
	5.0	4.1	56.39	15.36	53.53	15.27	50.01	14.59	47.89	14.23	45.90	13.82	42.33	12.84
	7.0	6.0	56.39	14.07	53.53	14.08	50.01	13.59	47.89	13.39	45.90	13.02	42.33	12.21
	9.0	7.9	56.39	13.91	53.53	13.81	50.01	13.32	47.89	13.02	45.90	12.70	42.33	11.87
	11.0	9.8	56.39	12.59	53.53	12.57	50.01	12.45	47.89	12.14	45.90	11.51	42.33	11.04
	13.0	11.8	56.39	12.45	53.53	12.25	50.01	11.83	47.89	11.50	45.90	10.59	42.33	9.84
	15.0	13.7	56.39	11.80	53.53	12.08	50.01	11.59	47.89	10.86	45.90	10.12	42.33	9.32
	18.0	16.6	56.39	11.43	53.53	10.88	50.01	10.28	47.89	9.93	45.90	9.51	42.33	8.79
	21.0	19.5	56.39	11.41	53.53	11.16	50.01	10.04	47.89	9.61	45.90	9.33	42.33	8.61
	24.0	22.4	56.39	10.05	53.53	10.25	50.01	9.23	47.89	9.20	45.90	8.94	42.33	8.21
	27.0	25.3	56.39	10.13	53.53	9.97	50.01	8.95	47.89	8.58	45.90	8.28	42.33	7.70
	30.0	28.1	56.39	9.63	53.53	9.24	50.01	8.49	47.89	8.32	45.90	8.14	42.33	7.45
100%	-30.0	-30.5	34.45	19.22	33.74	19.70	34.24	20.68	34.05	18.62	34.29	18.67	33.71	18.11
	-25.0	-25.4	35.15	16.87	34.43	17.29	34.94	18.25	34.74	17.66	34.99	18.05	34.40	18.04
	-19.8	-20.0	36.79	15.62	36.03	15.99	36.57	17.03	36.36	17.33	36.62	17.99	36.02	18.49
	-18.8	-19.0	37.36	15.51	36.59	15.90	37.14	16.89	36.93	17.18	37.20	17.75	36.58	17.01
	-16.7	-17.0	37.93	15.16	37.15	15.52	37.85	16.54	37.50	16.64	37.76	17.48	37.15	16.61
	-13.7	-15.0	38.50	14.69	37.71	15.02	38.43	16.00	38.07	16.19	38.34	16.69	37.71	16.97
	-11.8	-13.0	39.07	14.45	38.27	14.80	39.00	15.74	38.63	15.93	38.91	16.42	37.71	15.73
	-9.8	-11.0	39.36	13.97	38.69	14.33	39.29	15.18	39.06	15.42	39.20	15.82	37.71	15.67
	-9.5	-10.0	39.64	13.88	38.83	14.17	39.57	15.06	39.21	15.27	39.48	15.69	37.71	15.36
	-8.5	-9.1	40.07	13.83	39.39	14.16	40.00	14.99	39.64	15.21	39.92	15.61	37.71	15.13
	-7.0	-7.6	43.21	14.57	42.34	14.90	43.15	15.84	42.76	16.01	41.63	15.92	37.71	14.59
	-5.0	-5.6	43.78	14.36	42.90	14.65	43.71	15.57	43.04	15.66	41.63	15.44	37.71	14.15
	-3.0	-3.7	44.63	14.22	43.74	14.50	44.57	15.40	43.04	15.18	41.63	14.99	37.71	13.83
	0.0	-0.7	45.77	13.93	47.52	15.03	45.00	14.84	43.04	14.50	41.63	14.08	37.71	13.02
	3.0	2.2	48.77	14.28	47.52	14.51	45.00	14.13	43.04	13.63	41.63	13.36	37.71	12.34
	5.0	4.1	51.76	14.80	47.52	14.18	45.00	13.64	43.04	13.19	41.63	12.96	37.71	11.55
	7.0	6.0	51.76	12.94	47.52	12.41	45.00	12.30	43.04	12.02	41.63	11.89	37.71	10.92
	9.0	7.9	51.76	12.80	47.52	12.30	45.00	12.18	43.04	11.92	41.63	11.63	37.71	10.60
	11.0	9.8	51.76	12.16	47.52	11.86	45.00	11.77	43.04	11.46	41.63	11.01	37.71	9.83
	13.0	11.8	51.76	12.14	47.52	11.52	45.00	11.04	43.04	10.55	41.63	9.56	37.71	8.53
	15.0	13.7	51.76	11.38	47.52	11.07	45.00	10.88	43.04	10.02	41.63	9.34	37.71	8.29
	18.0	16.6	51.76	11.17	47.52	10.11	45.00	9.42	43.04	8.94	41.63	8.57	37.71	7.67
	21.0	19.5	51.76	11.11	47.52	9.96	45.00	9.21	43.04	8.67	41.63	8.33	37.71	7.42
	24.0	22.4	51.76	9.88	47.52	9.31	45.00	8.58	43.04	8.10	41.63	7.80	37.71	7.12
	27.0	25.3	51.76	9.71	47.52	8.77	45.00	8.05	43.04	7.81	41.63	7.47	37.71	6.77
	30.0	28.1	51.76	9.15	47.52	8.35	45.00	8.05	43.04	7.56	41.63	7.51	37.71	6.57

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 …

Table 2-8.9: 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
90%	-30.0	-30.5	34.33	19.45	33.35	19.06	34.54	19.54	34.19	18.74	34.88	18.63	33.93	17.89
	-25.0	-25.4	35.03	17.15	34.03	16.91	35.24	17.62	34.89	17.97	35.60	17.92	34.62	17.70
	-19.8	-20.0	36.51	15.78	35.53	15.98	36.76	16.97	36.43	17.41	37.17	17.93	34.62	17.37
	-18.8	-19.0	36.79	15.84	35.81	15.82	37.05	16.61	36.72	17.11	37.47	17.90	34.62	16.23
	-16.7	-17.0	37.37	15.26	36.37	15.44	37.78	16.56	37.29	16.60	38.05	17.90	34.62	15.98
	-13.7	-15.0	37.94	14.79	36.92	15.05	38.35	16.22	37.88	16.21	38.49	17.15	34.62	15.98
	-11.8	-13.0	38.52	14.49	37.49	14.83	38.94	16.18	38.45	16.07	38.49	16.30	34.62	14.64
	-9.8	-11.0	39.09	14.31	38.19	14.51	39.52	15.74	39.16	15.92	38.49	15.82	34.62	14.50
	-9.5	-10.0	39.37	14.25	38.47	14.34	39.81	15.70	39.31	15.87	38.49	15.75	34.62	14.27
	-8.5	-9.1	39.66	14.20	38.61	14.22	40.10	15.47	39.31	15.69	38.49	15.58	34.62	14.19
	-7.0	-7.6	40.09	14.03	39.16	14.26	40.54	15.22	39.31	15.18	38.49	15.19	34.62	13.89
	-5.0	-5.6	43.24	14.76	42.11	14.92	41.27	15.00	39.31	14.78	38.49	14.74	34.62	13.45
	-3.0	-3.7	43.81	14.53	42.66	14.67	41.27	14.54	39.31	14.08	38.49	14.23	34.62	12.92
	0.0	-0.7	44.67	14.10	42.66	13.89	41.27	13.97	39.31	13.55	38.49	13.31	34.62	12.10
	3.0	2.2	46.82	14.14	42.66	13.44	41.27	13.22	39.31	12.58	38.49	12.51	34.62	11.51
	5.0	4.1	46.82	13.80	42.66	13.01	41.27	12.72	39.31	12.14	38.49	12.10	34.62	10.71
	7.0	6.0	46.82	12.28	42.66	11.60	41.27	11.59	39.31	11.17	38.49	11.16	34.62	10.16
	9.0	7.9	46.82	12.19	42.66	11.44	41.27	11.38	39.31	11.11	38.49	10.71	34.62	10.05
	11.0	9.8	46.82	11.47	42.66	10.90	41.27	10.86	39.31	10.29	38.49	10.02	34.62	8.93
	13.0	11.8	46.82	10.95	42.66	10.24	41.27	9.98	39.31	9.51	38.49	8.87	34.62	7.88
	15.0	13.7	46.82	10.36	42.66	9.85	41.27	9.81	39.31	9.07	38.49	8.63	34.62	7.65
	18.0	16.6	46.82	10.02	42.66	9.02	41.27	8.63	39.31	8.16	38.49	7.95	34.62	7.07
	21.0	19.5	46.82	9.94	42.66	8.85	41.27	8.37	39.31	7.90	38.49	7.71	34.62	6.84
	24.0	22.4	46.82	8.92	42.66	8.31	41.27	7.86	39.31	7.39	38.49	7.22	34.62	6.57
	27.0	25.3	46.82	8.72	42.66	7.84	41.27	7.44	39.31	7.18	38.49	6.94	34.62	6.28
	30.0	28.1	46.82	8.29	42.66	7.55	41.27	7.39	39.31	6.93	38.49	6.99	34.62	6.05
80%	-30.0	-30.5	34.75	20.00	33.03	18.44	34.74	18.25	34.63	19.04	33.65	17.58	30.07	15.53
	-25.0	-25.4	35.46	17.71	33.70	16.54	35.45	16.88	35.34	18.47	34.34	16.84	30.68	15.25
	-19.8	-20.0	36.86	16.21	35.05	15.98	36.54	16.70	35.34	16.95	34.34	16.25	30.68	15.02
	-18.8	-19.0	37.15	16.59	35.33	15.87	36.54	16.13	35.34	16.49	34.34	16.42	30.68	14.50
	-16.7	-17.0	37.73	15.74	35.88	15.50	36.54	16.07	35.34	15.79	34.34	16.43	30.68	14.63
	-13.7	-15.0	38.31	15.26	36.44	15.20	36.54	15.71	35.34	15.23	34.34	15.68	30.68	14.54
	-11.8	-13.0	38.89	14.88	36.99	14.97	36.54	15.65	35.34	14.99	34.34	14.58	30.68	13.15
	-9.8	-11.0	39.47	14.90	37.54	14.64	36.54	14.99	35.34	14.80	34.34	14.37	30.68	12.95
	-9.5	-10.0	39.76	14.87	37.54	14.30	36.54	14.94	35.34	14.79	34.34	14.46	30.68	12.81
	-8.5	-9.1	40.05	14.85	37.54	14.15	36.54	14.50	35.34	14.66	34.34	14.39	30.68	12.86
	-7.0	-7.6	40.49	14.70	37.54	14.15	36.54	14.02	35.34	14.08	34.34	13.99	30.68	12.77
	-5.0	-5.6	42.23	14.99	37.54	13.81	36.54	13.56	35.34	13.74	34.34	13.60	30.68	12.35
	-3.0	-3.7	42.23	14.57	37.54	13.39	36.54	13.14	35.34	12.86	34.34	13.05	30.68	11.65
	0.0	-0.7	42.23	13.82	37.54	12.58	36.54	12.71	35.34	12.47	34.34	12.15	30.68	10.86
	3.0	2.2	42.23	13.17	37.54	12.21	36.54	11.95	35.34	11.45	34.34	11.32	30.68	10.39
	5.0	4.1	42.23	12.85	37.54	11.72	36.54	11.48	35.34	11.01	34.34	10.91	30.68	9.61
	7.0	6.0	42.23	11.62	37.54	10.62	36.54	10.56	35.34	10.24	34.34	10.11	30.68	9.14
	9.0	7.9	42.23	11.56	37.54	10.45	36.54	10.29	35.34	10.22	34.34	9.52	30.68	9.22
	11.0	9.8	42.23	10.81	37.54	9.84	36.54	9.68	35.34	9.07	34.34	8.78	30.68	7.83
	13.0	11.8	42.23	9.84	37.54	8.91	36.54	8.70	35.34	8.43	34.34	7.95	30.68	7.03
	15.0	13.7	42.23	9.41	37.54	8.58	36.54	8.52	35.34	8.07	34.34	7.69	30.68	6.81
	18.0	16.6	42.23	8.96	37.54	7.89	36.54	7.64	35.34	7.33	34.34	7.13	30.68	6.29
	21.0	19.5	42.23	8.85	37.54	7.70	36.54	7.33	35.34	7.08	34.34	6.88	30.68	6.08
	24.0	22.4	42.23	8.03	37.54	7.27	36.54	6.95	35.34	6.64	34.34	6.44	30.68	5.86
	27.0	25.3	42.23	7.81	37.54	6.86	36.54	6.64	35.34	6.50	34.34	6.23	30.68	5.63
	30.0	28.1	42.23	7.48	37.54	6.71	36.54	6.55	35.34	6.25	34.34	6.29	30.68	5.38

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 2-8.9: 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
70%	-30.0	-30.5	35.21	18.79	32.19	16.84	31.14	13.48	30.08	16.53	29.48	14.45	26.17	13.06
	-25.0	-25.4	35.93	17.77	32.85	15.72	31.78	13.54	30.70	16.67	30.09	13.89	26.71	12.49
	-19.8	-20.0	35.93	16.36	32.85	15.51	31.78	14.00	30.70	14.76	30.09	13.74	26.71	12.35
	-18.8	-19.0	36.22	17.45	32.85	15.39	31.78	13.68	30.70	14.39	30.09	14.24	26.71	12.80
	-16.7	-17.0	36.22	16.00	32.85	14.90	31.78	14.00	30.70	13.82	30.09	15.08	26.71	13.57
	-13.7	-15.0	36.22	15.17	32.85	14.54	31.78	14.16	30.70	13.46	30.09	14.66	26.71	13.16
	-11.8	-13.0	36.22	14.42	32.85	14.06	31.78	14.45	30.70	13.33	30.09	12.87	26.71	11.64
	-9.8	-11.0	36.22	14.45	32.85	13.61	31.78	13.94	30.70	13.64	30.09	13.07	26.71	11.64
	-9.5	-10.0	36.22	14.38	32.85	13.07	31.78	13.94	30.70	13.79	30.09	13.31	26.71	11.50
	-8.5	-9.1	36.22	14.33	32.85	13.01	31.78	13.31	30.70	13.62	30.09	13.51	26.71	11.88
	-7.0	-7.6	36.22	14.10	32.85	13.29	31.78	12.78	30.70	13.21	30.09	12.97	26.71	11.95
	-5.0	-5.6	36.22	13.76	32.85	12.84	31.78	12.35	30.70	12.70	30.09	12.72	26.71	11.54
	-3.0	-3.7	36.22	13.42	32.85	12.51	31.78	11.97	30.70	11.70	30.09	12.19	26.71	10.65
	0.0	-0.7	36.22	12.70	32.85	11.83	31.78	11.68	30.70	11.44	30.09	11.13	26.71	9.85
	3.0	2.2	36.22	12.10	32.85	11.30	31.78	10.83	30.70	10.42	30.09	10.22	26.71	9.34
	5.0	4.1	36.22	11.82	32.85	10.70	31.78	10.23	30.70	9.91	30.09	9.76	26.71	8.73
	7.0	6.0	36.22	10.90	32.85	10.12	31.78	9.80	30.70	9.43	30.09	9.28	26.71	8.36
	9.0	7.9	36.22	10.85	32.85	9.93	31.78	9.24	30.70	9.49	30.09	8.30	26.71	8.65
	11.0	9.8	36.22	10.16	32.85	8.95	31.78	8.58	30.70	7.46	30.09	7.29	26.71	6.54
	13.0	11.8	36.22	8.40	32.85	7.58	31.78	7.30	30.70	7.09	30.09	6.97	26.71	6.22
	15.0	13.7	36.22	8.14	32.85	7.36	31.78	7.09	30.70	6.86	30.09	6.74	26.71	6.01
	18.0	16.6	36.22	7.57	32.85	6.82	31.78	6.58	30.70	6.37	30.09	6.27	26.71	5.59
	21.0	19.5	36.22	7.26	32.85	6.58	31.78	6.30	30.70	6.10	30.09	6.00	26.71	5.37
	24.0	22.4	36.22	6.84	32.85	6.23	31.78	6.02	30.70	5.81	30.09	5.74	26.71	5.18
	27.0	25.3	36.22	6.47	32.85	5.97	31.78	5.82	30.70	5.73	30.09	5.61	26.71	5.07
	30.0	28.1	36.22	6.44	32.85	6.03	31.78	5.62	30.70	5.53	30.09	5.56	26.71	4.78
60%	-30.0	-30.5	30.15	16.94	28.08	14.53	27.11	13.44	26.49	14.79	25.09	13.51	23.11	12.88
	-25.0	-25.4	30.76	16.21	28.66	14.38	27.66	13.42	27.03	14.89	25.60	13.24	23.59	12.61
	-19.8	-20.0	30.76	15.11	28.66	14.19	27.66	14.02	27.03	14.48	25.60	13.00	23.59	12.39
	-18.8	-19.0	30.76	15.18	28.66	13.97	27.66	13.81	27.03	14.26	25.60	13.29	23.59	12.50
	-16.7	-17.0	30.76	14.55	28.66	13.76	27.66	13.63	27.03	13.67	25.60	13.53	23.59	12.66
	-13.7	-15.0	30.76	13.86	28.66	13.16	27.66	13.40	27.03	13.01	25.60	13.28	23.59	12.51
	-11.8	-13.0	30.76	13.51	28.66	13.42	27.66	13.68	27.03	12.78	25.60	11.92	23.59	11.29
	-9.8	-11.0	30.76	13.80	28.66	12.91	27.66	12.93	27.03	12.71	25.60	12.03	23.59	11.33
	-9.5	-10.0	30.76	13.46	28.66	12.66	27.66	12.87	27.03	12.66	25.60	11.96	23.59	11.17
	-8.5	-9.1	30.76	12.95	28.66	12.17	27.66	12.40	27.03	12.58	25.60	11.95	23.59	11.17
	-7.0	-7.6	30.76	12.61	28.66	12.15	27.66	12.05	27.03	12.26	25.60	11.65	23.59	10.91
	-5.0	-5.6	30.76	12.11	28.66	11.56	27.66	11.50	27.03	11.84	25.60	11.31	23.59	10.50
	-3.0	-3.7	30.76	11.86	28.66	11.31	27.66	11.13	27.03	11.00	25.60	10.84	23.59	9.83
	0.0	-0.7	30.76	11.06	28.66	10.52	27.66	10.33	27.03	10.24	25.60	10.06	23.59	9.23
	3.0	2.2	30.76	10.39	28.66	9.81	27.66	9.54	27.03	9.32	25.60	9.32	23.59	8.79
	5.0	4.1	30.76	9.89	28.66	9.32	27.66	8.72	27.03	8.77	25.60	8.78	23.59	8.30
	7.0	6.0	30.76	8.96	28.66	8.61	27.66	8.27	27.03	8.26	25.60	8.36	23.59	7.78
	9.0	7.9	30.76	8.80	28.66	8.48	27.66	7.72	27.03	8.03	25.60	7.59	23.59	7.53
	11.0	9.8	30.76	8.25	28.66	7.57	27.66	7.37	27.03	6.77	25.60	6.40	23.59	6.06
	13.0	11.8	30.76	7.25	28.66	6.80	27.66	6.58	27.03	6.49	25.60	6.19	23.59	5.82
	15.0	13.7	30.76	7.02	28.66	6.61	27.66	6.35	27.03	6.22	25.60	5.97	23.59	5.62
	18.0	16.6	30.76	6.59	28.66	6.15	27.66	5.98	27.03	5.85	25.60	5.60	23.59	5.27
	21.0	19.5	30.76	6.23	28.66	5.92	27.66	5.70	27.03	5.66	25.60	5.36	23.59	5.01
	24.0	22.4	30.76	5.98	28.66	5.60	27.66	5.56	27.03	5.46	25.60	5.14	23.59	4.86
	27.0	25.3	30.76	5.69	28.66	5.38	27.66	5.27	27.03	5.25	25.60	5.04	23.59	4.68
	30.0	28.1	30.76	5.72	28.66	5.44	27.66	5.05	27.03	4.97	25.60	5.17	23.59	4.65

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 …

Table 2-8.9: 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
50%	-30.0	-30.5	25.03	13.03	24.28	12.26	22.30	12.39	21.30	11.98	20.62	12.24	19.31	12.17
	-25.0	-25.4	25.54	13.96	24.78	12.88	22.75	12.47	21.73	11.99	21.04	12.23	19.71	12.08
	-19.8	-20.0	25.54	13.67	24.78	12.89	22.75	13.11	21.73	12.80	21.04	12.06	19.71	11.82
	-18.8	-19.0	25.54	12.90	24.78	12.55	22.75	12.86	21.73	12.64	21.04	11.95	19.71	11.74
	-16.7	-17.0	25.54	12.87	24.78	12.57	22.75	12.53	21.73	12.22	21.04	11.63	19.71	11.38
	-13.7	-15.0	25.54	12.40	24.78	11.89	22.75	11.99	21.73	11.49	21.04	11.65	19.71	11.35
	-11.8	-13.0	25.54	12.48	24.78	12.86	22.75	12.19	21.73	11.24	21.04	10.97	19.71	10.63
	-9.8	-11.0	25.54	12.63	24.78	12.40	22.75	11.54	21.73	10.89	21.04	10.76	19.71	10.57
	-9.5	-10.0	25.54	12.21	24.78	12.12	22.75	11.20	21.73	10.70	21.04	10.47	19.71	10.41
	-8.5	-9.1	25.54	11.70	24.78	11.38	22.75	11.11	21.73	10.52	21.04	10.36	19.71	10.01
	-7.0	-7.6	25.54	11.18	24.78	11.08	22.75	10.89	21.73	10.38	21.04	10.13	19.71	9.54
	-5.0	-5.6	25.54	10.62	24.78	10.47	22.75	10.21	21.73	10.15	21.04	9.86	19.71	9.04
	-3.0	-3.7	25.54	10.42	24.78	10.33	22.75	9.96	21.73	9.63	21.04	9.42	19.71	8.53
	0.0	-0.7	25.54	9.46	24.78	9.26	22.75	8.72	21.73	8.46	21.04	8.96	19.71	8.31
	3.0	2.2	25.54	8.71	24.78	8.46	22.75	7.89	21.73	7.76	21.04	8.54	19.71	7.81
	5.0	4.1	25.54	8.07	24.78	7.94	22.75	6.96	21.73	6.95	21.04	7.80	19.71	7.58
	7.0	6.0	25.54	7.13	24.78	7.22	22.75	6.48	21.73	6.56	21.04	7.47	19.71	7.05
	9.0	7.9	25.54	6.82	24.78	7.11	22.75	6.14	21.73	6.04	21.04	6.94	19.71	6.18
	11.0	9.8	25.54	6.41	24.78	6.33	22.75	5.94	21.73	5.69	21.04	5.59	19.71	5.41
	13.0	11.8	25.54	6.17	24.78	6.09	22.75	5.69	21.73	5.51	21.04	5.41	19.71	5.20
	15.0	13.7	25.54	5.96	24.78	5.88	22.75	5.49	21.73	5.30	21.04	5.20	19.71	5.03
	18.0	16.6	25.54	5.60	24.78	5.55	22.75	5.22	21.73	5.05	21.04	4.97	19.71	4.78
	21.0	19.5	25.54	5.33	24.78	5.28	22.75	4.96	21.73	4.81	21.04	4.73	19.71	4.56
	24.0	22.4	25.54	5.13	24.78	5.06	22.75	4.86	21.73	4.75	21.04	4.56	19.71	4.43
	27.0	25.3	25.54	4.97	24.78	4.86	22.75	4.57	21.73	4.42	21.04	4.49	19.71	4.20
	30.0	28.1	25.54	5.06	24.78	4.85	22.75	4.38	21.73	4.12	21.04	4.81	19.71	4.37

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

Table 2-8.10: 16HP 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-30.0	-30.5	38.39	24.08	39.32	23.19	37.85	23.63	37.41	23.77	37.31	23.95	37.29	24.82
	-25.0	-25.4	39.17	18.56	40.12	20.02	38.62	20.30	38.17	20.54	38.07	20.83	38.06	21.71
	-19.8	-20.0	41.18	17.12	42.18	18.42	41.30	18.87	40.80	19.14	40.73	19.53	40.78	20.47
	-18.8	-19.0	41.49	16.89	42.51	18.12	41.63	18.59	41.28	18.87	41.05	19.19	41.11	20.16
	-16.7	-17.0	42.14	16.39	43.16	17.62	42.27	17.98	41.92	18.31	41.68	18.62	41.74	19.51
	-13.7	-15.0	42.77	15.85	43.81	16.98	42.91	17.39	42.55	17.64	42.33	17.93	42.39	18.75
	-11.8	-13.0	43.40	15.54	44.47	16.62	43.56	17.03	43.20	17.28	42.96	17.59	43.19	18.46
	-9.8	-11.0	44.04	15.09	45.12	16.17	44.20	16.52	43.83	16.73	43.75	17.08	43.82	17.86
	-9.5	-10.0	44.36	14.92	45.45	16.01	44.68	16.41	44.15	16.58	44.08	16.90	44.15	17.70
	-8.5	-9.1	44.68	14.81	45.77	15.83	44.84	16.20	44.46	16.42	44.39	16.76	44.47	17.52
	-7.0	-7.6	45.16	14.59	46.27	15.59	45.49	16.00	44.95	16.16	44.87	16.47	44.95	17.24
	-5.0	-5.6	48.65	15.24	49.86	16.25	48.86	16.64	48.45	16.84	48.21	17.11	48.30	17.87
	-3.0	-3.7	49.29	14.85	50.51	15.89	49.50	16.21	49.09	16.44	48.85	16.70	48.95	17.44
	0.0	-0.7	50.24	14.31	51.49	15.31	50.46	15.65	50.04	15.84	49.80	16.09	50.07	16.90
	3.0	2.2	55.50	15.03	56.40	15.97	55.28	16.34	54.66	16.48	54.57	16.83	54.71	17.58
	5.0	4.1	69.00	18.16	68.10	18.70	65.90	18.89	62.80	18.41	60.14	18.00	55.51	17.31
	7.0	6.0	70.12	18.28	69.41	19.67	65.90	19.15	62.80	18.63	60.14	18.15	55.51	17.21
	9.0	7.9	70.12	18.36	69.41	19.04	65.90	18.03	62.80	17.57	60.14	17.24	55.51	16.38
	11.0	9.8	70.12	14.96	69.41	15.97	65.90	15.75	62.80	15.29	60.14	14.81	55.51	15.06
	13.0	11.8	70.12	14.40	69.41	16.12	65.90	15.63	62.80	15.32	60.14	15.03	55.51	14.27
	15.0	13.7	70.12	14.21	69.41	15.40	65.90	14.74	62.80	14.39	60.14	13.53	55.51	13.09
	18.0	16.6	70.12	13.37	69.41	15.07	65.90	13.87	62.80	13.52	60.14	13.22	55.51	12.72
	21.0	19.5	70.12	13.17	69.41	14.82	65.90	13.73	62.80	13.34	60.14	13.17	55.51	12.60
	24.0	22.4	70.12	11.66	69.41	14.25	65.90	12.14	62.80	13.06	60.14	12.89	55.51	11.80
	27.0	25.3	70.12	12.10	69.41	14.26	65.90	12.53	62.80	11.69	60.14	11.37	55.51	11.06
	30.0	28.1	70.12	11.83	69.41	12.96	65.90	10.84	62.80	11.49	60.14	11.25	55.51	10.76
120%	-30.0	-30.5	38.03	23.36	37.48	22.49	37.94	23.90	37.89	23.29	37.40	23.09	36.99	23.27
	-25.0	-25.4	38.81	18.85	38.24	19.53	38.72	20.73	38.67	20.83	38.16	20.88	37.74	21.35
	-19.8	-20.0	41.15	17.59	40.56	18.18	40.93	19.22	41.01	19.75	40.51	19.99	40.03	20.66
	-18.8	-19.0	41.47	17.35	40.88	17.90	41.25	18.92	41.33	19.40	40.82	19.62	40.34	19.82
	-16.7	-17.0	42.11	16.88	41.51	17.44	41.90	18.36	41.98	18.82	41.46	19.15	41.13	19.32
	-13.7	-15.0	42.75	16.33	42.14	16.83	42.53	17.76	42.61	18.20	42.25	18.44	41.76	18.95
	-11.8	-13.0	43.38	16.04	42.78	16.51	43.25	17.45	43.26	17.85	42.89	18.11	42.39	18.33
	-9.8	-11.0	44.03	15.58	43.40	16.06	43.97	16.98	43.89	17.31	43.52	17.54	43.02	18.01
	-9.5	-10.0	44.35	15.44	43.72	15.91	44.30	16.81	44.22	17.16	43.84	17.37	43.33	17.83
	-8.5	-9.1	44.66	15.32	44.04	15.76	44.62	16.66	44.54	17.01	44.16	17.23	43.65	17.66
	-7.0	-7.6	45.14	15.11	44.51	15.54	45.09	16.43	45.01	16.75	44.63	16.96	44.12	17.31
	-5.0	-5.6	48.65	15.80	47.98	16.22	48.46	17.11	48.55	17.50	48.14	17.71	47.59	18.05
	-3.0	-3.7	49.29	15.45	48.61	15.90	49.09	16.72	49.18	17.12	48.61	17.27	48.22	17.71
	0.0	-0.7	50.25	14.95	49.56	15.36	50.05	16.18	50.14	16.55	49.72	16.64	49.16	17.05
	3.0	2.2	54.87	15.59	54.29	16.11	54.84	16.89	54.79	17.14	54.33	17.32	50.42	16.62
	5.0	4.1	69.07	19.10	64.23	18.54	60.45	18.02	58.15	17.66	55.44	17.16	50.42	15.93
	7.0	6.0	69.55	18.23	64.23	18.07	60.45	17.55	58.15	17.24	55.44	16.76	50.42	15.59
	9.0	7.9	69.55	18.23	64.23	17.63	60.45	16.81	58.15	16.54	55.44	16.07	50.42	14.93
	11.0	9.8	69.55	15.61	64.23	15.07	60.45	15.19	58.15	14.86	55.44	14.23	50.42	13.76
	13.0	11.8	69.55	15.24	64.23	14.61	60.45	14.79	58.15	14.49	55.44	13.75	50.42	12.70
	15.0	13.7	69.55	14.81	64.23	14.95	60.45	14.16	58.15	13.65	55.44	12.69	50.42	11.85
	18.0	16.6	69.55	14.13	64.23	13.47	60.45	12.94	58.15	12.61	55.44	12.16	50.42	11.37
	21.0	19.5	69.55	13.96	64.23	13.89	60.45	12.76	58.15	12.38	55.44	12.03	50.42	11.19
	24.0	22.4	69.55	12.33	64.23	12.74	60.45	11.46	58.15	11.95	55.44	11.64	50.42	10.55
	27.0	25.3	69.55	12.60	64.23	13.00	60.45	11.49	58.15	10.93	55.44	10.51	50.42	9.93
	30.0	28.1	69.55	12.15	64.23	11.46	60.45	10.38	58.15	10.70	55.44	10.44	50.42	9.65

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 …

Table 2-8.10: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-30.0	-30.5	37.87	22.80	37.82	23.19	38.18	24.37	38.69	22.93	38.28	22.83	38.31	22.90
	-25.0	-25.4	38.64	19.16	38.59	20.19	38.96	21.14	39.48	21.30	39.06	21.43	39.09	22.07
	-19.8	-20.0	40.31	17.61	40.28	18.37	40.72	19.75	41.20	20.25	40.76	20.72	40.80	21.62
	-18.8	-19.0	40.62	17.47	40.60	18.16	41.03	19.35	41.51	19.99	41.07	20.28	41.12	20.11
	-16.7	-17.0	41.26	17.08	41.24	17.87	41.67	18.73	42.17	19.34	41.88	19.99	41.77	19.66
	-13.7	-15.0	41.88	16.49	41.86	17.25	42.31	18.19	42.81	18.76	42.52	19.13	42.40	19.83
	-11.8	-13.0	42.51	16.19	42.49	16.84	43.11	17.84	43.46	18.39	43.16	18.79	43.05	18.77
	-9.8	-11.0	43.13	15.78	43.12	16.47	43.75	17.54	44.10	17.91	43.80	18.18	43.69	18.82
	-9.5	-10.0	43.45	15.62	43.60	16.45	44.07	17.30	44.42	17.78	44.12	18.15	44.01	18.71
	-8.5	-9.1	43.77	15.54	43.75	16.13	44.39	17.05	44.75	17.71	44.45	17.85	44.34	18.37
	-7.0	-7.6	44.23	15.22	44.22	16.02	44.86	16.97	45.23	17.39	44.92	17.59	44.82	18.15
	-5.0	-5.6	47.68	15.96	47.69	16.72	48.22	17.74	48.79	18.35	48.46	18.56	47.07	18.25
	-3.0	-3.7	48.31	15.76	48.31	16.34	48.86	17.20	49.43	17.90	49.10	18.06	47.07	17.81
	0.0	-0.7	49.25	15.25	49.26	16.00	49.97	16.83	50.40	17.38	50.06	17.46	47.07	16.74
	3.0	2.2	53.80	15.99	53.98	16.76	54.61	17.46	53.80	17.50	51.34	16.97	47.07	15.91
	5.0	4.1	62.74	18.13	58.71	17.77	55.41	17.15	53.80	16.96	51.34	16.40	47.07	15.15
	7.0	6.0	62.74	16.61	58.71	16.38	55.41	15.97	53.80	15.96	51.34	15.46	47.07	14.41
	9.0	7.9	62.74	16.42	58.71	16.06	55.41	15.66	53.80	15.51	51.34	15.08	47.07	14.00
	11.0	9.8	62.74	14.86	58.71	14.62	55.41	14.63	53.80	14.46	51.34	13.66	47.07	13.03
	13.0	11.8	62.74	14.70	58.71	14.25	55.41	13.91	53.80	13.70	51.34	12.56	47.07	11.62
	15.0	13.7	62.74	13.93	58.71	14.06	55.41	13.63	53.80	12.95	51.34	12.01	47.07	11.00
	18.0	16.6	62.74	13.49	58.71	12.66	55.41	12.08	53.80	11.83	51.34	11.28	47.07	10.37
	21.0	19.5	62.74	13.47	58.71	12.98	55.41	11.80	53.80	11.46	51.34	11.08	47.07	10.16
	24.0	22.4	62.74	11.86	58.71	11.92	55.41	10.85	53.80	10.97	51.34	10.62	47.07	9.68
	27.0	25.3	62.74	11.96	58.71	11.60	55.41	10.52	53.80	10.22	51.34	9.82	47.07	9.08
	30.0	28.1	62.74	11.37	58.71	10.74	55.41	9.98	53.80	9.91	51.34	9.66	47.07	8.80
100%	-30.0	-30.5	37.84	22.39	38.12	23.61	38.04	24.37	37.96	22.02	37.68	21.76	37.57	21.41
	-25.0	-25.4	38.61	19.66	38.89	20.73	38.82	21.51	38.73	20.90	38.45	21.05	38.33	21.33
	-19.8	-20.0	40.40	18.20	40.70	19.17	40.63	20.08	40.54	20.50	40.24	20.97	40.14	21.86
	-18.8	-19.0	41.04	18.07	41.34	19.06	41.27	19.91	41.18	20.32	40.87	20.69	40.76	20.11
	-16.7	-17.0	41.66	17.67	41.97	18.60	42.06	19.49	41.81	19.68	41.50	20.38	41.40	19.64
	-13.7	-15.0	42.29	17.12	42.61	18.00	42.70	18.86	42.45	19.15	42.13	19.45	42.02	20.07
	-11.8	-13.0	42.91	16.84	43.23	17.74	43.33	18.55	43.07	18.84	42.75	19.14	42.02	18.60
	-9.8	-11.0	43.23	16.28	43.71	17.18	43.65	17.90	43.55	18.24	43.07	18.44	42.02	18.53
	-9.5	-10.0	43.54	16.17	43.87	16.98	43.97	17.75	43.71	18.06	43.39	18.29	42.02	18.16
	-8.5	-9.1	44.01	16.12	44.50	16.98	44.44	17.67	44.19	17.99	43.86	18.20	42.02	17.88
	-7.0	-7.6	47.46	16.98	47.83	17.86	47.94	18.67	47.67	18.93	45.75	18.56	42.02	17.25
	-5.0	-5.6	48.08	16.73	48.46	17.57	48.57	18.35	47.99	18.53	45.75	18.00	42.02	16.73
	-3.0	-3.7	49.02	16.57	49.41	17.38	49.52	18.15	47.99	17.95	45.75	17.48	42.02	16.35
	0.0	-0.7	50.27	16.24	53.69	18.02	50.00	17.49	47.99	17.15	45.75	16.41	42.02	15.39
	3.0	2.2	53.57	16.63	53.69	17.39	50.00	16.66	47.99	16.12	45.75	15.57	42.02	14.58
	5.0	4.1	56.85	17.24	53.69	16.99	50.00	16.08	47.99	15.61	45.75	15.11	42.02	13.65
	7.0	6.0	56.85	15.07	53.69	14.88	50.00	14.50	47.99	14.22	45.75	13.86	42.02	12.91
	9.0	7.9	56.85	14.92	53.69	14.74	50.00	14.36	47.99	14.10	45.75	13.56	42.02	12.53
	11.0	9.8	56.85	14.18	53.69	14.22	50.00	13.87	47.99	13.55	45.75	12.84	42.02	11.62
	13.0	11.8	56.85	14.15	53.69	13.81	50.00	13.02	47.99	12.48	45.75	11.14	42.02	10.09
	15.0	13.7	56.85	13.26	53.69	13.27	50.00	12.83	47.99	11.86	45.75	10.89	42.02	9.80
	18.0	16.6	56.85	13.01	53.69	12.12	50.00	11.10	47.99	10.58	45.75	9.99	42.02	9.07
	21.0	19.5	56.85	12.95	53.69	11.94	50.00	10.86	47.99	10.26	45.75	9.71	42.02	8.78
	24.0	22.4	56.85	11.51	53.69	11.16	50.00	10.11	47.99	9.58	45.75	9.09	42.02	8.42
	27.0	25.3	56.85	11.31	53.69	10.51	50.00	9.49	47.99	9.24	45.75	8.71	42.02	8.00
	30.0	28.1	56.85	10.66	53.69	10.00	50.00	9.49	47.99	8.95	45.75	8.76	42.02	7.77

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 2-8.10: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-30.0	-30.5	37.65	22.63	37.97	23.02	38.40	23.05	38.16	22.19	38.39	21.75	37.98	21.25
	-25.0	-25.4	38.42	19.96	38.74	20.42	39.18	20.78	38.94	21.27	39.18	20.93	38.76	21.02
	-19.8	-20.0	40.05	18.36	40.45	19.30	40.87	20.02	40.66	20.62	40.91	20.94	38.76	20.64
	-18.8	-19.0	40.35	18.43	40.76	19.10	41.20	19.60	40.98	20.26	41.23	20.90	38.76	19.27
	-16.7	-17.0	40.99	17.75	41.40	18.65	42.00	19.53	41.62	19.66	41.88	20.90	38.76	18.98
	-13.7	-15.0	41.61	17.20	42.03	18.17	42.64	19.13	42.27	19.20	42.37	20.02	38.76	18.98
	-11.8	-13.0	42.24	16.86	42.67	17.91	43.29	19.09	42.90	19.03	42.37	19.03	38.76	17.39
	-9.8	-11.0	42.87	16.65	43.47	17.53	43.94	18.56	43.70	18.85	42.37	18.47	38.76	17.22
	-9.5	-10.0	43.18	16.58	43.79	17.32	44.26	18.53	43.87	18.79	42.37	18.39	38.76	16.95
	-8.5	-9.1	43.50	16.52	43.95	17.17	44.59	18.24	43.87	18.57	42.37	18.19	38.76	16.86
	-7.0	-7.6	43.97	16.32	44.58	17.22	45.08	17.95	43.87	17.97	42.37	17.74	38.76	16.50
	-5.0	-5.6	47.43	17.18	47.93	18.02	45.88	17.70	43.87	17.50	42.37	17.21	38.76	15.98
	-3.0	-3.7	48.05	16.91	48.56	17.72	45.88	17.16	43.87	16.67	42.37	16.62	38.76	15.34
	0.0	-0.7	48.99	16.41	48.56	16.77	45.88	16.48	43.87	16.04	42.37	15.54	38.76	14.37
	3.0	2.2	51.35	16.45	48.56	16.23	45.88	15.59	43.87	14.90	42.37	14.61	38.76	13.67
	5.0	4.1	51.35	16.06	48.56	15.72	45.88	15.01	43.87	14.37	42.37	14.13	38.76	12.72
	7.0	6.0	51.35	14.29	48.56	14.01	45.88	13.67	43.87	13.23	42.37	13.03	38.76	12.07
	9.0	7.9	51.35	14.18	48.56	13.82	45.88	13.43	43.87	13.16	42.37	12.51	38.76	11.93
	11.0	9.8	51.35	13.35	48.56	13.17	45.88	12.81	43.87	12.18	42.37	11.70	38.76	10.61
	13.0	11.8	51.35	12.74	48.56	12.36	45.88	11.78	43.87	11.26	42.37	10.36	38.76	9.36
	15.0	13.7	51.35	12.05	48.56	11.90	45.88	11.57	43.87	10.74	42.37	10.07	38.76	9.08
	18.0	16.6	51.35	11.66	48.56	10.90	45.88	10.18	43.87	9.67	42.37	9.29	38.76	8.39
	21.0	19.5	51.35	11.57	48.56	10.69	45.88	9.87	43.87	9.35	42.37	9.00	38.76	8.12
	24.0	22.4	51.35	10.38	48.56	10.04	45.88	9.27	43.87	8.75	42.37	8.43	38.76	7.81
	27.0	25.3	51.35	10.15	48.56	9.46	45.88	8.77	43.87	8.50	42.37	8.10	38.76	7.46
	30.0	28.1	51.35	9.64	48.56	9.12	45.88	8.72	43.87	8.20	42.37	8.17	38.76	7.19
80%	-30.0	-30.5	38.46	23.49	37.07	21.96	38.30	21.34	37.71	21.99	36.81	20.40	32.78	17.96
	-25.0	-25.4	39.25	20.80	37.83	19.70	39.08	19.74	38.48	21.33	37.56	19.54	33.44	17.63
	-19.8	-20.0	40.81	19.03	39.34	19.02	40.29	19.54	38.48	19.57	37.56	18.85	33.44	17.37
	-18.8	-19.0	41.12	19.48	39.65	18.90	40.29	18.87	38.48	19.05	37.56	19.06	33.44	16.77
	-16.7	-17.0	41.77	18.49	40.27	18.45	40.29	18.80	38.48	18.24	37.56	19.07	33.44	16.92
	-13.7	-15.0	42.40	17.92	40.89	18.10	40.29	18.38	38.48	17.59	37.56	18.19	33.44	16.82
	-11.8	-13.0	43.05	17.48	41.51	17.83	40.29	18.31	38.48	17.32	37.56	16.92	33.44	15.20
	-9.8	-11.0	43.69	17.50	42.14	17.43	40.29	17.54	38.48	17.09	37.56	16.68	33.44	14.98
	-9.5	-10.0	44.01	17.46	42.14	17.02	40.29	17.47	38.48	17.08	37.56	16.78	33.44	14.82
	-8.5	-9.1	44.34	17.44	42.14	16.85	40.29	16.96	38.48	16.94	37.56	16.69	33.44	14.87
	-7.0	-7.6	44.82	17.26	42.14	16.85	40.29	16.40	38.48	16.27	37.56	16.24	33.44	14.77
	-5.0	-5.6	46.75	17.60	42.14	16.44	40.29	15.87	38.48	15.87	37.56	15.78	33.44	14.28
	-3.0	-3.7	46.75	17.11	42.14	15.94	40.29	15.37	38.48	14.86	37.56	15.14	33.44	13.48
	0.0	-0.7	46.75	16.24	42.14	14.98	40.29	14.86	38.48	14.41	37.56	14.09	33.44	12.56
	3.0	2.2	46.75	15.46	42.14	14.54	40.29	13.98	38.48	13.22	37.56	13.13	33.44	12.01
	5.0	4.1	46.75	15.09	42.14	13.96	40.29	13.43	38.48	12.71	37.56	12.66	33.44	11.11
	7.0	6.0	46.75	13.65	42.14	12.65	40.29	12.35	38.48	11.83	37.56	11.74	33.44	10.58
	9.0	7.9	46.75	13.58	42.14	12.44	40.29	12.03	38.48	11.81	37.56	11.05	33.44	10.66
	11.0	9.8	46.75	12.69	42.14	11.72	40.29	11.33	38.48	10.48	37.56	10.19	33.44	9.05
	13.0	11.8	46.75	11.56	42.14	10.60	40.29	10.17	38.48	9.74	37.56	9.22	33.44	8.13
	15.0	13.7	46.75	11.06	42.14	10.22	40.29	9.97	38.48	9.32	37.56	8.92	33.44	7.87
	18.0	16.6	46.75	10.53	42.14	9.39	40.29	8.94	38.48	8.47	37.56	8.27	33.44	7.28
	21.0	19.5	46.75	10.39	42.14	9.17	40.29	8.58	38.48	8.18	37.56	7.99	33.44	7.03
	24.0	22.4	46.75	9.43	42.14	8.65	40.29	8.13	38.48	7.67	37.56	7.47	33.44	6.78
	27.0	25.3	46.75	9.18	42.14	8.17	40.29	7.77	38.48	7.50	37.56	7.23	33.44	6.51
	30.0	28.1	46.75	8.79	42.14	7.99	40.29	7.66	38.48	7.22	37.56	7.30	33.44	6.22

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 …

Table 2-8.10: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-30.0	-30.5	39.30	22.25	36.98	20.52	35.08	16.11	33.63	19.60	33.35	17.35	29.91	15.83
	-25.0	-25.4	40.10	21.04	37.73	19.16	35.80	16.19	34.31	19.77	34.03	16.67	30.52	15.15
	-19.8	-20.0	40.10	19.38	37.73	18.90	35.80	16.74	34.31	17.51	34.03	16.49	30.52	14.97
	-18.8	-19.0	40.42	20.66	37.73	18.75	35.80	16.36	34.31	17.06	34.03	17.08	30.52	15.51
	-16.7	-17.0	40.42	18.95	37.73	18.16	35.80	16.74	34.31	16.39	34.03	18.10	30.52	16.45
	-13.7	-15.0	40.42	17.96	37.73	17.72	35.80	16.93	34.31	15.96	34.03	17.59	30.52	15.96
	-11.8	-13.0	40.42	17.08	37.73	17.14	35.80	17.27	34.31	15.81	34.03	15.44	30.52	14.12
	-9.8	-11.0	40.42	17.11	37.73	16.58	35.80	16.66	34.31	16.18	34.03	15.68	30.52	14.11
	-9.5	-10.0	40.42	17.03	37.73	15.93	35.80	16.66	34.31	16.35	34.03	15.97	30.52	13.94
	-8.5	-9.1	40.42	16.97	37.73	15.85	35.80	15.91	34.31	16.15	34.03	16.21	30.52	14.41
	-7.0	-7.6	40.42	16.70	37.73	16.19	35.80	15.27	34.31	15.67	34.03	15.57	30.52	14.49
	-5.0	-5.6	40.42	16.29	37.73	15.65	35.80	14.76	34.31	15.06	34.03	15.26	30.52	13.99
	-3.0	-3.7	40.42	15.89	37.73	15.25	35.80	14.31	34.31	13.88	34.03	14.63	30.52	12.92
	0.0	-0.7	40.42	15.03	37.73	14.41	35.80	13.96	34.31	13.57	34.03	13.36	30.52	11.95
	3.0	2.2	40.42	14.33	37.73	13.78	35.80	12.94	34.31	12.35	34.03	12.26	30.52	11.33
	5.0	4.1	40.42	14.00	37.73	13.05	35.80	12.23	34.31	11.75	34.03	11.71	30.52	10.58
	7.0	6.0	40.42	12.91	37.73	12.33	35.80	11.71	34.31	11.19	34.03	11.13	30.52	10.13
	9.0	7.9	40.42	12.85	37.73	12.10	35.80	11.04	34.31	11.25	34.03	9.96	30.52	10.48
	11.0	9.8	40.42	12.04	37.73	10.90	35.80	10.26	34.31	8.85	34.03	8.74	30.52	7.92
	13.0	11.8	40.42	9.95	37.73	9.24	35.80	8.72	34.31	8.40	34.03	8.37	30.52	7.55
	15.0	13.7	40.42	9.63	37.73	8.97	35.80	8.47	34.31	8.14	34.03	8.08	30.52	7.29
	18.0	16.6	40.42	8.97	37.73	8.32	35.80	7.87	34.31	7.56	34.03	7.53	30.52	6.78
	21.0	19.5	40.42	8.60	37.73	8.02	35.80	7.53	34.31	7.23	34.03	7.19	30.52	6.52
	24.0	22.4	40.42	8.10	37.73	7.59	35.80	7.19	34.31	6.89	34.03	6.89	30.52	6.28
	27.0	25.3	40.42	7.67	37.73	7.28	35.80	6.95	34.31	6.80	34.03	6.74	30.52	6.15
	30.0	28.1	40.42	7.63	37.73	7.35	35.80	6.72	34.31	6.56	34.03	6.67	30.52	5.79
60%	-30.0	-30.5	33.80	20.15	31.25	17.15	30.16	15.87	29.75	17.62	28.01	16.01	26.22	15.50
	-25.0	-25.4	34.49	19.28	31.88	16.98	30.78	15.85	30.36	17.75	28.58	15.68	26.76	15.17
	-19.8	-20.0	34.49	17.97	31.88	16.75	30.78	16.55	30.36	17.25	28.58	15.40	26.76	14.91
	-18.8	-19.0	34.49	18.06	31.88	16.49	30.78	16.30	30.36	16.99	28.58	15.74	26.76	15.05
	-16.7	-17.0	34.49	17.31	31.88	16.24	30.78	16.09	30.36	16.30	28.58	16.03	26.76	15.24
	-13.7	-15.0	34.49	16.49	31.88	15.53	30.78	15.82	30.36	15.51	28.58	15.73	26.76	15.06
	-11.8	-13.0	34.49	16.07	31.88	15.84	30.78	16.15	30.36	15.23	28.58	14.12	26.76	13.60
	-9.8	-11.0	34.49	16.42	31.88	15.23	30.78	15.27	30.36	15.15	28.58	14.25	26.76	13.64
	-9.5	-10.0	34.49	16.01	31.88	14.94	30.78	15.20	30.36	15.09	28.58	14.17	26.76	13.45
	-8.5	-9.1	34.49	15.41	31.88	14.37	30.78	14.64	30.36	15.00	28.58	14.15	26.76	13.44
	-7.0	-7.6	34.49	14.99	31.88	14.35	30.78	14.23	30.36	14.61	28.58	13.80	26.76	13.14
	-5.0	-5.6	34.49	14.40	31.88	13.64	30.78	13.57	30.36	14.11	28.58	13.40	26.76	12.63
	-3.0	-3.7	34.49	14.11	31.88	13.35	30.78	13.14	30.36	13.10	28.58	12.84	26.76	11.83
	0.0	-0.7	34.49	13.16	31.88	12.41	30.78	12.20	30.36	12.20	28.58	11.92	26.76	11.11
	3.0	2.2	34.49	12.36	31.88	11.58	30.78	11.27	30.36	11.10	28.58	11.04	26.76	10.58
	5.0	4.1	34.49	11.76	31.88	11.01	30.78	10.30	30.36	10.45	28.58	10.40	26.76	9.99
	7.0	6.0	34.49	10.66	31.88	10.16	30.78	9.76	30.36	9.85	28.58	9.90	26.76	9.37
	9.0	7.9	34.49	10.47	31.88	10.01	30.78	9.12	30.36	9.57	28.58	9.00	26.76	9.06
	11.0	9.8	34.49	9.81	31.88	8.93	30.78	8.70	30.36	8.07	28.58	7.58	26.76	7.30
	13.0	11.8	34.49	8.63	31.88	8.03	30.78	7.77	30.36	7.73	28.58	7.34	26.76	7.00
	15.0	13.7	34.49	8.35	31.88	7.81	30.78	7.50	30.36	7.41	28.58	7.08	26.76	6.77
	18.0	16.6	34.49	7.84	31.88	7.26	30.78	7.05	30.36	6.98	28.58	6.63	26.76	6.34
	21.0	19.5	34.49	7.41	31.88	6.99	30.78	6.73	30.36	6.75	28.58	6.35	26.76	6.03
	24.0	22.4	34.49	7.11	31.88	6.61	30.78	6.56	30.36	6.51	28.58	6.09	26.76	5.85
	27.0	25.3	34.49	6.77	31.88	6.35	30.78	6.22	30.36	6.25	28.58	5.97	26.76	5.63
	30.0	28.1	34.49	6.81	31.88	6.43	30.78	5.97	30.36	5.93	28.58	6.13	26.76	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 …

Table 2-8.10: 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
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-30.0	-30.5	27.89	15.41	24.85	13.30	24.86	14.65	24.00	14.32	23.75	14.95	21.60	14.45
	-25.0	-25.4	28.45	16.50	25.35	13.98	25.37	14.75	24.49	14.33	24.24	14.95	22.04	14.34
	-19.8	-20.0	28.45	16.17	25.35	13.99	25.37	15.50	24.49	15.30	24.24	14.73	22.04	14.03
	-18.8	-19.0	28.45	15.25	25.35	13.62	25.37	15.21	24.49	15.11	24.24	14.60	22.04	13.94
	-16.7	-17.0	28.45	15.22	25.35	13.65	25.37	14.82	24.49	14.61	24.24	14.21	22.04	13.51
	-13.7	-15.0	28.45	14.66	25.35	12.91	25.37	14.18	24.49	13.74	24.24	14.24	22.04	13.47
	-11.8	-13.0	28.45	14.76	25.35	13.96	25.37	14.42	24.49	13.44	24.24	13.40	22.04	12.62
	-9.8	-11.0	28.45	14.93	25.35	13.46	25.37	13.65	24.49	13.02	24.24	13.15	22.04	12.54
	-9.5	-10.0	28.45	14.43	25.35	13.16	25.37	13.25	24.49	12.80	24.24	12.80	22.04	12.36
	-8.5	-9.1	28.45	13.83	25.35	12.36	25.37	13.14	24.49	12.58	24.24	12.66	22.04	11.88
	-7.0	-7.6	28.45	13.21	25.35	12.03	25.37	12.88	24.49	12.41	24.24	12.37	22.04	11.32
	-5.0	-5.6	28.45	12.55	25.35	11.37	25.37	12.08	24.49	12.14	24.24	12.05	22.04	10.73
	-3.0	-3.7	28.45	12.31	25.35	11.22	25.37	11.78	24.49	11.51	24.24	11.51	22.04	10.12
	0.0	-0.7	28.45	11.18	25.35	10.05	25.37	10.31	24.49	10.11	24.24	10.95	22.04	9.86
	3.0	2.2	28.45	10.29	25.35	9.18	25.37	9.33	24.49	9.28	24.24	10.43	22.04	9.27
	5.0	4.1	28.45	9.54	25.35	8.62	25.37	8.23	24.49	8.31	24.24	9.53	22.04	9.00
	7.0	6.0	28.45	8.43	25.35	7.84	25.37	7.67	24.49	7.84	24.24	9.12	22.04	8.37
	9.0	7.9	28.45	8.06	25.35	7.72	25.37	7.26	24.49	7.23	24.24	8.48	22.04	7.34
	11.0	9.8	28.45	7.57	25.35	6.87	25.37	7.02	24.49	6.80	24.24	6.84	22.04	6.42
	13.0	11.8	28.45	7.29	25.35	6.61	25.37	6.73	24.49	6.59	24.24	6.61	22.04	6.17
	15.0	13.7	28.45	7.05	25.35	6.38	25.37	6.49	24.49	6.33	24.24	6.36	22.04	5.97
	18.0	16.6	28.45	6.62	25.35	6.02	25.37	6.17	24.49	6.04	24.24	6.07	22.04	5.67
	21.0	19.5	28.45	6.31	25.35	5.73	25.37	5.86	24.49	5.75	24.24	5.78	22.04	5.41
	24.0	22.4	28.45	6.06	25.35	5.49	25.37	5.75	24.49	5.68	24.24	5.58	22.04	5.26
	27.0	25.3	28.45	5.87	25.35	5.28	25.37	5.40	24.49	5.28	24.24	5.49	22.04	4.99
	30.0	28.1	28.45	5.99	25.35	5.27	25.37	5.19	24.49	4.92	24.24	5.87	22.04	5.19

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

Table 2-8.11: 8/18HP rate of change in cooling capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.84	0.83	0.83	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76	0.76	0.75	0.74
100	/	/	/	/	/	/	/	/	/	/	0.85	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76	0.75	0.75
90	/	/	/	/	/	/	/	/	/	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76	0.75	0.75
80	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.78	0.78	0.77	0.77	0.76	0.76	0.75
70	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76	0.76	0.75
60	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76	0.75
50	/	/	/	/	/	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76	0.75
40	/	/	/	/	0.93	0.92	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78	0.77	0.77	0.76	0.76
30	/	/	/	0.95	0.93	0.92	0.91	0.90	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76
20	/	/	0.97	0.95	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76
10	/	0.99	0.97	0.95	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76
0	1.00	0.99	0.97	0.95	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76
-10	/	0.99	0.97	0.96	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76
-20	/	/	0.97	0.96	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76
-30	/	/	/	0.96	0.94	0.93	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77
-40	/	/	/	/	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77
-50	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77
-60	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77
-70	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78	0.77
-80	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77
-90	/	/	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77
-100	/	/	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78
-110	/	/	/	/	/	/	/	/	/	/	/	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78

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

Table 2-8.12: 10/20HP rate of change in cooling capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77
100	/	/	/	/	/	/	/	/	/	/	0.82	0.81	0.81	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
90	/	/	/	/	/	/	/	/	/	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
80	/	/	/	/	/	/	/	/	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
70	/	/	/	/	/	/	/	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
60	/	/	/	/	/	/	0.87	0.86	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78
50	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
40	/	/	/	/	0.90	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
30	/	/	/	0.93	0.91	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
20	/	/	0.95	0.93	0.91	0.89	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
10	/	0.99	0.95	0.93	0.91	0.89	0.88	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
0	1.00	0.99	0.96	0.93	0.91	0.89	0.88	0.87	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.80	0.80
-10	/	0.99	0.96	0.93	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-20	/	/	0.96	0.94	0.91	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-30	/	/	/	0.94	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-40	/	/	/	/	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-50	/	/	/	/	/	0.90	0.89	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.81
-60	/	/	/	/	/	/	0.89	0.88	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.81	0.81	0.81	0.81
-70	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-80	/	/	/	/	/	/	/	/	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-90	/	/	/	/	/	/	/	/	/	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.82	0.82

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

Table 2-8.13: 12/22/24HP rate of change in cooling capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.91	0.91	0.90	0.90	0.88	0.86	0.85	0.83	0.82	0.81	0.79	0.77	0.75	0.74	0.72	0.69
100	/	/	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.76	0.74	0.71
90	/	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.78	0.76	0.74	0.72
80	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.80	0.78	0.76	0.74	0.72
70	/	/	/	/	/	/	/	0.94	0.94	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74	0.72
60	/	/	/	/	/	/	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74	0.72
50	/	/	/	/	/	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.90	0.89	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.76	0.74	0.72
40	/	/	/	/	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.77	0.75	0.73
30	/	/	/	0.97	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.79	0.77	0.75	0.73
20	/	/	0.98	0.97	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.86	0.84	0.82	0.81	0.79	0.77	0.75	0.73
10	/	1.00	0.98	0.97	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
0	1.00	1.00	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
-10	/	1.00	0.98	0.97	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
-20	/	/	0.98	0.97	0.96	0.96	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.94	0.93	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.79	0.78	0.76	0.74
-30	/	/	/	0.97	0.97	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.80	0.78	0.76	0.74
-40	/	/	/	/	0.97	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74
-50	/	/	/	/	/	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.85	0.83	0.82	0.80	0.78	0.76	0.74
-60	/	/	/	/	/	/	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.76	0.74
-70	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.77	0.74
-80	/	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.82	0.80	0.79	0.77	0.75
-90	/	/	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.94	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.82	0.81	0.79	0.77	0.75
-100	/	/	/	/	/	/	/	/	/	/	0.95	0.96	0.96	0.95	0.94	0.93	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75
-110	/	/	/	/	/	/	/	/	/	/	/	0.96	0.96	0.95	0.94	0.93	0.92	0.90	0.89	0.88	0.86	0.84	0.83	0.81	0.79	0.77	0.75

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

Table 2-8.14: 14/26/28HP rate of change in cooling capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
100	/	/	/	/	/	/	/	/	/	/	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
90	/	/	/	/	/	/	/	/	/	0.88	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
80	/	/	/	/	/	/	/	/	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
70	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
60	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
50	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
40	/	/	/	/	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
30	/	/	/	0.96	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
20	/	/	0.97	0.96	0.95	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
10	/	0.99	0.98	0.96	0.95	0.94	0.93	0.91	0.90	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
0	1.00	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
-10	/	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-20	/	/	0.98	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-30	/	/	/	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-40	/	/	/	/	0.96	0.94	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-50	/	/	/	/	/	0.95	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-60	/	/	/	/	/	/	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-70	/	/	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-80	/	/	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-90	/	/	/	/	/	/	/	/	/	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81

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

Table 2-8.15: 16/30/32HP rate of change in cooling capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79	0.78
100	/	/	/	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78
90	/	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.78
80	/	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79
70	/	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79
60	/	/	/	/	/	/	0.89	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
50	/	/	/	/	/	0.91	0.89	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79
40	/	/	/	/	0.92	0.91	0.89	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79
30	/	/	/	0.94	0.93	0.91	0.89	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79
20	/	/	0.96	0.94	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80
10	/	0.99	0.97	0.95	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80
0	1.00	0.99	0.97	0.95	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-10	/	0.99	0.97	0.95	0.93	0.92	0.90	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80
-20	/	/	0.97	0.95	0.93	0.92	0.90	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80
-30	/	/	/	0.95	0.94	0.92	0.90	0.93	0.92	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80
-40	/	/	/	/	0.94	0.92	0.91	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-50	/	/	/	/	/	0.92	0.91	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81
-60	/	/	/	/	/	/	0.91	0.94	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81
-70	/	/	/	/	/	/	/	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81
-80	/	/	/	/	/	/	/	/	0.93	0.92	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81
-90	/	/	/	/	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.91	0.90	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82

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

Table 2-8.16: 8/18HP rate of change in heating capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.84	0.83	0.83	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76	0.76	0.75	0.74
100	/	/	/	/	/	/	/	/	/	/	0.85	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76	0.75	0.75
90	/	/	/	/	/	/	/	/	/	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76	0.75	0.75
80	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.78	0.78	0.77	0.77	0.76	0.76	0.75
70	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76	0.76	0.75
60	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76	0.75
50	/	/	/	/	/	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76	0.75
40	/	/	/	/	0.93	0.92	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78	0.77	0.77	0.76	0.76
30	/	/	/	0.95	0.93	0.92	0.91	0.90	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76
20	/	/	0.97	0.95	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76	0.76
10	/	0.99	0.97	0.95	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76
0	1.00	0.99	0.97	0.95	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76
-10	/	0.99	0.97	0.96	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77	0.76
-20	/	/	0.97	0.96	0.94	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77	0.76
-30	/	/	/	0.96	0.94	0.93	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79	0.78	0.78	0.77	0.77
-40	/	/	/	/	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77
-50	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77	0.77
-60	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.77
-70	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78	0.77
-80	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77
-90	/	/	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.77
-100	/	/	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.78	0.78
-110	/	/	/	/	/	/	/	/	/	/	/	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78	0.78

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

Table 2-8.17: 10/20HP rate of change in heating capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77
100	/	/	/	/	/	/	/	/	/	/	0.82	0.81	0.81	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
90	/	/	/	/	/	/	/	/	/	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
80	/	/	/	/	/	/	/	/	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
70	/	/	/	/	/	/	/	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
60	/	/	/	/	/	/	0.87	0.86	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78
50	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
40	/	/	/	/	0.90	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
30	/	/	/	0.93	0.91	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
20	/	/	0.95	0.93	0.91	0.89	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
10	/	0.99	0.95	0.93	0.91	0.89	0.88	0.86	0.85	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
0	1.00	0.99	0.96	0.93	0.91	0.89	0.88	0.87	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.79	0.79	0.80	0.80
-10	/	0.99	0.96	0.93	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-20	/	/	0.96	0.94	0.91	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-30	/	/	/	0.94	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-40	/	/	/	/	0.92	0.90	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
-50	/	/	/	/	/	0.90	0.89	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.81
-60	/	/	/	/	/	/	0.89	0.88	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.80	0.80	0.80	0.81	0.81	0.81	0.81
-70	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-80	/	/	/	/	/	/	/	/	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-90	/	/	/	/	/	/	/	/	/	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.85	0.84	0.83	0.83	0.82	0.82	0.82	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.82	0.82

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

Table 2-8.18: 12/22/24HP rate of change in heating capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.91	0.91	0.90	0.90	0.88	0.86	0.85	0.83	0.82	0.81	0.79	0.77	0.75	0.74	0.72	0.69
100	/	/	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.76	0.74	0.71
90	/	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.78	0.76	0.74	0.72
80	/	/	/	/	/	/	/	/	0.93	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.80	0.78	0.76	0.74	0.72
70	/	/	/	/	/	/	/	0.94	0.94	0.93	0.93	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74	0.72
60	/	/	/	/	/	/	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74	0.72
50	/	/	/	/	/	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.90	0.89	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.76	0.74	0.72
40	/	/	/	/	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.77	0.75	0.73
30	/	/	/	0.97	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.79	0.77	0.75	0.73
20	/	/	0.98	0.97	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.86	0.84	0.82	0.81	0.79	0.77	0.75	0.73
10	/	1.00	0.98	0.97	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
0	1.00	1.00	0.98	0.97	0.96	0.96	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
-10	/	1.00	0.98	0.97	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75	0.73
-20	/	/	0.98	0.97	0.96	0.96	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.94	0.93	0.91	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.79	0.78	0.76	0.74
-30	/	/	/	0.97	0.97	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.90	0.89	0.88	0.86	0.85	0.83	0.81	0.80	0.78	0.76	0.74
-40	/	/	/	/	0.97	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.89	0.88	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.74
-50	/	/	/	/	/	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.89	0.88	0.87	0.85	0.83	0.82	0.80	0.78	0.76	0.74
-60	/	/	/	/	/	/	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.76	0.74
-70	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.84	0.82	0.80	0.78	0.77	0.74
-80	/	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.82	0.80	0.79	0.77	0.75
-90	/	/	/	/	/	/	/	/	/	0.95	0.95	0.95	0.95	0.95	0.94	0.92	0.91	0.90	0.89	0.87	0.86	0.84	0.82	0.81	0.79	0.77	0.75
-100	/	/	/	/	/	/	/	/	/	/	0.95	0.96	0.96	0.95	0.94	0.93	0.91	0.90	0.89	0.87	0.86	0.84	0.83	0.81	0.79	0.77	0.75
-110	/	/	/	/	/	/	/	/	/	/	/	0.96	0.96	0.95	0.94	0.93	0.92	0.90	0.89	0.88	0.86	0.84	0.83	0.81	0.79	0.77	0.75

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

Table 2-8.19: 14/26/28HP rate of change in heating capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.86	0.86	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
100	/	/	/	/	/	/	/	/	/	/	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
90	/	/	/	/	/	/	/	/	/	0.88	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78	0.78
80	/	/	/	/	/	/	/	/	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
70	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
60	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.79	0.78
50	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
40	/	/	/	/	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
30	/	/	/	0.96	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.79
20	/	/	0.97	0.96	0.95	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
10	/	0.99	0.98	0.96	0.95	0.94	0.93	0.91	0.90	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
0	1.00	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
-10	/	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-20	/	/	0.98	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-30	/	/	/	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.80
-40	/	/	/	/	0.96	0.94	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-50	/	/	/	/	/	0.95	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-60	/	/	/	/	/	/	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-70	/	/	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-80	/	/	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-90	/	/	/	/	/	/	/	/	/	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81

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

Table 2-8.20: 16/30/32HP rate of change in heating capacity

Pipe Length / Level difference	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
110	/	/	/	/	/	/	/	/	/	/	/	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79	0.78
100	/	/	/	/	/	/	/	/	/	/	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.78
90	/	/	/	/	/	/	/	/	/	0.90	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79	0.78
80	/	/	/	/	/	/	/	/	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79	0.79
70	/	/	/	/	/	/	/	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79	0.79
60	/	/	/	/	/	/	0.89	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80	0.80	0.79
50	/	/	/	/	/	0.91	0.89	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80	0.79
40	/	/	/	/	0.92	0.91	0.89	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80	0.79
30	/	/	/	0.94	0.93	0.91	0.89	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80	0.79
20	/	/	0.96	0.94	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80	0.80
10	/	0.99	0.97	0.95	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.80
0	1.00	0.99	0.97	0.95	0.93	0.91	0.90	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81	0.80
-10	/	0.99	0.97	0.95	0.93	0.92	0.90	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81	0.81	0.80
-20	/	/	0.97	0.95	0.93	0.92	0.90	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81	0.80
-30	/	/	/	0.95	0.94	0.92	0.90	0.93	0.92	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80
-40	/	/	/	/	0.94	0.92	0.91	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81	0.81
-50	/	/	/	/	/	0.92	0.91	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81
-60	/	/	/	/	/	/	0.91	0.94	0.93	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81	0.81
-70	/	/	/	/	/	/	/	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.83	0.82	0.82	0.81
-80	/	/	/	/	/	/	/	/	0.93	0.92	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82	0.81
-90	/	/	/	/	/	/	/	/	/	0.93	0.92	0.91	0.90	0.89	0.89	0.88	0.87	0.87	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.81
-100	/	/	/	/	/	/	/	/	/	/	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.87	0.86	0.86	0.85	0.84	0.84	0.83	0.83	0.82	0.81
-110	/	/	/	/	/	/	/	/	/	/	/	0.91	0.90	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.85	0.85	0.84	0.84	0.83	0.82	0.82

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

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 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 2-8.21:

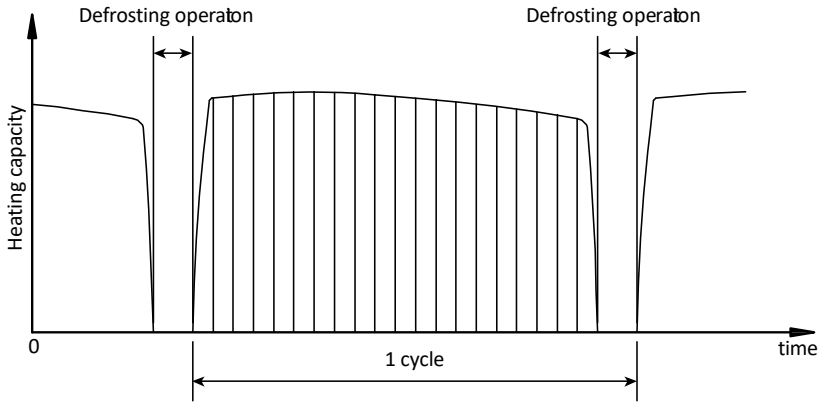
> Corrected heating capacity = Value given in outdoor heating capacity table × Correction factor for frost accumulation

Table 2-8.21: 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	0.8	0.83	0.88	1

Corrected heating capacities express the heating capacity over the heating/defrosting cycle shown in Figure 2-8.1.

Figure 2-8.1: Defrosting cycle



9 Operating Limits

Figure 2-9.1: Cooling operating limits

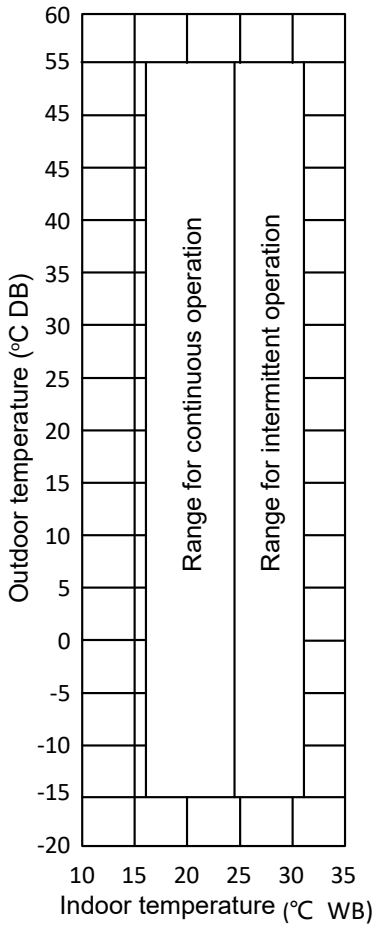
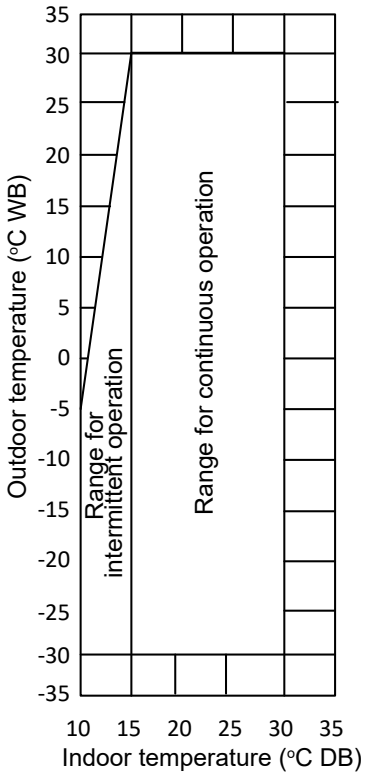


Figure 2-9.2: Heating operating limits



Notes:

1. 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

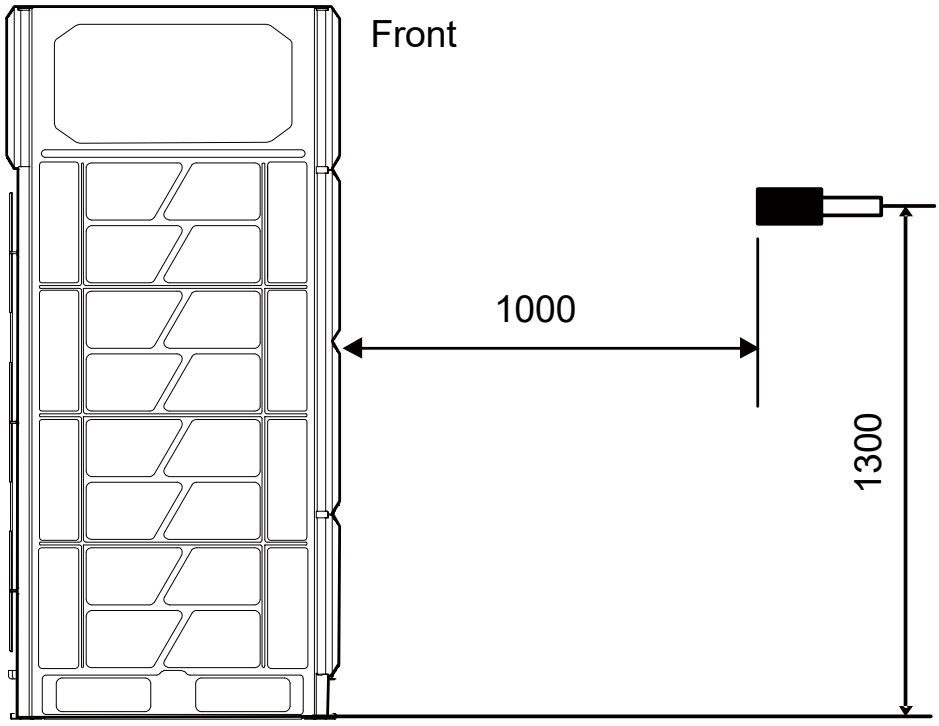
Model	dB(A)
8HP	58
10HP	58
12HP	61
14HP	63
16HP	65
18HP	61
20HP	61

Model	dB(A)
22HP	63
24HP	64
26HP	65
28HP	66
30HP	67
32HP	68

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

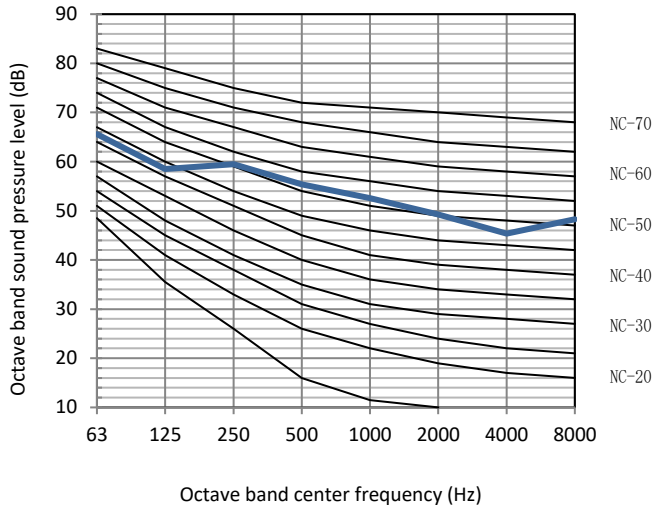


Figure 2-10.3: 10HP octave band level

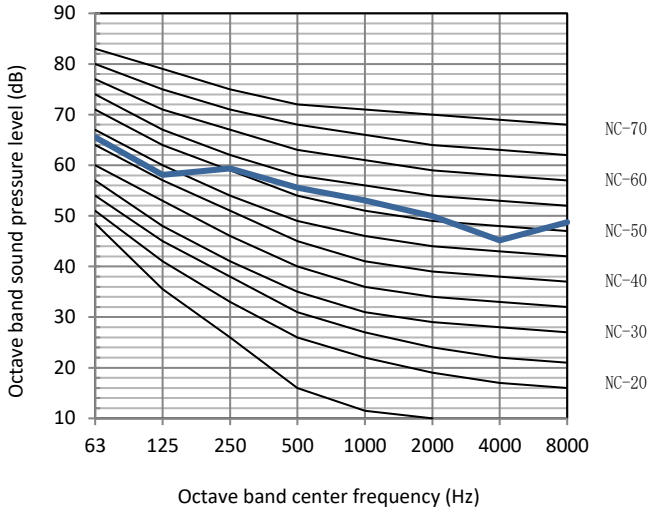


Figure 2-10.4: 12HP octave band level

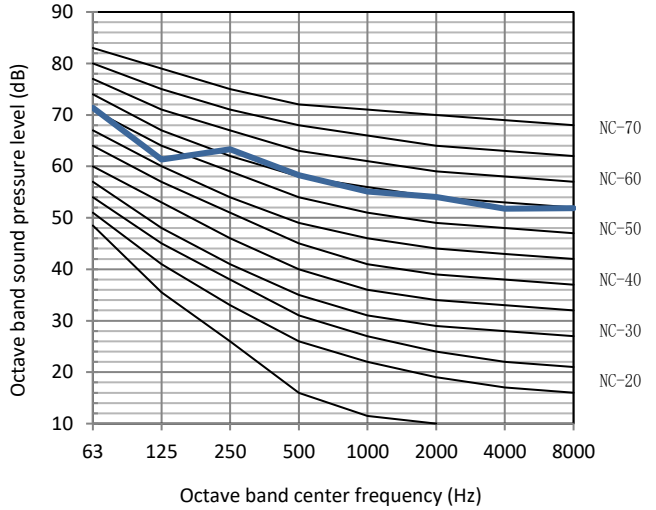


Figure 2-10.5: 14HP octave band level

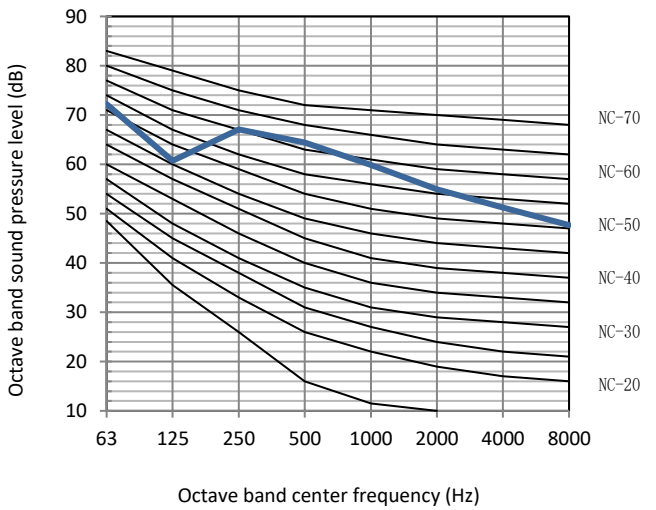
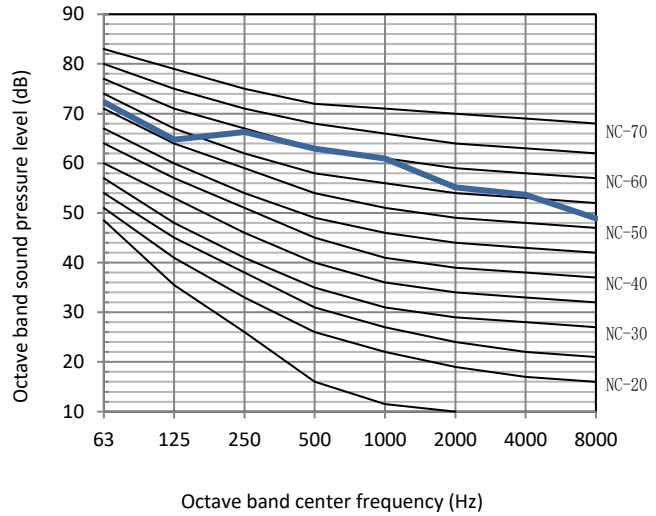


Figure 2-10.6: 16HP octave band level



11 Accessories

11.1 Standard Accessories

Table 2-11.1: Standard accessories

Name	Shape	Quantity	Function
Installation and operation manual		2	
L-shaped connection pipe		2	To connect gas and liquid pipes
Magnetic ring		2	Improve communication reliability

L-shaped pipe

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

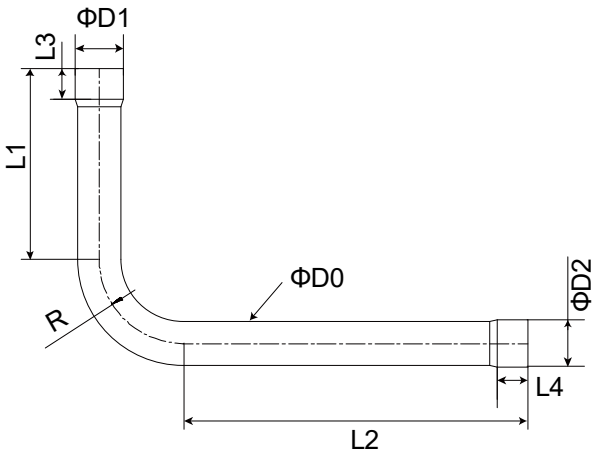


Figure 2-11.2: L-shaped pipe size (unit: mm)

HP	PIPE	ΦD0(OD)	L1	L2	L3	L4	ΦD1(ID)	ΦD2(ID)	R
8-12HP	Gas pipe	25.4	130	230	20	20	25.4	25.4	50
	Liquid pipe	12.7	160	265	15	15	12.7	12.7	25
14-16HP	Gas pipe	28.6	125	225	20	20	28.6	28.6	55
	Liquid pipe	15.9	155	255	15	15	15.9	15.9	30

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
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 Overview

1.1 Notice to installation personnel

- Make sure the installation, testing and materials used comply with applicable laws.
- Plastic bags should be disposed of properly. Keep away from children. Potential risk: Asphyxia.
- Do not touch the refrigerant piping, water piping or internal parts while the unit is operating or immediately after it has finished operating. The unit could be very hot or cold. Let it return to a normal temperature first. If you need to touch the unit, wear protective gloves.
- Do not touch leaked refrigerant.
- Please wear the appropriate personal protective tools during installation, maintenance or repair of the system (protective gloves, safety glasses, etc.).
- Do not touch the air inlet or aluminum fin of the unit.
- The figure shown in this manual is for reference only and may be slightly different from the actual product.
- Improper installation or connection of equipment and accessories may cause electrical shock, short circuits, leaks, fires, or other damage to the equipment. Use only accessories, equipment and spare parts made or approved by the manufacturer.
- Take appropriate measures to prevent small animals from entering the unit. Contact between small animals and electrical components may cause the system to malfunction, leading to smoke or fire.
- Do not place any object or equipment on top of the unit.
- Do not sit, climb, or stand on the unit.
- The operation of this equipment in a residential environment could cause radio interference.

1.2 Installation site

- Provide sufficient space around the unit for maintenance and air circulation.
- Make sure the installation site can bear the weight and vibrations of the unit.
- Make sure the area is well ventilated.
- Make sure the unit is stable and level.

Do not install the unit in the following locations:

- An environment in which there is a potential risk of explosions.
- Where there is equipment emitting electromagnetic waves. Electromagnetic waves may disrupt the control system, and cause the unit to malfunction.
- Where there are existing fire hazards such as leakage of flammable gases, carbon fibers, and combustible dust (such as diluents or gasoline).
- Where corrosive gases (such as sulfurous gases) are produced. Corrosion of copper pipes or welded parts may lead to refrigerant leakage.

1.3 Refrigerant

THIS AIR CONDITIONER ADOPTS THE NEW HFC REFRIGERANT(R32) WHICH DOES NOT DESTROY THE OZONE LAYER.

- During the test, do not exert a force greater than the maximum allowed pressure on the product (as shown on the nameplate).
- Specialized tools are required for the installation of air conditioner with new refrigerant (R32).
- Electrical components that can arc or spark, which are not considered ignition sources due to compliance with 22.116.1 points b), c), d), or f) shall only be replaced with parts specified by the appliance manufacturer. Replacement with other parts may result in the ignition of refrigerant in the event of a leak.
- Accompanied with the new refrigerant, refrigerating oil has also been changed. Therefore, during installation work, be sure that water, dust, former refrigerant, or refrigerating oil does not enter the refrigerating cycle.
- To prevent charging an incorrect refrigerant and refrigerating oil, the sizes of connecting sections of charging port of

the main unit and installation tools are different from those for the conventional refrigerant.

- For connecting pipes, use new and clean piping designed for R32, and please take care so that water or dust does not enter. In addition, do not use the existing piping because there are problems with pressure-resistance force and impurities in it.
- Take appropriate precautions to prevent refrigerant leakage. If the refrigerant gas leaks, ventilate the area immediately. Possible risks: An excessively high concentration of refrigerant in an enclosed area can lead to anoxia (oxygen deficiency). The refrigerant gas may produce a toxic gas if it encounters fire.
- Refrigerant must be recovered. Do not release it into the environment. Use the vacuum pump to draw the refrigerant out from the unit.
- Make sure the refrigerant piping is installed in accordance with the applicable law. In Europe, EN378 is the applicable standard.
- Make sure the piping and connections are not placed under pressure.
- After all the piping has been connected, check to make sure there are no gas leaks. Use nitrogen to conduct the leak check for gas.
- Do not charge refrigerant before the wiring layout is completed.
- Only charge the refrigerant after the leak tests and vacuum drying have been completed.
- When charging the system with refrigerant, do not exceed the allowable charge to prevent liquid slugging.
- Sealed electrical components shall not be repaired.
- Solenoid valves shall be correctly positioned in the piping to avoid hydraulic shock.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- Do not charge more than the specified amount of refrigerant. This is to prevent the compressor from malfunctioning.
- The refrigerant type is clearly marked on the nameplate.
- The unit is charged with refrigerant when it is shipped from the factory. But depending on the piping dimensions and length, the system may require additional refrigerant.
- Only use tools specific to the type of system refrigerant to make sure the system can withstand the pressure, and prevent foreign objects from entering the system.
- Follow the steps below to charge the liquid refrigerant:
- Open the refrigerating cylinder slowly.
- Charge the liquid refrigerant. Charging with gas refrigerant may hamper normal operations.
- Once refrigerant charging is completed or suspended, close the refrigerant tank valve immediately. The refrigerant may volatilize if the refrigerant tank valve is not closed in time.

1.4 Electricity

- Make sure you switch off the power of the unit before you open the electric control box, and access any circuit wiring or components inside. At the same time, this prevents the unit from being accidentally powered up during installation or maintenance work.
- Once you open the cover of the electric control box, do not let any liquid spill into the box, and do not touch the components in the box with wet hands.
- Cut off the power supply more than 10 minutes prior to access the electrical parts. Measure the voltage of the main circuit capacitor or electrical component terminals to make sure the voltage is less than 36 V before you touch any circuit components. Refer to the connections and wiring on the nameplate for the master circuit terminals and connections.
- The installation must be completed by professionals, and must comply with local laws and regulations.
- Make sure the unit is properly grounded, in compliance with local laws.
- Use only copper core wires for installation.
- Wiring must be carried out in accordance with what is stated on the nameplate.
- The unit does not include a safety switch device. Make sure a safety switch device that can completely disconnect all polarities is included in the installation, and that the safety device can be completely disconnected when there is

excessive voltage (such as during a lightning strike).

- Make sure the wiring ends are not subjected to any external force. Do not pull or squeeze the cables and wires. At the same time, make sure the wiring ends are not in contact with the piping or sharp edges of the sheet metal.
- Do not connect the grounding wire to public pipes, telephone earth wires, surge absorbers and other places that are not designed for grounding. Improper grounding could lead to electrical shock.
- Use a dedicated power supply cord for the unit. Do not share the same power source with other equipment.
- A fuse or circuit breaker must be installed, and these must conform to local laws.
- Make sure an electric leakage protection device is installed to prevent electrical shock or fire. The model specifications and characteristics (anti high-frequency noise characteristics) of the electric leakage protection device are compatible with the unit to prevent frequent tripping.
- Make sure a lightning rod is installed if the unit is placed on the roof or other places that can be easily struck by lightning.
- Make sure all terminals of the components are firmly connected before you close the cover of the electric control box. Before you power on and start the unit, check that the cover of the electric control box is tight and secured properly with screws. Do not let any liquid spill into the electric control box, and do not touch the components in the box with wet hands.
- The appliance shall be installed in accordance with national wiring regulations.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid hazards.
- An all-pole disconnection switch with a contact separation of at least 3 mm in all poles should be connected in fixed wiring.
- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures.
- The temperature of the refrigerant circuit will be high. Please keep the interconnection cable away from the copper tube.
- Do not install the power cord near equipment that is susceptible to electromagnetic interference, such as TV, and radios to prevent interference.
- Use a dedicated power supply cord for the unit. Do not share the same power source with other equipment. A fuse or circuit breaker must be installed, and these must conform to local laws.
- The installation manual is only a general guide on the wiring and connections, and is not specifically designed to contain all information regarding this unit.

1.5 Notice to users

If you are unsure how to run the unit, please contact the installation personnel.

This unit should not be operated by people who lack sufficient physical strength, cognitive sense or mental ability, or who lack experience and knowledge (including children). For their own safety, they should not use this unit unless they are supervised or guided by someone who is in charge of their safety. Children must be monitored to ensure that they do not play with this product.

Do not place any object or equipment on top of the unit.

Do not sit, climb, or stand on the unit.

To prevent electrical shock or fire:

- Do not wash the electric box of the unit.
- Do not operate the unit with wet hands.
- Do not place any items that contain water on the unit.

2 About the Refrigerant

2.1 Precautions

⚠ WARNING

The appliance uses R32 refrigerant.



A2L

⚠ DANGER

These instructions are exclusively intended for qualified contractors and authorized installers.

- Work on the refrigerant circuit with mild flammable refrigerant in safety group A2L may only be carried out by authorized heating contractors.These heating contractors must be trained in accordance with EN/IEC 60335-2-40, Section HH. The certificate of competence from an industry accredited body is required.
- Work on electrical equipment may only be carried out by a qualified electrician.
- Before initial commissioning, all safety - related points must be checked by the particular certified heating contractors. The system must be commissioned by the system installer or a qualified person authorized by the installer.

⚠ WARNING

- Appliance shall be installed, operated and stored in a room that meets special requirements and has an area limit as shown in below sections.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room that does not have continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn the unit.
- Be aware that refrigerants may be odorless.
- Appliance shall be installed and operated in a room with an EFFECTIVE DISPERSAL VOLUME larger than 'A' m^3 ('B' ft^3).
- When stored in an unpowered state, the appliance must be stored in a room with a floor area larger than 'X'm^2('y' ft^2).

2.2 About the refrigerant charge limit

2.2.1 Room area limitations

In EN/IEC 60335-2-40, R32 refrigerant is classified as class A2L, which is mildly flammable. Therefore, R32 refrigerant is suitable for systems needing additional refrigerant charge and which will limit the area of the rooms being served by the system.

Similarly, the total amount of refrigerant in the system shall be less than or equal to the allowable maximum refrigerant charge. The allowable maximum refrigerant charge depends on the area of the rooms being served by the system.

⚠ WARNING

- The space considered shall be any space which contains refrigerant-containing parts or into which refrigerant could be released.
- The room area (A) of the smallest, enclosed, occupied space shall be used in the determination of the refrigerant quantity limits.
- The minimum room area or minimum room area of conditioned space is based on releasable charge and is not related to total system refrigerant charge.

⚠ CAUTION

- For more detailed instructions on the installation height of the indoor unit, please refer to the corresponding installation manual.
- Indoor units cannot be installed lower than 1.8 m from the lowest point of the floor. If the installation height of the VRF indoor unit is less than 1.8 m, please contact your installer or dealer to receive more information and professional advice.

The room area calculation requirements

For determination of room area (A) when used to calculate the refrigerant charge limit, the following shall apply.

The room area (A) shall be defined as the room area enclosed by the projection to the base of the walls, partitions and doors of the space in which the appliance is installed.

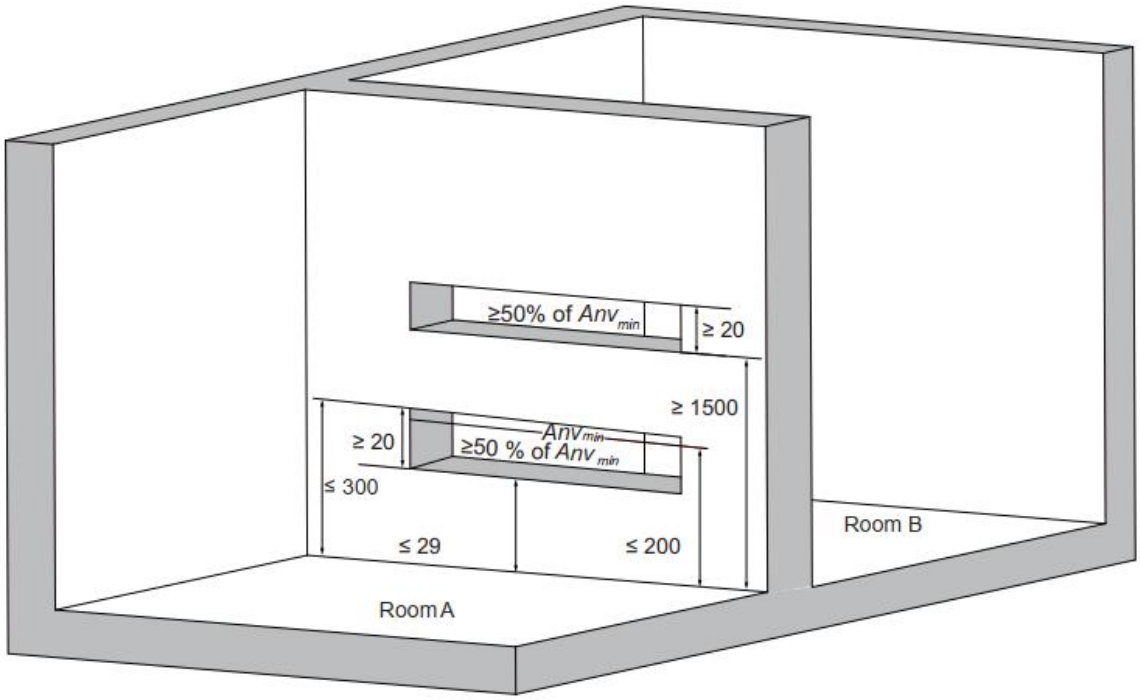
Spaces connected by only drop ceilings, ductwork, or similar connections shall not be considered a single space.

Units mounted higher than 1.8m and spaces divided by partition walls that are no higher than 1.6m shall be considered a single space. Rooms on the same floor and connected by an open passageway between the spaces can be considered a single room when determining compliance to Amin, if the passageway complies with all of the following:

1. It is a permanent opening.
2. It extends to the floor.
3. It is intended for people to walk through.

The area of the connected rooms, on the same floor connected by permanent opening in the walls and/or doors between occupied spaces, including gaps between the wall and the floor, can be considered a single room when determining compliance to Amin provided all of the following conditions are met as.

Figure 3-2.1: Room area calculation requirements



1. Low Level Opening

a) The opening shall not be less than Anvmin which is 0.012 m² for enhanced tightness refrigerating systems.

b) The area of any openings above 300mm from the floor shall not be considered in determining compliance with Anvmin.

c) At least 50 % of the opening area of Anvmin shall be below 200mm from the floor.

d) The bottom of the opening is not more than 100mm from the floor.
e) The opening is a permanent opening that cannot be closed.
f) For openings extending to the floor the height shall not be less than 20mm above the surface of the floor covering.

2. High Level Opening
a) The opening shall not be less than 50 % of Anvmin.
b) The opening is a permanent opening that cannot be closed.
c) The opening shall be at least1.5m above the floor.
d) The height of the opening is not less than 20mm.

3. Minimum ventilation airflow volume is 240 m^3/h

- The requirement for the upper opening can be met by drop ceilings, ventilation ducts or similar arrangements that provide an airflow path between the connected rooms.
- Keep any required ventilation openings clear of obstruction.
- Our units meet the requirements for enhanced tightness refrigerating systems using A2L refrigerants.

2.2.2 Refrigerant charge limit

The charge limit must be determined separately for each SV box branch pipe port.

The total amount of refrigerant in the system shall be less than or equal to the allowable maximum refrigerant charge. The allowable maximum refrigerant charge depends on the area of the rooms being served by the system.

This is possible because of the shut-off valves in the SV box. The maximum amount of refrigerant that can escape in case of a leak is determined by the piping length and indoor heat exchanger size. This is directly linked to the downstream indoor unit capacity of this piping section.

In case a leak is detected in an indoor unit, the shut-off valves in the SV box of the respective port will close. The piping section with the leak is now shut off from the rest of the system and the amount of refrigerant that can leak is significantly reduced.

1.Determine the smallest room served per branch pipe port of the SV box.

Note：

In case indoor units connected to the same branch pipe port are split over different rooms: the area of the smallest room needs to be considered.

In case 2 branch pipe ports are combined to a single branch pipe port, they have to be considered as a single branch pipe port.

2.Calculate the allowable maximum refrigerant amount (mmax) and the releasable refrigerant (mrel) for each branch pipe port of the SV box.

3.If the releasable refrigerant (mrel) is less than the allowable maximum refrigerant amount (mmax). Then proceed to next step; otherwise, the system needs to be adjusted.

The maximum refrigerant amount (mmax) for each port of the S V box is determined by the smallest room served by that port. Change the installation (see choices below) can adjust the maximum refrigerant amount under each port of the SV box.

- Increase the area of smallest room connected to the same branch pipe port.
- Reduce the indoor capacity connected to the same branch pipe port to equal or below the limit.
- Reduce the piping connected between SV and indoor unit.
- Split indoor capacity over 2 separate branch pipe ports.

4.Calculate the additional refrigerant amount for other components (such as high-pressure pipes, liquid pipes, SV box, outdoor units, indoor units, etc.).

5.Determine the total refrigerant charge amount in the system.

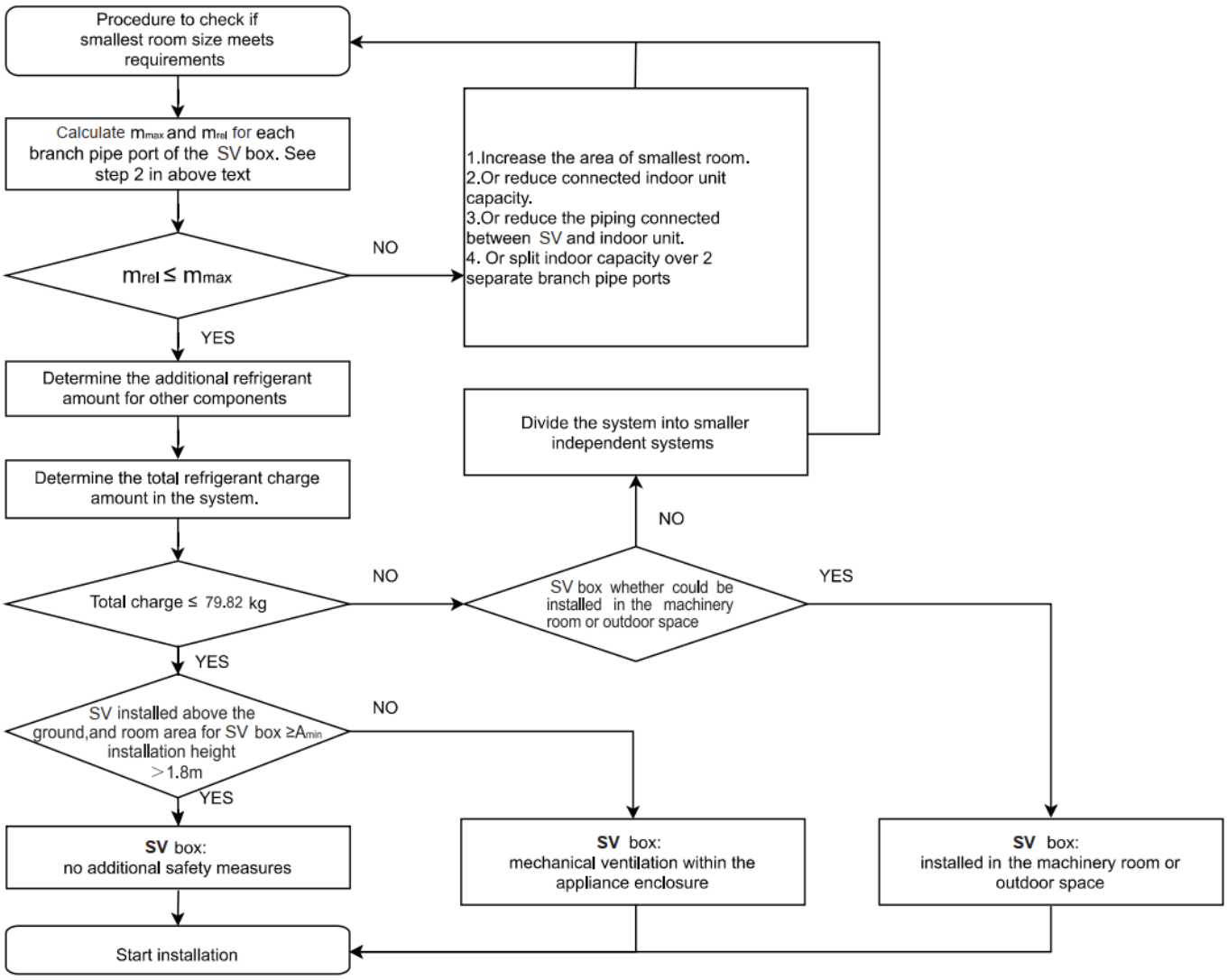
Total refrigerant charge=Factory charge (a) + additional charge (b)

(a) The factory charge value can be found on the nameplate.

(b) The b value is calculated in step 4.

6.According to EN/IEC 60335-2-40, the total refrigerant charge amount in the system MUST always be less than 78.92 kg. This means that in case the calculated total refrigerant charge is equal to or more than 78.92 kg, you must divide the system into smaller independent systems, or increase other safety measures, contact your dealer for details.

Flow chart (for each SV box branch pipe port)



3 Preparations Before Installation

3.1 Overview

This chapter mainly describes the precautions and things to note before the unit is installed at the site.

This mainly includes the following information:

- choosing and preparing the installation site.
- selecting and preparing the refrigerant piping.
- selecting and preparing the electrical wiring.

3.2 Choosing and preparing the installation sit

3.2.1 Site requirements for installation of the outdoor unit

- Provide sufficient space around the unit for maintenance and air circulation.
- Make sure the installation site can bear the weight and vibrations of the unit.
- Make sure the area is well ventilated.
- Make sure the unit is stable and level.
- Choose a place where the rain can be avoided as much as possible.
- The unit should be installed in a location where the noise generated by the unit will not create an inconvenience to people.
- Choose a site that will comply with the applicable laws.
- Electric appliances that should not be used by the general public must be installed in a safe location to prevent others from getting close to these electric appliances.
- Both indoor and outdoor units are suitable for the installation of commercial and light industrial environment.
- An excessively high concentration of refrigerant in an enclosed area can lead to anoxia (oxygen deficiency).
- The appliance shall not be installed in the laundry.
- This is a class A product. This product may cause radio interference in the home environment. The user may need to take the necessary measures if such a situation does arise.
- The unit described in this manual may cause electronic noise generated by radio frequency energy. The unit conforms to the design specifications and provides reasonable protection to prevent such interference. However, there is no guarantee that there will be no interference during a specific installation process.
- Therefore, it is suggested that you install the units and wires at an appropriate distance from devices like sound equipment and personal computers.
- Do take into considerations adverse environmental conditions such as strong winds, typhoons or earthquakes as improper installation may cause the unit to overturn.
- Take precautions to make sure water will not damage the installation space and environment in the event of a water leakage.
- If the unit is installed in a small room, refer to section “Safety measures to prevent refrigerant leak” to make sure the refrigerant concentration does not exceed the permissible safety limit when there is a refrigerant leak.
- Make sure the air inlet of the unit is not facing the predominant wind direction. Incoming wind will disrupt the operations of the unit. If necessary, use a deflector as an air baffle.
- Add water discharge piping on the base so that the condensed water will not damage the unit, and prevent the pooling of water when work is in progress.

Do not install the unit in the following locations:

- An environment where there is a potential risk of explosions.
- Where there is equipment emitting electromagnetic waves. Electromagnetic waves may disrupt the control system, and cause the unit to malfunction.
- Where there are existing fire hazards like leakage of flammable gases, carbon fibers, and combustible dust (such as diluents or gasoline).

- Where corrosive gases (such as sulphureous gases) are produced. Corrosion of copper pipes or welded parts may lead to refrigerant leakage.
- Where mineral oil mist, spray, or steam may exist in the atmosphere. Plastic parts may age, fall off or cause water leakage.
- Where there is a high salt content in the air such as places near the sea.

3.2.2 Site requirements for installation of outdoor unit in cold regions

- Snow protection equipment must be installed in areas with snowfall. Refer to the following figure, (malfunctions are more common when there are insufficient snow protection facilities). In order to protect the unit from accumulated snow, increase the height of the rack, and install a snow shield at the air inlets and outlets.
- Do not obstruct the air flow of the unit when you install the snow shield.

Make note of the following when installing the unit in areas affected by cold weather or snow:

- Avoid directly exposing the air outlet or air inlet to the wind.
- The local maximum snowfall should be taken into consideration when deciding the foundation height of outdoor unit.
- The foundation or base height of the outdoor unit is required to be the expected maximum snowfall thickness h0 + 300 mm, preventing the snow from contacting the bottom of the unit.

Figure 3-3.2: Outdoor unit snow shielding (unit: mm)

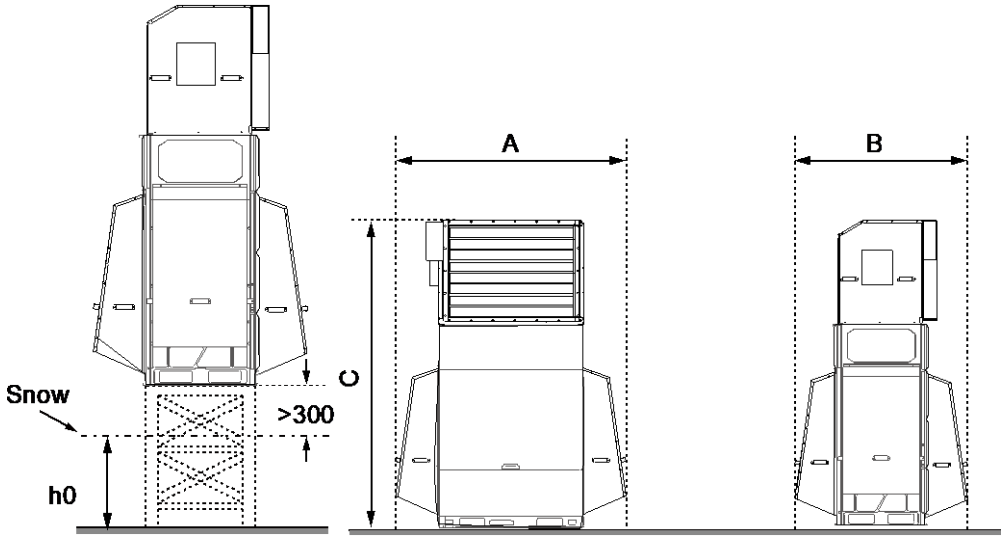


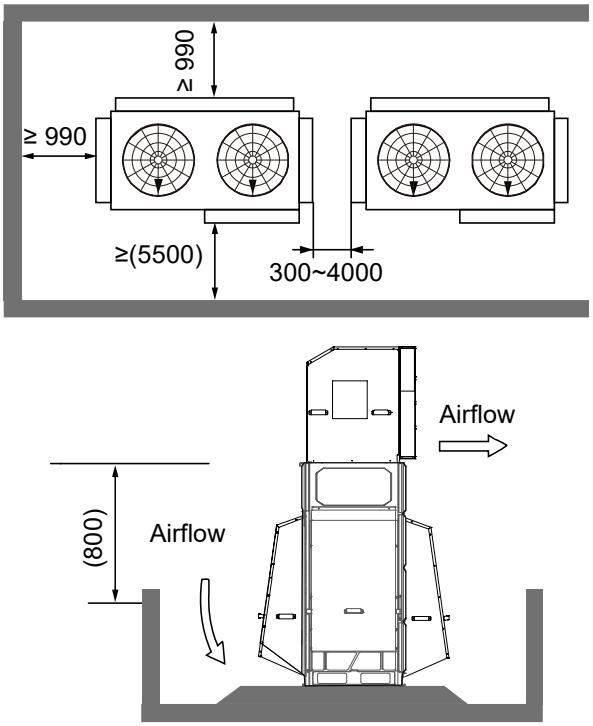
Table 3-3.1: Dimensions (unit: mm)

	8-16HP
A	1690
B	1200
C	2685

When a snow shield needs to be installed, to ensure smooth air intake and supply of the outdoor unit, conduct site planning and construction as follows:

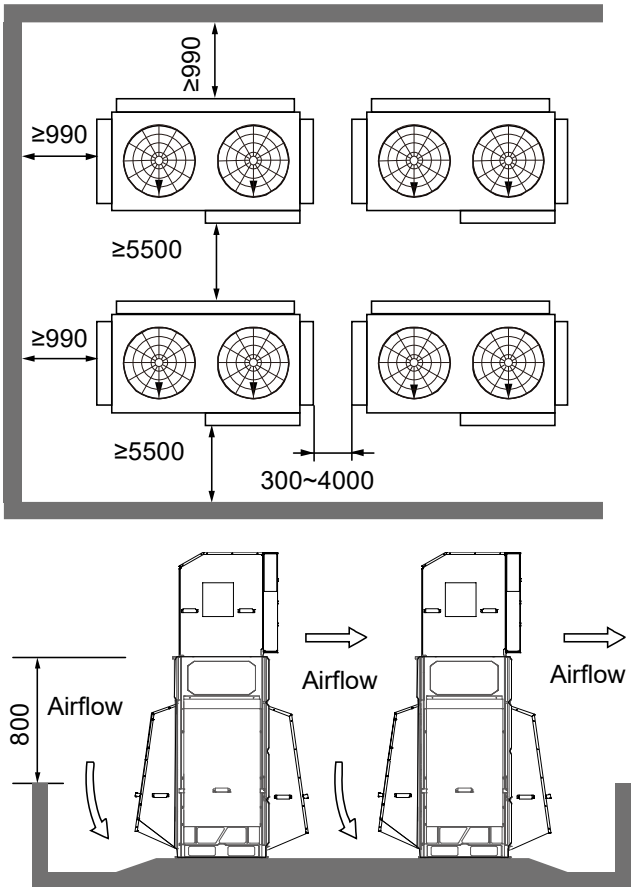
- Installation of outdoor units in a row (unit: mm)

Figure 3-3.3: Installation of ODUs in a row (unit: mm)



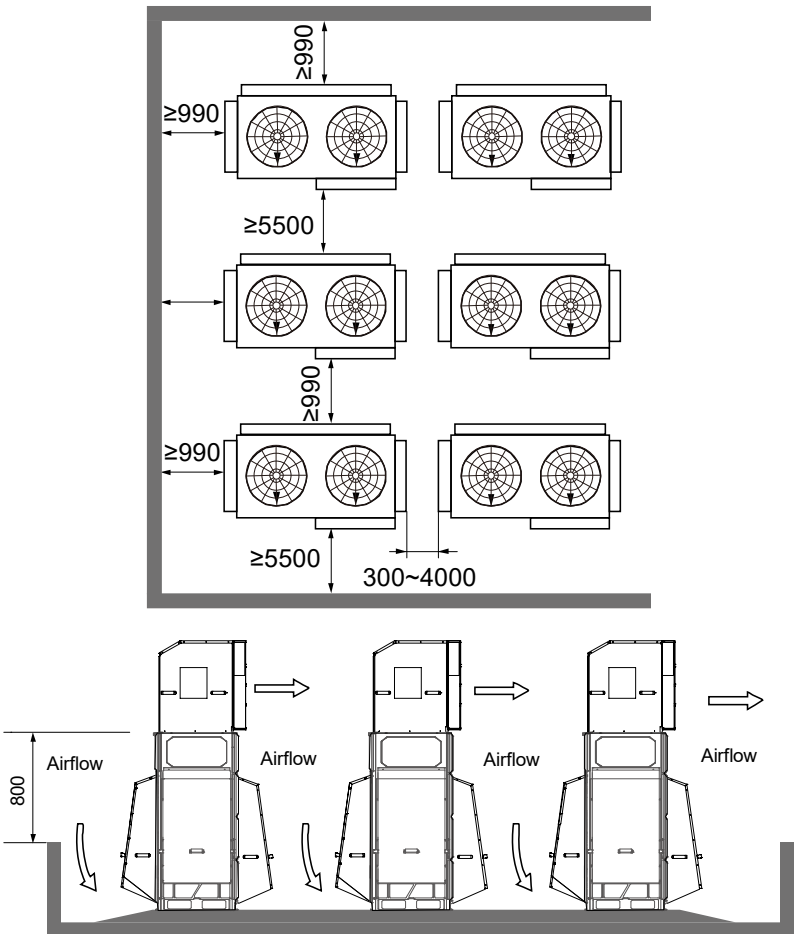
- Installation of outdoor units in two rows (unit: mm)

Figure 3-3.4: Installation of ODUs in two rows (unit: mm)



- Installation of outdoor units in three rows (unit: mm)

Figure 3-3.5: Installation of ODUs in two rows (unit: mm)



3.2.3 Safety measures to prevent refrigerant leaks

- Safety measures to prevent refrigerant leak

The installation personnel must make sure the safety measures to prevent leaks comply with local regulations or standards. If the local regulations do not apply, the following criteria can be applied.

The system uses R32 as the refrigerant. R32 itself is a completely non-toxic, and non-combustible refrigerant. However, do ensure that the air conditioning unit is installed in a room with sufficient space. This is so that when there is a serious leak in the system, the maximum concentration of the refrigerant gas in the room will not exceed the stipulated concentration, and is consistent with the relevant local regulations and standards.

- About the maximum concentration level

The calculation for the maximum concentration of the refrigerant is directly related to the occupied space that the refrigerant may leak to and the refrigerant's level of charge. The measurement unit for concentration is kg/m³ (weight of gaseous refrigerant that has a volume of 1 m³ in the occupied space).

The highest permissible concentration must comply with the relevant local regulations and standards.

Based on the applicable European standards, the maximum permissible concentration level of R32 in the space occupied by humans is limited to 0.44 kg/m^3. If this limit is exceeded, necessary measures shall be taken. Please confirm as follows:

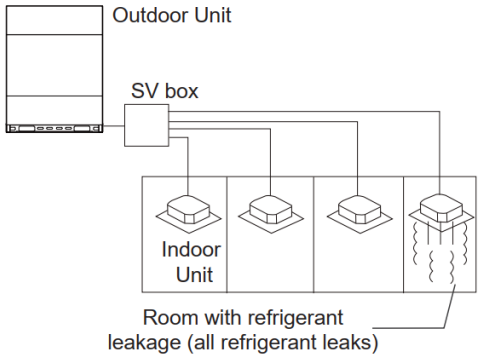
a. Calculate the total refrigerant charging amount.

Total refrigerant charging amount = refrigerant charging amount of the unit itself + charging amount calculated according to the pipe length.

b. Calculate the indoor volume (based on the minimum volume).

c. Calculated refrigerant concentration = (total charging amount/indoor volume).

Figure 3-3.6: Room leakage



Countermeasures when exceeding the max concentration

a. Please install a mechanical ventilation device.

b. If it is impossible to change air frequently, please install a leak detection alarm device connected with the mechanical ventilation device.

3.3 Selecting and preparing the refrigerant piping

R32 pipeline requires particular attention due to the slightly flammability of the refrigerant. Please follow the indication of the installation manual.

3.3.1 Refrigerant piping requirements

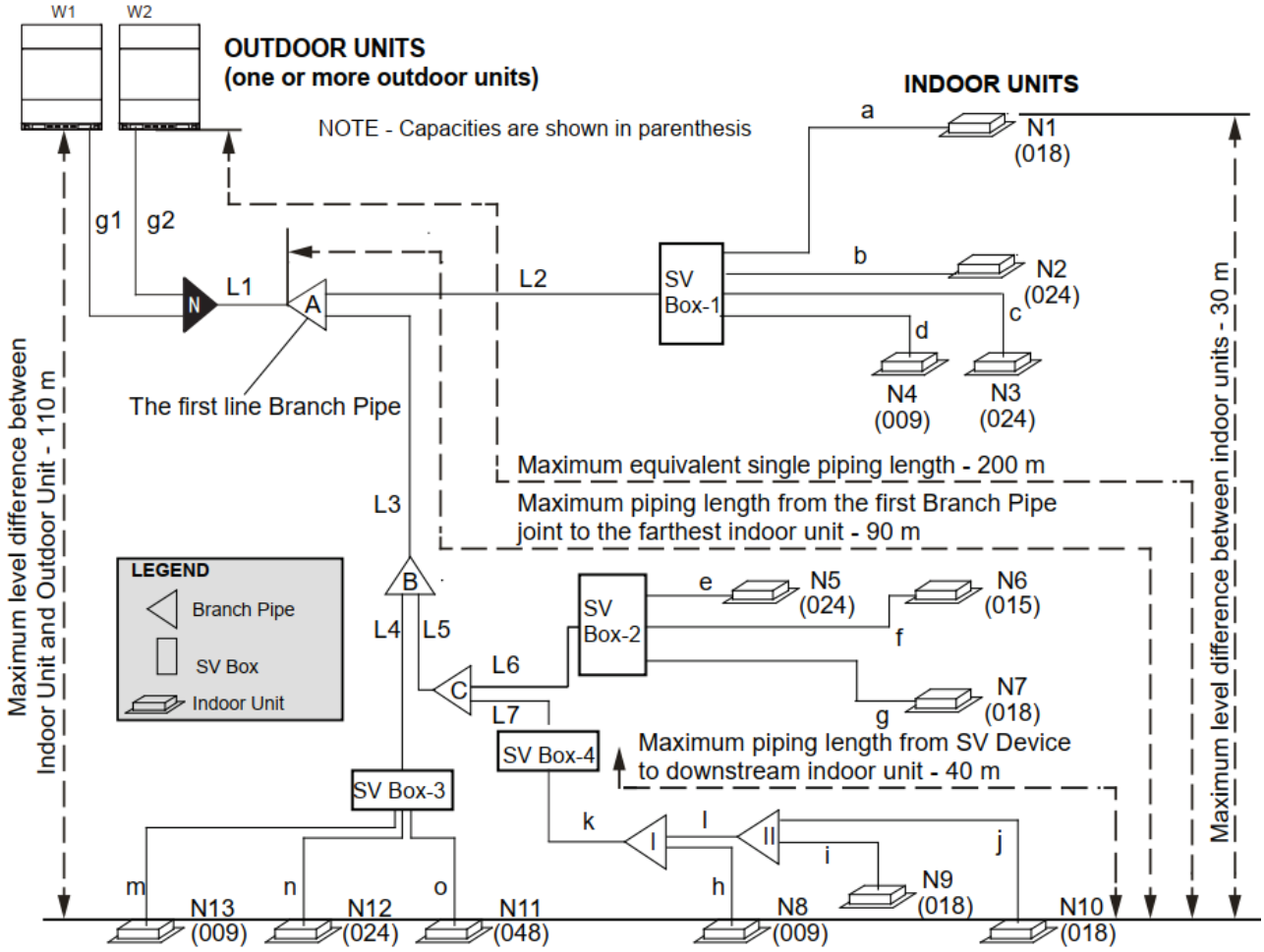
The R32 refrigerant pipeline system must be kept strictly clean, dry and sealed.

- Cleaning and drying: prevent foreign objects (including mineral oil or water) from mixing into the system.
- Seal: R32 does not contain fluorine, does not destroy the ozone layer, and does not deplete the ozone layer that protects the earth from harmful ultraviolet radiation. However, if it is released, R32 can also cause a slight greenhouse effect. Therefore, you must pay special attention when you check the quality of the installation sea.
- The piping and other pressure vessels must comply with the applicable laws and be suitable for use with the refrigerant. Use only phosphoric acid deoxidized seamless copper for the refrigerant piping.
- Foreign objects in the pipes (including lubricant used during pipe bending) must be ≤ 30 mg/10 m.
- Calculate all piping lengths and distances.

3.3.2 Allowable length and height difference for refrigerant piping

- The equivalent length of each elbow and U-shape branch joint is 0.5m, and the equivalent length of each branch header is 1m.
- Install the indoor units such that they are as equidistant as possible on both sides of the U-shape branch joint.
- When the outdoor unit is above the indoor unit, and the level difference exceeds 20 m, it is recommended that an oil return bend be set up at every 10 m interval on the gas pipe of the main piping. The recommended specifications of the oil return bend are shown in Figure below.
- The allowable length of the farthest indoor unit to the first branch joint in the system should be equal to or less than 40m unless specified conditions are met, in which case the permitted length is up to 120m. Please refer to requirement 2.
- Special-purpose branch joints from the manufacturer should be used for all branch joints. Failing to do so may lead to severe system malfunction.

Figure 3-3.7: Piping diagram



Legend		
L1	Main pipe	Figures in parentheses indicate indoor unit capacity indexes.
L2 to L7	Indoor main pipes	
A, B, C	Branch joints between Main Pipe and SV Box	
I, II	Indoor branch joints between SV Box and downstream branch joint	
a,b, c, d, e, f, h, i, j, m, n, o	Indoor Unit auxiliary pipe from Indoor Unit to the nearest Branch Pipe joint or direct connected SV Box	
Box-1 to Box-4	Mode Selection SV Bo	
N	Outdoor branch joints	
g1, g2	Outdoor connection pipes	
N1 to N13	Indoor units	

Table 3-5.2: Summary of permitted refrigerant piping lengths and level differences

			Permitted values	Piping in Figure 3-4.2
Piping lengths	**Total piping length**[1]		≤ 1200m	L_1 + 2 x Σ{L_2 to L_7} + Σ{a to o}
	Piping between farthest indoor unit and first outdoor branch joint[2]	**Actual length**	≤ 220m	L_1 +L_3 +L_5+L_7+k+l+ j
		Equivalent length	≤ 260m	
	Piping between farthest indoor unit and first indoor branch joint[3]		≤ 40m/120m	L_3 +L_5+L_7+k+ l+ j
	Piping between SV box and the farthest downstream indoor unit		≤ 40m	k+ l+ j
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, below.
2. Refer to Requirement 2, below.
3. Refer to Requirement 3, below.
4. Refer to Requirement 4, below.
5. Refer to Requirement 5, below.

Requirement:

The first branch in all systems must be centrally located between all SV Boxes.

1. When counting the total piping length, double the actual length of the distribution pipes between first Branch Pipe joint and SV Box installation.
   Total piping length = L1+(L2+L3+L4+L5+L6+L7)×2+a+b+c+d+e+f+g+h+i+j+k+l+m+o ≤ 1200 m.
2. The equivalent length of each branch joint is 0.5 m, and the equivalent length of each branch header is 1 m.
3. The maximum allowable piping length from the first Branch Pipe joint to the farthest indoor unit must be ≤ 40 m, but if the following conditions are met, the maximum allowable length can be extended to 120m.

a) The piping length from each indoor unit to the nearest Branch Pipe joint or direct connected SV Box must be less than 40 m (b to r).

b) The difference in length between the outdoor unit to the farthest indoor unit, and the outdoor unit to the nearest indoor units ≤ 40 m. Example: The farthest indoor unit is N10, the nearest indoor unit is N11.
   (L1+L3+L5+L7+k+l+j) -(L1+L3+L4+o) ≤ 40 m.

Measures:

• Increase the distribution pipe diameter between the first Branch Pipe and SV Box L2-L7. If the pipe diameter is the same as the main outdoor pipe, pipe, it does not need to be increased.

Table 3-5.3: 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

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 4.7 be set every 10m in the gas pipe of the main pipe.

Figure 3-3.8: Oil return bend

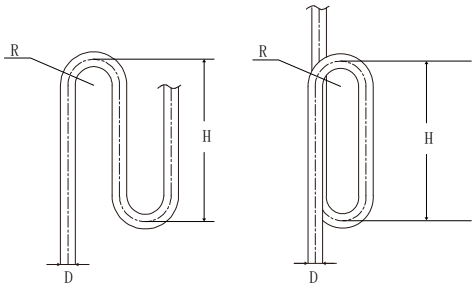


Table 3-5.4: Oil return bend requirements unit (mm)

Pipe dimension D	Bend radius R	Hight H
Φ19.1	≥ 31	≥ 300
Φ22.2		
Φ25.4	≥ 45	
Φ28.6		
Φ31.8	≥ 60	
Φ38.1		
Φ41.3	≥ 80	≥ 500
Φ44.5		
Φ50.8	≥ 90	
Φ54.0		
Φ63.5		

5. When the outdoor unit is lower than indoor units and the level difference is more than 40 m, the main liquid pipe need to increase by one size.

3.3.3 Piping diameter selection

- Select the diameter of the main piping

The main pipe (L1) and first indoor branch joint (A) should be sized according to table below.

Table 3-4.5: Main pipe[1] (L_1) 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	Φ9.52	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
26-32HP	Φ31.8	Φ19.1	FQZHN-03D	Φ38.1	Φ22.2	FQZHN-04D

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.

- Select the branch joint diameters for the indoor unit

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 <2500	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

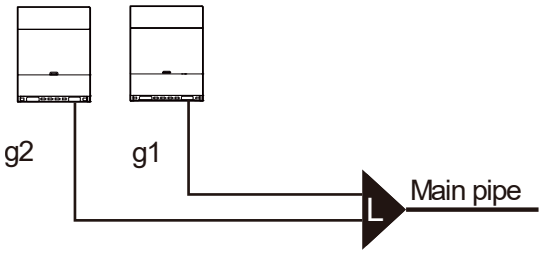
Notes:
1. If indoor main pipes (L2 to L10) are larger than the main pipe (L_1), indoor main pipes should reduce to the main pipe's size.

If the required pipe size is not available, you can use other diameters by considering the following factors:

1. If the standard size is not available in local market, a pipe that is one size larger should be used.
2. In some circumstances, the pipe size needs to be one size larger than the standard size; this is the "Size up Size" (for example: when the equivalent length of all the liquid piping is larger than 90m, the pipe size needs to be one size up; when the piping length from the farthest indoor unit to the first indoor unit is more than 40m, the indoor main pipe size needs to be one size up to allow a piping length of up to 120m). If the "Size up Size" is not available in the local market, the standard size pipe must be used.
3. Pipe sizes bigger than the corresponding "Size up Size" cannot be used under any circumstances.
4. Calculation for the additional refrigerant must be adjusted according to Part 3, 8 "Charging Refrigerant" on the determination of the additional refrigerant volume.

- Select the branch joint diameters for the outdoor unit

Figure 3-3.9: Outdoor connection pipes



Two units' combination

Table 3-4.9: Outdoor branch joint kits (L)

No. of outdoor units	Outdoor unit capacity	Branch joint kit
2	≤32 HP	FQZHW-02N1E

Table 3-4.7: Two units' combination outdoor connection pipes (g1 to g2)

Pipes	Total outdoor unit capacity	Outdoor unit capacity	Gas pipe (mm)	Liquid pipe (mm)
g1 to g2	≤32 HP	8-12HP	Φ25.4	Φ12.7
		14-16HP	Φ31.8	Φ15.9

- Indoor unit auxiliary connection pipe

Table 3-4.10: Indoor auxiliary pipes

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

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

The pipe thickness of the refrigerant piping shall comply with the applicable legislation.
The minimal pipe thickness for R32 piping must be in accordance with the table below.

Piping outer diameter (mm)	Minimum thickness (mm)	Temper grade
Φ6.35	0.80	M-type
Φ9.52	0.80	
Φ12.7	1.00	
Φ15.9	1.00	
Φ19.1	1.00	
Φ22.2	1.00	Y2-type
Φ28.6	1.00	
Φ34.9	1.25	
Φ41.3	1.50	

Material: Only seamless phosphorus-deoxidized copper piping that complies with all applicable legislation should be used.
Thicknesses: Temper grades and minimum thicknesses for different diameters of piping should comply with local regulations.
Design pressure of R32 refrigerant is 4.2 MPa (42 bar).

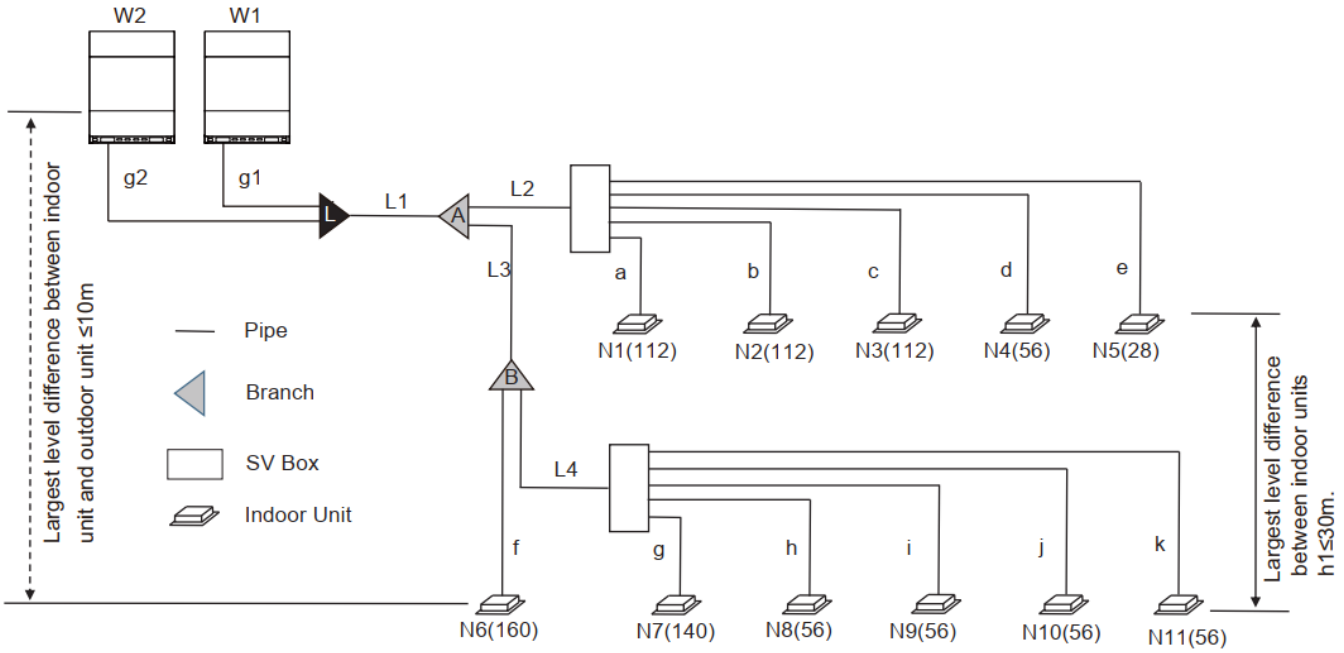
- If the required pipe size is not available, you can use other diameters by considering the following factors:
- If the standard size is not available in local market, a pipe that is one size larger should be used.
- In some circumstances, the pipe size needs to be one size larger than the standard size; this is the “Size up Size” (for example: when the equivalent length of all the liquid piping is larger than 90m, the pipe size needs to be one size up; when the piping length from the farthest indoor unit to the first indoor unit is more than 40 m, the indoor main pipe size needs to be one size up to allow a piping length of up to 120 m). If the “Size up Size” is not available in the local market, the standard size pipe must be used.
- Pipe sizes bigger than the corresponding “Size up Size” cannot be used under any circumstances.

- An example of refrigerant piping selection

The example below illustrates the piping selection procedure for a system consisting of two outdoor units (16 HP+16 HP) and 11 indoor units. The system's equivalent length of all liquid pipes is less than 90 m; the piping between the farthest indoor unit and the first indoor branch joint is less than 40 m in length, and each indoor auxiliary pipe (from each indoor unit to its nearest branch joint) is less than 10 m in length.

For combinable series

Figure 3-3.10: Combinable series



Select indoor main pipes and indoor branch B

The indoor units (N6 to N11) downstream of indoor branch B have a total capacity of 16+14+5.6+5.6+5.6+5.6=52.4kW. Indoor main pipe L3 is Φ28.6/Φ15.9. Indoor branch joint B is FQZHN-03D.

The indoor units (N1 to N5) downstream of indoor branch have total capacity of 11.2+11.2+11.2+5.6+5.6+2.8=42kW. Indoor main pipe L2 is Φ28.6/Φ15.9.

Select the indoor auxiliary connection pipe a to k

The capacity of indoor units N1/N2/N3/N6 and N7 is above 56kW but less than 16kW, so the indoor auxiliary connection pipe a/b/c/f and g is Φ15.9/Φ9.52.

The capacity of indoor units N4/N5/N8/N9/N10 and N11 is less than 5.6kW, so the indoor auxiliary connection pipe d/e/h/i/j and k is Φ12.7/Φ6.35.

Select main pipe (L1) and first indoor branch A

The indoor units (N1 to N11) downstream of indoor branch joint A have a total capacity of 42+52.4=94.4kW. The system's equivalent length of all liquid pipes is less than 90m. The total capacity of the outdoor units is 16 + 16= 32HP. Main pipe L1 is Φ31.8/Φ19.1. First Indoor branch A is FQZHN-03D.

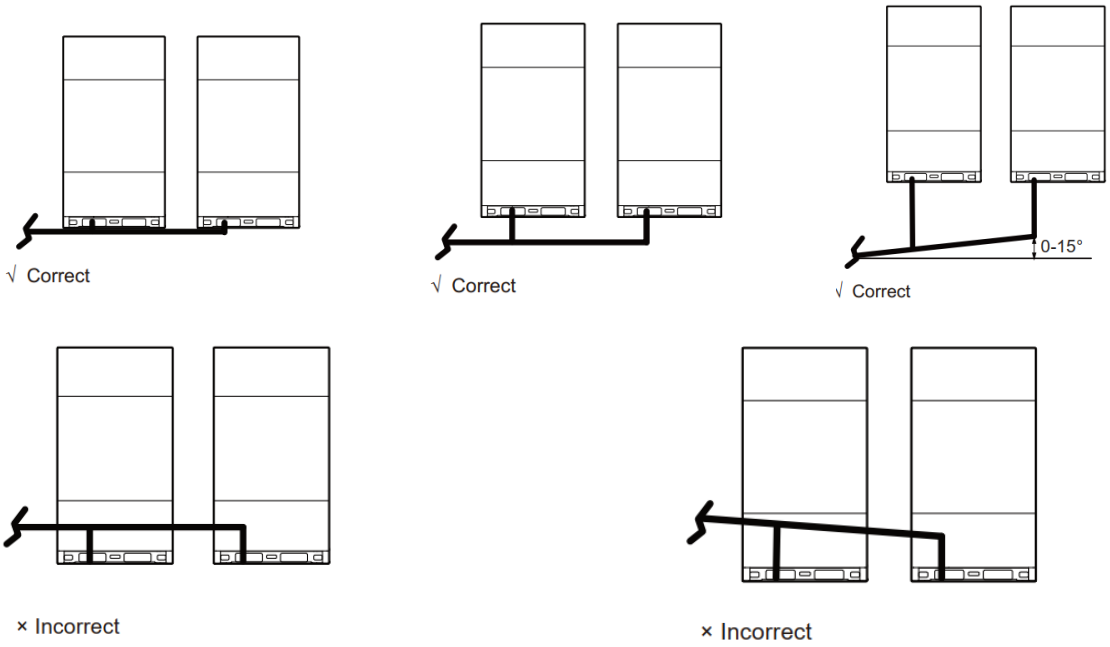
Select outdoor connection pipes (g1 and g2) and outdoor branch (L)

There are two outdoor units in the system. The master unit is 16HP, the slave unit is 16HP. Outdoor connection pipes g1 and g2 is Φ28.6/Φ12.7, Outdoor branch L is FQZHW-02N1E.

3.3.4 Arrangement and layout of multiple outdoor units

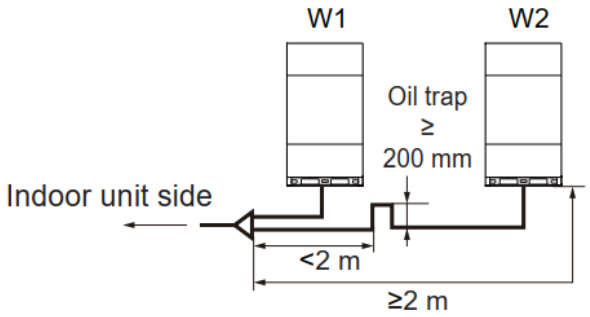
The piping connecting the outdoor units should be horizontal and must not be higher than the refrigerant outlets. If necessary, to avoid obstacles the piping may be vertically offset below the outlets. When inserting a vertical offset to avoid an obstacle, the whole outdoor piping should be offset, rather than just the section adjacent to the obstacle. Branch lower than the outdoor unit piping connection and the direction inclination angle is between 0-15°. Refer to Figure 3-5.10.

Figure 3-3.11: Piping connections between outdoor units



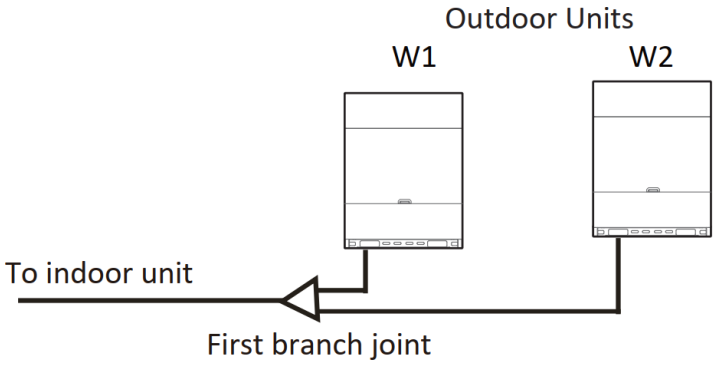
In case that the piping length between outdoor units is 2m or more, the oil trap for the gas pipe should be provided so that accumulation of refrigerant oil may not occur.

Figure 3-3.12: Oil trap between outdoor units



In systems with multiple outdoor units, the units should be placed in order from the largest capacity unit to the 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. The capacity of outdoor units W1 and W2 must meet the following conditions: W1 ⩾ W2

Figure 3-3.13: Positioning of master and slave units



4 Outdoor Unit Installation

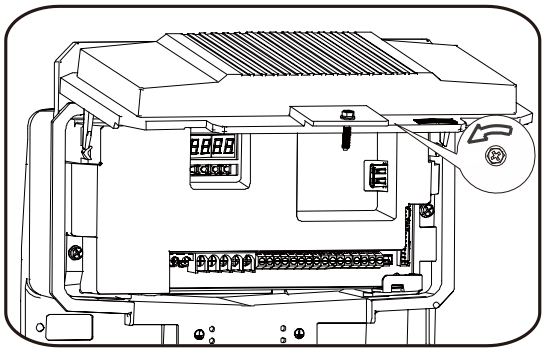
4.1 Overview

This chapter includes the following information:

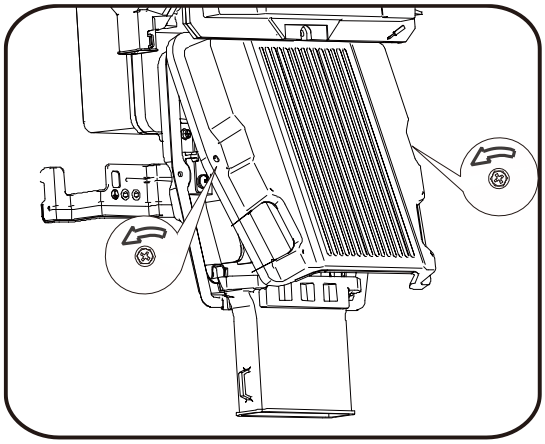
- Open the unit
- Outdoor unit installation
- Welding refrigerant piping
- Refrigerant piping check
- Refrigerant charging
- Electrical Wiring

4.1.1 Opening the electric control box

Loosen the screw, and lift the top cover upwards.



Remove the screws, and the bottom cover.

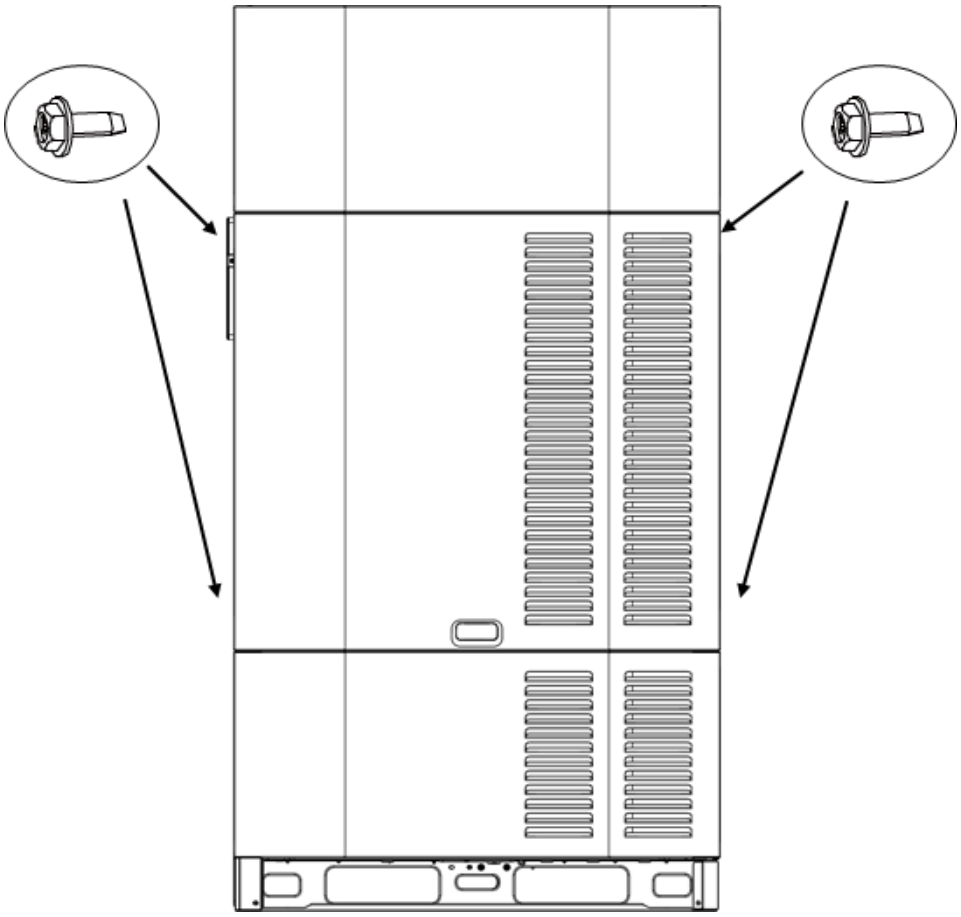


- The main control cover features a flip-open design and can be rotated to a certain angle, where it is held in place by the support arms on the protective cover and remains suspended.
- The installation of communication and power cables only involves the topmost and bottommost compartments on the front side of the electrical control box. Opening any other compartments must be performed by professional maintenance personnel authorized by our company.
- Maintenance involving the drive frequency conversion compartment must be carried out by repair personnel authorized by our company.
- If the electrical control box needs to be completely removed, it is necessary to unscrew the single-phase valve on the refrigerant heat sink connecting pipe at the lower part of the electrical control box, while also disconnecting all cables connecting the electrical control box to the interior of the air conditioner.
- The images displayed in this view may not match the actual product due to reasons such as product model variations or product upgrades. Please refer to the physical product for accuracy!

4.2 Opening the unit

4.2.1 Opening the outdoor unit

Remove the srews of the panel and use the handle to remove it.

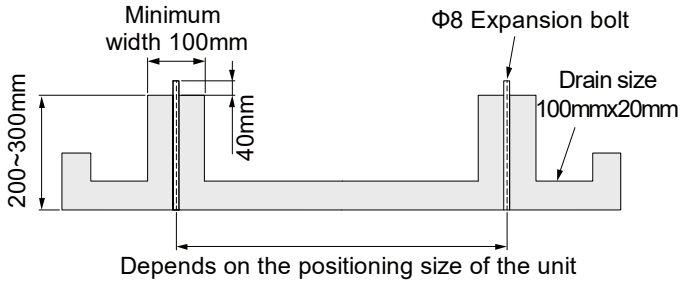


4.3 Installing the Outdoor Unit

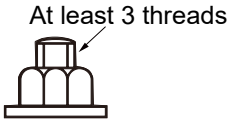
4.3.1 Preparing the structure for installation

- The base of the outdoor unit must use a solid concrete surface such as cement or a steel beam frame as a base.
- The base must be completely level to ensure that every point of contact is even.
- During installation, make sure the base supports the vertical folds of the front and back under plates of the chassis directly as the vertical folds of the front and back under plates are located where the actual support for the unit load is.
- No gravel layer is required when the base is built on a roof surface, but the sand and cement on the concrete surface must be level, and the base should be chamfered along the edge.
- A water drainage ditch should be set around the base to drain water around the equipment. Potential risk: slipping.
- Check the load-bearing capacity of the roof to make sure it can support the load.
- When you choose to install the piping from the bottom, the base height should be above 200 mm.
- Make sure the base where the unit is installed is strong enough to prevent vibrations and noise.

Figure 3-4.1: Outdoor unit typical concrete base structure design (unit: mm)



Use four ground bolts (M8) to secure the unit in place. The best option is to screw in the ground bolt until it is embedded in the base surface by at least 3 threads.

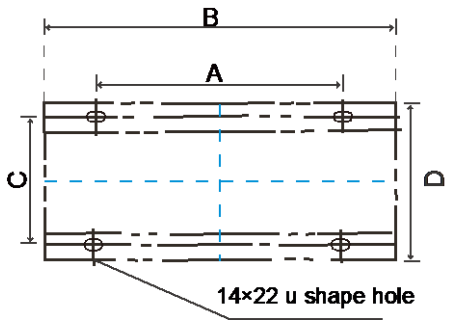


Please refer to the figure below for the installation position of expansion bolts.

Figure 3-4.2: Expansion bolt positioning

Table 3-4.1: Expansion bolt spacings (unit: mm)

Dimension	8-16HP
A	705
B	960
C	710



D	850

4.3.2 Outdoor unit installation space

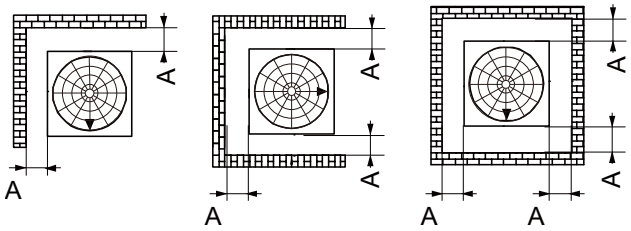
Make sure there is sufficient space around the unit for maintenance work, and the minimum space for air inlet and air outlet is reserved (see below to select a feasible method).

Ensure there is enough space for maintenance. The units in the same system must be placed at the same height.

Outdoor units must be spaced so that sufficient air may flow through each unit. Sufficient airflow across heat exchangers is essential for outdoor units to function properly.

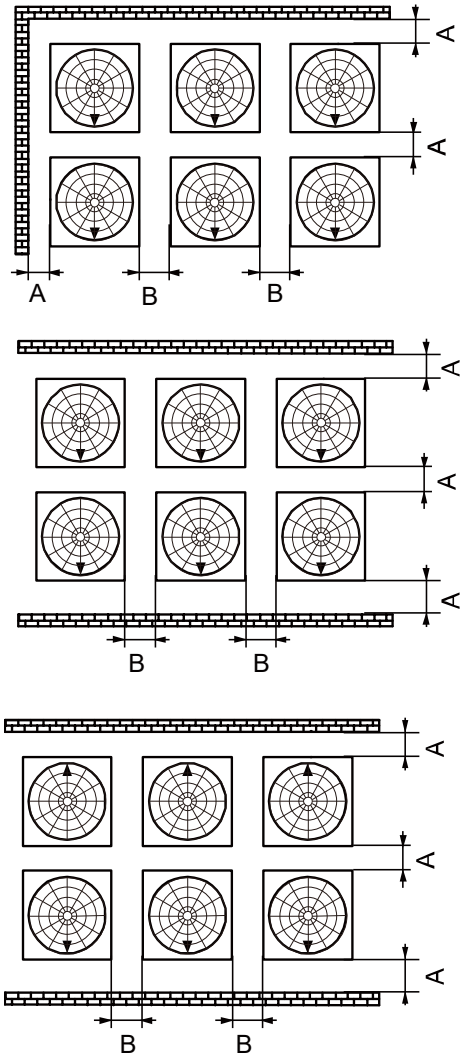
For single installation

Figure 3-4.3: Single installation



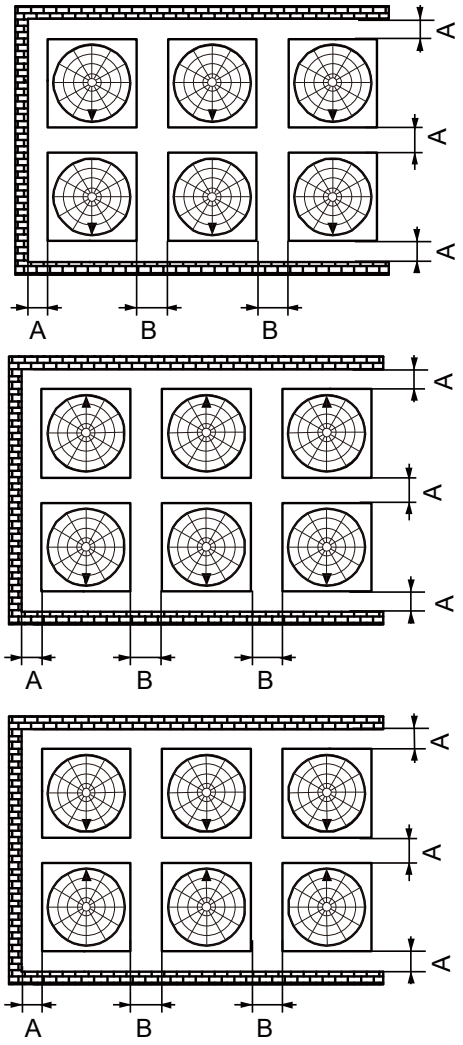
- Installation with walls in two directions

Figure 3-4.4: Two directions installation



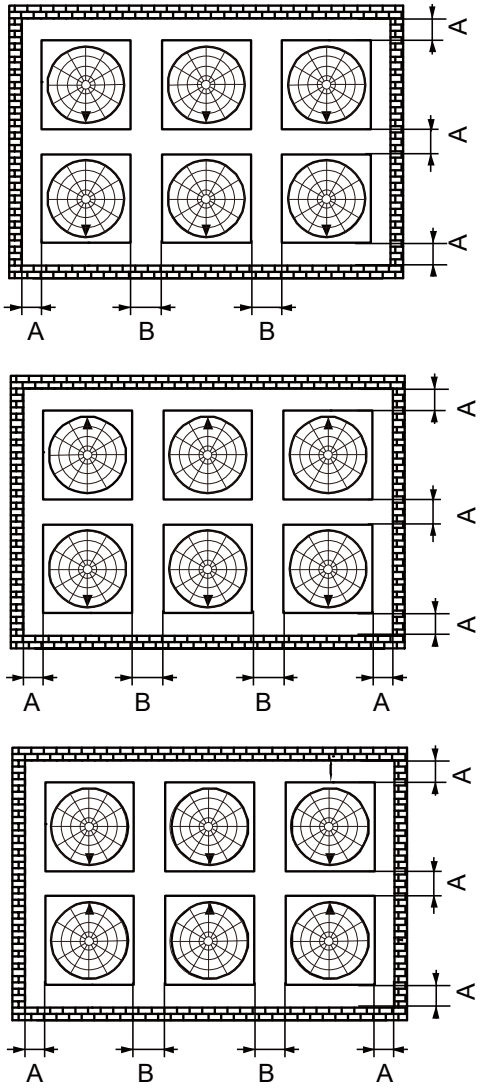
- Installation with walls in three directions

Figure 3-4.5: Three directions installation



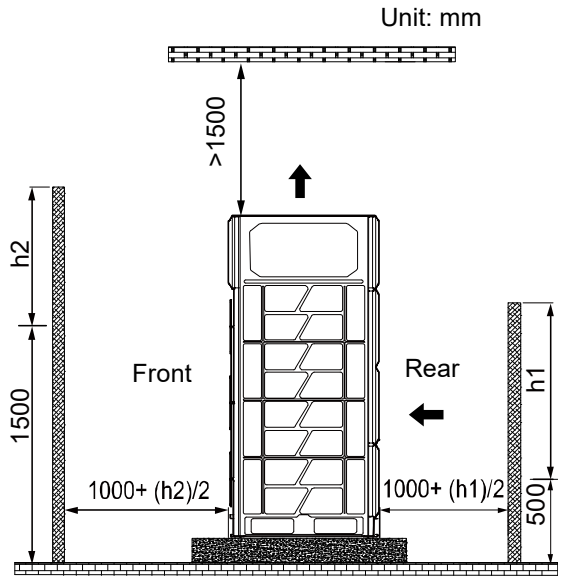
- Installation with walls in four directions

Figure 3-4.6: Four directions installation



- The arrow ▼ indicates the front of the unit in the above figures.
- A≥1000 mm, 500 mm≥B≥100 mm.
- The dimensions in the above figures provide sufficient space for operation and maintenance under normal operating conditions (refrigeration mode at an outdoor temperature of 35°C).
- If the outdoor temperature is higher and ventilation short circuiting may occur, choose the most suitable dimensions by calculating the return air flow.
- Keep the inlet and outlet of each ODU open and avoid interference.
- If there is an obstacle in the space over the unit, the four sides of the unit should be open.

Figure 3-4.7: Installation requirements



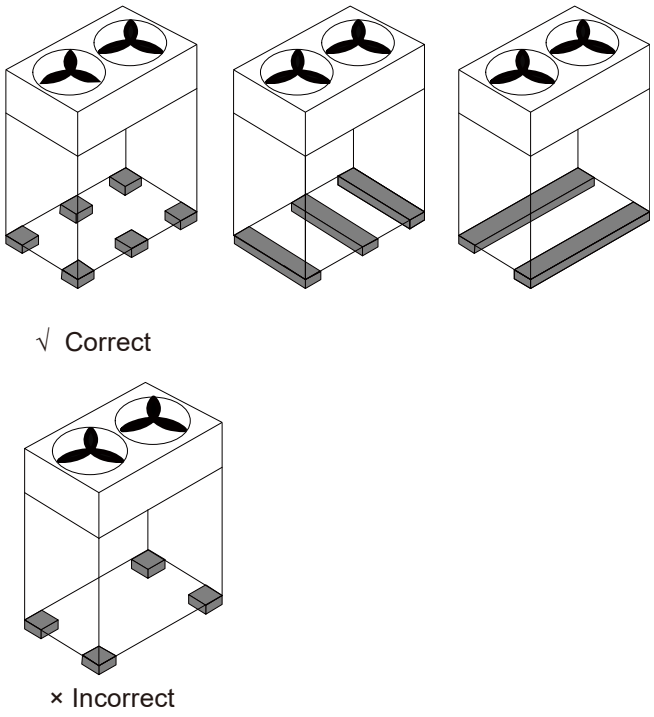
- If there are no walls in front of or behind the unit, it is necessary to reserve a space of 1000mm on both sides.
- If the front wall is higher than 1500mm, a space of at least (1000 + (h2)/2) mm is required at the front.
- If the rear wall is higher than 500mm, a space of at least (1000 + (h1)/2) mm is required at the back.
- When the space above the unit is less than 1500 mm, an air ducting device shall be installed to prevent ventilation from short circuiting.
- When the space over the unit is greater than 1500 mm, an air ducting device shall be installed if the air circulation is not smooth at the top of the unit.

4.3.3 Vibration reduction of outdoor unit

The ODU shall be firmly fixed, and a thick rubber plate or corrugated shock-absorbing rubber cushion with a thickness of more than 20 mm and a width of more than 100mm shall be placed between the unit and the foundation. The shock-absorbing rubber cushion must not be placed in a way that only supports the four corners of the unit. The setting requirements are shown in the figure below.

Don't use adhesive to fix appliances.

Figure 3-4.8: Vibration reduction of outdoor unit



4.4 Pipe welding

4.4.1 Things to note when connecting the refrigerant piping

- During the test, do not exert a force greater than the maximum allowed pressure on the product (as shown on the nameplate).
- Take appropriate precautions to prevent refrigerant leakage. Ventilate the area immediately if the refrigerant leaks. Possible risks (An excessively high concentration of refrigerant in an enclosed area can lead to anoxia (oxygen deficiency); the refrigerant gas may produce a toxic gas if it encounters an open flame.)
- Refrigerant must be recovered. Do not release it into the environment. Use professional fluorine extraction equipment to extract the refrigerant from the unit.
- Make sure the refrigerant piping is installed in accordance with applicable laws.
- Make sure the piping and connections are not placed under pressure.
- After all the piping connections have been completed, check to make sure there is no gas leak. Use nitrogen to conduct the leak check for gas.

4.4.2 Connect refrigerant piping

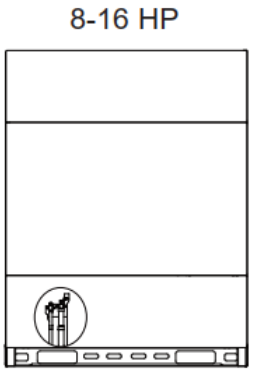
Before the refrigerant piping is connected, make sure the indoor units and outdoor units are installed properly. Refrigerant piping connection procedures include:

- Connecting refrigerant piping to the outdoor unit
- Connecting refrigerant piping to the indoor unit (refer to the installation manual of the indoor unit)
- Connecting the VRF piping assembly
- Assembly for connecting refrigerant piping branch joint
- Bear in mind the following guidelines:
  - Braze
  - Stop valve is used correctly

4.4.3 Outdoor refrigerant connecting pipe position

The outdoor refrigerant connecting pipe position is shown in the following figure.

Figure 3-4.9: Refrigerant connecting pipe position



4.4.4 Connecting refrigerant piping to the outdoor unit

Note the precautions when connecting the field piping for the refrigerant. Add brazing material.

Use the attached piping fittings when working on the pipeline engineering on site.

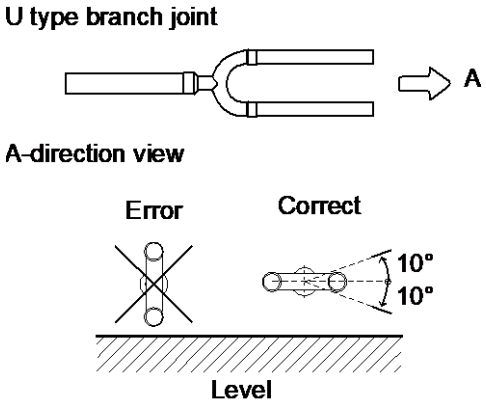
After installation, make sure the piping does not encounter each other or the chassis.

The fittings provided as accessories can be used to complete the connection from the stop valve to the field piping.

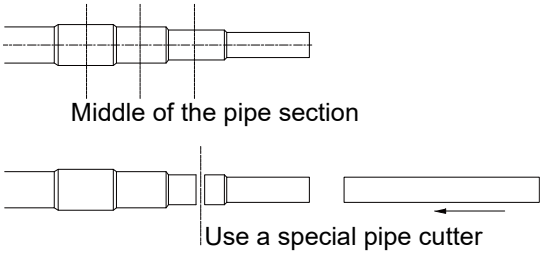
4.4.5 Connecting VRF piping assembly

Incorrect installation will cause the unit to malfunction

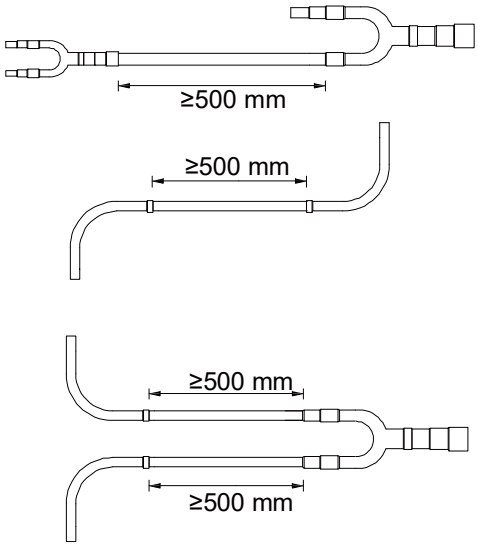
The branch joints should be as level as possible, and the angular error must not exceed 10°.



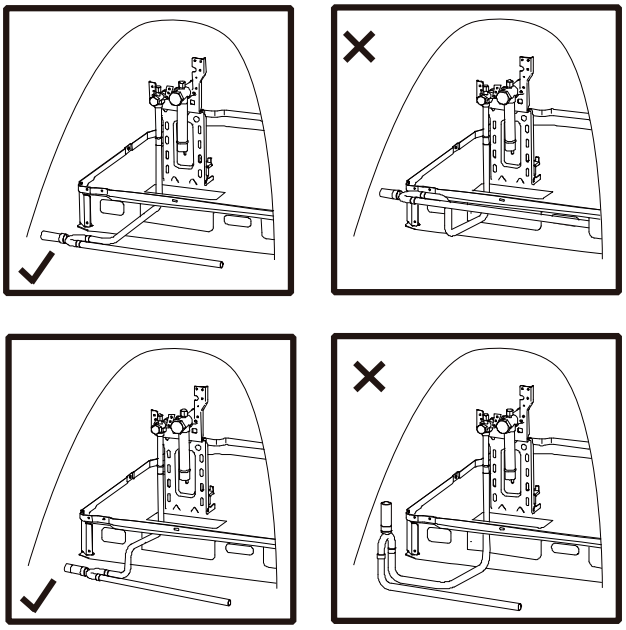
The branch joints come in different pipe diameters, which can be easily matched with different pipe diameters. When connecting pipes, select the pipe section with the appropriate pipe diameter, cut it in the middle with a pipe cutter and remove burrs, as shown in the figure below.



The length of the straight pipe section between the contiguous branch pipes shall be no less than 500 mm. The straight pipe section behind the branch pipe end shall be no less than 500 mm. The length of straight pipe between two right angle bends shall be no less than 500 mm.

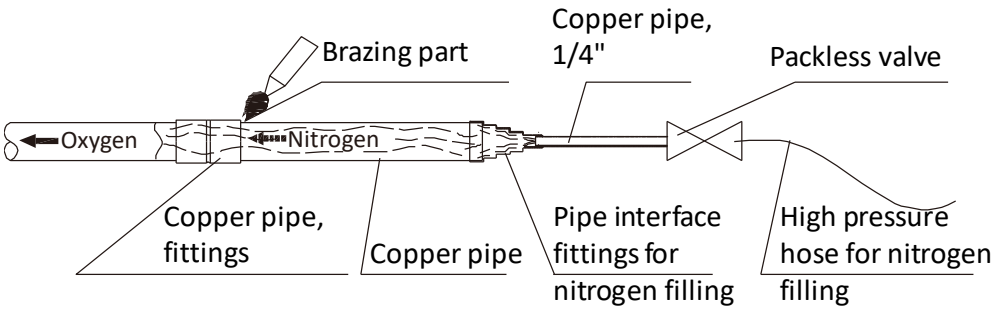


When there are multiple outdoor units, the branch joints must not be higher than the refrigerant piping as shown below:



4.4.6 Brazing

During brazing, use nitrogen as protection to prevent the formation of a large amount of oxide film in the pipes. This oxide film will have adverse effects on the valves and compressors in the cooling system, and may hamper normal operations.
Use the reducing valve to set the nitrogen pressure to 0.02-0.03 MPa (a pressure that can be felt by the skin).

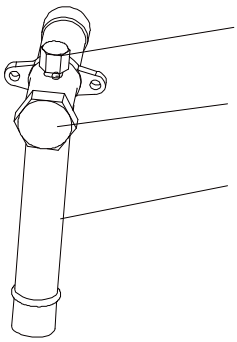


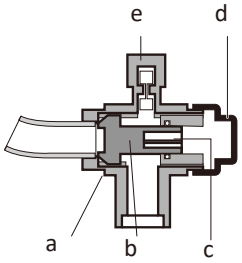
Do not use antioxidants when brazing the pipe joints.
Use copper-phosphorus alloys (BCuP) when brazing copper and copper, and no flux is required. When brazing copper and other alloys, flux is required.
Flux produces an extremely harmful effect on the refrigerant piping system. For example, using a chlorine-based flux is used may corrode the pipes, and when the flux contains fluorine, it will degrade the frozen oil.
During brazing, protect the valve mounting plate and wires from burning.
A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.

4.4.7 Connecting stop valves

Stop valves

The following figure shows the names of all parts required for the installation of the stop valves.
Stop valves are closed when unit is shipped from the factory.





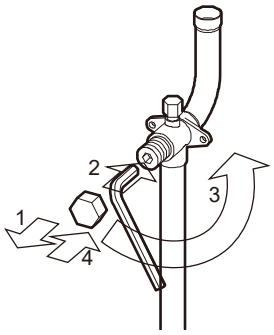
a Sealing component
b Axis
c Hexagonal hole
d Stop valve lid
e Maintenance access

Using of a stop valve

1. Remove the stop valve lid.
2. Insert the hex wrench into the stop valve, and rotate the stop valve counter-clockwise.
3. Stop turning when the stop valve cannot be rotated further.

Result: Valve is now open.

The fastening torque of the stop value is shown in table below. Insufficient torque may cause the refrigerant to leak.



Fastening torque

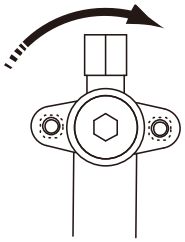
Stop valve size (mm)	Tightening torque / N.m (turn clockwise to close)
	Axis
	Valve body
Φ12.7	9-30
Φ15.9	12-30
Φ19.1	
Φ22.2	16-30
Φ25.4	24-30
Φ28.6	
Φ31.8	25-35
Φ35.0	

Closing the stop valve

1. Remove the stop valve lid.
2. Insert the hex wrench into the stop valve, and rotate the stop valve clockwise.
3. Stop turning when the stop valve cannot be rotated further.

Result: Valve is now closed.

Direction to close:

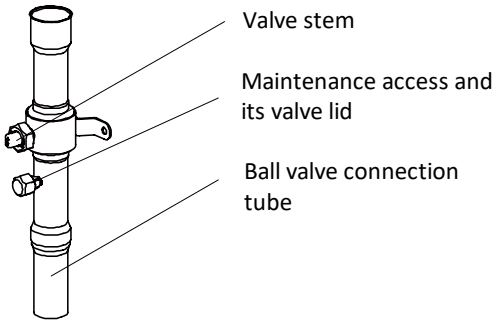


4.4.8 Connecting ball valves

Ball valves

The following figure shows the names of all parts required for the installation of the ball valves.

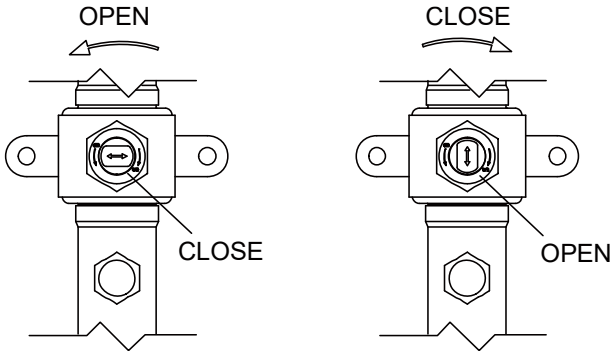
Ball valves are closed when unit is shipped from the factory.



Using of a ball valve

1 The valve stem horizontal, the ball valve is closed. Turn the valve stem counterclockwise by 90° to open the ball valve.

2 The valve stem vertical, the ball valve is open. Turn the valve stem clockwise by 90° to close the ball valve.



4.4.9 Connect the L-shaped pipe (from accessories)

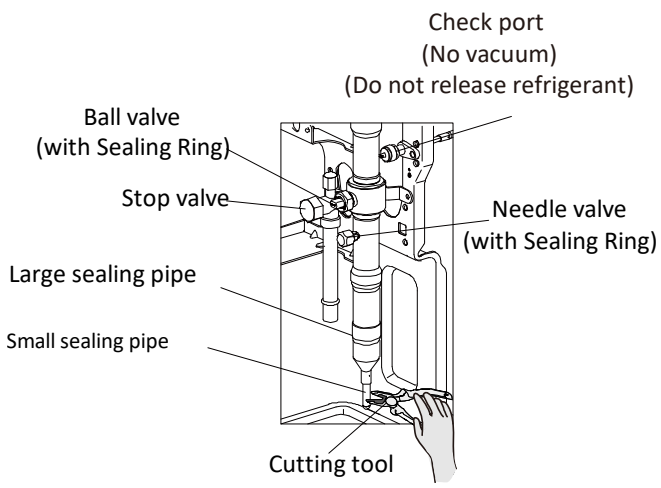
1. Make sure that the valves are fully closed.

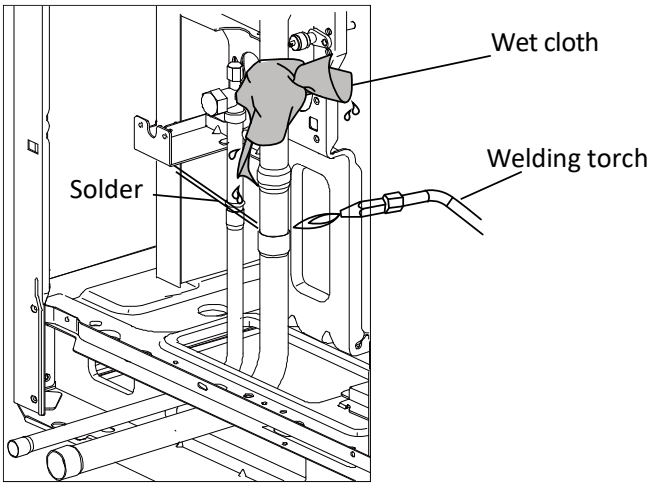
2.Cut or twist off the small sealing pipe， and press the needle valve to release the gas, ensure that there is no refrigerant in the pipe.

3.During brazing, protect the valve by cooling, and the temperature of the valve seal must not exceed 120℃

4.Remove the large sealing pipe with the welding torch, and connect the L-shaped pipes.

Note: Check port used to measure system pressure and charge refrigerant. It is not allowed to be used for vacuuming or releasing refrigerant.





4.5 Gas tightness test

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

- Only dry nitrogen should be used for gas tightness testing. Oxygen, air, flammable gases and toxic gases must not be used for gas tightness testing. Use of such gases may result in fire or explosion.
- Make sure that all the outdoor unit stop valves are firmly closed.

The gas tightness test procedure is as follows:

1 Charge the indoor piping with nitrogen at 0.3 MPa 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.

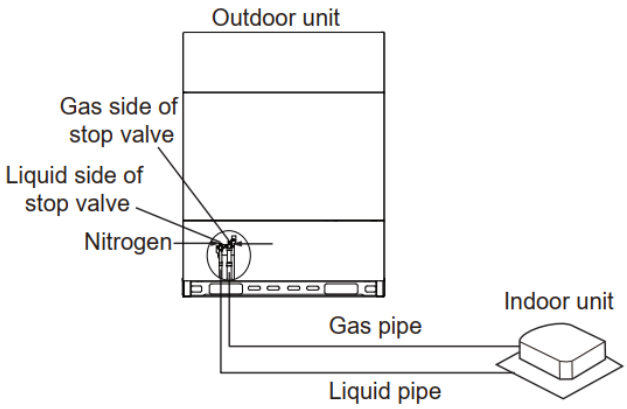
2 If there are no large leakages, charge the piping with nitrogen at 1.5 MPa and leave for at least 3 minutes. Observe the pressure gauge to check for small leakages. If there is a small leakage, the pressure gauge will drop noticeably.

3 If there are no small leakages, charge the piping with nitrogen at 4.2 MPa 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 0.01 MPa per 1°C of temperature difference. Adjusted reference pressure = Pressure at pressurization + (temperature at observation – temperature at pressurization) x 0.01 MPa. Compare the observed pressure with the adjusted reference pressure. If they are the same, the piping has passed the gas tightness test. If the observed pressure is lower than the adjusted reference pressure, the piping has a micro leak.

4 If leakage is detected, refer to the section of the manual titled “Leak detection”. Once the leak has been found and fixed, the gas tightness test should be repeated.

5 If not continuing straight to vacuum drying once the gas tightness test is complete, reduce the system pressure to 0.5-0.8 MPa and leave the system pressurized until ready to carry out the vacuum drying procedure.

Figure 3-5.14: Gastightness test



Leak detection

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.

4.6 Flushing pipes

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. Pipes should be flushed once the piping connections have been completed except for 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.

- 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.

The liquid and gas sides can be flushed simultaneously; alternatively, one side can be flushed first and then Steps 1 to 9 repeated for the other side. The flushing procedure is as follows:

1 Cover the inlets and outlets of the indoor units to prevent dirt from getting blown in while flushing the pipe. (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 5.28).
5 Start to open the nitrogen cylinder valve and gradually increase the pressure to 0.5 MPa.
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 the 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.
9 Once flushing is complete, seal all openings to prevent dust and moisture from entering.

Figure 3-5.12: Pipe flushing using nitrogen

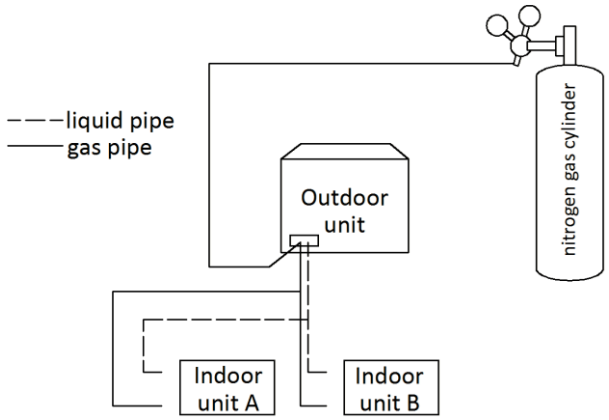
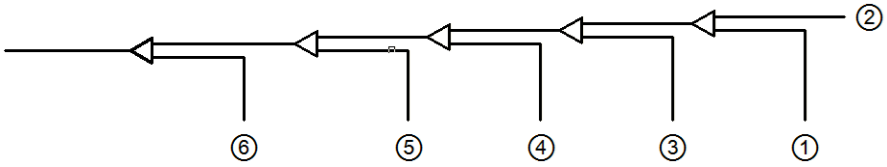


Figure 3-5.13: Pipe flushing sequence[1]



Notes:

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

4.7 Vacuum drying

Vacuum drying should be performed 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 will cause abnormal operation, but particles of oxidized copper can cause compressor damage. The presence of non-condensable gases in the system will lead to pressure fluctuations and poor heat exchange performance.

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

- 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 pump lubricant with compressor oil could cause the compressor to malfunction. Therefore, a check valve should be used to prevent vacuum pump lubricant from seeping into the piping system.

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

1 Connect the vacuum pump through a manifold with a pressure gauge to the service port of all stop valves.

2 Start the vacuum pump and then open the manifold valves to start vacuuming the system.

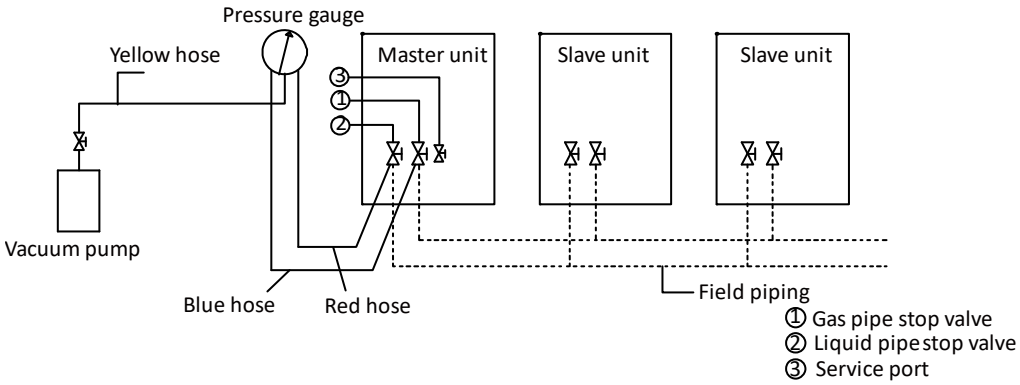
3 After 30 minutes, close the manifold valves.

4 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.

5 Re-open the manifold valves and continue vacuum drying for at least 2 hours and until a pressure difference of 0.1 MPa or more has been achieved. Once the pressure difference of at least 0.1 MPa has been achieved, continue vacuum drying for 2 hours. Close the manifold 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.

6 After vacuum drying, keep the manifold connected to the master unit stop valves, in preparation for refrigerant charging.

Figure 3-5.15: Vacuum drying





Pressure gauge

4.8 Piping insulation

After the leak test and the vacuum drying are completed, the pipe must be insulated. Considerations:

- Make sure the refrigerant piping and branch joints are completely insulated.
- Make sure the liquid and gas pipes (for all units) are insulated.
- Use heat-resistant polyethylene foam for the liquid pipes (able to withstand temperature of 70 °C), and polyethylene foam for the gas pipes (able to withstand temperatures of 120 °C).
- Reinforce the insulation layer of the refrigerant piping based on the installation environment.

4.8.1 Selection of insulation material thickness

Condensed water may form on the surface of the insulation layer.

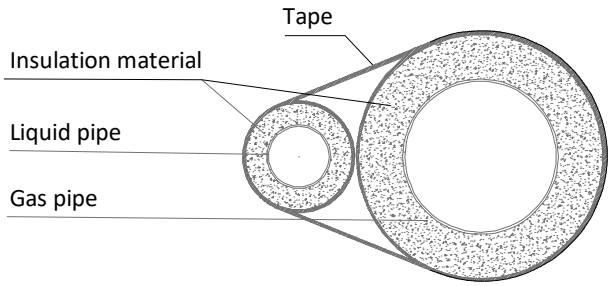
Table 3-7.1: Refrigerant piping insulation thickness

Piping size	Insulation thickness (mm) Humidity < 80%RH	Insulation thickness (mm) Humidity ≥ 80%RH
Φ6.4~Φ38.1 mm	≥ 15	≥ 20
Φ41.3~Φ63.5 mm	≥ 20	≥ 25

4.8.2 Pipe wrapping

To avoid condensation and water leakage, the connecting pipe must be wrapped with tape to ensure isolation from the air.

Figure 3-7.1: Pipe wrapping



When wrapping insulation tape, each circle should press half of the previous circle of tape. Do not wrap the tape too tightly to avoid reducing the thermal insulation effect.

After completing the pipe insulation work, seal the holes in the wall with sealing material.

4.8.3 Protective measures for the pipeline

The refrigerant pipe will swing, expand or shrink during operations. If the pipe is not fixed, the load will be concentrated in

a certain part, which may cause the refrigerant pipe to deform or rupture.
The suspended connecting pipes shall be well supported, and the distance between supports shall not exceed 1 m.
The outdoor pipes shall be protected against accidental damage. If the length of the pipe exceeds 1 m, a gusset plate must be added for protection.
Refrigerant tubing shall be protected or enclosed to avoid damage.

4.9 Refrigerant charging

- Use only R32 as the refrigerant. Other substances may cause explosions and accidents.
- R32 contains fluorinated greenhouse gases, and the GWP value is 675. Do not discharge the gas into the atmosphere.
- When charging the refrigerant, make sure you wear protective gloves and safety glasses. Be careful when you open the refrigerant piping.
- If the power supply of some units is off, the charging program cannot be completed normally.
- If this is a multi-unit outdoor system, the power supply for all outdoor units should be turned on.
- Make sure the power supply is turned on 12 hours before operations so that the crankcase heater is properly energized. This is also to protect the compressor.
- Make sure all connected indoor units have been identified.
- Charge the refrigerant only after the system has not failed the gas tightness tests and vacuum drying.
- Volume of refrigerant charged must not exceed the designed amount.

Calculating the additional refrigerant charge quantity for liquid piping (R1 kg)

The additional refrigerant charge required depends on the lengths and diameters of the outdoor and indoor liquid pipes. The table below 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 T1 to T7 represent the equivalent lengths of the pipes of different diameters. Assume 0.5m for the equivalent pipe length of each branch joint.

Additional refrigerant charge R1 (kg) = L_1 (**Φ6.35**) × 0.019
+ L_2 (**Φ9.52**) × 0.049
+ L_3 (**Φ12.7**) × 0.096
+ L_4 (**Φ15.9**) × 0.153
+ L_5 (**Φ19.1**) × 0.236
+ L_6 (**Φ22.2**) × 0.317
+ L_7 (**Φ25.4**) × 0.424

Table 3-8.1: Additional refrigerant charge

Liquid side piping (mm)	Additional refrigerant charge per meter of equivalent length of piping (kg)
Φ6.35	0.019
Φ9.52	0.049
Φ12.7	0.096
Φ15.9	0.153
Φ19.1	0.236
Φ22.2	0.317
Φ25.4	0.424

Calculating the additional refrigerant charge quantity for outdoor unit (R2 kg)

The additional refrigerant charge quantity for outdoor unit depends on the capacity of connected outdoor units. In case of a combined system, add the sum of each outdoor unit charge amount. Select the refrigerant quantity for each outdoor unit from the following table.

Table 3-8.2: Additional refrigerant charge quantity for outdoor unit (unit: kg)

HP	8HP	10HP	12HP	14HP	16HP
Additional refrigerant Charge (kg)	0	0	0	0	0

The additional refrigerant charge (R2 kg) = W1+W2
W1: master unit additional refrigerant charge amount;
W2: Slave unit 1 additional refrigerant charge amount;

Calculating the additional refrigerant charge quantity for SV Box (R3 kg)

The required additional refrigerant charge depends on the number of SV Boxes. For systems with multiple SV Boxes, the additional amounts for each box need to be summed up. The additional amount for each box is 0.5 kg.

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 3-8.3. 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 3-8.3: Maximum additional refrigerant charge amount (unit: kg)

Model	Factory refrigerant charge	Maximum additional refrigerant	Maximum refrigerant
8HP	6.7	19.3	26
10HP	6.7	22.3	29
12HP	6.7	32.4	39.1
14HP	8.5	34.7	43.2
16HP	8.5	34.8	43.3
18HP	13.4	43.6	57
20HP	13.4	45.7	59.1
22HP	13.4	47.8	61.2
24HP	13.4	49.9	63.3
26HP	15.2	63	78.2
28HP	17	62.82	79.82
30HP	17	62.82	79.82
32HP	17	62.82	79.82

Notes:
1. The factory refrigerant charge amount is based on the recommended combination.

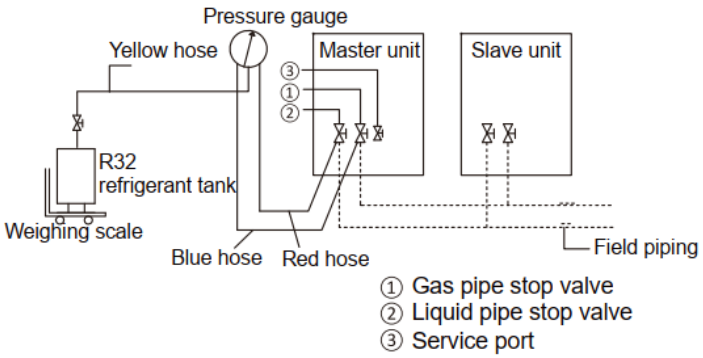
Calculate the refrigerant charge of the system (Rt kg)

The total refrigerant of the system (Rt) = refrigerant before shipment (R0) + additional refrigerant in the field (R). The refrigerant charge of the system must be less than 79.82 kg. If the calculated total refrigerant charge is equal to or more than 79.82 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 79.82 kg refrigerant charge.

The procedure for adding refrigerant is as follows:

1. Calculate additional refrigerant charge R (kg).
2. Place a tank of R32 refrigerant on a weighing scale. Turn the tank upside down to ensure the refrigerant is charged in a liquid state.
3. After vacuum drying, the blue and red pressure gauge hoses should still be connected to the pressure gauge and the master unit stop valves.
4. Connect the yellow hose from the pressure gauge to the R32 refrigerant tank.
5. 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.
6. Set the weighing scale to zero.
7. Open the three valves on the pressure gauge to begin charging refrigerant.
8. 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 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

4.10 Electrical wiring

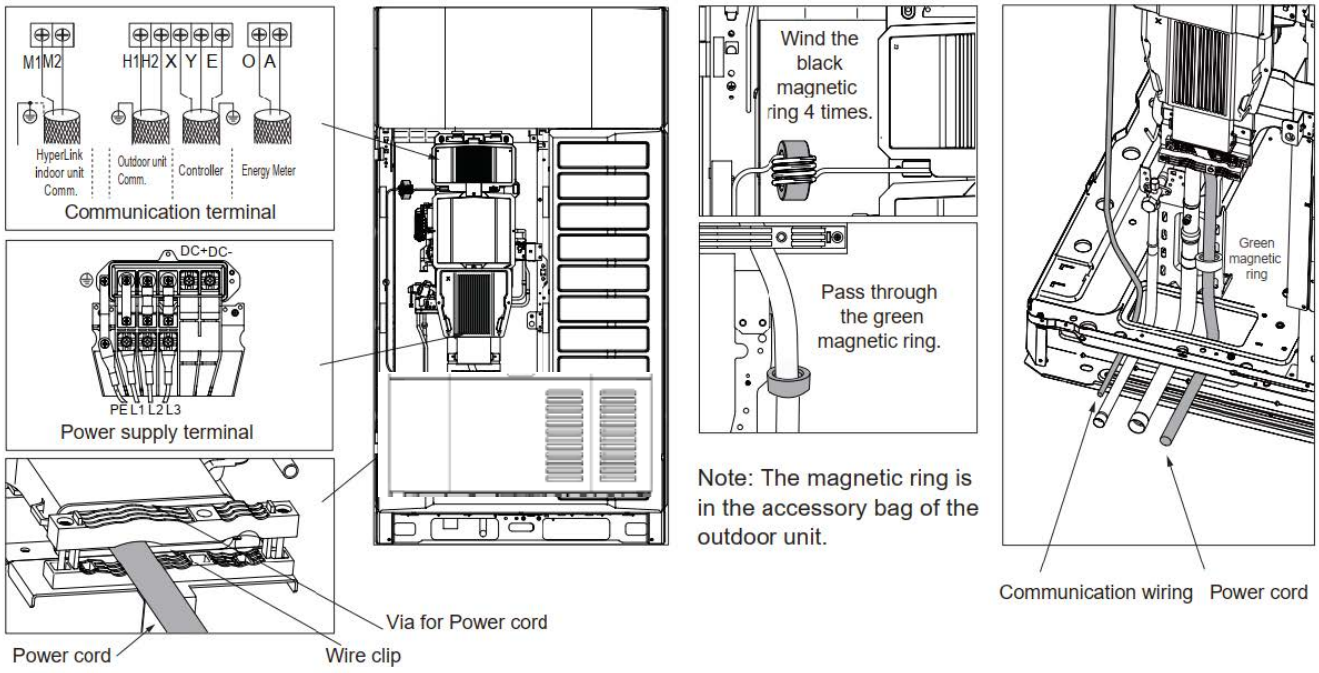
4.10.1 Electrical wiring precautions

- Take note of the risk of electrical shock during installation.
- All the electric wires and components must be installed by installation personnel with the proper electrician certification, and the installation process must comply with applicable regulations.
- Use only wires with copper cores for the connections.
- A main switch or safety device that can disconnect all polarities must be installed, and the switching device can be completely disconnected when the corresponding excessive voltage situation arises.
- Wiring must be carried out in strict accordance with what is stated in the product nameplate.
- Do not squeeze or pull the unit connection, and make sure the wiring is not in contact with the sharp edges of the sheet metal.
- Make sure the grounding connection is safe and reliable. Do not connect the earth wire to public pipes, telephone earth wires, surge absorbers and other places that are not designed for grounding. Improper grounding may cause electrical shock.
- Make sure the fuses and circuit breakers installed meet the corresponding specification requirements.
- Make sure an electric leakage protection device is installed to prevent electrical shock or fires.
- The model specifications and characteristics (anti high-frequency noise characteristics) of the electric leakage protection device are compatible with the unit to prevent frequent tripping.
- Before powering on, make sure the connections between the power cord and terminals of the components are secure, and the metallic cover of the electric control box is closed tightly.
- Some power equipment may have an inverted phase or intermittent phase (such as a generator). For this type of power source, a reverse-phase protection circuit should be installed locally in the unit, as operating in the inverted phase may damage the unit.
- Do not share the same power supply line with other devices.
- The power cord may produce electromagnetic interference so you should maintain a certain distance from the equipment that may be susceptible to such interference.
- Separate the power supply for the indoor and outdoor units.
- For systems with multiple units, make sure a different address is set for each outdoor unit.
- Fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.
- Supply cords for indoor appliances shall be at least those of ordinary tough rubber sheathed cords (code designation 60227 IEC 53)，supply cords for outdoor appliances shall be shall be at least those of ordinary polychloroprene sheathed cords (code designation 60245 IEC 57).

4.10.2 Wiring layout

The wiring layout comprises the power cords and communication wiring between the indoor and outdoor units. These include the earth lines and the shielded layer of the earth lines of the indoor units in the communication line. See below for the wiring layout of the outdoor unit.

Figure 3-9.1: Wiring layout



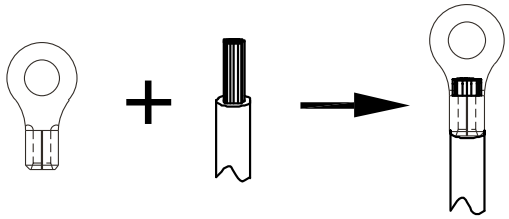
- Power cords and communication wiring must be laid out separately; they cannot be placed in the same conduit. Use a power supply conduit to isolate if the current of the power supply is less than 10 A. If the current is greater than 10 A but less than 50 A, the spacing must always exceed 500 mm. Otherwise, it may lead to electromagnetic interference.
- Arrange the refrigerant piping, power cords and communication wiring in parallel, but do not tie the communication lines together with the refrigerant piping or power cords.
- Power cords and communication wiring should not encounter the internal piping to prevent the high temperature of the piping from damaging the wires.
- Once the wiring layout is completed, close the lid tightly to prevent the wiring and terminals from being exposed when the lid is loose.
- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper pipe.

4.10.3 Connecting the power cord

- Do not connect the power supply to the communication terminal block. Otherwise, the whole system may fail.
- You must first connect the earth line (note that you should use only the yellow-green wire to connect to the earth, and you must turn off the power supply when you are connecting the earth line) before you connect the power cord. Before you install the screws, you must first comb through the path along the wiring to prevent any part of the wiring from becoming exceptionally loose or tight because the lengths of the power cord and earth line are not consistent.
- The wire diameter must comply with specifications, and the terminal should be tightly screwed. At the same time, do not subject the terminal to any external force.
- Tighten the terminal with an appropriate screwdriver. Screwdrivers that are too small may damage the terminal head, and cannot tighten it.
- Excessive tightening of the terminal may cause the screw thread to deform and slip, making it impossible to connect the components securely.
- Only use a ring terminal to connect the power cord. Non-standard cable connections will lead to poor contact which may in turn cause exceptional heating and burning. The figure below demonstrates both correct and incorrect connections.

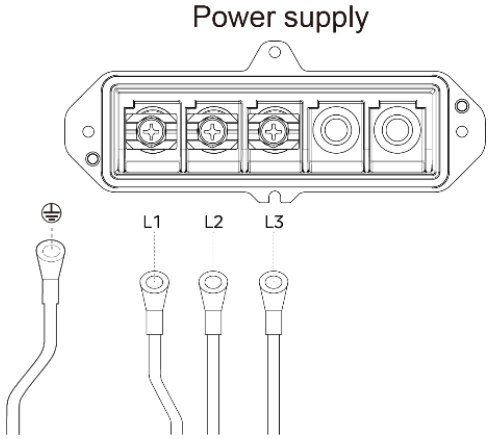
- This appliance incorporates an earth connection for functional purposes only.

1. Use round-type terminals of the correct specifications to connect the power cable.



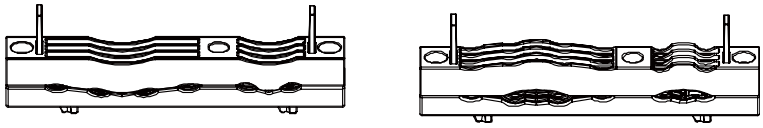
- When inserting the strong-current cables and communication lines into the wiring holes, they must be equipped with wiring across rings to avoid becoming worn.

2. The external power cables are inserted into the wiring holes of the chassis and the electric control box, and the power cables "L1, L2, L3," and earth wire are connected to the power wiring board marked with "L1, L2, L3, G" and the grounding screw next to the power wiring board correspondingly.



- Terminals must be used for connection. Use round-type terminals of the correct specifications to connect the power cables. Do not directly connect the cable ends. Use the correct terminal, or it may cause overheating and fire.

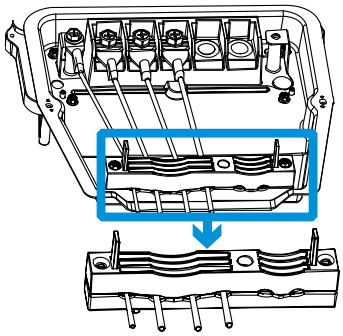
3. Use cable clamps to secure and fasten the cables, ensuring that no stress is placed on the terminals. There are two ways to install the cable clamp, as shown in the figure below.



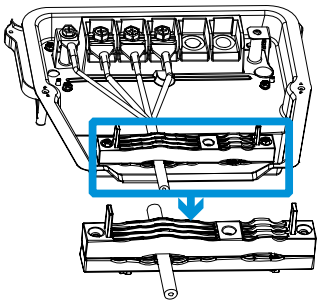
Installation method A:
Front clamping

Installation method B:
Reverse clamping

4. When selecting different types of power cords with varying wire diameters for on-site installation, different clamping methods apply. Depending on the type and wire diameter of the power cord, either method can be chosen to ensure that the cable clamp securely fastens the power cord and prevents stress on the terminals during pulling. When using clamping method A, ensure that each power cord is double insulated.



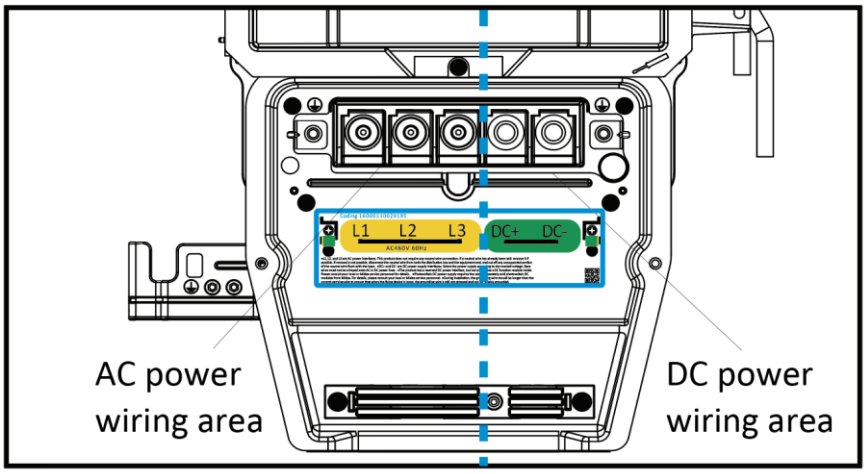
Clamping method A: The cable clamp secures the conductor section of the power cord



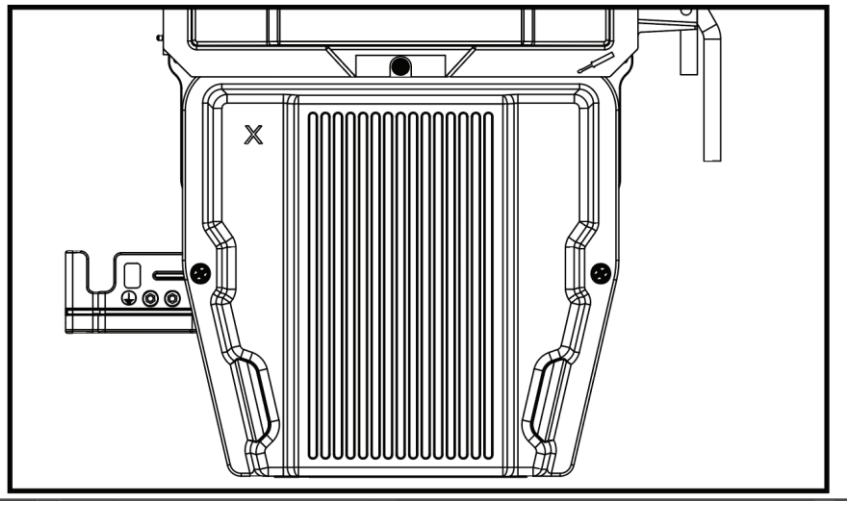
Clamping method B: The cable clamp secures the insulating sheath of the power cord

5. Confirm again that the power phase sequence is correct and properly restore the protecting cover of the power cable.

Open



Closed



- Select a proper torque according to the screw size.
- Torque which is too small may cause poor contact, resulting in heating of the terminals and fire. Torque that is too large may damage the screws and power supply terminals.

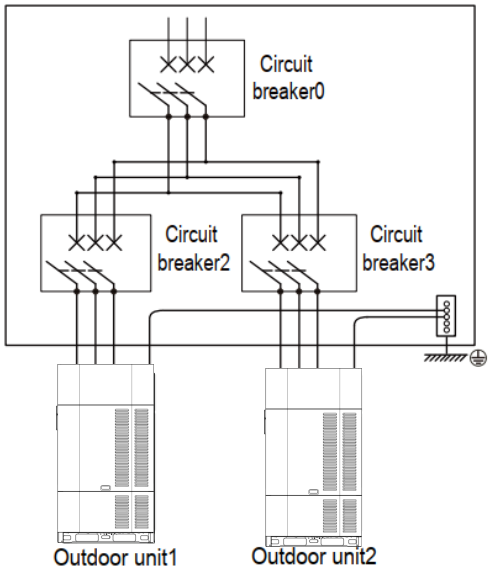
The size of the screws and recommended torque are as follows:

Screw specification	Standard value (kgf.cm)/(Nm)
M4	12.2/1.2
M6	25/2.5
M8	61.2/6.0

- During installation, the earth line shall be longer than the current carrying conductor to ensure that when the fixing device is loose, the earth line is still not stressed and can be reliably grounded.
- After installation, close the cover of the electric control box, tighten the screws and seal the wiring hole with a tightening tape. Otherwise, the heat dissipation of the electric control box may be affected, which could shorten the service life of the unit.
- When inserting the strong-current cables and communication lines into the wiring holes, they must be equipped with wiring across rings. Otherwise, they may become worn out by the sheet mental and cause electric leakage or short circuiting.
- The electric control box is fully enclosed. After installation, close the cover of the electric control box, tighten the screws and seal the wiring hole with a tightening tape. Otherwise, the heat dissipation of the electric control box may be affected, which could shorten the service life of the unit.

Outdoor unit wiring diagram

Figure 3-9.2: Outdoor unit power supply wiring



- Do not connect the earth line of the lightning rod to the unit shell. The earth lines of the lightning rod and the power cable must be configured separately.
- Each unit shall be equipped with a circuit breaker for protection against short circuiting and abnormal overload. In addition, the indoor and ODUs shall be equipped with individual main circuit breakers to connect or disconnect the main power supply of the indoor and ODUs.

4.10.4 Connecting the communication wiring

- 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 the communication line, otherwise, the motherboard will be damaged.
- It is forbidden to reverse the connection of the two communication ports (to up indoor unit) and (to down indoor unit) of the repeater.
- On-site wiring must comply with the relevant regulations of the local Country/region and must be completed by professionals.
- The communication lines of the indoor and ODUs can only be led out and connected from the master ODU.
- The ODU is often a parallel type of multi module, and the communication lines between the ODUs must be connected in a series.
- When a single communication line is not long enough, the joint must be crimped or soldered, and the copper wire at the joint shall not be exposed.

For the system, the EMI effect of the communication line M1M2 can be improved by adding a magnetic ring. The installation is shown in the figure 3-9.1. The magnetic ring needs to be fixed with the communication line.

Before connecting the communication wiring, please select the appropriate communication mode according to the type of indoor unit and refer to the following table.

Table 3-9.1: Communication connection between ODU and IDUs

Communication wiring	Material	Wiring length	Wiring diameter
Between outdoor unit and SV	Ordinary PVC-sheathed flexible cable	L ≤ 200 m	≥ 2 *16 AWG
Between SV and SV		L ≤ 200 m	≥ 2 *16 AWG
Between outdoor and outdoor		L ≤ 2000 m	≥ 2 * 16 AWG
Between SV and indoor unit		L ≤ 2000 m	≥ 2 * 18 AWG

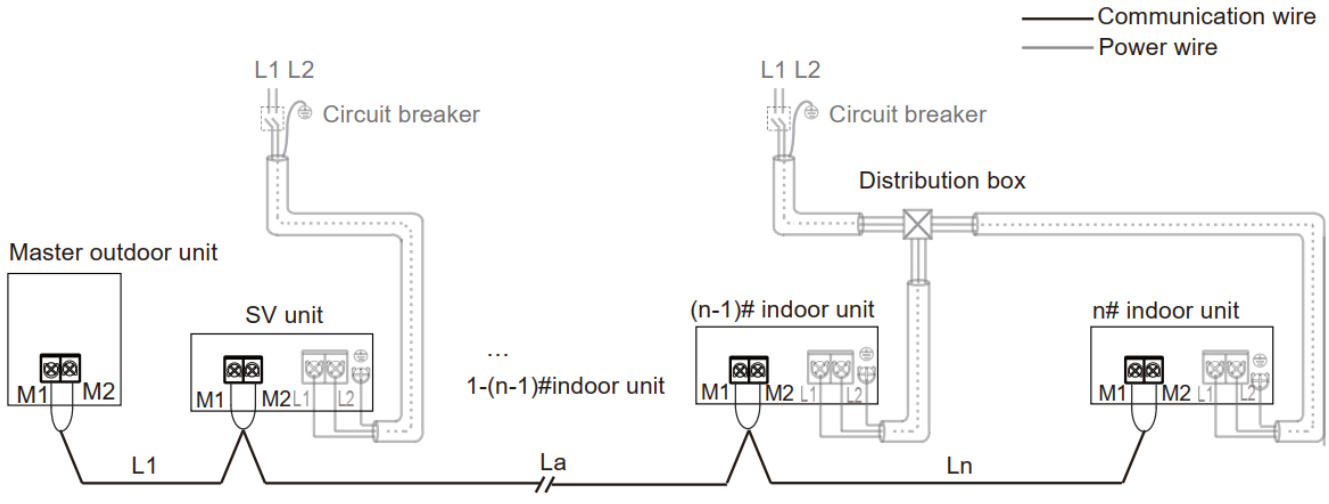
When the power supply of indoor units in the same system is separated, if the total length L of the communication line is greater than200 meters or the total number of indoor units exceeds10, a repeater needs to be added to compensate for the HyperLink communication of the main control board of the outdoor unit, thereby enabling the power-off valve function of the indoor unit.

HyperLink (M1 M2) communication wiring configuration – IDUs uniform power supplied

L1≤200 m. Communication wiring 2*16AWG

La+Ln≤2000 m. Communication wiring 2*18AWG

Figure 3-9.3: HyperLink communication wiring configuration



- Keep the power on/off for all IDUs.
- Do not connect the HyperLink (M1 M2) communication line to the PQ or D1D2 communication line.
- If the HyperLink (M1 M2) communication is available and is required in the system, you will need to enable the function

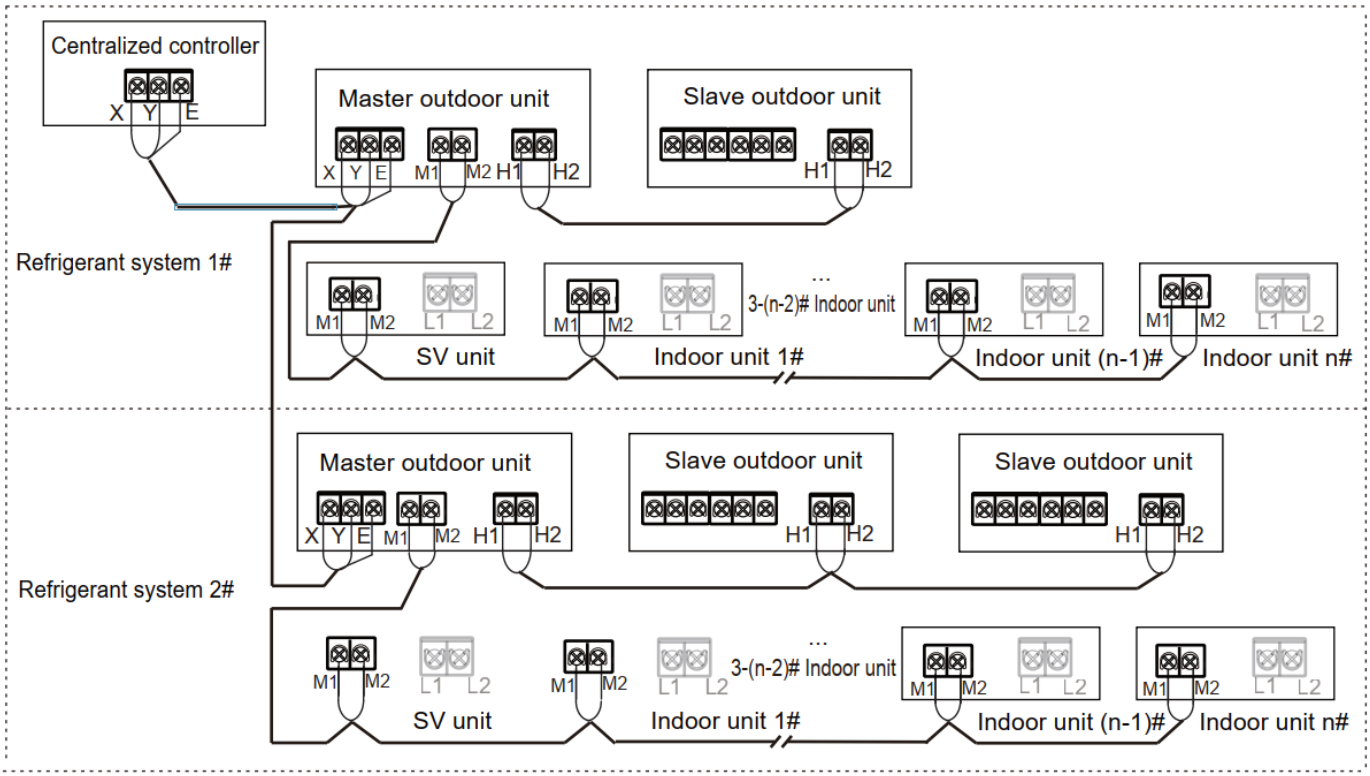
on the master ODU.

- The communication wiring (M1 M2) must through the magnetic ring from the main board to the indoor units refer to figure 3-9.1

XYE, H1H2 communication wiring

For V9 combinable series

Figure 3-9.4: XYE, H1 H2 wiring



- The H1H2 communication lines of the outdoor unit should be connected in a chain starting from the master unit to the last slave unit. The XYE communication lines of the outdoor unit should be connected to the master unit.
- The cross-sectional area of each core of the communication wiring between outdoor unit and SV unit is not less than 16AWG, and the length must not exceed 200 m.
- The cross-sectional area of each core of the communication wiring between indoor unit and SV unit is not less than 18AWG, and the length must not exceed 2000 m.
- Connect the shielding nets at both ends of the shielded wire to the sheet metal " ⏚ " of the electronic control box.

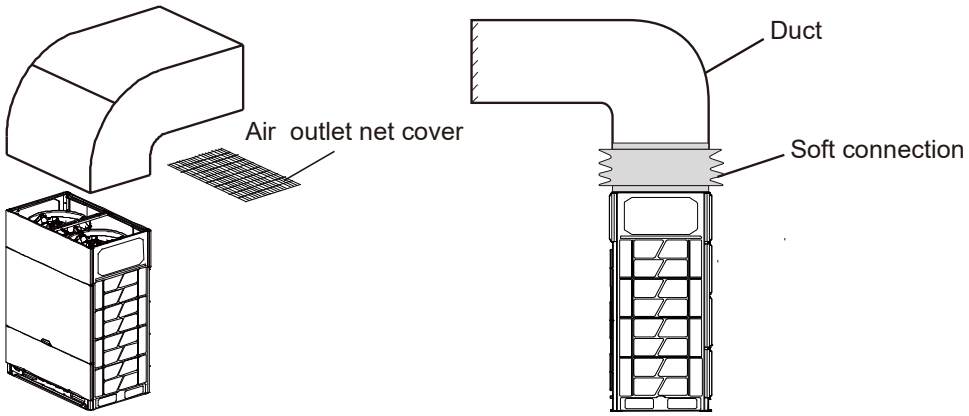
5 Outdoor Unit Ducting and Fan Performance

5.1 Outdoor unit ducting

The following principles shall be followed when installing the air guide device:

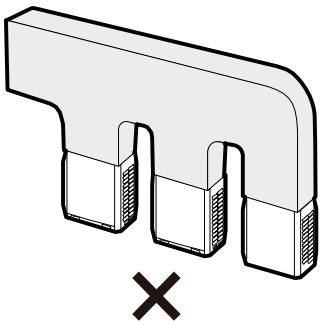
- Before installing outdoor unit ducting, be sure to remove the unit's steel mesh cover; otherwise, airflow will be adversely affected.
- Each duct should contain no more than one bend.
- Vibration isolation should be added to the connection between the unit and the ducting to avoid vibration/noise.

Figure 3-7.1: Ducting installation



- The addition of louvers will affect the air output of the unit, so the use of louvers is not recommended. If you want to use a louver, please keep the shutter angle below 15 ° and ensure that the effective opening rate of the shutter is more than 90%.
- If more than one outdoor unit needs ducting, each outdoor unit should have independent ducting. A single ducting cannot be shared by multiple outdoor units.
- According to the actual static pressure of the outdoor unit ducting, select an appropriate static pressure mode.

Figure 3-7.2: Wrong ducting installation



5.1.1 Transverse ducting

Figure 3-7.3: Transverse ducting (unit: mm)

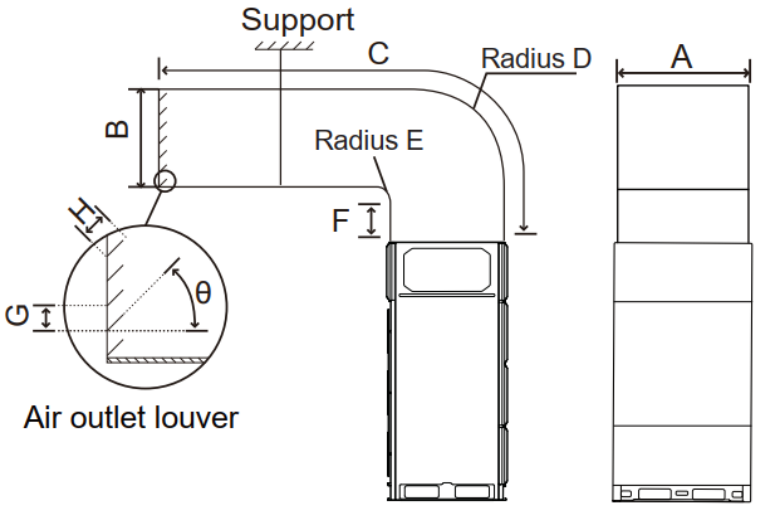


Table 3-7.1: Duct dimensions (unit: mm)

	8-16HP
A	800
B	770≤B≤800
C	≤ 3000
D	E+770
E	≥ 300
F	≥ 250
θ	Θ ≤ 15°
G	≥ 100
H	≤ 90

Table 3-7.2: External static pressure

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

5.1.2 Longitudinal ducting

Figure 3-7.4: Longitudinal ducting units (unit: mm)

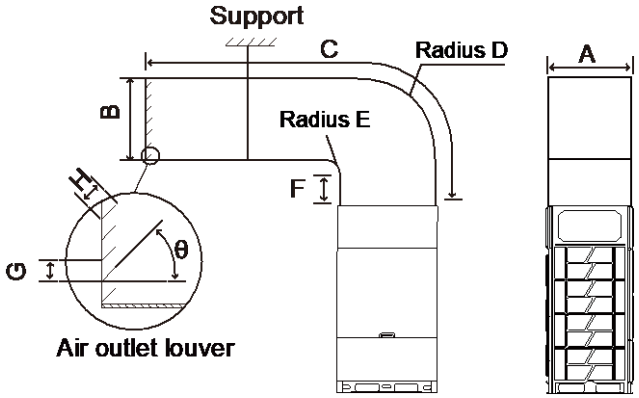


Table 3-7.3: Duct dimensions (unit: mm)

	8-16HP
A	770
B	820
C	≤ 3000
D	E+800
E	≥ 300
F	≥ 250
θ	Θ ≤ 15°
G	≥ 100
H	≤ 90

Table 3-7.4: External static pressure

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

5.2 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 3-7.5: 8-12HP units fan performance

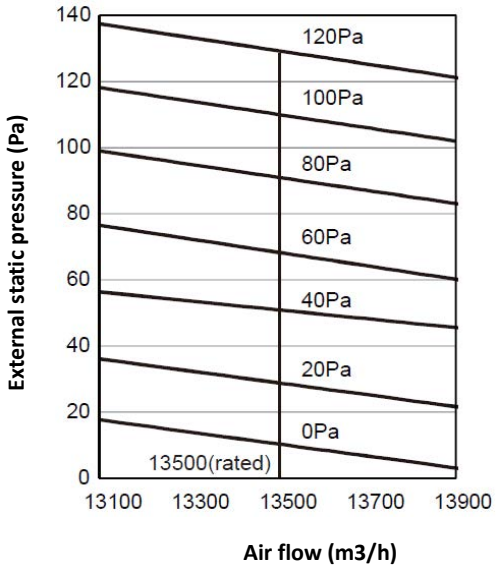
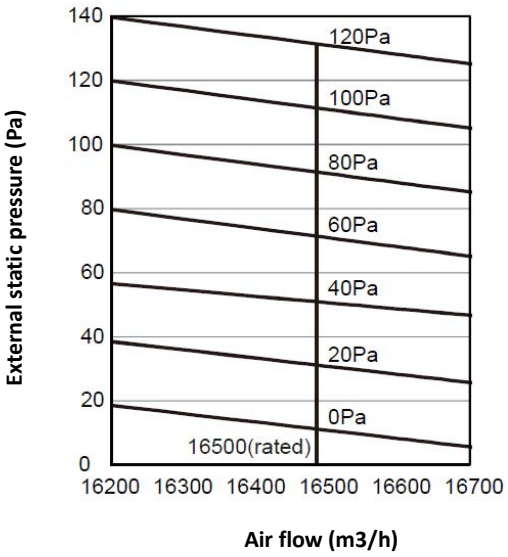


Figure 3-7.6: 14-16HP units fan performance



Notes for installers

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

6 Field Setting

6.1 SV box settings

- For the method of setting the SV box address, please refer to the wiring nameplate of the SV box.

Table 5-5.1: SV box address setting

Dip switch  ENC	0	The display shows the U38 error code, which means the SV BOX address is not set
	1 to F	SV BOX address ranges from 1 to F

- Set SW 1-2 to ON of SV box, in case of connected Indoor unit capacity over 16kW with 2 ports.

Table 5-5.2: SV EEV synchronous control setting

	Dip switch	EEV synchronous control setting
 SW1	 SW1-1: 0	Default, EEVC/D-0 and EEVC/D-1 independent control.
	 SW1-1: 1	SV box EEVC/D-0 and EEVC/D-1 synchronous control.
	 SW1-2: 0	Default, EEVC/D-2 and EEVC/D-3 independent control.
	 SW1-2: 1	SV box EEVC/D-2 and EEVC/D-3 synchronous control.

	Dip switch	EEV synchronous control setting
 SW2	 SW2-1: 0	Default, EEVC/D-4 and EEVC/D-5 independent control.
	 SW2-1: 1	SV box EEVC/D-4 and EEVC/D-5 synchronous control.
	 SW2-2: 0	Default, EEVC/D-6 and EEVC/D-7 independent control.
	 SW2-2: 1	SV box EEVC/D-6 and EEVC/D-7 synchronous control.

6.2 Binding settings for indoor unit address and sv box port number

This series of products uses R32 refrigerant, which is flammable. When used with an SV box, it can cut off the refrigerant flow in case of refrigerant leakage in an indoor unit, thereby reducing the amount of refrigerant leakage. The system provides the following cutoff schemes:

1. **Non-one-to-one cutoff scheme:** when refrigerant leakage occurs in a single indoor unit, the system shuts down, and all valves of the SV box ports close. (This is the factory default scheme.)
2. **One-to-one cutoff scheme:** when refrigerant leakage occurs in a single indoor unit, the system does not shut down, and the cutoff valve of the SV box port corresponding to the leaking indoor unit closes. (This function requires manual configuration via menu N33.)

Automatic matching function of the indoor unit address and SV box port number

1. For a brand-new system, after all installations are completed, perform a test run. For detailed operation methods, refer to section 7.4 Commissioning implementation. After the test run is completed, the program will automatically execute the automatic binding algorithm for the indoor unit address and port number; just wait for it to complete.

2. If the outdoor unit main board is replaced or the indoor unit address is reset, enter outdoor unit menu N11 and set the value to 12 to execute this function

Binding the indoor unit address and SV box port number by using the MDT software

1. Preparations

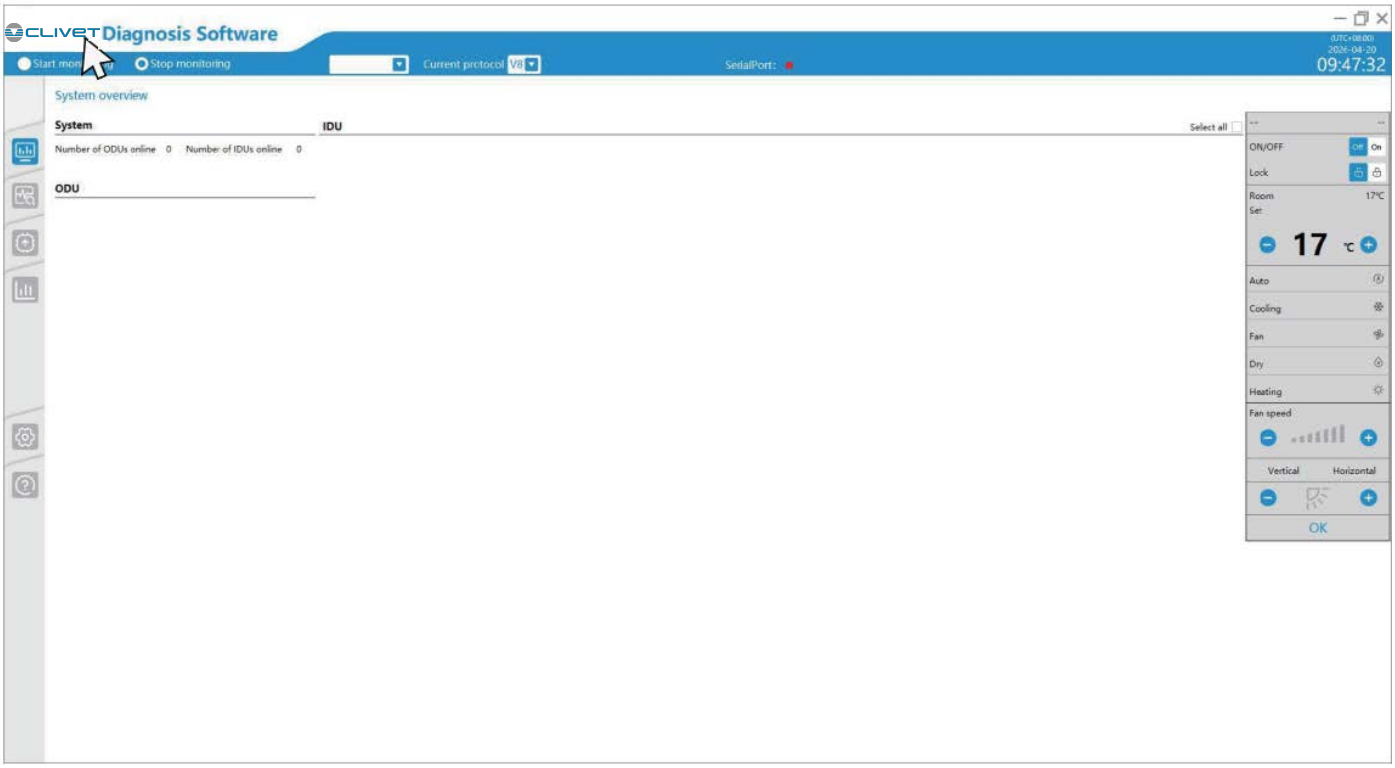
(1) Before using this method, please prepare a laptop with MDT software installed. The MDT software version must be 2.1.1.5 or later.

(2) When installing the SV box pipeline, clearly record the SV box and corresponding port number to which each indoor unit is installed. (It is recommended to record the SV box address code and its port number as tags at the end of the pipeline near the indoor unit side for future troubleshooting.)

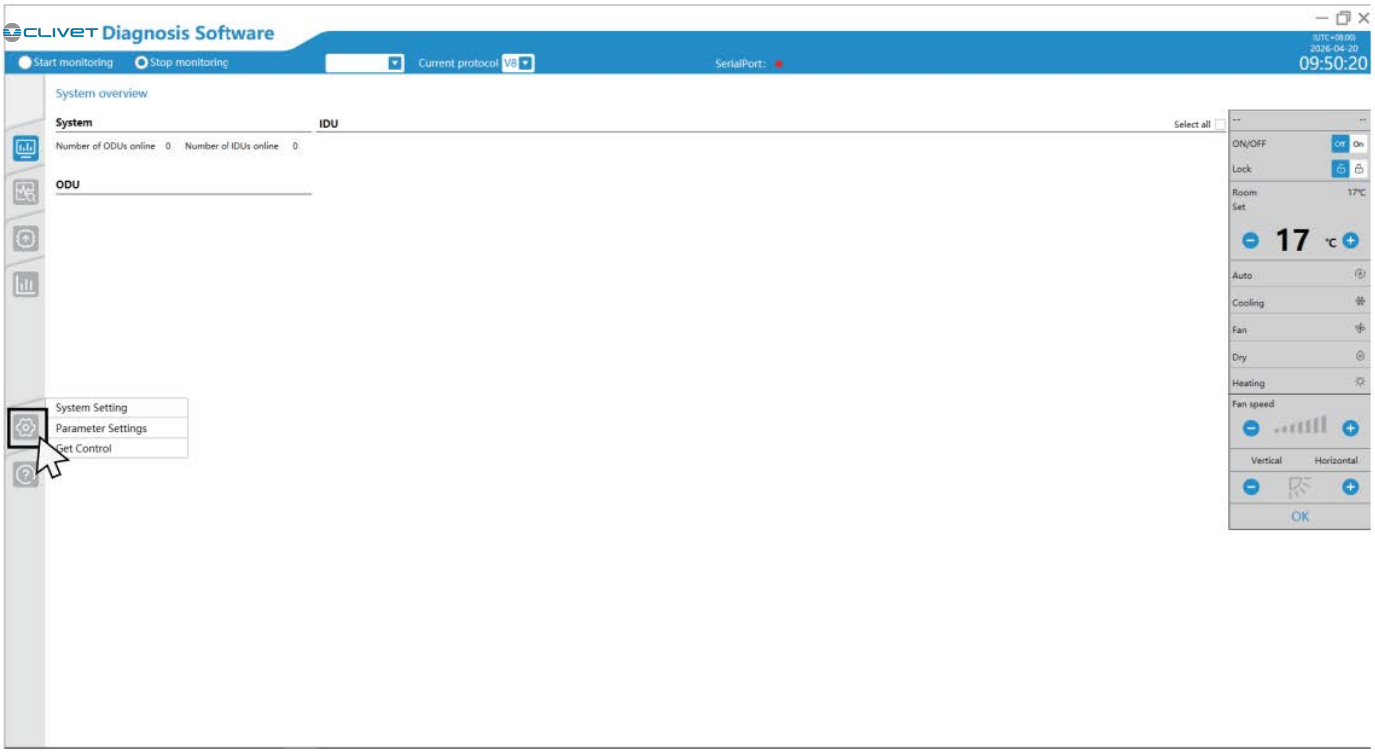
(3) Use this method for numbering after the test run and automatic port binding function are completed.

2. Steps for binding using the MDT software

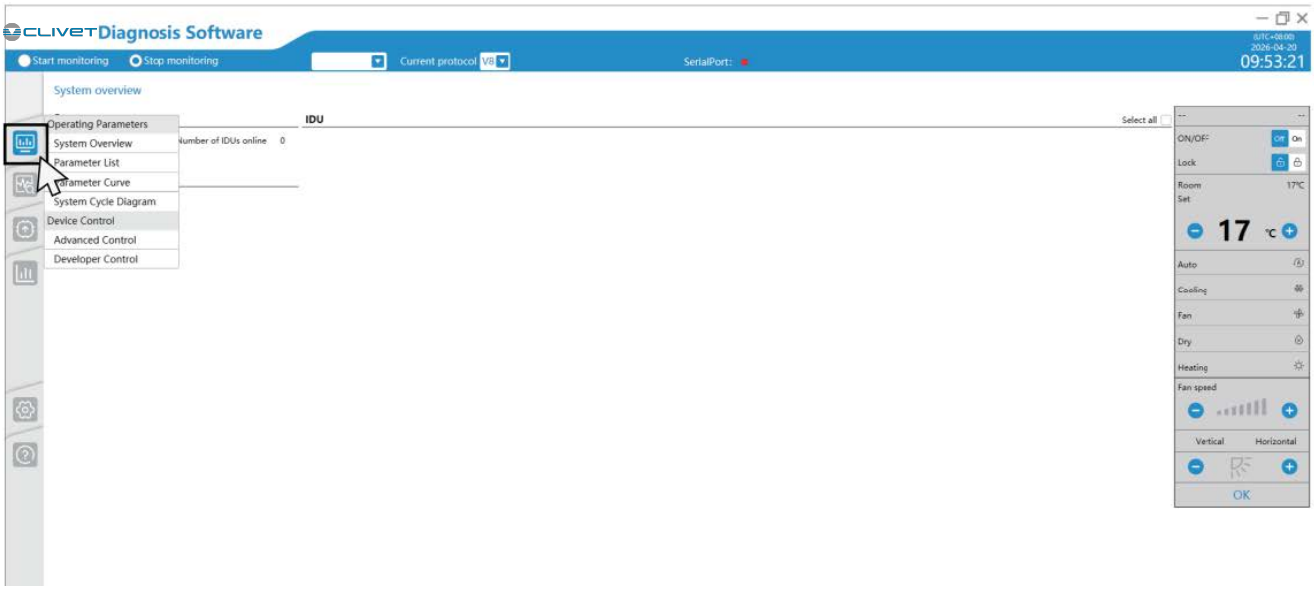
(1) Open the MDT software in version 2.1.1.5 or higher. After logging in, enter the main interface. Click the Clivet icon in the upper left corner five consecutive times to obtain special settings permissions.



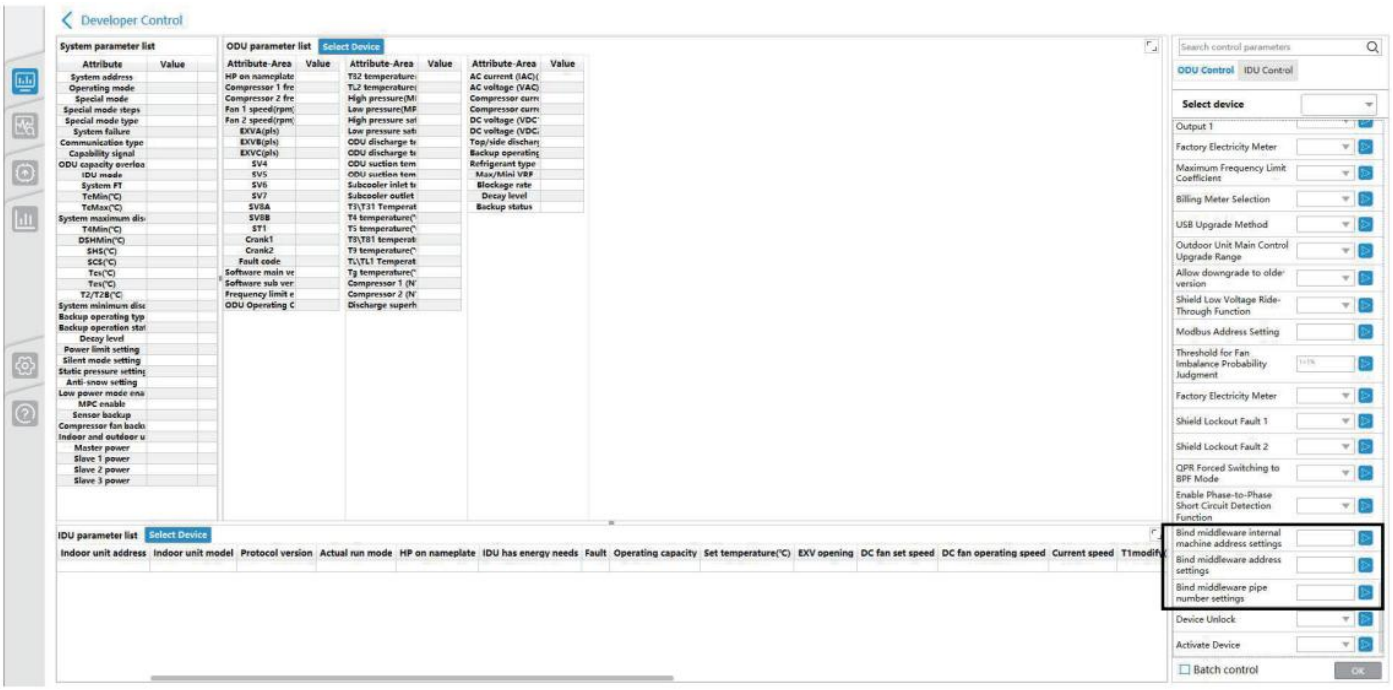
(2) Click the settings icon in the lower left corner of the main interface, select the Get Control option, and enter the dynamic password to obtain control permissions. Please contact your local Clivet technical support for the dynamic



(3) Click the parameter icon in the upper left corner of the main interface, select the Developer Control option, and enter the developer control interface.



(4) In the developer control interface, click ODU Control on the right side of the interface, and find the three parameter items: Bind middleware internal machine address settings, bind middleware address settings, and Bind middleware pipe number settings from the parameter list.

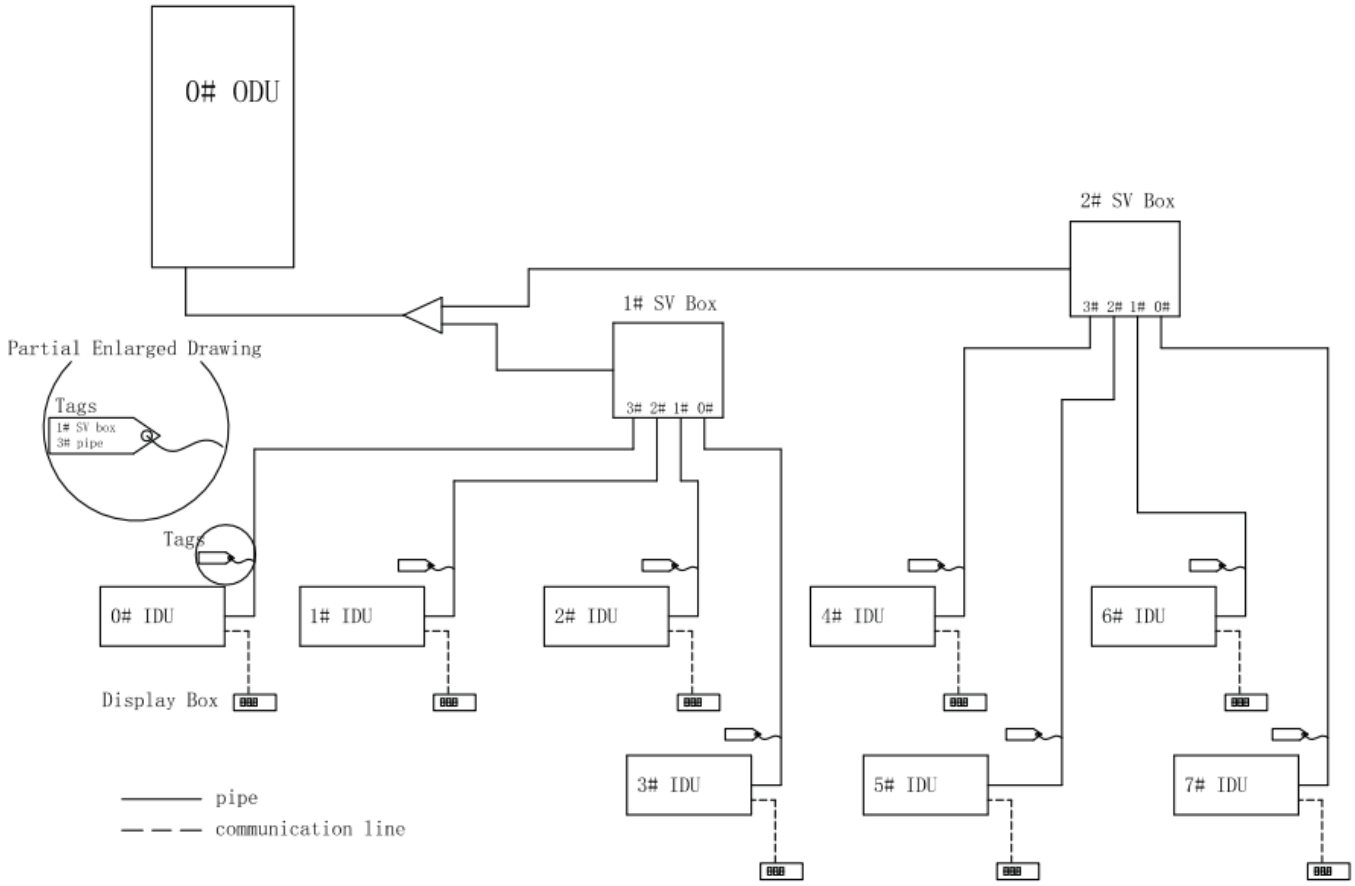


(5) Enter the indoor unit address number as recorded during installation, the SV box address number, and port number connected to this indoor unit into the three corresponding parameter boxes mentioned above. Select 0# for the outdoor unit device address, check Batch Control, and then click Send. The indoor unit address, SV BOX address, and SV box port number correspond to the three parameters of the Bind middleware internal unit address settings, Bind middleware address settings, and Bind middleware pipe number settings of the MDT software.

(6) Follow the above steps to bind all indoor units in the system to the corresponding SV box port number.

(7) Check whether the above binding relationship is correct by checking the SV box main board menu.

System installation in one-to-one cutoff scheme and examples of indoor unit addresses and SV box port number



1. According to the outdoor installation manual, the SV box manual, and the indoor unit manual, complete the system installation and set the SV box address on the SV box main board.
2. Before drop ceiling installation, record the SV box address and port number as tags at the end of the pipeline. It is recommended to do this for each SV box port number, as shown in the partial enlarged drawing of figure6.6 above.
3. Perform a system test run.
4. Check the address of each indoor unit through the display receiving board.
5. Record the correspondence between the SV box port number and the indoor unit address in the table. For the system shown in the above figure, information that should be recorded is listed in the table below.

SV Box Address No.	SV Box Port Number	Indoor Unit Address
1#	0#	3#
	1#	2#
	2#	1#
	3#	0#
2#	0#	7#
	1#	6#
	2#	5#
	3#	4#

6. Use the MDT software to bind all indoor unit addresses and SV box port number according to the method described above.

7 Commissioning

7.1 Overview

After installation, and once the field settings have been defined, the installation personnel must verify the correctness of the operations. Follow the steps below to perform the test run.

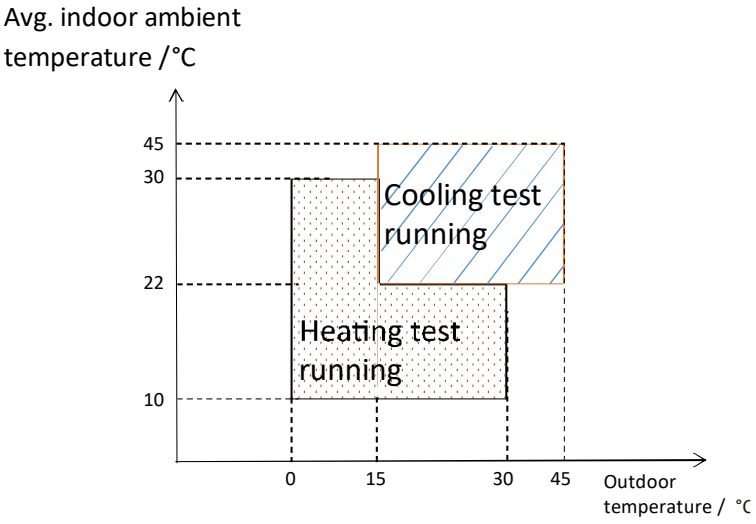
This chapter describes how the test run can be carried out once the installation is complete, and other relevant information.

The test run usually includes the following stages:

1. Review the section titled "Checklist Before Test Run".
2. Implement the test run.
3. If necessary, correct the errors before the test run completes with exceptions.
4. Run the system

7.2 Things to note during test run

- During the test run, the outdoor unit operates at the same time as the MS boxes and indoor units connected to it. It is very dangerous to debug the MS boxes or indoor units during the test run.
- Do not insert fingers, sticks, or other items into the air inlet or outlet. Do not remove the fan mesh cover. When the fan rotation is set at a high speed, it may cause bodily injury.
- Note that the required input power may be higher when this unit is run for the first time. This phenomenon is due to the compressor which needs to run for 50 hours before it can achieve a stable operating and power consumption state. Make sure the power supply is turned on 12 hours before operations so that the crankcase heater is properly energized. This is also to protect the compressor.
- The test run can be carried out when the ambient temperature is within the required range as in figure below.



During the test run, the outdoor units, SV boxes and indoor units will start at the same time. Make sure all the preparations for the outdoor units and indoor units have been completed.

7.3 Checklist before test run

Once this unit is installed, check the following items first. After all the following checks have been completed, you must shut down the unit. This is the only way to start the unit again.

Table 3-6.1: Check list before test run

Installation	Check if the unit is installed correctly to prevent strange noises and vibrations when the unit starts
Field wiring	Based on the wiring schematic and the relevant regulations, make sure the field wiring is based on the instructions described in section 5.10 on connecting wires
Earth line	Make sure the earth line is connected correctly, and the grounding terminal is tight
Insulation test of the main circuit	Use the megameter of 500V, apply a voltage of 500V DC between the power terminal and the

	earth terminal. Check that the insulation resistance is above 2 MΩ. Do not use the megameter on the transmission line.
Fuses, circuit breakers, or protection devices	Check that the fuses, circuit breakers, or locally installed protection devices comply with the size and type specified in section 4.4.1 on the requirements for safety devices. Make sure you us fuses and protection devices.
Internal wiring	Visually inspect if the connections between the electrical component box and the interior of the unit is loose, or if the electrical components are damaged.
Piping dimensions and insulation	Make sure the installation piping dimensions are correct, and that insulation work can be carried out normally.
Stop valve	Make sure the stop valve is open on both the liquid, low pressure and high pressure gas sides.
Equipment damage	Check for damaged components and extruded piping inside the unit.
Refrigerant leak	Check for refrigerant leaks inside the unit. If there is a refrigerant leak, try to repair the leak. If the repair is not successful, please call the local agent. Do not come into contact with the refrigerant leaking from the refrigerant piping connections. It may cause frostbite.
Oil leak	Check if there is oil leaking from the compressor. If there is an oil leak, try to repair the leak. If the repair is not successful, please call the local agent.
Air inlet/outlet	Check for paper, cardboard or any other material that may obstruct the air inlet and outlet of the equipment.
Add additional refrigerant	The amount of refrigerant to be added to this unit should be marked on the "Confirmation Table" which is located on the front cover of the electrical control box.
Installation date and field settings	Make sure the installation date is recorded on the label of the electric control box cover, and the field settings are recorded as well.

7.4 About test run

The following procedures describe the test run of the whole system. This operation checks and determines the following items:

- Check if there is a wiring error (with the communication check of the indoor unit).
- Check if the stop valve is open.
- Determine the length of the pipe.

Before you start the compressor, it may take 10 minutes to achieve a uniform cooling state.

During the test run, the sound of the cooling mode in operation or the solenoid valve may become louder, and there may be changes in the displayed indicators. This is not a malfunction.

7.5 Test run implementation

1. Make sure all the settings you need to configure are completed.
2. Turn on the power supply of the outdoor unit and the indoor units.

Make sure the power supply is turned on 12 hours before operations so that the crankcase heater is properly energized. This is also to protect the compressor.

Specific procedures for the test run are as follows:

Step 1: Power on

Cover the lower panel of the ODU, and power on all IDUs, SV boxes 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

The digital display of the master ODU displays "01 01", where 1st and 2nd digits always on, 3rd and 4th digits flashing. The 3rd and 4th digits represent the number of IDUs, the initial value is 1, 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.

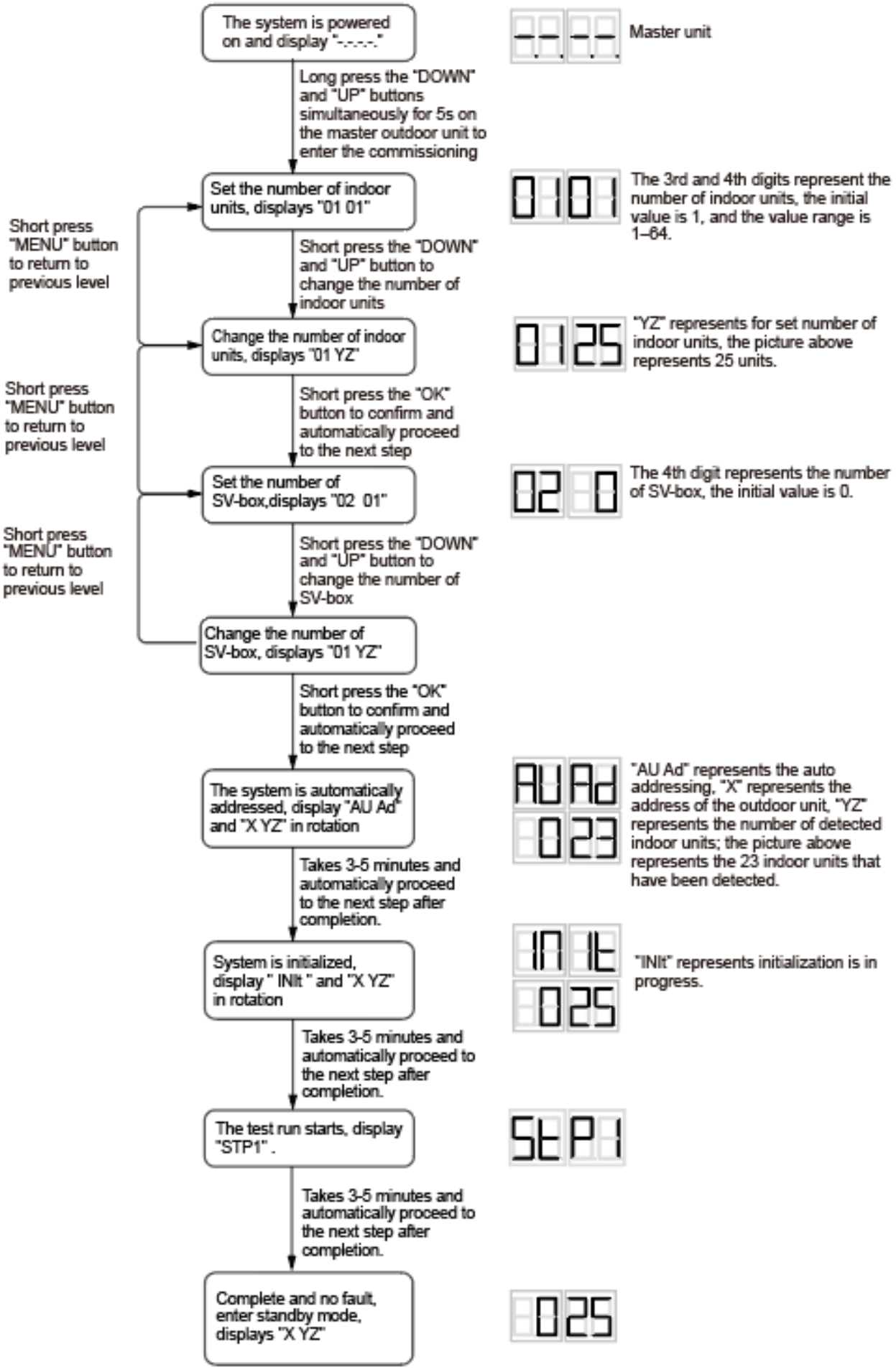
Step 4: Set the number of SV box in a system

The digital display of the main outdoor unit displays "0201", where 1st and 2nd digits always on, 3rd and 4th digits flashing. The 3rd and 4th digits represent the number of SVs, the initial value is 1, short press the “DOWN” or “UP” button to change the number. Once the number of indoor units has been set, short press the “OK” button to confirm and automatically proceed to the next step.

Step 5: Complete

Upon completion of the automatically addressed, the system will enter the standby mode, and the digital display will show "X YZ" where X represents the outdoor unit address and YZ represents the number of indoor unit(s) detected. Then, the unit can start properly.

Commissioning flow chart



7.6 Rectifications after test run is completed with exceptions

The test run is considered complete when there is no error code on the user interface or the outdoor unit display. When an error code is displayed, rectify the operation based on the description in the error code table. Try to conduct the test run again to check that the exception has been corrected.

Refer to the installation manual of the indoor unit for details on other error codes related to the indoor unit.

7.7 Operating this unit

Once the installation of this unit is completed, and the test run of the outdoor and indoor units is done, you can start to run the system.

The indoor unit user interface should be connected to facilitate the operations of the indoor unit. Please refer to the installation manual of the indoor unit for more details.

8 Appendix to Part 3 – System Commissioning Report

V9 Series System Commissioning Report – Sheet A

SYSTEM INFORMATION			
Project name and location		Customer company	
System name		Installation company	
Commissioning date		Agent company	
Outdoor ambient temp.		Commissioning engineer	

Power supply (V)	L1-L2	L2-L3	L3-L1

OUTDOOR UNIT INFORMATION				
	Master unit	Slave unit 1		
Model				
Serial no.				

OUTDOOR UNITS

	Master unit			Slave unit 1								
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?

COOLING MODE PARAMETER RECORD
(After running in cooling mode for one hour)

V9 Series System Commissioning Report – Sheet B

Project name and location		System name	

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?

V9 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**		
System check performed?				
Any abnormal noise?				
Any abnormal vibration?				
Fan rotation normal?				

	Commissioning engineer	**Dealer**	**Clivet representative**
Name:			
Signature:			
Date:			

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Valid from: August 2026
(revision 00) BT26G032GB-OO