R410A

Commercial Air Conditioners

Engineering Data

VC Max Series VRF



MVC-M224WV2WN1	MVC-M560WV2WN1
MVC-M280WV2WN1	MVC-M615WV2WN1
MVC-M335WV2WN1	MVC-M670WV2WN1
MVC-M400WV2WN1	MVC-M730WV2WN1
MVC-M450WV2WN1	MVC-M785WV2WN1
MVC-M500WV2WN1	MVC-M850WV2WN1

CONTENTS

Part 1 General Information 3

Part 2 Outdoor Unit Engineering Date 19

Part 3 System Design and Installation 113

Part 1

General Information

1 Indoor and Outdoor Unit Capacities 4

2 External Appearance 6

3 Outdoor Unit Combinations 8

4 Nomenclature 9

5 Combination Ratio 11

6 Selection Procedure 13

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
Q1	One-way Cassette
Q2	Two-way Cassette
Q4C	Compact Four-way Cassette
Q4	Four-way Cassette
T3	Arc Duct

Abbreviation code	Type
T2	Medium Static Pressure Duct
T1	High Static Pressure Duct
G	Wall-mounted
DL	Ceiling & Floor
F	Floor Standing (Exposed/Concealed)

Table 1-1.2: Standard indoor unit capacity range

Capacity		Capacity index	Q1	Q2	Q4C	Q4	T3	T2	T1	G	DL	F
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	22.4kW	25kW	28kW	33.5kW	45kW	56kW
Capacity index	90	140	160	224	250	280	335	450	560

1.2 Heat recovery ventilator

Table 1-1.4: Heat recovery ventilator capacity range

Airflow rate	200m^3/h	300m^3/h	400m^3/h	500m^3/h	800m^3/h	1000m^3/h	1500m^3/h	2000m^3/h

1.3 Outdoor Units

Table 1-1.5: Outdoor unit capacity range

Capacity	Model Name	Combination Type
8HP	MVC-M224WV2WN1	/
10HP	MVC-M280WV2WN1	/
12HP	MVC-M335WV2WN1	/
14HP	MVC-M400WV2WN1	/
16HP	MVC-M450WV2WN1	/
18HP	MVC-M500WV2WN1	/
20HP	MVC-M560WV2WN1	/
22HP	MVC-M615WV2WN1	/
24HP	MVC-M670WV2WN1	/
26HP	MVC-M730WV2WN1	/
28HP	MVC-M785WV2WN1	/
30HP	MVC-M850WV2WN1	/
32HP	MVC-M900WV2WN1	16HP+16HP
34HP	MVC-M950WV2WN1	10HP+24HP
36HP	MVC-M1005WV2WN1	12HP+24HP
38HP	MVC-M1070WV2WN1	14HP+24HP
40HP	MVC-M1120WV2WN1	16HP+24HP
42HP	MVC-M1185WV2WN1	14HP+28HP
44HP	MVC-M1250WV2WN1	14HP+30HP
46HP	MVC-M1300WV2WN1	16HP+30HP
48HP	MVC-M1340WV2WN1	24HP+24HP
50HP	MVC-M1410WV2WN1	20HP+30HP
52HP	MVC-M1465WV2WN1	22HP+30HP
54HP	MVC-M1520WV2WN1	24HP+30HP
56HP	MVC-M1580WV2WN1	26HP+30HP
58HP	MVC-M1635WV2WN1	28HP+30HP
60HP	MVC-M1700WV2WN1	30HP+30HP
62HP	MVC-M1750WV2WN1	16HP+16HP+30HP
64HP	MVC-M1810WV2WN1	14HP+20HP+30HP
66HP	MVC-M1860WV2WN1	16HP+20HP+30HP
68HP	MVC-M1920WV2WN1	14HP+24HP+30HP
70HP	MVC-M1970WV2WN1	16HP+24HP+30HP
72HP	MVC-M2035WV2WN1	14HP+28HP+30HP
74HP	MVC-M2085WV2WN1	16HP+28HP+30HP
76HP	MVC-M2150WV2WN1	16HP+30HP+30HP
78HP	MVC-M2190WV2WN1	24HP+24HP+30HP
80HP	MVC-M2260WV2WN1	20HP+30HP+30HP
82HP	MVC-M2315WV2WN1	22HP+30HP+30HP
84HP	MVC-M2370WV2WN1	24HP+30HP+30HP
86HP	MVC-M2430WV2WN1	26HP+30HP+30HP
88HP	MVC-M2485WV2WN1	28HP+30HP+30HP
90HP	MVC-M2550WV2WN1	30HP+30HP+30HP

Notes:

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

2 External Appearance

2.1 Indoor Units

2.1.1 Standard indoor units

Table 1-2.1: Standard indoor unit appearance

One-way Cassette Q1 	Two-way Cassette Q2 
Compact Four-way Cassette Q4C 	Four-way Cassette Q4 
Arc Duct T3 	Medium Static Pressure Duct T2 
High Static Pressure Duct T1 	Floor Standing F 
Wall-mounted G 	Ceiling & Floor DL 

2.1.2 Fresh air processing unit

Table 1-2.2: Fresh air processing unit appearance

Fresh Air Processing Unit FA 	Small Airflow Rate Fresh Air Processing Unit FA 

2.2 Heat Recovery Ventilator

Table 1-2.3: Heat recovery ventilator appearance

Heat Recovery Ventilator 

2.3 Outdoor Units

2.3.1 Single units

Table 1-2.4: Single outdoor unit appearance

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

2.3.2 Combinations of units

Table 1-2.5: Combination outdoor unit appearance

32HP	34/36/38/40/42/44/46HP	48/50/52/54/56/58/60HP
		
62HP	**64/66/68/70/72/74/76HP**	**78/80/82/84/86/88/90HP**
		

3 Outdoor Unit Combinations

Table 1-3.1: Outdoor unit combinations

System capacity		No. of units	Modules[1]												Outdoor branch joint kit[2]
kW	HP		8	10	12	14	16	18	20	22	24	26	28	30	
22.4	8	1	●												—
28.0	10	1		●											
33.5	12	1			●										
40.0	14	1				●									
45.0	16	1					●								
50.0	18	1						●							
56.0	20	1							●						
61.5	22	1								●					
67.0	24	1									●				
73.0	26	1										●			
78.5	28	1											●		
85.0	30	1												●	
90.0	32	1					●●								FQZHW-02N1E
96.0	34	2		●							●				
101.0	36	2			●						●				
106.0	38	2				●					●				
112.0	40	2					●				●				
117.0	42	2				●							●		
123.0	44	2				●								●	
130.0	46	2					●							●	
135.0	48	2									●●				
141.0	50	2							●					●	
146.5	52	2								●				●	
152.0	54	2									●			●	
158.0	56	2										●		●	
163.5	58	2											●	●	
170.0	60	2												●●	
175.0	62	3					●●							●	FQZHW-03N1E
181.0	64	3				●			●					●	
186.0	66	3					●		●					●	
191.0	68	3				●					●			●	
197.0	70	3					●				●			●	
202.0	72	3				●							●	●	
208.0	74	3					●						●	●	
215.0	76	3					●							●●	
220.0	78	3									●●			●	
226.0	80	3							●					●●	
231.5	82	3								●				●●	
237.0	84	3									●			●●	
243.0	86	3										●		●●	
248.5	88	3											●	●●	
255.0	90	3												●●●	

Notes:

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

4 Nomenclature

4.1 Indoor Units

4.1.1 Standard indoor units

VC Max indoor units

M	IH	18	Q1	D	H	N18
①	②	③	④	⑤	⑥	⑦

Legend		
No.	**Code**	**Remarks**
1	M	Midea
2	IH	VC MAX VRF indoor unit
3	22	Capacity index (the capacity in kW multiplied by 10)
4	Q1	Indoor unit type Q1: One-way Cassette Q2: Two-way Cassette Q4C: Compact Four-way Cassette Q4: Four-way Cassette T3: Arc Duct T2: Medium Static Pressure Duct T1: High Static Pressure Duct G: Wall-mounted DL: Ceiling & Floor F: Floor Standing (Exposed/Concealed)
5	D	Series category (D: DC series)
6	H	Power supply Omit: 1 phase, 220-240V, 50Hz H: 1 phase, 220-240V, 50/60Hz
7	N18	Refrigerant type (N18: R410A&R32)

4.1.2 Fresh air processing unit

M IH 224 FA H N18
① ② ③ ④ ⑤ ⑥

Legend		
No.	**Code**	**Remarks**
1	M	Midea
2	IH	V8 VRF indoor unit
3	22	Capacity index (the capacity in kW multiplied by 10)
4	FA	Indoor unit type FA: Fresh Air Processing Unit FAS: Small Air Flow Fresh Air Processing Unit
5	H	Power supply Omit: 1 phase, 220-240V, 50Hz H: 1 phase, 220-240V, 50/60Hz
6	N18	Refrigerant type (N18: R410A&R32)

4.1.3 Heat recovery ventilator

AC Series

HRV - 200
① ②

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

DC Series

HRV - D 200 (C)
① ② ③ ④

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

4.2 Outdoor Units

M	VC	-	M	280	W	V2	G	N1
①	②		③	④	⑤	⑥	⑦	⑧

Legend		
No.	**Code**	**Remarks**
1	M	Midea
2	VC	Cooling Only VRF
3	M	VC MAX series
4	280	Capacity index (the capacity in kW multiplied by 10)
5	W	Unit category (W: VRF outdoor unit)
6	V2	Type (V2: All DC inverter)
7	G	Power supply G: 3 phase, 380-415V, 50/60Hz R: 3 phase, 380-415V, 50Hz W: 3~, 220V, 60 Hz
8	N1	Refrigerant type (N1: R410A)

5 Combination Ratio

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

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

Type	Minimum combination ratio	Maximum combination ratio			
		Standard indoor units only	Fresh air processing units only	Fresh air processing units and standard indoor units together	
				V8 small airflow rate fresh air processing units	V8 fresh air processing units
VC MAX Series outdoor units	50%	200%[1,2,3] (Single ODU) 130% (Combined ODU)	100%	100%[4]	×[4]

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. Combination ratio greater than 130% is available as a customization option.
4. When V8 small airflow rate 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%. V8 fresh air processing units cannot be installed in the same refrigerant system as standard indoor units.

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			
22.4	8	224	112 to 291.2	112 to 224	13
28	10	280	140 to 364	140 to 280	16
33.5	12	335	167.5 to 435.5	167.5 to 335	19
40	14	400	200 to 520	200 to 400	23
45	16	450	225 to 585	225 to 450	26
50	18	500	250 to 650	250 to 500	29
56	20	560	280 to 728	280 to 560	33
61.5	22	615	307.5 to 799.5	307.5 to 615	36
67	24	670	335 to 871	335 to 670	39
73	26	730	365 to 949	365 to 730	43
78.5	28	785	392.5 to 1020.5	392.5 to 785	46
85	30	850	425 to 1105	425 to 850	50
90.0	32	900	450 to 1170	450 to 900	53
96.0	34	950	480 to 1248	480 to 960	56
101.0	36	1010	505 to 1313	505 to 1010	59
106.0	38	1065	530 to 1378	530 to 1060	62
112.0	40	1120	560 to 1456	560 to 1120	64
117.0	42	1170	585 to 1521	585 to 1170	
123.0	44	1230	615 to 1599	615 to 1230	
130.0	46	1285	650 to 1690	650 to 1300	
135.0	48	1340	675 to 1755	675 to 1350	
141.0	50	1410	705 to 1833	705 to 1410	
146.5	52	1460	732.5 to 1904.5	732.5 to 1465	
152.0	54	1515	760 to 1976	760 to 1520	
158.0	56	1570	790 to 2054	790 to 1580	
163.5	58	1625	817.5 to 2125.5	817.5 to 1635	
170.0	60	1680	850 to 2210	850 to 1700	
175.0	62	1735	875 to 2275	875 to 1750	
181.0	64	1790	905 to 2353	905 to 1810	
186.0	66	1852	930 to 2418	930 to 1860	
191.0	68	1910	955 to 2483	955 to 1910	
197.0	70	1962	985 to 2561	985 to 1970	
202.0	72	2020	1010 to 2626	1010 to 2020	
208.0	74	2070	1040 to 2704	1040 to 2080	
215.0	76	2130	1075 to 2795	1075 to 2150	
220.0	78	2180	1100 to 2860	1100 to 2200	
226.0	80	2240	1130 to 2938	1130 to 2260	
231.5	82	2295	1157.5 to 3009.5	1157.5 to 2315	
237.0	84	2350	1185 to 3081	1185 to 2370	
243.0	86	2405	1215 to 3159	1215 to 2430	
248.5	88	2460	1242.5 to 3230.5	1242.5 to 2485	
255.0	90	2520	1275 to 3315	1275 to 2550	

6 Selection Procedure

6.1 Procedure

Step 1: Establish design conditions

Design temperature and humidity (indoor and outdoor)
Required heat load of each room
System peak load
Piping length, level differences
Indoor unit specifications (type and quantity)

Step 2: Select indoor units

Decide indoor unit safety factor

Select indoor unit models ensuring that:
Indoor unit capacity corrected for indoor air temperature WB[1] ≥ Required heat load × Indoor unit safety factor

Step 3: Select outdoor units

Determine required total heat load on outdoor units

Use the sum of the peak load of each room

Use the system peak load

Provisionally select outdoor unit capacity based on combination ratio limitations

Confirm that the number of indoor units connected to the outdoor units is within limitation

Correct cooling capacities of the outdoor units for the following items:
Outdoor air temperature / Indoor air temperature WB / Combination ratio / Piping length, level difference / Piping heat loss

Is corrected outdoor unit capacity ≥ Required total heat load on outdoor units?

No

Yes

VRF system selection is complete

Notes:

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

6.2 Example

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

Figure 1-6.1: Room plan

<table>
<tr><td rowspan="2">Room A</td><td>Room H</td><td>Room G</td><td rowspan="2">Room F</td></tr>
<tr><td colspan="2" rowspan="2"></td></tr>
<tr><td rowspan="2">Room B</td><td rowspan="2">Room E</td></tr>
<tr><td>Room C</td><td>Room D</td></tr>
</table>

Step 1: Establish design conditions

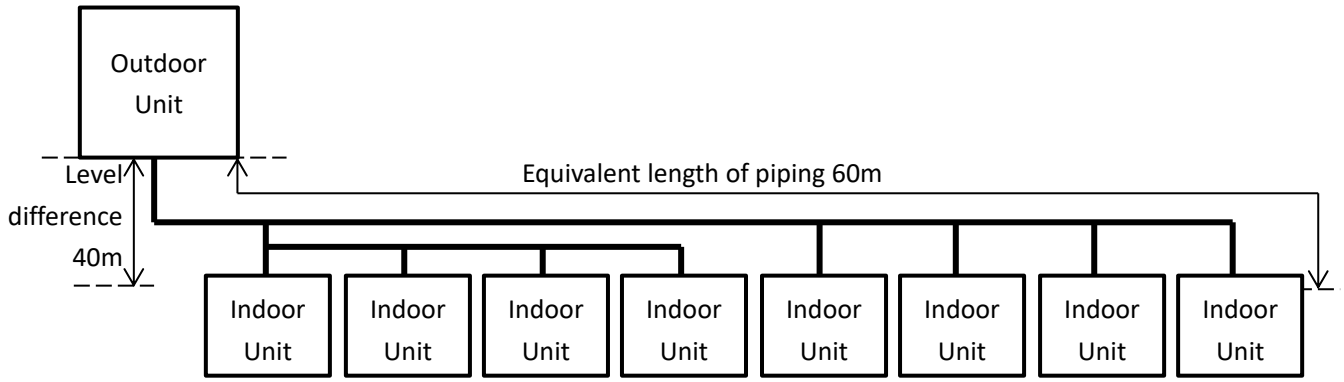
- Indoor air temperature 25.8°C DB, 18°C WB; outdoor air temperature 33°C DB.
- Determine peak load of each room and system peak load. As shown in Table 1-6.1, the system peak load is 50.7kW.

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

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

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

Figure 1-6.2: System diagram



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

Step 2: Select indoor units

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

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

Model	Capacity index	Indoor air temperature													
		14°C WB		16°C WB		18°C WB		19°C WB		20°C WB		22°C WB		24°C WB	
		20°C DB		23°C DB		26°C DB		27°C DB		28°C DB		30°C DB		32°C DB	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
T2	15	1.4	1.3	1.5	1.4	1.5	1.3	1.5	1.3	1.6	1.3	1.6	1.2	1.6	1.1
	22	2.0	1.9	2.1	1.9	2.2	1.9	2.2	1.8	2.3	1.8	2.3	1.7	2.4	1.7
	28	2.5	2.3	2.7	2.4	2.8	2.4	2.8	2.3	2.9	2.3	2.9	2.2	3.0	2.1
	36	3.2	3.0	3.4	3.1	3.6	3.1	3.6	3.0	3.7	3.0	3.8	2.8	3.9	2.7
	45	4.0	3.7	4.3	3.8	4.5	3.9	4.5	3.7	4.6	3.6	4.7	3.5	4.8	3.3
	56	5.0	4.6	5.3	4.7	5.6	4.8	5.6	4.6	5.7	4.5	5.8	4.3	6.0	4.1
	71	6.3	5.8	6.7	5.9	7.0	6.0	7.1	5.8	7.2	5.7	7.4	5.4	7.6	5.2
	80	7.1	6.3	7.6	6.5	7.9	6.6	8.0	6.5	8.1	6.3	8.3	6.0	8.5	5.8
	90	8.0	7.1	8.5	7.3	8.9	7.4	9.0	7.3	9.1	7.1	9.4	6.8	9.6	6.5
	112	9.9	8.8	10.6	9.1	11.1	9.3	11.2	9.1	11.3	8.8	11.6	8.4	11.9	8.1
	140	12.4	11.1	13.2	11.4	13.8	11.5	14.0	11.3	14.2	11.0	14.5	10.5	14.9	10.1
	160	14.2	12.7	15.1	13.0	15.8	13.2	16.0	12.9	16.2	12.6	16.6	12.0	17.0	11.5

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

Table 1-6.3: Selected indoor units

	Room A	Room B	Room C	Room D
Peak heat load (kW)	10.6	10.7	5.1	5.1
Selected indoor unit	MIH112T2HN18	MIH112T2HN18	MIH56T2HN18	MIH112T2HN18
Corrected TC (kW)	11.1	11.1	5.6	5.6
	Room E	**Room F**	**Room G**	**Room H**
Peak heat load (kW)	9.1	9.0	4.2	4.2
Selected indoor unit	MIH112T2HN18	MIH112T2HN18	MIH45T2HN18	MIH45T2HN18
Corrected TC (kW)	11.1	11.1	4.5	4.5

Step 3: Select outdoor units

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

Table 1-6.4: Sum of indoor unit capacity indexes

Model	Capacity Index	No. of units
MIH112T2HN18	112	5
MIH56T2HN18	56	2
MIH45T2HN18	45	2

Sum of CIs	706

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

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

- The number of connected indoor units is 8 and the maximum number of connected indoor units on the 20HP outdoor unit is 33, so the number of connected indoor units is within the limitation.
- Calculate the corrected capacity of the outdoor units:
  a) The sum of the indoor unit CIs is 706 and the CI of the 20HP outdoor unit MVC-M560WV2WN1 is 560, so the combination ratio is 706 / 560 = 126%.
  b) Using the outdoor units' cooling capacity table, interpolate to obtain the capacity ("B") corrected for outdoor air temperature, indoor air temperature, and combination ratio. Refer to Tables 1-6.6 and 1-6.7.

Table 1-6.6: Extract from Table 2-8.7 MVC-M560WV2WN1 cooling capacity

CR	Outdoor air temp. (°C DB)	Indoor air temp. (°C DB / °C WB)	
		25.8 / 18.0	
		TC	PI
		kW	kW
130%	31	61.73	14.52
	33	60.91	15.07
	35	59.88	15.65
120%	31	60.76	14.45
	33	59.94	14.97
	35	58.91	15.56

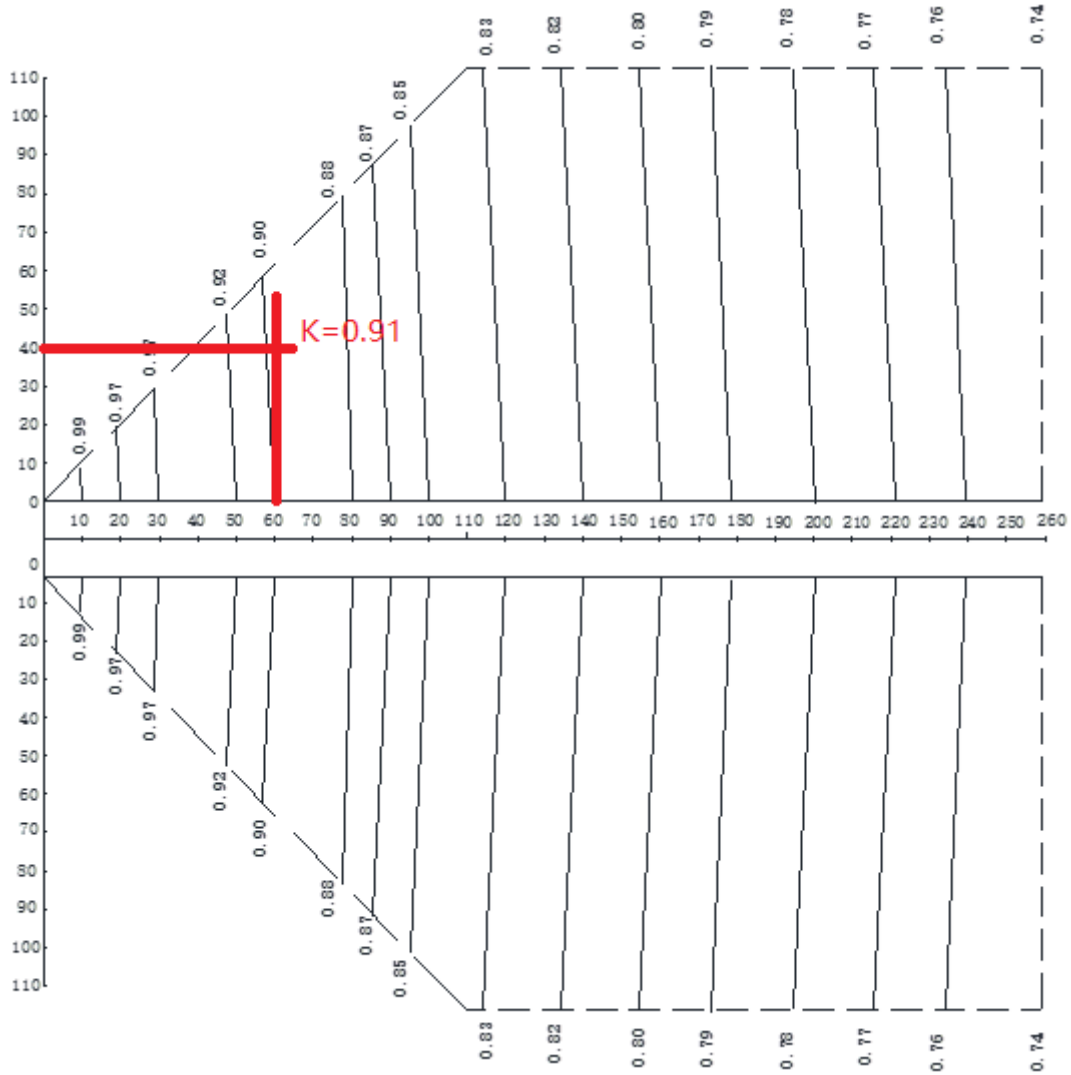
Table 1-6.7: Cooling capacity calculated by interpolation

CR	Outdoor air temp. (°C DB)	Indoor air temp. (°C DB / °C WB)	
		25.8 / 18.0	
		TC	PI
		kW	kW
130%			
	33	61.85	17.64
	B = 61.44[1]		
120%			
	33	60.82	17.51

Notes:
1. 60.82 + (61.85 – 60.82) × (126 – 120) / (130 – 120) =61.44

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

Figure 1-6.3: VC MAX rate of change in cooling capacity



Notes:

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

d) Calculate the corrected capacity of MVC-M560WV2WN1 (“C”) by using K1:

$$C = B \times K1 = 61.44 \times 0.91 = 55.91kW$$

- The corrected capacity 55.91kW is larger than required total heat load 50.7kW, so selection is complete. (In the event that the corrected capacity is lower than the required total heat load, Step 3 should be repeated from the point where the outdoor unit capacity is provisionally selected.)

Part 2

Outdoor Unit

Engineering Data

1 Specifications 20

2 Dimensions 31

3 Installation Space Requirements 36

4 Piping Diagrams 37

5 Wiring Diagrams 42

6 Electrical Characteristics 44

7 Functional Components and Safety Devices 46

8 Capacity Tables 47

9 Operating Limits 107

10 Sound Levels 108

11 Accessories 111

1 Specifications

8-14HP

Table 2-1.1: 8-14HP specifications

HP			8	10	12	14
Model name			MVC-M224WV2WN1	MVC-M280WV2WN1	MVC-M335WV2WN1	MVC-M400WV2WN1
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	22.4	28.0	33.5	40.0
		kBtu/h	76.4	95.5	114.2	136.4
	Power input	kW	4.78	6.68	8.70	9.80
	EER		4.69	4.19	3.85	4.08
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		13	16	19	23
Compressor	Type		DC Inverter			
	Quantity		1			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1			
	Motor output	kW	0.56			0.92
	Airflow rate	m^3/h	12600	12600	13500	15600
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	7.4	7.4	7.4	8.4
Pipe connections[2]	Liquid pipe	mm	Φ12.7			Φ15.9
	Gas pipe	mm	Φ25.4			Φ28.6
Sound pressure level[3]		dB(A)	57	58	60	
Net dimensions (W×H×D)		mm	940×1760×825			
Packed dimensions (W×H×D)		mm	1010×1945×890			
Net weight		kg	190			200
Gross weight		kg	205			215
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. Diameters given are those of the unit's stop valve.
3. 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.

16-22HP

Table 2-1.2: 16-22HP specifications

HP			16	18	20	22
Model name			MVC-M450WV2WN1	MVC-M500WV2WN1	MVC-M560WV2WN1	MVC-M615WV2WN1
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	45.0	50.0	56.0	61.5
		kBtu/h	153.5	170.5	191.0	209.7
	Power input	kW	11.72	13.19	15.14	17.08
	EER		3.84	3.79	3.70	3.60
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		26	29	33	36
Compressor	Type		DC Inverter			
	Quantity		1	2		
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1	2		
	Motor output	kW	0.92	0.56+0.56		
	Airflow rate	m^3/h	15600	20500	20500	20500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4	12.8	12.8	12.8
Pipe connections[3]	Liquid pipe	mm	Φ15.9	Φ22.2		
	Gas pipe	mm	Φ28.6	Φ31.8		
Sound pressure level[3]		dB(A)	61	62	63	
Net dimensions (W×H×D)		mm	940×1760×825	1340×1760×825		
Packed dimensions (W×H×D)		mm	1010×1945×890	1410×1945×890		
Net weight		kg	200	315		
Gross weight		kg	215	335		
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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.
3. Diameters given are those of the unit's stop valve.
3. 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.

24-30HP

Table 2-1.3: 24-30HP specifications

HP			24	26	28	30
Model name			MVC-M670WV2WN1	MVC-M730WV2WN1	MVC-M785WV2WN1	MVC-M850WV2WN1
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	67.0	73.0	78.5	85.0
		kBtu/h	228.5	248.9	267.7	289.9
	Power input	kW	19.14	18.91	21.81	25.84
	EER		3.50	3.86	3.60	3.29
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		39	43	46	50
Compressor	Type		DC Inverter			
	Quantity		2			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		2			
	Motor output	kW	0.56+0.56			
	Airflow rate	m^3/h	21000	21500	21500	21500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	12.8	15.4	15.4	15.4
Pipe connections[2]	Liquid pipe	mm	Φ22.2			
	Gas pipe	mm	Φ31.8			
Sound pressure level[3]		dB(A)	64			
Net dimensions (W×H×D)		mm	1340×1760×825			
Packed dimensions (W×H×D)		mm	1410×1945×890			
Net weight		kg	315	330		
Gross weight		kg	335	350		
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. Diameters given are those of the unit's stop valve.
3. 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.

32-38HP

Table 2-1.4: 32-38HP specifications

HP			32	34	36	38
Model name (Combination unit)			MVC-M900WV2WN1	MVC-M950WV2WN1	MVC-M1005WV2WN1	MVC-M1070WV2WN1
Combination type			16HP+16HP	10HP+24HP	12HP+24HP	14HP+24HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	90.0	95.0	100.5	107.0
		kBtu/h	306.9	324.0	342.7	364.9
	Power input	kW	23.4	25.9	28.0	29.1
	EER		3.85	3.67	3.59	3.68
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		53	56	59	62
Compressor	Type		DC Inverter			
	Quantity		2	3		
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		2	3		
	Motor output	kW	0.92×2	0.56+(0.56+0.56)		0.92+(0.56+0.56)
	Airflow rate	m^3/h	31200	33600	34500	36600
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4×2	7.4+12.8	7.4+12.8	8.4+12.8
Pipe connections[2]	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ31.8	Φ31.8	Φ38.1	Φ38.1
Sound pressure level[3]		dB(A)	64	65		
Net dimensions (W×H×D)		mm	(940×1760×825)×2	(940×1760×825)+(1340×1760×825)		
Packed dimensions (W×H×D)		mm	(1010×1945×890)×2	(1010×1945×890)+(1410×1945×890)		
Net weight		kg	200×2	190+315		200+315
Gross weight		kg	215×2	205+335		215+335
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

40-46HP

Table 2-1.5: 40-46HP specifications

HP			40	42	44	46
Model name (Combination unit)			MVC-M1120WV2WN1	MVC-M1185WV2WN1	MVC-M1250WV2WN1	MVC-M1300WV2WN1
Combination type			16HP+24HP	14HP+28HP	14HP+30HP	16HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	112.0	118.5	125.0	130.0
		kBtu/h	381.9	404.1	426.3	443.3
	Power input	kW	31.0	32.1	36.2	38.1
	EER		3.61	3.69	3.45	3.41
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		3			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		3			
	Motor output	kW	0.92+(0.56+0.56)			
	Airflow rate	m^3/h	36600	37100	37100	37100
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4+12.8	8.4+15.4	8.4+15.4	8.4+15.4
Pipe connections[2]	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ38.1	Φ38.1	Φ38.1	Φ38.1
Sound pressure level[3]		dB(A)	65			
Net dimensions (W×H×D)		mm	(940×1760×825)+(1340×1760×825)			
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1410×1945×890)			
Net weight		kg	200+315	200+330		
Gross weight		kg	215+335	215+350		
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

48-54HP

Table 2-1.6: 48-54HP specifications

HP			48	50	52	54
Model name (Combination unit)			MVC-M1340WV2WN1	MVC-M1410WV2WN1	MVC-M1465WV2WN1	MVC-M1520WV2WN1
Combination type			24HP+24HP	20HP+30HP	22HP+30HP	24HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	134.0	141.0	146.5	152.0
		kBtu/h	456.9	480.8	499.6	518.3
	Power input	kW	38.5	41.8	43.7	45.7
	EER		3.48	3.37	3.35	3.33
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		4			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4			
	Motor output	kW	(0.56+0.56)×2			
	Airflow rate	m^3/h	42000	42000	42000	42500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	12.8×2	12.8+15.4	12.8+15.4	12.8+15.4
Pipe connections[2]	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ38.1	Φ38.1	Φ38.1	Φ38.1
Sound pressure level[3]		dB(A)	66			
Net dimensions (W×H×D)		mm	(1340×1760×825)×2			
Packed dimensions (W×H×D)		mm	(1410×1945×890)×2			
Net weight		kg	315×2	315+330		
Gross weight		kg	335×2	335+350		
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

56-62HP

Table 2-1.7: 56-62HP specifications

HP			56	58	60	62
Model name (Combination unit)			MVC-M1580WV2WN1	MVC-M1635WV2WN1	MVC-M1700WV2WN1	MVC-M1750WV2WN1
Combination type			26HP+30HP	28HP+30HP	30HP+30HP	16HP+16HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	158.0	163.5	170.0	175.0
		kBtu/h	538.8	557.5	579.7	596.8
	Power input	kW	45.8	48.7	52.8	49.8
	EER		3.45	3.36	3.22	3.51
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		4			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4			
	Motor output	kW	(0.56+0.56)×2			0.92×2+(0.56+0.56)
	Airflow rate	m^3/h	43000	43000	43000	52700
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	15.4×2	15.4×2	15.4×2	8.4×2+15.4
Pipe connections[2]	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ41.3	Φ41.3	Φ41.3	Φ41.3
Sound pressure level[3]		dB(A)	66			
Net dimensions (W×H×D)		mm	(1340×1760×825)×2			(940×1760×825)×2+(1340×1760×825)
Packed dimensions (W×H×D)		mm	(1410×1945×890)×2			(1010×1945×890)×2+(1410×1945×890)
Net weight		kg	330×2			200×2+330
Gross weight		kg	350×2			215×2+350
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

64-70HP

Table 2-1.8: 64-70HP specifications

HP			64	66	68	70
Model name (Combination unit)			MVC-M1810WV2WN1	MVC-M1860WV2WN1	MVC-M1920WV2WN1	MVC-M1970WV2WN1
Combination type			14HP+20HP+30HP	16HP+20HP+30HP	14HP+24HP+30HP	16HP+24HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	181.0	186.0	192.0	197.0
		kBtu/h	617.2	634.3	654.7	671.8
	Power input	kW	51.6	53.5	55.5	57.4
	EER		3.51	3.48	3.46	3.43
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		5			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		5			
	Motor output	kW	0.92+(0.56+0.56)×2			
	Airflow rate	m^3/h	57600	57600	58100	58100
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4+12.8+15.4	8.4+12.8+15.4	8.4+12.8+15.4	8.4+12.8+15.4
Pipe connections2	Liquid pipe	mm	Φ19.1	Φ19.1	Φ22.2	Φ22.2
	Gas pipe	mm	Φ41.3	Φ41.3	Φ44.5	Φ44.5
Sound pressure level[4]		dB(A)	66			
Net dimensions (W×H×D)		mm	(940×1760×825)+(1340×1760×825)×2			
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1410×1945×890)×2			
Net weight		kg	200+315+330			
Gross weight		kg	215+335+350			
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

72-78HP

Table 2-1.9: 72-78HP specifications

HP			72	74	76	78
Model name (Combination unit)			MVC-M2035WV2WN1	MVC-M2085WV2WN1	MVC-M2150WV2WN1	MVC-M2190WV2WN1
Combination type			14HP+28HP+30HP	16HP+28HP+30HP	16HP+30HP+30HP	24HP+24HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	203.5	208.5	215.0	219.0
		kBtu/h	693.9	711.0	733.2	746.8
	Power input	kW	58.5	60.4	64.5	64.9
	EER		3.48	3.45	3.33	3.37
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		5			6
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		5			6
	Motor output	kW	0.92+(0.56+0.56)×2			(0.56+0.56)×3
	Airflow rate	m^3/h	58600	58600	58600	63500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	8.4+15.4×2	8.4+15.4×2	8.4+15.4×2	12.8×2+15.4
Pipe connections2	Liquid pipe	mm	Φ22.2	Φ22.2	Φ22.2	Φ22.2
	Gas pipe	mm	Φ44.5	Φ44.5	Φ44.5	Φ44.5
Sound pressure level[4]		dB(A)	66		67	
Net dimensions (W×H×D)		mm	(940×1760×825)+(1340×1760×825)×2			(1340×1760×825)×3
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1410×1945×890)×2			(1410×1945×890)×3
Net weight		kg	200+330×2			315×2+330
Gross weight		kg	215+350×2			335×2+350
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

80-86HP

Table 2-1.10: 80-86HP specifications

HP			80	82	84	86
Model name (Combination unit)			MVC-M2260WV2WN1	MVC-M2315WV2WN1	MVC-M2370WV2WN1	MVC-M2430WV2WN1
Combination type			20HP+30HP+30HP	22HP+30HP+30HP	24HP+30HP+30HP	26HP+30HP+30HP
Power supply		V/~/Hz	220/3/60			
Cooling[1]	Capacity	kW	226.0	231.5	237.0	243.0
		kBtu/h	770.7	789.4	808.2	828.6
	Power input	kW	68.2	70.1	72.0	72.2
	EER		3.31	3.30	3.29	3.37
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC Inverter			
	Quantity		6			
	Oil type		FV68H			
	Start-up method		Soft start			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		6			
	Motor output	kW	(0.56+0.56)×3			
	Airflow rate	m^3/h	63500	63500	64000	64500
	Drive type		Direct			
Refrigerant	Type		R410A			
	Factory charge	kg	12.8+15.4×2	12.8+15.4×2	12.8+15.4×2	15.4×3
Pipe connections[2]	Liquid pipe	mm	Φ22.2	Φ22.2	Φ25.4	Φ25.4
	Gas pipe	mm	Φ44.5	Φ44.5	Φ50.8	Φ50.8
Sound pressure level[3]		dB(A)	67		68	
Net dimensions (W×H×D)		mm	(1340×1760×825)×3			
Packed dimensions (W×H×D)		mm	(1410×1945×890)×3			
Net weight		kg	315+330×2			330×3
Gross weight		kg	335+350×2			350×3
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55

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.
2. 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..
3. 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.

88-90HP

Table 2-1.11: 88-90HP specifications

HP			88	90
Model name (Combination unit)			MVC-M2485WV2WN1	MVC-M2550WV2WN1
Combination type			28HP+30HP+30HP	30HP+30HP+30HP
Power supply		V/~/Hz	220/3/60	
Cooling[1]	Capacity	kW	248.5	255.0
		kBtu/h	847.4	869.6
	Power input	kW	75.1	79.2
	EER		3.31	3.22
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity	
	Maximum quantity		64	64
Compressor	Type		DC Inverter	
	Quantity		6	
	Oil type		FV68H	
	Start-up method		Soft start	
Fan	Type		Propeller	
	Motor type		DC	
	Quantity		6	
	Motor output	kW	(0.56+0.56)×3	
	Airflow rate	m^3/h	64500	64500
	Drive type		Direct	
Refrigerant	Type		R410A	
	Factory charge	kg	15.4×3	15.4×3
Pipe connections[2]	Liquid pipe	mm	Φ25.4	Φ25.4
	Gas pipe	mm	Φ50.8	Φ50.8
Sound pressure level[3]		dB(A)	68	
Net dimensions (W×H×D)		mm	(1340×1760×825)×3	
Packed dimensions (W×H×D)		mm	(1410×1945×890)×3	
Net weight		kg	330×3	
Gross weight		kg	350×3	
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55

Notes:

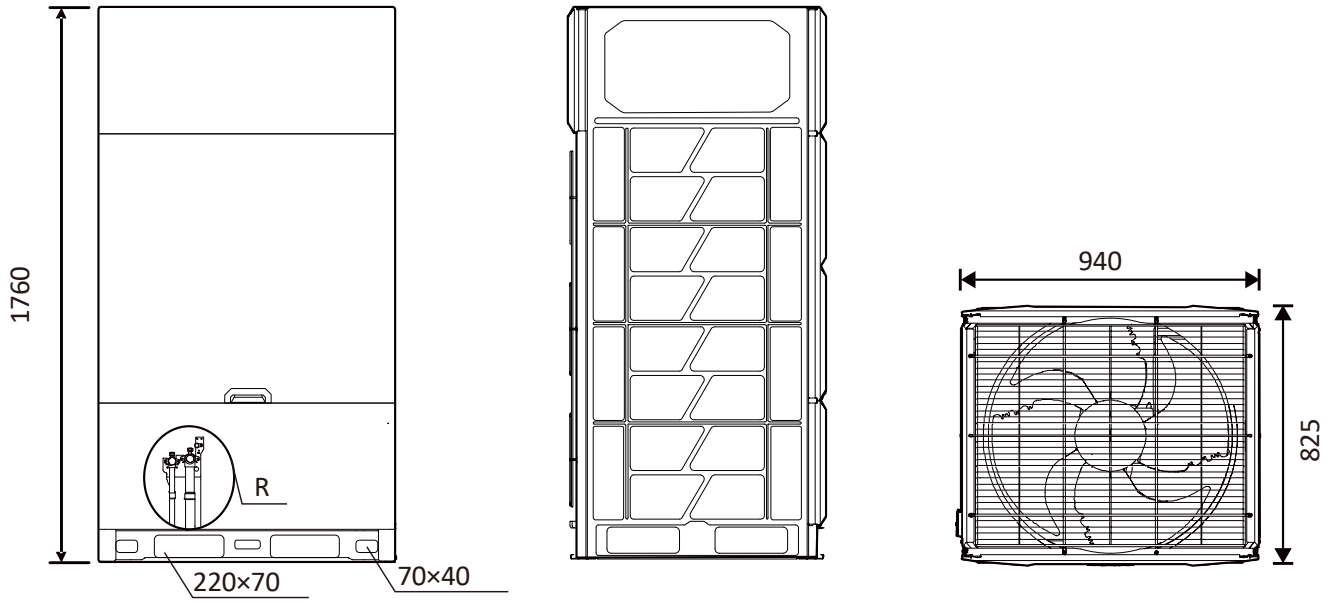
1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
2. Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid 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..
3. Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

2 Dimensions

2.1 Single Units

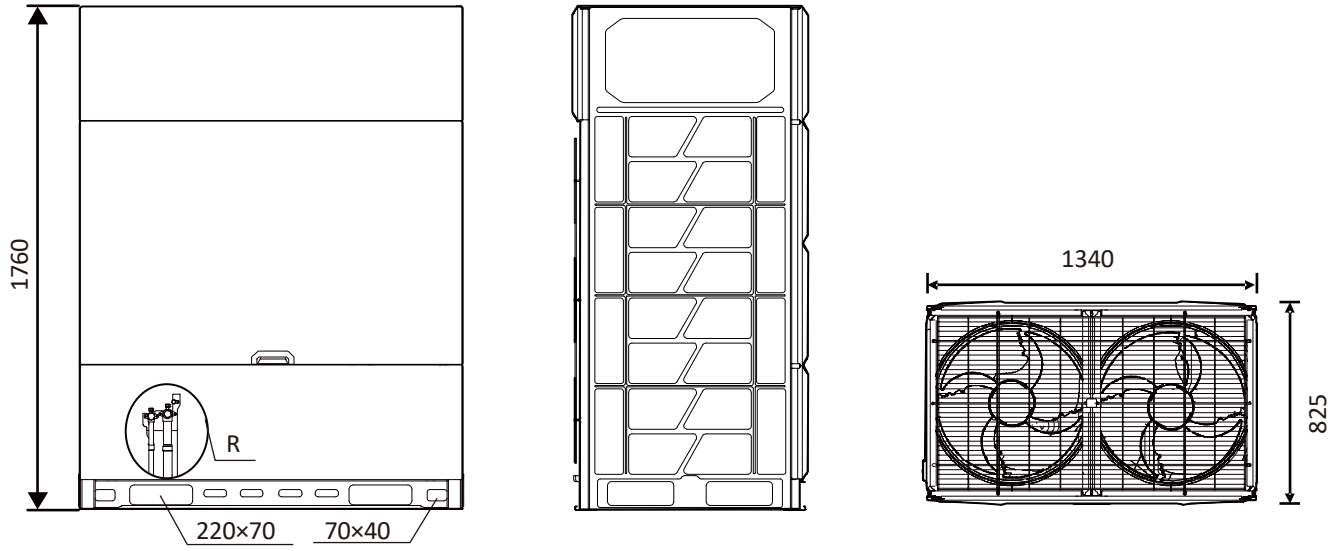
8/10/12/14/16HP

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



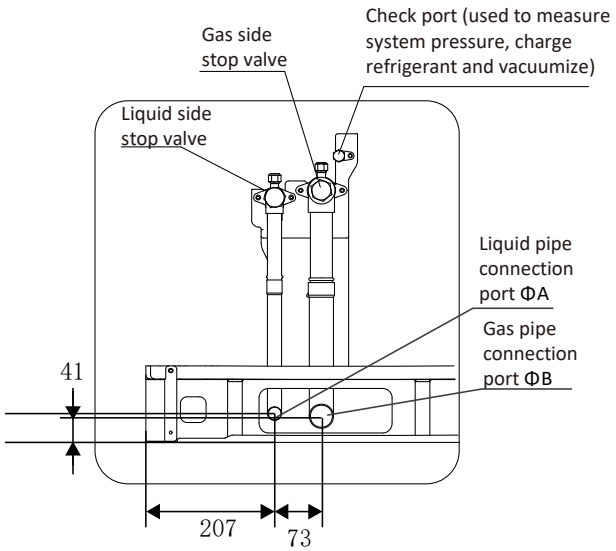
18/20/22/24/26/28/30HP

Figure 2-2.2: 18/20/22/24/26/28/30HP dimensions (unit: mm)



Detail R

Figure 2-2.3: Detail R (unit: mm)



Detail R

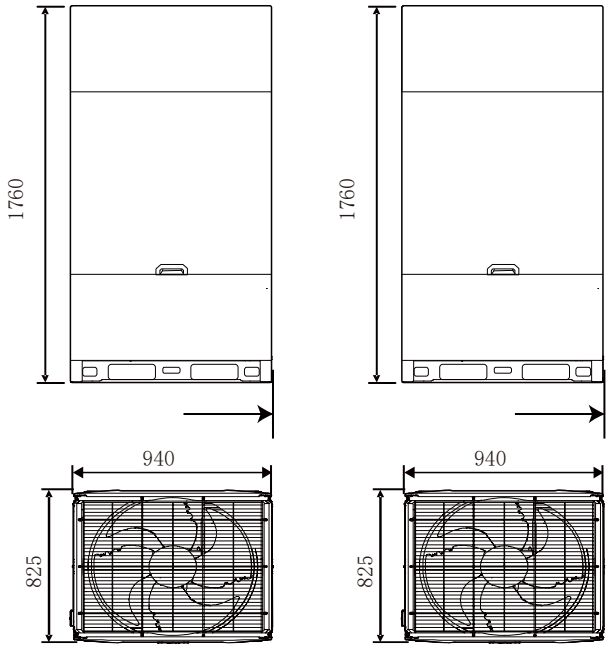
Table 2-2.1: Connection piping diameter (unit: mm)

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

2.2 Combinations of Units

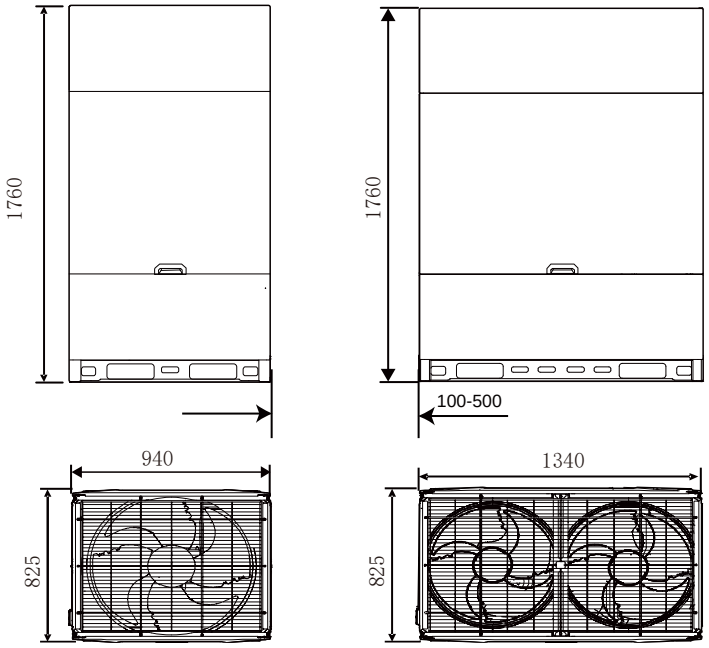
32HP

Figure 2-2.5: 32HP dimensions (unit: mm)



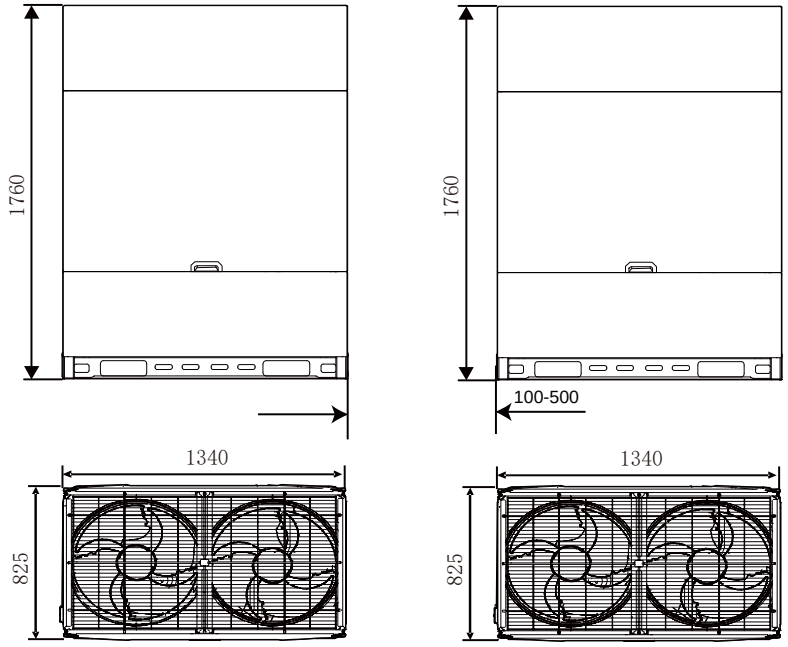
34/36/38/40/42/44/46HP

Figure 2-2.6: 34/36/38/40/42/44/46HP dimensions (unit: mm)



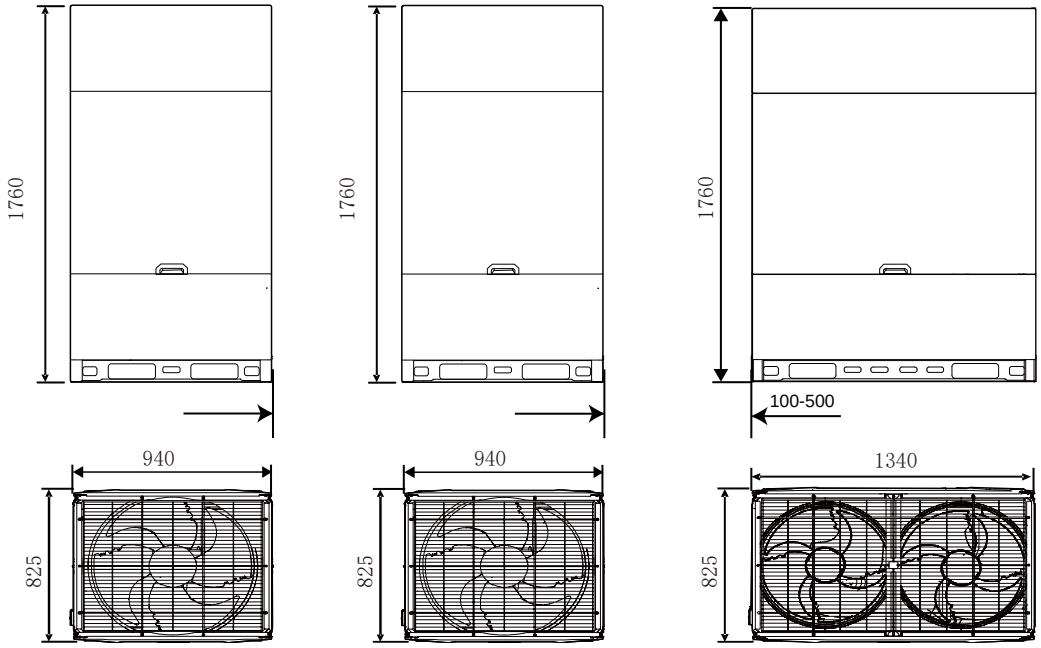
48/50/52/54/56/58/60HP

Figure 2-2.7: 48/50/52/54/56/58/60HP dimensions (unit: mm)



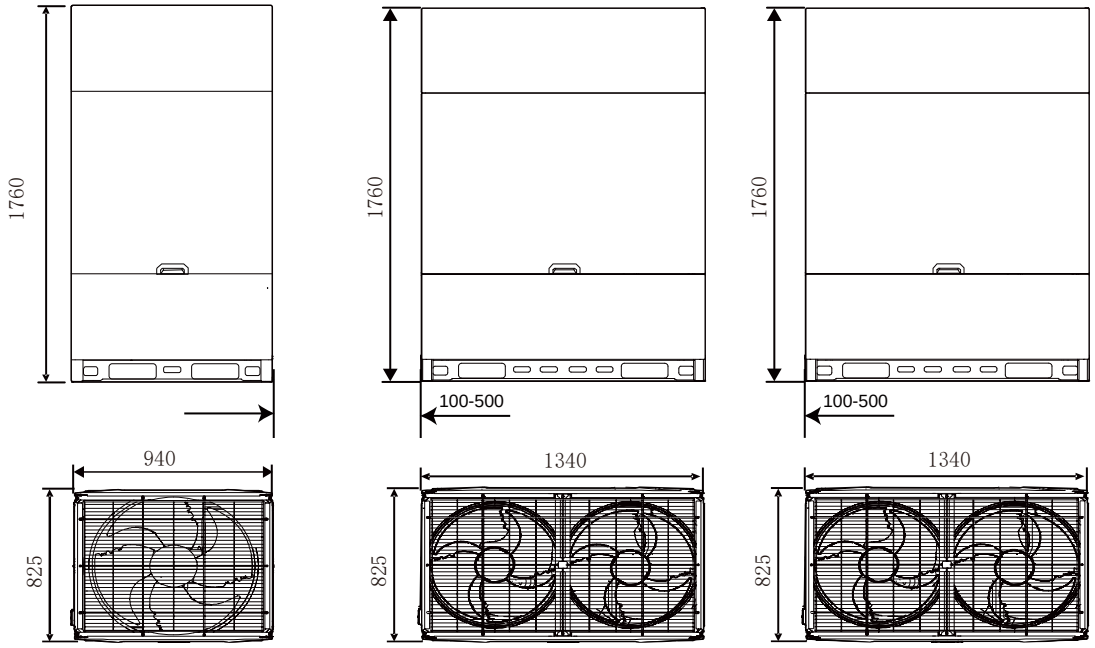
62HP

Figure 2-2.8: 62HP dimensions (unit: mm)



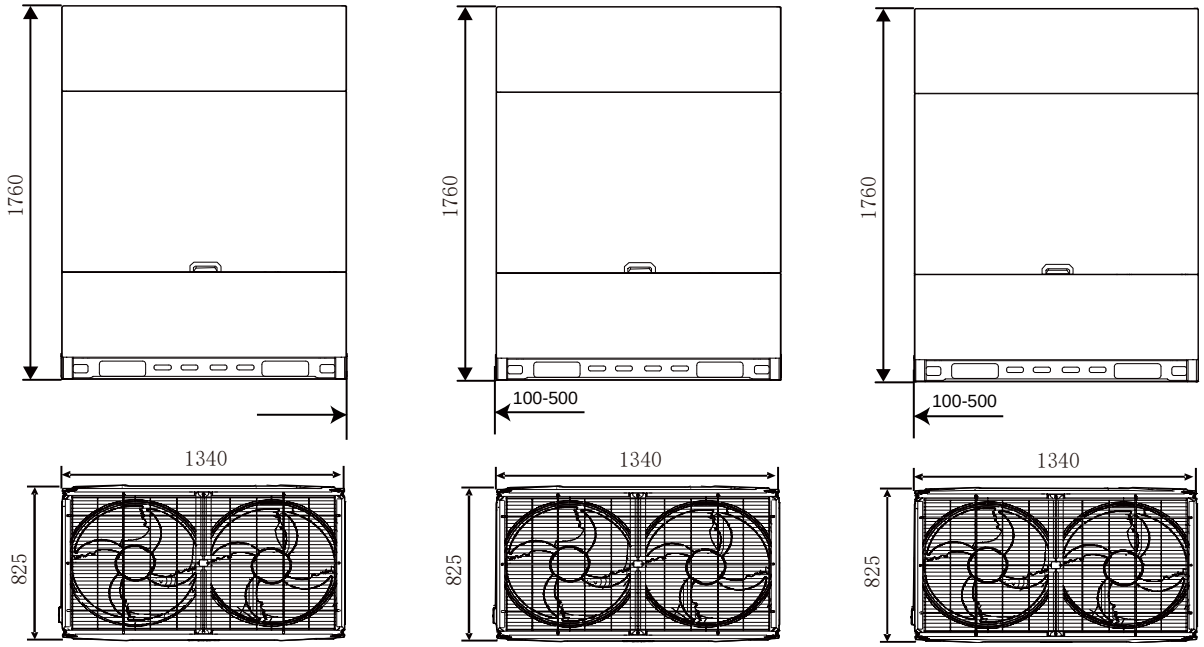
64/66/68/70/72/74/76HP

Figure 2-2.9: 64/66/68/70/72/74/76HP dimensions (unit: mm)



78/80/82/84/86/88/90HP

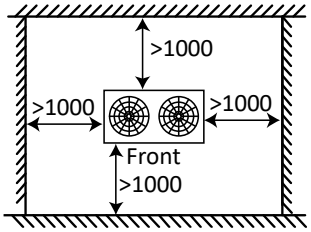
Figure 2-2.10: 78/80/82/84/86/88/90HP dimensions (unit: mm)



3 Installation Space Requirements

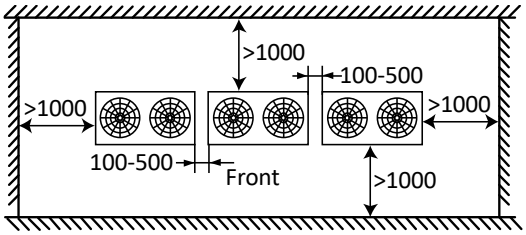
For single unit installation

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



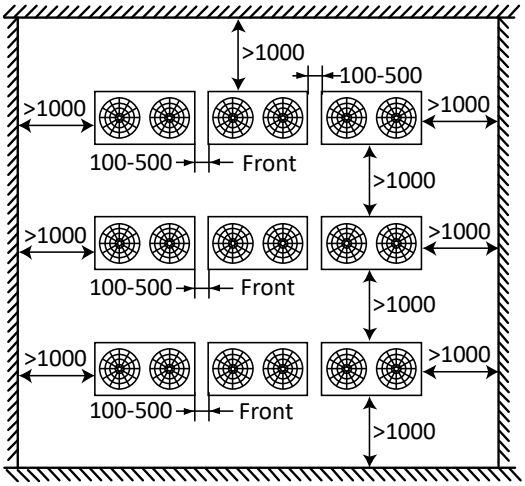
For single row installation

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



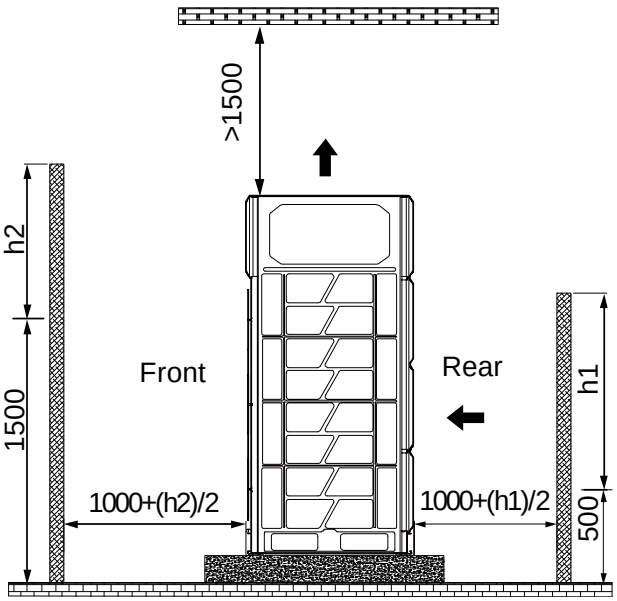
For multi-row installation

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



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

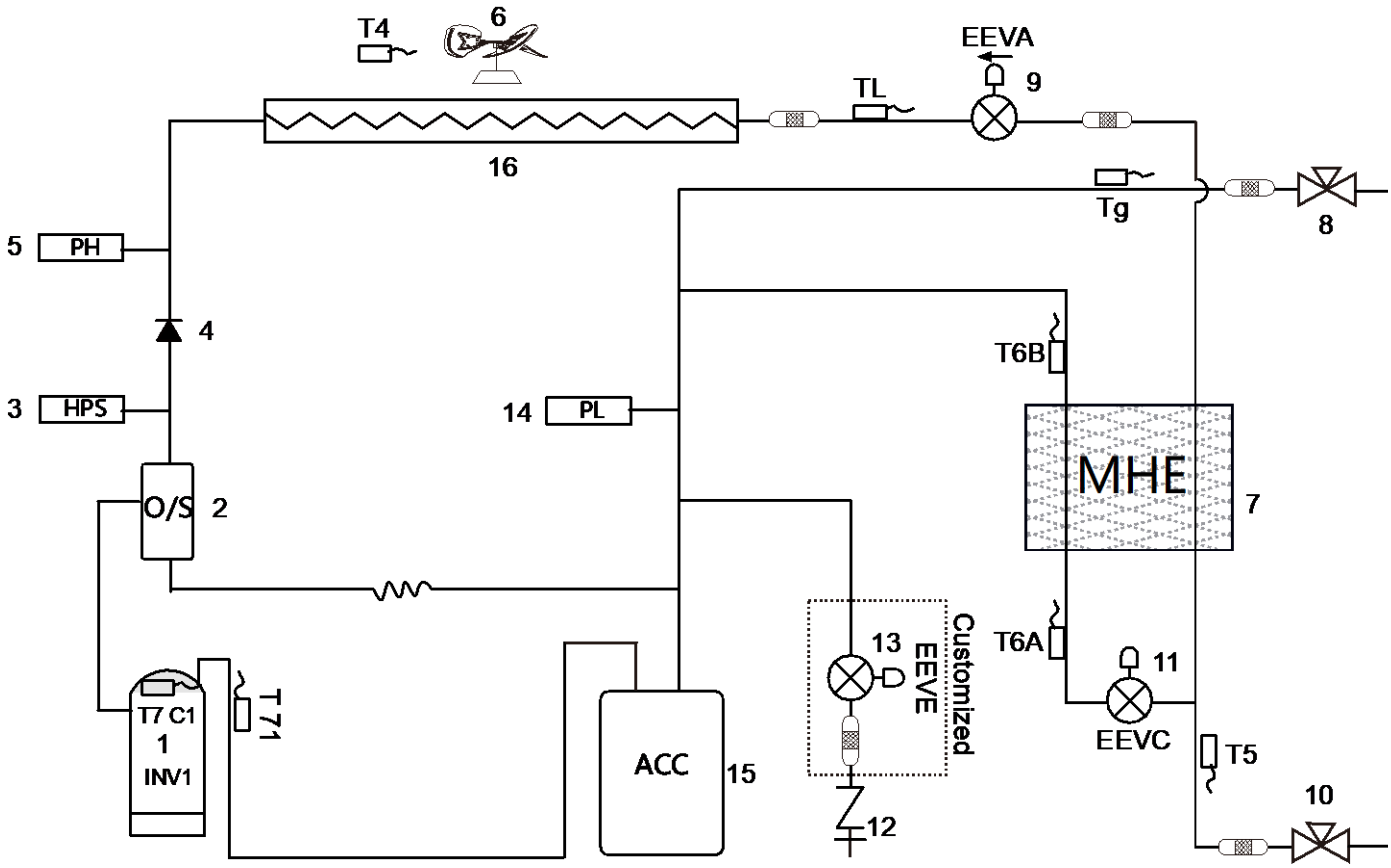
Figure 2-3.4: Top of unit below top of adjacent wall unit (mm)



4 Piping Diagrams

8-12HP

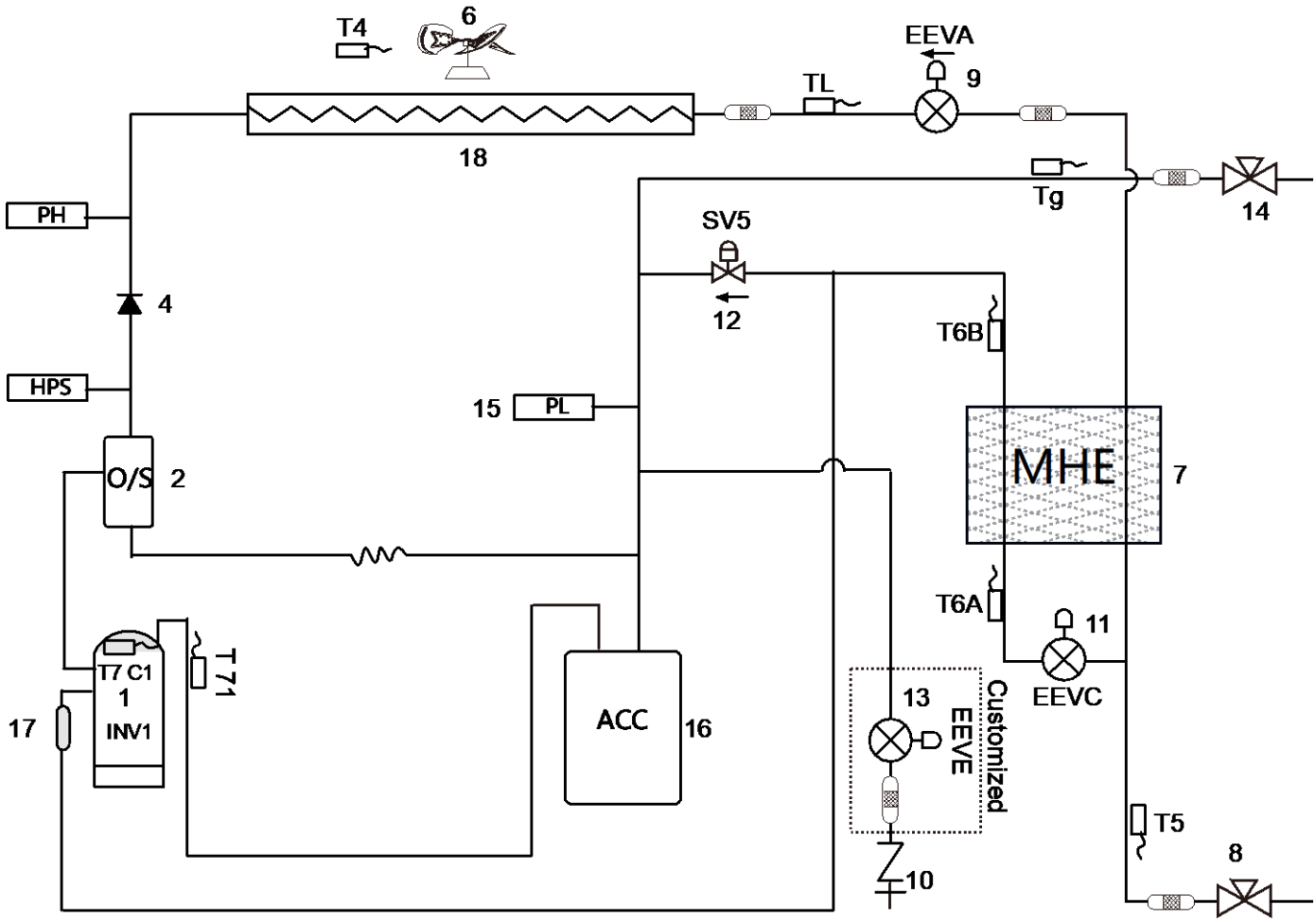
Figure 2-4.1: 8-12HP piping diagram



Legend			
No.	**Parts name**	**No.**	**Parts name**
1	Compressor	14	Low pressure sensor
2	Oil separator	15	Gas-liquid separator
3	High pressure switch	16	Heat exchanger
4	Check value	**Sensor Code**	**Description**
5	High pressure sensor	T4	Outdoor air temperature sensor
6	Fan	T5	Liquid pipe temperature sensor
7	Microchannel heat exchanger	T6A	Microchannel heat exchanger inlet pipe temperature sensor
8	Stop valve (gas side)	T6B	Microchannel heat exchanger outlet pipe temperature sensor
9	Electronic expansion valve (EEVA)	T71/T72	Suction temperature sensor
10	Stop valve (liquid side)	Tg	Gas pipe temperature sensor
11	Electronic expansion valve (EEVC)	TL	Heat exchanger liquid temperature sensor
12	Charge port	T7C1/T7C2	Compressor discharge temperature sensor
13	Electronic expansion valve (Optional EEVE)	Tb	Electric control box chamber temperature sensor

14-20HP

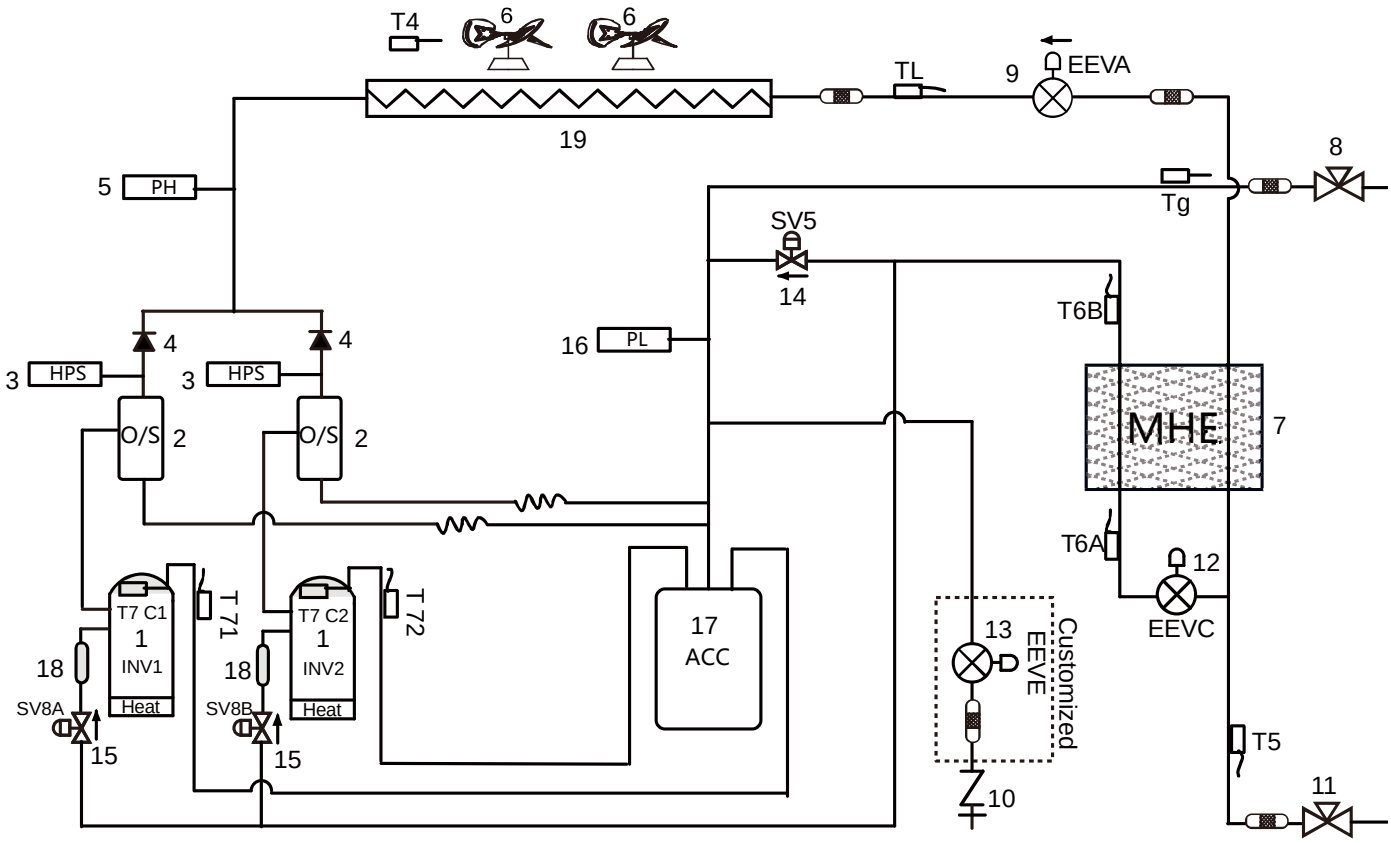
Figure 2-4.2: 14-16HP piping diagram



Legend				
No.	**Parts name**		**No.**	**Parts name**
1	Compressor		15	Low pressure sensor
2	Oil separator		16	Gas-liquid separator
3	High pressure switch		17	Muffler
4	Check value		18	Heat exchanger
5	High pressure sensor		**Sensor Code**	**Description**
6	Fan		T4	Outdoor air temperature sensor
7	Microchannel heat exchanger		T5	Liquid pipe temperature sensor
8	Stop valve (liquid side)		T6A	Microchannel heat exchanger inlet pipe temperature sensor
9	Electronic expansion valve (EEVA)		T6B	Microchannel heat exchanger outlet pipe temperature sensor
10	Charge port		T71/T72	Suction temperature sensor
11	Electronic expansion valve (EEVC)		Tg	Gas pipe temperature sensor
12	Injection bypass solenoid valve (SV5)		TL	Heat exchanger liquid temperature sensor
13	Electronic expansion valve (Optional EEVE)		T7C1/T7C2	Compressor discharge temperature sensor
14	Stop valve (gas side)		Tb	Electric control box chamber temperature sensor

18-24HP

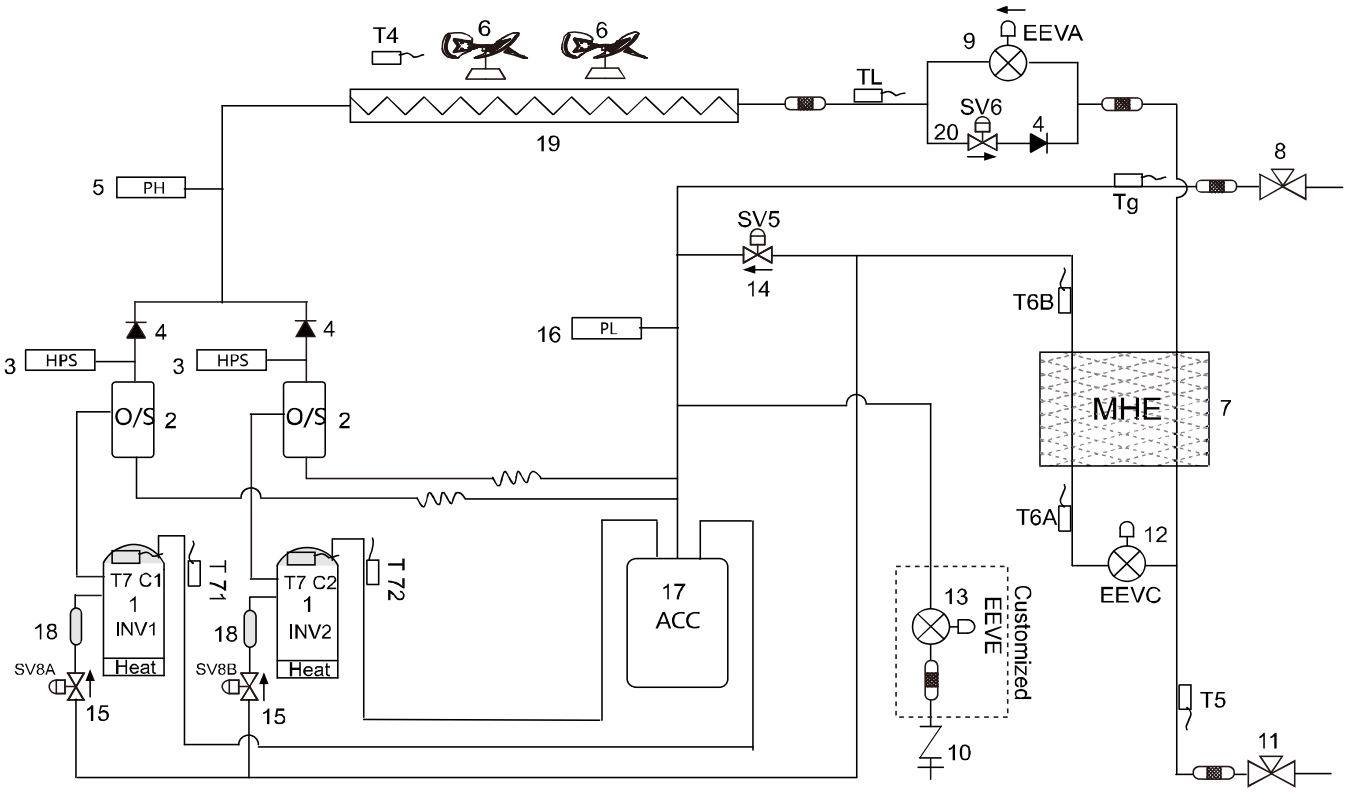
Figure 2-4.3: 18-24HP piping diagram



Legend			
No.	**Parts name**	**No.**	**Parts name**
1	Compressor	15	Low pressure sensor
2	Oil separator	16	Gas-liquid separator
3	High pressure switch	17	Muffler
4	Check value	18	Heat exchanger
5	High pressure sensor	**Sensor Code**	**Description**
6	Fan	T4	Outdoor air temperature sensor
7	Microchannel heat exchanger	T5	Liquid pipe temperature sensor
8	Stop valve (liquid side)	T6A	Microchannel heat exchanger inlet pipe temperature sensor
9	Electronic expansion valve (EEVA)	T6B	Microchannel heat exchanger outlet pipe temperature sensor
10	Charge port	T71/T72	Suction temperature sensor
11	Electronic expansion valve (EEVC)	Tg	Gas pipe temperature sensor
12	Injection bypass solenoid valve (SV5)	TL	Heat exchanger liquid temperature sensor
13	Electronic expansion valve (Optional EEVE)	T7C1/T7C2	Compressor discharge temperature sensor
14	Stop valve (gas side)	Tb	Electric control box chamber temperature sensor

26-30HP

Figure 2-4.3: 26-30HP piping diagram

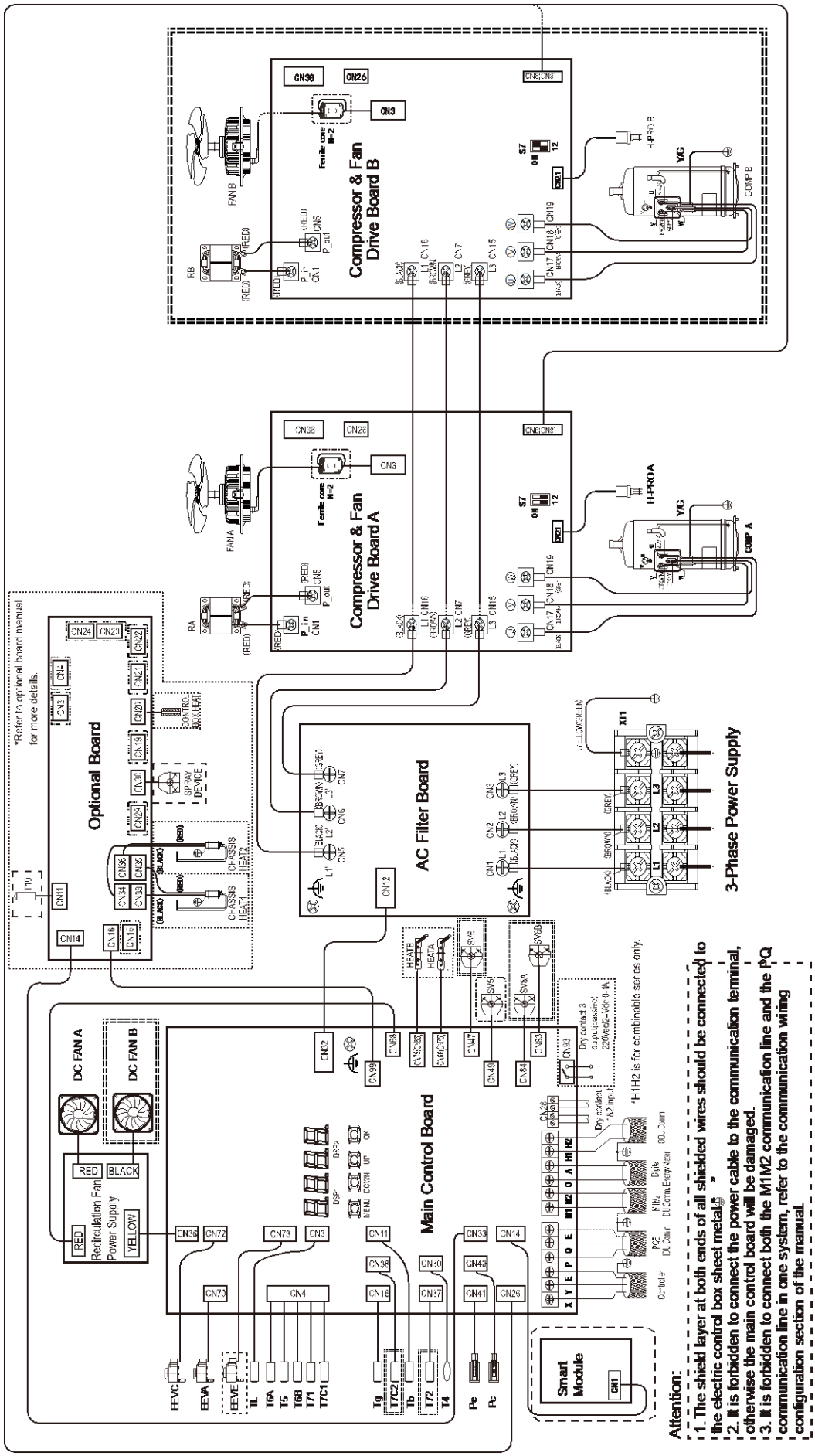


Legend			
No.	**Parts name**	**No.**	**Parts name**
1	Compressor	16	Low pressure sensor
2	Oil separator	17	Gas-liquid separator
3	High pressure switch	18	Muffler
4	Check value	19	Heat exchanger
5	High pressure sensor	20	Liquid bypass valve (SV6)
6	Fan	**Sensor Code**	**Description**
7	Microchannel heat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

Key components:

1. **Oil separator:**
   Separates oil from gas refrigerant pumped out of the compressor and quickly returns it to the compressor. Separation efficiency is up to 99%.
2. **Gas-liquid separator:**
   Separates liquid refrigerant from gas refrigerant, stores liquid refrigerant and oil to protect compressor from liquid hammering.
3. **Electronic expansion valve (EEVA):**
   Controls refrigerant flow and reduces refrigerant pressure.
4. **Microchannel heat exchanger:**
   In cooling mode, it can improve super-cooling degree and the super-cooled refrigerant can achieve better heat exchange in indoor side. 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.
5. **Solenoid valve SV5:**
   Controls the refrigerant from microchannel heat exchanger to gas-liquid separator.
6. **Solenoid valve SV8A/B:**
   Allows refrigerant from microchannel heat exchanger inject directly to the compressor. SV8A/B opens when compressor startup and closes when compressor stop.
7. **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.
8. **High/Low pressure sensor**
   Used to detect the system high/low pressure.

5 Wiring Diagrams



Legend				
Code	**Name**		**Code**	**Name**
COMP A/ COMP B	Compressor		XT1	Terminal block
EEVA/ EEVC/ EEVE	Electronic expansion valve		T4	Outdoor ambient temperature sensor
FAN A/ FAN B	DC Fan		T5	Liquid pipe temperature sensor
DC FAN A/ DC FAN B	Recirculation Fan		T6A	Microchannel heat exchanger inlet pipe temperature sensor
HEAT A/ HEAT B	Crankcase heater		T6B	Microchannel heat exchanger outlet pipe temperature sensor
RA/ RB	Reactance		T71/ T72	Suction temperature sensor
SV5/6/8A/8B	Solenoid valve		Tg	Gas pipe temperature sensor
H-PRO A/ H-PRO B	High pressure switch		TL	Heat exchanger liquid temperature sensor
Pc	High pressure sensor		T7C1/ T7C2	Compressor discharge temperature sensor
Pe	Low pressure sensor		Tb	Electric control box chamber temperature sensor

Attention

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

6 Electrical Characteristics

Table 2-6.1: Outdoor unit electrical characteristics

Model				Power Supply[1]							Compressor		OFM	
Capacity	Modules			Hz	Volts	Min. volts	Max. volts	MCA[2]	TOCA[3]	MFA[4]	MSC[5]	RLA[6]	kW	FLA
8HP				60	220	198	244	28	32.7	40	-	30.5	0.56	2.7
10HP				60	220	198	244	32.4	37.1	50	-	33	0.56	2.7
12HP				60	220	198	244	36.5	41.5	50	-	35.5	0.56	3
14HP				60	220	198	244	45	50.8	63	-	36.5	0.92	3.8
16HP				60	220	198	244	48	53.8	63	-	39.5	0.92	3.8
18HP				60	220	198	244	60	66.2	80	-	29.5+29.5	0.56+0.56	2.1+2.1
20HP				60	220	198	244	67.8	74	80	-	33.5+33.5	0.56+0.56	2.1+2.1
22HP				60	220	198	244	75.9	82.1	100	-	34.0+34.0	0.56+0.56	2.1+2.1
24HP				60	220	198	244	78.7	85.3	100	-	35.5+35.5	0.56+0.56	2.3+2.3
26HP				60	220	198	244	78.7	86.1	100	-	37.0+37.0	0.56+0.56	2.7+2.7
28HP				60	220	198	244	82.5	89.9	100	-	37.5+37.5	0.56+0.56	2.7+2.7
30HP				60	220	198	244	82.5	89.9	100	-	40.0+40.0	0.56+0.56	2.7+2.7
32HP	16HP	16HP		60	220	198	244	96	107.6	63+63	-	39.5+39.5	0.92+0.92	3.8+3.8
34HP	10HP	24HP		60	220	198	244	111.1	122.4	50+100	-	33+35.5+35.5	0.56+0.56+0.56	2.7+100
36HP	12HP	24HP		60	220	198	244	115.2	126.8	50+100	-	35.5+35.5+35.5	0.56+0.56+0.56	3+2.3+2.3
38HP	14HP	24HP		60	220	198	244	123.7	136.1	63+100	-	36.5+35.5+35.5	0.92+0.56+0.56	3.8+2.3+2.3
40HP	16HP	24HP		60	220	198	244	126.7	139.1	63+100	-	39.5+35.5+35.5	0.92+0.56+0.56	3.8+2.3+2.3
42HP	14HP	28HP		60	220	198	244	127.5	140.7	63+100	-	36.5+37.5+37.5	0.92+0.56+0.56	3.8+2.7+2.7
44HP	14HP	30HP		60	220	198	244	127.5	140.7	63+100	-	36.5+40.0+40.0	0.92+0.56+0.56	3.8+2.7+2.7
46HP	16HP	30HP		60	220	198	244	130.5	143.7	63+100	-	39.5+40.0+40.0	0.92+0.56+0.56	3.8+2.7+2.7
48HP	24HP	24HP		60	220	198	244	157.4	170.6	100+10	-	35.5+35.5+35.5+35.5	0.56+0.56+0.56	2.3+2.3+2.3+2.3
50HP	20HP	30HP		60	220	198	244	150.3	163.9	80+100	-	33.5+33.5+40.0+40.0	0.56+0.56+0.56	2.1+2.1+2.7+2.7
52HP	22HP	30HP		60	220	198	244	158.4	172	100+10	-	34.0+34.0+40.0+40.0	0.56+0.56+0.56	2.1+2.1+2.7+2.7
54HP	24HP	30HP		60	220	198	244	161.2	175.2	100+10	-	35.5+35.5+40.0+40.0	0.56+0.56+0.56	2.3+2.3+2.7+2.7
56HP	26HP	30HP		60	220	198	244	161.2	176	100+10	-	37.0+37.0+40.0+40.0	0.56+0.56+0.56	2.7+2.7+2.7+2.7
58HP	28HP	30HP		60	220	198	244	165	179.8	100+10	-	37.5+37.5+40.0+40.0	0.56+0.56+0.56	2.7+2.7+2.7+2.7
60HP	30HP	30HP		60	220	198	244	165	179.8	100+10	-	40.0+40.0+40.0+40.0	0.56+0.56+0.56	2.7+2.7+2.7+2.7
62HP	16HP	16HP	30HP	60	220	198	244	178.5	197.5	63+63+100	-	39.5+39.5+40.0+40.0	0.92+0.92+0.56+0.56	3.8+3.8+2.7+2.7
64HP	14HP	20HP	30HP	60	220	198	244	195.3	214.7	63+80+100	-	36.5+33.5+33.5+40.0+40.0	0.92+0.56+0.56+0.56+0.56	3.8+2.1+2.1+2.7+2.7
66HP	16HP	20HP	30HP	60	220	198	244	198.3	217.7	63+80+100	-	39.5+33.5+33.5+40.0+40.0	0.92+0.56+0.56+0.56+0.56	3.8+2.1+2.1+2.7+2.7
68HP	14HP	24HP	30HP	60	220	198	244	206.2	226	63+100+100	-	36.5+35.5+35.5+40.0+40.0	0.92+0.56+0.56+0.56+0.56	3.8+2.3+2.3+2.7+2.7
70HP	16HP	24HP	30HP	60	220	198	244	209.2	229	63+100+100	-	39.5+35.5+35.5+40.0+40.0	0.92+0.56+0.56+0.56+0.56	3.8+2.3+2.3+2.7+2.7

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

Table continued on next page …

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

Model				Power Supply[1]							Compressor		OFM	
Capacity	Modules			Hz	Volts	Min. volts	Max. volts	MCA[2]	TOCA[3]	MFA[4]	MSC[5]	RLA[6]	kW	FLA
72HP	14HP	28HP	30HP	60	220	198	244	210	230.6	63+100 +100	-	36.5+37.5+37.5+40.0+40.0	0.92+0.56+0.56+0 .56+0.56	3.8+2.7+2.7+2.7 +2.7
74HP	16HP	28HP	30HP	60	220	198	244	213	233.6	63+100 +100	-	39.5+37.5+37.5+40.0+40.0	0.92+0.56+0.56+0 .56+0.56	3.8+2.7+2.7+2.7 +2.7
76HP	16HP	30HP	30HP	60	220	198	244	213	233.6	63+100 +100	-	39.5+40.0+40.0+40.0+40.0	0.92+0.56+0.56+0 .56+0.56	3.8+2.7+2.7+2.7 +2.7
78HP	24HP	24HP	30HP	60	220	198	244	239.9	260.5	100+10 0+100	-	35.5+35.5+35.5+35.5+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.3+2.3+2.3+2.3 +2.7+2.7
80HP	20HP	30HP	30HP	60	220	198	244	232.8	253.8	80+100 +100	-	33.5+33.5+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.1+2.1+2.7+2.7 +2.7+2.7
82HP	22HP	30HP	30HP	60	220	198	244	240.9	261.9	100+10 0+100	-	34.0+34.0+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.1+2.1+2.7+2.7 +2.7+2.7
84HP	24HP	30HP	30HP	60	220	198	244	243.7	265.1	100+10 0+100	-	35.5+35.5+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.3+2.3+2.7+2.7 +2.7+2.7
86HP	26HP	30HP	30HP	60	220	198	244	243.7	265.9	100+10 0+100	-	37.0+37.0+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.7+2.7+2.7+2.7 +2.7+2.7
88HP	28HP	30HP	30HP	60	220	198	244	247.5	269.7	100+10 0+100	-	37.5+37.5+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.7+2.7+2.7+2.7 +2.7+2.7
90HP	30HP	30HP	30HP	60	220	198	244	247.5	269.7	100+10 0+100	-	40.0+40.0+40.0+40.0+40.0 +40.0	0.56+0.56+0.56+0 .56+0.56+0.56	2.7+2.7+2.7+2.7 +2.7+2.7

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

7 Functional Components and Safety Devices

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

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

Table 2-7.2: 20/22/24/26/28/30HP functional components and safety devices

Item		20HP	22HP	24HP	26HP	28HP	30HP
Compressor	Compressor top and discharge pipe temperature sensors	115°C = 5kΩ ± 3%					
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 Capacity Tables

8.1 Cooling Capacity Tables

Table2-8.2:8HP 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	20.41	1.72	24.17	2.08	28.34	2.26	29.33	2.34	30.13	2.36	31.22	2.60	32.29	2.63
	-10	20.41	1.85	24.17	2.25	28.34	2.43	29.33	2.53	30.13	2.54	31.22	2.80	32.29	2.85
	-5	20.41	2.01	24.17	2.42	28.34	2.63	29.33	2.74	30.13	2.76	31.22	3.03	32.29	3.08
	-2	20.41	2.01	24.17	2.47	28.34	2.63	29.33	2.75	30.13	2.75	31.22	3.07	32.29	3.11
	0	20.41	2.05	24.17	2.52	28.34	2.73	29.33	2.90	30.13	2.91	31.22	3.11	32.29	3.14
	2	20.41	2.08	24.17	2.52	28.34	2.82	29.33	3.06	30.13	2.95	31.22	3.13	32.29	3.19
	4	20.41	2.12	24.17	2.58	28.34	2.92	29.33	3.08	30.13	3.00	31.22	3.17	32.29	3.25
	6	20.41	2.17	24.17	2.62	28.34	3.04	29.33	3.09	29.77	3.08	30.85	3.22	31.92	3.28
	8	20.41	2.22	24.17	2.68	28.34	3.19	29.33	3.25	29.41	3.18	30.48	3.23	31.46	3.31
	10	20.41	2.27	24.17	2.74	28.34	3.30	29.33	3.37	29.04	3.24	30.12	3.28	31.09	3.39
	12	20.41	2.31	24.17	2.79	28.34	3.37	28.87	3.41	28.77	3.29	29.75	3.34	30.72	3.42
	14	20.41	2.35	24.17	2.86	28.24	3.42	28.60	3.46	28.32	3.34	29.38	3.38	30.35	3.50
	20	20.41	2.48	24.17	3.15	27.04	3.69	27.40	3.70	27.23	3.65	28.29	3.73	29.24	3.79
	25	20.41	2.92	24.17	3.76	26.21	4.12	26.38	4.12	26.33	4.08	27.37	4.16	28.32	4.22
	27	20.41	3.13	24.17	4.01	25.84	4.30	26.11	4.30	25.88	4.24	26.91	4.34	27.86	4.41
	29	20.41	3.33	24.17	4.30	25.37	4.48	25.64	4.48	25.61	4.42	26.64	4.52	27.58	4.59
	31	20.41	3.56	24.07	4.54	25.00	4.65	25.28	4.66	25.15	4.59	26.18	4.69	27.12	4.77
	33	20.41	3.78	23.62	4.71	24.63	4.83	24.91	4.81	24.79	4.77	25.91	4.86	26.75	4.95
	35	20.41	4.04	23.25	4.88	24.26	4.99	24.54	5.00	24.43	4.94	25.45	5.05	26.38	5.15
	37	20.41	4.30	22.88	5.06	23.89	5.16	24.17	5.19	24.07	5.12	25.08	5.22	26.01	5.33
	39	20.41	4.58	22.52	5.12	23.52	5.36	23.80	5.35	23.71	5.29	24.72	5.41	25.64	5.52
	41	20.41	4.82	22.24	5.17	23.24	5.40	23.62	5.42	23.43	5.34	24.44	5.43	24.63	5.57
	43	20.41	4.95	22.06	5.18	23.15	5.43	23.43	5.44	23.25	5.33	23.98	5.44	24.35	5.59
	46	20.41	5.20	21.97	5.24	22.87	5.45	23.25	5.46	22.89	5.37	23.34	5.46	23.89	5.69
	48	20.41	5.37	21.88	5.41	22.50	5.52	22.88	5.50	22.62	5.42	22.79	5.53	23.34	5.70
	50	19.39	5.20	20.78	5.24	21.38	5.36	21.73	5.36	21.49	5.28	21.65	5.38	22.17	5.55
	52	18.22	5.00	19.54	5.04	20.09	5.15	20.43	5.15	20.20	5.08	20.35	5.17	20.84	5.34
	55	17.13	4.81	18.36	4.84	18.89	4.93	19.20	4.95	18.99	4.88	19.13	4.98	19.59	5.11
120%	-15	18.51	1.63	22.50	2.02	25.63	2.33	27.94	2.60	29.07	2.69	29.92	2.79	30.56	2.87
	-10	18.51	1.77	22.50	2.18	25.63	2.52	27.94	2.80	29.07	2.90	29.92	3.01	30.56	3.10
	-5	18.51	1.91	22.50	2.36	25.63	2.73	27.94	3.04	29.07	3.13	29.92	3.25	30.56	3.35
	-2	18.51	1.92	22.50	2.38	25.63	2.74	27.94	3.05	29.07	3.17	29.92	3.28	30.56	3.36
	0	18.51	1.94	22.50	2.39	25.63	2.79	27.94	3.06	29.07	3.20	29.92	3.29	30.56	3.36
	2	18.51	1.94	22.50	2.42	25.63	2.80	27.94	3.09	29.07	3.21	29.92	3.33	30.56	3.36
	4	18.51	1.96	22.50	2.45	25.63	2.84	27.94	3.11	29.07	3.25	29.92	3.34	30.56	3.38
	6	18.51	1.99	22.50	2.47	25.63	2.88	27.94	3.15	29.07	3.29	29.92	3.37	30.56	3.38
	8	18.51	2.01	22.50	2.49	25.63	2.91	27.94	3.18	29.07	3.32	29.92	3.37	30.56	3.40
	10	18.51	2.03	22.50	2.54	25.63	2.94	27.94	3.25	29.07	3.32	29.92	3.38	30.56	3.42
	12	18.51	2.08	22.50	2.58	25.63	3.00	27.94	3.31	28.62	3.35	29.45	3.36	30.19	3.43
	14	18.51	2.11	22.50	2.62	25.63	3.06	27.94	3.37	28.25	3.36	29.18	3.42	29.82	3.49
	20	18.51	2.22	22.50	2.84	25.63	3.46	27.01	3.69	27.15	3.66	27.98	3.73	28.72	3.75
	25	18.51	2.57	22.50	3.37	25.18	4.00	26.09	4.12	26.14	4.09	27.05	4.17	27.79	4.19
	27	18.51	2.74	22.50	3.61	24.82	4.16	25.72	4.29	25.86	4.28	26.68	4.33	27.33	4.39
	29	18.51	2.93	22.50	3.85	24.45	4.35	25.35	4.47	25.41	4.44	26.22	4.53	26.96	4.56
	31	18.51	3.13	22.50	4.10	24.00	4.52	24.98	4.62	25.13	4.61	25.95	4.70	26.59	4.73
	33	18.51	3.33	22.50	4.38	23.73	4.68	24.52	4.83	24.67	4.80	25.48	4.87	26.13	4.92
	35	18.51	3.53	22.50	4.68	23.28	4.86	24.15	4.97	24.30	4.96	25.21	5.05	25.85	5.10
	37	18.51	3.76	22.50	4.98	23.00	5.03	23.78	5.16	23.94	5.15	24.75	5.23	25.39	5.29
	39	18.51	4.00	22.41	5.27	22.55	5.19	23.41	5.35	23.57	5.34	24.47	5.43	25.12	5.48
	41	18.51	4.11	22.22	5.29	22.37	5.23	23.22	5.38	23.39	5.35	24.28	5.44	24.38	5.51
	43	18.51	4.18	22.13	5.32	22.19	5.26	23.04	5.40	23.20	5.39	23.82	5.44	24.01	5.62
	46	18.51	4.23	22.04	5.37	22.01	5.32	22.76	5.45	22.93	5.43	23.36	5.45	23.73	5.75
	48	18.51	4.26	21.85	5.43	21.74	5.35	22.39	5.49	22.75	5.48	22.99	5.53	23.45	5.82
	50	17.59	4.13	20.76	5.30	20.65	5.22	21.27	5.32	21.61	5.33	21.84	5.37	22.28	5.64
	52	16.53	3.97	19.52	5.07	19.41	5.01	19.99	5.13	20.31	5.10	20.53	5.15	20.94	5.42
	55	15.54	3.82	18.34	4.88	18.25	4.82	18.79	4.92	19.09	4.91	19.30	4.96	19.69	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 …

Table2-8.2:8HP 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	16.94	1.43	20.26	1.78	23.69	2.13	25.33	2.29	27.24	2.49	29.45	2.59	29.81	2.65
	-10	16.94	1.54	20.26	1.92	23.69	2.30	25.33	2.48	27.24	2.69	29.45	2.80	29.81	2.86
	-5	16.94	1.66	20.26	2.07	23.69	2.49	25.33	2.68	27.24	2.91	29.45	3.03	29.81	3.09
	-2	16.94	1.69	20.26	2.10	23.69	2.51	25.33	2.70	27.24	2.93	29.45	3.05	29.81	3.10
	0	16.94	1.71	20.26	2.11	23.69	2.52	25.33	2.71	27.24	2.96	29.45	3.08	29.81	3.14
	2	16.94	1.75	20.26	2.13	23.69	2.58	25.33	2.75	27.24	2.99	29.45	3.13	29.81	3.17
	4	16.94	1.78	20.26	2.16	23.69	2.59	25.33	2.78	27.24	3.03	29.45	3.17	29.81	3.22
	6	16.94	1.80	20.26	2.18	23.69	2.62	25.33	2.82	27.24	3.07	29.45	3.20	29.81	3.26
	8	16.94	1.82	20.26	2.22	23.69	2.65	25.33	2.85	27.24	3.10	29.45	3.22	29.81	3.30
	10	16.94	1.84	20.26	2.24	23.69	2.69	25.33	2.91	27.24	3.16	29.45	3.26	29.81	3.32
	12	16.94	1.88	20.26	2.29	23.69	2.74	25.33	2.96	27.24	3.22	29.08	3.30	29.35	3.37
	14	16.94	1.91	20.26	2.32	23.69	2.80	25.33	3.01	27.24	3.28	28.71	3.32	29.07	3.39
	20	16.94	2.02	20.26	2.47	23.69	3.08	25.33	3.39	26.87	3.67	27.59	3.71	27.88	3.71
	25	16.94	2.27	20.26	2.92	23.69	3.65	25.33	4.05	25.95	4.10	26.58	4.14	26.96	4.13
	27	16.94	2.43	20.26	3.12	23.69	3.91	24.97	4.21	25.48	4.28	26.30	4.32	26.60	4.31
	29	16.94	2.60	20.26	3.34	23.69	4.18	24.60	4.38	25.21	4.45	25.84	4.50	26.23	4.50
	31	16.94	2.75	20.26	3.55	23.69	4.46	24.23	4.55	24.75	4.62	25.46	4.67	25.86	4.68
	33	16.94	2.93	20.26	3.78	23.50	4.69	23.87	4.73	24.47	4.78	25.09	4.85	25.50	4.86
	35	16.94	3.11	20.26	4.03	23.14	4.87	23.50	4.90	24.01	4.98	24.63	5.03	25.13	5.02
	37	16.94	3.32	20.26	4.30	22.77	5.06	23.14	5.06	23.64	5.13	24.35	5.22	24.67	5.22
	39	16.94	3.52	20.26	4.56	22.41	5.21	22.68	5.24	23.27	5.31	23.89	5.38	24.40	5.40
	41	16.94	3.56	20.26	4.60	22.22	5.27	22.50	5.27	23.08	5.35	23.61	5.43	23.66	5.42
	43	16.94	3.60	20.26	4.66	22.04	5.30	22.41	5.32	22.90	5.40	23.43	5.44	23.30	5.54
	46	16.94	3.73	20.26	4.69	21.86	5.34	22.13	5.37	22.71	5.45	23.15	5.59	23.02	5.66
	48	16.94	3.84	20.26	5.08	21.49	5.37	21.77	5.41	22.44	5.49	22.78	5.60	22.75	5.72
	50	16.09	3.73	19.24	4.92	20.42	5.21	20.68	5.24	21.32	5.34	21.64	5.44	21.61	5.54
	52	15.12	3.58	18.09	4.74	19.19	5.00	19.44	5.03	20.04	5.12	20.34	5.22	20.31	5.34
	55	14.22	3.45	17.00	4.56	18.04	4.82	18.27	4.86	18.83	4.94	19.12	5.02	19.09	5.12
100%	-15	15.22	1.28	18.39	1.56	21.35	1.85	22.40	1.97	24.20	2.16	26.89	2.43	28.81	2.56
	-10	15.22	1.39	18.39	1.68	21.35	2.00	22.40	2.13	24.20	2.32	26.89	2.62	28.81	2.76
	-5	15.22	1.50	18.39	1.82	21.35	2.16	22.40	2.31	24.20	2.52	26.89	2.83	28.81	2.98
	-2	15.22	1.52	18.39	1.84	21.35	2.20	22.40	2.35	24.20	2.54	26.89	2.86	28.81	3.00
	0	15.22	1.52	18.39	1.86	21.35	2.21	22.40	2.37	24.20	2.57	26.89	2.92	28.81	3.03
	2	15.22	1.56	18.39	1.89	21.35	2.24	22.40	2.40	24.20	2.59	26.89	2.95	28.81	3.08
	4	15.22	1.57	18.39	1.91	21.35	2.28	22.40	2.44	24.20	2.64	26.89	2.98	28.81	3.11
	6	15.22	1.60	18.39	1.95	21.35	2.30	22.40	2.49	24.20	2.67	26.89	3.02	28.81	3.16
	8	15.22	1.62	18.39	1.98	21.35	2.33	22.40	2.51	24.20	2.71	26.89	3.07	28.81	3.22
	10	15.22	1.64	18.39	2.02	21.35	2.39	22.40	2.55	24.20	2.77	26.89	3.12	28.81	3.26
	12	15.22	1.67	18.39	2.05	21.35	2.43	22.40	2.60	24.20	2.81	26.89	3.18	28.36	3.28
	14	15.22	1.70	18.39	2.08	21.35	2.47	22.40	2.65	24.20	2.87	26.89	3.25	27.99	3.34
	20	15.22	1.80	18.39	2.21	21.35	2.65	22.40	2.90	24.20	3.20	26.08	3.56	26.91	3.63
	25	15.22	1.98	18.39	2.55	21.35	3.14	22.40	3.45	24.20	3.79	25.19	3.98	26.01	4.04
	27	15.22	2.12	18.39	2.71	21.35	3.36	22.40	3.68	24.20	4.05	24.74	4.13	25.65	4.21
	29	15.22	2.24	18.39	2.89	21.35	3.58	22.40	3.93	24.11	4.31	24.48	4.31	25.28	4.38
	31	15.22	2.40	18.39	3.09	21.35	3.82	22.40	4.21	23.84	4.48	24.03	4.46	24.83	4.56
	33	15.22	2.54	18.39	3.29	21.35	4.07	22.40	4.48	23.39	4.65	23.76	4.64	24.56	4.73
	35	15.22	2.71	18.39	3.51	21.35	4.36	22.40	4.78	23.03	4.81	23.32	4.82	24.11	4.91
	37	15.22	2.87	18.39	3.72	21.35	4.64	21.96	4.95	22.67	4.99	22.96	4.98	23.75	5.07
	39	15.22	3.06	18.39	3.96	21.35	4.94	21.69	5.10	22.30	5.16	22.60	5.15	23.39	5.26
	41	15.22	3.20	18.39	4.10	21.35	5.12	21.33	5.14	22.12	5.23	22.24	5.29	23.03	5.36
	43	15.22	3.34	18.39	4.24	21.35	5.20	20.98	5.20	21.94	5.28	22.33	5.31	22.67	5.44
	46	15.22	3.53	18.39	4.43	21.35	5.29	20.53	5.28	21.85	5.38	22.15	5.39	22.21	5.50
	48	15.22	3.69	18.39	4.61	21.35	5.32	19.73	5.33	21.76	5.49	20.81	5.44	21.67	5.56
	50	14.46	3.58	17.47	4.46	20.29	5.16	18.75	5.18	20.67	5.32	19.77	5.28	20.59	5.40
	52	13.59	3.44	16.42	4.30	19.07	4.96	17.62	4.98	19.43	5.13	18.59	5.08	19.35	5.19
	55	12.77	3.31	15.43	4.12	17.92	4.76	16.56	4.78	18.27	4.92	17.47	4.88	18.19	4.99

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

Table continued on next page …

Table2-8.2:8HP 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	13.98	1.15	16.57	1.37	19.63	1.66	21.02	1.81	22.10	1.91	24.57	2.17	27.58	2.51
	-10	13.98	1.25	16.57	1.48	19.63	1.80	21.02	1.96	22.10	2.06	24.57	2.35	27.58	2.71
	-5	13.98	1.34	16.57	1.60	19.63	1.94	21.02	2.11	22.10	2.23	24.57	2.53	27.58	2.93
	-2	13.98	1.36	16.57	1.62	19.63	1.96	21.02	2.14	22.10	2.25	24.57	2.55	27.58	2.95
	0	13.98	1.38	16.57	1.64	19.63	1.99	21.02	2.17	22.10	2.28	24.57	2.58	27.58	2.99
	2	13.98	1.40	16.57	1.66	19.63	2.01	21.02	2.20	22.10	2.31	24.57	2.64	27.58	3.02
	4	13.98	1.43	16.57	1.69	19.63	2.04	21.02	2.23	22.10	2.34	24.57	2.67	27.58	3.06
	6	13.98	1.45	16.57	1.72	19.63	2.09	21.02	2.27	22.10	2.39	24.57	2.71	27.58	3.12
	8	13.98	1.48	16.57	1.75	19.63	2.13	21.02	2.30	22.10	2.42	24.57	2.77	27.58	3.14
	10	13.98	1.50	16.57	1.78	19.63	2.16	21.02	2.34	22.10	2.48	24.57	2.80	27.58	3.19
	12	13.98	1.53	16.57	1.82	19.63	2.21	21.02	2.38	22.10	2.54	24.57	2.86	27.58	3.26
	14	13.98	1.55	16.57	1.86	19.63	2.25	21.02	2.42	22.10	2.58	24.57	2.92	27.58	3.32
	20	13.98	1.63	16.57	1.96	19.63	2.37	21.02	2.57	22.10	2.78	24.57	3.26	26.76	3.65
	25	13.98	1.78	16.57	2.20	19.63	2.77	21.02	3.04	22.10	3.29	24.57	3.88	25.84	4.08
	27	13.98	1.89	16.57	2.35	19.63	2.95	21.02	3.25	22.10	3.53	24.57	4.15	25.38	4.24
	29	13.98	2.01	16.57	2.50	19.63	3.16	21.02	3.47	22.10	3.77	24.30	4.33	25.11	4.41
	31	13.98	2.13	16.57	2.66	19.63	3.36	21.02	3.70	22.10	4.03	23.93	4.50	24.65	4.58
	33	13.98	2.27	16.57	2.83	19.63	3.59	21.02	3.95	22.10	4.29	23.57	4.68	24.28	4.76
	35	13.98	2.41	16.57	3.02	19.63	3.82	21.02	4.21	22.10	4.57	23.21	4.85	23.91	4.94
	37	13.98	2.56	16.57	3.21	19.63	4.07	21.02	4.48	22.10	4.88	22.75	5.02	23.55	5.11
	39	13.98	2.71	16.57	3.40	19.63	4.33	21.02	4.79	22.10	5.18	22.48	5.18	23.18	5.30
	41	13.98	2.80	16.57	3.56	19.63	4.47	21.02	4.89	22.10	5.24	22.30	5.31	23.00	5.41
	43	13.98	2.93	16.57	3.72	19.63	4.63	21.02	5.03	22.10	5.33	22.21	5.38	22.82	5.49
	46	13.98	3.13	16.57	3.90	19.63	4.82	21.02	5.20	22.10	5.49	22.03	5.46	22.45	5.57
	48	13.98	3.30	16.57	4.10	19.63	5.00	21.02	5.25	22.10	5.53	21.85	5.54	21.90	5.64
	50	13.28	3.20	15.75	3.96	18.65	4.87	19.97	5.10	21.00	5.38	20.76	5.37	20.80	5.48
	52	12.48	3.09	14.80	3.83	17.53	4.67	18.77	4.91	19.74	5.17	19.51	5.16	19.56	5.28
	55	11.73	2.96	13.91	3.66	16.48	4.49	17.64	4.71	18.55	4.96	18.34	4.95	18.38	5.06
80%	-15	12.33	1.01	14.66	1.19	17.34	1.44	18.69	1.54	19.53	1.62	22.27	1.91	24.23	2.14
	-10	12.33	1.09	14.66	1.29	17.34	1.56	18.69	1.66	19.53	1.75	22.27	2.07	24.23	2.32
	-5	12.33	1.18	14.66	1.39	17.34	1.68	18.69	1.78	19.53	1.90	22.27	2.23	24.23	2.49
	-2	12.33	1.20	14.66	1.41	17.34	1.69	18.69	1.82	19.53	1.91	22.27	2.25	24.23	2.52
	0	12.33	1.22	14.66	1.42	17.34	1.72	18.69	1.84	19.53	1.95	22.27	2.27	24.23	2.55
	2	12.33	1.24	14.66	1.45	17.34	1.74	18.69	1.88	19.53	1.98	22.27	2.32	24.23	2.61
	4	12.33	1.26	14.66	1.47	17.34	1.77	18.69	1.92	19.53	2.02	22.27	2.37	24.23	2.63
	6	12.33	1.28	14.66	1.50	17.34	1.80	18.69	1.96	19.53	2.06	22.27	2.40	24.23	2.68
	8	12.33	1.31	14.66	1.54	17.34	1.84	18.69	1.99	19.53	2.10	22.27	2.45	24.23	2.73
	10	12.33	1.31	14.66	1.57	17.34	1.89	18.69	2.04	19.53	2.15	22.27	2.50	24.23	2.76
	12	12.33	1.34	14.66	1.60	17.34	1.92	18.69	2.08	19.53	2.19	22.27	2.54	24.23	2.81
	14	12.33	1.36	14.66	1.63	17.34	1.95	18.69	2.11	19.53	2.23	22.27	2.59	24.23	2.88
	20	12.33	1.44	14.66	1.72	17.34	2.07	18.69	2.24	19.53	2.36	22.27	2.80	24.23	3.18
	25	12.33	1.52	14.66	1.88	17.34	2.34	18.69	2.58	19.53	2.76	22.27	3.33	24.23	3.79
	27	12.33	1.61	14.66	2.01	17.34	2.50	18.69	2.76	19.53	2.94	22.27	3.54	24.23	4.05
	29	12.33	1.72	14.66	2.13	17.34	2.67	18.69	2.92	19.53	3.14	22.27	3.79	24.23	4.33
	31	12.33	1.82	14.66	2.28	17.34	2.84	18.69	3.12	19.53	3.35	22.27	4.05	23.87	4.51
	33	12.33	1.94	14.66	2.42	17.34	3.01	18.69	3.32	19.53	3.57	22.27	4.31	23.50	4.68
	35	12.33	2.06	14.66	2.58	17.34	3.22	18.69	3.54	19.53	3.81	22.27	4.60	23.14	4.84
	37	12.33	2.18	14.66	2.73	17.34	3.42	18.69	3.77	19.53	4.06	22.27	4.90	22.78	5.02
	39	12.33	2.31	14.66	2.91	17.34	3.64	18.69	4.01	19.53	4.30	22.27	5.21	22.41	5.19
	41	12.33	2.37	14.66	2.94	17.34	3.68	18.69	4.11	19.53	4.39	22.27	5.35	22.23	5.27
	43	12.33	2.43	14.66	2.97	17.34	3.73	18.69	4.20	19.53	4.45	22.27	5.41	22.14	5.34
	46	12.33	2.50	14.66	3.00	17.34	3.81	18.69	4.28	19.53	4.52	22.27	5.48	21.87	5.42
	48	12.33	2.59	14.66	3.02	17.34	3.88	18.69	4.33	19.53	4.56	22.27	5.53	21.69	5.50
	50	11.71	2.51	13.92	2.93	16.48	3.76	17.75	4.21	18.55	4.44	21.16	5.35	20.60	5.33
	52	11.01	2.42	13.09	2.82	15.49	3.61	16.69	4.04	17.44	4.27	19.89	5.15	19.37	5.12
	55	10.35	2.32	12.30	2.70	14.56	3.48	15.69	3.89	16.39	4.10	18.70	4.95	18.21	4.93

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

Table continued on next page …

Table2-8.2:8HP 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	10.80	0.90	13.10	1.08	15.24	1.22	15.96	1.28	17.01	1.37	19.15	1.57	21.23	1.81
	-10	10.80	0.98	13.10	1.17	15.24	1.32	15.96	1.38	17.01	1.48	19.15	1.70	21.23	1.95
	-5	10.80	1.05	13.10	1.26	15.24	1.42	15.96	1.50	17.01	1.59	19.15	1.84	21.23	2.11
	-2	10.80	1.06	13.10	1.27	15.24	1.43	15.96	1.53	17.01	1.63	19.15	1.86	21.23	2.13
	0	10.80	1.07	13.10	1.29	15.24	1.46	15.96	1.56	17.01	1.66	19.15	1.90	21.23	2.16
	2	10.80	1.07	13.10	1.29	15.24	1.49	15.96	1.59	17.01	1.68	19.15	1.94	21.23	2.20
	4	10.80	1.09	13.10	1.32	15.24	1.51	15.96	1.61	17.01	1.72	19.15	1.97	21.23	2.26
	6	10.80	1.11	13.10	1.34	15.24	1.55	15.96	1.67	17.01	1.75	19.15	2.00	21.23	2.29
	8	10.80	1.13	13.10	1.37	15.24	1.59	15.96	1.70	17.01	1.80	19.15	2.06	21.23	2.34
	10	10.80	1.15	13.10	1.40	15.24	1.64	15.96	1.73	17.01	1.85	19.15	2.11	21.23	2.36
	12	10.80	1.18	13.10	1.42	15.24	1.67	15.96	1.76	17.01	1.88	19.15	2.15	21.23	2.41
	14	10.80	1.20	13.10	1.45	15.24	1.69	15.96	1.78	17.01	1.91	19.15	2.18	21.23	2.46
	20	10.80	1.26	13.10	1.52	15.24	1.79	15.96	1.89	17.01	2.02	19.15	2.32	21.23	2.63
	25	10.80	1.32	13.10	1.63	15.24	1.97	15.96	2.11	17.01	2.29	19.15	2.69	21.23	3.12
	27	10.80	1.39	13.10	1.74	15.24	2.09	15.96	2.25	17.01	2.45	19.15	2.87	21.23	3.33
	29	10.80	1.47	13.10	1.85	15.24	2.23	15.96	2.40	17.01	2.60	19.15	3.06	21.23	3.56
	31	10.80	1.57	13.10	1.96	15.24	2.38	15.96	2.55	17.01	2.77	19.15	3.26	21.23	3.80
	33	10.80	1.65	13.10	2.08	15.24	2.52	15.96	2.71	17.01	2.95	19.15	3.48	21.23	4.05
	35	10.80	1.76	13.10	2.21	15.24	2.68	15.96	2.88	17.01	3.13	19.15	3.71	21.23	4.31
	37	10.80	1.85	13.10	2.34	15.24	2.85	15.96	3.06	17.01	3.35	19.15	3.95	21.23	4.60
	39	10.80	1.96	13.10	2.47	15.24	3.03	15.96	3.26	17.01	3.54	19.15	4.21	21.23	4.90
	41	10.80	2.06	13.10	2.56	15.24	3.12	15.96	3.37	17.01	3.65	19.15	4.38	21.23	5.11
	43	10.80	2.22	13.10	2.74	15.24	3.23	15.96	3.54	17.01	3.77	19.15	4.52	21.23	5.26
	46	10.80	2.26	13.10	2.79	15.24	3.31	15.96	3.61	17.01	3.94	19.15	4.78	21.23	5.48
	48	10.80	2.30	13.10	2.81	15.24	3.35	15.96	3.67	17.01	4.05	19.15	4.99	21.23	5.59
	50	10.26	2.24	12.44	2.73	14.47	3.25	15.16	3.56	16.16	3.93	18.19	4.85	20.17	5.44
	52	9.64	2.15	11.70	2.63	13.61	3.13	14.25	3.42	15.19	3.79	17.10	4.67	18.96	5.22
	55	9.06	2.07	11.00	2.53	12.79	3.01	13.39	3.28	14.28	3.64	16.07	4.48	17.82	5.01
60%	-15	9.44	0.79	11.18	0.90	12.81	1.04	13.81	1.11	14.85	1.22	16.58	1.36	18.26	1.54
	-10	9.44	0.85	11.18	0.98	12.81	1.13	13.81	1.20	14.85	1.32	16.58	1.47	18.26	1.67
	-5	9.44	0.92	11.18	1.05	12.81	1.22	13.81	1.30	14.85	1.42	16.58	1.59	18.26	1.80
	-2	9.44	0.92	11.18	1.08	12.81	1.24	13.81	1.33	14.85	1.43	16.58	1.61	18.26	1.81
	0	9.44	0.93	11.18	1.08	12.81	1.26	13.81	1.34	14.85	1.46	16.58	1.63	18.26	1.84
	2	9.44	0.95	11.18	1.11	12.81	1.28	13.81	1.37	14.85	1.48	16.58	1.67	18.26	1.86
	4	9.44	0.98	11.18	1.13	12.81	1.30	13.81	1.38	14.85	1.49	16.58	1.68	18.26	1.89
	6	9.44	0.99	11.18	1.15	12.81	1.33	13.81	1.41	14.85	1.53	16.58	1.73	18.26	1.93
	8	9.44	1.01	11.18	1.17	12.81	1.35	13.81	1.44	14.85	1.56	16.58	1.76	18.26	1.97
	10	9.44	1.03	11.18	1.19	12.81	1.38	13.81	1.49	14.85	1.59	16.58	1.79	18.26	1.99
	12	9.44	1.05	11.18	1.21	12.81	1.40	13.81	1.51	14.85	1.62	16.58	1.83	18.26	2.03
	14	9.44	1.06	11.18	1.24	12.81	1.42	13.81	1.53	14.85	1.65	16.58	1.86	18.26	2.06
	20	9.44	1.10	11.18	1.30	12.81	1.50	13.81	1.62	14.85	1.75	16.58	1.97	18.26	2.19
	25	9.44	1.16	11.18	1.35	12.81	1.59	13.81	1.74	14.85	1.90	16.58	2.20	18.26	2.50
	27	9.44	1.21	11.18	1.44	12.81	1.70	13.81	1.86	14.85	2.04	16.58	2.34	18.26	2.68
	29	9.44	1.27	11.18	1.52	12.81	1.81	13.81	1.98	14.85	2.17	16.58	2.50	18.26	2.85
	31	9.44	1.34	11.18	1.62	12.81	1.92	13.81	2.10	14.85	2.30	16.58	2.66	18.26	3.03
	33	9.44	1.42	11.18	1.71	12.81	2.03	13.81	2.24	14.85	2.45	16.58	2.83	18.26	3.23
	35	9.44	1.50	11.18	1.82	12.81	2.17	13.81	2.37	14.85	2.60	16.58	3.01	18.26	3.44
	37	9.44	1.60	11.18	1.92	12.81	2.30	13.81	2.52	14.85	2.75	16.58	3.20	18.26	3.68
	39	9.44	1.68	11.18	2.04	12.81	2.43	13.81	2.67	14.85	2.92	16.58	3.41	18.26	3.89
	41	9.44	1.73	11.18	2.12	12.81	2.52	13.81	2.77	14.85	3.04	16.58	3.57	18.26	4.08
	43	9.44	1.79	11.18	2.22	12.81	2.60	13.81	2.86	14.85	3.13	16.58	3.72	18.26	4.26
	46	9.44	1.87	11.18	2.32	12.81	2.70	13.81	2.96	14.85	3.29	16.58	3.89	18.26	4.49
	48	9.44	1.94	11.18	2.42	12.81	2.80	13.81	3.05	14.85	3.41	16.58	4.01	18.26	4.71
	50	8.96	1.88	10.62	2.35	12.17	2.72	13.12	2.95	14.11	3.32	15.76	3.91	17.34	4.57
	52	8.43	1.81	9.98	2.26	11.44	2.61	12.33	2.83	13.26	3.19	14.81	3.76	16.30	4.39
	55	7.92	1.74	9.38	2.17	10.75	2.51	11.59	2.73	12.47	3.07	13.92	3.60	15.33	4.24

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

Table continued on next page …

Table2-8.2:8HP 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	7.71	0.67	9.24	0.77	10.71	0.89	11.66	0.95	12.40	1.00	13.60	1.11	15.29	1.22
	-10	7.71	0.72	9.24	0.83	10.71	0.96	11.66	1.03	12.40	1.08	13.60	1.20	15.29	1.32
	-5	7.71	0.78	9.24	0.90	10.71	1.04	11.66	1.11	12.40	1.17	13.60	1.30	15.29	1.42
	-2	7.71	0.79	9.24	0.92	10.71	1.04	11.66	1.12	12.40	1.19	13.60	1.32	15.29	1.44
	0	7.71	0.80	9.24	0.94	10.71	1.06	11.66	1.14	12.40	1.20	13.60	1.35	15.29	1.46
	2	7.71	0.81	9.24	0.94	10.71	1.09	11.66	1.16	12.40	1.23	13.60	1.34	15.29	1.49
	4	7.71	0.82	9.24	0.96	10.71	1.10	11.66	1.17	12.40	1.25	13.60	1.38	15.29	1.53
	6	7.71	0.84	9.24	0.98	10.71	1.12	11.66	1.20	12.40	1.27	13.60	1.40	15.29	1.56
	8	7.71	0.85	9.24	1.00	10.71	1.14	11.66	1.23	12.40	1.29	13.60	1.42	15.29	1.62
	10	7.71	0.87	9.24	1.01	10.71	1.15	11.66	1.24	12.40	1.32	13.60	1.46	15.29	1.65
	12	7.71	0.88	9.24	1.02	10.71	1.17	11.66	1.27	12.40	1.35	13.60	1.49	15.29	1.67
	14	7.71	0.89	9.24	1.03	10.71	1.18	11.66	1.30	12.40	1.37	13.60	1.51	15.29	1.71
	20	7.71	0.92	9.24	1.08	10.71	1.24	11.66	1.35	12.40	1.45	13.60	1.59	15.29	1.79
	25	7.71	0.96	9.24	1.13	10.71	1.30	11.66	1.41	12.40	1.53	13.60	1.72	15.29	1.98
	27	7.71	0.98	9.24	1.17	10.71	1.37	11.66	1.51	12.40	1.62	13.60	1.84	15.29	2.11
	29	7.71	1.03	9.24	1.23	10.71	1.45	11.66	1.60	12.40	1.74	13.60	1.95	15.29	2.25
	31	7.71	1.09	9.24	1.31	10.71	1.54	11.66	1.70	12.40	1.83	13.60	2.07	15.29	2.39
	33	7.71	1.15	9.24	1.38	10.71	1.64	11.66	1.80	12.40	1.95	13.60	2.21	15.29	2.55
	35	7.71	1.23	9.24	1.46	10.71	1.73	11.66	1.91	12.40	2.06	13.60	2.34	15.29	2.70
	37	7.71	1.29	9.24	1.54	10.71	1.83	11.66	2.02	12.40	2.18	13.60	2.48	15.29	2.86
	39	7.71	1.36	9.24	1.63	10.71	1.94	11.66	2.14	12.40	2.31	13.60	2.63	15.29	3.05
	41	7.71	1.42	9.24	1.69	10.71	2.01	11.66	2.24	12.40	2.42	13.60	2.77	15.29	3.19
	43	7.71	1.51	9.24	1.82	10.71	2.08	11.66	2.34	12.40	2.49	13.60	2.91	15.29	3.34
	46	7.71	1.54	9.24	1.86	10.71	2.22	11.66	2.52	12.40	2.58	13.60	3.19	15.29	3.61
	48	7.71	1.57	9.24	1.90	10.71	2.35	11.66	2.70	12.40	2.71	13.60	3.44	15.29	3.90
	50	7.32	1.53	8.78	1.85	10.17	2.27	11.07	2.62	11.78	2.63	12.92	3.34	14.52	3.79
	52	6.88	1.47	8.25	1.77	9.56	2.19	10.41	2.52	11.07	2.53	12.14	3.21	13.65	3.64
	55	6.47	1.41	7.75	1.71	8.99	2.10	9.78	2.42	10.41	2.43	11.41	3.09	12.83	3.49

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

Table2-8.3:10HP 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	25.58	2.41	30.52	2.95	35.01	3.13	36.28	3.24	38.51	3.39	39.44	3.68	40.45	3.70
	-10	25.58	2.60	30.52	3.19	35.01	3.38	36.28	3.51	38.51	3.66	39.44	3.96	40.45	3.99
	-5	25.58	2.81	30.52	3.46	35.01	3.65	36.28	3.79	38.51	3.96	39.44	4.30	40.45	4.32
	-2	25.58	2.81	30.52	3.52	35.01	3.65	36.28	3.81	38.51	3.95	39.44	4.34	40.45	4.37
	0	25.58	2.87	30.52	3.58	35.01	3.80	36.28	4.02	38.51	4.18	39.44	4.40	40.45	4.41
	2	25.58	2.91	30.52	3.57	35.01	3.91	36.28	4.26	38.51	4.22	39.44	4.43	40.45	4.49
	4	25.58	2.98	30.52	3.65	35.01	4.04	36.28	4.27	38.51	4.28	39.44	4.50	40.45	4.58
	6	25.58	3.04	30.52	3.73	35.01	4.20	36.28	4.30	38.09	4.41	38.92	4.58	39.93	4.60
	8	25.58	3.12	30.52	3.81	35.01	4.42	36.28	4.52	37.57	4.57	38.51	4.58	39.41	4.64
	10	25.58	3.17	30.52	3.88	35.01	4.57	36.28	4.66	37.15	4.65	38.09	4.66	38.99	4.77
	12	25.58	3.23	30.52	3.96	35.01	4.66	35.77	4.73	36.74	4.72	37.57	4.72	38.47	4.81
	14	25.58	3.30	30.52	4.05	34.91	4.73	35.36	4.81	36.22	4.77	37.15	4.80	38.06	4.92
	20	25.58	3.50	30.52	4.48	33.47	5.11	33.92	5.13	34.76	5.23	35.70	5.27	36.60	5.32
	25	25.58	4.11	30.52	5.33	32.34	5.70	32.69	5.74	33.62	5.84	34.55	5.90	35.46	5.95
	27	25.58	4.38	30.52	5.69	31.92	5.97	32.27	5.99	33.10	6.08	34.03	6.13	34.94	6.22
	29	25.58	4.69	30.52	6.08	31.41	6.19	31.76	6.22	32.68	6.33	33.62	6.40	34.52	6.47
	31	25.58	5.01	30.42	6.44	30.89	6.45	31.35	6.47	32.16	6.58	33.10	6.66	34.00	6.71
	33	25.58	5.34	29.90	6.69	30.48	6.69	30.83	6.71	31.74	6.84	32.68	6.90	33.48	6.98
	35	25.58	5.69	29.38	6.94	29.97	6.92	30.42	6.95	31.22	7.08	32.16	7.16	33.06	7.24
	37	25.58	6.05	28.96	7.19	29.56	7.18	29.91	7.20	30.81	7.35	31.64	7.41	32.54	7.51
	39	25.58	6.45	28.44	7.25	29.04	7.42	29.50	7.45	30.29	7.61	31.22	7.65	32.13	7.75
	41	25.58	6.76	28.13	7.33	28.73	7.50	29.19	7.50	29.97	7.67	30.91	7.70	30.88	7.83
	43	25.58	6.92	27.92	7.34	28.63	7.53	29.09	7.54	29.66	7.66	30.39	7.72	30.57	7.83
	46	25.58	7.29	27.81	7.42	28.32	7.58	28.78	7.62	29.25	7.69	29.56	7.73	29.95	7.98
	48	25.58	7.56	27.71	7.65	27.81	7.65	28.27	7.65	28.83	7.80	28.72	7.87	29.22	8.02
	50	24.30	7.34	26.33	7.45	26.41	7.43	26.85	7.44	27.39	7.57	27.29	7.66	27.76	7.79
	52	22.84	7.05	24.75	7.14	24.83	7.13	25.24	7.14	25.74	7.26	25.65	7.34	26.09	7.50
	55	21.47	6.78	23.26	6.87	23.34	6.85	23.73	6.87	24.20	7.00	24.11	7.07	24.53	7.21
120%	-15	23.11	2.28	28.10	2.83	32.34	3.31	34.87	3.64	35.90	3.72	36.68	3.83	38.23	4.02
	-10	23.11	2.46	28.10	3.05	32.34	3.58	34.87	3.93	35.90	4.02	36.68	4.15	38.23	4.33
	-5	23.11	2.66	28.10	3.30	32.34	3.86	34.87	4.24	35.90	4.34	36.68	4.47	38.23	4.69
	-2	23.11	2.69	28.10	3.34	32.34	3.90	34.87	4.26	35.90	4.39	36.68	4.52	38.23	4.70
	0	23.11	2.71	28.10	3.36	32.34	3.95	34.87	4.28	35.90	4.43	36.68	4.55	38.23	4.72
	2	23.11	2.73	28.10	3.38	32.34	3.98	34.87	4.33	35.90	4.45	36.68	4.58	38.23	4.74
	4	23.11	2.75	28.10	3.43	32.34	4.03	34.87	4.36	35.90	4.52	36.68	4.58	38.23	4.73
	6	23.11	2.78	28.10	3.46	32.34	4.06	34.87	4.40	35.90	4.56	36.68	4.62	38.23	4.74
	8	23.11	2.80	28.10	3.49	32.34	4.14	34.87	4.47	35.90	4.62	36.68	4.64	38.23	4.78
	10	23.11	2.84	28.10	3.54	32.34	4.16	34.87	4.54	35.90	4.62	36.68	4.64	38.23	4.81
	12	23.11	2.90	28.10	3.61	32.34	4.25	34.87	4.64	35.39	4.64	36.17	4.62	37.71	4.83
	14	23.11	2.94	28.10	3.68	32.34	4.32	34.87	4.72	34.88	4.65	35.76	4.70	37.29	4.89
	20	23.11	3.12	28.10	3.99	32.34	4.91	33.73	5.15	33.55	5.07	34.34	5.12	35.84	5.28
	25	23.11	3.59	28.10	4.72	31.82	5.70	32.48	5.77	32.33	5.66	33.22	5.71	34.69	5.88
	27	23.11	3.84	28.10	5.04	31.41	5.93	32.07	5.99	31.92	5.91	32.71	5.98	34.18	6.14
	29	23.11	4.09	28.10	5.41	30.89	6.15	31.55	6.24	31.41	6.17	32.20	6.23	33.76	6.41
	31	23.11	4.36	28.10	5.76	30.38	6.40	31.13	6.48	31.00	6.40	31.79	6.46	33.24	6.65
	33	23.11	4.65	28.10	6.14	29.97	6.63	30.61	6.72	30.49	6.63	31.28	6.72	32.72	6.92
	35	23.11	4.94	28.10	6.54	29.45	6.88	30.10	6.96	30.09	6.89	30.87	6.94	32.31	7.18
	37	23.11	5.26	28.10	6.98	29.04	7.13	29.68	7.22	29.58	7.15	30.36	7.21	31.79	7.42
	39	23.11	5.61	28.00	7.35	28.53	7.37	29.16	7.46	29.07	7.40	29.96	7.46	31.37	7.68
	41	23.11	5.77	27.79	7.42	28.32	7.41	28.95	7.51	28.86	7.43	29.75	7.47	30.44	7.74
	43	23.11	5.83	27.58	7.47	28.11	7.48	28.75	7.57	28.66	7.47	29.24	7.50	30.02	7.88
	46	23.11	5.92	27.48	7.53	27.81	7.53	28.43	7.63	28.35	7.51	28.63	7.50	29.71	8.05
	48	23.11	5.97	27.27	7.61	27.50	7.59	27.92	7.66	28.05	7.60	28.22	7.60	29.29	8.16
	50	21.95	5.78	25.90	7.41	26.12	7.39	26.52	7.43	26.64	7.38	26.81	7.39	27.83	7.93
	52	20.63	5.56	24.35	7.11	24.55	7.08	24.93	7.17	25.05	7.10	25.20	7.11	26.16	7.62
	55	19.40	5.35	22.89	6.83	23.08	6.83	23.43	6.88	23.54	6.81	23.69	6.82	24.59	7.31

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

Table continued on next page …

Table2-8.3:10HP 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	21.21	2.00	25.32	2.50	29.97	3.02	31.47	3.19	33.81	3.47	36.63	3.62	37.54	3.74
	-10	21.21	2.16	25.32	2.70	29.97	3.26	31.47	3.46	33.81	3.75	36.63	3.91	37.54	4.04
	-5	21.21	2.33	25.32	2.91	29.97	3.53	31.47	3.73	33.81	4.05	36.63	4.23	37.54	4.37
	-2	21.21	2.37	25.32	2.93	29.97	3.56	31.47	3.75	33.81	4.07	36.63	4.26	37.54	4.39
	0	21.21	2.40	25.32	2.96	29.97	3.59	31.47	3.78	33.81	4.12	36.63	4.30	37.54	4.45
	2	21.21	2.45	25.32	2.99	29.97	3.65	31.47	3.83	33.81	4.16	36.63	4.38	37.54	4.49
	4	21.21	2.51	25.32	3.02	29.97	3.69	31.47	3.88	33.81	4.22	36.63	4.42	37.54	4.53
	6	21.21	2.52	25.32	3.05	29.97	3.71	31.47	3.93	33.81	4.27	36.63	4.49	37.54	4.59
	8	21.21	2.55	25.32	3.12	29.97	3.77	31.47	3.97	33.81	4.33	36.63	4.51	37.54	4.67
	10	21.21	2.58	25.32	3.14	29.97	3.82	31.47	4.04	33.81	4.39	36.63	4.54	37.54	4.71
	12	21.21	2.63	25.32	3.21	29.97	3.88	31.47	4.12	33.81	4.47	36.22	4.61	37.02	4.75
	14	21.21	2.67	25.32	3.28	29.97	3.97	31.47	4.21	33.81	4.57	35.70	4.65	36.60	4.79
	20	21.21	2.83	25.32	3.47	29.97	4.37	31.47	4.73	33.30	5.11	34.35	5.19	35.14	5.23
	25	21.21	3.21	25.32	4.10	29.97	5.17	31.47	5.64	32.16	5.71	33.10	5.80	34.00	5.85
	27	21.21	3.40	25.32	4.38	29.97	5.54	30.96	5.86	31.65	5.95	32.69	6.03	33.48	6.09
	29	21.21	3.64	25.32	4.67	29.97	5.93	30.55	6.12	31.23	6.18	32.17	6.30	33.06	6.36
	31	21.21	3.87	25.32	4.97	29.97	6.33	30.04	6.33	30.72	6.43	31.76	6.53	32.54	6.62
	33	21.21	4.11	25.32	5.30	29.77	6.66	29.63	6.59	30.31	6.68	31.24	6.77	32.13	6.87
	35	21.21	4.39	25.32	5.65	29.25	6.90	29.12	6.80	29.79	6.93	30.72	7.02	31.61	7.10
	37	21.21	4.66	25.32	6.01	28.83	7.17	28.71	7.07	29.28	7.15	30.30	7.27	31.09	7.36
	39	21.21	4.95	25.32	6.41	28.31	7.40	28.20	7.32	28.86	7.40	29.78	7.54	30.67	7.62
	41	21.21	5.00	25.32	6.44	28.10	7.45	28.00	7.36	28.66	7.46	29.37	7.59	29.74	7.68
	43	21.21	5.07	25.32	6.55	27.89	7.49	27.79	7.42	28.45	7.52	29.16	7.61	29.32	7.83
	46	21.21	5.23	25.32	6.58	27.58	7.60	27.49	7.50	28.14	7.57	28.85	7.83	29.01	8.02
	48	21.21	5.39	25.32	7.10	27.16	7.61	27.08	7.51	27.83	7.66	28.33	7.82	28.70	8.07
	50	20.15	5.24	24.05	6.92	25.81	7.40	25.73	7.33	26.44	7.42	26.91	7.62	27.26	7.86
	52	18.94	5.03	22.61	6.63	24.26	7.10	24.18	7.04	24.85	7.16	25.30	7.33	25.63	7.54
	55	17.81	4.84	21.25	6.39	22.80	6.85	22.73	6.76	23.36	6.86	23.78	7.02	24.09	7.23
100%	-15	19.20	1.82	22.68	2.16	26.64	2.60	28.00	2.77	30.24	3.02	33.80	3.41	36.07	3.60
	-10	19.20	1.96	22.68	2.35	26.64	2.80	28.00	2.99	30.24	3.26	33.80	3.69	36.07	3.89
	-5	19.20	2.12	22.68	2.52	26.64	3.04	28.00	3.23	30.24	3.52	33.80	4.00	36.07	4.20
	-2	19.20	2.14	22.68	2.56	26.64	3.06	28.00	3.30	30.24	3.56	33.80	4.04	36.07	4.23
	0	19.20	2.16	22.68	2.58	26.64	3.09	28.00	3.33	30.24	3.60	33.80	4.11	36.07	4.28
	2	19.20	2.21	22.68	2.63	26.64	3.14	28.00	3.38	30.24	3.64	33.80	4.15	36.07	4.33
	4	19.20	2.21	22.68	2.64	26.64	3.18	28.00	3.42	30.24	3.68	33.80	4.19	36.07	4.39
	6	19.20	2.24	22.68	2.70	26.64	3.23	28.00	3.48	30.24	3.74	33.80	4.27	36.07	4.46
	8	19.20	2.29	22.68	2.73	26.64	3.28	28.00	3.53	30.24	3.79	33.80	4.33	36.07	4.54
	10	19.20	2.32	22.68	2.80	26.64	3.34	28.00	3.59	30.24	3.86	33.80	4.41	36.07	4.60
	12	19.20	2.35	22.68	2.84	26.64	3.39	28.00	3.64	30.24	3.95	33.80	4.48	35.56	4.63
	14	19.20	2.40	22.68	2.90	26.64	3.47	28.00	3.72	30.24	4.01	33.80	4.57	35.15	4.68
	20	19.20	2.53	22.68	3.07	26.64	3.71	28.00	4.05	30.24	4.49	32.69	4.99	33.73	5.11
	25	19.20	2.80	22.68	3.52	26.64	4.41	28.00	4.83	30.24	5.34	31.58	5.60	32.60	5.68
	27	19.20	3.00	22.68	3.76	26.64	4.70	28.00	5.17	30.24	5.69	31.08	5.84	32.09	5.93
	29	19.20	3.20	22.68	4.02	26.64	5.04	28.00	5.51	30.14	6.04	30.67	6.07	31.69	6.18
	31	19.20	3.39	22.68	4.29	26.64	5.36	28.00	5.89	29.74	6.27	30.17	6.31	31.18	6.42
	33	19.20	3.60	22.68	4.56	26.64	5.72	28.00	6.29	29.23	6.52	29.76	6.53	30.77	6.66
	35	19.20	3.84	22.68	4.86	26.64	6.11	28.00	6.70	28.72	6.75	29.26	6.77	30.26	6.90
	37	19.20	4.08	22.68	5.18	26.64	6.51	27.50	6.94	28.32	6.99	28.86	7.02	29.75	7.15
	39	19.20	4.33	22.68	5.49	26.64	6.92	27.10	7.17	27.81	7.22	28.35	7.27	29.34	7.38
	41	19.20	4.52	22.68	5.70	26.64	7.18	26.70	7.22	27.61	7.35	27.85	7.44	28.94	7.53
	43	19.20	4.72	22.68	5.90	26.64	7.31	26.30	7.32	27.40	7.42	28.05	7.46	28.43	7.64
	46	19.20	5.00	22.68	6.17	26.64	7.43	25.70	7.41	27.30	7.54	27.75	7.58	27.82	7.73
	48	19.20	5.24	22.68	6.38	26.64	7.45	24.60	7.48	27.20	7.71	26.13	7.67	27.20	7.81
	50	18.24	5.08	21.54	6.20	25.31	7.22	23.37	7.28	25.84	7.46	24.83	7.46	25.84	7.59
	52	17.15	4.87	20.25	5.95	23.79	6.95	21.97	6.99	24.29	7.19	23.34	7.17	24.29	7.30
	55	16.12	4.69	19.04	5.72	22.36	6.66	20.65	6.72	22.83	6.89	21.94	6.88	22.84	7.01

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

Table continued on next page …

Table2-8.3:10HP 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	17.49	1.63	20.91	1.96	24.02	2.27	25.98	2.52	27.28	2.64	30.64	3.04	34.43	3.52
	-10	17.49	1.75	20.91	2.11	24.02	2.46	25.98	2.72	27.28	2.85	30.64	3.27	34.43	3.81
	-5	17.49	1.90	20.91	2.28	24.02	2.65	25.98	2.93	27.28	3.08	30.64	3.54	34.43	4.11
	-2	17.49	1.90	20.91	2.30	24.02	2.68	25.98	2.97	27.28	3.12	30.64	3.57	34.43	4.16
	0	17.49	1.94	20.91	2.32	24.02	2.72	25.98	3.02	27.28	3.15	30.64	3.62	34.43	4.18
	2	17.49	1.98	20.91	2.35	24.02	2.75	25.98	3.05	27.28	3.21	30.64	3.70	34.43	4.23
	4	17.49	1.99	20.91	2.38	24.02	2.81	25.98	3.10	27.28	3.24	30.64	3.74	34.43	4.30
	6	17.49	2.03	20.91	2.45	24.02	2.86	25.98	3.16	27.28	3.30	30.64	3.80	34.43	4.38
	8	17.49	2.07	20.91	2.49	24.02	2.90	25.98	3.20	27.28	3.35	30.64	3.87	34.43	4.42
	10	17.49	2.11	20.91	2.55	24.02	2.96	25.98	3.23	27.28	3.43	30.64	3.93	34.43	4.50
	12	17.49	2.15	20.91	2.59	24.02	3.02	25.98	3.29	27.28	3.49	30.64	4.00	34.43	4.56
	14	17.49	2.18	20.91	2.63	24.02	3.07	25.98	3.36	27.28	3.56	30.64	4.08	34.43	4.65
	20	17.49	2.30	20.91	2.80	24.02	3.25	25.98	3.56	27.28	3.86	30.64	4.56	33.40	5.11
	25	17.49	2.50	20.91	3.12	24.02	3.79	25.98	4.22	27.28	4.57	30.64	5.42	32.26	5.73
	27	17.49	2.65	20.91	3.34	24.02	4.05	25.98	4.51	27.28	4.88	30.64	5.80	31.75	5.96
	29	17.49	2.82	20.91	3.54	24.02	4.33	25.98	4.82	27.28	5.22	30.33	6.05	31.34	6.21
	31	17.49	2.99	20.91	3.77	24.02	4.61	25.98	5.13	27.28	5.56	29.82	6.31	30.82	6.44
	33	17.49	3.17	20.91	4.02	24.02	4.92	25.98	5.48	27.28	5.94	29.42	6.54	30.41	6.67
	35	17.49	3.38	20.91	4.27	24.02	5.22	25.98	5.82	27.28	6.34	28.91	6.77	29.89	6.91
	37	17.49	3.60	20.91	4.54	24.02	5.57	25.98	6.21	27.28	6.74	28.40	7.02	29.48	7.17
	39	17.49	3.80	20.91	4.85	24.02	5.92	25.98	6.63	27.28	7.17	27.99	7.28	28.97	7.42
	41	17.49	3.93	20.91	5.06	24.02	6.14	25.98	6.80	27.28	7.23	27.79	7.45	28.76	7.60
	43	17.49	4.12	20.91	5.28	24.02	6.35	25.98	6.96	27.28	7.40	27.69	7.54	28.55	7.70
	46	17.49	4.40	20.91	5.54	24.02	6.62	25.98	7.19	27.28	7.57	27.48	7.62	28.04	7.80
	48	17.49	4.62	20.91	5.79	24.02	6.85	25.98	7.31	27.28	7.64	27.28	7.75	27.32	7.89
	50	16.62	4.51	19.86	5.62	22.82	6.68	24.68	7.08	25.92	7.42	25.92	7.51	25.95	7.70
	52	15.62	4.32	18.67	5.41	21.45	6.40	23.20	6.80	24.36	7.15	24.36	7.21	24.39	7.40
	55	14.68	4.16	17.55	5.21	20.16	6.15	21.81	6.54	22.90	6.86	22.90	6.95	22.93	7.11
80%	-15	15.70	1.44	18.73	1.71	21.71	2.02	22.82	2.10	24.85	2.33	27.65	2.66	30.64	3.03
	-10	15.70	1.56	18.73	1.85	21.71	2.18	22.82	2.27	24.85	2.51	27.65	2.87	30.64	3.27
	-5	15.70	1.69	18.73	2.00	21.71	2.36	22.82	2.46	24.85	2.70	27.65	3.10	30.64	3.54
	-2	15.70	1.71	18.73	2.02	21.71	2.38	22.82	2.50	24.85	2.73	27.65	3.13	30.64	3.57
	0	15.70	1.74	18.73	2.05	21.71	2.40	22.82	2.52	24.85	2.78	27.65	3.17	30.64	3.61
	2	15.70	1.78	18.73	2.08	21.71	2.44	22.82	2.57	24.85	2.83	27.65	3.24	30.64	3.71
	4	15.70	1.81	18.73	2.11	21.71	2.49	22.82	2.63	24.85	2.89	27.65	3.30	30.64	3.75
	6	15.70	1.83	18.73	2.16	21.71	2.53	22.82	2.69	24.85	2.94	27.65	3.35	30.64	3.80
	8	15.70	1.87	18.73	2.21	21.71	2.58	22.82	2.74	24.85	3.00	27.65	3.39	30.64	3.88
	10	15.70	1.88	18.73	2.26	21.71	2.65	22.82	2.80	24.85	3.06	27.65	3.48	30.64	3.92
	12	15.70	1.92	18.73	2.29	21.71	2.70	22.82	2.86	24.85	3.13	27.65	3.54	30.64	3.99
	14	15.70	1.95	18.73	2.35	21.71	2.75	22.82	2.89	24.85	3.20	27.65	3.60	30.64	4.07
	20	15.70	2.05	18.73	2.47	21.71	2.92	22.82	3.08	24.85	3.38	27.65	3.89	30.64	4.52
	25	15.70	2.17	18.73	2.71	21.71	3.29	22.82	3.55	24.85	3.93	27.65	4.63	30.64	5.37
	27	15.70	2.32	18.73	2.89	21.71	3.51	22.82	3.78	24.85	4.20	27.65	4.93	30.64	5.76
	29	15.70	2.47	18.73	3.07	21.71	3.75	22.82	4.03	24.85	4.50	27.65	5.27	30.64	6.14
	31	15.70	2.61	18.73	3.26	21.71	3.99	22.82	4.29	24.85	4.80	27.65	5.62	30.13	6.40
	33	15.70	2.78	18.73	3.47	21.71	4.23	22.82	4.57	24.85	5.11	27.65	5.98	29.72	6.64
	35	15.70	2.95	18.73	3.70	21.71	4.50	22.82	4.87	24.85	5.44	27.65	6.38	29.20	6.87
	37	15.70	3.12	18.73	3.92	21.71	4.79	22.82	5.17	24.85	5.80	27.65	6.82	28.79	7.11
	39	15.70	3.30	18.73	4.18	21.71	5.11	22.82	5.52	24.85	6.17	27.65	7.25	28.27	7.36
	41	15.70	3.38	18.73	4.21	21.71	5.17	22.82	5.66	24.85	6.28	27.65	7.44	28.07	7.49
	43	15.70	3.49	18.73	4.24	21.71	5.26	22.82	5.76	24.85	6.37	27.65	7.53	27.96	7.58
	46	15.70	3.58	18.73	4.29	21.71	5.37	22.82	5.87	24.85	6.47	27.65	7.61	27.55	7.67
	48	15.70	3.69	18.73	4.33	21.71	5.43	22.82	5.94	24.85	6.53	27.65	7.69	27.34	7.77
	50	14.92	3.58	17.80	4.19	20.62	5.28	21.68	5.78	23.61	6.34	26.27	7.44	25.98	7.56
	52	14.02	3.45	16.73	4.03	19.39	5.08	20.38	5.55	22.19	6.09	24.69	7.17	24.42	7.26
	55	13.18	3.32	15.73	3.87	18.22	4.89	19.16	5.33	20.86	5.86	23.21	6.89	22.95	6.99

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

Table continued on next page …

Table2-8.3:10HP 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	13.75	1.29	16.27	1.50	18.63	1.68	20.36	1.84	21.69	1.96	23.82	2.20	26.52	2.53
	-10	13.75	1.39	16.27	1.62	18.63	1.82	20.36	1.99	21.69	2.11	23.82	2.37	26.52	2.74
	-5	13.75	1.50	16.27	1.75	18.63	1.97	20.36	2.15	21.69	2.29	23.82	2.56	26.52	2.95
	-2	13.75	1.53	16.27	1.76	18.63	1.97	20.36	2.18	21.69	2.33	23.82	2.60	26.52	3.00
	0	13.75	1.53	16.27	1.78	18.63	2.00	20.36	2.23	21.69	2.36	23.82	2.66	26.52	3.03
	2	13.75	1.53	16.27	1.79	18.63	2.03	20.36	2.26	21.69	2.41	23.82	2.71	26.52	3.08
	4	13.75	1.56	16.27	1.84	18.63	2.10	20.36	2.31	21.69	2.46	23.82	2.75	26.52	3.16
	6	13.75	1.58	16.27	1.87	18.63	2.14	20.36	2.39	21.69	2.52	23.82	2.81	26.52	3.21
	8	13.75	1.61	16.27	1.92	18.63	2.18	20.36	2.42	21.69	2.57	23.82	2.89	26.52	3.27
	10	13.75	1.65	16.27	1.95	18.63	2.24	20.36	2.47	21.69	2.65	23.82	2.96	26.52	3.32
	12	13.75	1.68	16.27	1.98	18.63	2.29	20.36	2.51	21.69	2.69	23.82	3.00	26.52	3.39
	14	13.75	1.71	16.27	2.02	18.63	2.33	20.36	2.56	21.69	2.73	23.82	3.06	26.52	3.44
	20	13.75	1.80	16.27	2.13	18.63	2.47	20.36	2.70	21.69	2.88	23.82	3.24	26.52	3.67
	25	13.75	1.88	16.27	2.27	18.63	2.70	20.36	3.02	21.69	3.27	23.82	3.77	26.52	4.37
	27	13.75	1.98	16.27	2.42	18.63	2.88	20.36	3.21	21.69	3.49	23.82	4.01	26.52	4.67
	29	13.75	2.10	16.27	2.57	18.63	3.07	20.36	3.42	21.69	3.71	23.82	4.28	26.52	5.00
	31	13.75	2.23	16.27	2.73	18.63	3.26	20.36	3.63	21.69	3.97	23.82	4.56	26.52	5.30
	33	13.75	2.37	16.27	2.90	18.63	3.47	20.36	3.88	21.69	4.23	23.82	4.88	26.52	5.65
	35	13.75	2.51	16.27	3.08	18.63	3.68	20.36	4.12	21.69	4.49	23.82	5.19	26.52	6.03
	37	13.75	2.66	16.27	3.26	18.63	3.92	20.36	4.37	21.69	4.79	23.82	5.51	26.52	6.43
	39	13.75	2.82	16.27	3.45	18.63	4.16	20.36	4.65	21.69	5.07	23.82	5.87	26.52	6.85
	41	13.75	2.94	16.27	3.58	18.63	4.28	20.36	4.80	21.69	5.22	23.82	6.10	26.52	7.15
	43	13.75	3.18	16.27	3.82	18.63	4.46	20.36	5.07	21.69	5.37	23.82	6.33	26.52	7.38
	46	13.75	3.24	16.27	3.89	18.63	4.55	20.36	5.14	21.69	5.64	23.82	6.67	26.52	7.66
	48	13.75	3.30	16.27	3.92	18.63	4.61	20.36	5.23	21.69	5.80	23.82	7.00	26.52	7.85
	50	13.06	3.21	15.46	3.81	17.70	4.47	19.34	5.08	20.60	5.64	22.63	6.80	25.19	7.62
	52	12.28	3.08	14.53	3.67	16.63	4.29	18.18	4.89	19.37	5.43	21.27	6.52	23.68	7.33
	55	11.54	2.97	13.66	3.51	15.64	4.13	17.09	4.71	18.21	5.20	19.99	6.27	22.26	7.06
60%	-15	11.73	1.10	14.05	1.28	16.31	1.49	17.45	1.59	18.65	1.71	20.88	1.93	23.19	2.21
	-10	11.73	1.19	14.05	1.38	16.31	1.60	17.45	1.71	18.65	1.85	20.88	2.07	23.19	2.38
	-5	11.73	1.28	14.05	1.49	16.31	1.73	17.45	1.85	18.65	1.99	20.88	2.25	23.19	2.58
	-2	11.73	1.29	14.05	1.52	16.31	1.76	17.45	1.88	18.65	2.02	20.88	2.28	23.19	2.59
	0	11.73	1.31	14.05	1.54	16.31	1.78	17.45	1.90	18.65	2.06	20.88	2.31	23.19	2.62
	2	11.73	1.34	14.05	1.57	16.31	1.81	17.45	1.94	18.65	2.08	20.88	2.35	23.19	2.66
	4	11.73	1.37	14.05	1.60	16.31	1.87	17.45	1.96	18.65	2.11	20.88	2.39	23.19	2.69
	6	11.73	1.38	14.05	1.63	16.31	1.89	17.45	2.00	18.65	2.15	20.88	2.44	23.19	2.77
	8	11.73	1.41	14.05	1.65	16.31	1.93	17.45	2.04	18.65	2.20	20.88	2.48	23.19	2.81
	10	11.73	1.43	14.05	1.69	16.31	1.96	17.45	2.11	18.65	2.24	20.88	2.53	23.19	2.84
	12	11.73	1.47	14.05	1.72	16.31	1.99	17.45	2.14	18.65	2.29	20.88	2.59	23.19	2.89
	14	11.73	1.48	14.05	1.74	16.31	2.03	17.45	2.17	18.65	2.33	20.88	2.63	23.19	2.94
	20	11.73	1.55	14.05	1.84	16.31	2.14	17.45	2.29	18.65	2.46	20.88	2.77	23.19	3.13
	25	11.73	1.61	14.05	1.92	16.31	2.28	17.45	2.47	18.65	2.68	20.88	3.11	23.19	3.58
	27	11.73	1.68	14.05	2.04	16.31	2.42	17.45	2.63	18.65	2.86	20.88	3.31	23.19	3.81
	29	11.73	1.78	14.05	2.16	16.31	2.59	17.45	2.81	18.65	3.04	20.88	3.54	23.19	4.08
	31	11.73	1.88	14.05	2.29	16.31	2.74	17.45	2.98	18.65	3.24	20.88	3.76	23.19	4.34
	33	11.73	1.98	14.05	2.43	16.31	2.90	17.45	3.16	18.65	3.44	20.88	3.99	23.19	4.62
	35	11.73	2.10	14.05	2.58	16.31	3.07	17.45	3.37	18.65	3.66	20.88	4.26	23.19	4.93
	37	11.73	2.23	14.05	2.73	16.31	3.26	17.45	3.55	18.65	3.88	20.88	4.52	23.19	5.23
	39	11.73	2.34	14.05	2.88	16.31	3.47	17.45	3.77	18.65	4.12	20.88	4.81	23.19	5.58
	41	11.73	2.42	14.05	3.00	16.31	3.60	17.45	3.93	18.65	4.27	20.88	5.03	23.19	5.83
	43	11.73	2.49	14.05	3.13	16.31	3.72	17.45	4.05	18.65	4.42	20.88	5.26	23.19	6.09
	46	11.73	2.61	14.05	3.30	16.31	3.86	17.45	4.19	18.65	4.65	20.88	5.50	23.19	6.41
	48	11.73	2.71	14.05	3.43	16.31	4.00	17.45	4.30	18.65	4.81	20.88	5.69	23.19	6.72
	50	11.14	2.63	13.35	3.34	15.49	3.88	16.58	4.18	17.71	4.68	19.84	5.53	22.03	6.53
	52	10.47	2.53	12.55	3.21	14.56	3.72	15.58	4.03	16.65	4.51	18.65	5.31	20.71	6.29
	55	9.84	2.44	11.79	3.08	13.69	3.59	14.65	3.87	15.65	4.32	17.53	5.11	19.46	6.03

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 …

Table2-8.3:10HP 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	9.78	0.95	11.61	1.09	13.46	1.25	14.45	1.33	15.20	1.38	17.33	1.59	19.14	1.70
	-10	9.78	1.02	11.61	1.18	13.46	1.36	14.45	1.43	15.20	1.49	17.33	1.72	19.14	1.84
	-5	9.78	1.11	11.61	1.28	13.46	1.46	14.45	1.54	15.20	1.60	17.33	1.86	19.14	1.98
	-2	9.78	1.12	11.61	1.30	13.46	1.48	14.45	1.57	15.20	1.63	17.33	1.88	19.14	2.02
	0	9.78	1.13	11.61	1.32	13.46	1.51	14.45	1.58	15.20	1.65	17.33	1.92	19.14	2.05
	2	9.78	1.15	11.61	1.34	13.46	1.54	14.45	1.61	15.20	1.67	17.33	1.93	19.14	2.08
	4	9.78	1.16	11.61	1.37	13.46	1.55	14.45	1.62	15.20	1.72	17.33	1.97	19.14	2.14
	6	9.78	1.18	11.61	1.39	13.46	1.57	14.45	1.67	15.20	1.76	17.33	2.00	19.14	2.21
	8	9.78	1.20	11.61	1.41	13.46	1.61	14.45	1.70	15.20	1.77	17.33	2.03	19.14	2.28
	10	9.78	1.24	11.61	1.42	13.46	1.62	14.45	1.73	15.20	1.83	17.33	2.09	19.14	2.31
	12	9.78	1.24	11.61	1.44	13.46	1.66	14.45	1.76	15.20	1.86	17.33	2.12	19.14	2.34
	14	9.78	1.26	11.61	1.46	13.46	1.67	14.45	1.79	15.20	1.88	17.33	2.15	19.14	2.39
	20	9.78	1.31	11.61	1.53	13.46	1.76	14.45	1.88	15.20	1.99	17.33	2.27	19.14	2.51
	25	9.78	1.36	11.61	1.60	13.46	1.84	14.45	1.97	15.20	2.10	17.33	2.46	19.14	2.77
	27	9.78	1.39	11.61	1.66	13.46	1.94	14.45	2.10	15.20	2.24	17.33	2.61	19.14	2.95
	29	9.78	1.46	11.61	1.74	13.46	2.05	14.45	2.23	15.20	2.38	17.33	2.78	19.14	3.16
	31	9.78	1.54	11.61	1.84	13.46	2.18	14.45	2.37	15.20	2.53	17.33	2.95	19.14	3.35
	33	9.78	1.64	11.61	1.96	13.46	2.32	14.45	2.51	15.20	2.68	17.33	3.13	19.14	3.57
	35	9.78	1.72	11.61	2.07	13.46	2.44	14.45	2.66	15.20	2.84	17.33	3.34	19.14	3.79
	37	9.78	1.82	11.61	2.19	13.46	2.59	14.45	2.81	15.20	3.01	17.33	3.55	19.14	4.03
	39	9.78	1.92	11.61	2.30	13.46	2.74	14.45	2.98	15.20	3.20	17.33	3.75	19.14	4.27
	41	9.78	2.00	11.61	2.41	13.46	2.84	14.45	3.12	15.20	3.33	17.33	3.97	19.14	4.46
	43	9.78	2.14	11.61	2.56	13.46	2.93	14.45	3.25	15.20	3.40	17.33	4.16	19.14	4.68
	46	9.78	2.18	11.61	2.63	13.46	3.14	14.45	3.52	15.20	3.56	17.33	4.55	19.14	5.06
	48	9.78	2.22	11.61	2.70	13.46	3.30	14.45	3.75	15.20	3.73	17.33	4.91	19.14	5.47
	50	9.29	2.16	11.03	2.62	12.79	3.21	13.72	3.63	14.44	3.63	16.46	4.78	18.18	5.29
	52	8.74	2.08	10.37	2.52	12.02	3.09	12.90	3.49	13.57	3.49	15.48	4.59	17.09	5.09
	55	8.21	2.00	9.75	2.42	11.30	2.96	12.13	3.36	12.76	3.35	14.55	4.41	16.06	4.90

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

Table2-8.4:12HP 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	30.16	3.10	36.11	3.79	41.35	4.01	43.83	4.27	44.96	4.29	46.06	4.66	47.28	4.71
	-10	30.16	3.35	36.11	4.09	41.35	4.33	43.83	4.62	44.96	4.63	46.06	5.05	47.28	5.08
	-5	30.16	3.61	36.11	4.43	41.35	4.67	43.83	4.97	44.96	5.01	46.06	5.44	47.28	5.48
	-2	30.16	3.61	36.11	4.50	41.35	4.67	43.83	5.01	44.96	5.00	46.06	5.52	47.28	5.54
	0	30.16	3.68	36.11	4.58	41.35	4.84	43.83	5.28	44.96	5.29	46.06	5.60	47.28	5.61
	2	30.16	3.74	36.11	4.59	41.35	5.02	43.83	5.60	44.96	5.35	46.06	5.62	47.28	5.71
	4	30.16	3.82	36.11	4.68	41.35	5.19	43.83	5.59	44.96	5.42	46.06	5.72	47.28	5.80
	6	30.16	3.90	36.11	4.78	41.35	5.37	43.83	5.65	44.45	5.59	45.55	5.80	46.78	5.84
	8	30.16	3.99	36.11	4.89	41.35	5.66	43.83	5.93	43.84	5.78	45.05	5.82	46.16	5.92
	10	30.16	4.07	36.11	4.98	41.35	5.87	43.83	6.13	43.33	5.89	44.54	5.92	45.66	6.07
	12	30.16	4.15	36.11	5.08	41.35	5.99	43.21	6.21	42.83	5.96	43.93	6.01	45.05	6.10
	14	30.16	4.23	36.11	5.17	41.24	6.07	42.79	6.29	42.22	6.05	43.42	6.10	44.54	6.26
	20	30.16	4.47	36.11	5.75	39.52	6.56	41.03	6.72	40.59	6.63	41.69	6.69	42.81	6.77
	25	30.16	5.25	36.11	6.82	38.20	7.31	39.47	7.54	39.17	7.39	40.37	7.47	41.49	7.54
	27	30.16	5.62	36.11	7.32	37.69	7.63	39.05	7.84	38.56	7.70	39.76	7.80	40.88	7.87
	29	30.16	6.00	36.11	7.83	37.08	7.93	38.43	8.16	38.16	8.04	39.25	8.13	40.37	8.20
	31	30.16	6.41	35.90	8.27	36.47	8.26	37.91	8.48	37.55	8.32	38.64	8.44	39.76	8.54
	33	30.16	6.83	35.29	8.59	35.96	8.55	37.29	8.82	37.04	8.64	38.23	8.74	39.15	8.87
	35	30.16	7.27	34.67	8.88	35.35	8.88	36.77	9.14	36.43	8.96	37.62	9.09	38.64	9.16
	37	30.16	7.72	34.26	9.22	34.84	9.22	36.15	9.46	35.93	9.28	37.01	9.41	38.03	9.50
	39	30.16	8.23	33.64	9.31	34.23	9.49	35.63	9.79	35.32	9.61	36.50	9.73	37.62	9.87
	41	30.16	8.66	33.23	9.41	33.93	9.59	35.31	9.86	35.01	9.73	36.10	9.74	36.20	9.96
	43	30.16	8.88	33.02	9.46	33.73	9.63	35.11	9.92	34.61	9.74	35.49	9.79	35.69	9.98
	46	30.16	9.32	32.82	9.52	33.42	9.71	34.79	9.99	34.10	9.78	34.47	9.84	34.98	10.15
	48	30.16	9.66	32.71	9.85	32.81	9.82	34.17	10.04	33.69	9.85	33.56	9.98	34.17	10.18
	50	28.65	9.37	31.08	9.54	31.17	9.51	32.46	9.78	32.01	9.57	31.88	9.69	32.46	9.92
	52	26.93	9.02	29.21	9.21	29.30	9.15	30.52	9.41	30.09	9.21	29.97	9.31	30.51	9.53
	55	25.31	8.67	27.46	8.84	27.54	8.77	28.68	9.04	28.28	8.85	28.17	8.96	28.68	9.14
120%	-15	27.98	3.01	32.91	3.59	38.23	4.25	41.32	4.69	43.64	4.92	44.68	5.08	45.13	5.17
	-10	27.98	3.24	32.91	3.88	38.23	4.58	41.32	5.06	43.64	5.31	44.68	5.48	45.13	5.59
	-5	27.98	3.51	32.91	4.20	38.23	4.96	41.32	5.45	43.64	5.74	44.68	5.93	45.13	6.03
	-2	27.98	3.53	32.91	4.23	38.23	5.01	41.32	5.49	43.64	5.82	44.68	5.97	45.13	6.04
	0	27.98	3.57	32.91	4.26	38.23	5.06	41.32	5.50	43.64	5.85	44.68	6.01	45.13	6.04
	2	27.98	3.57	32.91	4.32	38.23	5.09	41.32	5.57	43.64	5.87	44.68	6.07	45.13	6.06
	4	27.98	3.61	32.91	4.38	38.23	5.17	41.32	5.61	43.64	5.95	44.68	6.08	45.13	6.08
	6	27.98	3.65	32.91	4.40	38.23	5.21	41.32	5.67	43.64	6.01	44.68	6.11	45.13	6.09
	8	27.98	3.69	32.91	4.45	38.23	5.30	41.32	5.75	43.64	6.10	44.68	6.14	45.13	6.13
	10	27.98	3.72	32.91	4.51	38.23	5.34	41.32	5.84	43.64	6.08	44.68	6.16	45.13	6.17
	12	27.98	3.81	32.91	4.58	38.23	5.46	41.32	5.96	43.02	6.11	44.06	6.13	44.52	6.21
	14	27.98	3.87	32.91	4.68	38.23	5.55	41.32	6.06	42.40	6.17	43.54	6.20	44.11	6.28
	20	27.98	4.10	32.91	5.07	38.23	6.30	39.98	6.64	40.84	6.70	41.78	6.79	42.36	6.76
	25	27.98	4.72	32.91	6.00	37.62	7.29	38.44	7.41	39.29	7.50	40.43	7.56	41.03	7.57
	27	27.98	5.04	32.91	6.43	37.11	7.58	38.03	7.71	38.77	7.84	39.81	7.91	40.42	7.90
	29	27.98	5.37	32.91	6.87	36.50	7.90	37.41	8.01	38.25	8.15	39.19	8.23	39.90	8.21
	31	27.98	5.73	32.91	7.32	35.89	8.22	36.90	8.35	37.73	8.45	38.67	8.53	39.29	8.56
	33	27.98	6.10	32.91	7.80	35.39	8.51	36.28	8.68	37.11	8.78	38.05	8.87	38.67	8.85
	35	27.98	6.51	32.91	8.31	34.78	8.82	35.66	8.99	36.59	9.10	37.63	9.21	38.16	9.20
	37	27.98	6.92	32.91	8.88	34.27	9.14	35.15	9.28	35.97	9.43	37.01	9.51	37.54	9.52
	39	27.98	7.36	32.81	9.35	33.66	9.43	34.53	9.63	35.35	9.73	36.49	9.86	37.03	9.85
	41	27.98	7.57	32.50	9.44	33.45	9.53	34.33	9.67	35.04	9.81	36.18	9.87	36.00	9.94
	43	27.98	7.66	32.40	9.51	33.15	9.57	34.02	9.74	34.83	9.84	35.56	9.90	35.39	10.12
	46	27.98	7.78	32.20	9.60	32.84	9.66	33.71	9.82	34.52	9.95	34.83	9.93	35.08	10.33
	48	27.98	7.82	31.89	9.67	32.44	9.74	33.09	9.85	34.11	10.02	34.31	10.05	34.67	10.48
	50	26.58	7.60	30.29	9.42	30.82	9.46	31.44	9.57	32.40	9.75	32.60	9.78	32.94	10.15
	52	24.99	7.30	28.48	9.03	28.97	9.11	29.55	9.21	30.46	9.36	30.64	9.37	30.96	9.76
	55	23.49	7.02	26.77	8.71	27.23	8.75	27.78	8.88	28.63	8.98	28.80	9.02	29.10	9.42

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 …

Table2-8.4:12HP 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	25.86	2.65	30.26	3.23	35.73	3.93	37.85	4.17	40.25	4.49	43.66	4.70	44.78	4.85
	-10	25.86	2.86	30.26	3.49	35.73	4.23	37.85	4.49	40.25	4.85	43.66	5.06	44.78	5.25
	-5	25.86	3.09	30.26	3.76	35.73	4.58	37.85	4.86	40.25	5.24	43.66	5.48	44.78	5.66
	-2	25.86	3.15	30.26	3.82	35.73	4.60	37.85	4.90	40.25	5.27	43.66	5.53	44.78	5.70
	0	25.86	3.18	30.26	3.83	35.73	4.64	37.85	4.94	40.25	5.33	43.66	5.58	44.78	5.75
	2	25.86	3.25	30.26	3.87	35.73	4.72	37.85	4.99	40.25	5.39	43.66	5.68	44.78	5.82
	4	25.86	3.32	30.26	3.91	35.73	4.75	37.85	5.05	40.25	5.46	43.66	5.74	44.78	5.89
	6	25.86	3.35	30.26	3.97	35.73	4.80	37.85	5.12	40.25	5.52	43.66	5.80	44.78	5.99
	8	25.86	3.37	30.26	4.02	35.73	4.86	37.85	5.19	40.25	5.59	43.66	5.83	44.78	6.04
	10	25.86	3.41	30.26	4.07	35.73	4.93	37.85	5.26	40.25	5.67	43.66	5.88	44.78	6.08
	12	25.86	3.48	30.26	4.16	35.73	5.03	37.85	5.39	40.25	5.81	43.25	5.98	44.16	6.16
	14	25.86	3.56	30.26	4.24	35.73	5.14	37.85	5.47	40.25	5.89	42.63	6.01	43.64	6.20
	20	25.86	3.75	30.26	4.51	35.73	5.64	37.85	6.17	39.63	6.61	40.97	6.70	41.88	6.80
	25	25.86	4.25	30.26	5.29	35.73	6.68	37.85	7.37	38.30	7.37	39.53	7.51	40.53	7.59
	27	25.86	4.52	30.26	5.67	35.73	7.16	37.24	7.65	37.68	7.70	39.01	7.81	39.91	7.90
	29	25.86	4.81	30.26	6.03	35.73	7.68	36.72	7.98	37.27	8.02	38.39	8.15	39.39	8.25
	31	25.86	5.12	30.26	6.43	35.73	8.19	36.11	8.27	36.66	8.30	37.87	8.47	38.77	8.55
	33	25.86	5.46	30.26	6.87	35.42	8.64	35.59	8.60	36.14	8.65	37.25	8.78	38.36	8.88
	35	25.86	5.80	30.26	7.33	34.80	8.92	34.98	8.89	35.53	8.94	36.63	9.09	37.73	9.20
	37	25.86	6.16	30.26	7.81	34.28	9.28	34.47	9.20	34.91	9.28	36.11	9.45	37.11	9.53
	39	25.86	6.55	30.26	8.30	33.66	9.58	33.85	9.55	34.40	9.60	35.49	9.75	36.59	9.87
	41	25.86	6.64	30.26	8.37	33.45	9.62	33.65	9.60	34.09	9.64	35.08	9.81	35.45	9.94
	43	25.86	6.69	30.26	8.46	33.14	9.73	33.34	9.64	33.88	9.71	34.77	9.87	34.94	10.15
	46	25.86	6.90	30.26	8.52	32.83	9.79	33.03	9.77	33.58	9.83	34.46	10.10	34.62	10.37
	48	25.86	7.12	30.26	9.21	32.31	9.84	32.52	9.81	33.16	9.88	33.83	10.15	34.21	10.47
	50	24.57	6.93	28.75	8.97	30.70	9.58	30.89	9.52	31.51	9.59	32.14	9.84	32.50	10.17
	52	23.10	6.67	27.02	8.61	28.86	9.18	29.04	9.18	29.62	9.24	30.21	9.49	30.55	9.77
	55	21.71	6.40	25.40	8.27	27.12	8.85	27.30	8.80	27.84	8.87	28.40	9.10	28.72	9.37
100%	-15	22.91	2.34	27.06	2.81	31.67	3.37	33.50	3.59	36.27	3.93	40.74	4.48	42.48	4.60
	-10	22.91	2.54	27.06	3.03	31.67	3.63	33.50	3.88	36.27	4.23	40.74	4.83	42.48	4.97
	-5	22.91	2.74	27.06	3.28	31.67	3.93	33.50	4.19	36.27	4.58	40.74	5.21	42.48	5.36
	-2	22.91	2.77	27.06	3.31	31.67	3.97	33.50	4.27	36.27	4.64	40.74	5.28	42.48	5.42
	0	22.91	2.79	27.06	3.36	31.67	4.01	33.50	4.32	36.27	4.67	40.74	5.36	42.48	5.46
	2	22.91	2.86	27.06	3.39	31.67	4.06	33.50	4.38	36.27	4.73	40.74	5.45	42.48	5.55
	4	22.91	2.88	27.06	3.44	31.67	4.12	33.50	4.46	36.27	4.81	40.74	5.49	42.48	5.61
	6	22.91	2.92	27.06	3.50	31.67	4.17	33.50	4.52	36.27	4.86	40.74	5.58	42.48	5.70
	8	22.91	2.98	27.06	3.55	31.67	4.25	33.50	4.59	36.27	4.95	40.74	5.67	42.48	5.79
	10	22.91	3.01	27.06	3.62	31.67	4.31	33.50	4.66	36.27	5.03	40.74	5.74	42.48	5.86
	12	22.91	3.06	27.06	3.69	31.67	4.38	33.50	4.74	36.27	5.12	40.74	5.87	41.88	5.93
	14	22.91	3.13	27.06	3.76	31.67	4.49	33.50	4.84	36.27	5.21	40.74	5.98	41.38	5.99
	20	22.91	3.30	27.06	3.98	31.67	4.79	33.50	5.28	36.27	5.83	39.42	6.54	39.68	6.51
	25	22.91	3.63	27.06	4.58	31.67	5.71	33.50	6.27	36.27	6.92	37.99	7.31	38.38	7.26
	27	22.91	3.88	27.06	4.89	31.67	6.07	33.50	6.72	36.27	7.40	37.49	7.60	37.77	7.59
	29	22.91	4.13	27.06	5.20	31.67	6.50	33.50	7.17	36.06	7.87	36.98	7.95	37.27	7.89
	31	22.91	4.40	27.06	5.55	31.67	6.93	33.50	7.65	35.66	8.18	36.37	8.23	36.67	8.20
	33	22.91	4.67	27.06	5.90	31.67	7.38	33.50	8.16	35.05	8.47	35.86	8.57	36.17	8.53
	35	22.91	4.97	27.06	6.29	31.67	7.88	33.50	8.70	34.44	8.76	35.25	8.85	35.57	8.82
	37	22.91	5.27	27.06	6.71	31.67	8.40	32.90	9.00	33.93	9.11	34.74	9.16	34.97	9.14
	39	22.91	5.62	27.06	7.11	31.67	8.94	32.40	9.31	33.32	9.41	34.13	9.48	34.57	9.47
	41	22.91	5.86	27.06	7.37	31.67	9.26	31.90	9.38	33.02	9.56	33.52	9.71	34.07	9.65
	43	22.91	6.12	27.06	7.63	31.67	9.42	31.40	9.48	32.81	9.63	33.73	9.80	33.47	9.76
	46	22.91	6.48	27.06	7.99	31.67	9.62	30.70	9.63	32.61	9.84	33.52	9.95	32.76	9.87
	48	22.91	6.78	27.06	8.28	31.67	9.64	29.50	9.72	32.61	10.02	31.39	10.04	32.06	9.97
	50	21.77	6.57	25.71	8.04	30.09	9.32	28.03	9.44	30.98	9.73	29.82	9.74	30.46	9.69
	52	20.46	6.32	24.16	7.73	28.28	8.98	26.34	9.08	29.12	9.33	28.03	9.38	28.63	9.30
	55	19.23	6.07	22.71	7.40	26.59	8.65	24.76	8.72	27.37	8.97	26.35	9.00	26.91	8.95

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

Table continued on next page …

Table2-8.4:12HP 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	20.80	2.10	24.90	2.53	29.23	3.02	30.65	3.21	32.96	3.46	36.61	3.94	40.71	4.51
	-10	20.80	2.27	24.90	2.72	29.23	3.25	30.65	3.46	32.96	3.73	36.61	4.24	40.71	4.89
	-5	20.80	2.46	24.90	2.95	29.23	3.51	30.65	3.74	32.96	4.03	36.61	4.59	40.71	5.26
	-2	20.80	2.47	24.90	2.97	29.23	3.56	30.65	3.79	32.96	4.09	36.61	4.65	40.71	5.33
	0	20.80	2.52	24.90	3.01	29.23	3.61	30.65	3.85	32.96	4.13	36.61	4.68	40.71	5.36
	2	20.80	2.54	24.90	3.05	29.23	3.64	30.65	3.91	32.96	4.20	36.61	4.80	40.71	5.45
	4	20.80	2.59	24.90	3.09	29.23	3.71	30.65	3.95	32.96	4.25	36.61	4.86	40.71	5.52
	6	20.80	2.63	24.90	3.16	29.23	3.78	30.65	4.04	32.96	4.34	36.61	4.95	40.71	5.62
	8	20.80	2.68	24.90	3.22	29.23	3.84	30.65	4.09	32.96	4.41	36.61	5.03	40.71	5.65
	10	20.80	2.71	24.90	3.28	29.23	3.91	30.65	4.15	32.96	4.50	36.61	5.08	40.71	5.76
	12	20.80	2.77	24.90	3.34	29.23	4.00	30.65	4.23	32.96	4.58	36.61	5.21	40.71	5.86
	14	20.80	2.82	24.90	3.40	29.23	4.07	30.65	4.29	32.96	4.69	36.61	5.29	40.71	5.98
	20	20.80	2.97	24.90	3.62	29.23	4.32	30.65	4.56	32.96	5.03	36.61	5.90	39.49	6.57
	25	20.80	3.22	24.90	4.04	29.23	5.02	30.65	5.42	32.96	5.98	36.61	7.03	38.07	7.33
	27	20.80	3.43	24.90	4.31	29.23	5.36	30.65	5.77	32.96	6.42	36.61	7.52	37.46	7.62
	29	20.80	3.65	24.90	4.59	29.23	5.72	30.65	6.15	32.96	6.83	36.30	7.86	37.05	7.93
	31	20.80	3.87	24.90	4.89	29.23	6.10	30.65	6.58	32.96	7.31	35.69	8.17	36.44	8.28
	33	20.80	4.11	24.90	5.19	29.23	6.50	30.65	7.00	32.96	7.77	35.18	8.50	35.93	8.55
	35	20.80	4.36	24.90	5.54	29.23	6.93	30.65	7.47	32.96	8.30	34.57	8.79	35.32	8.87
	37	20.80	4.63	24.90	5.88	29.23	7.39	30.65	7.96	32.96	8.86	33.96	9.13	34.81	9.21
	39	20.80	4.91	24.90	6.25	29.23	7.82	30.65	8.45	32.96	9.41	33.45	9.44	34.20	9.50
	41	20.80	5.08	24.90	6.54	29.23	8.13	30.65	8.67	32.96	9.49	33.25	9.67	34.00	9.74
	43	20.80	5.33	24.90	6.81	29.23	8.41	30.65	8.93	32.96	9.68	33.05	9.81	33.69	9.91
	46	20.80	5.69	24.90	7.15	29.23	8.76	30.65	9.20	32.96	9.92	32.84	9.88	33.18	10.02
	48	20.80	5.99	24.90	7.48	29.23	9.10	30.65	9.33	32.96	10.04	32.64	10.06	32.27	10.18
	50	19.76	5.82	23.66	7.26	27.77	8.83	29.12	9.06	31.31	9.75	31.01	9.74	30.65	9.87
	52	18.58	5.60	22.24	7.01	26.11	8.49	27.37	8.71	29.43	9.38	29.15	9.36	28.81	9.50
	55	17.46	5.39	20.90	6.73	24.54	8.17	25.73	8.38	27.67	9.01	27.40	9.02	27.08	9.11
80%	-15	18.76	1.88	22.10	2.19	25.87	2.62	27.30	2.74	29.08	2.95	33.25	3.47	36.80	3.96
	-10	18.76	2.02	22.10	2.37	25.87	2.83	27.30	2.96	29.08	3.18	33.25	3.74	36.80	4.29
	-5	18.76	2.18	22.10	2.56	25.87	3.05	27.30	3.19	29.08	3.43	33.25	4.04	36.80	4.61
	-2	18.76	2.22	22.10	2.59	25.87	3.08	27.30	3.25	29.08	3.46	33.25	4.08	36.80	4.68
	0	18.76	2.25	22.10	2.63	25.87	3.11	27.30	3.29	29.08	3.54	33.25	4.15	36.80	4.72
	2	18.76	2.30	22.10	2.67	25.87	3.16	27.30	3.35	29.08	3.59	33.25	4.22	36.80	4.82
	4	18.76	2.34	22.10	2.71	25.87	3.22	27.30	3.42	29.08	3.66	33.25	4.32	36.80	4.89
	6	18.76	2.39	22.10	2.77	25.87	3.27	27.30	3.50	29.08	3.72	33.25	4.38	36.80	4.97
	8	18.76	2.43	22.10	2.83	25.87	3.36	27.30	3.55	29.08	3.80	33.25	4.44	36.80	5.07
	10	18.76	2.44	22.10	2.90	25.87	3.43	27.30	3.64	29.08	3.90	33.25	4.54	36.80	5.12
	12	18.76	2.49	22.10	2.95	25.87	3.50	27.30	3.72	29.08	3.97	33.25	4.62	36.80	5.21
	14	18.76	2.53	22.10	3.00	25.87	3.56	27.30	3.78	29.08	4.06	33.25	4.70	36.80	5.31
	20	18.76	2.66	22.10	3.18	25.87	3.76	27.30	3.99	29.08	4.30	33.25	5.09	36.80	5.90
	25	18.76	2.82	22.10	3.48	25.87	4.27	27.30	4.60	29.08	5.00	33.25	6.01	36.80	7.03
	27	18.76	3.00	22.10	3.69	25.87	4.53	27.30	4.90	29.08	5.35	33.25	6.43	36.80	7.51
	29	18.76	3.19	22.10	3.94	25.87	4.85	27.30	5.21	29.08	5.73	33.25	6.87	36.80	8.04
	31	18.76	3.38	22.10	4.20	25.87	5.15	27.30	5.57	29.08	6.09	33.25	7.32	36.18	8.33
	33	18.76	3.60	22.10	4.44	25.87	5.49	27.30	5.95	29.08	6.50	33.25	7.83	35.77	8.64
	35	18.76	3.82	22.10	4.72	25.87	5.83	27.30	6.32	29.08	6.90	33.25	8.33	35.14	8.97
	37	18.76	4.05	22.10	5.04	25.87	6.20	27.30	6.71	29.08	7.34	33.25	8.89	34.62	9.30
	39	18.76	4.28	22.10	5.36	25.87	6.62	27.30	7.14	29.08	7.81	33.25	9.47	34.00	9.61
	41	18.76	4.39	22.10	5.40	25.87	6.69	27.30	7.34	29.08	7.99	33.25	9.69	33.80	9.78
	43	18.76	4.50	22.10	5.47	25.87	6.80	27.30	7.48	29.08	8.07	33.25	9.83	33.59	9.88
	46	18.76	4.64	22.10	5.50	25.87	6.95	27.30	7.61	29.08	8.22	33.25	9.91	33.17	10.04
	48	18.76	4.78	22.10	5.54	25.87	7.05	27.30	7.74	29.08	8.29	33.25	10.02	32.86	10.17
	50	17.83	4.65	20.99	5.38	24.57	6.84	25.94	7.49	27.63	8.04	31.58	9.71	31.22	9.87
	52	16.76	4.47	19.73	5.17	23.10	6.57	24.38	7.21	25.97	7.72	29.69	9.36	29.35	9.51
	55	15.75	4.30	18.55	4.98	21.71	6.32	22.92	6.94	24.41	7.43	27.91	8.97	27.59	9.14

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

Table continued on next page …

Table2-8.4:12HP 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	16.38	1.68	19.24	1.93	22.29	2.18	23.90	2.33	25.69	2.52	29.00	2.91	31.90	3.31
	-10	16.38	1.80	19.24	2.08	22.29	2.35	23.90	2.53	25.69	2.73	29.00	3.15	31.90	3.58
	-5	16.38	1.95	19.24	2.25	22.29	2.54	23.90	2.73	25.69	2.94	29.00	3.40	31.90	3.86
	-2	16.38	1.97	19.24	2.26	22.29	2.56	23.90	2.78	25.69	2.99	29.00	3.44	31.90	3.91
	0	16.38	1.98	19.24	2.28	22.29	2.60	23.90	2.83	25.69	3.05	29.00	3.51	31.90	3.96
	2	16.38	1.99	19.24	2.30	22.29	2.65	23.90	2.88	25.69	3.10	29.00	3.60	31.90	4.02
	4	16.38	2.02	19.24	2.36	22.29	2.71	23.90	2.94	25.69	3.16	29.00	3.65	31.90	4.12
	6	16.38	2.05	19.24	2.40	22.29	2.78	23.90	3.03	25.69	3.25	29.00	3.71	31.90	4.21
	8	16.38	2.08	19.24	2.47	22.29	2.84	23.90	3.08	25.69	3.31	29.00	3.81	31.90	4.28
	10	16.38	2.12	19.24	2.51	22.29	2.93	23.90	3.14	25.69	3.40	29.00	3.90	31.90	4.33
	12	16.38	2.17	19.24	2.54	22.29	2.97	23.90	3.21	25.69	3.47	29.00	3.96	31.90	4.42
	14	16.38	2.21	19.24	2.59	22.29	3.02	23.90	3.24	25.69	3.51	29.00	4.04	31.90	4.51
	20	16.38	2.32	19.24	2.73	22.29	3.20	23.90	3.43	25.69	3.72	29.00	4.27	31.90	4.81
	25	16.38	2.43	19.24	2.93	22.29	3.51	23.90	3.84	25.69	4.22	29.00	4.97	31.90	5.72
	27	16.38	2.57	19.24	3.10	22.29	3.76	23.90	4.08	25.69	4.50	29.00	5.31	31.90	6.09
	29	16.38	2.73	19.24	3.29	22.29	3.98	23.90	4.35	25.69	4.78	29.00	5.66	31.90	6.51
	31	16.38	2.88	19.24	3.50	22.29	4.24	23.90	4.64	25.69	5.11	29.00	6.04	31.90	6.96
	33	16.38	3.07	19.24	3.71	22.29	4.51	23.90	4.93	25.69	5.43	29.00	6.42	31.90	7.42
	35	16.38	3.25	19.24	3.95	22.29	4.78	23.90	5.26	25.69	5.78	29.00	6.84	31.90	7.90
	37	16.38	3.44	19.24	4.18	22.29	5.08	23.90	5.55	25.69	6.15	29.00	7.30	31.90	8.40
	39	16.38	3.64	19.24	4.43	22.29	5.41	23.90	5.91	25.69	6.52	29.00	7.77	31.90	8.97
	41	16.38	3.79	19.24	4.59	22.29	5.55	23.90	6.12	25.69	6.73	29.00	8.08	31.90	9.37
	43	16.38	4.11	19.24	4.91	22.29	5.79	23.90	6.46	25.69	6.93	29.00	8.35	31.90	9.63
	46	16.38	4.21	19.24	5.00	22.29	5.92	23.90	6.56	25.69	7.28	29.00	8.82	31.90	10.02
	48	16.38	4.28	19.24	5.03	22.29	5.96	23.90	6.65	25.69	7.46	29.00	9.23	31.90	10.25
	50	15.56	4.14	18.28	4.90	21.18	5.81	22.70	6.48	24.41	7.27	27.55	8.98	30.31	9.96
	52	14.63	3.99	17.18	4.70	19.91	5.58	21.34	6.23	22.94	6.98	25.90	8.63	28.49	9.56
	55	13.75	3.83	16.15	4.52	18.71	5.36	20.06	5.97	21.57	6.71	24.34	8.28	26.78	9.22
60%	-15	14.02	1.43	16.62	1.64	19.53	1.93	20.46	2.01	21.80	2.18	24.45	2.44	27.41	2.83
	-10	14.02	1.55	16.62	1.77	19.53	2.08	20.46	2.17	21.80	2.35	24.45	2.64	27.41	3.06
	-5	14.02	1.66	16.62	1.91	19.53	2.25	20.46	2.35	21.80	2.54	24.45	2.86	27.41	3.30
	-2	14.02	1.68	16.62	1.94	19.53	2.30	20.46	2.39	21.80	2.57	24.45	2.89	27.41	3.33
	0	14.02	1.71	16.62	1.96	19.53	2.32	20.46	2.41	21.80	2.62	24.45	2.95	27.41	3.37
	2	14.02	1.72	16.62	2.01	19.53	2.37	20.46	2.46	21.80	2.64	24.45	3.00	27.41	3.40
	4	14.02	1.78	16.62	2.05	19.53	2.42	20.46	2.48	21.80	2.69	24.45	3.04	27.41	3.46
	6	14.02	1.80	16.62	2.08	19.53	2.45	20.46	2.55	21.80	2.74	24.45	3.10	27.41	3.53
	8	14.02	1.83	16.62	2.12	19.53	2.51	20.46	2.61	21.80	2.80	24.45	3.17	27.41	3.61
	10	14.02	1.87	16.62	2.17	19.53	2.54	20.46	2.67	21.80	2.85	24.45	3.22	27.41	3.66
	12	14.02	1.90	16.62	2.20	19.53	2.59	20.46	2.72	21.80	2.89	24.45	3.29	27.41	3.71
	14	14.02	1.94	16.62	2.23	19.53	2.63	20.46	2.76	21.80	2.96	24.45	3.34	27.41	3.78
	20	14.02	2.01	16.62	2.35	19.53	2.77	20.46	2.92	21.80	3.13	24.45	3.54	27.41	4.01
	25	14.02	2.09	16.62	2.46	19.53	2.95	20.46	3.14	21.80	3.41	24.45	3.96	27.41	4.59
	27	14.02	2.18	16.62	2.61	19.53	3.15	20.46	3.36	21.80	3.62	24.45	4.23	27.41	4.90
	29	14.02	2.31	16.62	2.76	19.53	3.36	20.46	3.56	21.80	3.87	24.45	4.50	27.41	5.23
	31	14.02	2.45	16.62	2.93	19.53	3.56	20.46	3.78	21.80	4.11	24.45	4.80	27.41	5.57
	33	14.02	2.58	16.62	3.10	19.53	3.78	20.46	4.02	21.80	4.38	24.45	5.09	27.41	5.93
	35	14.02	2.74	16.62	3.29	19.53	4.01	20.46	4.28	21.80	4.66	24.45	5.43	27.41	6.31
	37	14.02	2.89	16.62	3.48	19.53	4.25	20.46	4.54	21.80	4.94	24.45	5.77	27.41	6.71
	39	14.02	3.05	16.62	3.69	19.53	4.50	20.46	4.82	21.80	5.25	24.45	6.12	27.41	7.15
	41	14.02	3.15	16.62	3.85	19.53	4.67	20.46	5.01	21.80	5.42	24.45	6.40	27.41	7.49
	43	14.02	3.24	16.62	4.01	19.53	4.82	20.46	5.14	21.80	5.61	24.45	6.67	27.41	7.80
	46	14.02	3.40	16.62	4.22	19.53	5.02	20.46	5.34	21.80	5.91	24.45	6.98	27.41	8.25
	48	14.02	3.53	16.62	4.40	19.53	5.18	20.46	5.48	21.80	6.12	24.45	7.23	27.41	8.61
	50	13.32	3.42	15.79	4.28	18.55	5.05	19.44	5.30	20.71	5.95	23.23	7.01	26.04	8.39
	52	12.52	3.29	14.84	4.11	17.44	4.86	18.27	5.10	19.47	5.71	21.84	6.76	24.48	8.06
	55	11.77	3.17	13.95	3.95	16.39	4.66	17.17	4.92	18.30	5.49	20.53	6.49	23.01	7.73

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

Table continued on next page …

Table2-8.4:12HP 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	11.50	1.22	13.71	1.41	16.24	1.64	17.45	1.73	18.08	1.79	20.38	2.03	22.94	2.21
	-10	11.50	1.32	13.71	1.52	16.24	1.78	17.45	1.86	18.08	1.93	20.38	2.20	22.94	2.38
	-5	11.50	1.42	13.71	1.64	16.24	1.91	17.45	2.02	18.08	2.08	20.38	2.37	22.94	2.58
	-2	11.50	1.43	13.71	1.67	16.24	1.93	17.45	2.04	18.08	2.11	20.38	2.40	22.94	2.62
	0	11.50	1.45	13.71	1.70	16.24	1.97	17.45	2.07	18.08	2.14	20.38	2.44	22.94	2.66
	2	11.50	1.47	13.71	1.72	16.24	2.01	17.45	2.09	18.08	2.18	20.38	2.45	22.94	2.70
	4	11.50	1.49	13.71	1.75	16.24	2.02	17.45	2.13	18.08	2.22	20.38	2.51	22.94	2.78
	6	11.50	1.51	13.71	1.78	16.24	2.06	17.45	2.17	18.08	2.27	20.38	2.55	22.94	2.86
	8	11.50	1.55	13.71	1.81	16.24	2.09	17.45	2.22	18.08	2.30	20.38	2.60	22.94	2.95
	10	11.50	1.58	13.71	1.83	16.24	2.13	17.45	2.25	18.08	2.36	20.38	2.66	22.94	3.00
	12	11.50	1.59	13.71	1.85	16.24	2.16	17.45	2.30	18.08	2.41	20.38	2.70	22.94	3.05
	14	11.50	1.62	13.71	1.87	16.24	2.18	17.45	2.36	18.08	2.44	20.38	2.76	22.94	3.11
	20	11.50	1.69	13.71	1.97	16.24	2.29	17.45	2.46	18.08	2.58	20.38	2.90	22.94	3.27
	25	11.50	1.75	13.71	2.04	16.24	2.40	17.45	2.59	18.08	2.73	20.38	3.13	22.94	3.61
	27	11.50	1.78	13.71	2.12	16.24	2.53	17.45	2.75	18.08	2.89	20.38	3.35	22.94	3.84
	29	11.50	1.87	13.71	2.24	16.24	2.69	17.45	2.92	18.08	3.07	20.38	3.55	22.94	4.10
	31	11.50	1.98	13.71	2.37	16.24	2.85	17.45	3.10	18.08	3.28	20.38	3.77	22.94	4.37
	33	11.50	2.11	13.71	2.52	16.24	3.03	17.45	3.27	18.08	3.48	20.38	4.00	22.94	4.63
	35	11.50	2.22	13.71	2.66	16.24	3.19	17.45	3.48	18.08	3.67	20.38	4.26	22.94	4.92
	37	11.50	2.34	13.71	2.81	16.24	3.38	17.45	3.68	18.08	3.90	20.38	4.52	22.94	5.22
	39	11.50	2.47	13.71	2.95	16.24	3.57	17.45	3.90	18.08	4.12	20.38	4.80	22.94	5.55
	41	11.50	2.57	13.71	3.09	16.24	3.71	17.45	4.07	18.08	4.31	20.38	5.05	22.94	5.80
	43	11.50	2.74	13.71	3.30	16.24	3.84	17.45	4.25	18.08	4.42	20.38	5.29	22.94	6.08
	46	11.50	2.81	13.71	3.38	16.24	4.09	17.45	4.60	18.08	4.61	20.38	5.82	22.94	6.57
	48	11.50	2.86	13.71	3.46	16.24	4.32	17.45	4.89	18.08	4.82	20.38	6.25	22.94	7.09
	50	10.93	2.78	13.03	3.35	15.43	4.20	16.58	4.75	17.18	4.68	19.36	6.07	21.79	6.88
	52	10.27	2.67	12.25	3.23	14.51	4.03	15.58	4.58	16.15	4.49	18.20	5.85	20.49	6.63
	55	9.65	2.57	11.51	3.11	13.64	3.88	14.65	4.39	15.18	4.33	17.10	5.62	19.26	6.36

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

Table2-8.5:14HP 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	36.43	3.44	43.07	4.16	50.00	4.46	52.35	4.69	54.53	4.79	55.23	5.15	57.04	5.21
	-10	36.43	3.72	43.07	4.49	50.00	4.81	52.35	5.07	54.53	5.17	55.23	5.56	57.04	5.64
	-5	36.43	4.00	43.07	4.84	50.00	5.19	52.35	5.48	54.53	5.57	55.23	6.01	57.04	6.07
	-2	36.43	4.00	43.07	4.94	50.00	5.20	52.35	5.49	54.53	5.57	55.23	6.08	57.04	6.15
	0	36.43	4.08	43.07	5.02	50.00	5.40	52.35	5.78	54.53	5.90	55.23	6.14	57.04	6.21
	2	36.43	4.15	43.07	5.03	50.00	5.59	52.35	6.11	54.53	5.98	55.23	6.19	57.04	6.33
	4	36.43	4.24	43.07	5.13	50.00	5.77	52.35	6.14	54.53	6.05	55.23	6.30	57.04	6.45
	6	36.43	4.34	43.07	5.23	50.00	5.99	52.35	6.21	53.91	6.24	54.62	6.38	56.43	6.49
	8	36.43	4.43	43.07	5.35	50.00	6.27	52.35	6.50	53.19	6.44	54.00	6.40	55.71	6.54
	10	36.43	4.53	43.07	5.47	50.00	6.50	52.35	6.73	52.57	6.55	53.39	6.51	55.09	6.75
	12	36.43	4.60	43.07	5.57	50.00	6.63	51.63	6.84	51.95	6.67	52.68	6.60	54.37	6.78
	14	36.43	4.70	43.07	5.67	49.80	6.73	51.00	6.93	51.23	6.75	52.06	6.71	53.76	6.94
	20	36.43	4.97	43.07	6.29	47.74	7.27	48.93	7.38	49.17	7.36	50.02	7.36	51.70	7.49
	25	36.43	5.86	43.07	7.50	46.19	8.15	47.16	8.26	47.52	8.24	48.39	8.22	50.06	8.37
	27	36.43	6.23	43.07	8.02	45.58	8.50	46.64	8.61	46.80	8.58	47.67	8.61	49.34	8.76
	29	36.43	6.67	43.07	8.55	44.86	8.83	45.81	8.94	46.28	8.94	47.06	8.94	48.72	9.11
	31	36.43	7.11	42.86	9.04	44.14	9.15	45.29	9.31	45.46	9.28	46.35	9.28	48.00	9.48
	33	36.43	7.58	42.14	9.42	43.52	9.50	44.56	9.65	44.94	9.64	45.84	9.65	47.28	9.83
	35	36.43	8.08	41.42	9.76	42.80	9.87	43.94	10.03	44.22	9.99	45.02	10.01	46.66	10.18
	37	36.43	8.61	40.80	10.11	42.18	10.22	43.21	10.36	43.60	10.35	44.31	10.36	45.94	10.56
	39	36.43	9.12	40.09	10.18	41.46	10.54	42.59	10.71	42.88	10.73	43.80	10.74	45.33	10.94
	41	36.43	9.62	39.67	10.31	41.05	10.66	42.17	10.83	42.37	10.80	43.29	10.74	43.58	11.01
	43	36.43	9.88	39.37	10.37	40.74	10.67	41.97	10.90	41.95	10.83	42.57	10.77	43.07	11.06
	46	36.43	10.35	39.16	10.44	40.33	10.76	41.45	10.96	41.34	10.89	41.35	10.83	42.24	11.28
	48	36.43	10.70	39.06	10.78	39.71	10.90	40.82	11.06	40.82	10.99	40.32	11.01	41.32	11.33
	50	34.60	10.40	37.10	10.46	37.73	10.55	38.78	10.71	38.78	10.68	38.31	10.68	39.25	11.00
	52	32.53	10.01	34.88	10.04	35.46	10.14	36.46	10.33	36.45	10.24	36.01	10.28	36.90	10.53
	55	30.58	9.64	32.79	9.68	33.34	9.78	34.27	9.91	34.27	9.87	33.85	9.85	34.68	10.14
120%	-15	33.30	3.29	39.75	3.98	46.28	4.72	49.00	5.10	52.20	5.41	53.55	5.60	54.17	5.68
	-10	33.30	3.55	39.75	4.31	46.28	5.10	49.00	5.52	52.20	5.83	53.55	6.04	54.17	6.14
	-5	33.30	3.83	39.75	4.65	46.28	5.50	49.00	5.96	52.20	6.29	53.55	6.53	54.17	6.63
	-2	33.30	3.87	39.75	4.69	46.28	5.55	49.00	5.99	52.20	6.39	53.55	6.57	54.17	6.65
	0	33.30	3.90	39.75	4.73	46.28	5.63	49.00	6.01	52.20	6.44	53.55	6.62	54.17	6.68
	2	33.30	3.92	39.75	4.80	46.28	5.67	49.00	6.05	52.20	6.46	53.55	6.69	54.17	6.68
	4	33.30	3.95	39.75	4.86	46.28	5.76	49.00	6.12	52.20	6.55	53.55	6.69	54.17	6.69
	6	33.30	4.00	39.75	4.89	46.28	5.82	49.00	6.17	52.20	6.61	53.55	6.75	54.17	6.70
	8	33.30	4.04	39.75	4.93	46.28	5.90	49.00	6.25	52.20	6.69	53.55	6.76	54.17	6.76
	10	33.30	4.08	39.75	4.99	46.28	5.94	49.00	6.37	52.20	6.70	53.55	6.80	54.17	6.76
	12	33.30	4.17	39.75	5.09	46.28	6.06	49.00	6.48	51.47	6.73	52.82	6.74	53.45	6.81
	14	33.30	4.23	39.75	5.20	46.28	6.19	49.00	6.63	50.75	6.75	52.19	6.85	52.83	6.90
	20	33.30	4.49	39.75	5.62	46.28	7.00	47.37	7.21	48.78	7.39	50.11	7.46	50.77	7.45
	25	33.30	5.18	39.75	6.65	45.46	8.12	45.63	8.05	47.01	8.23	48.55	8.36	49.12	8.32
	27	33.30	5.54	39.75	7.11	44.94	8.46	45.02	8.40	46.39	8.61	47.82	8.68	48.40	8.69
	29	33.30	5.88	39.75	7.62	44.22	8.77	44.31	8.76	45.66	8.93	46.98	9.07	47.78	9.01
	31	33.30	6.29	39.75	8.12	43.40	9.13	43.80	9.08	45.04	9.30	46.46	9.43	47.06	9.39
	33	33.30	6.69	39.75	8.64	42.88	9.47	42.98	9.43	44.31	9.62	45.73	9.77	46.34	9.78
	35	33.30	7.13	39.75	9.21	42.16	9.84	42.26	9.76	43.69	9.98	45.11	10.15	45.72	10.14
	37	33.30	7.57	39.75	9.84	41.54	10.19	41.75	10.10	42.96	10.33	44.38	10.49	45.00	10.50
	39	33.30	8.06	39.55	10.41	40.82	10.50	40.94	10.50	42.24	10.72	43.75	10.85	44.39	10.82
	41	33.30	8.29	39.24	10.47	40.51	10.58	40.63	10.56	41.93	10.78	43.44	10.89	43.15	10.93
	43	33.30	8.42	39.03	10.55	40.20	10.67	40.32	10.60	41.61	10.83	42.71	10.93	42.53	11.15
	46	33.30	8.51	38.82	10.63	39.79	10.77	39.92	10.67	41.20	10.91	41.77	10.96	42.02	11.36
	48	33.30	8.57	38.52	10.74	39.27	10.83	39.30	10.75	40.78	11.01	41.15	11.09	41.50	11.51
	50	31.64	8.31	36.59	10.45	37.31	10.53	37.34	10.45	38.75	10.67	39.09	10.76	39.43	11.18
	52	29.74	7.98	34.39	10.01	35.07	10.11	35.10	10.02	36.42	10.26	36.75	10.34	37.06	10.78
	55	27.95	7.68	32.33	9.63	32.97	9.72	32.99	9.63	34.24	9.89	34.54	9.92	34.84	10.35

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

Table continued on next page …

Table2-8.5:14HP 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	30.85	2.91	36.81	3.62	42.65	4.31	45.66	4.62	48.21	4.91	52.35	5.18	53.04	5.28
	-10	30.85	3.14	36.81	3.90	42.65	4.65	45.66	5.00	48.21	5.32	52.35	5.58	53.04	5.70
	-5	30.85	3.38	36.81	4.22	42.65	5.02	45.66	5.38	48.21	5.73	52.35	6.02	53.04	6.15
	-2	30.85	3.45	36.81	4.28	42.65	5.06	45.66	5.46	48.21	5.78	52.35	6.08	53.04	6.19
	0	30.85	3.48	36.81	4.29	42.65	5.09	45.66	5.49	48.21	5.85	52.35	6.14	53.04	6.26
	2	30.85	3.56	36.81	4.34	42.65	5.18	45.66	5.55	48.21	5.92	52.35	6.25	53.04	6.33
	4	30.85	3.62	36.81	4.39	42.65	5.22	45.66	5.61	48.21	6.01	52.35	6.33	53.04	6.39
	6	30.85	3.66	36.81	4.43	42.65	5.28	45.66	5.69	48.21	6.06	52.35	6.40	53.04	6.49
	8	30.85	3.69	36.81	4.51	42.65	5.35	45.66	5.76	48.21	6.16	52.35	6.45	53.04	6.56
	10	30.85	3.75	36.81	4.57	42.65	5.43	45.66	5.86	48.21	6.24	52.35	6.48	53.04	6.62
	12	30.85	3.83	36.81	4.66	42.65	5.52	45.66	5.98	48.21	6.35	51.83	6.57	52.32	6.70
	14	30.85	3.89	36.81	4.75	42.65	5.62	45.66	6.10	48.21	6.48	51.00	6.64	51.70	6.75
	20	30.85	4.12	36.81	5.03	42.65	6.21	45.66	6.84	47.38	7.28	49.13	7.41	49.64	7.38
	25	30.85	4.64	36.81	5.95	42.65	7.36	45.66	8.14	45.84	8.08	47.37	8.27	48.00	8.24
	27	30.85	4.94	36.81	6.35	42.65	7.87	44.94	8.51	45.12	8.44	46.74	8.61	47.28	8.61
	29	30.85	5.27	36.81	6.78	42.65	8.43	44.31	8.84	44.51	8.79	46.02	8.95	46.66	8.96
	31	30.85	5.63	36.81	7.23	42.65	8.99	43.59	9.16	43.79	9.11	45.39	9.32	45.94	9.31
	33	30.85	5.98	36.81	7.69	42.44	9.48	42.96	9.52	43.17	9.48	44.67	9.68	45.33	9.68
	35	30.85	6.37	36.81	8.21	41.61	9.84	42.24	9.89	42.45	9.85	43.94	10.03	44.61	10.04
	37	30.85	6.78	36.81	8.75	41.10	10.15	41.61	10.21	41.73	10.16	43.32	10.36	43.89	10.36
	39	30.85	7.18	36.81	9.29	40.37	10.52	40.89	10.55	41.11	10.53	42.59	10.76	43.27	10.71
	41	30.85	7.26	36.81	9.35	40.06	10.57	40.58	10.63	40.80	10.59	42.07	10.81	42.04	10.82
	43	30.85	7.34	36.81	9.49	39.64	10.66	40.27	10.70	40.50	10.67	41.65	10.88	41.32	11.01
	46	30.85	7.59	36.81	9.57	39.33	10.78	39.85	10.86	40.09	10.79	41.24	11.17	41.01	11.27
	48	30.85	7.84	36.81	10.32	38.71	10.80	39.23	10.90	39.67	10.86	40.62	11.19	40.50	11.39
	50	29.31	7.61	34.97	10.06	36.77	10.50	37.27	10.61	37.69	10.54	38.59	10.86	38.47	11.04
	52	27.55	7.32	32.87	9.63	34.57	10.10	35.03	10.20	35.43	10.14	36.27	10.41	36.16	10.62
	55	25.90	7.04	30.90	9.29	32.49	9.72	32.93	9.79	33.30	9.76	34.09	10.01	33.99	10.22
100%	-15	27.48	2.59	32.71	3.11	37.62	3.67	40.00	3.95	43.28	4.30	48.33	4.87	51.51	5.14
	-10	27.48	2.80	32.71	3.36	37.62	3.97	40.00	4.26	43.28	4.64	48.33	5.26	51.51	5.54
	-5	27.48	3.02	32.71	3.63	37.62	4.27	40.00	4.60	43.28	5.02	48.33	5.69	51.51	5.99
	-2	27.48	3.06	32.71	3.69	37.62	4.33	40.00	4.69	43.28	5.10	48.33	5.76	51.51	6.02
	0	27.48	3.09	32.71	3.73	37.62	4.36	40.00	4.75	43.28	5.15	48.33	5.83	51.51	6.07
	2	27.48	3.15	32.71	3.79	37.62	4.42	40.00	4.80	43.28	5.21	48.33	5.94	51.51	6.19
	4	27.48	3.17	32.71	3.81	37.62	4.48	40.00	4.88	43.28	5.26	48.33	5.98	51.51	6.24
	6	27.48	3.22	32.71	3.89	37.62	4.54	40.00	4.97	43.28	5.34	48.33	6.06	51.51	6.35
	8	27.48	3.29	32.71	3.94	37.62	4.63	40.00	5.03	43.28	5.41	48.33	6.18	51.51	6.47
	10	27.48	3.33	32.71	4.02	37.62	4.69	40.00	5.11	43.28	5.54	48.33	6.28	51.51	6.53
	12	27.48	3.37	32.71	4.09	37.62	4.79	40.00	5.21	43.28	5.61	48.33	6.37	50.79	6.61
	14	27.48	3.44	32.71	4.18	37.62	4.88	40.00	5.31	43.28	5.74	48.33	6.51	50.18	6.68
	20	27.48	3.63	32.71	4.42	37.62	5.23	40.00	5.80	43.28	6.40	46.71	7.13	48.15	7.27
	25	27.48	3.99	32.71	5.08	37.62	6.20	40.00	6.88	43.28	7.61	45.10	7.98	46.52	8.09
	27	27.48	4.26	32.71	5.42	37.62	6.63	40.00	7.36	43.28	8.14	44.39	8.30	45.81	8.47
	29	27.48	4.55	32.71	5.78	37.62	7.08	40.00	7.86	43.07	8.62	43.79	8.65	45.19	8.77
	31	27.48	4.85	32.71	6.19	37.62	7.55	40.00	8.39	42.57	8.98	43.08	8.99	44.48	9.15
	33	27.48	5.14	32.71	6.58	37.62	8.07	40.00	8.95	41.75	9.29	42.48	9.29	43.87	9.47
	35	27.48	5.46	32.71	6.99	37.62	8.59	40.00	9.56	41.04	9.62	41.77	9.65	43.16	9.84
	37	27.48	5.82	32.71	7.43	37.62	9.15	39.30	9.90	40.53	9.97	41.27	10.00	42.45	10.19
	39	27.48	6.17	32.71	7.91	37.62	9.72	38.70	10.21	39.72	10.34	40.46	10.34	41.84	10.55
	41	27.48	6.47	32.71	8.21	37.62	10.12	38.10	10.31	39.42	10.46	39.75	10.56	41.22	10.76
	43	27.48	6.76	32.71	8.50	37.62	10.31	37.50	10.42	39.21	10.60	40.06	10.63	40.51	10.85
	46	27.48	7.14	32.71	8.88	37.62	10.44	36.70	10.56	39.01	10.76	39.65	10.79	39.70	11.00
	48	27.48	7.47	32.71	9.20	37.62	10.46	35.20	10.67	38.91	10.99	37.23	10.92	38.88	11.14
	50	26.11	7.23	31.07	8.94	35.74	10.20	33.44	10.36	36.96	10.64	35.37	10.61	36.94	10.81
	52	24.54	6.95	29.21	8.57	33.60	9.79	31.43	9.95	34.75	10.26	33.25	10.23	34.72	10.37
	55	23.07	6.68	27.45	8.24	31.58	9.42	29.55	9.58	32.66	9.84	31.25	9.82	32.64	9.99

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

Table continued on next page …

Table2-8.5:14HP 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	25.24	2.34	30.10	2.80	35.11	3.31	37.11	3.58	39.48	3.81	44.28	4.38	49.60	5.06
	-10	25.24	2.52	30.10	3.02	35.11	3.57	37.11	3.88	39.48	4.12	44.28	4.73	49.60	5.48
	-5	25.24	2.72	30.10	3.27	35.11	3.87	37.11	4.18	39.48	4.45	44.28	5.10	49.60	5.91
	-2	25.24	2.75	30.10	3.30	35.11	3.92	37.11	4.23	39.48	4.49	44.28	5.15	49.60	5.97
	0	25.24	2.79	30.10	3.34	35.11	3.97	37.11	4.29	39.48	4.56	44.28	5.22	49.60	6.01
	2	25.24	2.83	30.10	3.38	35.11	4.03	37.11	4.34	39.48	4.62	44.28	5.31	49.60	6.10
	4	25.24	2.88	30.10	3.43	35.11	4.09	37.11	4.40	39.48	4.69	44.28	5.40	49.60	6.17
	6	25.24	2.92	30.10	3.50	35.11	4.17	37.11	4.49	39.48	4.77	44.28	5.49	49.60	6.30
	8	25.24	2.98	30.10	3.58	35.11	4.24	37.11	4.55	39.48	4.86	44.28	5.61	49.60	6.35
	10	25.24	3.03	30.10	3.64	35.11	4.32	37.11	4.61	39.48	4.95	44.28	5.67	49.60	6.43
	12	25.24	3.07	30.10	3.71	35.11	4.41	37.11	4.71	39.48	5.05	44.28	5.76	49.60	6.56
	14	25.24	3.14	30.10	3.78	35.11	4.48	37.11	4.78	39.48	5.16	44.28	5.86	49.60	6.68
	20	25.24	3.30	30.10	4.01	35.11	4.75	37.11	5.07	39.48	5.54	44.28	6.58	48.14	7.36
	25	25.24	3.59	30.10	4.51	35.11	5.54	37.11	6.04	39.48	6.57	44.28	7.83	46.48	8.22
	27	25.24	3.80	30.10	4.78	35.11	5.92	37.11	6.42	39.48	7.06	44.28	8.37	45.75	8.55
	29	25.24	4.06	30.10	5.10	35.11	6.30	37.11	6.88	39.48	7.52	43.87	8.75	45.13	8.91
	31	25.24	4.31	30.10	5.42	35.11	6.72	37.11	7.33	39.48	8.03	43.15	9.11	44.40	9.27
	33	25.24	4.57	30.10	5.79	35.11	7.16	37.11	7.81	39.48	8.58	42.53	9.43	43.77	9.58
	35	25.24	4.87	30.10	6.15	35.11	7.62	37.11	8.31	39.48	9.14	41.81	9.79	43.05	9.97
	37	25.24	5.15	30.10	6.54	35.11	8.11	37.11	8.85	39.48	9.75	41.09	10.11	42.53	10.31
	39	25.24	5.48	30.10	6.96	35.11	8.66	37.11	9.44	39.48	10.38	40.47	10.50	41.69	10.68
	41	25.24	5.67	30.10	7.25	35.11	8.95	37.11	9.67	39.48	10.43	40.16	10.76	41.49	10.91
	43	25.24	5.93	30.10	7.57	35.11	9.26	37.11	9.94	39.48	10.66	39.96	10.86	41.07	11.09
	46	25.24	6.31	30.10	7.95	35.11	9.63	37.11	10.26	39.48	10.95	39.75	10.99	40.45	11.25
	48	25.24	6.67	30.10	8.34	35.11	10.00	37.11	10.39	39.48	11.03	39.44	11.13	39.41	11.38
	50	23.98	6.48	28.59	8.07	33.35	9.75	35.25	10.12	37.51	10.75	37.47	10.82	37.44	11.06
	52	22.54	6.21	26.88	7.76	31.35	9.33	33.14	9.69	35.26	10.29	35.22	10.41	35.19	10.61
	55	21.19	5.99	25.26	7.47	29.47	8.97	31.15	9.34	33.14	9.91	33.11	10.01	33.08	10.23
80%	-15	22.07	2.02	26.16	2.38	30.46	2.83	32.89	3.03	35.49	3.31	39.78	3.81	44.04	4.35
	-10	22.07	2.19	26.16	2.58	30.46	3.05	32.89	3.27	35.49	3.58	39.78	4.13	44.04	4.70
	-5	22.07	2.37	26.16	2.78	30.46	3.29	32.89	3.54	35.49	3.87	39.78	4.46	44.04	5.08
	-2	22.07	2.40	26.16	2.81	30.46	3.33	32.89	3.58	35.49	3.89	39.78	4.49	44.04	5.12
	0	22.07	2.44	26.16	2.85	30.46	3.36	32.89	3.64	35.49	3.96	39.78	4.55	44.04	5.21
	2	22.07	2.50	26.16	2.89	30.46	3.42	32.89	3.70	35.49	4.02	39.78	4.65	44.04	5.31
	4	22.07	2.53	26.16	2.94	30.46	3.48	32.89	3.79	35.49	4.11	39.78	4.72	44.04	5.37
	6	22.07	2.57	26.16	3.00	30.46	3.53	32.89	3.87	35.49	4.19	39.78	4.81	44.04	5.46
	8	22.07	2.62	26.16	3.07	30.46	3.61	32.89	3.94	35.49	4.27	39.78	4.87	44.04	5.56
	10	22.07	2.64	26.16	3.16	30.46	3.72	32.89	4.02	35.49	4.37	39.78	5.00	44.04	5.63
	12	22.07	2.68	26.16	3.21	30.46	3.77	32.89	4.10	35.49	4.46	39.78	5.09	44.04	5.72
	14	22.07	2.73	26.16	3.26	30.46	3.85	32.89	4.18	35.49	4.55	39.78	5.19	44.04	5.83
	20	22.07	2.88	26.16	3.45	30.46	4.08	32.89	4.41	35.49	4.81	39.78	5.59	44.04	6.49
	25	22.07	3.04	26.16	3.77	30.46	4.61	32.89	5.10	35.49	5.62	39.78	6.61	44.04	7.72
	27	22.07	3.24	26.16	4.03	30.46	4.91	32.89	5.44	35.49	6.00	39.78	7.06	44.04	8.26
	29	22.07	3.45	26.16	4.27	30.46	5.24	32.89	5.78	35.49	6.41	39.78	7.54	44.04	8.83
	31	22.07	3.65	26.16	4.54	30.46	5.56	32.89	6.16	35.49	6.83	39.78	8.07	43.32	9.16
	33	22.07	3.89	26.16	4.83	30.46	5.93	32.89	6.57	35.49	7.28	39.78	8.61	42.69	9.52
	35	22.07	4.12	26.16	5.14	30.46	6.30	32.89	6.98	35.49	7.76	39.78	9.15	41.97	9.84
	37	22.07	4.36	26.16	5.45	30.46	6.70	32.89	7.45	35.49	8.25	39.78	9.76	41.45	10.19
	39	22.07	4.63	26.16	5.83	30.46	7.14	32.89	7.92	35.49	8.77	39.78	10.42	40.62	10.55
	41	22.07	4.73	26.16	5.87	30.46	7.23	32.89	8.14	35.49	8.94	39.78	10.66	40.41	10.75
	43	22.07	4.88	26.16	5.93	30.46	7.33	32.89	8.28	35.49	9.09	39.78	10.79	40.20	10.84
	46	22.07	5.01	26.16	5.99	30.46	7.48	32.89	8.44	35.49	9.25	39.78	10.90	39.68	11.05
	48	22.07	5.17	26.16	6.04	30.46	7.61	32.89	8.55	35.49	9.32	39.78	11.02	39.37	11.19
	50	20.97	5.03	24.85	5.86	28.94	7.40	31.25	8.31	33.72	9.01	37.80	10.71	37.40	10.85
	52	19.71	4.84	23.36	5.61	27.20	7.09	29.37	8.00	31.69	8.67	35.53	10.30	35.16	10.46
	55	18.53	4.64	21.96	5.41	25.57	6.81	27.61	7.67	29.79	8.34	33.40	9.88	33.05	10.01

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

Table continued on next page …

Table2-8.5:14HP 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	1.84	23.45	2.15	27.14	2.44	28.50	2.56	30.76	2.77	34.33	3.16	38.61	3.69
	-10	19.69	2.00	23.45	2.33	27.14	2.64	28.50	2.77	30.76	2.99	34.33	3.42	38.61	3.98
	-5	19.69	2.16	23.45	2.51	27.14	2.85	28.50	2.99	30.76	3.23	34.33	3.68	38.61	4.30
	-2	19.69	2.17	23.45	2.52	27.14	2.87	28.50	3.04	30.76	3.29	34.33	3.74	38.61	4.37
	0	19.69	2.19	23.45	2.57	27.14	2.93	28.50	3.10	30.76	3.34	34.33	3.83	38.61	4.41
	2	19.69	2.19	23.45	2.57	27.14	2.97	28.50	3.16	30.76	3.40	34.33	3.89	38.61	4.48
	4	19.69	2.23	23.45	2.63	27.14	3.05	28.50	3.22	30.76	3.48	34.33	3.98	38.61	4.59
	6	19.69	2.25	23.45	2.68	27.14	3.12	28.50	3.32	30.76	3.57	34.33	4.03	38.61	4.68
	8	19.69	2.30	23.45	2.76	27.14	3.19	28.50	3.38	30.76	3.65	34.33	4.15	38.61	4.78
	10	19.69	2.34	23.45	2.80	27.14	3.27	28.50	3.45	30.76	3.73	34.33	4.24	38.61	4.82
	12	19.69	2.40	23.45	2.83	27.14	3.34	28.50	3.52	30.76	3.81	34.33	4.32	38.61	4.92
	14	19.69	2.44	23.45	2.90	27.14	3.39	28.50	3.56	30.76	3.87	34.33	4.40	38.61	5.00
	20	19.69	2.56	23.45	3.06	27.14	3.59	28.50	3.77	30.76	4.09	34.33	4.66	38.61	5.36
	25	19.69	2.68	23.45	3.26	27.14	3.93	28.50	4.21	30.76	4.62	34.33	5.42	38.61	6.36
	27	19.69	2.84	23.45	3.47	27.14	4.19	28.50	4.49	30.76	4.94	34.33	5.80	38.61	6.80
	29	19.69	3.01	23.45	3.69	27.14	4.47	28.50	4.78	30.76	5.26	34.33	6.16	38.61	7.25
	31	19.69	3.19	23.45	3.92	27.14	4.76	28.50	5.09	30.76	5.59	34.33	6.57	38.61	7.74
	33	19.69	3.38	23.45	4.17	27.14	5.06	28.50	5.39	30.76	5.96	34.33	7.00	38.61	8.23
	35	19.69	3.59	23.45	4.41	27.14	5.37	28.50	5.76	30.76	6.34	34.33	7.46	38.61	8.77
	37	19.69	3.79	23.45	4.67	27.14	5.71	28.50	6.10	30.76	6.74	34.33	7.94	38.61	9.34
	39	19.69	4.01	23.45	4.96	27.14	6.05	28.50	6.51	30.76	7.15	34.33	8.44	38.61	9.97
	41	19.69	4.19	23.45	5.12	27.14	6.23	28.50	6.71	30.76	7.40	34.33	8.81	38.61	10.42
	43	19.69	4.53	23.45	5.48	27.14	6.50	28.50	7.06	30.76	7.59	34.33	9.09	38.61	10.75
	46	19.69	4.63	23.45	5.60	27.14	6.62	28.50	7.19	30.76	7.97	34.33	9.59	38.61	11.15
	48	19.69	4.71	23.45	5.63	27.14	6.69	28.50	7.32	30.76	8.20	34.33	10.05	38.61	11.43
	50	18.70	4.57	22.28	5.48	25.78	6.52	27.08	7.09	29.22	7.97	32.61	9.76	36.68	11.10
	52	17.58	4.40	20.94	5.26	24.23	6.25	25.45	6.83	27.47	7.66	30.66	9.40	34.48	10.65
	55	16.53	4.23	19.69	5.05	22.78	6.02	23.92	6.57	25.82	7.38	28.82	9.04	32.41	10.27
60%	-15	16.76	1.57	20.09	1.82	23.07	2.10	24.98	2.27	26.39	2.42	29.84	2.74	32.91	3.12
	-10	16.76	1.70	20.09	1.97	23.07	2.27	24.98	2.44	26.39	2.61	29.84	2.95	32.91	3.37
	-5	16.76	1.83	20.09	2.13	23.07	2.45	24.98	2.64	26.39	2.82	29.84	3.19	32.91	3.65
	-2	16.76	1.84	20.09	2.16	23.07	2.49	24.98	2.68	26.39	2.85	29.84	3.25	32.91	3.67
	0	16.76	1.87	20.09	2.19	23.07	2.53	24.98	2.71	26.39	2.90	29.84	3.30	32.91	3.71
	2	16.76	1.90	20.09	2.24	23.07	2.57	24.98	2.77	26.39	2.94	29.84	3.36	32.91	3.77
	4	16.76	1.96	20.09	2.28	23.07	2.62	24.98	2.79	26.39	2.98	29.84	3.41	32.91	3.80
	6	16.76	1.98	20.09	2.32	23.07	2.68	24.98	2.86	26.39	3.04	29.84	3.48	32.91	3.89
	8	16.76	2.01	20.09	2.35	23.07	2.72	24.98	2.91	26.39	3.10	29.84	3.55	32.91	3.96
	10	16.76	2.05	20.09	2.40	23.07	2.77	24.98	3.00	26.39	3.16	29.84	3.62	32.91	4.01
	12	16.76	2.09	20.09	2.45	23.07	2.81	24.98	3.05	26.39	3.22	29.84	3.67	32.91	4.08
	14	16.76	2.12	20.09	2.49	23.07	2.85	24.98	3.11	26.39	3.29	29.84	3.75	32.91	4.16
	20	16.76	2.21	20.09	2.63	23.07	3.01	24.98	3.28	26.39	3.47	29.84	3.95	32.91	4.41
	25	16.76	2.31	20.09	2.73	23.07	3.21	24.98	3.53	26.39	3.77	29.84	4.44	32.91	5.07
	27	16.76	2.40	20.09	2.90	23.07	3.41	24.98	3.77	26.39	4.04	29.84	4.71	32.91	5.40
	29	16.76	2.53	20.09	3.08	23.07	3.64	24.98	4.01	26.39	4.29	29.84	5.04	32.91	5.75
	31	16.76	2.69	20.09	3.27	23.07	3.87	24.98	4.25	26.39	4.56	29.84	5.36	32.91	6.13
	33	16.76	2.84	20.09	3.46	23.07	4.10	24.98	4.52	26.39	4.86	29.84	5.71	32.91	6.55
	35	16.76	3.00	20.09	3.67	23.07	4.34	24.98	4.79	26.39	5.16	29.84	6.07	32.91	6.97
	37	16.76	3.18	20.09	3.88	23.07	4.62	24.98	5.09	26.39	5.48	29.84	6.48	32.91	7.40
	39	16.76	3.36	20.09	4.10	23.07	4.90	24.98	5.39	26.39	5.82	29.84	6.88	32.91	7.88
	41	16.76	3.47	20.09	4.30	23.07	5.08	24.98	5.61	26.39	6.03	29.84	7.17	32.91	8.22
	43	16.76	3.57	20.09	4.47	23.07	5.25	24.98	5.77	26.39	6.25	29.84	7.50	32.91	8.60
	46	16.76	3.73	20.09	4.68	23.07	5.45	24.98	6.00	26.39	6.55	29.84	7.82	32.91	9.07
	48	16.76	3.87	20.09	4.90	23.07	5.65	24.98	6.15	26.39	6.78	29.84	8.09	32.91	9.53
	50	15.92	3.77	19.08	4.75	21.91	5.49	23.73	5.97	25.07	6.61	28.35	7.86	31.27	9.22
	52	14.96	3.62	17.94	4.58	20.60	5.29	22.31	5.74	23.57	6.35	26.65	7.57	29.39	8.89
	55	14.07	3.48	16.86	4.40	19.36	5.08	20.97	5.51	22.15	6.09	25.05	7.27	27.63	8.54

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 …

Table2-8.5:14HP 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
50%	-15	14.01	1.36	16.56	1.56	19.42	1.81	20.36	1.85	21.89	1.98	24.35	2.23	27.34	2.43
	-10	14.01	1.47	16.56	1.68	19.42	1.95	20.36	2.00	21.89	2.14	24.35	2.41	27.34	2.62
	-5	14.01	1.59	16.56	1.82	19.42	2.11	20.36	2.16	21.89	2.31	24.35	2.61	27.34	2.84
	-2	14.01	1.60	16.56	1.86	19.42	2.13	20.36	2.19	21.89	2.35	24.35	2.63	27.34	2.86
	0	14.01	1.63	16.56	1.89	19.42	2.17	20.36	2.23	21.89	2.38	24.35	2.67	27.34	2.92
	2	14.01	1.64	16.56	1.91	19.42	2.20	20.36	2.26	21.89	2.42	24.35	2.69	27.34	2.97
	4	14.01	1.67	16.56	1.94	19.42	2.23	20.36	2.29	21.89	2.47	24.35	2.75	27.34	3.04
	6	14.01	1.70	16.56	1.98	19.42	2.26	20.36	2.34	21.89	2.50	24.35	2.80	27.34	3.14
	8	14.01	1.73	16.56	2.01	19.42	2.31	20.36	2.39	21.89	2.55	24.35	2.85	27.34	3.23
	10	14.01	1.77	16.56	2.03	19.42	2.34	20.36	2.42	21.89	2.62	24.35	2.92	27.34	3.29
	12	14.01	1.79	16.56	2.06	19.42	2.39	20.36	2.48	21.89	2.67	24.35	2.97	27.34	3.34
	14	14.01	1.80	16.56	2.08	19.42	2.40	20.36	2.53	21.89	2.72	24.35	3.02	27.34	3.41
	20	14.01	1.88	16.56	2.17	19.42	2.52	20.36	2.64	21.89	2.85	24.35	3.18	27.34	3.58
	25	14.01	1.96	16.56	2.27	19.42	2.65	20.36	2.78	21.89	3.03	24.35	3.43	27.34	3.95
	27	14.01	2.00	16.56	2.36	19.42	2.79	20.36	2.96	21.89	3.20	24.35	3.65	27.34	4.21
	29	14.01	2.11	16.56	2.48	19.42	2.97	20.36	3.13	21.89	3.41	24.35	3.88	27.34	4.49
	31	14.01	2.23	16.56	2.64	19.42	3.14	20.36	3.34	21.89	3.63	24.35	4.14	27.34	4.79
	33	14.01	2.35	16.56	2.79	19.42	3.34	20.36	3.52	21.89	3.84	24.35	4.40	27.34	5.08
	35	14.01	2.48	16.56	2.95	19.42	3.51	20.36	3.72	21.89	4.07	24.35	4.67	27.34	5.39
	37	14.01	2.62	16.56	3.11	19.42	3.73	20.36	3.94	21.89	4.32	24.35	4.95	27.34	5.73
	39	14.01	2.76	16.56	3.29	19.42	3.95	20.36	4.19	21.89	4.57	24.35	5.24	27.34	6.10
	41	14.01	2.88	16.56	3.44	19.42	4.08	20.36	4.38	21.89	4.77	24.35	5.52	27.34	6.36
	43	14.01	3.06	16.56	3.66	19.42	4.22	20.36	4.58	21.89	4.90	24.35	5.82	27.34	6.65
	46	14.01	3.13	16.56	3.76	19.42	4.52	20.36	4.94	21.89	5.12	24.35	6.38	27.34	7.22
	48	14.01	3.19	16.56	3.85	19.42	4.75	20.36	5.28	21.89	5.34	24.35	6.88	27.34	7.77
	50	13.31	3.10	15.74	3.74	18.45	4.63	19.34	5.13	20.80	5.19	23.13	6.68	25.97	7.54
	52	12.51	2.98	14.79	3.59	17.35	4.44	18.18	4.91	19.55	5.00	21.75	6.42	24.41	7.24
	55	11.76	2.87	13.90	3.45	16.31	4.26	17.09	4.73	18.38	4.80	20.44	6.17	22.95	6.97

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

Table2-8.6:16HP 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	40.13	4.26	48.87	5.33	56.66	5.71	57.60	5.83	60.62	6.01	62.59	6.59	64.01	6.63
	-10	40.13	4.61	48.87	5.77	56.66	6.17	57.60	6.30	60.62	6.49	62.59	7.12	64.01	7.15
	-5	40.13	4.98	48.87	6.23	56.66	6.66	57.60	6.80	60.62	7.00	62.59	7.68	64.01	7.73
	-2	40.13	4.97	48.87	6.33	56.66	6.67	57.60	6.84	60.62	7.00	62.59	7.77	64.01	7.81
	0	40.13	5.07	48.87	6.46	56.66	6.89	57.60	7.20	60.62	7.43	62.59	7.88	64.01	7.88
	2	40.13	5.17	48.87	6.47	56.66	7.15	57.60	7.61	60.62	7.49	62.59	7.92	64.01	8.00
	4	40.13	5.27	48.87	6.58	56.66	7.38	57.60	7.63	60.62	7.60	62.59	8.07	64.01	8.16
	6	40.13	5.39	48.87	6.72	56.66	7.68	57.60	7.72	59.91	7.83	61.87	8.17	63.39	8.24
	8	40.13	5.51	48.87	6.87	56.66	8.06	57.60	8.09	59.19	8.08	61.15	8.20	62.57	8.32
	10	40.13	5.63	48.87	7.02	56.66	8.34	57.60	8.34	58.48	8.25	60.43	8.35	61.85	8.55
	12	40.13	5.72	48.87	7.16	56.66	8.50	56.79	8.46	57.77	8.34	59.61	8.45	61.03	8.59
	14	40.13	5.83	48.87	7.28	56.55	8.65	56.18	8.62	56.95	8.50	58.99	8.56	60.32	8.80
	20	40.13	6.19	48.87	8.09	54.17	9.34	53.84	9.18	54.71	9.25	56.63	9.43	58.06	9.53
	25	40.13	7.28	48.87	9.60	52.40	10.43	51.91	10.24	52.88	10.36	54.88	10.53	56.21	10.62
	27	40.13	7.74	48.87	10.27	51.68	10.88	51.30	10.69	52.06	10.79	54.06	11.01	55.39	11.09
	29	40.13	8.28	48.87	10.98	50.85	11.30	50.49	11.11	51.45	11.21	53.34	11.45	54.78	11.55
	31	40.13	8.83	48.67	11.61	50.02	11.73	49.78	11.56	50.64	11.68	52.52	11.90	53.96	12.01
	33	40.13	9.41	47.84	12.07	49.39	12.18	48.96	12.03	49.92	12.09	51.90	12.33	53.03	12.46
	35	40.13	10.03	47.01	12.49	48.56	12.67	48.35	12.44	49.11	12.54	51.08	12.83	52.42	12.89
	37	40.13	10.67	46.38	12.93	47.84	13.08	47.54	12.88	48.50	12.98	50.26	13.28	51.60	13.42
	39	40.13	11.40	45.55	13.07	47.01	13.56	46.83	13.32	47.68	13.47	49.54	13.71	50.98	13.89
	41	40.13	12.00	45.03	13.22	46.49	13.64	46.32	13.43	47.17	13.59	49.02	13.72	49.03	13.98
	43	40.13	12.26	44.72	13.30	46.28	13.73	46.12	13.49	46.66	13.61	48.20	13.80	48.42	14.00
	46	40.13	12.89	44.41	13.41	45.76	13.82	45.61	13.58	45.95	13.68	46.87	13.84	47.49	14.28
	48	40.13	13.34	44.31	13.86	45.03	13.93	44.90	13.75	45.44	13.82	45.63	14.07	46.36	14.31
	50	38.12	12.93	42.09	13.41	42.78	13.56	42.66	13.34	43.17	13.44	43.35	13.64	44.05	13.94
	52	35.83	12.48	39.57	12.94	40.22	13.05	40.10	12.81	40.58	12.88	40.75	13.16	41.40	13.39
	55	33.68	11.96	37.19	12.41	37.80	12.52	37.69	12.31	38.14	12.36	38.30	12.65	38.92	12.87
120%	-15	37.08	4.14	44.48	5.04	52.40	6.03	55.34	6.51	58.73	6.87	59.56	7.02	60.80	7.20
	-10	37.08	4.46	44.48	5.44	52.40	6.54	55.34	7.01	58.73	7.43	59.56	7.59	60.80	7.78
	-5	37.08	4.82	44.48	5.90	52.40	7.06	55.34	7.58	58.73	8.02	59.56	8.18	60.80	8.40
	-2	37.08	4.86	44.48	5.95	52.40	7.11	55.34	7.64	58.73	8.10	59.56	8.28	60.80	8.46
	0	37.08	4.91	44.48	5.99	52.40	7.21	55.34	7.67	58.73	8.16	59.56	8.32	60.80	8.45
	2	37.08	4.93	44.48	6.04	52.40	7.24	55.34	7.71	58.73	8.22	59.56	8.36	60.80	8.46
	4	37.08	4.98	44.48	6.13	52.40	7.34	55.34	7.81	58.73	8.33	59.56	8.39	60.80	8.49
	6	37.08	5.03	44.48	6.19	52.40	7.44	55.34	7.89	58.73	8.40	59.56	8.45	60.80	8.51
	8	37.08	5.07	44.48	6.25	52.40	7.53	55.34	7.97	58.73	8.50	59.56	8.51	60.80	8.57
	10	37.08	5.14	44.48	6.32	52.40	7.62	55.34	8.11	58.73	8.51	59.56	8.53	60.80	8.59
	12	37.08	5.23	44.48	6.45	52.40	7.75	55.34	8.27	57.90	8.52	58.74	8.48	59.98	8.65
	14	37.08	5.33	44.48	6.57	52.40	7.91	55.34	8.44	57.07	8.57	58.02	8.58	59.36	8.78
	20	37.08	5.63	44.48	7.09	52.40	8.96	53.49	9.24	54.89	9.36	55.76	9.39	56.99	9.46
	25	37.08	6.50	44.48	8.41	51.57	10.39	51.55	10.31	52.82	10.49	53.91	10.45	55.24	10.58
	27	37.08	6.94	44.48	9.02	50.85	10.81	50.93	10.73	52.19	10.91	53.08	10.91	54.42	11.04
	29	37.08	7.41	44.48	9.63	50.02	11.22	50.11	11.14	51.36	11.37	52.26	11.39	53.70	11.45
	31	37.08	7.88	44.48	10.27	49.19	11.69	49.39	11.59	50.74	11.82	51.54	11.80	52.88	11.93
	33	37.08	8.40	44.48	10.94	48.56	12.14	48.57	12.03	49.91	12.24	50.72	12.28	52.05	12.39
	35	37.08	8.95	44.48	11.68	47.73	12.58	47.75	12.46	49.19	12.70	50.10	12.73	51.44	12.87
	37	37.08	9.53	44.48	12.44	47.01	13.00	47.14	12.91	48.36	13.15	49.28	13.16	50.61	13.30
	39	37.08	10.10	44.27	13.11	46.18	13.44	46.32	13.37	47.52	13.63	48.56	13.64	49.89	13.79
	41	37.08	10.43	43.96	13.22	45.86	13.54	45.91	13.49	47.21	13.71	48.25	13.65	48.45	13.84
	43	37.08	10.56	43.76	13.33	45.45	13.62	45.60	13.52	46.80	13.75	47.42	13.73	47.73	14.13
	46	37.08	10.68	43.45	13.46	45.03	13.75	45.09	13.67	46.38	13.84	46.50	13.77	47.22	14.43
	48	37.08	10.73	43.14	13.59	44.41	13.86	44.37	13.74	45.86	13.98	45.78	13.93	46.60	14.67
	50	35.22	10.47	40.99	13.20	42.19	13.49	42.15	13.33	43.57	13.55	43.49	13.49	44.27	14.19
	52	33.11	10.04	38.53	12.67	39.66	12.93	39.62	12.84	40.96	13.06	40.88	12.98	41.62	13.68
	55	31.12	9.65	36.22	12.19	37.28	12.48	37.25	12.31	38.50	12.53	38.43	12.50	39.12	13.11

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

Table continued on next page …

Table2-8.6:16HP 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	33.93	3.60	41.01	4.54	47.58	5.42	50.87	5.81	53.69	6.21	57.66	6.44	59.49	6.70
	-10	33.93	3.90	41.01	4.91	47.58	5.86	50.87	6.27	53.69	6.69	57.66	6.93	59.49	7.23
	-5	33.93	4.20	41.01	5.30	47.58	6.33	50.87	6.78	53.69	7.24	57.66	7.50	59.49	7.79
	-2	33.93	4.29	41.01	5.38	47.58	6.36	50.87	6.86	53.69	7.28	57.66	7.59	59.49	7.85
	0	33.93	4.34	41.01	5.40	47.58	6.43	50.87	6.91	53.69	7.39	57.66	7.65	59.49	7.94
	2	33.93	4.43	41.01	5.46	47.58	6.51	50.87	6.98	53.69	7.45	57.66	7.78	59.49	8.05
	4	33.93	4.51	41.01	5.52	47.58	6.57	50.87	7.06	53.69	7.56	57.66	7.85	59.49	8.09
	6	33.93	4.56	41.01	5.57	47.58	6.63	50.87	7.18	53.69	7.64	57.66	7.94	59.49	8.25
	8	33.93	4.59	41.01	5.66	47.58	6.72	50.87	7.23	53.69	7.75	57.66	8.02	59.49	8.34
	10	33.93	4.65	41.01	5.75	47.58	6.83	50.87	7.36	53.69	7.87	57.66	8.07	59.49	8.41
	12	33.93	4.76	41.01	5.86	47.58	6.97	50.87	7.53	53.69	8.01	57.05	8.18	58.67	8.51
	14	33.93	4.83	41.01	5.95	47.58	7.07	50.87	7.64	53.69	8.18	56.23	8.23	58.06	8.58
	20	33.93	5.12	41.01	6.34	47.58	7.78	50.87	8.60	52.88	9.16	54.10	9.20	55.70	9.37
	25	33.93	5.79	41.01	7.46	47.58	9.29	50.87	10.24	51.04	10.21	52.16	10.28	53.96	10.45
	27	33.93	6.14	41.01	7.96	47.58	9.92	50.05	10.68	50.23	10.61	51.45	10.73	53.13	10.89
	29	33.93	6.56	41.01	8.51	47.58	10.61	49.43	11.11	49.62	11.09	50.64	11.17	52.42	11.38
	31	33.93	6.97	41.01	9.08	47.58	11.34	48.61	11.55	48.80	11.52	50.03	11.59	51.60	11.78
	33	33.93	7.44	41.01	9.66	47.28	11.93	47.89	11.98	48.19	11.95	49.22	12.03	50.98	12.27
	35	33.93	7.91	41.01	10.28	46.45	12.36	47.07	12.42	47.27	12.36	48.40	12.47	50.16	12.72
	37	33.93	8.41	41.01	10.95	45.73	12.82	46.45	12.88	46.46	12.79	47.69	12.94	49.34	13.18
	39	33.93	8.93	41.01	11.66	44.91	13.22	45.63	13.28	45.85	13.24	46.88	13.37	48.62	13.61
	41	33.93	9.04	41.01	11.79	44.60	13.33	45.22	13.39	45.54	13.36	46.27	13.44	47.19	13.72
	43	33.93	9.12	41.01	11.91	44.19	13.41	44.91	13.47	45.13	13.44	45.86	13.50	46.47	14.01
	46	33.93	9.44	41.01	11.98	43.78	13.56	44.40	13.63	44.73	13.60	45.45	13.84	46.06	14.32
	48	33.93	9.75	41.01	13.01	43.17	13.63	43.68	13.71	44.22	13.66	44.64	13.87	45.44	14.46
	50	32.23	9.43	38.96	12.60	41.01	13.25	41.50	13.34	42.01	13.29	42.41	13.49	43.17	14.02
	52	30.30	9.10	36.62	12.13	38.55	12.70	39.01	12.81	39.49	12.77	39.86	12.98	40.58	13.48
	55	28.48	8.72	34.42	11.63	36.23	12.22	36.67	12.30	37.12	12.30	37.47	12.48	38.14	12.96
100%	-15	30.79	3.27	36.31	3.90	42.31	4.65	45.00	5.02	47.99	5.39	54.65	6.22	57.18	6.42
	-10	30.79	3.53	36.31	4.22	42.31	5.03	45.00	5.41	47.99	5.82	54.65	6.72	57.18	6.94
	-5	30.79	3.82	36.31	4.55	42.31	5.42	45.00	5.84	47.99	6.31	54.65	7.27	57.18	7.52
	-2	30.79	3.87	36.31	4.61	42.31	5.49	45.00	5.95	47.99	6.38	54.65	7.35	57.18	7.56
	0	30.79	3.89	36.31	4.67	42.31	5.54	45.00	6.03	47.99	6.45	54.65	7.48	57.18	7.63
	2	30.79	3.98	36.31	4.72	42.31	5.62	45.00	6.10	47.99	6.51	54.65	7.57	57.18	7.77
	4	30.79	4.01	36.31	4.77	42.31	5.69	45.00	6.19	47.99	6.60	54.65	7.68	57.18	7.84
	6	30.79	4.06	36.31	4.87	42.31	5.77	45.00	6.31	47.99	6.67	54.65	7.75	57.18	7.97
	8	30.79	4.15	36.31	4.94	42.31	5.86	45.00	6.38	47.99	6.78	54.65	7.89	57.18	8.09
	10	30.79	4.19	36.31	5.02	42.31	5.98	45.00	6.49	47.99	6.93	54.65	8.01	57.18	8.21
	12	30.79	4.27	36.31	5.14	42.31	6.07	45.00	6.61	47.99	7.06	54.65	8.17	56.38	8.28
	14	30.79	4.34	36.31	5.22	42.31	6.19	45.00	6.74	47.99	7.17	54.65	8.33	55.67	8.38
	20	30.79	4.59	36.31	5.53	42.31	6.63	45.00	7.36	47.99	7.99	52.93	9.12	53.46	9.09
	25	30.79	5.07	36.31	6.36	42.31	7.90	45.00	8.75	47.99	9.52	51.10	10.20	51.65	10.17
	27	30.79	5.40	36.31	6.78	42.31	8.43	45.00	9.36	47.99	10.20	50.28	10.62	50.85	10.60
	29	30.79	5.76	36.31	7.24	42.31	9.00	45.00	9.98	47.79	10.84	49.68	11.07	50.25	11.03
	31	30.79	6.13	36.31	7.72	42.31	9.60	45.00	10.67	47.19	11.26	48.86	11.49	49.44	11.44
	33	30.79	6.49	36.31	8.24	42.31	10.22	45.00	11.38	46.39	11.68	48.15	11.91	48.74	11.88
	35	30.79	6.93	36.31	8.77	42.31	10.92	45.00	12.15	45.59	12.06	47.34	12.37	47.94	12.30
	37	30.79	7.37	36.31	9.29	42.31	11.61	44.20	12.55	44.89	12.50	46.73	12.78	47.13	12.78
	39	30.79	7.81	36.31	9.90	42.31	12.40	43.60	13.00	44.09	12.92	45.92	13.22	46.53	13.25
	41	30.79	8.17	36.31	10.26	42.31	12.80	42.90	13.07	43.79	13.13	45.10	13.57	45.83	13.52
	43	30.79	8.55	36.31	10.64	42.31	13.04	42.20	13.22	43.49	13.28	45.31	13.63	45.02	13.64
	46	30.79	9.05	36.31	11.13	42.31	13.32	41.30	13.43	43.29	13.52	45.00	13.82	44.12	13.81
	48	30.79	9.44	36.31	11.48	42.31	13.34	39.60	13.56	43.19	13.74	42.26	13.96	43.11	13.93
	50	29.25	9.15	34.49	11.18	40.19	12.94	37.62	13.18	41.03	13.35	40.15	13.59	40.96	13.53
	52	27.50	8.83	32.42	10.74	37.78	12.45	35.36	12.65	38.56	12.86	37.74	13.03	38.50	13.00
	55	25.85	8.46	30.48	10.29	35.51	11.97	33.24	12.18	36.25	12.33	35.47	12.56	36.19	12.54

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 …

Table2-8.6:16HP 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	27.81	2.91	33.86	3.56	38.84	4.15	41.26	4.49	44.72	4.88	50.08	5.59	54.66	6.30
	-10	27.81	3.15	33.86	3.86	38.84	4.49	41.26	4.85	44.72	5.26	50.08	6.05	54.66	6.80
	-5	27.81	3.40	33.86	4.16	38.84	4.84	41.26	5.26	44.72	5.68	50.08	6.52	54.66	7.34
	-2	27.81	3.42	33.86	4.20	38.84	4.89	41.26	5.33	44.72	5.76	50.08	6.57	54.66	7.41
	0	27.81	3.47	33.86	4.24	38.84	4.96	41.26	5.39	44.72	5.82	50.08	6.65	54.66	7.48
	2	27.81	3.53	33.86	4.31	38.84	5.02	41.26	5.48	44.72	5.91	50.08	6.79	54.66	7.59
	4	27.81	3.59	33.86	4.36	38.84	5.11	41.26	5.53	44.72	6.00	50.08	6.91	54.66	7.70
	6	27.81	3.65	33.86	4.46	38.84	5.21	41.26	5.65	44.72	6.10	50.08	7.02	54.66	7.81
	8	27.81	3.71	33.86	4.55	38.84	5.31	41.26	5.72	44.72	6.21	50.08	7.14	54.66	7.89
	10	27.81	3.78	33.86	4.65	38.84	5.39	41.26	5.80	44.72	6.35	50.08	7.23	54.66	8.04
	12	27.81	3.84	33.86	4.72	38.84	5.50	41.26	5.90	44.72	6.46	50.08	7.37	54.66	8.16
	14	27.81	3.90	33.86	4.81	38.84	5.62	41.26	6.02	44.72	6.58	50.08	7.51	54.66	8.32
	20	27.81	4.11	33.86	5.11	38.84	5.94	41.26	6.38	44.72	7.10	50.08	8.38	53.03	9.14
	25	27.81	4.46	33.86	5.73	38.84	6.90	41.26	7.56	44.72	8.43	50.08	9.99	51.20	10.24
	27	27.81	4.76	33.86	6.08	38.84	7.38	41.26	8.07	44.72	9.01	50.08	10.70	50.38	10.65
	29	27.81	5.07	33.86	6.49	38.84	7.88	41.26	8.64	44.72	9.63	49.56	11.16	49.77	11.09
	31	27.81	5.38	33.86	6.90	38.84	8.40	41.26	9.19	44.72	10.30	48.73	11.63	48.96	11.51
	33	27.81	5.69	33.86	7.36	38.84	8.95	41.26	9.83	44.72	10.99	48.01	12.08	48.25	11.91
	35	27.81	6.07	33.86	7.80	38.84	9.54	41.26	10.45	44.72	11.67	47.18	12.50	47.43	12.37
	37	27.81	6.43	33.86	8.30	38.84	10.15	41.26	11.12	44.72	12.45	46.35	12.90	46.82	12.84
	39	27.81	6.84	33.86	8.84	38.84	10.82	41.26	11.83	44.72	13.26	45.73	13.35	46.01	13.24
	41	27.81	7.07	33.86	9.26	38.84	11.17	41.26	12.17	44.72	13.33	45.42	13.72	45.70	13.56
	43	27.81	7.40	33.86	9.65	38.84	11.60	41.26	12.49	44.72	13.65	45.22	13.91	45.29	13.81
	46	27.81	7.88	33.86	10.11	38.84	12.05	41.26	12.90	44.72	14.00	44.91	14.07	44.58	13.95
	48	27.81	8.30	33.86	10.57	38.84	12.54	41.26	13.09	44.72	14.15	44.60	14.21	43.36	14.14
	50	26.42	8.08	32.17	10.31	36.90	12.14	39.20	12.67	42.49	13.70	42.37	13.83	41.19	13.73
	52	24.84	7.75	30.24	9.91	34.68	11.68	36.85	12.19	39.94	13.22	39.82	13.29	38.72	13.20
	55	23.35	7.47	28.42	9.52	32.60	11.24	34.64	11.71	37.54	12.67	37.43	12.79	36.40	12.72
80%	-15	24.93	2.59	29.93	3.08	34.53	3.63	37.36	3.89	39.47	4.16	44.64	4.83	49.40	5.52
	-10	24.93	2.79	29.93	3.33	34.53	3.91	37.36	4.21	39.47	4.48	44.64	5.21	49.40	5.95
	-5	24.93	3.02	29.93	3.59	34.53	4.23	37.36	4.54	39.47	4.85	44.64	5.63	49.40	6.44
	-2	24.93	3.07	29.93	3.65	34.53	4.27	37.36	4.60	39.47	4.89	44.64	5.69	49.40	6.49
	0	24.93	3.11	29.93	3.68	34.53	4.32	37.36	4.67	39.47	4.99	44.64	5.78	49.40	6.60
	2	24.93	3.17	29.93	3.75	34.53	4.37	37.36	4.76	39.47	5.05	44.64	5.90	49.40	6.73
	4	24.93	3.23	29.93	3.81	34.53	4.46	37.36	4.87	39.47	5.15	44.64	6.01	49.40	6.81
	6	24.93	3.29	29.93	3.90	34.53	4.53	37.36	4.97	39.47	5.24	44.64	6.08	49.40	6.94
	8	24.93	3.35	29.93	3.97	34.53	4.64	37.36	5.04	39.47	5.38	44.64	6.17	49.40	7.07
	10	24.93	3.36	29.93	4.08	34.53	4.77	37.36	5.17	39.47	5.50	44.64	6.34	49.40	7.11
	12	24.93	3.43	29.93	4.13	34.53	4.84	37.36	5.28	39.47	5.61	44.64	6.45	49.40	7.24
	14	24.93	3.48	29.93	4.24	34.53	4.92	37.36	5.37	39.47	5.70	44.64	6.56	49.40	7.39
	20	24.93	3.67	29.93	4.47	34.53	5.24	37.36	5.69	39.47	6.05	44.64	7.08	49.40	8.22
	25	24.93	3.88	29.93	4.88	34.53	5.91	37.36	6.53	39.47	7.04	44.64	8.40	49.40	9.78
	27	24.93	4.13	29.93	5.19	34.53	6.29	37.36	6.98	39.47	7.53	44.64	8.97	49.40	10.46
	29	24.93	4.41	29.93	5.54	34.53	6.71	37.36	7.43	39.47	8.06	44.64	9.55	49.40	11.18
	31	24.93	4.66	29.93	5.89	34.53	7.14	37.36	7.91	39.47	8.57	44.64	10.22	48.57	11.60
	33	24.93	4.98	29.93	6.26	34.53	7.59	37.36	8.45	39.47	9.13	44.64	10.87	47.95	12.07
	35	24.93	5.27	29.93	6.65	34.53	8.09	37.36	8.96	39.47	9.75	44.64	11.61	47.12	12.47
	37	24.93	5.56	29.93	7.05	34.53	8.62	37.36	9.55	39.47	10.38	44.64	12.36	46.40	12.90
	39	24.93	5.90	29.93	7.52	34.53	9.14	37.36	10.18	39.47	11.00	44.64	13.22	45.57	13.38
	41	24.93	6.04	29.93	7.59	34.53	9.30	37.36	10.45	39.47	11.22	44.64	13.55	45.36	13.58
	43	24.93	6.23	29.93	7.66	34.53	9.43	37.36	10.60	39.47	11.36	44.64	13.67	45.05	13.76
	46	24.93	6.40	29.93	7.77	34.53	9.61	37.36	10.85	39.47	11.60	44.64	13.84	44.53	13.98
	48	24.93	6.60	29.93	7.78	34.53	9.75	37.36	10.99	39.47	11.69	44.64	13.98	44.12	14.19
	50	23.68	6.42	28.43	7.56	32.81	9.46	35.49	10.67	37.49	11.35	42.41	13.58	41.91	13.74
	52	22.26	6.17	26.73	7.28	30.84	9.08	33.36	10.26	35.24	10.92	39.86	13.06	39.40	13.23
	55	20.92	5.93	25.12	6.99	28.99	8.72	31.36	9.84	33.13	10.48	37.47	12.53	37.04	12.68

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 …

Table2-8.6:16HP 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	21.52	2.28	25.83	2.67	30.13	3.06	32.00	3.25	34.10	3.47	38.68	4.02	42.50	4.57
	-10	21.52	2.47	25.83	2.89	30.13	3.31	32.00	3.52	34.10	3.75	38.68	4.35	42.50	4.93
	-5	21.52	2.66	25.83	3.13	30.13	3.57	32.00	3.80	34.10	4.05	38.68	4.70	42.50	5.32
	-2	21.52	2.68	25.83	3.14	30.13	3.58	32.00	3.87	34.10	4.11	38.68	4.78	42.50	5.40
	0	21.52	2.71	25.83	3.18	30.13	3.67	32.00	3.95	34.10	4.19	38.68	4.85	42.50	5.50
	2	21.52	2.72	25.83	3.21	30.13	3.73	32.00	4.01	34.10	4.27	38.68	4.97	42.50	5.58
	4	21.52	2.75	25.83	3.28	30.13	3.80	32.00	4.09	34.10	4.36	38.68	5.05	42.50	5.70
	6	21.52	2.79	25.83	3.33	30.13	3.91	32.00	4.23	34.10	4.46	38.68	5.15	42.50	5.81
	8	21.52	2.84	25.83	3.43	30.13	3.98	32.00	4.28	34.10	4.56	38.68	5.28	42.50	5.92
	10	21.52	2.91	25.83	3.49	30.13	4.10	32.00	4.36	34.10	4.69	38.68	5.38	42.50	6.00
	12	21.52	2.98	25.83	3.54	30.13	4.18	32.00	4.44	34.10	4.77	38.68	5.51	42.50	6.12
	14	21.52	3.03	25.83	3.60	30.13	4.25	32.00	4.51	34.10	4.83	38.68	5.60	42.50	6.21
	20	21.52	3.17	25.83	3.81	30.13	4.50	32.00	4.78	34.10	5.13	38.68	5.94	42.50	6.64
	25	21.52	3.31	25.83	4.05	30.13	4.92	32.00	5.35	34.10	5.79	38.68	6.91	42.50	7.87
	27	21.52	3.52	25.83	4.33	30.13	5.25	32.00	5.70	34.10	6.18	38.68	7.37	42.50	8.42
	29	21.52	3.72	25.83	4.58	30.13	5.59	32.00	6.08	34.10	6.58	38.68	7.84	42.50	9.01
	31	21.52	3.94	25.83	4.87	30.13	5.96	32.00	6.44	34.10	7.02	38.68	8.36	42.50	9.59
	33	21.52	4.18	25.83	5.17	30.13	6.34	32.00	6.84	34.10	7.47	38.68	8.91	42.50	10.23
	35	21.52	4.43	25.83	5.49	30.13	6.70	32.00	7.28	34.10	7.94	38.68	9.50	42.50	10.89
	37	21.52	4.68	25.83	5.83	30.13	7.13	32.00	7.75	34.10	8.47	38.68	10.13	42.50	11.63
	39	21.52	4.95	25.83	6.16	30.13	7.58	32.00	8.23	34.10	9.00	38.68	10.73	42.50	12.36
	41	21.52	5.18	25.83	6.38	30.13	7.79	32.00	8.49	34.10	9.25	38.68	11.20	42.50	12.94
	43	21.52	5.58	25.83	6.84	30.13	8.11	32.00	8.98	34.10	9.55	38.68	11.60	42.50	13.33
	46	21.52	5.73	25.83	6.98	30.13	8.30	32.00	9.11	34.10	10.00	38.68	12.21	42.50	13.87
	48	21.52	5.83	25.83	7.02	30.13	8.40	32.00	9.26	34.10	10.26	38.68	12.80	42.50	14.16
	50	20.44	5.65	24.54	6.80	28.62	8.14	30.40	8.99	32.39	9.96	36.75	12.43	40.38	13.77
	52	19.21	5.45	23.06	6.55	26.90	7.83	28.58	8.66	30.45	9.58	34.54	11.95	37.96	13.26
	55	18.06	5.23	21.68	6.30	25.29	7.55	26.86	8.31	28.62	9.22	32.47	11.47	35.68	12.69
60%	-15	18.83	1.99	22.47	2.30	25.57	2.63	27.96	2.87	29.29	3.03	33.45	3.47	36.40	3.91
	-10	18.83	2.15	22.47	2.48	25.57	2.85	27.96	3.10	29.29	3.27	33.45	3.74	36.40	4.21
	-5	18.83	2.32	22.47	2.69	25.57	3.06	27.96	3.33	29.29	3.54	33.45	4.05	36.40	4.55
	-2	18.83	2.33	22.47	2.72	25.57	3.12	27.96	3.39	29.29	3.58	33.45	4.10	36.40	4.59
	0	18.83	2.36	22.47	2.76	25.57	3.16	27.96	3.43	29.29	3.63	33.45	4.17	36.40	4.65
	2	18.83	2.40	22.47	2.83	25.57	3.22	27.96	3.49	29.29	3.69	33.45	4.24	36.40	4.70
	4	18.83	2.48	22.47	2.89	25.57	3.28	27.96	3.53	29.29	3.73	33.45	4.32	36.40	4.78
	6	18.83	2.50	22.47	2.94	25.57	3.35	27.96	3.62	29.29	3.81	33.45	4.40	36.40	4.88
	8	18.83	2.55	22.47	2.99	25.57	3.42	27.96	3.69	29.29	3.89	33.45	4.50	36.40	4.98
	10	18.83	2.59	22.47	3.04	25.57	3.46	27.96	3.78	29.29	3.96	33.45	4.58	36.40	5.04
	12	18.83	2.65	22.47	3.11	25.57	3.54	27.96	3.86	29.29	4.03	33.45	4.66	36.40	5.12
	14	18.83	2.68	22.47	3.15	25.57	3.59	27.96	3.92	29.29	4.11	33.45	4.74	36.40	5.21
	20	18.83	2.80	22.47	3.32	25.57	3.77	27.96	4.14	29.29	4.35	33.45	5.02	36.40	5.53
	25	18.83	2.91	22.47	3.45	25.57	4.02	27.96	4.46	29.29	4.74	33.45	5.61	36.40	6.35
	27	18.83	3.03	22.47	3.67	25.57	4.29	27.96	4.77	29.29	5.04	33.45	5.98	36.40	6.77
	29	18.83	3.20	22.47	3.89	25.57	4.57	27.96	5.06	29.29	5.38	33.45	6.37	36.40	7.23
	31	18.83	3.40	22.47	4.13	25.57	4.83	27.96	5.39	29.29	5.72	33.45	6.80	36.40	7.70
	33	18.83	3.58	22.47	4.37	25.57	5.13	27.96	5.71	29.29	6.08	33.45	7.21	36.40	8.20
	35	18.83	3.81	22.47	4.64	25.57	5.45	27.96	6.07	29.29	6.47	33.45	7.70	36.40	8.70
	37	18.83	4.02	22.47	4.92	25.57	5.79	27.96	6.45	29.29	6.86	33.45	8.16	36.40	9.28
	39	18.83	4.23	22.47	5.19	25.57	6.12	27.96	6.83	29.29	7.27	33.45	8.67	36.40	9.89
	41	18.83	4.37	22.47	5.42	25.57	6.34	27.96	7.10	29.29	7.58	33.45	9.08	36.40	10.32
	43	18.83	4.51	22.47	5.64	25.57	6.56	27.96	7.31	29.29	7.82	33.45	9.47	36.40	10.79
	46	18.83	4.71	22.47	5.94	25.57	6.83	27.96	7.56	29.29	8.20	33.45	9.92	36.40	11.34
	48	18.83	4.90	22.47	6.19	25.57	7.06	27.96	7.75	29.29	8.53	33.45	10.23	36.40	11.93
	50	17.89	4.75	21.35	6.02	24.30	6.88	26.57	7.56	27.82	8.27	31.78	9.96	34.58	11.57
	52	16.82	4.58	20.07	5.78	22.84	6.61	24.97	7.24	26.15	7.96	29.87	9.59	32.51	11.10
	55	15.81	4.39	18.87	5.55	21.47	6.35	23.47	6.96	24.58	7.66	28.08	9.21	30.56	10.67

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

Table continued on next page …

Table2-8.6:16HP 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	15.77	1.72	18.49	1.96	21.41	2.24	23.12	2.38	24.54	2.51	27.49	2.86	30.37	3.04
	-10	15.77	1.87	18.49	2.11	21.41	2.43	23.12	2.57	24.54	2.71	27.49	3.08	30.37	3.28
	-5	15.77	2.01	18.49	2.29	21.41	2.63	23.12	2.78	24.54	2.93	27.49	3.33	30.37	3.54
	-2	15.77	2.03	18.49	2.33	21.41	2.65	23.12	2.82	24.54	2.99	27.49	3.37	30.37	3.59
	0	15.77	2.07	18.49	2.37	21.41	2.69	23.12	2.86	24.54	3.00	27.49	3.44	30.37	3.65
	2	15.77	2.10	18.49	2.40	21.41	2.74	23.12	2.90	24.54	3.07	27.49	3.45	30.37	3.72
	4	15.77	2.12	18.49	2.44	21.41	2.77	23.12	2.94	24.54	3.13	27.49	3.53	30.37	3.82
	6	15.77	2.15	18.49	2.48	21.41	2.81	23.12	3.01	24.54	3.19	27.49	3.58	30.37	3.94
	8	15.77	2.20	18.49	2.53	21.41	2.87	23.12	3.06	24.54	3.22	27.49	3.64	30.37	4.06
	10	15.77	2.26	18.49	2.56	21.41	2.90	23.12	3.12	24.54	3.32	27.49	3.74	30.37	4.13
	12	15.77	2.27	18.49	2.58	21.41	2.95	23.12	3.17	24.54	3.40	27.49	3.79	30.37	4.19
	14	15.77	2.30	18.49	2.61	21.41	2.99	23.12	3.24	24.54	3.45	27.49	3.87	30.37	4.28
	20	15.77	2.40	18.49	2.73	21.41	3.14	23.12	3.39	24.54	3.62	27.49	4.07	30.37	4.50
	25	15.77	2.48	18.49	2.85	21.41	3.27	23.12	3.56	24.54	3.85	27.49	4.40	30.37	4.97
	27	15.77	2.53	18.49	2.95	21.41	3.46	23.12	3.79	24.54	4.07	27.49	4.69	30.37	5.30
	29	15.77	2.66	18.49	3.12	21.41	3.67	23.12	4.02	24.54	4.34	27.49	4.98	30.37	5.64
	31	15.77	2.82	18.49	3.30	21.41	3.89	23.12	4.27	24.54	4.60	27.49	5.30	30.37	6.00
	33	15.77	2.99	18.49	3.49	21.41	4.15	23.12	4.52	24.54	4.87	27.49	5.64	30.37	6.36
	35	15.77	3.16	18.49	3.70	21.41	4.36	23.12	4.80	24.54	5.16	27.49	5.96	30.37	6.78
	37	15.77	3.33	18.49	3.91	21.41	4.62	23.12	5.07	24.54	5.48	27.49	6.34	30.37	7.20
	39	15.77	3.51	18.49	4.12	21.41	4.90	23.12	5.37	24.54	5.80	27.49	6.72	30.37	7.64
	41	15.77	3.65	18.49	4.29	21.41	5.06	23.12	5.63	24.54	6.07	27.49	7.07	30.37	7.98
	43	15.77	3.89	18.49	4.59	21.41	5.26	23.12	5.86	24.54	6.23	27.49	7.44	30.37	8.36
	46	15.77	4.00	18.49	4.72	21.41	5.60	23.12	6.31	24.54	6.50	27.49	8.16	30.37	9.06
	48	15.77	4.06	18.49	4.83	21.41	5.90	23.12	6.74	24.54	6.79	27.49	8.78	30.37	9.73
	50	14.98	3.95	17.56	4.69	20.34	5.74	21.97	6.56	23.31	6.61	26.12	8.54	28.86	9.46
	52	14.08	3.80	16.51	4.50	19.12	5.52	20.65	6.31	21.91	6.34	24.55	8.21	27.12	9.12
	55	13.24	3.64	15.52	4.33	17.98	5.30	19.41	6.06	20.60	6.11	23.08	7.91	25.50	8.75

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

Table2-8.7:18HP 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	45.73	4.76	53.76	5.76	63.17	6.25	64.32	6.36	68.86	6.68	69.65	7.16	70.85	7.16
	-10	45.73	5.16	53.76	6.19	63.17	6.73	64.32	6.86	68.86	7.20	69.65	7.74	70.85	7.72
	-5	45.73	5.57	53.76	6.70	63.17	7.26	64.32	7.44	68.86	7.78	69.65	8.36	70.85	8.34
	-2	45.73	5.56	53.76	6.84	63.17	7.28	64.32	7.47	68.86	7.80	69.65	8.46	70.85	8.45
	0	45.73	5.66	53.76	6.96	63.17	7.55	64.32	7.89	68.86	8.25	69.65	8.58	70.85	8.54
	2	45.73	5.76	53.76	6.95	63.17	7.78	64.32	8.32	68.86	8.32	69.65	8.65	70.85	8.67
	4	45.73	5.88	53.76	7.11	63.17	8.06	64.32	8.34	68.86	8.46	69.65	8.76	70.85	8.86
	6	45.73	5.99	53.76	7.22	63.17	8.36	64.32	8.43	68.03	8.70	68.73	8.92	70.03	8.91
	8	45.73	6.13	53.76	7.41	63.17	8.79	64.32	8.81	67.19	9.01	68.01	8.92	69.11	9.00
	10	45.73	6.26	53.76	7.55	63.17	9.09	64.32	9.12	66.36	9.16	67.29	9.08	68.40	9.25
	12	45.73	6.38	53.76	7.71	63.17	9.27	63.40	9.25	65.63	9.32	66.36	9.19	67.48	9.33
	14	45.73	6.50	53.76	7.86	62.97	9.44	62.68	9.41	64.69	9.44	65.54	9.36	66.77	9.52
	20	45.73	6.88	53.76	8.69	60.36	10.20	60.13	10.04	62.09	10.33	62.96	10.28	64.21	10.27
	25	45.73	8.10	53.76	10.37	58.39	11.40	57.99	11.23	60.11	11.51	61.01	11.48	62.17	11.52
	27	45.73	8.65	53.76	11.05	57.66	11.87	57.27	11.70	59.17	12.02	60.08	12.00	61.25	12.00
	29	45.73	9.25	53.76	11.82	56.72	12.35	56.35	12.16	58.44	12.50	59.36	12.45	60.54	12.49
	31	45.73	9.87	53.55	12.50	55.78	12.82	55.64	12.66	57.50	12.95	58.44	12.93	59.62	13.02
	33	45.73	10.51	52.63	13.02	55.06	13.30	54.72	13.09	56.78	13.45	57.72	13.46	58.70	13.50
	35	45.73	11.19	51.80	13.47	54.12	13.79	54.00	13.57	55.84	13.97	56.79	13.93	57.99	14.01
	37	45.73	11.94	50.98	13.94	53.29	14.28	53.09	14.10	55.11	14.44	55.87	14.49	57.07	14.53
	39	45.73	12.69	50.06	14.10	52.45	14.74	52.27	14.58	54.17	14.94	55.15	14.91	56.35	15.02
	41	45.73	13.38	49.54	14.20	51.83	14.93	51.76	14.69	53.55	15.13	54.53	14.96	54.21	15.17
	43	45.73	13.68	49.23	14.28	51.62	14.96	51.55	14.74	53.03	15.15	53.60	15.03	53.49	15.21
	46	45.73	14.35	48.92	14.46	51.00	15.06	50.94	14.90	52.30	15.20	52.16	15.04	52.47	15.44
	48	45.73	14.87	48.72	14.90	50.16	15.23	50.12	15.00	51.57	15.36	50.72	15.33	51.25	15.50
	50	43.45	14.43	46.28	14.48	47.66	14.77	47.62	14.55	48.99	14.91	48.19	14.87	48.69	15.05
	52	40.84	13.86	43.51	13.89	44.80	14.21	44.76	14.00	46.05	14.34	45.29	14.27	45.76	14.52
	55	38.39	13.37	40.90	13.39	42.11	13.68	42.08	13.43	43.29	13.76	42.58	13.77	43.02	13.95
120%	-15	41.75	4.56	49.69	5.52	57.22	6.47	62.50	7.20	65.28	7.47	66.86	7.74	68.18	7.91
	-10	41.75	4.94	49.69	5.97	57.22	6.98	62.50	7.78	65.28	8.07	66.86	8.35	68.18	8.55
	-5	41.75	5.31	49.69	6.45	57.22	7.54	62.50	8.39	65.28	8.74	66.86	8.99	68.18	9.21
	-2	41.75	5.36	49.69	6.49	57.22	7.60	62.50	8.45	65.28	8.80	66.86	9.07	68.18	9.26
	0	41.75	5.42	49.69	6.56	57.22	7.69	62.50	8.44	65.28	8.88	66.86	9.14	68.18	9.28
	2	41.75	5.44	49.69	6.63	57.22	7.74	62.50	8.55	65.28	8.91	66.86	9.19	68.18	9.29
	4	41.75	5.49	49.69	6.71	57.22	7.85	62.50	8.61	65.28	9.04	66.86	9.23	68.18	9.34
	6	41.75	5.55	49.69	6.75	57.22	7.94	62.50	8.73	65.28	9.16	66.86	9.30	68.18	9.37
	8	41.75	5.59	49.69	6.82	57.22	8.06	62.50	8.84	65.28	9.23	66.86	9.32	68.18	9.42
	10	41.75	5.67	49.69	6.92	57.22	8.11	62.50	8.99	65.28	9.27	66.86	9.35	68.18	9.46
	12	41.75	5.76	49.69	7.04	57.22	8.29	62.50	9.16	64.34	9.30	65.92	9.31	67.25	9.49
	14	41.75	5.88	49.69	7.18	57.22	8.47	62.50	9.36	63.41	9.33	65.19	9.47	66.52	9.63
	20	41.75	6.23	49.69	7.77	57.22	9.59	60.42	10.20	61.02	10.17	62.59	10.31	63.93	10.39
	25	41.75	7.15	49.69	9.20	56.30	11.07	58.23	11.35	58.74	11.38	60.51	11.51	61.85	11.58
	27	41.75	7.64	49.69	9.85	55.58	11.55	57.50	11.89	58.01	11.86	59.58	11.98	61.02	12.07
	29	41.75	8.15	49.69	10.51	54.67	12.02	56.57	12.33	57.08	12.34	58.64	12.49	60.19	12.58
	31	41.75	8.73	49.69	11.23	53.75	12.50	55.84	12.85	56.35	12.87	57.91	13.00	59.26	13.10
	33	41.75	9.26	49.69	11.99	53.03	12.94	54.90	13.30	55.42	13.33	56.98	13.50	58.32	13.58
	35	41.75	9.85	49.69	12.79	52.12	13.43	53.96	13.81	54.69	13.83	56.25	13.97	57.60	14.08
	37	41.75	10.48	49.69	13.63	51.40	13.92	53.23	14.30	53.76	14.28	55.32	14.51	56.66	14.62
	39	41.75	11.18	49.48	14.40	50.48	14.36	52.30	14.80	52.82	14.83	54.59	15.01	55.94	15.09
	41	41.75	11.50	49.07	14.51	50.08	14.51	51.88	14.87	52.41	14.87	54.17	15.05	54.38	15.21
	43	41.75	11.64	48.86	14.55	49.67	14.60	51.46	14.93	51.99	14.97	53.24	15.04	53.55	15.53
	46	41.75	11.82	48.55	14.73	49.16	14.72	50.94	15.05	51.58	15.05	52.20	15.13	52.93	15.85
	48	41.75	11.87	48.14	14.88	48.55	14.80	50.11	15.19	50.95	15.18	51.36	15.31	52.30	16.08
	50	39.66	11.52	45.73	14.42	46.12	14.41	47.60	14.73	48.41	14.74	48.80	14.84	49.69	15.59
	52	37.28	11.10	42.99	13.86	43.35	13.85	44.75	14.17	45.50	14.21	45.87	14.26	46.71	15.00
	55	35.04	10.67	40.41	13.34	40.75	13.32	42.06	13.63	42.77	13.64	43.12	13.74	43.90	14.40

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

Table continued on next page …

Table2-8.7:18HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	37.80	3.93	45.14	4.90	52.98	5.90	57.08	6.39	60.29	6.82	64.75	7.07	66.94	7.37
	-10	37.80	4.25	45.14	5.28	52.98	6.40	57.08	6.89	60.29	7.36	64.75	7.63	66.94	7.95
	-5	37.80	4.59	45.14	5.72	52.98	6.90	57.08	7.46	60.29	7.93	64.75	8.24	66.94	8.57
	-2	37.80	4.67	45.14	5.77	52.98	6.96	57.08	7.51	60.29	8.02	64.75	8.32	66.94	8.62
	0	37.80	4.73	45.14	5.83	52.98	7.00	57.08	7.56	60.29	8.10	64.75	8.40	66.94	8.73
	2	37.80	4.83	45.14	5.88	52.98	7.11	57.08	7.67	60.29	8.18	64.75	8.54	66.94	8.86
	4	37.80	4.93	45.14	5.94	52.98	7.20	57.08	7.77	60.29	8.31	64.75	8.63	66.94	8.94
	6	37.80	4.98	45.14	6.00	52.98	7.24	57.08	7.87	60.29	8.39	64.75	8.74	66.94	9.08
	8	37.80	5.02	45.14	6.09	52.98	7.32	57.08	7.96	60.29	8.49	64.75	8.80	66.94	9.15
	10	37.80	5.07	45.14	6.17	52.98	7.46	57.08	8.10	60.29	8.66	64.75	8.87	66.94	9.22
	12	37.80	5.17	45.14	6.31	52.98	7.60	57.08	8.28	60.29	8.80	64.03	9.00	66.00	9.35
	14	37.80	5.28	45.14	6.43	52.98	7.74	57.08	8.39	60.29	8.97	63.11	9.07	65.28	9.43
	20	37.80	5.58	45.14	6.81	52.98	8.52	57.08	9.46	59.36	10.03	60.74	10.11	62.68	10.30
	25	37.80	6.30	45.14	8.05	52.98	10.10	57.08	11.27	57.31	11.21	58.59	11.29	60.61	11.52
	27	37.80	6.71	45.14	8.57	52.98	10.83	56.14	11.73	56.38	11.67	57.87	11.79	59.67	11.98
	29	37.80	7.17	45.14	9.15	52.98	11.57	55.42	12.25	55.66	12.17	56.94	12.28	58.95	12.48
	31	37.80	7.64	45.14	9.79	52.98	12.37	54.48	12.72	54.73	12.65	56.12	12.76	58.01	13.02
	33	37.80	8.11	45.14	10.44	52.67	13.00	53.76	13.16	54.01	13.12	55.30	13.22	57.29	13.51
	35	37.80	8.61	45.14	11.09	51.75	13.50	52.82	13.63	53.09	13.63	54.37	13.73	56.35	14.01
	37	37.80	9.17	45.14	11.83	51.03	13.96	52.10	14.13	52.16	14.09	53.55	14.21	55.42	14.44
	39	37.80	9.76	45.14	12.62	50.10	14.43	51.16	14.62	51.44	14.60	52.73	14.68	54.69	14.95
	41	37.80	9.87	45.14	12.68	49.69	14.56	50.75	14.69	51.03	14.63	52.01	14.76	53.03	15.10
	43	37.80	9.96	45.14	12.86	49.27	14.68	50.33	14.84	50.62	14.73	51.49	14.83	52.20	15.36
	46	37.80	10.30	45.14	12.92	48.76	14.76	49.81	14.98	50.21	14.93	50.98	15.27	51.68	15.73
	48	37.80	10.61	45.14	14.02	48.04	14.88	49.09	15.06	49.59	15.00	50.16	15.27	51.06	15.87
	50	35.91	10.33	42.88	13.61	45.63	14.43	46.63	14.63	47.11	14.57	47.65	14.85	48.51	15.46
	52	33.76	9.90	40.31	13.07	42.90	13.88	43.83	14.09	44.28	14.05	44.79	14.27	45.60	14.82
	55	31.73	9.51	37.89	12.55	40.32	13.30	41.20	13.51	41.63	13.49	42.10	13.70	42.86	14.23
100%	-15	34.34	3.57	40.48	4.27	47.13	5.08	50.00	5.46	53.62	5.89	60.16	6.71	64.21	7.07
	-10	34.34	3.85	40.48	4.62	47.13	5.48	50.00	5.90	53.62	6.37	60.16	7.26	64.21	7.63
	-5	34.34	4.16	40.48	4.97	47.13	5.91	50.00	6.36	53.62	6.90	60.16	7.82	64.21	8.24
	-2	34.34	4.22	40.48	5.03	47.13	5.97	50.00	6.48	53.62	6.99	60.16	7.92	64.21	8.32
	0	34.34	4.25	40.48	5.10	47.13	6.04	50.00	6.56	53.62	7.04	60.16	8.04	64.21	8.38
	2	34.34	4.35	40.48	5.15	47.13	6.12	50.00	6.64	53.62	7.10	60.16	8.17	64.21	8.52
	4	34.34	4.37	40.48	5.21	47.13	6.21	50.00	6.76	53.62	7.23	60.16	8.23	64.21	8.61
	6	34.34	4.45	40.48	5.31	47.13	6.28	50.00	6.87	53.62	7.33	60.16	8.35	64.21	8.77
	8	34.34	4.53	40.48	5.40	47.13	6.39	50.00	6.96	53.62	7.42	60.16	8.49	64.21	8.92
	10	34.34	4.58	40.48	5.49	47.13	6.49	50.00	7.06	53.62	7.58	60.16	8.65	64.21	9.01
	12	34.34	4.65	40.48	5.61	47.13	6.63	50.00	7.20	53.62	7.71	60.16	8.80	63.29	9.11
	14	34.34	4.74	40.48	5.72	47.13	6.74	50.00	7.34	53.62	7.87	60.16	8.99	62.58	9.19
	20	34.34	5.00	40.48	6.06	47.13	7.23	50.00	8.01	53.62	8.75	58.25	9.81	60.04	10.01
	25	34.34	5.52	40.48	6.94	47.13	8.58	50.00	9.51	53.62	10.43	56.23	10.99	58.01	11.20
	27	34.34	5.91	40.48	7.42	47.13	9.18	50.00	10.18	53.62	11.16	55.33	11.44	57.20	11.68
	29	34.34	6.27	40.48	7.92	47.13	9.81	50.00	10.88	53.42	11.81	54.62	11.92	56.38	12.13
	31	34.34	6.68	40.48	8.44	47.13	10.44	50.00	11.60	52.72	12.30	53.72	12.40	55.47	12.60
	33	34.34	7.10	40.48	8.97	47.13	11.13	50.00	12.39	51.81	12.73	53.01	12.82	54.76	13.11
	35	34.34	7.53	40.48	9.53	47.13	11.91	50.00	13.19	50.90	13.19	52.11	13.29	53.84	13.57
	37	34.34	8.02	40.48	10.15	47.13	12.65	49.10	13.65	50.20	13.67	51.40	13.79	52.93	14.04
	39	34.34	8.52	40.48	10.84	47.13	13.49	48.40	14.15	49.29	14.18	50.50	14.22	52.22	14.57
	41	34.34	8.92	40.48	11.21	47.13	14.01	47.60	14.24	48.99	14.40	49.59	14.57	51.51	14.85
	43	34.34	9.35	40.48	11.63	47.13	14.26	46.90	14.38	48.58	14.54	49.90	14.68	50.59	15.00
	46	34.34	9.87	40.48	12.13	47.13	14.50	45.90	14.57	48.38	14.77	49.49	14.90	49.58	15.21
	48	34.34	10.28	40.48	12.52	47.13	14.48	44.00	14.77	48.28	15.05	46.48	15.07	48.46	15.38
	50	32.62	10.01	38.46	12.19	44.77	14.12	41.80	14.35	45.87	14.61	44.15	14.61	46.04	14.94
	52	30.66	9.62	36.15	11.72	42.08	13.54	39.29	13.77	43.11	14.04	41.50	14.07	43.27	14.36
	55	28.82	9.22	33.98	11.27	39.56	13.04	36.93	13.25	40.53	13.47	39.01	13.49	40.68	13.77

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 …

Table2-8.7:18HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	31.06	3.17	37.35	3.84	43.31	4.52	46.88	5.00	48.85	5.21	54.87	6.00	60.73	6.85
	-10	31.06	3.42	37.35	4.15	43.31	4.88	46.88	5.41	48.85	5.62	54.87	6.47	60.73	7.40
	-5	31.06	3.71	37.35	4.49	43.31	5.27	46.88	5.84	48.85	6.07	54.87	7.00	60.73	7.99
	-2	31.06	3.74	37.35	4.53	43.31	5.36	46.88	5.91	48.85	6.15	54.87	7.06	60.73	8.08
	0	31.06	3.81	37.35	4.59	43.31	5.43	46.88	5.99	48.85	6.23	54.87	7.14	60.73	8.12
	2	31.06	3.85	37.35	4.63	43.31	5.49	46.88	6.09	48.85	6.34	54.87	7.29	60.73	8.24
	4	31.06	3.93	37.35	4.70	43.31	5.57	46.88	6.16	48.85	6.40	54.87	7.40	60.73	8.37
	6	31.06	3.97	37.35	4.79	43.31	5.69	46.88	6.29	48.85	6.51	54.87	7.51	60.73	8.52
	8	31.06	4.04	37.35	4.90	43.31	5.78	46.88	6.36	48.85	6.65	54.87	7.67	60.73	8.59
	10	31.06	4.11	37.35	4.99	43.31	5.91	46.88	6.44	48.85	6.80	54.87	7.75	60.73	8.73
	12	31.06	4.18	37.35	5.08	43.31	6.01	46.88	6.58	48.85	6.90	54.87	7.90	60.73	8.88
	14	31.06	4.26	37.35	5.17	43.31	6.11	46.88	6.69	48.85	7.05	54.87	8.07	60.73	9.08
	20	31.06	4.49	37.35	5.50	43.31	6.47	46.88	7.10	48.85	7.61	54.87	8.99	58.99	9.93
	25	31.06	4.86	37.35	6.15	43.31	7.55	46.88	8.42	48.85	9.01	54.87	10.70	56.96	11.09
	27	31.06	5.19	37.35	6.56	43.31	8.05	46.88	9.00	48.85	9.66	54.87	11.49	56.04	11.59
	29	31.06	5.51	37.35	6.99	43.31	8.60	46.88	9.61	48.85	10.32	54.36	12.02	55.33	12.03
	31	31.06	5.86	37.35	7.45	43.31	9.15	46.88	10.25	48.85	10.99	53.44	12.48	54.41	12.54
	33	31.06	6.23	37.35	7.90	43.31	9.80	46.88	10.89	48.85	11.71	52.73	12.95	53.70	13.01
	35	31.06	6.62	37.35	8.40	43.31	10.44	46.88	11.63	48.85	12.50	51.81	13.41	52.78	13.46
	37	31.06	7.01	37.35	8.93	43.31	11.09	46.88	12.38	48.85	13.29	50.89	13.86	52.07	13.97
	39	31.06	7.45	37.35	9.54	43.31	11.79	46.88	13.20	48.85	14.15	50.17	14.37	51.15	14.42
	41	31.06	7.70	37.35	9.95	43.31	12.22	46.88	13.55	48.85	14.25	49.87	14.71	50.74	14.75
	43	31.06	8.07	37.35	10.36	43.31	12.65	46.88	13.85	48.85	14.58	49.56	14.91	50.33	15.04
	46	31.06	8.60	37.35	10.89	43.31	13.18	46.88	14.35	48.85	14.99	49.25	15.09	49.62	15.22
	48	31.06	9.08	37.35	11.42	43.31	13.69	46.88	14.56	48.85	15.10	48.85	15.32	48.19	15.40
	50	29.51	8.81	35.48	11.07	41.15	13.30	44.53	14.13	46.41	14.68	46.40	14.83	45.78	14.97
	52	27.74	8.45	33.35	10.64	38.68	12.74	41.86	13.58	43.63	14.12	43.62	14.30	43.04	14.42
	55	26.08	8.12	31.35	10.23	36.36	12.24	39.35	13.07	41.01	13.58	41.00	13.73	40.45	13.85
80%	-15	27.59	2.80	33.38	3.37	38.45	3.96	40.72	4.14	43.89	4.52	49.85	5.29	55.21	6.03
	-10	27.59	3.02	33.38	3.64	38.45	4.27	40.72	4.47	43.89	4.88	49.85	5.71	55.21	6.51
	-5	27.59	3.26	33.38	3.94	38.45	4.60	40.72	4.83	43.89	5.26	49.85	6.18	55.21	7.04
	-2	27.59	3.30	33.38	3.97	38.45	4.66	40.72	4.91	43.89	5.31	49.85	6.22	55.21	7.10
	0	27.59	3.38	33.38	4.04	38.45	4.71	40.72	4.98	43.89	5.40	49.85	6.30	55.21	7.22
	2	27.59	3.43	33.38	4.09	38.45	4.79	40.72	5.07	43.89	5.51	49.85	6.45	55.21	7.34
	4	27.59	3.48	33.38	4.15	38.45	4.87	40.72	5.19	43.89	5.60	49.85	6.55	55.21	7.45
	6	27.59	3.55	33.38	4.25	38.45	4.95	40.72	5.29	43.89	5.71	49.85	6.66	55.21	7.57
	8	27.59	3.61	33.38	4.34	38.45	5.05	40.72	5.37	43.89	5.83	49.85	6.77	55.21	7.70
	10	27.59	3.66	33.38	4.44	38.45	5.19	40.72	5.51	43.89	5.98	49.85	6.90	55.21	7.80
	12	27.59	3.71	33.38	4.52	38.45	5.27	40.72	5.63	43.89	6.09	49.85	7.04	55.21	7.96
	14	27.59	3.79	33.38	4.62	38.45	5.39	40.72	5.71	43.89	6.21	49.85	7.16	55.21	8.07
	20	27.59	3.98	33.38	4.88	38.45	5.70	40.72	6.06	43.89	6.58	49.85	7.72	55.21	8.99
	25	27.59	4.21	33.38	5.32	38.45	6.44	40.72	6.97	43.89	7.66	49.85	9.19	55.21	10.69
	27	27.59	4.47	33.38	5.66	38.45	6.87	40.72	7.43	43.89	8.20	49.85	9.82	55.21	11.43
	29	27.59	4.76	33.38	6.03	38.45	7.31	40.72	7.92	43.89	8.77	49.85	10.47	55.21	12.21
	31	27.59	5.06	33.38	6.42	38.45	7.80	40.72	8.44	43.89	9.32	49.85	11.16	54.28	12.72
	33	27.59	5.39	33.38	6.82	38.45	8.29	40.72	9.01	43.89	9.93	49.85	11.91	53.55	13.16
	35	27.59	5.70	33.38	7.26	38.45	8.82	40.72	9.56	43.89	10.57	49.85	12.69	52.61	13.66
	37	27.59	6.04	33.38	7.72	38.45	9.37	40.72	10.21	43.89	11.25	49.85	13.53	51.88	14.16
	39	27.59	6.41	33.38	8.23	38.45	10.00	40.72	10.82	43.89	11.98	49.85	14.39	50.94	14.63
	41	27.59	6.53	33.38	8.28	38.45	10.13	40.72	11.10	43.89	12.20	49.85	14.81	50.63	14.91
	43	27.59	6.72	33.38	8.35	38.45	10.27	40.72	11.29	43.89	12.40	49.85	14.98	50.32	15.09
	46	27.59	6.93	33.38	8.46	38.45	10.48	40.72	11.57	43.89	12.62	49.85	15.13	49.69	15.28
	48	27.59	7.15	33.38	8.50	38.45	10.61	40.72	11.71	43.89	12.68	49.85	15.27	49.27	15.49
	50	26.21	6.96	31.71	8.29	36.53	10.32	38.68	11.38	41.69	12.34	47.36	14.79	46.81	15.08
	52	24.64	6.68	29.81	7.95	34.34	9.92	36.36	10.91	39.19	11.86	44.52	14.26	44.00	14.49
	55	23.16	6.41	28.02	7.63	32.28	9.52	34.18	10.53	36.84	11.41	41.85	13.69	41.36	13.90

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

Table continued on next page …

Table2-8.7:18HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	24.51	2.54	28.73	2.91	34.03	3.39	36.04	3.58	38.04	3.79	43.38	4.42	48.24	5.09
	-10	24.51	2.75	28.73	3.16	34.03	3.66	36.04	3.87	38.04	4.10	43.38	4.77	48.24	5.49
	-5	24.51	2.97	28.73	3.41	34.03	3.95	36.04	4.19	38.04	4.41	43.38	5.16	48.24	5.94
	-2	24.51	2.98	28.73	3.43	34.03	3.97	36.04	4.27	38.04	4.52	43.38	5.23	48.24	6.03
	0	24.51	3.00	28.73	3.47	34.03	4.05	36.04	4.36	38.04	4.59	43.38	5.35	48.24	6.08
	2	24.51	3.02	28.73	3.49	34.03	4.13	36.04	4.42	38.04	4.66	43.38	5.47	48.24	6.19
	4	24.51	3.06	28.73	3.58	34.03	4.20	36.04	4.50	38.04	4.77	43.38	5.55	48.24	6.32
	6	24.51	3.10	28.73	3.65	34.03	4.30	36.04	4.66	38.04	4.89	43.38	5.65	48.24	6.46
	8	24.51	3.17	28.73	3.75	34.03	4.41	36.04	4.72	38.04	4.98	43.38	5.79	48.24	6.58
	10	24.51	3.24	28.73	3.80	34.03	4.52	36.04	4.83	38.04	5.10	43.38	5.93	48.24	6.66
	12	24.51	3.31	28.73	3.85	34.03	4.62	36.04	4.92	38.04	5.22	43.38	6.02	48.24	6.78
	14	24.51	3.37	28.73	3.94	34.03	4.68	36.04	4.97	38.04	5.31	43.38	6.13	48.24	6.94
	20	24.51	3.52	28.73	4.15	34.03	4.96	36.04	5.26	38.04	5.60	43.38	6.51	48.24	7.39
	25	24.51	3.69	28.73	4.44	34.03	5.44	36.04	5.90	38.04	6.35	43.38	7.55	48.24	8.75
	27	24.51	3.91	28.73	4.73	34.03	5.80	36.04	6.27	38.04	6.75	43.38	8.09	48.24	9.38
	29	24.51	4.15	28.73	5.00	34.03	6.18	36.04	6.70	38.04	7.22	43.38	8.61	48.24	10.03
	31	24.51	4.38	28.73	5.31	34.03	6.59	36.04	7.10	38.04	7.65	43.38	9.17	48.24	10.68
	33	24.51	4.67	28.73	5.65	34.03	7.01	36.04	7.57	38.04	8.19	43.38	9.79	48.24	11.41
	35	24.51	4.93	28.73	5.99	34.03	7.42	36.04	8.03	38.04	8.67	43.38	10.42	48.24	12.11
	37	24.51	5.21	28.73	6.33	34.03	7.91	36.04	8.54	38.04	9.25	43.38	11.12	48.24	12.89
	39	24.51	5.52	28.73	6.73	34.03	8.39	36.04	9.07	38.04	9.83	43.38	11.81	48.24	13.79
	41	24.51	5.76	28.73	6.96	34.03	8.63	36.04	9.37	38.04	10.11	43.38	12.29	48.24	14.39
	43	24.51	6.23	28.73	7.45	34.03	8.96	36.04	9.90	38.04	10.40	43.38	12.75	48.24	14.82
	46	24.51	6.37	28.73	7.59	34.03	9.17	36.04	10.07	38.04	10.93	43.38	13.40	48.24	15.37
	48	24.51	6.50	28.73	7.63	34.03	9.30	36.04	10.20	38.04	11.26	43.38	14.03	48.24	15.75
	50	23.29	6.31	27.30	7.41	32.33	8.99	34.24	9.95	36.14	10.93	41.21	13.64	45.83	15.32
	52	21.89	6.07	25.66	7.15	30.39	8.67	32.19	9.56	33.97	10.49	38.74	13.10	43.08	14.71
	55	20.58	5.81	24.12	6.87	28.57	8.34	30.26	9.17	31.93	10.11	36.41	12.58	40.50	14.13
60%	-15	21.04	2.18	25.03	2.52	28.58	2.89	31.25	3.13	32.64	3.30	36.54	3.71	41.46	4.36
	-10	21.04	2.35	25.03	2.71	28.58	3.11	31.25	3.38	32.64	3.58	36.54	4.01	41.46	4.71
	-5	21.04	2.53	25.03	2.93	28.58	3.37	31.25	3.64	32.64	3.85	36.54	4.32	41.46	5.07
	-2	21.04	2.54	25.03	2.97	28.58	3.42	31.25	3.71	32.64	3.90	36.54	4.40	41.46	5.12
	0	21.04	2.59	25.03	3.01	28.58	3.46	31.25	3.75	32.64	3.96	36.54	4.46	41.46	5.19
	2	21.04	2.63	25.03	3.08	28.58	3.53	31.25	3.82	32.64	4.01	36.54	4.55	41.46	5.24
	4	21.04	2.71	25.03	3.14	28.58	3.59	31.25	3.87	32.64	4.07	36.54	4.62	41.46	5.32
	6	21.04	2.74	25.03	3.20	28.58	3.67	31.25	3.96	32.64	4.15	36.54	4.70	41.46	5.45
	8	21.04	2.79	25.03	3.26	28.58	3.74	31.25	4.02	32.64	4.24	36.54	4.79	41.46	5.52
	10	21.04	2.84	25.03	3.33	28.58	3.78	31.25	4.15	32.64	4.33	36.54	4.88	41.46	5.61
	12	21.04	2.90	25.03	3.39	28.58	3.85	31.25	4.21	32.64	4.41	36.54	4.98	41.46	5.69
	14	21.04	2.94	25.03	3.44	28.58	3.92	31.25	4.29	32.64	4.49	36.54	5.08	41.46	5.82
	20	21.04	3.06	25.03	3.63	28.58	4.12	31.25	4.53	32.64	4.75	36.54	5.37	41.46	6.17
	25	21.04	3.19	25.03	3.77	28.58	4.40	31.25	4.87	32.64	5.16	36.54	5.99	41.46	7.04
	27	21.04	3.32	25.03	4.01	28.58	4.69	31.25	5.21	32.64	5.52	36.54	6.39	41.46	7.53
	29	21.04	3.50	25.03	4.25	28.58	4.98	31.25	5.54	32.64	5.86	36.54	6.83	41.46	8.03
	31	21.04	3.72	25.03	4.49	28.58	5.29	31.25	5.88	32.64	6.24	36.54	7.25	41.46	8.56
	33	21.04	3.92	25.03	4.78	28.58	5.61	31.25	6.24	32.64	6.63	36.54	7.71	41.46	9.14
	35	21.04	4.16	25.03	5.06	28.58	5.97	31.25	6.65	32.64	7.05	36.54	8.21	41.46	9.70
	37	21.04	4.39	25.03	5.37	28.58	6.31	31.25	7.04	32.64	7.47	36.54	8.72	41.46	10.36
	39	21.04	4.63	25.03	5.67	28.58	6.69	31.25	7.48	32.64	7.94	36.54	9.28	41.46	11.02
	41	21.04	4.78	25.03	5.91	28.58	6.95	31.25	7.78	32.64	8.26	36.54	9.71	41.46	11.50
	43	21.04	4.95	25.03	6.17	28.58	7.17	31.25	7.98	32.64	8.52	36.54	10.11	41.46	12.02
	46	21.04	5.18	25.03	6.48	28.58	7.48	31.25	8.28	32.64	8.97	36.54	10.59	41.46	12.66
	48	21.04	5.37	25.03	6.77	28.58	7.76	31.25	8.48	32.64	9.27	36.54	10.96	41.46	13.27
	50	19.99	5.21	23.78	6.55	27.16	7.51	29.69	8.23	31.00	9.03	34.72	10.64	39.39	12.93
	52	18.79	5.02	22.36	6.29	25.53	7.22	27.91	7.93	29.14	8.66	32.63	10.25	37.03	12.39
	55	17.66	4.81	21.01	6.05	23.99	6.96	26.23	7.63	27.40	8.34	30.67	9.82	34.80	11.93

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

Table continued on next page …

Table2-8.7:18HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	17.25	1.85	21.02	2.19	23.89	2.46	25.97	2.61	27.42	2.74	30.63	3.12	34.12	3.36
	-10	17.25	2.00	21.02	2.36	23.89	2.66	25.97	2.82	27.42	2.96	30.63	3.37	34.12	3.62
	-5	17.25	2.15	21.02	2.55	23.89	2.86	25.97	3.05	27.42	3.20	30.63	3.63	34.12	3.91
	-2	17.25	2.18	21.02	2.59	23.89	2.90	25.97	3.09	27.42	3.26	30.63	3.68	34.12	3.97
	0	17.25	2.21	21.02	2.64	23.89	2.95	25.97	3.14	27.42	3.29	30.63	3.73	34.12	4.03
	2	17.25	2.24	21.02	2.68	23.89	3.00	25.97	3.19	27.42	3.35	30.63	3.74	34.12	4.10
	4	17.25	2.26	21.02	2.72	23.89	3.03	25.97	3.22	27.42	3.42	30.63	3.84	34.12	4.20
	6	17.25	2.30	21.02	2.76	23.89	3.08	25.97	3.29	27.42	3.48	30.63	3.91	34.12	4.35
	8	17.25	2.36	21.02	2.80	23.89	3.13	25.97	3.37	27.42	3.53	30.63	3.97	34.12	4.48
	10	17.25	2.41	21.02	2.84	23.89	3.18	25.97	3.42	27.42	3.63	30.63	4.07	34.12	4.53
	12	17.25	2.42	21.02	2.87	23.89	3.23	25.97	3.50	27.42	3.71	30.63	4.14	34.12	4.61
	14	17.25	2.47	21.02	2.91	23.89	3.28	25.97	3.57	27.42	3.76	30.63	4.21	34.12	4.71
	20	17.25	2.57	21.02	3.05	23.89	3.43	25.97	3.74	27.42	3.96	30.63	4.44	34.12	4.97
	25	17.25	2.65	21.02	3.17	23.89	3.60	25.97	3.90	27.42	4.19	30.63	4.79	34.12	5.48
	27	17.25	2.70	21.02	3.29	23.89	3.79	25.97	4.16	27.42	4.45	30.63	5.09	34.12	5.81
	29	17.25	2.86	21.02	3.47	23.89	4.01	25.97	4.43	27.42	4.74	30.63	5.43	34.12	6.21
	31	17.25	3.02	21.02	3.68	23.89	4.25	25.97	4.69	27.42	5.03	30.63	5.77	34.12	6.62
	33	17.25	3.19	21.02	3.91	23.89	4.51	25.97	4.97	27.42	5.34	30.63	6.14	34.12	7.01
	35	17.25	3.37	21.02	4.13	23.89	4.77	25.97	5.26	27.42	5.63	30.63	6.50	34.12	7.44
	37	17.25	3.57	21.02	4.37	23.89	5.06	25.97	5.59	27.42	5.98	30.63	6.89	34.12	7.92
	39	17.25	3.76	21.02	4.60	23.89	5.37	25.97	5.92	27.42	6.34	30.63	7.33	34.12	8.40
	41	17.25	3.91	21.02	4.80	23.89	5.56	25.97	6.18	27.42	6.62	30.63	7.71	34.12	8.80
	43	17.25	4.17	21.02	5.13	23.89	5.74	25.97	6.46	27.42	6.79	30.63	8.10	34.12	9.19
	46	17.25	4.27	21.02	5.24	23.89	6.13	25.97	6.94	27.42	7.08	30.63	8.91	34.12	9.99
	48	17.25	4.34	21.02	5.38	23.89	6.46	25.97	7.41	27.42	7.41	30.63	9.60	34.12	10.74
	50	16.39	4.24	19.97	5.22	22.69	6.29	24.67	7.22	26.05	7.22	29.10	9.31	32.42	10.41
	52	15.41	4.07	18.77	5.03	21.33	6.05	23.19	6.93	24.49	6.94	27.35	8.97	30.47	10.01
	55	14.48	3.90	17.65	4.84	20.05	5.79	21.80	6.65	23.02	6.65	25.71	8.59	28.64	9.65

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

Table2-8.8:20HP 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	51.25	6.21	60.99	7.58	69.96	8.04	72.78	8.35	76.87	8.68	77.38	9.29	79.40	9.35
	-10	51.25	6.70	60.99	8.18	69.96	8.68	72.78	9.05	76.87	9.35	77.38	9.99	79.40	10.08
	-5	51.25	7.26	60.99	8.81	69.96	9.36	72.78	9.77	76.87	10.12	77.38	10.81	79.40	10.87
	-2	51.25	7.23	60.99	9.01	69.96	9.36	72.78	9.81	76.87	10.09	77.38	10.97	79.40	10.99
	0	51.25	7.36	60.99	9.14	69.96	9.69	72.78	10.35	76.87	10.70	77.38	11.07	79.40	11.16
	2	51.25	7.51	60.99	9.16	69.96	10.03	72.78	10.92	76.87	10.85	77.38	11.18	79.40	11.31
	4	51.25	7.66	60.99	9.35	69.96	10.36	72.78	11.00	76.87	10.94	77.38	11.32	79.40	11.53
	6	51.25	7.81	60.99	9.54	69.96	10.79	72.78	11.09	76.04	11.32	76.46	11.50	78.58	11.58
	8	51.25	8.01	60.99	9.78	69.96	11.31	72.78	11.61	75.10	11.66	75.65	11.52	77.56	11.69
	10	51.25	8.17	60.99	9.96	69.96	11.73	72.78	11.98	74.17	11.87	74.73	11.72	76.64	12.08
	12	51.25	8.29	60.99	10.17	69.96	11.95	71.74	12.21	73.34	12.09	73.71	11.90	75.62	12.14
	14	51.25	8.49	60.99	10.33	69.75	12.15	70.92	12.38	72.30	12.27	72.89	12.07	74.80	12.43
	20	51.25	8.96	60.99	11.50	66.87	13.15	68.03	13.22	69.39	13.41	70.03	13.27	71.94	13.41
	25	51.25	10.57	60.99	13.68	64.61	14.66	65.56	14.76	67.10	14.94	67.79	14.82	69.69	15.00
	27	51.25	11.27	60.99	14.62	63.79	15.29	64.74	15.39	66.07	15.58	66.77	15.47	68.67	15.66
	29	51.25	12.02	60.99	15.61	62.76	15.85	63.70	16.03	65.23	16.24	65.95	16.07	67.85	16.28
	31	51.25	12.86	60.78	16.53	61.73	16.50	62.88	16.61	64.20	16.82	64.93	16.76	66.83	16.92
	33	51.25	13.67	59.74	17.12	60.91	17.12	61.85	17.26	63.36	17.52	64.11	17.38	65.81	17.55
	35	51.25	14.58	58.70	17.79	59.88	17.77	61.02	17.91	62.33	18.09	63.09	17.98	64.99	18.24
	37	51.25	15.51	57.87	18.36	59.05	18.36	59.99	18.53	61.50	18.83	62.07	18.66	63.97	18.86
	39	51.25	16.49	56.83	18.60	58.03	18.97	59.17	19.15	60.46	19.48	61.25	19.27	63.15	19.60
	41	51.25	17.41	56.20	18.74	57.41	19.16	58.55	19.35	59.83	19.58	60.64	19.38	60.70	19.76
	43	51.25	17.81	55.78	18.89	57.10	19.26	58.24	19.46	59.21	19.60	59.52	19.41	59.98	19.75
	46	51.25	18.72	55.47	19.01	56.48	19.39	57.62	19.57	58.38	19.77	57.88	19.42	58.86	20.16
	48	51.25	19.40	55.26	19.65	55.56	19.57	56.69	19.70	57.65	19.96	56.35	19.81	57.43	20.22
	50	48.69	18.81	52.50	19.13	52.78	19.05	53.86	19.14	54.77	19.39	53.53	19.20	54.56	19.63
	52	45.77	18.09	49.35	18.38	49.61	18.31	50.63	18.45	51.48	18.62	50.32	18.44	51.28	18.86
	55	43.02	17.39	46.39	17.65	46.64	17.56	47.59	17.69	48.39	17.88	47.30	17.74	48.21	18.15
120%	-15	46.39	5.89	55.66	7.20	64.67	8.50	69.27	9.25	72.43	9.63	73.50	9.88	74.92	10.10
	-10	46.39	6.36	55.66	7.78	64.67	9.17	69.27	9.99	72.43	10.43	73.50	10.65	74.92	10.93
	-5	46.39	6.86	55.66	8.38	64.67	9.89	69.27	10.79	72.43	11.28	73.50	11.52	74.92	11.76
	-2	46.39	6.94	55.66	8.49	64.67	9.98	69.27	10.89	72.43	11.39	73.50	11.63	74.92	11.82
	0	46.39	7.01	55.66	8.54	64.67	10.13	69.27	10.91	72.43	11.46	73.50	11.66	74.92	11.86
	2	46.39	7.02	55.66	8.63	64.67	10.21	69.27	11.00	72.43	11.54	73.50	11.80	74.92	11.89
	4	46.39	7.08	55.66	8.72	64.67	10.36	69.27	11.11	72.43	11.71	73.50	11.79	74.92	11.91
	6	46.39	7.17	55.66	8.81	64.67	10.43	69.27	11.25	72.43	11.82	73.50	11.91	74.92	11.94
	8	46.39	7.20	55.66	8.87	64.67	10.59	69.27	11.36	72.43	11.95	73.50	11.96	74.92	12.02
	10	46.39	7.29	55.66	8.98	64.67	10.70	69.27	11.58	72.43	11.94	73.50	11.99	74.92	12.05
	12	46.39	7.45	55.66	9.16	64.67	10.93	69.27	11.78	71.40	11.96	72.48	11.93	73.90	12.13
	14	46.39	7.58	55.66	9.37	64.67	11.11	69.27	12.03	70.37	12.08	71.67	12.09	73.08	12.27
	20	46.39	8.03	55.66	10.12	64.67	12.64	67.00	13.13	67.70	13.18	68.81	13.17	70.23	13.24
	25	46.39	9.25	55.66	12.00	63.64	14.61	64.53	14.68	65.23	14.72	66.56	14.73	68.00	14.78
	27	46.39	9.87	55.66	12.84	62.82	15.19	63.70	15.32	64.40	15.35	65.54	15.35	66.98	15.44
	29	46.39	10.53	55.66	13.70	61.79	15.79	62.67	15.92	63.38	15.93	64.52	16.02	66.16	16.09
	31	46.39	11.27	55.66	14.66	60.76	16.41	61.85	16.55	62.55	16.55	63.70	16.63	65.15	16.76
	33	46.39	11.99	55.66	15.60	59.94	17.01	60.82	17.15	61.52	17.23	62.68	17.25	64.13	17.39
	35	46.39	12.72	55.66	16.64	58.91	17.67	59.79	17.80	60.70	17.86	61.87	17.86	63.31	18.01
	37	46.39	13.53	55.66	17.76	58.08	18.30	58.96	18.39	59.67	18.48	60.84	18.53	62.30	18.70
	39	46.39	14.41	55.46	18.74	57.05	18.91	57.93	19.03	58.64	19.06	60.03	19.19	61.48	19.30
	41	46.39	14.81	55.05	18.87	56.64	19.03	57.52	19.18	58.23	19.26	59.62	19.18	59.75	19.48
	43	46.39	15.01	54.74	18.99	56.13	19.18	57.00	19.27	57.72	19.27	58.50	19.27	58.83	19.82
	46	46.39	15.20	54.43	19.20	55.61	19.34	56.49	19.42	57.20	19.44	57.37	19.37	58.22	20.30
	48	46.39	15.31	53.91	19.33	54.89	19.48	55.56	19.54	56.59	19.63	56.45	19.54	57.41	20.49
	50	44.07	14.91	51.22	18.80	52.14	18.95	52.78	18.95	53.76	19.11	53.63	18.94	54.54	19.90
	52	41.43	14.29	48.14	18.05	49.02	18.18	49.62	18.25	50.53	18.29	50.41	18.24	51.27	19.17
	55	38.94	13.72	45.25	17.35	46.08	17.54	46.64	17.54	47.50	17.62	47.39	17.50	48.19	18.41

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

Table continued on next page …

Table2-8.8:20HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	43.21	5.23	51.67	6.51	58.75	7.61	63.99	8.31	68.27	8.99	72.71	9.21	75.14	9.62
	-10	43.21	5.65	51.67	7.03	58.75	8.22	63.99	8.98	68.27	9.71	72.71	9.98	75.14	10.37
	-5	43.21	6.09	51.67	7.60	58.75	8.90	63.99	9.73	68.27	10.47	72.71	10.78	75.14	11.22
	-2	43.21	6.22	51.67	7.69	58.75	8.98	63.99	9.80	68.27	10.56	72.71	10.88	75.14	11.28
	0	43.21	6.27	51.67	7.73	58.75	9.05	63.99	9.86	68.27	10.68	72.71	10.99	75.14	11.41
	2	43.21	6.41	51.67	7.83	58.75	9.15	63.99	9.99	68.27	10.80	72.71	11.12	75.14	11.57
	4	43.21	6.54	51.67	7.90	58.75	9.25	63.99	10.10	68.27	10.96	72.71	11.28	75.14	11.68
	6	43.21	6.61	51.67	8.00	58.75	9.33	63.99	10.25	68.27	11.07	72.71	11.39	75.14	11.83
	8	43.21	6.65	51.67	8.12	58.75	9.45	63.99	10.35	68.27	11.22	72.71	11.49	75.14	11.94
	10	43.21	6.74	51.67	8.22	58.75	9.59	63.99	10.55	68.27	11.37	72.71	11.56	75.14	12.05
	12	43.21	6.87	51.67	8.39	58.75	9.80	63.99	10.75	68.27	11.60	71.88	11.74	74.10	12.23
	14	43.21	6.99	51.67	8.55	58.75	9.96	63.99	10.93	68.27	11.81	70.85	11.81	73.27	12.32
	20	43.21	7.42	51.67	9.07	58.75	10.96	63.99	12.31	67.23	13.22	68.17	13.18	70.36	13.45
	25	43.21	8.37	51.67	10.73	58.75	13.03	63.99	14.70	64.94	14.77	65.70	14.76	68.07	15.02
	27	43.21	8.91	51.67	11.47	58.75	13.91	62.95	15.30	63.90	15.38	64.88	15.36	67.02	15.71
	29	43.21	9.52	51.67	12.20	58.75	14.92	62.12	15.97	63.07	16.07	63.85	16.04	66.19	16.35
	31	43.21	10.14	51.67	13.02	58.75	15.92	61.08	16.52	62.03	16.68	63.03	16.61	65.15	16.98
	33	43.21	10.75	51.67	13.86	58.34	16.73	60.25	17.14	61.20	17.31	62.00	17.30	64.32	17.60
	35	43.21	11.47	51.67	14.76	57.32	17.40	59.21	17.77	60.16	17.95	60.97	17.88	63.28	18.26
	37	43.21	12.21	51.67	15.72	56.50	18.00	58.38	18.39	59.11	18.57	60.14	18.58	62.24	18.94
	39	43.21	12.94	51.67	16.79	55.48	18.59	57.34	19.09	58.28	19.22	59.11	19.14	61.40	19.61
	41	43.21	13.08	51.67	16.89	55.07	18.77	56.92	19.16	57.87	19.29	58.39	19.29	59.53	19.70
	43	43.21	13.20	51.67	17.09	54.56	18.84	56.41	19.32	57.35	19.45	57.88	19.37	58.59	20.12
	46	43.21	13.65	51.67	17.20	54.05	19.05	55.89	19.58	56.93	19.67	57.26	19.89	58.07	20.53
	48	43.21	14.12	51.67	18.67	53.24	19.16	54.95	19.67	56.20	19.81	56.33	19.89	57.35	20.76
	50	41.05	13.70	49.09	18.11	50.58	18.55	52.20	19.12	53.39	19.22	53.51	19.38	54.48	20.17
	52	38.59	13.19	46.14	17.42	47.54	17.90	49.07	18.31	50.19	18.53	50.30	18.63	51.21	19.39
	55	36.27	12.67	43.37	16.73	44.69	17.19	46.13	17.62	47.18	17.74	47.29	17.85	48.14	18.58
100%	-15	38.40	4.65	45.85	5.61	52.82	6.63	56.00	7.10	60.55	7.74	67.53	8.74	72.14	9.24
	-10	38.40	5.01	45.85	6.08	52.82	7.16	56.00	7.68	60.55	8.36	67.53	9.44	72.14	9.97
	-5	38.40	5.42	45.85	6.54	52.82	7.71	56.00	8.28	60.55	9.05	67.53	10.21	72.14	10.78
	-2	38.40	5.50	45.85	6.65	52.82	7.78	56.00	8.43	60.55	9.15	67.53	10.36	72.14	10.83
	0	38.40	5.56	45.85	6.69	52.82	7.89	56.00	8.53	60.55	9.24	67.53	10.50	72.14	10.96
	2	38.40	5.66	45.85	6.78	52.82	7.95	56.00	8.65	60.55	9.35	67.53	10.64	72.14	11.13
	4	38.40	5.69	45.85	6.88	52.82	8.11	56.00	8.80	60.55	9.48	67.53	10.75	72.14	11.25
	6	38.40	5.77	45.85	7.00	52.82	8.20	56.00	8.94	60.55	9.61	67.53	10.94	72.14	11.45
	8	38.40	5.88	45.85	7.11	52.82	8.34	56.00	9.05	60.55	9.74	67.53	11.10	72.14	11.61
	10	38.40	5.97	45.85	7.23	52.82	8.47	56.00	9.19	60.55	9.93	67.53	11.30	72.14	11.77
	12	38.40	6.04	45.85	7.38	52.82	8.65	56.00	9.37	60.55	10.15	67.53	11.48	71.12	11.90
	14	38.40	6.16	45.85	7.53	52.82	8.82	56.00	9.56	60.55	10.30	67.53	11.74	70.30	12.02
	20	38.40	6.52	45.85	7.98	52.82	9.43	56.00	10.43	60.55	11.48	65.32	12.79	67.45	13.11
	25	38.40	7.20	45.85	9.14	52.82	11.22	56.00	12.39	60.55	13.70	63.10	14.30	65.21	14.57
	27	38.40	7.69	45.85	9.79	52.82	11.94	56.00	13.27	60.55	14.62	62.09	14.96	64.19	15.26
	29	38.40	8.19	45.85	10.42	52.82	12.78	56.00	14.14	60.34	15.54	61.28	15.54	63.37	15.81
	31	38.40	8.70	45.85	11.11	52.82	13.65	56.00	15.12	59.53	16.17	60.28	16.16	62.36	16.47
	33	38.40	9.25	45.85	11.82	52.82	14.53	56.00	16.11	58.52	16.72	59.47	16.73	61.54	17.13
	35	38.40	9.83	45.85	12.57	52.82	15.48	56.00	17.19	57.50	17.31	58.46	17.35	60.52	17.67
	37	38.40	10.46	45.85	13.43	52.82	16.48	55.00	17.81	56.69	17.94	57.65	18.01	59.50	18.38
	39	38.40	11.12	45.85	14.23	52.82	17.60	54.20	18.42	55.67	18.58	56.65	18.56	58.69	18.98
	41	38.40	11.64	45.85	14.74	52.82	18.22	53.40	18.53	55.27	18.91	55.64	19.02	57.87	19.33
	43	38.40	12.16	45.85	15.30	52.82	18.52	52.50	18.72	54.86	19.09	56.04	19.12	56.85	19.57
	46	38.40	12.85	45.85	15.98	52.82	18.90	51.40	19.02	54.55	19.36	55.54	19.44	55.63	19.87
	48	38.40	13.41	45.85	16.57	52.82	18.93	49.30	19.22	54.45	19.72	52.11	19.62	54.41	20.02
	50	36.48	12.99	43.56	16.05	50.18	18.41	46.84	18.67	51.73	19.19	49.51	19.06	51.69	19.48
	52	34.29	12.49	40.94	15.44	47.17	17.62	44.02	17.94	48.63	18.41	46.54	18.38	48.59	18.75
	55	32.23	12.04	38.49	14.84	44.34	16.95	41.38	17.26	45.71	17.73	43.74	17.68	45.67	18.00

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

Table continued on next page …

Table2-8.8:20HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	35.32	4.21	41.89	5.01	48.56	5.89	51.85	6.44	55.09	6.85	62.65	7.98	69.46	9.10
	-10	35.32	4.54	41.89	5.41	48.56	6.36	51.85	6.95	55.09	7.39	62.65	8.61	69.46	9.83
	-5	35.32	4.89	41.89	5.85	48.56	6.88	51.85	7.50	55.09	7.96	62.65	9.30	69.46	10.63
	-2	35.32	4.95	41.89	5.92	48.56	6.97	51.85	7.62	55.09	8.08	62.65	9.40	69.46	10.73
	0	35.32	5.03	41.89	5.97	48.56	7.08	51.85	7.68	55.09	8.19	62.65	9.49	69.46	10.83
	2	35.32	5.10	41.89	6.06	48.56	7.15	51.85	7.83	55.09	8.32	62.65	9.69	69.46	10.97
	4	35.32	5.17	41.89	6.14	48.56	7.27	51.85	7.92	55.09	8.42	62.65	9.84	69.46	11.13
	6	35.32	5.24	41.89	6.27	48.56	7.41	51.85	8.09	55.09	8.55	62.65	10.01	69.46	11.29
	8	35.32	5.34	41.89	6.39	48.56	7.55	51.85	8.17	55.09	8.69	62.65	10.15	69.46	11.42
	10	35.32	5.46	41.89	6.53	48.56	7.69	51.85	8.31	55.09	8.92	62.65	10.30	69.46	11.63
	12	35.32	5.56	41.89	6.66	48.56	7.83	51.85	8.45	55.09	9.08	62.65	10.48	69.46	11.83
	14	35.32	5.65	41.89	6.77	48.56	7.98	51.85	8.59	55.09	9.23	62.65	10.68	69.46	12.03
	20	35.32	5.96	41.89	7.18	48.56	8.47	51.85	9.15	55.09	9.95	62.65	11.93	67.38	13.23
	25	35.32	6.44	41.89	8.03	48.56	9.85	51.85	10.85	55.09	11.83	62.65	14.21	65.09	14.76
	27	35.32	6.84	41.89	8.55	48.56	10.49	51.85	11.58	55.09	12.64	62.65	15.25	64.05	15.38
	29	35.32	7.31	41.89	9.12	48.56	11.23	51.85	12.36	55.09	13.54	62.03	15.90	63.22	16.04
	31	35.32	7.75	41.89	9.74	48.56	11.96	51.85	13.18	55.09	14.39	60.99	16.53	62.18	16.69
	33	35.32	8.22	41.89	10.34	48.56	12.71	51.85	14.02	55.09	15.42	60.16	17.20	61.35	17.25
	35	35.32	8.77	41.89	11.01	48.56	13.56	51.85	14.98	55.09	16.38	59.11	17.77	60.31	17.96
	37	35.32	9.30	41.89	11.66	48.56	14.46	51.85	15.96	55.09	17.48	58.07	18.44	59.47	18.56
	39	35.32	9.86	41.89	12.43	48.56	15.37	51.85	16.96	55.09	18.60	57.24	19.10	58.43	19.21
	41	35.32	10.21	41.89	13.01	48.56	15.94	51.85	17.39	55.09	18.70	56.83	19.51	58.02	19.66
	43	35.32	10.69	41.89	13.55	48.56	16.50	51.85	17.86	55.09	19.09	56.51	19.77	57.50	19.99
	46	35.32	11.39	41.89	14.24	48.56	17.17	51.85	18.43	55.09	19.64	56.20	20.00	56.67	20.22
	48	35.32	12.00	41.89	14.87	48.56	17.77	51.85	18.65	55.09	19.78	55.78	20.33	55.11	20.47
	50	33.55	11.63	39.80	14.48	46.13	17.26	49.26	18.18	52.34	19.29	53.00	19.72	52.35	19.88
	52	31.54	11.21	37.41	13.90	43.36	16.63	46.30	17.44	49.20	18.49	49.82	18.98	49.21	19.15
	55	29.65	10.76	35.16	13.40	40.76	15.95	43.53	16.77	46.25	17.75	46.83	18.22	46.26	18.35
80%	-15	31.43	3.72	37.43	4.38	42.96	5.14	46.49	5.50	49.65	5.93	54.72	6.76	61.82	7.85
	-10	31.43	4.01	37.43	4.75	42.96	5.53	46.49	5.97	49.65	6.42	54.72	7.30	61.82	8.49
	-5	31.43	4.33	37.43	5.11	42.96	5.97	46.49	6.44	49.65	6.94	54.72	7.87	61.82	9.17
	-2	31.43	4.39	37.43	5.18	42.96	6.05	46.49	6.53	49.65	7.00	54.72	7.96	61.82	9.26
	0	31.43	4.47	37.43	5.24	42.96	6.12	46.49	6.61	49.65	7.13	54.72	8.07	61.82	9.36
	2	31.43	4.56	37.43	5.31	42.96	6.19	46.49	6.73	49.65	7.23	54.72	8.21	61.82	9.56
	4	31.43	4.65	37.43	5.41	42.96	6.32	46.49	6.89	49.65	7.38	54.72	8.36	61.82	9.69
	6	31.43	4.71	37.43	5.54	42.96	6.41	46.49	7.05	49.65	7.50	54.72	8.48	61.82	9.86
	8	31.43	4.82	37.43	5.68	42.96	6.57	46.49	7.17	49.65	7.67	54.72	8.64	61.82	10.03
	10	31.43	4.84	37.43	5.80	42.96	6.75	46.49	7.35	49.65	7.86	54.72	8.81	61.82	10.13
	12	31.43	4.92	37.43	5.90	42.96	6.87	46.49	7.48	49.65	8.04	54.72	8.98	61.82	10.35
	14	31.43	5.01	37.43	6.00	42.96	6.97	46.49	7.60	49.65	8.17	54.72	9.15	61.82	10.52
	20	31.43	5.28	37.43	6.34	42.96	7.41	46.49	8.06	49.65	8.64	54.72	9.86	61.82	11.67
	25	31.43	5.59	37.43	6.93	42.96	8.35	46.49	9.26	49.65	10.08	54.72	11.75	61.82	13.92
	27	31.43	5.96	37.43	7.38	42.96	8.90	46.49	9.87	49.65	10.77	54.72	12.52	61.82	14.86
	29	31.43	6.31	37.43	7.86	42.96	9.49	46.49	10.50	49.65	11.54	54.72	13.34	61.82	15.91
	31	31.43	6.72	37.43	8.35	42.96	10.10	46.49	11.22	49.65	12.29	54.72	14.26	60.78	16.52
	33	31.43	7.13	37.43	8.87	42.96	10.79	46.49	11.97	49.65	13.09	54.72	15.23	59.95	17.16
	35	31.43	7.56	37.43	9.47	42.96	11.46	46.49	12.72	49.65	13.93	54.72	16.23	58.91	17.78
	37	31.43	8.01	37.43	10.05	42.96	12.16	46.49	13.54	49.65	14.87	54.72	17.26	58.07	18.36
	39	31.43	8.48	37.43	10.72	42.96	12.94	46.49	14.41	49.65	15.82	54.72	18.39	57.03	19.04
	41	31.43	8.69	37.43	10.79	42.96	13.17	46.49	14.75	49.65	16.08	54.72	18.88	56.72	19.36
	43	31.43	8.95	37.43	10.89	42.96	13.35	46.49	15.05	49.65	16.29	54.72	19.06	56.30	19.62
	46	31.43	9.18	37.43	11.00	42.96	13.59	46.49	15.34	49.65	16.57	54.72	19.34	55.68	19.91
	48	31.43	9.52	37.43	11.09	42.96	13.82	46.49	15.54	49.65	16.73	54.72	19.51	55.16	20.20
	50	29.86	9.23	35.56	10.77	40.82	13.38	44.17	15.12	47.17	16.20	51.98	18.93	52.40	19.54
	52	28.07	8.86	33.43	10.34	38.37	12.91	41.52	14.50	44.34	15.62	48.86	18.18	49.26	18.80
	55	26.38	8.53	31.42	9.94	36.06	12.40	39.03	13.94	41.68	14.97	45.93	17.47	46.30	18.05

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

Table continued on next page …

Table2-8.8:20HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	27.42	3.31	32.17	3.80	37.73	4.36	39.94	4.62	42.59	4.93	48.10	5.70	53.50	6.55
	-10	27.42	3.58	32.17	4.10	37.73	4.71	39.94	5.00	42.59	5.33	48.10	6.17	53.50	7.09
	-5	27.42	3.86	32.17	4.43	37.73	5.10	39.94	5.39	42.59	5.76	48.10	6.66	53.50	7.64
	-2	27.42	3.90	32.17	4.46	37.73	5.13	39.94	5.50	42.59	5.87	48.10	6.74	53.50	7.77
	0	27.42	3.92	32.17	4.52	37.73	5.22	39.94	5.60	42.59	5.97	48.10	6.90	53.50	7.86
	2	27.42	3.93	32.17	4.54	37.73	5.30	39.94	5.72	42.59	6.07	48.10	7.04	53.50	7.99
	4	27.42	3.99	32.17	4.65	37.73	5.42	39.94	5.82	42.59	6.19	48.10	7.14	53.50	8.18
	6	27.42	4.05	32.17	4.74	37.73	5.57	39.94	6.00	42.59	6.34	48.10	7.29	53.50	8.31
	8	27.42	4.12	32.17	4.88	37.73	5.70	39.94	6.07	42.59	6.48	48.10	7.48	53.50	8.48
	10	27.42	4.21	32.17	4.94	37.73	5.85	39.94	6.20	42.59	6.67	48.10	7.62	53.50	8.61
	12	27.42	4.31	32.17	5.02	37.73	5.95	39.94	6.34	42.59	6.77	48.10	7.77	53.50	8.74
	14	27.42	4.38	32.17	5.11	37.73	6.05	39.94	6.43	42.59	6.88	48.10	7.92	53.50	8.93
	20	27.42	4.61	32.17	5.40	37.73	6.42	39.94	6.79	42.59	7.29	48.10	8.37	53.50	9.54
	25	27.42	4.81	32.17	5.76	37.73	7.03	39.94	7.59	42.59	8.22	48.10	9.77	53.50	11.29
	27	27.42	5.09	32.17	6.12	37.73	7.48	39.94	8.09	42.59	8.79	48.10	10.42	53.50	12.09
	29	27.42	5.42	32.17	6.53	37.73	7.96	39.94	8.61	42.59	9.36	48.10	11.11	53.50	12.89
	31	27.42	5.71	32.17	6.90	37.73	8.49	39.94	9.17	42.59	9.99	48.10	11.83	53.50	13.77
	33	27.42	6.08	32.17	7.34	37.73	9.02	39.94	9.76	42.59	10.61	48.10	12.62	53.50	14.64
	35	27.42	6.43	32.17	7.78	37.73	9.55	39.94	10.40	42.59	11.30	48.10	13.42	53.50	15.63
	37	27.42	6.80	32.17	8.25	37.73	10.17	39.94	11.02	42.59	12.00	48.10	14.29	53.50	16.67
	39	27.42	7.20	32.17	8.74	37.73	10.82	39.94	11.73	42.59	12.76	48.10	15.23	53.50	17.70
	41	27.42	7.53	32.17	9.07	37.73	11.11	39.94	12.11	42.59	13.18	48.10	15.84	53.50	18.52
	43	27.42	8.12	32.17	9.69	37.73	11.59	39.94	12.74	42.59	13.53	48.10	16.44	53.50	19.14
	46	27.42	8.28	32.17	9.90	37.73	11.83	39.94	12.97	42.59	14.25	48.10	17.25	53.50	19.85
	48	27.42	8.47	32.17	9.95	37.73	11.95	39.94	13.20	42.59	14.65	48.10	18.13	53.50	20.36
	50	26.05	8.24	30.56	9.66	35.84	11.60	37.94	12.80	40.46	14.22	45.70	17.56	50.82	19.72
	52	24.49	7.89	28.72	9.28	33.69	11.16	35.67	12.28	38.03	13.65	42.96	16.86	47.77	18.95
	55	23.02	7.59	27.00	8.90	31.67	10.74	33.53	11.83	35.75	13.09	40.38	16.24	44.91	18.25
60%	-15	23.23	2.79	27.86	3.25	32.68	3.81	34.60	4.03	36.58	4.33	41.36	4.89	45.93	5.60
	-10	23.23	3.01	27.86	3.52	32.68	4.12	34.60	4.35	36.58	4.67	41.36	5.27	45.93	6.06
	-5	23.23	3.25	27.86	3.78	32.68	4.46	34.60	4.71	36.58	5.04	41.36	5.70	45.93	6.52
	-2	23.23	3.27	27.86	3.84	32.68	4.53	34.60	4.77	36.58	5.08	41.36	5.79	45.93	6.58
	0	23.23	3.33	27.86	3.91	32.68	4.59	34.60	4.82	36.58	5.16	41.36	5.85	45.93	6.66
	2	23.23	3.38	27.86	3.98	32.68	4.69	34.60	4.92	36.58	5.25	41.36	5.98	45.93	6.75
	4	23.23	3.49	27.86	4.08	32.68	4.77	34.60	4.97	36.58	5.32	41.36	6.07	45.93	6.84
	6	23.23	3.51	27.86	4.16	32.68	4.87	34.60	5.09	36.58	5.43	41.36	6.21	45.93	7.00
	8	23.23	3.58	27.86	4.21	32.68	4.95	34.60	5.20	36.58	5.54	41.36	6.33	45.93	7.12
	10	23.23	3.65	27.86	4.30	32.68	5.04	34.60	5.34	36.58	5.63	41.36	6.45	45.93	7.22
	12	23.23	3.72	27.86	4.38	32.68	5.12	34.60	5.44	36.58	5.74	41.36	6.56	45.93	7.36
	14	23.23	3.77	27.86	4.45	32.68	5.22	34.60	5.53	36.58	5.87	41.36	6.67	45.93	7.48
	20	23.23	3.93	27.86	4.69	32.68	5.48	34.60	5.84	36.58	6.18	41.36	7.04	45.93	7.95
	25	23.23	4.10	27.86	4.87	32.68	5.86	34.60	6.29	36.58	6.75	41.36	7.90	45.93	9.07
	27	23.23	4.27	27.86	5.19	32.68	6.23	34.60	6.70	36.58	7.19	41.36	8.42	45.93	9.70
	29	23.23	4.50	27.86	5.49	32.68	6.63	34.60	7.12	36.58	7.67	41.36	8.99	45.93	10.37
	31	23.23	4.78	27.86	5.83	32.68	7.04	34.60	7.56	36.58	8.14	41.36	9.54	45.93	11.02
	33	23.23	5.05	27.86	6.18	32.68	7.48	34.60	8.05	36.58	8.68	41.36	10.15	45.93	11.73
	35	23.23	5.36	27.86	6.54	32.68	7.93	34.60	8.53	36.58	9.21	41.36	10.80	45.93	12.53
	37	23.23	5.64	27.86	6.92	32.68	8.38	34.60	9.07	36.58	9.75	41.36	11.53	45.93	13.33
	39	23.23	5.95	27.86	7.32	32.68	8.92	34.60	9.62	36.58	10.35	41.36	12.19	45.93	14.17
	41	23.23	6.14	27.86	7.63	32.68	9.24	34.60	9.97	36.58	10.77	41.36	12.78	45.93	14.82
	43	23.23	6.35	27.86	7.99	32.68	9.54	34.60	10.31	36.58	11.15	41.36	13.35	45.93	15.46
	46	23.23	6.65	27.86	8.37	32.68	9.94	34.60	10.68	36.58	11.67	41.36	13.96	45.93	16.30
	48	23.23	6.89	27.86	8.73	32.68	10.29	34.60	10.92	36.58	12.13	41.36	14.40	45.93	17.11
	50	22.07	6.68	26.47	8.47	31.05	9.98	32.87	10.64	34.75	11.77	39.29	14.02	43.63	16.63
	52	20.74	6.43	24.88	8.15	29.18	9.60	30.90	10.23	32.67	11.31	36.93	13.46	41.02	15.92
	55	19.50	6.18	23.39	7.84	27.43	9.25	29.05	9.81	30.71	10.87	34.72	12.92	38.55	15.36

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

Table continued on next page …

Table2-8.8:20HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	19.69	2.46	23.50	2.85	26.96	3.22	28.81	3.38	30.42	3.54	34.36	4.06	38.35	4.38
	-10	19.69	2.65	23.50	3.07	26.96	3.49	28.81	3.65	30.42	3.81	34.36	4.39	38.35	4.73
	-5	19.69	2.86	23.50	3.32	26.96	3.76	28.81	3.94	30.42	4.13	34.36	4.73	38.35	5.10
	-2	19.69	2.89	23.50	3.38	26.96	3.79	28.81	4.00	30.42	4.19	34.36	4.78	38.35	5.16
	0	19.69	2.93	23.50	3.43	26.96	3.87	28.81	4.04	30.42	4.25	34.36	4.86	38.35	5.26
	2	19.69	2.98	23.50	3.47	26.96	3.94	28.81	4.11	30.42	4.32	34.36	4.88	38.35	5.38
	4	19.69	3.01	23.50	3.53	26.96	3.98	28.81	4.16	30.42	4.41	34.36	5.00	38.35	5.50
	6	19.69	3.07	23.50	3.59	26.96	4.04	28.81	4.26	30.42	4.49	34.36	5.08	38.35	5.67
	8	19.69	3.13	23.50	3.65	26.96	4.11	28.81	4.34	30.42	4.55	34.36	5.17	38.35	5.84
	10	19.69	3.20	23.50	3.69	26.96	4.17	28.81	4.41	30.42	4.68	34.36	5.30	38.35	5.94
	12	19.69	3.22	23.50	3.73	26.96	4.23	28.81	4.52	30.42	4.78	34.36	5.39	38.35	6.02
	14	19.69	3.27	23.50	3.79	26.96	4.28	28.81	4.60	30.42	4.84	34.36	5.48	38.35	6.14
	20	19.69	3.42	23.50	3.96	26.96	4.50	28.81	4.80	30.42	5.12	34.36	5.79	38.35	6.48
	25	19.69	3.53	23.50	4.12	26.96	4.72	28.81	5.05	30.42	5.39	34.36	6.24	38.35	7.14
	27	19.69	3.60	23.50	4.29	26.96	4.97	28.81	5.39	30.42	5.73	34.36	6.65	38.35	7.62
	29	19.69	3.80	23.50	4.52	26.96	5.28	28.81	5.70	30.42	6.09	34.36	7.07	38.35	8.12
	31	19.69	4.01	23.50	4.80	26.96	5.59	28.81	6.05	30.42	6.50	34.36	7.54	38.35	8.64
	33	19.69	4.24	23.50	5.08	26.96	5.95	28.81	6.42	30.42	6.87	34.36	8.01	38.35	9.16
	35	19.69	4.50	23.50	5.35	26.96	6.27	28.81	6.81	30.42	7.26	34.36	8.51	38.35	9.75
	37	19.69	4.73	23.50	5.66	26.96	6.66	28.81	7.20	30.42	7.71	34.36	8.99	38.35	10.35
	39	19.69	5.00	23.50	6.00	26.96	7.02	28.81	7.61	30.42	8.19	34.36	9.56	38.35	11.00
	41	19.69	5.20	23.50	6.25	26.96	7.29	28.81	7.96	30.42	8.56	34.36	10.05	38.35	11.50
	43	19.69	5.55	23.50	6.65	26.96	7.52	28.81	8.32	30.42	8.76	34.36	10.58	38.35	12.03
	46	19.69	5.67	23.50	6.85	26.96	8.04	28.81	8.98	30.42	9.11	34.36	11.60	38.35	13.00
	48	19.69	5.77	23.50	7.00	26.96	8.51	28.81	9.57	30.42	9.57	34.36	12.49	38.35	14.02
	50	18.70	5.60	22.32	6.80	25.61	8.24	27.37	9.31	28.90	9.28	32.64	12.12	36.43	13.59
	52	17.58	5.39	20.98	6.55	24.07	7.92	25.72	8.95	27.17	8.93	30.69	11.66	34.24	13.07
	55	16.53	5.19	19.73	6.29	22.63	7.62	24.18	8.59	25.54	8.60	28.84	11.20	32.19	12.58

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

Table2-8.9:22HP 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	56.04	6.13	66.83	7.49	76.19	7.90	80.74	8.41	84.61	8.65	85.02	9.23	88.01	9.39
	-10	56.04	6.63	66.83	8.10	76.19	8.55	80.74	9.07	84.61	9.30	85.02	9.93	88.01	10.14
	-5	56.04	7.17	66.83	8.74	76.19	9.24	80.74	9.78	84.61	10.05	85.02	10.76	88.01	10.94
	-2	56.04	7.18	66.83	8.92	76.19	9.23	80.74	9.86	84.61	10.06	85.02	10.89	88.01	11.03
	0	56.04	7.29	66.83	9.09	76.19	9.56	80.74	10.40	84.61	10.66	85.02	11.00	88.01	11.17
	2	56.04	7.43	66.83	9.10	76.19	9.87	80.74	11.00	84.61	10.78	85.02	11.08	88.01	11.34
	4	56.04	7.60	66.83	9.29	76.19	10.21	80.74	11.04	84.61	10.90	85.02	11.28	88.01	11.58
	6	56.04	7.75	66.83	9.48	76.19	10.60	80.74	11.11	83.68	11.24	84.00	11.44	87.08	11.66
	8	56.04	7.91	66.83	9.67	76.19	11.16	80.74	11.69	82.64	11.60	83.08	11.49	85.95	11.75
	10	56.04	8.09	66.83	9.89	76.19	11.55	80.74	12.04	81.60	11.81	82.16	11.68	85.02	12.12
	12	56.04	8.21	66.83	10.05	76.19	11.75	79.59	12.25	80.66	12.03	81.03	11.83	83.89	12.17
	14	56.04	8.41	66.83	10.24	75.98	11.93	78.76	12.39	79.51	12.19	80.11	12.01	82.96	12.44
	20	56.04	8.89	66.83	11.35	72.82	12.92	75.53	13.27	76.39	13.34	76.95	13.21	79.76	13.46
	25	56.04	10.46	66.83	13.56	70.37	14.44	72.71	14.82	73.79	14.90	74.49	14.78	77.28	15.03
	27	56.04	11.19	66.83	14.47	69.45	15.02	71.88	15.46	72.64	15.54	73.37	15.38	76.15	15.69
	29	56.04	11.93	66.83	15.48	68.33	15.65	70.73	16.09	71.81	16.17	72.45	16.00	75.22	16.34
	31	56.04	12.74	66.52	16.34	67.21	16.25	69.80	16.68	70.67	16.75	71.33	16.61	74.08	16.96
	33	56.04	13.52	65.38	16.96	66.29	16.85	68.65	17.34	69.73	17.44	70.51	17.27	72.95	17.60
	35	56.04	14.42	64.24	17.57	65.17	17.49	67.71	17.93	68.59	18.06	69.38	17.89	72.02	18.30
	37	56.04	15.37	63.41	18.26	64.25	18.10	66.57	18.61	67.65	18.75	68.26	18.61	70.89	18.99
	39	56.04	16.36	62.27	18.42	63.13	18.69	65.63	19.25	66.50	19.39	67.34	19.22	70.06	19.67
	41	56.04	17.25	61.54	18.57	62.52	18.89	65.01	19.39	65.88	19.49	66.63	19.26	67.38	19.84
	43	56.04	17.64	61.12	18.67	62.21	18.93	64.69	19.52	65.15	19.59	65.50	19.26	66.55	19.81
	46	56.04	18.52	60.71	18.87	61.50	19.15	63.96	19.61	64.21	19.63	63.66	19.35	65.21	20.21
	48	56.04	19.14	60.61	19.45	60.48	19.27	62.92	19.84	63.38	19.85	62.03	19.68	63.77	20.27
	50	53.24	18.59	57.58	18.95	57.45	18.70	59.78	19.27	60.21	19.24	58.93	19.12	60.58	19.69
	52	50.04	17.87	54.12	18.16	54.01	18.04	56.19	18.47	56.60	18.57	55.39	18.38	56.94	18.98
	55	47.04	17.24	50.87	17.45	50.77	17.27	52.82	17.74	53.20	17.78	52.07	17.65	53.53	18.18
120%	-15	51.88	5.96	60.60	7.07	71.61	8.49	75.19	9.09	80.45	9.70	81.30	9.89	84.09	10.29
	-10	51.88	6.43	60.60	7.64	71.61	9.20	75.19	9.82	80.45	10.46	81.30	10.68	84.09	11.07
	-5	51.88	6.94	60.60	8.27	71.61	9.92	75.19	10.61	80.45	11.33	81.30	11.51	84.09	12.00
	-2	51.88	7.00	60.60	8.33	71.61	10.02	75.19	10.69	80.45	11.47	81.30	11.65	84.09	12.01
	0	51.88	7.08	60.60	8.40	71.61	10.14	75.19	10.71	80.45	11.52	81.30	11.71	84.09	12.04
	2	51.88	7.07	60.60	8.48	71.61	10.22	75.19	10.83	80.45	11.61	81.30	11.79	84.09	12.04
	4	51.88	7.16	60.60	8.60	71.61	10.35	75.19	10.92	80.45	11.72	81.30	11.83	84.09	12.13
	6	51.88	7.24	60.60	8.68	71.61	10.47	75.19	11.03	80.45	11.86	81.30	11.91	84.09	12.14
	8	51.88	7.30	60.60	8.77	71.61	10.60	75.19	11.18	80.45	12.01	81.30	11.95	84.09	12.21
	10	51.88	7.40	60.60	8.89	71.61	10.69	75.19	11.36	80.45	12.00	81.30	11.98	84.09	12.26
	12	51.88	7.55	60.60	9.05	71.61	10.92	75.19	11.57	79.31	12.06	80.17	11.92	82.95	12.32
	14	51.88	7.69	60.60	9.21	71.61	11.16	75.19	11.82	78.16	12.12	79.25	12.11	82.01	12.45
	20	51.88	8.13	60.60	9.98	71.61	12.65	72.75	12.92	75.25	13.22	76.06	13.19	78.89	13.45
	25	51.88	9.37	60.60	11.80	70.46	14.63	70.00	14.39	72.44	14.77	73.59	14.76	76.39	15.09
	27	51.88	10.01	60.60	12.63	69.53	15.19	69.18	15.01	71.50	15.38	72.46	15.36	75.25	15.67
	29	51.88	10.65	60.60	13.48	68.39	15.83	68.06	15.64	70.46	16.01	71.33	16.01	74.31	16.33
	31	51.88	11.37	60.60	14.38	67.25	16.46	67.14	16.20	69.52	16.68	70.41	16.66	73.17	17.03
	33	51.88	12.13	60.60	15.40	66.31	17.10	66.02	16.81	68.38	17.29	69.28	17.24	72.02	17.61
	35	51.88	12.91	60.60	16.36	65.17	17.65	64.90	17.44	67.44	17.96	68.35	17.89	71.08	18.32
	37	51.88	13.70	60.60	17.48	64.24	18.31	63.99	18.06	66.30	18.61	67.32	18.51	69.94	18.97
	39	51.88	14.57	60.39	18.40	63.10	18.95	62.87	18.67	65.15	19.19	66.40	19.16	69.00	19.59
	41	51.88	14.99	59.88	18.58	62.68	19.05	62.36	18.80	64.63	19.38	65.88	19.25	67.02	19.74
	43	51.88	15.20	59.57	18.72	62.16	19.16	61.95	18.94	64.11	19.41	64.75	19.24	65.98	20.14
	46	51.88	15.40	59.27	18.91	61.54	19.40	61.24	19.08	63.59	19.56	63.42	19.35	65.36	20.55
	48	51.88	15.48	58.76	19.04	60.71	19.52	60.32	19.19	62.86	19.74	62.49	19.53	64.53	20.84
	50	49.29	15.02	55.82	18.52	57.67	18.94	57.30	18.66	59.72	19.21	59.37	18.97	61.30	20.25
	52	46.33	14.47	52.47	17.78	54.21	18.22	53.86	17.90	56.14	18.41	55.81	18.27	57.62	19.42
	55	43.55	13.89	49.32	17.11	50.96	17.50	50.63	17.21	52.77	17.68	52.46	17.57	54.17	18.72

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 …

Table2-8.9:22HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	47.15	5.16	55.48	6.32	64.62	7.57	69.05	8.14	74.15	8.82	79.89	9.16	80.96	9.35
	-10	47.15	5.55	55.48	6.83	64.62	8.19	69.05	8.77	74.15	9.52	79.89	9.90	80.96	10.14
	-5	47.15	6.01	55.48	7.37	64.62	8.84	69.05	9.47	74.15	10.30	79.89	10.68	80.96	10.95
	-2	47.15	6.13	55.48	7.47	64.62	8.91	69.05	9.57	74.15	10.37	79.89	10.82	80.96	10.98
	0	47.15	6.19	55.48	7.52	64.62	9.00	69.05	9.63	74.15	10.49	79.89	10.94	80.96	11.13
	2	47.15	6.33	55.48	7.61	64.62	9.11	69.05	9.73	74.15	10.62	79.89	11.05	80.96	11.25
	4	47.15	6.46	55.48	7.69	64.62	9.22	69.05	9.86	74.15	10.77	79.89	11.24	80.96	11.35
	6	47.15	6.52	55.48	7.77	64.62	9.30	69.05	10.01	74.15	10.89	79.89	11.33	80.96	11.52
	8	47.15	6.58	55.48	7.89	64.62	9.42	69.05	10.10	74.15	11.02	79.89	11.44	80.96	11.63
	10	47.15	6.65	55.48	7.98	64.62	9.56	69.05	10.31	74.15	11.19	79.89	11.48	80.96	11.74
	12	47.15	6.81	55.48	8.15	64.62	9.72	69.05	10.48	74.15	11.40	79.06	11.64	79.83	11.89
	14	47.15	6.92	55.48	8.31	64.62	9.91	69.05	10.67	74.15	11.63	77.93	11.78	78.91	12.02
	20	47.15	7.30	55.48	8.82	64.62	10.89	69.05	12.03	73.01	12.99	74.94	13.15	75.75	13.13
	25	47.15	8.25	55.48	10.41	64.62	12.96	69.05	14.32	70.54	14.51	72.26	14.69	73.30	14.65
	27	47.15	8.78	55.48	11.11	64.62	13.85	67.92	14.96	69.41	15.17	71.33	15.31	72.18	15.28
	29	47.15	9.37	55.48	11.86	64.62	14.83	67.01	15.53	68.59	15.77	70.20	15.92	71.36	15.89
	31	47.15	10.00	55.48	12.65	64.62	15.81	65.88	16.18	67.45	16.36	69.27	16.52	70.13	16.53
	33	47.15	10.64	55.48	13.45	64.11	16.69	64.97	16.77	66.53	16.95	68.14	17.13	69.32	17.18
	35	47.15	11.30	55.48	14.38	62.99	17.27	63.84	17.39	65.39	17.62	67.00	17.84	68.19	17.79
	37	47.15	12.03	55.48	15.28	62.07	17.93	62.93	17.92	64.26	18.19	66.08	18.47	67.07	18.40
	39	47.15	12.81	55.48	16.29	60.95	18.49	61.80	18.59	63.33	18.86	64.94	19.11	66.15	19.09
	41	47.15	12.94	55.48	16.42	60.54	18.64	61.40	18.74	62.82	19.03	64.12	19.20	64.11	19.23
	43	47.15	13.08	55.48	16.58	60.03	18.75	60.89	18.87	62.41	19.15	63.60	19.31	63.19	19.61
	46	47.15	13.47	55.48	16.74	59.41	18.96	60.27	19.11	61.79	19.28	62.98	19.76	62.58	20.01
	48	47.15	13.93	55.48	18.06	58.60	19.05	59.26	19.20	61.07	19.51	61.95	19.85	61.76	20.20
	50	44.80	13.49	52.70	17.56	55.67	18.53	56.29	18.58	58.01	18.91	58.85	19.24	58.67	19.62
	52	42.11	13.00	49.54	16.91	52.33	17.81	52.91	17.93	54.53	18.18	55.32	18.50	55.15	18.88
	55	39.58	12.49	46.57	16.22	49.19	17.05	49.74	17.17	51.26	17.44	52.00	17.81	51.85	18.12
100%	-15	41.71	4.56	50.33	5.60	57.90	6.55	61.50	7.05	66.48	7.68	74.84	8.79	79.19	9.15
	-10	41.71	4.95	50.33	6.04	57.90	7.10	61.50	7.62	66.48	8.29	74.84	9.50	79.19	9.91
	-5	41.71	5.35	50.33	6.50	57.90	7.64	61.50	8.24	66.48	8.99	74.84	10.27	79.19	10.67
	-2	41.71	5.41	50.33	6.61	57.90	7.76	61.50	8.38	66.48	9.11	74.84	10.35	79.19	10.78
	0	41.71	5.45	50.33	6.66	57.90	7.82	61.50	8.49	66.48	9.15	74.84	10.51	79.19	10.88
	2	41.71	5.56	50.33	6.76	57.90	7.91	61.50	8.60	66.48	9.28	74.84	10.69	79.19	11.08
	4	41.71	5.60	50.33	6.83	57.90	8.04	61.50	8.74	66.48	9.38	74.84	10.80	79.19	11.17
	6	41.71	5.69	50.33	6.95	57.90	8.15	61.50	8.88	66.48	9.56	74.84	10.94	79.19	11.34
	8	41.71	5.78	50.33	7.06	57.90	8.29	61.50	9.00	66.48	9.69	74.84	11.09	79.19	11.56
	10	41.71	5.86	50.33	7.19	57.90	8.42	61.50	9.15	66.48	9.87	74.84	11.31	79.19	11.68
	12	41.71	5.96	50.33	7.34	57.90	8.57	61.50	9.31	66.48	10.07	74.84	11.50	78.07	11.80
	14	41.71	6.06	50.33	7.48	57.90	8.75	61.50	9.50	66.48	10.21	74.84	11.75	77.16	11.92
	20	41.71	6.41	50.33	7.91	57.90	9.38	61.50	10.37	66.48	11.42	72.40	12.86	74.00	13.00
	25	41.71	7.06	50.33	9.09	57.90	11.15	61.50	12.32	66.48	13.55	69.96	14.34	71.56	14.48
	27	41.71	7.56	50.33	9.71	57.90	11.90	61.50	13.15	66.48	14.51	68.84	14.93	70.44	15.10
	29	41.71	8.02	50.33	10.37	57.90	12.65	61.50	14.05	66.17	15.39	67.93	15.56	69.52	15.73
	31	41.71	8.57	50.33	11.07	57.90	13.50	61.50	15.00	65.36	16.06	66.81	16.22	68.40	16.36
	33	41.71	9.06	50.33	11.79	57.90	14.46	61.50	16.04	64.24	16.59	65.90	16.81	67.49	16.95
	35	41.71	9.66	50.33	12.51	57.90	15.42	61.50	17.08	63.13	17.25	64.78	17.45	66.37	17.59
	37	41.71	10.28	50.33	13.33	57.90	16.36	60.40	17.68	62.21	17.82	63.86	18.07	65.25	18.22
	39	41.71	10.90	50.33	14.19	57.90	17.47	59.50	18.26	61.10	18.48	62.74	18.61	64.43	18.85
	41	41.71	11.40	50.33	14.67	57.90	18.07	58.60	18.43	60.59	18.75	61.62	19.04	63.41	19.27
	43	41.71	11.95	50.33	15.16	57.90	18.44	57.70	18.64	60.18	18.93	62.03	19.25	62.30	19.49
	46	41.71	12.64	50.33	15.91	57.90	18.72	56.40	18.86	59.88	19.27	61.52	19.46	61.07	19.73
	48	41.71	13.16	50.33	16.42	57.90	18.75	54.10	19.10	59.78	19.61	57.76	19.75	59.75	19.93
	50	39.62	12.79	47.82	15.96	55.01	18.20	51.40	18.55	56.79	19.05	54.87	19.16	56.76	19.29
	52	37.24	12.30	44.95	15.37	51.70	17.49	48.31	17.83	53.38	18.33	51.58	18.40	53.36	18.61
	55	35.01	11.82	42.25	14.75	48.60	16.88	45.41	17.14	50.18	17.55	48.48	17.68	50.16	17.89

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 …

Table2-8.9:22HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	38.45	4.15	45.44	4.92	52.93	5.82	56.45	6.32	60.19	6.76	68.73	7.90	76.46	9.07
	-10	38.45	4.47	45.44	5.32	52.93	6.28	56.45	6.84	60.19	7.28	68.73	8.54	76.46	9.79
	-5	38.45	4.83	45.44	5.74	52.93	6.78	56.45	7.38	60.19	7.89	68.73	9.22	76.46	10.59
	-2	38.45	4.90	45.44	5.79	52.93	6.88	56.45	7.48	60.19	7.99	68.73	9.32	76.46	10.66
	0	38.45	4.96	45.44	5.88	52.93	6.98	56.45	7.59	60.19	8.08	68.73	9.44	76.46	10.77
	2	38.45	5.03	45.44	5.95	52.93	7.05	56.45	7.71	60.19	8.20	68.73	9.60	76.46	10.94
	4	38.45	5.12	45.44	6.04	52.93	7.18	56.45	7.79	60.19	8.29	68.73	9.74	76.46	11.07
	6	38.45	5.17	45.44	6.15	52.93	7.32	56.45	7.96	60.19	8.46	68.73	9.92	76.46	11.24
	8	38.45	5.26	45.44	6.28	52.93	7.45	56.45	8.05	60.19	8.60	68.73	10.09	76.46	11.38
	10	38.45	5.37	45.44	6.40	52.93	7.58	56.45	8.15	60.19	8.80	68.73	10.25	76.46	11.57
	12	38.45	5.47	45.44	6.53	52.93	7.72	56.45	8.31	60.19	8.98	68.73	10.44	76.46	11.76
	14	38.45	5.57	45.44	6.65	52.93	7.86	56.45	8.47	60.19	9.11	68.73	10.61	76.46	11.98
	20	38.45	5.86	45.44	7.05	52.93	8.33	56.45	8.98	60.19	9.87	68.73	11.88	74.17	13.14
	25	38.45	6.36	45.44	7.88	52.93	9.70	56.45	10.66	60.19	11.71	68.73	14.11	71.67	14.70
	27	38.45	6.77	45.44	8.42	52.93	10.33	56.45	11.36	60.19	12.53	68.73	15.11	70.42	15.35
	29	38.45	7.19	45.44	8.97	52.93	11.06	56.45	12.14	60.19	13.38	68.10	15.78	69.59	15.98
	31	38.45	7.64	45.44	9.54	52.93	11.80	56.45	12.95	60.19	14.23	66.96	16.40	68.44	16.59
	33	38.45	8.13	45.44	10.12	52.93	12.58	56.45	13.80	60.19	15.21	66.02	17.04	67.51	17.18
	35	38.45	8.65	45.44	10.78	52.93	13.41	56.45	14.73	60.19	16.20	64.88	17.64	66.36	17.82
	37	38.45	9.16	45.44	11.46	52.93	14.28	56.45	15.64	60.19	17.24	63.74	18.32	65.42	18.48
	39	38.45	9.72	45.44	12.18	52.93	15.13	56.45	16.67	60.19	18.35	62.80	18.96	64.28	19.07
	41	38.45	10.04	45.44	12.74	52.93	15.67	56.45	17.14	60.19	18.46	62.39	19.39	63.86	19.59
	43	38.45	10.55	45.44	13.31	52.93	16.29	56.45	17.55	60.19	18.86	62.07	19.64	63.34	19.82
	46	38.45	11.21	45.44	14.00	52.93	16.96	56.45	18.17	60.19	19.42	61.66	19.87	62.30	20.11
	48	38.45	11.81	45.44	14.63	52.93	17.60	56.45	18.43	60.19	19.54	61.14	20.17	60.63	20.40
	50	36.53	11.49	43.17	14.17	50.29	17.04	53.62	17.83	57.18	19.04	58.08	19.53	57.60	19.77
	52	34.34	11.04	40.58	13.62	47.27	16.38	50.41	17.15	53.75	18.32	54.60	18.77	54.14	19.06
	55	32.28	10.61	38.15	13.13	44.43	15.76	47.38	16.52	50.52	17.54	51.32	18.04	50.89	18.30
80%	-15	33.79	3.61	40.36	4.29	47.68	5.16	50.67	5.43	54.59	5.90	61.36	6.83	66.43	7.65
	-10	33.79	3.90	40.36	4.61	47.68	5.56	50.67	5.86	54.59	6.37	61.36	7.41	66.43	8.25
	-5	33.79	4.22	40.36	4.99	47.68	6.02	50.67	6.34	54.59	6.91	61.36	8.00	66.43	8.92
	-2	33.79	4.28	40.36	5.06	47.68	6.07	50.67	6.46	54.59	6.97	61.36	8.04	66.43	8.99
	0	33.79	4.34	40.36	5.11	47.68	6.14	50.67	6.52	54.59	7.07	61.36	8.19	66.43	9.12
	2	33.79	4.43	40.36	5.21	47.68	6.24	50.67	6.65	54.59	7.22	61.36	8.34	66.43	9.29
	4	33.79	4.51	40.36	5.28	47.68	6.35	50.67	6.81	54.59	7.34	61.36	8.49	66.43	9.42
	6	33.79	4.59	40.36	5.42	47.68	6.45	50.67	6.93	54.59	7.48	61.36	8.63	66.43	9.58
	8	33.79	4.66	40.36	5.52	47.68	6.58	50.67	7.06	54.59	7.64	61.36	8.75	66.43	9.79
	10	33.79	4.70	40.36	5.67	47.68	6.77	50.67	7.23	54.59	7.81	61.36	8.93	66.43	9.85
	12	33.79	4.78	40.36	5.76	47.68	6.88	50.67	7.38	54.59	7.99	61.36	9.12	66.43	10.05
	14	33.79	4.86	40.36	5.87	47.68	7.00	50.67	7.47	54.59	8.11	61.36	9.29	66.43	10.22
	20	33.79	5.11	40.36	6.19	47.68	7.44	50.67	7.93	54.59	8.58	61.36	10.01	66.43	11.38
	25	33.79	5.42	40.36	6.79	47.68	8.38	50.67	9.14	54.59	10.05	61.36	11.88	66.43	13.56
	27	33.79	5.77	40.36	7.23	47.68	8.94	50.67	9.74	54.59	10.72	61.36	12.68	66.43	14.46
	29	33.79	6.14	40.36	7.69	47.68	9.52	50.67	10.39	54.59	11.44	61.36	13.55	66.43	15.48
	31	33.79	6.52	40.36	8.18	47.68	10.16	50.67	11.05	54.59	12.25	61.36	14.48	65.31	16.09
	33	33.79	6.93	40.36	8.67	47.68	10.82	50.67	11.77	54.59	13.01	61.36	15.40	64.50	16.70
	35	33.79	7.36	40.36	9.25	47.68	11.52	50.67	12.53	54.59	13.83	61.36	16.42	63.37	17.32
	37	33.79	7.78	40.36	9.81	47.68	12.23	50.67	13.36	54.59	14.77	61.36	17.54	62.46	17.93
	39	33.79	8.25	40.36	10.46	47.68	12.99	50.67	14.16	54.59	15.72	61.36	18.66	61.34	18.56
	41	33.79	8.44	40.36	10.56	47.68	13.23	50.67	14.57	54.59	16.02	61.36	19.13	60.93	18.81
	43	33.79	8.67	40.36	10.62	47.68	13.37	50.67	14.85	54.59	16.20	61.36	19.34	60.52	19.01
	46	33.79	8.95	40.36	10.77	47.68	13.67	50.67	15.15	54.59	16.51	61.36	19.63	59.81	19.38
	48	33.79	9.21	40.36	10.82	47.68	13.89	50.67	15.31	54.59	16.61	61.36	19.75	59.30	19.65
	50	32.10	8.95	38.35	10.52	45.30	13.47	48.13	14.93	51.86	16.15	58.29	19.21	56.33	19.01
	52	30.18	8.63	36.04	10.10	42.58	12.93	45.25	14.33	48.75	15.55	54.79	18.46	52.95	18.34
	55	28.37	8.30	33.88	9.71	40.02	12.43	42.53	13.76	45.82	14.90	51.51	17.74	49.78	17.63

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

Table continued on next page …

Table2-8.9:22HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	29.89	3.27	35.42	3.79	41.84	4.37	44.30	4.63	46.86	4.90	52.42	5.61	59.43	6.60
	-10	29.89	3.53	35.42	4.08	41.84	4.73	44.30	5.00	46.86	5.31	52.42	6.06	59.43	7.13
	-5	29.89	3.81	35.42	4.41	41.84	5.10	44.30	5.40	46.86	5.74	52.42	6.54	59.43	7.70
	-2	29.89	3.84	35.42	4.44	41.84	5.13	44.30	5.51	46.86	5.83	52.42	6.65	59.43	7.79
	0	29.89	3.85	35.42	4.50	41.84	5.24	44.30	5.62	46.86	5.94	52.42	6.80	59.43	7.89
	2	29.89	3.88	35.42	4.52	41.84	5.34	44.30	5.73	46.86	6.03	52.42	6.95	59.43	8.02
	4	29.89	3.94	35.42	4.64	41.84	5.43	44.30	5.83	46.86	6.18	52.42	7.04	59.43	8.21
	6	29.89	4.00	35.42	4.72	41.84	5.59	44.30	6.00	46.86	6.32	52.42	7.16	59.43	8.36
	8	29.89	4.06	35.42	4.84	41.84	5.71	44.30	6.09	46.86	6.44	52.42	7.38	59.43	8.53
	10	29.89	4.15	35.42	4.93	41.84	5.86	44.30	6.24	46.86	6.64	52.42	7.52	59.43	8.63
	12	29.89	4.24	35.42	5.00	41.84	5.97	44.30	6.34	46.86	6.74	52.42	7.66	59.43	8.81
	14	29.89	4.32	35.42	5.08	41.84	6.08	44.30	6.43	46.86	6.85	52.42	7.79	59.43	8.97
	20	29.89	4.53	35.42	5.36	41.84	6.43	44.30	6.82	46.86	7.27	52.42	8.27	59.43	9.59
	25	29.89	4.75	35.42	5.75	41.84	7.04	44.30	7.60	46.86	8.20	52.42	9.61	59.43	11.36
	27	29.89	5.02	35.42	6.11	41.84	7.53	44.30	8.12	46.86	8.78	52.42	10.28	59.43	12.17
	29	29.89	5.32	35.42	6.48	41.84	7.99	44.30	8.62	46.86	9.32	52.42	10.92	59.43	12.95
	31	29.89	5.63	35.42	6.90	41.84	8.50	44.30	9.17	46.86	9.94	52.42	11.67	59.43	13.81
	33	29.89	5.99	35.42	7.32	41.84	9.04	44.30	9.74	46.86	10.57	52.42	12.42	59.43	14.76
	35	29.89	6.33	35.42	7.78	41.84	9.59	44.30	10.41	46.86	11.26	52.42	13.25	59.43	15.75
	37	29.89	6.69	35.42	8.22	41.84	10.21	44.30	11.04	46.86	11.95	52.42	14.08	59.43	16.71
	39	29.89	7.10	35.42	8.70	41.84	10.82	44.30	11.74	46.86	12.74	52.42	14.97	59.43	17.80
	41	29.89	7.41	35.42	9.04	41.84	11.16	44.30	12.10	46.86	13.08	52.42	15.61	59.43	18.64
	43	29.89	8.00	35.42	9.63	41.84	11.59	44.30	12.80	46.86	13.49	52.42	16.14	59.43	19.18
	46	29.89	8.17	35.42	9.85	41.84	11.88	44.30	13.01	46.86	14.17	52.42	17.08	59.43	19.96
	48	29.89	8.33	35.42	9.92	41.84	12.02	44.30	13.21	46.86	14.55	52.42	17.86	59.43	20.38
	50	28.40	8.12	33.65	9.62	39.75	11.65	42.08	12.81	44.52	14.16	49.80	17.30	56.46	19.88
	52	26.70	7.80	31.63	9.26	37.36	11.23	39.56	12.35	41.84	13.60	46.81	16.63	53.07	19.07
	55	25.09	7.48	29.74	8.91	35.12	10.79	37.19	11.84	39.33	13.07	44.00	16.00	49.88	18.35
60%	-15	25.54	2.79	30.35	3.21	35.91	3.80	38.00	4.01	40.94	4.37	45.90	4.91	50.85	5.62
	-10	25.54	3.01	30.35	3.47	35.91	4.10	38.00	4.32	40.94	4.72	45.90	5.31	50.85	6.08
	-5	25.54	3.25	30.35	3.73	35.91	4.43	38.00	4.68	40.94	5.10	45.90	5.73	50.85	6.55
	-2	25.54	3.26	30.35	3.79	35.91	4.50	38.00	4.74	40.94	5.15	45.90	5.81	50.85	6.59
	0	25.54	3.32	30.35	3.83	35.91	4.57	38.00	4.81	40.94	5.25	45.90	5.91	50.85	6.67
	2	25.54	3.36	30.35	3.92	35.91	4.65	38.00	4.90	40.94	5.30	45.90	6.01	50.85	6.75
	4	25.54	3.46	30.35	4.00	35.91	4.74	38.00	4.94	40.94	5.39	45.90	6.11	50.85	6.84
	6	25.54	3.49	30.35	4.07	35.91	4.83	38.00	5.05	40.94	5.48	45.90	6.25	50.85	7.02
	8	25.54	3.57	30.35	4.14	35.91	4.91	38.00	5.17	40.94	5.60	45.90	6.36	50.85	7.15
	10	25.54	3.63	30.35	4.23	35.91	5.00	38.00	5.31	40.94	5.72	45.90	6.47	50.85	7.23
	12	25.54	3.71	30.35	4.31	35.91	5.09	38.00	5.39	40.94	5.80	45.90	6.58	50.85	7.36
	14	25.54	3.75	30.35	4.37	35.91	5.18	38.00	5.50	40.94	5.93	45.90	6.71	50.85	7.49
	20	25.54	3.91	30.35	4.61	35.91	5.44	38.00	5.80	40.94	6.26	45.90	7.10	50.85	7.93
	25	25.54	4.08	30.35	4.80	35.91	5.80	38.00	6.23	40.94	6.83	45.90	7.93	50.85	9.09
	27	25.54	4.24	30.35	5.11	35.91	6.17	38.00	6.65	40.94	7.28	45.90	8.48	50.85	9.70
	29	25.54	4.48	30.35	5.39	35.91	6.59	38.00	7.09	40.94	7.78	45.90	9.04	50.85	10.38
	31	25.54	4.76	30.35	5.74	35.91	6.98	38.00	7.54	40.94	8.28	45.90	9.59	50.85	11.06
	33	25.54	5.01	30.35	6.07	35.91	7.41	38.00	7.99	40.94	8.78	45.90	10.23	50.85	11.80
	35	25.54	5.32	30.35	6.45	35.91	7.87	38.00	8.50	40.94	9.30	45.90	10.87	50.85	12.55
	37	25.54	5.62	30.35	6.81	35.91	8.35	38.00	9.00	40.94	9.88	45.90	11.55	50.85	13.35
	39	25.54	5.93	30.35	7.23	35.91	8.84	38.00	9.55	40.94	10.52	45.90	12.29	50.85	14.17
	41	25.54	6.12	30.35	7.53	35.91	9.14	38.00	9.91	40.94	10.89	45.90	12.87	50.85	14.81
	43	25.54	6.32	30.35	7.86	35.91	9.49	38.00	10.21	40.94	11.31	45.90	13.39	50.85	15.49
	46	25.54	6.60	30.35	8.23	35.91	9.89	38.00	10.63	40.94	11.85	45.90	13.98	50.85	16.29
	48	25.54	6.85	30.35	8.59	35.91	10.19	38.00	10.89	40.94	12.27	45.90	14.48	50.85	17.13
	50	24.26	6.66	28.83	8.36	34.11	9.90	36.10	10.55	38.89	11.91	43.60	14.09	48.31	16.59
	52	22.81	6.42	27.10	8.03	32.06	9.55	33.93	10.16	36.56	11.45	40.99	13.57	45.41	15.98
	55	21.44	6.15	25.48	7.72	30.14	9.17	31.90	9.74	34.37	11.01	38.53	13.03	42.69	15.37

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 …

Table2-8.9:22HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	21.44	2.42	25.76	2.81	29.43	3.19	31.69	3.35	34.03	3.59	37.79	4.03	42.04	4.35
	-10	21.44	2.62	25.76	3.04	29.43	3.44	31.69	3.63	34.03	3.88	37.79	4.36	42.04	4.70
	-5	21.44	2.82	25.76	3.28	29.43	3.71	31.69	3.92	34.03	4.19	37.79	4.70	42.04	5.05
	-2	21.44	2.84	25.76	3.35	29.43	3.76	31.69	3.97	34.03	4.26	37.79	4.76	42.04	5.13
	0	21.44	2.88	25.76	3.41	29.43	3.82	31.69	4.03	34.03	4.30	37.79	4.84	42.04	5.21
	2	21.44	2.93	25.76	3.45	29.43	3.89	31.69	4.08	34.03	4.38	37.79	4.86	42.04	5.31
	4	21.44	2.96	25.76	3.51	29.43	3.93	31.69	4.14	34.03	4.46	37.79	5.00	42.04	5.45
	6	21.44	3.01	25.76	3.56	29.43	4.00	31.69	4.22	34.03	4.54	37.79	5.06	42.04	5.61
	8	21.44	3.09	25.76	3.62	29.43	4.05	31.69	4.32	34.03	4.61	37.79	5.16	42.04	5.80
	10	21.44	3.14	25.76	3.66	29.43	4.13	31.69	4.38	34.03	4.75	37.79	5.29	42.04	5.86
	12	21.44	3.17	25.76	3.72	29.43	4.19	31.69	4.48	34.03	4.83	37.79	5.38	42.04	5.97
	14	21.44	3.22	25.76	3.76	29.43	4.22	31.69	4.58	34.03	4.91	37.79	5.47	42.04	6.09
	20	21.44	3.36	25.76	3.93	29.43	4.46	31.69	4.78	34.03	5.18	37.79	5.74	42.04	6.40
	25	21.44	3.47	25.76	4.09	29.43	4.66	31.69	5.02	34.03	5.48	37.79	6.23	42.04	7.08
	27	21.44	3.54	25.76	4.25	29.43	4.91	31.69	5.35	34.03	5.79	37.79	6.63	42.04	7.52
	29	21.44	3.74	25.76	4.49	29.43	5.21	31.69	5.67	34.03	6.20	37.79	7.02	42.04	8.02
	31	21.44	3.95	25.76	4.74	29.43	5.51	31.69	6.03	34.03	6.58	37.79	7.48	42.04	8.55
	33	21.44	4.18	25.76	5.04	29.43	5.86	31.69	6.36	34.03	6.96	37.79	7.96	42.04	9.09
	35	21.44	4.40	25.76	5.33	29.43	6.18	31.69	6.74	34.03	7.37	37.79	8.44	42.04	9.64
	37	21.44	4.64	25.76	5.63	29.43	6.55	31.69	7.14	34.03	7.81	37.79	8.95	42.04	10.24
	39	21.44	4.91	25.76	5.92	29.43	6.94	31.69	7.56	34.03	8.31	37.79	9.50	42.04	10.88
	41	21.44	5.12	25.76	6.19	29.43	7.19	31.69	7.90	34.03	8.64	37.79	10.02	42.04	11.39
	43	21.44	5.43	25.76	6.61	29.43	7.43	31.69	8.27	34.03	8.89	37.79	10.49	42.04	11.90
	46	21.44	5.59	25.76	6.80	29.43	7.96	31.69	8.92	34.03	9.25	37.79	11.50	42.04	12.93
	48	21.44	5.68	25.76	6.95	29.43	8.38	31.69	9.52	34.03	9.69	37.79	12.44	42.04	13.88
	50	20.37	5.52	24.47	6.75	27.96	8.14	30.10	9.24	32.33	9.44	35.90	12.09	39.94	13.46
	52	19.15	5.31	23.00	6.49	26.28	7.81	28.30	8.88	30.39	9.05	33.75	11.61	37.54	12.94
	55	18.00	5.09	21.62	6.22	24.70	7.51	26.60	8.56	28.57	8.70	31.73	11.15	35.29	12.44

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

Table2-8.10:24HP 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	60.01	6.72	71.84	8.25	82.69	8.76	86.01	9.13	90.08	9.38	94.03	10.44	94.47	10.28
	-10	60.01	7.27	71.84	8.91	82.69	9.49	86.01	9.89	90.08	10.17	94.03	11.27	94.47	11.10
	-5	60.01	7.82	71.84	9.62	82.69	10.22	86.01	10.67	90.08	10.97	94.03	12.15	94.47	12.00
	-2	60.01	7.85	71.84	9.83	82.69	10.23	86.01	10.73	90.08	10.97	94.03	12.33	94.47	12.11
	0	60.01	7.98	71.84	10.00	82.69	10.61	86.01	11.30	90.08	11.60	94.03	12.43	94.47	12.28
	2	60.01	8.10	71.84	10.02	82.69	10.94	86.01	11.94	90.08	11.73	94.03	12.55	94.47	12.45
	4	60.01	8.30	71.84	10.22	82.69	11.37	86.01	12.00	90.08	11.87	94.03	12.71	94.47	12.66
	6	60.01	8.44	71.84	10.38	82.69	11.75	86.01	12.07	89.06	12.28	92.89	12.94	93.36	12.77
	8	60.01	8.66	71.84	10.65	82.69	12.32	86.01	12.67	88.04	12.66	91.85	13.00	92.24	12.91
	10	60.01	8.85	71.84	10.88	82.69	12.82	86.01	13.09	86.92	12.87	90.81	13.15	91.12	13.29
	12	60.01	9.01	71.84	11.06	82.69	13.05	84.79	13.30	86.01	13.11	89.57	13.38	89.90	13.35
	14	60.01	9.18	71.84	11.26	82.39	13.27	83.77	13.53	84.79	13.28	88.53	13.58	88.99	13.66
	20	60.01	9.73	71.84	12.50	79.03	14.32	80.41	14.42	81.33	14.51	85.11	14.93	85.54	14.78
	25	60.01	11.40	71.84	14.90	76.29	16.04	77.46	16.13	78.68	16.25	82.31	16.66	82.89	16.51
	27	60.01	12.20	71.84	15.94	75.38	16.67	76.44	16.84	77.46	16.87	81.07	17.36	81.67	17.22
	29	60.01	13.03	71.84	16.98	74.16	17.36	75.22	17.45	76.44	17.58	80.13	18.14	80.66	17.94
	31	60.01	13.90	71.63	18.03	72.94	18.08	74.30	18.19	75.22	18.28	78.89	18.82	79.44	18.63
	33	60.01	14.84	70.40	18.69	71.92	18.71	73.08	18.89	74.30	18.94	77.85	19.54	78.22	19.29
	35	60.01	15.81	69.17	19.36	70.70	19.39	72.06	19.59	73.08	19.68	76.61	20.30	77.31	20.05
	37	60.01	16.79	68.15	20.07	69.79	20.14	70.84	20.23	72.06	20.42	75.37	21.03	76.09	20.76
	39	60.01	17.87	66.92	20.21	68.57	20.81	69.93	20.96	70.84	21.05	74.43	21.66	75.07	21.54
	41	60.01	18.81	66.20	20.45	67.86	20.97	69.21	21.18	70.13	21.24	73.71	21.71	72.23	21.67
	43	60.01	19.27	65.79	20.59	67.45	21.02	68.81	21.23	69.42	21.34	72.36	21.80	71.41	21.72
	46	60.01	20.24	65.38	20.75	66.74	21.18	68.09	21.37	68.40	21.37	70.39	21.83	69.99	22.13
	48	60.01	20.92	65.18	21.39	65.62	21.42	66.97	21.59	67.58	21.61	68.52	22.27	68.37	22.26
	50	57.01	20.32	61.92	20.76	62.34	20.75	63.63	20.95	64.21	20.97	65.10	21.63	64.95	21.62
	52	53.59	19.59	58.20	19.97	58.60	20.02	59.81	20.08	60.35	20.16	61.19	20.73	61.05	20.80
	55	50.37	18.81	54.71	19.21	55.09	19.19	56.22	19.38	56.73	19.41	57.52	19.98	57.39	19.93
120%	-15	56.18	6.60	66.33	7.93	77.71	9.44	81.60	10.10	86.29	10.61	89.17	11.07	91.33	11.41
	-10	56.18	7.12	66.33	8.55	77.71	10.21	81.60	10.92	86.29	11.48	89.17	12.00	91.33	12.30
	-5	56.18	7.71	66.33	9.26	77.71	11.03	81.60	11.75	86.29	12.41	89.17	12.94	91.33	13.30
	-2	56.18	7.76	66.33	9.33	77.71	11.12	81.60	11.86	86.29	12.57	89.17	13.06	91.33	13.34
	0	56.18	7.82	66.33	9.42	77.71	11.28	81.60	11.85	86.29	12.65	89.17	13.15	91.33	13.38
	2	56.18	7.86	66.33	9.52	77.71	11.33	81.60	11.98	86.29	12.73	89.17	13.19	91.33	13.39
	4	56.18	7.92	66.33	9.60	77.71	11.48	81.60	12.13	86.29	12.87	89.17	13.24	91.33	13.45
	6	56.18	8.03	66.33	9.69	77.71	11.62	81.60	12.22	86.29	13.03	89.17	13.33	91.33	13.45
	8	56.18	8.10	66.33	9.77	77.71	11.76	81.60	12.40	86.29	13.15	89.17	13.39	91.33	13.53
	10	56.18	8.19	66.33	9.91	77.71	11.89	81.60	12.62	86.29	13.19	89.17	13.43	91.33	13.57
	12	56.18	8.35	66.33	10.11	77.71	12.13	81.60	12.87	85.06	13.23	87.93	13.37	90.09	13.71
	14	56.18	8.50	66.33	10.32	77.71	12.38	81.60	13.09	83.83	13.26	87.00	13.56	89.05	13.87
	20	56.18	9.02	66.33	11.17	77.71	14.04	78.96	14.28	80.65	14.53	83.48	14.76	85.63	14.97
	25	56.18	10.37	66.33	13.22	76.46	16.20	76.01	15.93	77.78	16.17	80.78	16.54	82.83	16.72
	27	56.18	11.05	66.33	14.16	75.53	16.87	75.00	16.62	76.76	16.87	79.54	17.25	81.59	17.38
	29	56.18	11.79	66.33	15.08	74.29	17.58	73.78	17.35	75.53	17.61	78.30	17.98	80.65	18.11
	31	56.18	12.58	66.33	16.12	73.05	18.27	72.87	18.03	74.50	18.28	77.37	18.68	79.41	18.90
	33	56.18	13.40	66.33	17.21	72.01	18.95	71.65	18.69	73.27	18.93	76.12	19.37	78.16	19.57
	35	56.18	14.27	66.33	18.35	70.77	19.61	70.43	19.36	72.35	19.61	75.09	20.04	77.13	20.26
	37	56.18	15.17	66.33	19.53	69.84	20.31	69.42	20.05	71.12	20.34	73.84	20.81	75.88	21.00
	39	56.18	16.14	66.12	20.67	68.60	21.07	68.20	20.73	69.89	21.08	72.81	21.52	74.95	21.77
	41	56.18	16.63	65.51	20.80	68.08	21.20	67.69	20.92	69.38	21.25	72.29	21.56	72.77	21.87
	43	56.18	16.90	65.20	20.89	67.46	21.35	67.18	20.99	68.87	21.30	71.05	21.62	71.63	22.31
	46	56.18	17.04	64.89	21.12	66.84	21.54	66.47	21.19	68.25	21.49	69.60	21.71	70.91	22.82
	48	56.18	17.16	64.28	21.32	66.01	21.74	65.46	21.32	67.43	21.62	68.56	21.98	69.98	23.14
	50	53.37	16.68	61.06	20.75	62.71	21.05	62.19	20.65	64.06	21.05	65.13	21.28	66.48	22.43
	52	50.17	16.04	57.40	19.96	58.95	20.22	58.45	19.90	60.22	20.21	61.23	20.44	62.49	21.56
	55	47.16	15.40	53.95	19.15	55.41	19.49	54.95	19.09	56.60	19.42	57.55	19.66	58.74	20.75

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

Table continued on next page …

Table2-8.10:24HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	51.13	5.72	61.36	7.17	71.49	8.59	75.53	9.11	79.82	9.69	85.76	10.08	87.94	10.39
	-10	51.13	6.18	61.36	7.74	71.49	9.28	75.53	9.82	79.82	10.50	85.76	10.89	87.94	11.25
	-5	51.13	6.67	61.36	8.38	71.49	10.00	75.53	10.61	79.82	11.35	85.76	11.75	87.94	12.11
	-2	51.13	6.79	61.36	8.46	71.49	10.09	75.53	10.70	79.82	11.39	85.76	11.86	87.94	12.22
	0	51.13	6.84	61.36	8.51	71.49	10.16	75.53	10.77	79.82	11.55	85.76	11.94	87.94	12.33
	2	51.13	7.02	61.36	8.60	71.49	10.34	75.53	10.87	79.82	11.64	85.76	12.15	87.94	12.50
	4	51.13	7.15	61.36	8.70	71.49	10.44	75.53	11.04	79.82	11.83	85.76	12.29	87.94	12.63
	6	51.13	7.23	61.36	8.79	71.49	10.51	75.53	11.18	79.82	11.98	85.76	12.43	87.94	12.83
	8	51.13	7.29	61.36	8.92	71.49	10.62	75.53	11.32	79.82	12.10	85.76	12.55	87.94	12.92
	10	51.13	7.38	61.36	9.07	71.49	10.78	75.53	11.53	79.82	12.32	85.76	12.60	87.94	13.03
	12	51.13	7.54	61.36	9.26	71.49	11.00	75.53	11.76	79.82	12.53	84.74	12.79	86.72	13.22
	14	51.13	7.67	61.36	9.40	71.49	11.21	75.53	11.98	79.82	12.79	83.52	12.91	85.70	13.33
	20	51.13	8.11	61.36	10.00	71.49	12.32	75.53	13.46	78.60	14.30	80.38	14.42	82.34	14.59
	25	51.13	9.14	61.36	11.74	71.49	14.68	75.53	16.07	75.96	15.97	77.43	16.09	79.60	16.30
	27	51.13	9.74	61.36	12.57	71.49	15.71	74.30	16.69	74.74	16.64	76.52	16.79	78.48	16.93
	29	51.13	10.38	61.36	13.39	71.49	16.81	73.27	17.38	73.72	17.37	75.30	17.49	77.46	17.67
	31	51.13	11.05	61.36	14.33	71.49	17.87	72.14	18.10	72.50	18.01	74.29	18.08	76.24	18.34
	33	51.13	11.80	61.36	15.26	70.98	18.90	71.12	18.75	71.59	18.71	73.07	18.84	75.22	19.01
	35	51.13	12.54	61.36	16.25	69.73	19.52	69.89	19.46	70.37	19.41	71.85	19.53	74.00	19.71
	37	51.13	13.35	61.36	17.32	68.80	20.23	68.87	20.14	69.15	20.03	70.94	20.17	72.78	20.43
	39	51.13	14.20	61.36	18.44	67.55	20.94	67.64	20.80	68.13	20.72	69.72	20.93	71.86	21.17
	41	51.13	14.31	61.36	18.61	67.03	21.11	67.12	20.90	67.62	20.90	68.81	21.07	69.72	21.32
	43	51.13	14.44	61.36	18.78	66.51	21.25	66.61	21.05	67.11	21.07	68.20	21.17	68.60	21.71
	46	51.13	14.91	61.36	18.88	65.79	21.40	65.89	21.37	66.50	21.18	67.49	21.68	67.99	22.28
	48	51.13	15.39	61.36	20.50	64.85	21.51	64.87	21.45	65.79	21.39	66.37	21.70	67.08	22.43
	50	48.58	14.96	58.29	19.87	61.61	20.94	61.62	20.80	62.50	20.84	63.05	21.16	63.72	21.76
	52	45.66	14.41	54.79	19.14	57.91	20.10	57.93	20.07	58.75	20.03	59.27	20.32	59.90	20.98
	55	42.92	13.86	51.50	18.40	54.44	19.30	54.45	19.27	55.23	19.20	55.71	19.49	56.30	20.19
100%	-15	45.38	5.09	53.96	6.10	62.95	7.29	67.00	7.85	72.43	8.56	81.15	9.72	86.04	10.20
	-10	45.38	5.50	53.96	6.60	62.95	7.87	67.00	8.49	72.43	9.25	81.15	10.53	86.04	11.04
	-5	45.38	5.92	53.96	7.13	62.95	8.50	67.00	9.16	72.43	10.02	81.15	11.34	86.04	11.92
	-2	45.38	5.99	53.96	7.21	62.95	8.58	67.00	9.35	72.43	10.15	81.15	11.50	86.04	11.96
	0	45.38	6.08	53.96	7.31	62.95	8.70	67.00	9.45	72.43	10.25	81.15	11.66	86.04	12.08
	2	45.38	6.18	53.96	7.41	62.95	8.81	67.00	9.59	72.43	10.34	81.15	11.82	86.04	12.27
	4	45.38	6.24	53.96	7.48	62.95	8.93	67.00	9.73	72.43	10.50	81.15	11.99	86.04	12.43
	6	45.38	6.32	53.96	7.62	62.95	9.04	67.00	9.89	72.43	10.65	81.15	12.12	86.04	12.64
	8	45.38	6.44	53.96	7.74	62.95	9.20	67.00	10.00	72.43	10.82	81.15	12.33	86.04	12.86
	10	45.38	6.51	53.96	7.88	62.95	9.32	67.00	10.19	72.43	11.03	81.15	12.50	86.04	13.00
	12	45.38	6.63	53.96	8.02	62.95	9.51	67.00	10.37	72.43	11.21	81.15	12.77	84.82	13.12
	14	45.38	6.73	53.96	8.18	62.95	9.71	67.00	10.55	72.43	11.44	81.15	12.99	83.91	13.29
	20	45.38	7.12	53.96	8.69	62.95	10.38	67.00	11.54	72.43	12.75	78.42	14.26	80.46	14.44
	25	45.38	7.89	53.96	9.98	62.95	12.36	67.00	13.70	72.43	15.14	75.79	15.94	77.81	16.13
	27	45.38	8.42	53.96	10.66	62.95	13.19	67.00	14.68	72.43	16.22	74.58	16.55	76.60	16.80
	29	45.38	8.92	53.96	11.36	62.95	14.07	67.00	15.67	72.23	17.20	73.56	17.24	75.58	17.46
	31	45.38	9.54	53.96	12.10	62.95	15.04	67.00	16.71	71.21	17.83	72.35	17.96	74.36	18.19
	33	45.38	10.10	53.96	12.93	62.95	16.05	67.00	17.87	69.99	18.55	71.44	18.61	73.45	18.85
	35	45.38	10.72	53.96	13.73	62.95	17.09	67.00	19.01	68.77	19.19	70.23	19.30	72.23	19.51
	37	45.38	11.42	53.96	14.59	62.95	18.19	65.80	19.71	67.86	19.93	69.21	19.95	71.01	20.19
	39	45.38	12.13	53.96	15.53	62.95	19.39	64.80	20.38	66.64	20.61	68.00	20.65	69.99	20.93
	41	45.38	12.70	53.96	16.10	62.95	20.10	63.80	20.50	66.13	20.88	66.89	21.11	68.98	21.36
	43	45.38	13.28	53.96	16.69	62.95	20.50	62.80	20.74	65.62	21.04	67.29	21.29	67.76	21.60
	46	45.38	14.03	53.96	17.37	62.95	20.85	61.50	21.04	65.32	21.47	66.68	21.61	66.44	21.89
	48	45.38	14.64	53.96	17.99	62.95	20.89	59.00	21.24	65.22	21.87	62.64	21.89	64.91	22.09
	50	43.11	14.21	51.26	17.48	59.80	20.29	56.05	20.64	61.96	21.26	59.50	21.20	61.67	21.50
	52	40.52	13.68	48.19	16.78	56.21	19.42	52.69	19.83	58.24	20.44	55.93	20.35	57.97	20.62
	55	38.09	13.15	45.30	16.13	52.84	18.73	49.53	19.06	54.75	19.64	52.58	19.64	54.49	19.88

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

Table continued on next page …

Table2-8.10:24HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	41.31	4.55	49.85	5.53	57.51	6.46	61.44	7.04	65.88	7.55	73.93	8.70	82.75	10.05
	-10	41.31	4.92	49.85	5.97	57.51	6.98	61.44	7.61	65.88	8.17	73.93	9.41	82.75	10.82
	-5	41.31	5.32	49.85	6.42	57.51	7.53	61.44	8.22	65.88	8.82	73.93	10.16	82.75	11.72
	-2	41.31	5.34	49.85	6.49	57.51	7.62	61.44	8.35	65.88	8.94	73.93	10.26	82.75	11.81
	0	41.31	5.45	49.85	6.58	57.51	7.73	61.44	8.42	65.88	9.06	73.93	10.38	82.75	11.94
	2	41.31	5.51	49.85	6.66	57.51	7.84	61.44	8.57	65.88	9.21	73.93	10.55	82.75	12.11
	4	41.31	5.60	49.85	6.76	57.51	7.96	61.44	8.69	65.88	9.29	73.93	10.74	82.75	12.25
	6	41.31	5.67	49.85	6.91	57.51	8.09	61.44	8.86	65.88	9.48	73.93	10.90	82.75	12.46
	8	41.31	5.78	49.85	7.04	57.51	8.26	61.44	8.97	65.88	9.61	73.93	11.08	82.75	12.57
	10	41.31	5.89	49.85	7.17	57.51	8.41	61.44	9.08	65.88	9.84	73.93	11.26	82.75	12.79
	12	41.31	5.99	49.85	7.31	57.51	8.58	61.44	9.24	65.88	10.02	73.93	11.45	82.75	13.02
	14	41.31	6.11	49.85	7.43	57.51	8.72	61.44	9.45	65.88	10.20	73.93	11.65	82.75	13.26
	20	41.31	6.43	49.85	7.91	57.51	9.25	61.44	10.00	65.88	11.05	73.93	13.06	80.27	14.60
	25	41.31	6.96	49.85	8.84	57.51	10.78	61.44	11.84	65.88	13.06	73.93	15.53	77.57	16.30
	27	41.31	7.42	49.85	9.44	57.51	11.50	61.44	12.64	65.88	14.03	73.93	16.60	76.33	16.98
	29	41.31	7.92	49.85	10.03	57.51	12.29	61.44	13.55	65.88	14.98	73.21	17.41	75.29	17.64
	31	41.31	8.41	49.85	10.69	57.51	13.07	61.44	14.39	65.88	15.94	71.98	18.06	74.05	18.33
	33	41.31	8.89	49.85	11.39	57.51	13.95	61.44	15.37	65.88	17.01	71.05	18.75	73.12	19.03
	35	41.31	9.46	49.85	12.12	57.51	14.87	61.44	16.41	65.88	18.15	69.82	19.44	71.88	19.72
	37	41.31	10.03	49.85	12.83	57.51	15.82	61.44	17.48	65.88	19.35	68.59	20.13	70.84	20.43
	39	41.31	10.65	49.85	13.70	57.51	16.79	61.44	18.62	65.88	20.58	67.56	20.77	69.60	21.12
	41	41.31	11.01	49.85	14.29	57.51	17.42	61.44	19.11	65.88	20.73	67.05	21.30	69.18	21.61
	43	41.31	11.58	49.85	14.92	57.51	18.07	61.44	19.61	65.88	21.18	66.74	21.58	68.56	21.94
	46	41.31	12.26	49.85	15.70	57.51	18.79	61.44	20.20	65.88	21.71	66.33	21.87	67.53	22.28
	48	41.31	12.94	49.85	16.39	57.51	19.51	61.44	20.52	65.88	21.89	65.82	22.10	65.66	22.58
	50	39.24	12.57	47.36	15.89	54.63	18.92	58.36	19.91	62.58	21.29	62.52	21.56	62.38	21.89
	52	36.89	12.11	44.52	15.27	51.35	18.18	54.86	19.10	58.83	20.46	58.77	20.64	58.64	21.10
	55	34.67	11.64	41.85	14.70	48.27	17.48	51.57	18.40	55.30	19.70	55.25	19.85	55.12	20.24
80%	-15	37.07	4.05	44.68	4.84	51.83	5.73	55.67	6.11	58.73	6.49	65.75	7.52	73.71	8.66
	-10	37.07	4.37	44.68	5.22	51.83	6.20	55.67	6.60	58.73	7.01	65.75	8.12	73.71	9.36
	-5	37.07	4.73	44.68	5.66	51.83	6.69	55.67	7.11	58.73	7.57	65.75	8.78	73.71	10.10
	-2	37.07	4.80	44.68	5.72	51.83	6.75	55.67	7.24	58.73	7.64	65.75	8.83	73.71	10.18
	0	37.07	4.87	44.68	5.78	51.83	6.82	55.67	7.31	58.73	7.79	65.75	8.96	73.71	10.33
	2	37.07	4.97	44.68	5.89	51.83	6.92	55.67	7.45	58.73	7.94	65.75	9.13	73.71	10.53
	4	37.07	5.07	44.68	5.99	51.83	7.06	55.67	7.62	58.73	8.07	65.75	9.32	73.71	10.70
	6	37.07	5.16	44.68	6.10	51.83	7.16	55.67	7.82	58.73	8.24	65.75	9.47	73.71	10.85
	8	37.07	5.24	44.68	6.26	51.83	7.34	55.67	7.92	58.73	8.40	65.75	9.57	73.71	11.04
	10	37.07	5.29	44.68	6.38	51.83	7.52	55.67	8.12	58.73	8.61	65.75	9.81	73.71	11.17
	12	37.07	5.37	44.68	6.49	51.83	7.65	55.67	8.27	58.73	8.76	65.75	9.98	73.71	11.36
	14	37.07	5.47	44.68	6.63	51.83	7.79	55.67	8.41	58.73	8.94	65.75	10.17	73.71	11.58
	20	37.07	5.76	44.68	7.00	51.83	8.27	55.67	8.90	58.73	9.44	65.75	10.99	73.71	12.89
	25	37.07	6.09	44.68	7.65	51.83	9.33	55.67	10.23	58.73	11.04	65.75	13.05	73.71	15.30
	27	37.07	6.49	44.68	8.16	51.83	9.92	55.67	10.92	58.73	11.78	65.75	13.89	73.71	16.38
	29	37.07	6.90	44.68	8.68	51.83	10.60	55.67	11.64	58.73	12.59	65.75	14.86	73.71	17.53
	31	37.07	7.32	44.68	9.24	51.83	11.28	55.67	12.43	58.73	13.46	65.75	15.87	72.46	18.20
	33	37.07	7.78	44.68	9.80	51.83	12.03	55.67	13.22	58.73	14.28	65.75	16.95	71.43	18.91
	35	37.07	8.24	44.68	10.42	51.83	12.76	55.67	14.05	58.73	15.22	65.75	18.00	70.18	19.55
	37	37.07	8.76	44.68	11.07	51.83	13.62	55.67	15.01	58.73	16.26	65.75	19.20	69.25	20.28
	39	37.07	9.25	44.68	11.81	51.83	14.46	55.67	15.96	58.73	17.27	65.75	20.50	68.01	21.01
	41	37.07	9.48	44.68	11.92	51.83	14.68	55.67	16.35	58.73	17.60	65.75	20.99	67.59	21.40
	43	37.07	9.75	44.68	12.03	51.83	14.92	55.67	16.66	58.73	17.86	65.75	21.23	67.18	21.55
	46	37.07	10.03	44.68	12.14	51.83	15.20	55.67	17.02	58.73	18.11	65.75	21.50	66.35	21.96
	48	37.07	10.35	44.68	12.21	51.83	15.42	55.67	17.24	58.73	18.28	65.75	21.68	65.72	22.27
	50	35.21	10.08	42.45	11.90	49.24	14.98	52.89	16.76	55.79	17.76	62.46	21.06	62.44	21.59
	52	33.10	9.68	39.90	11.44	46.29	14.40	49.71	16.08	52.45	17.09	58.72	20.24	58.69	20.79
	55	31.11	9.29	37.51	10.97	43.51	13.85	46.73	15.45	49.30	16.39	55.19	19.45	55.17	19.94

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

Table continued on next page …

Table2-8.10:24HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	32.76	3.66	38.81	4.26	45.49	4.86	47.64	5.10	50.74	5.44	57.94	6.36	63.12	7.16
	-10	32.76	3.94	38.81	4.58	45.49	5.26	47.64	5.50	50.74	5.87	57.94	6.87	63.12	7.73
	-5	32.76	4.26	38.81	4.96	45.49	5.67	47.64	5.94	50.74	6.34	57.94	7.42	63.12	8.36
	-2	32.76	4.30	38.81	4.98	45.49	5.70	47.64	6.05	50.74	6.47	57.94	7.54	63.12	8.44
	0	32.76	4.33	38.81	5.04	45.49	5.82	47.64	6.18	50.74	6.56	57.94	7.67	63.12	8.56
	2	32.76	4.34	38.81	5.05	45.49	5.91	47.64	6.30	50.74	6.68	57.94	7.82	63.12	8.70
	4	32.76	4.39	38.81	5.19	45.49	6.06	47.64	6.42	50.74	6.83	57.94	7.98	63.12	8.91
	6	32.76	4.47	38.81	5.28	45.49	6.21	47.64	6.62	50.74	7.01	57.94	8.12	63.12	9.10
	8	32.76	4.55	38.81	5.42	45.49	6.35	47.64	6.73	50.74	7.13	57.94	8.34	63.12	9.26
	10	32.76	4.65	38.81	5.53	45.49	6.53	47.64	6.85	50.74	7.33	57.94	8.49	63.12	9.39
	12	32.76	4.78	38.81	5.61	45.49	6.64	47.64	6.98	50.74	7.45	57.94	8.66	63.12	9.53
	14	32.76	4.85	38.81	5.70	45.49	6.77	47.64	7.10	50.74	7.58	57.94	8.82	63.12	9.73
	20	32.76	5.07	38.81	6.02	45.49	7.13	47.64	7.51	50.74	8.02	57.94	9.32	63.12	10.41
	25	32.76	5.33	38.81	6.43	45.49	7.83	47.64	8.39	50.74	9.07	57.94	10.89	63.12	12.31
	27	32.76	5.62	38.81	6.84	45.49	8.36	47.64	8.93	50.74	9.70	57.94	11.59	63.12	13.16
	29	32.76	5.98	38.81	7.26	45.49	8.86	47.64	9.51	50.74	10.31	57.94	12.35	63.12	14.08
	31	32.76	6.31	38.81	7.73	45.49	9.48	47.64	10.08	50.74	11.02	57.94	13.20	63.12	15.01
	33	32.76	6.71	38.81	8.20	45.49	10.06	47.64	10.75	50.74	11.70	57.94	14.06	63.12	16.03
	35	32.76	7.11	38.81	8.71	45.49	10.68	47.64	11.43	50.74	12.44	57.94	14.96	63.12	17.06
	37	32.76	7.49	38.81	9.21	45.49	11.34	47.64	12.11	50.74	13.24	57.94	15.92	63.12	18.17
	39	32.76	7.95	38.81	9.77	45.49	12.07	47.64	12.91	50.74	14.05	57.94	16.93	63.12	19.39
	41	32.76	8.30	38.81	10.10	45.49	12.37	47.64	13.32	50.74	14.53	57.94	17.65	63.12	20.24
	43	32.76	8.99	38.81	10.82	45.49	12.91	47.64	14.05	50.74	14.91	57.94	18.29	63.12	20.88
	46	32.76	9.15	38.81	11.06	45.49	13.21	47.64	14.30	50.74	15.65	57.94	19.23	63.12	21.60
	48	32.76	9.34	38.81	11.11	45.49	13.34	47.64	14.52	50.74	16.10	57.94	20.15	63.12	22.17
	50	31.12	9.05	36.87	10.81	43.22	12.97	45.26	14.11	48.21	15.62	55.05	19.61	59.97	21.54
	52	29.25	8.72	34.66	10.37	40.63	12.43	42.55	13.54	45.31	15.03	51.74	18.87	56.37	20.74
	55	27.50	8.36	32.58	9.98	38.19	11.98	39.99	13.07	42.59	14.43	48.64	18.08	52.99	19.94
60%	-15	27.70	3.08	33.55	3.63	38.31	4.15	40.96	4.42	44.45	4.84	49.86	5.45	54.72	6.16
	-10	27.70	3.33	33.55	3.90	38.31	4.48	40.96	4.77	44.45	5.25	49.86	5.88	54.72	6.65
	-5	27.70	3.59	33.55	4.23	38.31	4.83	40.96	5.14	44.45	5.67	49.86	6.34	54.72	7.20
	-2	27.70	3.62	33.55	4.29	38.31	4.93	40.96	5.22	44.45	5.73	49.86	6.44	54.72	7.26
	0	27.70	3.67	33.55	4.34	38.31	4.98	40.96	5.28	44.45	5.82	49.86	6.55	54.72	7.34
	2	27.70	3.74	33.55	4.44	38.31	5.07	40.96	5.39	44.45	5.90	49.86	6.68	54.72	7.43
	4	27.70	3.85	33.55	4.53	38.31	5.16	40.96	5.46	44.45	6.00	49.86	6.80	54.72	7.54
	6	27.70	3.88	33.55	4.62	38.31	5.28	40.96	5.58	44.45	6.09	49.86	6.90	54.72	7.70
	8	27.70	3.96	33.55	4.68	38.31	5.37	40.96	5.67	44.45	6.25	49.86	7.04	54.72	7.85
	10	27.70	4.03	33.55	4.81	38.31	5.45	40.96	5.83	44.45	6.34	49.86	7.20	54.72	7.96
	12	27.70	4.12	33.55	4.86	38.31	5.56	40.96	5.96	44.45	6.45	49.86	7.32	54.72	8.09
	14	27.70	4.17	33.55	4.95	38.31	5.65	40.96	6.05	44.45	6.58	49.86	7.43	54.72	8.25
	20	27.70	4.34	33.55	5.22	38.31	5.94	40.96	6.39	44.45	6.96	49.86	7.86	54.72	8.75
	25	27.70	4.52	33.55	5.43	38.31	6.34	40.96	6.88	44.45	7.58	49.86	8.80	54.72	9.99
	27	27.70	4.71	33.55	5.78	38.31	6.74	40.96	7.34	44.45	8.10	49.86	9.40	54.72	10.66
	29	27.70	4.98	33.55	6.11	38.31	7.18	40.96	7.79	44.45	8.61	49.86	10.02	54.72	11.43
	31	27.70	5.28	33.55	6.48	38.31	7.61	40.96	8.31	44.45	9.17	49.86	10.64	54.72	12.14
	33	27.70	5.58	33.55	6.90	38.31	8.08	40.96	8.80	44.45	9.76	49.86	11.35	54.72	12.96
	35	27.70	5.90	33.55	7.32	38.31	8.57	40.96	9.35	44.45	10.35	49.86	12.08	54.72	13.75
	37	27.70	6.23	33.55	7.71	38.31	9.09	40.96	9.93	44.45	11.01	49.86	12.81	54.72	14.68
	39	27.70	6.60	33.55	8.17	38.31	9.62	40.96	10.50	44.45	11.67	49.86	13.63	54.72	15.56
	41	27.70	6.80	33.55	8.52	38.31	10.01	40.96	10.92	44.45	12.11	49.86	14.29	54.72	16.31
	43	27.70	7.02	33.55	8.87	38.31	10.35	40.96	11.24	44.45	12.52	49.86	14.86	54.72	16.98
	46	27.70	7.33	33.55	9.32	38.31	10.74	40.96	11.66	44.45	13.14	49.86	15.55	54.72	17.95
	48	27.70	7.60	33.55	9.74	38.31	11.12	40.96	11.96	44.45	13.66	49.86	16.09	54.72	18.86
	50	26.31	7.40	31.87	9.47	36.39	10.80	38.91	11.65	42.23	13.25	47.37	15.61	51.99	18.32
	52	24.73	7.09	29.96	9.08	34.21	10.40	36.57	11.18	39.70	12.71	44.53	15.03	48.87	17.59
	55	23.25	6.84	28.16	8.74	32.16	9.98	34.38	10.75	37.32	12.26	41.86	14.45	45.94	16.91

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 …

Table2-8.10:24HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	23.00	2.66	27.48	3.08	32.39	3.60	34.46	3.74	36.94	3.97	41.47	4.52	46.09	4.87
	-10	23.00	2.88	27.48	3.32	32.39	3.87	34.46	4.03	36.94	4.28	41.47	4.88	46.09	5.27
	-5	23.00	3.10	27.48	3.58	32.39	4.19	34.46	4.36	36.94	4.64	41.47	5.27	46.09	5.67
	-2	23.00	3.12	27.48	3.66	32.39	4.23	34.46	4.42	36.94	4.70	41.47	5.35	46.09	5.76
	0	23.00	3.18	27.48	3.72	32.39	4.30	34.46	4.48	36.94	4.78	41.47	5.42	46.09	5.86
	2	23.00	3.21	27.48	3.76	32.39	4.38	34.46	4.56	36.94	4.84	41.47	5.46	46.09	5.97
	4	23.00	3.25	27.48	3.82	32.39	4.44	34.46	4.60	36.94	4.93	41.47	5.57	46.09	6.12
	6	23.00	3.31	27.48	3.88	32.39	4.51	34.46	4.72	36.94	5.03	41.47	5.66	46.09	6.28
	8	23.00	3.39	27.48	3.97	32.39	4.57	34.46	4.82	36.94	5.10	41.47	5.76	46.09	6.49
	10	23.00	3.46	27.48	4.00	32.39	4.65	34.46	4.90	36.94	5.25	41.47	5.93	46.09	6.59
	12	23.00	3.48	27.48	4.05	32.39	4.72	34.46	4.98	36.94	5.35	41.47	6.04	46.09	6.69
	14	23.00	3.54	27.48	4.10	32.39	4.78	34.46	5.10	36.94	5.45	41.47	6.12	46.09	6.84
	20	23.00	3.70	27.48	4.28	32.39	5.02	34.46	5.33	36.94	5.73	41.47	6.45	46.09	7.21
	25	23.00	3.81	27.48	4.47	32.39	5.25	34.46	5.60	36.94	6.06	41.47	6.98	46.09	7.93
	27	23.00	3.89	27.48	4.64	32.39	5.54	34.46	5.96	36.94	6.44	41.47	7.41	46.09	8.46
	29	23.00	4.11	27.48	4.91	32.39	5.86	34.46	6.32	36.94	6.84	41.47	7.89	46.09	9.02
	31	23.00	4.34	27.48	5.19	32.39	6.23	34.46	6.70	36.94	7.29	41.47	8.39	46.09	9.59
	33	23.00	4.58	27.48	5.51	32.39	6.63	34.46	7.09	36.94	7.71	41.47	8.90	46.09	10.17
	35	23.00	4.86	27.48	5.82	32.39	6.98	34.46	7.50	36.94	8.18	41.47	9.48	46.09	10.83
	37	23.00	5.11	27.48	6.15	32.39	7.42	34.46	7.96	36.94	8.66	41.47	10.03	46.09	11.48
	39	23.00	5.39	27.48	6.48	32.39	7.84	34.46	8.45	36.94	9.17	41.47	10.64	46.09	12.19
	41	23.00	5.63	27.48	6.78	32.39	8.10	34.46	8.83	36.94	9.59	41.47	11.25	46.09	12.77
	43	23.00	5.99	27.48	7.23	32.39	8.41	34.46	9.23	36.94	9.84	41.47	11.77	46.09	13.36
	46	23.00	6.12	27.48	7.42	32.39	8.94	34.46	9.93	36.94	10.23	41.47	12.93	46.09	14.52
	48	23.00	6.25	27.48	7.60	32.39	9.47	34.46	10.60	36.94	10.74	41.47	13.92	46.09	15.59
	50	21.85	6.08	26.11	7.36	30.77	9.20	32.74	10.29	35.09	10.44	39.39	13.57	43.78	15.16
	52	20.54	5.84	24.54	7.08	28.92	8.82	30.78	9.87	32.99	10.03	37.03	13.00	41.16	14.57
	55	19.31	5.62	23.07	6.82	27.19	8.48	28.93	9.52	31.01	9.63	34.81	12.50	38.69	14.00

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

Table2-8.11:26HP 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	65.44	6.69	78.91	8.27	92.21	8.96	93.74	9.12	98.71	9.40	100.77	10.20	105.33	10.45
	-10	65.44	7.22	78.91	8.93	92.21	9.67	93.74	9.82	98.71	10.16	100.77	11.01	105.33	11.30
	-5	65.44	7.82	78.91	9.68	92.21	10.42	93.74	10.60	98.71	10.98	100.77	11.89	105.33	12.23
	-2	65.44	7.81	78.91	9.86	92.21	10.45	93.74	10.68	98.71	10.96	100.77	12.05	105.33	12.35
	0	65.44	7.94	78.91	9.99	92.21	10.82	93.74	11.27	98.71	11.60	100.77	12.17	105.33	12.48
	2	65.44	8.08	78.91	10.03	92.21	11.18	93.74	11.93	98.71	11.71	100.77	12.25	105.33	12.70
	4	65.44	8.26	78.91	10.23	92.21	11.57	93.74	11.94	98.71	11.90	100.77	12.49	105.33	12.95
	6	65.44	8.45	78.91	10.45	92.21	11.99	93.74	12.07	97.58	12.25	99.54	12.69	104.19	12.99
	8	65.44	8.63	78.91	10.70	92.21	12.62	93.74	12.65	96.36	12.64	98.42	12.72	102.84	13.15
	10	65.44	8.82	78.91	10.92	92.21	13.04	93.74	13.08	95.23	12.91	97.30	12.92	101.69	13.53
	12	65.44	8.98	78.91	11.12	92.21	13.31	92.41	13.29	94.11	13.12	95.97	13.09	100.34	13.60
	14	65.44	9.16	78.91	11.32	92.01	13.50	91.40	13.44	92.78	13.30	94.95	13.26	99.20	13.92
	20	65.44	9.67	78.91	12.52	88.16	14.61	87.63	14.36	89.09	14.50	91.18	14.60	95.45	15.08
	25	65.44	11.39	78.91	14.92	85.24	16.32	84.47	16.04	86.13	16.25	88.32	16.33	92.44	16.81
	27	65.44	12.16	78.91	15.93	84.10	17.03	83.45	16.72	84.80	16.89	86.90	16.99	91.09	17.58
	29	65.44	13.01	78.91	17.06	82.74	17.66	82.12	17.38	83.77	17.55	85.88	17.70	90.05	18.29
	31	65.44	13.90	78.60	18.03	81.39	18.42	81.00	18.08	82.44	18.22	84.55	18.39	88.59	19.01
	33	65.44	14.77	77.26	18.71	80.35	19.05	79.68	18.78	81.32	18.93	83.53	19.09	87.24	19.70
	35	65.44	15.75	75.91	19.37	79.00	19.79	78.66	19.45	79.99	19.70	82.20	19.81	86.20	20.39
	37	65.44	16.72	74.88	20.09	77.85	20.50	77.33	20.22	78.97	20.34	80.88	20.51	84.85	21.23
	39	65.44	17.85	73.54	20.30	76.50	21.18	76.21	20.82	77.64	21.08	79.76	21.27	83.81	21.89
	41	65.44	18.78	72.71	20.50	75.67	21.37	75.50	21.10	76.82	21.25	78.94	21.25	80.58	22.08
	43	65.44	19.27	72.20	20.61	75.35	21.49	75.09	21.19	76.00	21.28	77.51	21.33	79.54	22.20
	46	65.44	20.23	71.78	20.84	74.52	21.66	74.28	21.25	74.88	21.42	75.47	21.36	77.99	22.58
	48	65.44	20.86	71.58	21.47	73.27	21.81	73.06	21.43	73.95	21.64	73.43	21.73	76.22	22.72
	50	62.17	20.26	68.00	20.86	69.61	21.20	69.40	20.90	70.26	20.96	69.76	21.11	72.41	22.07
	52	58.44	19.53	63.92	20.09	65.43	20.40	65.24	20.01	66.04	20.23	65.58	20.31	68.06	21.21
	55	54.93	18.72	60.08	19.27	61.51	19.59	61.32	19.25	62.08	19.44	61.64	19.58	63.98	20.33
120%	-15	61.08	6.54	72.64	7.94	83.61	9.29	91.00	10.31	95.73	10.77	97.54	11.10	98.09	11.21
	-10	61.08	7.08	72.64	8.54	83.61	10.02	91.00	11.13	95.73	11.64	97.54	11.96	98.09	12.09
	-5	61.08	7.64	72.64	9.26	83.61	10.84	91.00	12.03	95.73	12.59	97.54	12.94	98.09	13.07
	-2	61.08	7.69	72.64	9.36	83.61	10.95	91.00	12.09	95.73	12.73	97.54	13.01	98.09	13.07
	0	61.08	7.80	72.64	9.41	83.61	11.02	91.00	12.10	95.73	12.84	97.54	13.12	98.09	13.15
	2	61.08	7.80	72.64	9.52	83.61	11.15	91.00	12.24	95.73	12.85	97.54	13.20	98.09	13.12
	4	61.08	7.87	72.64	9.61	83.61	11.31	91.00	12.33	95.73	13.02	97.54	13.20	98.09	13.17
	6	61.08	7.95	72.64	9.71	83.61	11.43	91.00	12.45	95.73	13.16	97.54	13.33	98.09	13.22
	8	61.08	8.05	72.64	9.78	83.61	11.59	91.00	12.62	95.73	13.31	97.54	13.37	98.09	13.26
	10	61.08	8.12	72.64	9.93	83.61	11.68	91.00	12.85	95.73	13.33	97.54	13.39	98.09	13.35
	12	61.08	8.28	72.64	10.11	83.61	11.92	91.00	13.08	94.37	13.37	96.09	13.35	96.76	13.42
	14	61.08	8.45	72.64	10.33	83.61	12.13	91.00	13.34	93.02	13.46	95.05	13.54	95.74	13.60
	20	61.08	8.95	72.64	11.16	83.61	13.74	87.99	14.57	89.47	14.68	91.31	14.79	91.96	14.64
	25	61.08	10.28	72.64	13.22	82.28	15.96	84.77	16.26	86.13	16.38	88.30	16.50	89.09	16.39
	27	61.08	11.02	72.64	14.13	81.16	16.56	83.73	16.98	85.09	17.12	86.95	17.18	87.76	17.07
	29	61.08	11.73	72.64	15.10	79.83	17.26	82.38	17.66	83.74	17.82	85.60	17.94	86.64	17.76
	31	61.08	12.48	72.64	16.10	78.51	17.92	81.23	18.34	82.69	18.53	84.45	18.61	85.31	18.50
	33	61.08	13.30	72.64	17.20	77.49	18.65	79.88	19.03	81.23	19.23	83.10	19.30	83.98	19.26
	35	61.08	14.14	72.64	18.38	76.16	19.28	78.53	19.75	80.19	19.94	82.07	20.06	82.96	19.90
	37	61.08	15.06	72.64	19.54	75.04	19.98	77.49	20.40	78.83	20.58	80.72	20.75	81.63	20.64
	39	61.08	16.05	72.33	20.60	73.71	20.67	76.14	21.18	77.48	21.34	79.57	21.47	80.50	21.38
	41	61.08	16.49	71.82	20.83	73.20	20.77	75.52	21.33	76.85	21.44	79.05	21.50	78.25	21.50
	43	61.08	16.70	71.40	20.89	72.59	20.94	74.90	21.42	76.33	21.60	77.70	21.63	77.02	21.91
	46	61.08	16.91	70.99	21.09	71.87	21.13	74.17	21.61	75.60	21.73	76.04	21.67	76.20	22.47
	48	61.08	17.03	70.37	21.36	70.95	21.34	72.92	21.68	74.77	21.93	74.90	21.92	75.18	22.66
	50	58.03	16.59	66.85	20.77	67.40	20.65	69.28	21.06	71.03	21.34	71.15	21.27	71.42	22.05
	52	54.55	15.90	62.84	19.92	63.36	19.92	65.12	20.26	66.77	20.45	66.88	20.42	67.14	21.24
	55	51.28	15.31	59.07	19.13	59.56	19.07	61.21	19.46	62.76	19.64	62.87	19.61	63.11	20.41

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

Table continued on next page …

Table2-8.11:26HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	56.41	5.76	66.76	7.10	76.82	8.43	82.94	9.14	89.07	9.91	95.75	10.28	98.13	10.63
	-10	56.41	6.23	66.76	7.69	76.82	9.08	82.94	9.84	89.07	10.70	95.75	11.08	98.13	11.45
	-5	56.41	6.71	66.76	8.31	76.82	9.79	82.94	10.66	89.07	11.55	95.75	11.98	98.13	12.36
	-2	56.41	6.84	66.76	8.40	76.82	9.87	82.94	10.75	89.07	11.64	95.75	12.12	98.13	12.43
	0	56.41	6.93	66.76	8.46	76.82	10.00	82.94	10.80	89.07	11.77	95.75	12.19	98.13	12.61
	2	56.41	7.08	66.76	8.53	76.82	10.12	82.94	10.95	89.07	11.90	95.75	12.40	98.13	12.77
	4	56.41	7.20	66.76	8.63	76.82	10.22	82.94	11.09	89.07	12.09	95.75	12.57	98.13	12.85
	6	56.41	7.28	66.76	8.72	76.82	10.34	82.94	11.23	89.07	12.21	95.75	12.73	98.13	13.09
	8	56.41	7.35	66.76	8.85	76.82	10.44	82.94	11.38	89.07	12.34	95.75	12.77	98.13	13.18
	10	56.41	7.44	66.76	8.98	76.82	10.60	82.94	11.58	89.07	12.55	95.75	12.89	98.13	13.29
	12	56.41	7.60	66.76	9.16	76.82	10.78	82.94	11.78	89.07	12.80	94.71	13.04	96.77	13.51
	14	56.41	7.72	66.76	9.35	76.82	10.98	82.94	12.01	89.07	13.05	93.36	13.17	95.73	13.57
	20	56.41	8.19	66.76	9.91	76.82	12.10	82.94	13.48	87.72	14.57	89.82	14.70	91.87	14.86
	25	56.41	9.25	66.76	11.69	76.82	14.37	82.94	16.11	84.70	16.29	86.59	16.47	88.95	16.58
	27	56.41	9.85	66.76	12.48	76.82	15.38	81.59	16.80	83.34	16.99	85.45	17.11	87.59	17.27
	29	56.41	10.50	66.76	13.31	76.82	16.43	80.56	17.45	82.30	17.67	84.10	17.84	86.45	18.03
	31	56.41	11.16	66.76	14.19	76.82	17.56	79.22	18.11	80.95	18.35	83.06	18.54	85.09	18.69
	33	56.41	11.86	66.76	15.14	76.31	18.52	78.08	18.81	79.91	19.05	81.70	19.23	84.05	19.40
	35	56.41	12.62	66.76	16.15	74.98	19.19	76.74	19.44	78.45	19.73	80.35	19.94	82.69	20.17
	37	56.41	13.46	66.76	17.19	73.85	19.89	75.71	20.16	77.09	20.43	79.20	20.59	81.34	20.90
	39	56.41	14.32	66.76	18.26	72.52	20.60	74.36	20.87	76.05	21.20	77.85	21.30	80.19	21.62
	41	56.41	14.46	66.76	18.42	72.01	20.68	73.74	21.03	75.43	21.29	76.91	21.49	77.79	21.71
	43	56.41	14.62	66.76	18.70	71.40	20.85	73.12	21.20	74.90	21.43	76.19	21.61	76.64	22.14
	46	56.41	15.03	66.76	18.80	70.68	21.09	72.40	21.38	74.28	21.60	75.46	22.18	75.91	22.68
	48	56.41	15.55	66.76	20.37	69.66	21.12	71.27	21.48	73.34	21.88	74.21	22.19	74.87	22.88
	50	53.59	15.15	63.42	19.77	66.18	20.55	67.70	20.94	69.67	21.17	70.50	21.56	71.13	22.26
	52	50.38	14.56	59.62	19.00	62.21	19.77	63.64	20.11	65.49	20.41	66.27	20.70	66.86	21.36
	55	47.35	13.95	56.04	18.28	58.47	19.00	59.82	19.29	61.56	19.60	62.29	19.89	62.85	20.57
100%	-15	49.59	5.07	59.87	6.18	68.78	7.30	73.00	7.82	78.32	8.47	87.99	9.67	93.95	10.18
	-10	49.59	5.47	59.87	6.69	68.78	7.85	73.00	8.45	78.32	9.14	87.99	10.41	93.95	11.00
	-5	49.59	5.91	59.87	7.21	68.78	8.49	73.00	9.13	78.32	9.85	87.99	11.28	93.95	11.86
	-2	49.59	6.00	59.87	7.31	68.78	8.60	73.00	9.30	78.32	10.00	87.99	11.37	93.95	11.92
	0	49.59	6.04	59.87	7.40	68.78	8.67	73.00	9.42	78.32	10.12	87.99	11.55	93.95	12.10
	2	49.59	6.17	59.87	7.48	68.78	8.77	73.00	9.54	78.32	10.23	87.99	11.72	93.95	12.26
	4	49.59	6.22	59.87	7.58	68.78	8.91	73.00	9.67	78.32	10.34	87.99	11.87	93.95	12.41
	6	49.59	6.30	59.87	7.72	68.78	9.00	73.00	9.86	78.32	10.51	87.99	12.04	93.95	12.61
	8	49.59	6.43	59.87	7.84	68.78	9.20	73.00	9.97	78.32	10.67	87.99	12.23	93.95	12.79
	10	49.59	6.51	59.87	7.97	68.78	9.34	73.00	10.13	78.32	10.86	87.99	12.43	93.95	13.00
	12	49.59	6.59	59.87	8.13	68.78	9.52	73.00	10.31	78.32	11.08	87.99	12.64	92.63	13.10
	14	49.59	6.72	59.87	8.28	68.78	9.66	73.00	10.52	78.32	11.26	87.99	12.91	91.51	13.23
	20	49.59	7.10	59.87	8.78	68.78	10.39	73.00	11.47	78.32	12.60	85.17	14.11	87.85	14.37
	25	49.59	7.83	59.87	10.09	68.78	12.35	73.00	13.66	78.32	14.95	82.25	15.79	84.89	16.04
	27	49.59	8.37	59.87	10.74	68.78	13.14	73.00	14.60	78.32	15.98	80.94	16.46	83.57	16.75
	29	49.59	8.91	59.87	11.49	68.78	14.03	73.00	15.61	78.02	17.01	79.93	17.16	82.55	17.46
	31	49.59	9.50	59.87	12.24	68.78	14.97	73.00	16.62	77.01	17.65	78.62	17.81	81.23	18.12
	33	49.59	10.09	59.87	13.08	68.78	16.01	73.00	17.78	75.70	18.26	77.51	18.45	80.11	18.80
	35	49.59	10.74	59.87	13.89	68.78	17.09	73.00	18.92	74.39	18.93	76.20	19.12	78.79	19.48
	37	49.59	11.41	59.87	14.80	68.78	18.19	71.70	19.62	73.28	19.64	75.19	19.84	77.46	20.17
	39	49.59	12.11	59.87	15.69	68.78	19.33	70.60	20.25	71.97	20.35	73.88	20.52	76.45	20.87
	41	49.59	12.69	59.87	16.30	68.78	20.05	69.60	20.43	71.46	20.60	72.57	20.99	75.33	21.37
	43	49.59	13.27	59.87	16.86	68.78	20.46	68.50	20.66	70.96	20.79	72.98	21.15	74.00	21.56
	46	49.59	14.01	59.87	17.65	68.78	20.78	67.00	20.95	70.56	21.24	72.37	21.39	72.48	21.90
	48	49.59	14.59	59.87	18.24	68.78	20.82	64.20	21.19	70.46	21.60	67.94	21.70	70.95	22.03
	50	47.11	14.23	56.87	17.72	65.34	20.25	60.99	20.56	66.93	21.00	64.54	21.01	67.40	21.38
	52	44.29	13.62	53.46	17.01	61.42	19.40	57.33	19.74	62.92	20.18	60.67	20.22	63.36	20.55
	55	41.63	13.09	50.25	16.38	57.73	18.63	53.89	18.98	59.14	19.38	57.03	19.47	59.56	19.83

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

Table continued on next page …

Table2-8.11:26HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	45.62	4.58	54.01	5.47	63.89	6.57	67.79	7.11	72.61	7.60	79.98	8.60	90.65	10.05
	-10	45.62	4.95	54.01	5.90	63.89	7.09	67.79	7.66	72.61	8.24	79.98	9.27	90.65	10.86
	-5	45.62	5.35	54.01	6.36	63.89	7.64	67.79	8.27	72.61	8.87	79.98	10.00	90.65	11.71
	-2	45.62	5.41	54.01	6.46	63.89	7.73	67.79	8.39	72.61	8.99	79.98	10.12	90.65	11.83
	0	45.62	5.48	54.01	6.50	63.89	7.86	67.79	8.52	72.61	9.12	79.98	10.21	90.65	11.93
	2	45.62	5.57	54.01	6.59	63.89	7.96	67.79	8.63	72.61	9.25	79.98	10.44	90.65	12.11
	4	45.62	5.65	54.01	6.71	63.89	8.08	67.79	8.75	72.61	9.37	79.98	10.59	90.65	12.30
	6	45.62	5.73	54.01	6.84	63.89	8.23	67.79	8.93	72.61	9.55	79.98	10.76	90.65	12.46
	8	45.62	5.83	54.01	6.95	63.89	8.42	67.79	9.04	72.61	9.68	79.98	10.98	90.65	12.59
	10	45.62	5.96	54.01	7.10	63.89	8.54	67.79	9.18	72.61	9.93	79.98	11.13	90.65	12.83
	12	45.62	6.07	54.01	7.22	63.89	8.73	67.79	9.32	72.61	10.12	79.98	11.33	90.65	13.01
	14	45.62	6.17	54.01	7.39	63.89	8.87	67.79	9.52	72.61	10.29	79.98	11.55	90.65	13.30
	20	45.62	6.51	54.01	7.83	63.89	9.40	67.79	10.10	72.61	11.07	79.98	12.90	87.95	14.60
	25	45.62	7.05	54.01	8.75	63.89	10.92	67.79	11.95	72.61	13.17	79.98	15.32	84.93	16.29
	27	45.62	7.50	54.01	9.33	63.89	11.67	67.79	12.77	72.61	14.11	79.98	16.43	83.58	16.94
	29	45.62	7.99	54.01	9.96	63.89	12.44	67.79	13.61	72.61	15.05	79.17	17.16	82.54	17.65
	31	45.62	8.47	54.01	10.62	63.89	13.30	67.79	14.53	72.61	16.06	77.84	17.86	81.18	18.36
	33	45.62	9.00	54.01	11.28	63.89	14.15	67.79	15.53	72.61	17.13	76.72	18.49	80.04	19.06
	35	45.62	9.58	54.01	11.96	63.89	15.11	67.79	16.49	72.61	18.26	75.40	19.23	78.68	19.80
	37	45.62	10.12	54.01	12.73	63.89	16.09	67.79	17.59	72.61	19.45	74.07	19.88	77.64	20.47
	39	45.62	10.79	54.01	13.55	63.89	17.07	67.79	18.73	72.61	20.70	73.06	20.56	76.29	21.11
	41	45.62	11.13	54.01	14.20	63.89	17.71	67.79	19.19	72.61	20.87	72.55	21.10	75.77	21.62
	43	45.62	11.66	54.01	14.80	63.89	18.36	67.79	19.72	72.61	21.31	72.14	21.38	75.04	21.95
	46	45.62	12.43	54.01	15.55	63.89	19.04	67.79	20.39	72.61	21.85	71.73	21.57	73.90	22.33
	48	45.62	13.10	54.01	16.22	63.89	19.77	67.79	20.69	72.61	22.12	71.12	21.87	71.92	22.57
	50	43.34	12.70	51.31	15.79	60.69	19.26	64.40	20.06	68.98	21.46	67.56	21.29	68.32	21.90
	52	40.74	12.21	48.23	15.13	57.05	18.48	60.54	19.31	64.84	20.65	63.51	20.38	64.22	21.05
	55	38.30	11.77	45.33	14.60	53.63	17.74	56.91	18.55	60.95	19.83	59.70	19.63	60.37	20.25
80%	-15	40.22	4.02	48.72	4.83	55.53	5.61	60.90	6.09	63.54	6.43	72.20	7.52	79.63	8.56
	-10	40.22	4.33	48.72	5.23	55.53	6.06	60.90	6.58	63.54	6.96	72.20	8.12	79.63	9.23
	-5	40.22	4.69	48.72	5.65	55.53	6.55	60.90	7.11	63.54	7.50	72.20	8.79	79.63	9.99
	-2	40.22	4.75	48.72	5.71	55.53	6.58	60.90	7.23	63.54	7.58	72.20	8.84	79.63	10.06
	0	40.22	4.83	48.72	5.78	55.53	6.67	60.90	7.31	63.54	7.71	72.20	9.00	79.63	10.20
	2	40.22	4.92	48.72	5.85	55.53	6.79	60.90	7.45	63.54	7.83	72.20	9.19	79.63	10.42
	4	40.22	5.01	48.72	5.96	55.53	6.90	60.90	7.61	63.54	7.96	72.20	9.33	79.63	10.54
	6	40.22	5.09	48.72	6.09	55.53	7.00	60.90	7.77	63.54	8.12	72.20	9.45	79.63	10.74
	8	40.22	5.18	48.72	6.24	55.53	7.16	60.90	7.91	63.54	8.29	72.20	9.62	79.63	10.94
	10	40.22	5.23	48.72	6.37	55.53	7.37	60.90	8.11	63.54	8.49	72.20	9.85	79.63	11.06
	12	40.22	5.30	48.72	6.49	55.53	7.50	60.90	8.27	63.54	8.68	72.20	10.02	79.63	11.23
	14	40.22	5.41	48.72	6.62	55.53	7.62	60.90	8.41	63.54	8.85	72.20	10.18	79.63	11.47
	20	40.22	5.71	48.72	6.98	55.53	8.06	60.90	8.90	63.54	9.33	72.20	11.02	79.63	12.75
	25	40.22	6.03	48.72	7.64	55.53	9.12	60.90	10.25	63.54	10.91	72.20	13.08	79.63	15.12
	27	40.22	6.40	48.72	8.13	55.53	9.75	60.90	10.95	63.54	11.65	72.20	13.97	79.63	16.22
	29	40.22	6.83	48.72	8.66	55.53	10.38	60.90	11.65	63.54	12.46	72.20	14.90	79.63	17.35
	31	40.22	7.22	48.72	9.22	55.53	11.01	60.90	12.40	63.54	13.27	72.20	15.92	78.30	17.99
	33	40.22	7.70	48.72	9.81	55.53	11.78	60.90	13.22	63.54	14.16	72.20	16.94	77.27	18.71
	35	40.22	8.17	48.72	10.42	55.53	12.53	60.90	14.05	63.54	15.08	72.20	18.06	75.93	19.33
	37	40.22	8.65	48.72	11.07	55.53	13.29	60.90	14.96	63.54	16.03	72.20	19.26	74.80	19.99
	39	40.22	9.20	48.72	11.80	55.53	14.13	60.90	15.90	63.54	17.08	72.20	20.51	73.46	20.76
	41	40.22	9.39	48.72	11.88	55.53	14.34	60.90	16.32	63.54	17.40	72.20	21.01	73.05	21.12
	43	40.22	9.65	48.72	11.99	55.53	14.53	60.90	16.62	63.54	17.64	72.20	21.28	72.64	21.33
	46	40.22	9.93	48.72	12.15	55.53	14.83	60.90	16.99	63.54	17.91	72.20	21.57	71.71	21.70
	48	40.22	10.25	48.72	12.18	55.53	15.04	60.90	17.25	63.54	18.10	72.20	21.78	71.09	22.00
	50	38.21	9.97	46.28	11.83	52.75	14.67	57.85	16.72	60.36	17.55	68.59	21.15	67.54	21.37
	52	35.92	9.60	43.51	11.40	49.59	14.07	54.38	16.06	56.74	16.88	64.47	20.31	63.49	20.50
	55	33.76	9.20	40.90	10.95	46.61	13.50	51.12	15.48	53.34	16.21	60.60	19.52	59.68	19.72

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 …

Table2-8.11:26HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	35.46	3.62	42.55	4.24	48.60	4.75	52.63	5.15	56.83	5.56	62.34	6.25	69.89	7.24
	-10	35.46	3.89	42.55	4.60	48.60	5.14	52.63	5.57	56.83	6.02	62.34	6.75	69.89	7.83
	-5	35.46	4.21	42.55	4.96	48.60	5.54	52.63	6.01	56.83	6.49	62.34	7.29	69.89	8.43
	-2	35.46	4.26	42.55	4.99	48.60	5.58	52.63	6.12	56.83	6.61	62.34	7.39	69.89	8.55
	0	35.46	4.27	42.55	5.06	48.60	5.68	52.63	6.22	56.83	6.72	62.34	7.55	69.89	8.67
	2	35.46	4.29	42.55	5.07	48.60	5.77	52.63	6.35	56.83	6.83	62.34	7.70	69.89	8.82
	4	35.46	4.34	42.55	5.21	48.60	5.92	52.63	6.46	56.83	6.99	62.34	7.84	69.89	9.00
	6	35.46	4.42	42.55	5.28	48.60	6.05	52.63	6.66	56.83	7.16	62.34	7.96	69.89	9.20
	8	35.46	4.52	42.55	5.45	48.60	6.19	52.63	6.77	56.83	7.30	62.34	8.19	69.89	9.34
	10	35.46	4.60	42.55	5.52	48.60	6.37	52.63	6.92	56.83	7.52	62.34	8.35	69.89	9.49
	12	35.46	4.71	42.55	5.61	48.60	6.50	52.63	7.04	56.83	7.65	62.34	8.53	69.89	9.65
	14	35.46	4.79	42.55	5.71	48.60	6.60	52.63	7.14	56.83	7.78	62.34	8.65	69.89	9.82
	20	35.46	5.03	42.55	6.03	48.60	6.98	52.63	7.56	56.83	8.20	62.34	9.21	69.89	10.52
	25	35.46	5.25	42.55	6.44	48.60	7.64	52.63	8.45	56.83	9.28	62.34	10.69	69.89	12.44
	27	35.46	5.57	42.55	6.85	48.60	8.17	52.63	9.00	56.83	9.95	62.34	11.42	69.89	13.34
	29	35.46	5.91	42.55	7.28	48.60	8.65	52.63	9.61	56.83	10.55	62.34	12.16	69.89	14.24
	31	35.46	6.25	42.55	7.73	48.60	9.23	52.63	10.18	56.83	11.24	62.34	12.98	69.89	15.15
	33	35.46	6.65	42.55	8.21	48.60	9.82	52.63	10.85	56.83	11.96	62.34	13.78	69.89	16.19
	35	35.46	7.04	42.55	8.70	48.60	10.40	52.63	11.57	56.83	12.77	62.34	14.71	69.89	17.24
	37	35.46	7.41	42.55	9.22	48.60	11.09	52.63	12.24	56.83	13.59	62.34	15.70	69.89	18.40
	39	35.46	7.86	42.55	9.79	48.60	11.74	52.63	13.03	56.83	14.39	62.34	16.61	69.89	19.61
	41	35.46	8.21	42.55	10.14	48.60	12.10	52.63	13.47	56.83	14.82	62.34	17.33	69.89	20.48
	43	35.46	8.90	42.55	10.84	48.60	12.57	52.63	14.18	56.83	15.27	62.34	17.93	69.89	21.08
	46	35.46	9.08	42.55	11.07	48.60	12.83	52.63	14.43	56.83	16.04	62.34	18.95	69.89	21.88
	48	35.46	9.23	42.55	11.12	48.60	13.05	52.63	14.68	56.83	16.50	62.34	19.82	69.89	22.44
	50	33.69	8.99	40.43	10.78	46.17	12.66	49.99	14.21	53.99	16.01	59.22	19.26	66.40	21.82
	52	31.67	8.62	38.00	10.38	43.40	12.17	46.99	13.66	50.75	15.38	55.67	18.54	62.41	20.89
	55	29.77	8.30	35.72	9.97	40.80	11.71	44.17	13.17	47.71	14.81	52.33	17.77	58.67	20.08
60%	-15	30.47	3.09	36.67	3.63	42.16	4.17	44.63	4.40	48.51	4.84	53.49	5.32	59.95	6.20
	-10	30.47	3.33	36.67	3.91	42.16	4.51	44.63	4.73	48.51	5.22	53.49	5.77	59.95	6.69
	-5	30.47	3.60	36.67	4.22	42.16	4.86	44.63	5.13	48.51	5.65	53.49	6.21	59.95	7.20
	-2	30.47	3.62	36.67	4.28	42.16	4.96	44.63	5.20	48.51	5.70	53.49	6.31	59.95	7.25
	0	30.47	3.69	36.67	4.33	42.16	5.01	44.63	5.25	48.51	5.80	53.49	6.42	59.95	7.35
	2	30.47	3.75	36.67	4.43	42.16	5.11	44.63	5.36	48.51	5.87	53.49	6.53	59.95	7.43
	4	30.47	3.84	36.67	4.53	42.16	5.22	44.63	5.43	48.51	5.97	53.49	6.64	59.95	7.55
	6	30.47	3.89	36.67	4.60	42.16	5.32	44.63	5.55	48.51	6.08	53.49	6.77	59.95	7.74
	8	30.47	3.96	36.67	4.70	42.16	5.40	44.63	5.66	48.51	6.20	53.49	6.89	59.95	7.85
	10	30.47	4.05	36.67	4.79	42.16	5.49	44.63	5.80	48.51	6.34	53.49	7.02	59.95	7.98
	12	30.47	4.11	36.67	4.87	42.16	5.60	44.63	5.92	48.51	6.43	53.49	7.18	59.95	8.11
	14	30.47	4.18	36.67	4.95	42.16	5.69	44.63	6.03	48.51	6.56	53.49	7.29	59.95	8.28
	20	30.47	4.36	36.67	5.22	42.16	5.99	44.63	6.36	48.51	6.92	53.49	7.72	59.95	8.76
	25	30.47	4.54	36.67	5.41	42.16	6.37	44.63	6.85	48.51	7.55	53.49	8.61	59.95	10.04
	27	30.47	4.71	36.67	5.76	42.16	6.78	44.63	7.29	48.51	8.04	53.49	9.18	59.95	10.68
	29	30.47	4.99	36.67	6.10	42.16	7.24	44.63	7.79	48.51	8.59	53.49	9.84	59.95	11.45
	31	30.47	5.29	36.67	6.47	42.16	7.69	44.63	8.26	48.51	9.15	53.49	10.46	59.95	12.15
	33	30.47	5.57	36.67	6.85	42.16	8.14	44.63	8.78	48.51	9.70	53.49	11.11	59.95	12.99
	35	30.47	5.93	36.67	7.30	42.16	8.62	44.63	9.31	48.51	10.29	53.49	11.86	59.95	13.78
	37	30.47	6.25	36.67	7.70	42.16	9.18	44.63	9.89	48.51	10.92	53.49	12.59	59.95	14.68
	39	30.47	6.62	36.67	8.16	42.16	9.70	44.63	10.45	48.51	11.62	53.49	13.37	59.95	15.60
	41	30.47	6.82	36.67	8.49	42.16	10.08	44.63	10.87	48.51	12.05	53.49	13.96	59.95	16.32
	43	30.47	7.03	36.67	8.87	42.16	10.41	44.63	11.19	48.51	12.48	53.49	14.60	59.95	17.08
	46	30.47	7.36	36.67	9.33	42.16	10.83	44.63	11.64	48.51	13.07	53.49	15.21	59.95	18.03
	48	30.47	7.64	36.67	9.70	42.16	11.21	44.63	11.94	48.51	13.59	53.49	15.74	59.95	18.84
	50	28.95	7.40	34.84	9.44	40.05	10.88	42.40	11.56	46.09	13.20	50.82	15.29	56.95	18.36
	52	27.21	7.14	32.75	9.09	37.65	10.45	39.85	11.13	43.32	12.70	47.77	14.75	53.54	17.63
	55	25.58	6.84	30.78	8.72	35.39	10.04	37.46	10.69	40.72	12.19	44.90	14.18	50.32	16.93

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

Table continued on next page …

Table2-8.11:26HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	25.55	2.69	30.64	3.13	34.98	3.52	37.55	3.71	40.31	3.96	44.37	4.44	50.58	4.88
	-10	25.55	2.91	30.64	3.37	34.98	3.82	37.55	4.01	40.31	4.27	44.37	4.78	50.58	5.27
	-5	25.55	3.15	30.64	3.65	34.98	4.12	37.55	4.33	40.31	4.61	44.37	5.17	50.58	5.67
	-2	25.55	3.17	30.64	3.72	34.98	4.17	37.55	4.40	40.31	4.70	44.37	5.22	50.58	5.77
	0	25.55	3.22	30.64	3.79	34.98	4.24	37.55	4.46	40.31	4.76	44.37	5.32	50.58	5.87
	2	25.55	3.27	30.64	3.82	34.98	4.31	37.55	4.54	40.31	4.84	44.37	5.33	50.58	5.98
	4	25.55	3.30	30.64	3.90	34.98	4.36	37.55	4.58	40.31	4.95	44.37	5.47	50.58	6.13
	6	25.55	3.36	30.64	3.94	34.98	4.44	37.55	4.68	40.31	5.03	44.37	5.55	50.58	6.31
	8	25.55	3.44	30.64	4.03	34.98	4.50	37.55	4.78	40.31	5.11	44.37	5.64	50.58	6.53
	10	25.55	3.50	30.64	4.07	34.98	4.57	37.55	4.86	40.31	5.24	44.37	5.79	50.58	6.61
	12	25.55	3.54	30.64	4.12	34.98	4.65	37.55	4.97	40.31	5.35	44.37	5.89	50.58	6.71
	14	25.55	3.60	30.64	4.18	34.98	4.70	37.55	5.05	40.31	5.44	44.37	6.01	50.58	6.84
	20	25.55	3.76	30.64	4.36	34.98	4.93	37.55	5.31	40.31	5.72	44.37	6.31	50.58	7.22
	25	25.55	3.89	30.64	4.54	34.98	5.17	37.55	5.55	40.31	6.08	44.37	6.81	50.58	7.95
	27	25.55	3.96	30.64	4.73	34.98	5.44	37.55	5.93	40.31	6.41	44.37	7.24	50.58	8.49
	29	25.55	4.18	30.64	4.98	34.98	5.80	37.55	6.30	40.31	6.86	44.37	7.72	50.58	9.01
	31	25.55	4.41	30.64	5.26	34.98	6.11	37.55	6.68	40.31	7.27	44.37	8.20	50.58	9.59
	33	25.55	4.67	30.64	5.58	34.98	6.52	37.55	7.05	40.31	7.71	44.37	8.75	50.58	10.20
	35	25.55	4.94	30.64	5.89	34.98	6.87	37.55	7.47	40.31	8.16	44.37	9.27	50.58	10.86
	37	25.55	5.20	30.64	6.25	34.98	7.27	37.55	7.91	40.31	8.67	44.37	9.84	50.58	11.54
	39	25.55	5.49	30.64	6.59	34.98	7.68	37.55	8.41	40.31	9.20	44.37	10.43	50.58	12.22
	41	25.55	5.70	30.64	6.87	34.98	7.99	37.55	8.76	40.31	9.57	44.37	10.98	50.58	12.81
	43	25.55	6.08	30.64	7.34	34.98	8.26	37.55	9.16	40.31	9.82	44.37	11.54	50.58	13.38
	46	25.55	6.23	30.64	7.53	34.98	8.80	37.55	9.89	40.31	10.24	44.37	12.67	50.58	14.55
	48	25.55	6.33	30.64	7.70	34.98	9.29	37.55	10.55	40.31	10.72	44.37	13.64	50.58	15.64
	50	24.28	6.16	29.11	7.50	33.23	9.04	35.68	10.26	38.29	10.44	42.15	13.25	48.05	15.15
	52	22.82	5.92	27.37	7.20	31.24	8.67	33.54	9.84	35.99	10.03	39.62	12.74	45.16	14.59
	55	21.45	5.69	25.72	6.91	29.37	8.35	31.52	9.45	33.83	9.63	37.24	12.22	42.45	14.03

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

Table2-8.12:28HP 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	71.89	7.87	84.72	9.53	99.10	10.26	101.17	10.49	105.97	10.81	110.96	12.00	111.39	11.84
	-10	71.89	8.52	84.72	10.26	99.10	11.11	101.17	11.35	105.97	11.65	110.96	12.99	111.39	12.80
	-5	71.89	9.17	84.72	11.11	99.10	12.01	101.17	12.27	105.97	12.62	110.96	14.03	111.39	13.83
	-2	71.89	9.19	84.72	11.32	99.10	12.01	101.17	12.36	105.97	12.59	110.96	14.18	111.39	13.96
	0	71.89	9.33	84.72	11.50	99.10	12.46	101.17	12.98	105.97	13.32	110.96	14.37	111.39	14.10
	2	71.89	9.50	84.72	11.54	99.10	12.88	101.17	13.73	105.97	13.46	110.96	14.43	111.39	14.34
	4	71.89	9.74	84.72	11.78	99.10	13.33	101.17	13.81	105.97	13.64	110.96	14.71	111.39	14.59
	6	71.89	9.90	84.72	11.98	99.10	13.78	101.17	13.93	104.85	14.09	109.50	14.89	110.17	14.74
	8	71.89	10.14	84.72	12.28	99.10	14.51	101.17	14.56	103.52	14.58	108.35	14.97	108.84	14.88
	10	71.89	10.38	84.72	12.52	99.10	14.99	101.17	15.11	102.29	14.81	107.10	15.22	107.51	15.28
	12	71.89	10.54	84.72	12.74	99.10	15.32	99.74	15.31	101.17	15.05	105.64	15.45	106.08	15.38
	14	71.89	10.76	84.72	12.99	98.78	15.56	98.51	15.50	99.74	15.29	104.49	15.64	104.95	15.74
	20	71.89	11.39	84.72	14.41	94.73	16.84	94.53	16.63	95.65	16.68	100.42	17.21	100.96	17.03
	25	71.89	13.37	84.72	17.15	91.51	18.80	91.05	18.50	92.59	18.68	97.18	19.25	97.79	19.05
	27	71.89	14.28	84.72	18.37	90.36	19.58	89.93	19.32	91.05	19.40	95.72	20.03	96.36	19.87
	29	71.89	15.26	84.72	19.59	88.91	20.33	88.50	20.06	89.93	20.24	94.57	20.87	95.23	20.61
	31	71.89	16.27	84.51	20.77	87.45	21.15	87.37	20.94	88.50	20.99	93.00	21.71	93.80	21.51
	33	71.89	17.38	83.07	21.51	86.31	21.96	85.94	21.65	87.37	21.81	91.86	22.51	92.37	22.31
	35	71.89	18.53	81.62	22.29	84.85	22.73	84.82	22.47	85.94	22.61	90.40	23.38	91.14	23.15
	37	71.89	19.64	80.38	23.12	83.71	23.59	83.39	23.32	84.82	23.48	88.93	24.16	89.71	23.98
	39	71.89	20.99	78.94	23.40	82.25	24.31	82.26	24.08	83.39	24.27	87.79	25.03	88.58	24.76
	41	71.89	22.10	78.11	23.54	81.32	24.54	81.34	24.25	82.57	24.45	86.95	25.12	85.21	25.04
	43	71.89	22.57	77.60	23.70	80.90	24.65	80.94	24.41	81.65	24.44	85.38	25.14	84.19	25.14
	46	71.89	23.73	77.08	23.93	80.07	24.86	80.12	24.57	80.53	24.62	82.98	25.21	82.55	25.59
	48	71.89	24.50	76.87	24.69	78.72	25.09	78.79	24.78	79.50	24.91	80.79	25.67	80.61	25.67
	50	68.29	23.80	73.03	24.01	74.78	24.34	74.85	24.02	75.53	24.19	76.75	24.96	76.57	24.93
	52	64.19	22.92	68.65	23.10	70.29	23.44	70.36	23.13	71.00	23.25	72.15	23.99	71.98	24.01
	55	60.34	22.05	64.53	22.16	66.08	22.51	66.14	22.28	66.74	22.33	67.82	22.97	67.66	23.03
120%	-15	66.32	7.63	78.04	9.11	90.63	10.79	97.20	11.78	102.83	12.36	104.12	12.68	105.36	12.82
	-10	66.32	8.22	78.04	9.82	90.63	11.61	97.20	12.70	102.83	13.39	104.12	13.64	105.36	13.85
	-5	66.32	8.90	78.04	10.64	90.63	12.55	97.20	13.74	102.83	14.46	104.12	14.75	105.36	14.96
	-2	66.32	8.96	78.04	10.75	90.63	12.65	97.20	13.77	102.83	14.60	104.12	14.88	105.36	15.07
	0	66.32	9.05	78.04	10.83	90.63	12.83	97.20	13.82	102.83	14.73	104.12	14.96	105.36	15.04
	2	66.32	9.06	78.04	10.91	90.63	12.90	97.20	13.95	102.83	14.77	104.12	15.07	105.36	15.11
	4	66.32	9.18	78.04	11.05	90.63	13.12	97.20	14.10	102.83	14.97	104.12	15.14	105.36	15.14
	6	66.32	9.27	78.04	11.16	90.63	13.24	97.20	14.28	102.83	15.13	104.12	15.26	105.36	15.16
	8	66.32	9.33	78.04	11.26	90.63	13.43	97.20	14.42	102.83	15.29	104.12	15.29	105.36	15.29
	10	66.32	9.46	78.04	11.39	90.63	13.54	97.20	14.67	102.83	15.35	104.12	15.33	105.36	15.35
	12	66.32	9.63	78.04	11.61	90.63	13.83	97.20	14.99	101.37	15.37	102.67	15.21	103.93	15.46
	14	66.32	9.80	78.04	11.86	90.63	14.09	97.20	15.29	99.91	15.50	101.54	15.46	102.70	15.61
	20	66.32	10.39	78.04	12.81	90.63	15.97	94.00	16.71	96.06	16.91	97.51	16.91	98.72	16.82
	25	66.32	11.97	78.04	15.25	89.19	18.51	90.50	18.59	92.62	18.86	94.31	18.83	95.56	18.87
	27	66.32	12.76	78.04	16.26	88.05	19.24	89.36	19.36	91.37	19.70	92.87	19.68	94.13	19.61
	29	66.32	13.61	78.04	17.39	86.61	20.04	87.92	20.22	90.01	20.43	91.42	20.48	93.01	20.39
	31	66.32	14.55	78.04	18.56	85.17	20.78	86.78	20.96	88.76	21.26	90.29	21.29	91.58	21.27
	33	66.32	15.46	78.04	19.75	84.04	21.60	85.34	21.72	87.31	22.09	88.84	22.05	90.15	22.09
	35	66.32	16.45	78.04	21.06	82.60	22.42	83.89	22.55	86.16	22.84	87.61	22.91	89.02	22.92
	37	66.32	17.51	78.04	22.51	81.46	23.15	82.76	23.38	84.70	23.73	86.16	23.76	87.59	23.72
	39	66.32	18.68	77.73	23.74	80.02	23.92	81.31	24.19	83.24	24.55	85.03	24.60	86.47	24.55
	41	66.32	19.18	77.11	23.94	79.40	24.14	80.69	24.28	82.62	24.69	84.41	24.63	83.92	24.68
	43	66.32	19.45	76.70	24.11	78.68	24.31	80.07	24.38	81.99	24.81	82.96	24.64	82.69	25.16
	46	66.32	19.65	76.28	24.28	77.96	24.46	79.14	24.63	81.26	24.94	81.31	24.74	81.78	25.70
	48	66.32	19.81	75.67	24.59	76.93	24.68	77.91	24.75	80.33	25.25	79.97	25.02	80.75	26.12
	50	63.01	19.28	71.88	23.80	73.09	24.02	74.01	24.11	76.31	24.50	75.97	24.35	76.72	25.37
	52	59.23	18.47	67.57	22.87	68.70	23.04	69.57	23.20	71.73	23.55	71.41	23.34	72.11	24.29
	55	55.67	17.83	63.52	22.03	64.58	22.21	65.40	22.21	67.43	22.66	67.13	22.43	67.79	23.44

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 …

Table2-8.12:28HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	59.64	6.51	71.09	8.12	84.24	9.89	90.10	10.60	95.94	11.39	101.07	11.59	104.22	12.08
	-10	59.64	7.05	71.09	8.77	84.24	10.65	90.10	11.45	95.94	12.32	101.07	12.54	104.22	13.02
	-5	59.64	7.59	71.09	9.46	84.24	11.52	90.10	12.38	95.94	13.31	101.07	13.52	104.22	14.08
	-2	59.64	7.76	71.09	9.57	84.24	11.62	90.10	12.50	95.94	13.42	101.07	13.64	104.22	14.15
	0	59.64	7.84	71.09	9.66	84.24	11.70	90.10	12.59	95.94	13.53	101.07	13.76	104.22	14.32
	2	59.64	8.01	71.09	9.71	84.24	11.92	90.10	12.69	95.94	13.67	101.07	13.97	104.22	14.51
	4	59.64	8.15	71.09	9.82	84.24	12.03	90.10	12.85	95.94	13.94	101.07	14.19	104.22	14.61
	6	59.64	8.24	71.09	9.96	84.24	12.10	90.10	13.05	95.94	14.07	101.07	14.36	104.22	14.81
	8	59.64	8.31	71.09	10.10	84.24	12.27	90.10	13.22	95.94	14.25	101.07	14.41	104.22	15.01
	10	59.64	8.40	71.09	10.27	84.24	12.41	90.10	13.45	95.94	14.43	101.07	14.50	104.22	15.10
	12	59.64	8.61	71.09	10.48	84.24	12.68	90.10	13.67	95.94	14.70	99.95	14.71	102.78	15.32
	14	59.64	8.75	71.09	10.65	84.24	12.94	90.10	13.96	95.94	15.03	98.42	14.87	101.65	15.42
	20	59.64	9.25	71.09	11.30	84.24	14.20	90.10	15.72	94.48	16.83	94.74	16.61	97.63	16.91
	25	59.64	10.42	71.09	13.34	84.24	16.86	90.10	18.72	91.25	18.76	91.27	18.54	94.44	18.87
	27	59.64	11.14	71.09	14.25	84.24	18.08	88.64	19.50	89.79	19.51	90.15	19.34	93.00	19.70
	29	59.64	11.87	71.09	15.22	84.24	19.36	87.39	20.27	88.64	20.35	88.72	20.09	91.87	20.49
	31	59.64	12.63	71.09	16.18	84.24	20.59	85.93	21.04	87.08	21.15	87.59	20.90	90.42	21.23
	33	59.64	13.44	71.09	17.28	83.71	21.71	84.78	21.89	85.93	21.94	86.17	21.72	89.19	22.12
	35	59.64	14.30	71.09	18.38	82.25	22.53	83.32	22.59	84.47	22.76	84.74	22.43	87.75	22.87
	37	59.64	15.25	71.09	19.60	81.11	23.37	82.17	23.44	83.01	23.54	83.61	23.23	86.30	23.72
	39	59.64	16.18	71.09	20.84	79.64	24.14	80.71	24.26	81.86	24.31	82.18	24.08	85.17	24.58
	41	59.64	16.35	71.09	21.07	79.02	24.30	80.09	24.37	81.24	24.51	81.06	24.28	82.60	24.75
	43	59.64	16.48	71.09	21.28	78.39	24.46	79.46	24.56	80.61	24.75	80.35	24.38	81.36	25.19
	46	59.64	17.01	71.09	21.46	77.56	24.66	78.63	24.93	79.88	24.90	79.53	24.96	80.64	25.84
	48	59.64	17.56	71.09	23.17	76.41	24.80	77.38	24.98	79.05	25.15	78.30	25.07	79.51	26.04
	50	56.65	17.11	67.54	22.55	72.59	24.06	73.51	24.26	75.09	24.38	74.39	24.37	75.53	25.32
	52	53.25	16.41	63.49	21.65	68.23	23.15	69.10	23.32	70.59	23.53	69.93	23.38	71.00	24.34
	55	50.06	15.80	59.68	20.83	64.14	22.23	64.95	22.39	66.35	22.57	65.73	22.49	66.74	23.39
100%	-15	53.95	5.91	64.29	7.13	74.82	8.47	78.50	9.00	85.08	9.85	94.65	11.11	100.98	11.67
	-10	53.95	6.38	64.29	7.70	74.82	9.12	78.50	9.71	85.08	10.64	94.65	11.99	100.98	12.61
	-5	53.95	6.89	64.29	8.30	74.82	9.85	78.50	10.51	85.08	11.49	94.65	12.92	100.98	13.64
	-2	53.95	6.97	64.29	8.42	74.82	9.99	78.50	10.70	85.08	11.64	94.65	13.10	100.98	13.76
	0	53.95	7.04	64.29	8.51	74.82	10.10	78.50	10.84	85.08	11.78	94.65	13.30	100.98	13.89
	2	53.95	7.17	64.29	8.60	74.82	10.22	78.50	10.97	85.08	11.87	94.65	13.52	100.98	14.12
	4	53.95	7.24	64.29	8.71	74.82	10.35	78.50	11.14	85.08	12.06	94.65	13.67	100.98	14.29
	6	53.95	7.33	64.29	8.87	74.82	10.48	78.50	11.32	85.08	12.23	94.65	13.83	100.98	14.51
	8	53.95	7.48	64.29	8.99	74.82	10.66	78.50	11.45	85.08	12.38	94.65	14.09	100.98	14.72
	10	53.95	7.59	64.29	9.16	74.82	10.83	78.50	11.66	85.08	12.62	94.65	14.32	100.98	14.92
	12	53.95	7.67	64.29	9.37	74.82	11.05	78.50	11.87	85.08	12.87	94.65	14.55	99.55	15.04
	14	53.95	7.85	64.29	9.53	74.82	11.26	78.50	12.09	85.08	13.10	94.65	14.82	98.43	15.25
	20	53.95	8.29	64.29	10.09	74.82	12.04	78.50	13.22	85.08	14.65	91.52	16.28	94.46	16.59
	25	53.95	9.16	64.29	11.62	74.82	14.37	78.50	15.73	85.08	17.40	88.50	18.11	91.31	18.46
	27	53.95	9.75	64.29	12.35	74.82	15.33	78.50	16.80	85.08	18.60	87.09	18.95	89.88	19.24
	29	53.95	10.36	64.29	13.19	74.82	16.32	78.50	17.93	84.88	19.78	85.88	19.66	88.76	20.09
	31	53.95	11.05	64.29	14.10	74.82	17.46	78.50	19.12	83.65	20.49	84.47	20.47	87.34	20.80
	33	53.95	11.73	64.29	15.00	74.82	18.56	78.50	20.42	82.23	21.28	83.36	21.25	86.22	21.68
	35	53.95	12.46	64.29	15.92	74.82	19.84	78.50	21.79	80.80	22.05	81.95	22.05	84.79	22.43
	37	53.95	13.27	64.29	16.99	74.82	21.16	77.10	22.55	79.68	22.85	80.84	22.85	83.37	23.16
	39	53.95	14.11	64.29	18.07	74.82	22.55	76.00	23.30	78.25	23.58	79.43	23.61	82.15	24.07
	41	53.95	14.76	64.29	18.75	74.82	23.30	74.80	23.48	77.64	23.94	78.02	24.12	81.03	24.58
	43	53.95	15.39	64.29	19.41	74.82	23.73	73.60	23.77	77.13	24.24	78.52	24.33	79.60	24.78
	46	53.95	16.33	64.29	20.23	74.82	24.21	72.00	24.08	76.73	24.66	77.82	24.70	77.97	25.12
	48	53.95	17.05	64.29	20.94	74.82	24.21	69.10	24.33	76.62	25.14	73.08	24.88	76.24	25.37
	50	51.25	16.55	61.08	20.32	71.08	23.56	65.65	23.68	72.79	24.40	69.42	24.25	72.43	24.64
	52	48.18	15.89	57.41	19.53	66.81	22.58	61.71	22.72	68.42	23.38	65.26	23.26	68.08	23.68
	55	45.29	15.24	53.97	18.79	62.80	21.74	58.00	21.88	64.32	22.56	61.34	22.31	64.00	22.79

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

Table continued on next page …

Table2-8.12:28HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	49.74	5.34	58.71	6.35	69.10	7.58	73.52	8.25	76.75	8.60	87.17	10.04	96.77	11.48
	-10	49.74	5.78	58.71	6.85	69.10	8.17	73.52	8.89	76.75	9.30	87.17	10.81	96.77	12.41
	-5	49.74	6.25	58.71	7.41	69.10	8.84	73.52	9.62	76.75	10.05	87.17	11.71	96.77	13.37
	-2	49.74	6.29	58.71	7.51	69.10	8.98	73.52	9.73	76.75	10.16	87.17	11.77	96.77	13.53
	0	49.74	6.39	58.71	7.58	69.10	9.10	73.52	9.88	76.75	10.30	87.17	11.90	96.77	13.63
	2	49.74	6.49	58.71	7.66	69.10	9.17	73.52	10.03	76.75	10.48	87.17	12.16	96.77	13.85
	4	49.74	6.59	58.71	7.79	69.10	9.34	73.52	10.15	76.75	10.58	87.17	12.35	96.77	14.01
	6	49.74	6.67	58.71	7.95	69.10	9.52	73.52	10.35	76.75	10.80	87.17	12.58	96.77	14.24
	8	49.74	6.82	58.71	8.10	69.10	9.72	73.52	10.47	76.75	10.98	87.17	12.78	96.77	14.37
	10	49.74	6.93	58.71	8.26	69.10	9.87	73.52	10.61	76.75	11.23	87.17	12.95	96.77	14.65
	12	49.74	7.05	58.71	8.43	69.10	10.07	73.52	10.82	76.75	11.44	87.17	13.19	96.77	14.87
	14	49.74	7.17	58.71	8.58	69.10	10.25	73.52	11.00	76.75	11.62	87.17	13.42	96.77	15.20
	20	49.74	7.58	58.71	9.09	69.10	10.84	73.52	11.68	76.75	12.57	87.17	15.06	93.87	16.69
	25	49.74	8.23	58.71	10.17	69.10	12.65	73.52	13.85	76.75	14.91	87.17	17.90	90.77	18.64
	27	49.74	8.73	58.71	10.87	69.10	13.48	73.52	14.80	76.75	15.95	87.17	19.13	89.22	19.39
	29	49.74	9.32	58.71	11.55	69.10	14.38	73.52	15.83	76.75	17.02	86.24	19.99	88.09	20.15
	31	49.74	9.89	58.71	12.29	69.10	15.31	73.52	16.88	76.75	18.15	84.80	20.75	86.64	20.96
	33	49.74	10.49	58.71	13.11	69.10	16.35	73.52	18.01	76.75	19.37	83.66	21.65	85.50	21.81
	35	49.74	11.17	58.71	13.91	69.10	17.47	73.52	19.19	76.75	20.68	82.22	22.43	84.05	22.54
	37	49.74	11.83	58.71	14.81	69.10	18.53	73.52	20.39	76.75	21.98	80.77	23.21	82.92	23.39
	39	49.74	12.53	58.71	15.79	69.10	19.76	73.52	21.68	76.75	23.49	79.63	24.00	81.47	24.22
	41	49.74	12.95	58.71	16.51	69.10	20.47	73.52	22.34	76.75	23.62	79.12	24.54	80.95	24.70
	43	49.74	13.60	58.71	17.18	69.10	21.14	73.52	22.92	76.75	24.09	78.70	24.91	80.23	25.18
	46	49.74	14.44	58.71	18.02	69.10	22.09	73.52	23.60	76.75	24.82	78.19	25.21	78.99	25.51
	48	49.74	15.26	58.71	18.88	69.10	22.84	73.52	23.91	76.75	25.03	77.57	25.54	76.82	25.84
	50	47.26	14.81	55.78	18.32	65.65	22.25	69.84	23.30	72.91	24.29	73.69	24.81	72.98	25.05
	52	44.42	14.28	52.43	17.63	61.71	21.39	65.65	22.39	68.53	23.30	69.27	23.77	68.60	24.13
	55	41.76	13.71	49.29	16.93	58.00	20.54	61.71	21.52	64.42	22.46	65.11	22.92	64.48	23.19
80%	-15	43.69	4.68	52.56	5.57	60.41	6.54	64.05	6.85	68.33	7.39	78.17	8.72	85.79	9.87
	-10	43.69	5.05	52.56	6.02	60.41	7.06	64.05	7.42	68.33	7.99	78.17	9.41	85.79	10.65
	-5	43.69	5.46	52.56	6.50	60.41	7.63	64.05	8.02	68.33	8.60	78.17	10.18	85.79	11.51
	-2	43.69	5.54	52.56	6.56	60.41	7.67	64.05	8.15	68.33	8.72	78.17	10.25	85.79	11.60
	0	43.69	5.62	52.56	6.67	60.41	7.75	64.05	8.22	68.33	8.84	78.17	10.42	85.79	11.75
	2	43.69	5.75	52.56	6.76	60.41	7.90	64.05	8.39	68.33	9.01	78.17	10.65	85.79	11.99
	4	43.69	5.84	52.56	6.85	60.41	8.02	64.05	8.57	68.33	9.19	78.17	10.81	85.79	12.15
	6	43.69	5.92	52.56	7.02	60.41	8.14	64.05	8.75	68.33	9.33	78.17	10.97	85.79	12.34
	8	43.69	6.05	52.56	7.17	60.41	8.36	64.05	8.89	68.33	9.56	78.17	11.14	85.79	12.60
	10	43.69	6.09	52.56	7.35	60.41	8.57	64.05	9.14	68.33	9.76	78.17	11.41	85.79	12.69
	12	43.69	6.20	52.56	7.46	60.41	8.73	64.05	9.32	68.33	10.00	78.17	11.59	85.79	12.93
	14	43.69	6.31	52.56	7.61	60.41	8.87	64.05	9.45	68.33	10.19	78.17	11.80	85.79	13.22
	20	43.69	6.62	52.56	8.06	60.41	9.40	64.05	10.02	68.33	10.75	78.17	12.77	85.79	14.67
	25	43.69	7.03	52.56	8.79	60.41	10.64	64.05	11.54	68.33	12.55	78.17	15.14	85.79	17.48
	27	43.69	7.46	52.56	9.37	60.41	11.33	64.05	12.28	68.33	13.40	78.17	16.17	85.79	18.63
	29	43.69	7.97	52.56	9.99	60.41	12.08	64.05	13.07	68.33	14.37	78.17	17.27	85.79	19.96
	31	43.69	8.44	52.56	10.63	60.41	12.87	64.05	13.93	68.33	15.29	78.17	18.49	84.35	20.73
	33	43.69	8.95	52.56	11.27	60.41	13.69	64.05	14.84	68.33	16.24	78.17	19.62	83.11	21.51
	35	43.69	9.50	52.56	11.98	60.41	14.55	64.05	15.86	68.33	17.37	78.17	20.94	81.67	22.34
	37	43.69	10.09	52.56	12.74	60.41	15.50	64.05	16.88	68.33	18.46	78.17	22.30	80.54	23.07
	39	43.69	10.68	52.56	13.60	60.41	16.47	64.05	17.94	68.33	19.64	78.17	23.85	79.09	23.93
	41	43.69	10.90	52.56	13.67	60.41	16.75	64.05	18.40	68.33	19.98	78.17	24.36	78.58	24.33
	43	43.69	11.25	52.56	13.81	60.41	16.92	64.05	18.75	68.33	20.24	78.17	24.65	78.17	24.58
	46	43.69	11.57	52.56	13.97	60.41	17.27	64.05	19.09	68.33	20.59	78.17	24.91	77.14	24.94
	48	43.69	11.93	52.56	14.08	60.41	17.51	64.05	19.33	68.33	20.79	78.17	25.17	76.52	25.25
	50	41.51	11.62	49.93	13.69	57.39	17.08	60.85	18.78	64.92	20.22	74.26	24.47	72.69	24.50
	52	39.02	11.13	46.94	13.12	53.95	16.37	57.20	18.05	61.02	19.41	69.80	23.57	68.33	23.55
	55	36.67	10.73	44.12	12.60	50.71	15.75	53.77	17.38	57.36	18.62	65.61	22.56	64.23	22.64

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

Table continued on next page …

Table2-8.12:28HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	37.77	4.12	45.18	4.83	52.42	5.49	56.10	5.88	59.88	6.27	67.63	7.24	74.64	8.27
	-10	37.77	4.45	45.18	5.22	52.42	5.92	56.10	6.33	59.88	6.76	67.63	7.81	74.64	8.91
	-5	37.77	4.82	45.18	5.62	52.42	6.38	56.10	6.83	59.88	7.32	67.63	8.44	74.64	9.62
	-2	37.77	4.84	45.18	5.65	52.42	6.43	56.10	6.97	59.88	7.44	67.63	8.59	74.64	9.80
	0	37.77	4.88	45.18	5.72	52.42	6.55	56.10	7.11	59.88	7.57	67.63	8.76	74.64	9.92
	2	37.77	4.90	45.18	5.77	52.42	6.66	56.10	7.24	59.88	7.72	67.63	8.93	74.64	10.07
	4	37.77	4.96	45.18	5.89	52.42	6.81	56.10	7.38	59.88	7.89	67.63	9.09	74.64	10.33
	6	37.77	5.05	45.18	6.02	52.42	7.00	56.10	7.60	59.88	8.05	67.63	9.26	74.64	10.48
	8	37.77	5.13	45.18	6.18	52.42	7.16	56.10	7.71	59.88	8.25	67.63	9.51	74.64	10.69
	10	37.77	5.23	45.18	6.28	52.42	7.35	56.10	7.89	59.88	8.48	67.63	9.72	74.64	10.81
	12	37.77	5.36	45.18	6.38	52.42	7.50	56.10	8.05	59.88	8.62	67.63	9.89	74.64	11.05
	14	37.77	5.45	45.18	6.49	52.42	7.59	56.10	8.16	59.88	8.75	67.63	10.04	74.64	11.23
	20	37.77	5.72	45.18	6.85	52.42	8.03	56.10	8.62	59.88	9.28	67.63	10.64	74.64	12.01
	25	37.77	6.00	45.18	7.31	52.42	8.84	56.10	9.64	59.88	10.47	67.63	12.37	74.64	14.25
	27	37.77	6.35	45.18	7.79	52.42	9.43	56.10	10.24	59.88	11.22	67.63	13.23	74.64	15.23
	29	37.77	6.72	45.18	8.28	52.42	10.02	56.10	10.96	59.88	11.88	67.63	14.13	74.64	16.24
	31	37.77	7.13	45.18	8.77	52.42	10.65	56.10	11.62	59.88	12.65	67.63	15.02	74.64	17.35
	33	37.77	7.55	45.18	9.35	52.42	11.35	56.10	12.38	59.88	13.53	67.63	16.06	74.64	18.52
	35	37.77	8.00	45.18	9.90	52.42	12.02	56.10	13.18	59.88	14.37	67.63	17.10	74.64	19.70
	37	37.77	8.45	45.18	10.51	52.42	12.82	56.10	13.94	59.88	15.26	67.63	18.20	74.64	20.96
	39	37.77	8.96	45.18	11.11	52.42	13.58	56.10	14.86	59.88	16.27	67.63	19.32	74.64	22.35
	41	37.77	9.34	45.18	11.53	52.42	13.95	56.10	15.35	59.88	16.71	67.63	20.10	74.64	23.38
	43	37.77	10.09	45.18	12.30	52.42	14.51	56.10	16.13	59.88	17.25	67.63	20.87	74.64	24.06
	46	37.77	10.36	45.18	12.54	52.42	14.83	56.10	16.39	59.88	18.10	67.63	21.93	74.64	25.03
	48	37.77	10.53	45.18	12.63	52.42	15.06	56.10	16.71	59.88	18.62	67.63	23.00	74.64	25.62
	50	35.89	10.24	42.92	12.25	49.80	14.61	53.29	16.24	56.89	18.02	64.24	22.32	70.91	24.88
	52	33.73	9.83	40.35	11.81	46.81	14.02	50.09	15.57	53.48	17.35	60.39	21.46	66.66	23.89
	55	31.71	9.47	37.93	11.31	44.01	13.46	47.09	15.02	50.27	16.66	56.77	20.60	62.66	22.94
60%	-15	32.68	3.54	39.38	4.16	44.96	4.75	48.04	5.05	51.35	5.47	58.31	6.23	63.81	7.03
	-10	32.68	3.83	39.38	4.49	44.96	5.12	48.04	5.46	51.35	5.92	58.31	6.70	63.81	7.62
	-5	32.68	4.14	39.38	4.85	44.96	5.54	48.04	5.91	51.35	6.37	58.31	7.26	63.81	8.21
	-2	32.68	4.16	39.38	4.92	44.96	5.65	48.04	6.00	51.35	6.45	58.31	7.34	63.81	8.26
	0	32.68	4.22	39.38	4.99	44.96	5.72	48.04	6.06	51.35	6.55	58.31	7.48	63.81	8.38
	2	32.68	4.32	39.38	5.11	44.96	5.82	48.04	6.18	51.35	6.66	58.31	7.62	63.81	8.48
	4	32.68	4.42	39.38	5.20	44.96	5.94	48.04	6.24	51.35	6.74	58.31	7.73	63.81	8.59
	6	32.68	4.47	39.38	5.29	44.96	6.06	48.04	6.40	51.35	6.89	58.31	7.89	63.81	8.79
	8	32.68	4.55	39.38	5.39	44.96	6.18	48.04	6.51	51.35	7.03	58.31	8.05	63.81	8.94
	10	32.68	4.64	39.38	5.51	44.96	6.27	48.04	6.71	51.35	7.15	58.31	8.20	63.81	9.07
	12	32.68	4.72	39.38	5.59	44.96	6.39	48.04	6.81	51.35	7.29	58.31	8.37	63.81	9.21
	14	32.68	4.80	39.38	5.69	44.96	6.48	48.04	6.94	51.35	7.43	58.31	8.48	63.81	9.38
	20	32.68	5.00	39.38	6.00	44.96	6.82	48.04	7.31	51.35	7.84	58.31	8.98	63.81	9.98
	25	32.68	5.21	39.38	6.25	44.96	7.29	48.04	7.86	51.35	8.54	58.31	10.06	63.81	11.41
	27	32.68	5.43	39.38	6.64	44.96	7.73	48.04	8.43	51.35	9.14	58.31	10.73	63.81	12.20
	29	32.68	5.72	39.38	7.03	44.96	8.24	48.04	8.95	51.35	9.71	58.31	11.42	63.81	13.00
	31	32.68	6.07	39.38	7.44	44.96	8.74	48.04	9.51	51.35	10.32	58.31	12.14	63.81	13.86
	33	32.68	6.41	39.38	7.88	44.96	9.31	48.04	10.09	51.35	11.01	58.31	12.97	63.81	14.75
	35	32.68	6.78	39.38	8.38	44.96	9.84	48.04	10.72	51.35	11.66	58.31	13.80	63.81	15.71
	37	32.68	7.20	39.38	8.87	44.96	10.46	48.04	11.36	51.35	12.39	58.31	14.65	63.81	16.74
	39	32.68	7.58	39.38	9.38	44.96	11.05	48.04	12.04	51.35	13.15	58.31	15.56	63.81	17.78
	41	32.68	7.82	39.38	9.78	44.96	11.47	48.04	12.51	51.35	13.65	58.31	16.32	63.81	18.61
	43	32.68	8.06	39.38	10.21	44.96	11.89	48.04	12.92	51.35	14.15	58.31	17.02	63.81	19.42
	46	32.68	8.45	39.38	10.73	44.96	12.34	48.04	13.41	51.35	14.81	58.31	17.75	63.81	20.52
	48	32.68	8.74	39.38	11.15	44.96	12.81	48.04	13.70	51.35	15.35	58.31	18.36	63.81	21.45
	50	31.04	8.49	37.41	10.87	42.72	12.43	45.64	13.31	48.78	14.97	55.39	17.83	60.62	20.87
	52	29.18	8.19	35.17	10.42	40.15	11.94	42.90	12.82	45.86	14.36	52.07	17.19	56.98	20.00
	55	27.43	7.86	33.06	10.01	37.74	11.50	40.32	12.32	43.10	13.80	48.95	16.47	53.56	19.23

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 …

Table2-8.12:28HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	27.29	3.08	32.39	3.54	38.31	4.14	40.16	4.26	43.63	4.58	48.71	5.19	53.14	5.47
	-10	27.29	3.33	32.39	3.83	38.31	4.48	40.16	4.60	43.63	4.96	48.71	5.62	53.14	5.92
	-5	27.29	3.59	32.39	4.13	38.31	4.84	40.16	4.95	43.63	5.36	48.71	6.05	53.14	6.40
	-2	27.29	3.61	32.39	4.21	38.31	4.90	40.16	5.02	43.63	5.43	48.71	6.15	53.14	6.48
	0	27.29	3.68	32.39	4.28	38.31	4.98	40.16	5.09	43.63	5.51	48.71	6.25	53.14	6.60
	2	27.29	3.74	32.39	4.33	38.31	5.06	40.16	5.18	43.63	5.61	48.71	6.27	53.14	6.73
	4	27.29	3.77	32.39	4.40	38.31	5.12	40.16	5.22	43.63	5.70	48.71	6.44	53.14	6.89
	6	27.29	3.83	32.39	4.46	38.31	5.19	40.16	5.36	43.63	5.82	48.71	6.54	53.14	7.11
	8	27.29	3.92	32.39	4.55	38.31	5.28	40.16	5.46	43.63	5.91	48.71	6.64	53.14	7.31
	10	27.29	4.01	32.39	4.60	38.31	5.36	40.16	5.55	43.63	6.06	48.71	6.81	53.14	7.45
	12	27.29	4.03	32.39	4.66	38.31	5.45	40.16	5.66	43.63	6.17	48.71	6.92	53.14	7.57
	14	27.29	4.10	32.39	4.71	38.31	5.51	40.16	5.78	43.63	6.27	48.71	7.03	53.14	7.70
	20	27.29	4.28	32.39	4.93	38.31	5.79	40.16	6.05	43.63	6.61	48.71	7.42	53.14	8.13
	25	27.29	4.43	32.39	5.14	38.31	6.08	40.16	6.35	43.63	7.01	48.71	8.01	53.14	8.95
	27	27.29	4.52	32.39	5.33	38.31	6.39	40.16	6.76	43.63	7.42	48.71	8.55	53.14	9.55
	29	27.29	4.76	32.39	5.63	38.31	6.78	40.16	7.18	43.63	7.91	48.71	9.07	53.14	10.15
	31	27.29	5.04	32.39	5.97	38.31	7.20	40.16	7.61	43.63	8.38	48.71	9.62	53.14	10.80
	33	27.29	5.33	32.39	6.33	38.31	7.63	40.16	8.06	43.63	8.94	48.71	10.28	53.14	11.50
	35	27.29	5.63	32.39	6.68	38.31	8.08	40.16	8.56	43.63	9.42	48.71	10.89	53.14	12.19
	37	27.29	5.92	32.39	7.08	38.31	8.54	40.16	9.05	43.63	10.01	48.71	11.53	53.14	12.97
	39	27.29	6.25	32.39	7.46	38.31	9.04	40.16	9.58	43.63	10.62	48.71	12.27	53.14	13.79
	41	27.29	6.51	32.39	7.78	38.31	9.37	40.16	10.05	43.63	11.09	48.71	12.91	53.14	14.39
	43	27.29	6.94	32.39	8.28	38.31	9.70	40.16	10.48	43.63	11.37	48.71	13.57	53.14	15.02
	46	27.29	7.11	32.39	8.51	38.31	10.33	40.16	11.27	43.63	11.82	48.71	14.84	53.14	16.35
	48	27.29	7.24	32.39	8.73	38.31	10.92	40.16	12.04	43.63	12.43	48.71	16.04	53.14	17.61
	50	25.93	7.04	30.77	8.46	36.39	10.58	38.15	11.72	41.45	12.04	46.28	15.59	50.48	17.07
	52	24.37	6.76	28.93	8.13	34.21	10.19	35.86	11.26	38.96	11.59	43.50	14.93	47.45	16.41
	55	22.91	6.49	27.19	7.84	32.16	9.80	33.71	10.84	36.63	11.12	40.89	14.39	44.60	15.77

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

Table2-8.13:30HP 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	77.00	9.21	92.17	11.32	104.94	11.88	109.44	12.43	116.43	13.01	119.57	14.20	121.06	14.06
	-10	77.00	9.96	92.17	12.24	104.94	12.85	109.44	13.47	116.43	14.06	119.57	15.32	121.06	15.21
	-5	77.00	10.77	92.17	13.19	104.94	13.90	109.44	14.53	116.43	15.13	119.57	16.53	121.06	16.41
	-2	77.00	10.74	92.17	13.45	104.94	13.86	109.44	14.60	116.43	15.14	119.57	16.73	121.06	16.58
	0	77.00	10.96	92.17	13.68	104.94	14.43	109.44	15.42	116.43	16.05	119.57	16.98	121.06	16.85
	2	77.00	11.16	92.17	13.74	104.94	14.88	109.44	16.27	116.43	16.22	119.57	17.04	121.06	17.04
	4	77.00	11.38	92.17	14.03	104.94	15.42	109.44	16.37	116.43	16.42	119.57	17.30	121.06	17.38
	6	77.00	11.61	92.17	14.29	104.94	15.94	109.44	16.51	115.18	16.96	118.11	17.60	119.73	17.52
	8	77.00	11.88	92.17	14.59	104.94	16.75	109.44	17.29	113.73	17.53	116.86	17.69	118.29	17.69
	10	77.00	12.14	92.17	14.93	104.94	17.40	109.44	17.82	112.38	17.83	115.51	17.93	116.85	18.22
	12	77.00	12.38	92.17	15.24	104.94	17.78	107.80	18.16	111.14	18.12	113.95	18.22	115.31	18.35
	14	77.00	12.61	92.17	15.51	104.64	17.98	106.58	18.43	109.48	18.35	112.71	18.49	114.08	18.71
	20	77.00	13.35	92.17	17.17	100.37	19.48	102.29	19.65	105.13	20.02	108.24	20.34	109.77	20.28
	25	77.00	15.69	92.17	20.38	96.91	21.70	98.51	21.97	101.60	22.46	104.80	22.72	106.28	22.62
	27	77.00	16.79	92.17	21.85	95.69	22.69	97.29	22.93	100.05	23.39	103.24	23.71	104.73	23.60
	29	77.00	17.87	92.17	23.30	94.16	23.58	95.76	23.77	98.80	24.27	101.89	24.69	103.50	24.63
	31	77.00	19.06	91.86	24.68	92.64	24.48	94.53	24.70	97.25	25.27	100.33	25.57	101.96	25.51
	33	77.00	20.32	90.30	25.66	91.42	25.47	93.00	25.66	96.00	26.16	99.09	26.59	100.32	26.55
	35	77.00	21.64	88.75	26.57	89.79	26.31	91.77	26.56	94.45	27.19	97.53	27.60	99.09	27.45
	37	77.00	23.12	87.50	27.47	88.57	27.29	90.14	27.53	93.20	28.15	95.97	28.52	97.55	28.53
	39	77.00	24.53	85.95	27.76	87.05	28.21	88.92	28.51	91.54	29.19	94.72	29.52	96.31	29.58
	41	77.00	25.88	85.01	28.11	86.13	28.48	88.00	28.80	90.61	29.43	93.78	29.60	92.62	29.80
	43	77.00	26.56	84.39	28.17	85.72	28.54	87.59	28.91	89.68	29.51	92.02	29.68	91.49	29.92
	46	77.00	27.83	83.87	28.44	84.81	28.86	86.67	29.12	88.43	29.58	89.52	29.82	89.74	30.39
	48	77.00	28.84	83.56	29.37	83.38	29.01	85.24	29.28	87.29	29.89	87.13	30.22	87.69	30.50
	50	73.15	27.99	79.38	28.61	79.22	28.21	80.98	28.55	82.93	29.01	82.77	29.47	83.31	29.63
	52	68.76	26.90	74.62	27.42	74.46	27.14	76.12	27.39	77.95	27.86	77.81	28.33	78.31	28.48
	55	64.64	25.81	70.14	26.36	69.99	26.14	71.55	26.30	73.28	26.80	73.14	27.12	73.61	27.40
120%	-15	71.02	8.92	85.18	10.88	98.23	12.79	105.04	13.94	108.81	14.36	111.47	14.81	113.59	15.20
	-10	71.02	9.65	85.18	11.75	98.23	13.82	105.04	15.04	108.81	15.50	111.47	16.02	113.59	16.35
	-5	71.02	10.39	85.18	12.67	98.23	14.90	105.04	16.21	108.81	16.68	111.47	17.30	113.59	17.69
	-2	71.02	10.52	85.18	12.84	98.23	15.03	105.04	16.31	108.81	16.89	111.47	17.46	113.59	17.74
	0	71.02	10.59	85.18	12.91	98.23	15.25	105.04	16.38	108.81	17.10	111.47	17.53	113.59	17.75
	2	71.02	10.61	85.18	13.06	98.23	15.35	105.04	16.52	108.81	17.16	111.47	17.70	113.59	17.86
	4	71.02	10.73	85.18	13.20	98.23	15.55	105.04	16.67	108.81	17.36	111.47	17.73	113.59	17.84
	6	71.02	10.82	85.18	13.32	98.23	15.71	105.04	16.89	108.81	17.53	111.47	17.83	113.59	17.93
	8	71.02	10.93	85.18	13.47	98.23	15.92	105.04	17.05	108.81	17.71	111.47	17.87	113.59	18.03
	10	71.02	11.09	85.18	13.66	98.23	16.05	105.04	17.34	108.81	17.74	111.47	17.93	113.59	18.08
	12	71.02	11.26	85.18	13.91	98.23	16.43	105.04	17.73	107.18	17.81	109.94	17.87	112.06	18.18
	14	71.02	11.53	85.18	14.15	98.23	16.71	105.04	18.03	105.66	17.92	108.62	18.09	110.84	18.41
	20	71.02	12.18	85.18	15.32	98.23	18.92	101.64	19.75	101.69	19.54	104.33	19.77	106.47	19.84
	25	71.02	14.04	85.18	18.21	96.69	21.91	97.83	22.03	97.92	21.81	100.97	22.07	103.11	22.25
	27	71.02	14.99	85.18	19.38	95.45	22.85	96.59	22.94	96.70	22.80	99.33	22.98	101.59	23.16
	29	71.02	15.99	85.18	20.77	93.90	23.74	95.05	23.91	95.17	23.69	97.80	23.93	100.37	24.14
	31	71.02	17.06	85.18	22.19	92.26	24.68	93.81	24.81	93.95	24.68	96.58	24.91	98.74	25.13
	33	71.02	18.10	85.18	23.56	91.02	25.67	92.27	25.79	92.42	25.60	95.05	25.83	97.21	26.00
	35	71.02	19.35	85.18	25.14	89.47	26.52	90.62	26.61	91.10	26.52	93.83	26.80	95.99	27.06
	37	71.02	20.59	85.18	26.85	88.24	27.46	89.39	27.60	89.57	27.46	92.30	27.80	94.47	27.95
	39	71.02	21.87	84.86	28.28	86.69	28.49	87.84	28.52	88.05	28.36	90.97	28.75	93.25	28.95
	41	71.02	22.48	84.14	28.59	85.97	28.63	87.12	28.72	87.44	28.53	90.36	28.78	90.50	29.11
	43	71.02	22.82	83.72	28.76	85.35	28.86	86.50	28.89	86.72	28.63	88.73	28.92	89.18	29.73
	46	71.02	23.07	83.20	28.97	84.52	29.10	85.58	29.16	86.01	28.88	86.99	28.95	88.27	30.43
	48	71.02	23.22	82.48	29.26	83.39	29.30	84.24	29.34	84.99	29.23	85.67	29.33	87.05	30.74
	50	67.47	22.56	78.35	28.48	79.22	28.51	80.03	28.50	80.74	28.36	81.38	28.47	82.69	29.89
	52	63.42	21.66	73.65	27.35	74.47	27.33	75.22	27.39	75.90	27.18	76.50	27.31	77.73	28.76
	55	59.62	20.80	69.23	26.31	70.00	26.26	70.71	26.38	71.34	26.15	71.91	26.35	73.07	27.56

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

Table continued on next page …

Table2-8.13:30HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110%	-15	64.29	7.70	77.39	9.64	88.88	11.43	95.45	12.28	101.28	13.16	111.25	13.94	111.67	14.16
	-10	64.29	8.30	77.39	10.44	88.88	12.30	95.45	13.27	101.28	14.23	111.25	15.08	111.67	15.29
	-5	64.29	8.96	77.39	11.28	88.88	13.29	95.45	14.33	101.28	15.34	111.25	16.32	111.67	16.48
	-2	64.29	9.17	77.39	11.41	88.88	13.44	95.45	14.46	101.28	15.48	111.25	16.42	111.67	16.54
	0	64.29	9.24	77.39	11.49	88.88	13.53	95.45	14.57	101.28	15.63	111.25	16.62	111.67	16.79
	2	64.29	9.43	77.39	11.59	88.88	13.71	95.45	14.76	101.28	15.81	111.25	16.86	111.67	16.95
	4	64.29	9.63	77.39	11.72	88.88	13.86	95.45	14.91	101.28	16.07	111.25	17.06	111.67	17.12
	6	64.29	9.72	77.39	11.87	88.88	14.02	95.45	15.18	101.28	16.22	111.25	17.30	111.67	17.39
	8	64.29	9.82	77.39	12.05	88.88	14.13	95.45	15.27	101.28	16.40	111.25	17.36	111.67	17.62
	10	64.29	9.94	77.39	12.21	88.88	14.35	95.45	15.57	101.28	16.69	111.25	17.54	111.67	17.77
	12	64.29	10.12	77.39	12.48	88.88	14.64	95.45	15.85	101.28	17.05	110.00	17.78	110.14	17.93
	14	64.29	10.30	77.39	12.68	88.88	14.93	95.45	16.19	101.28	17.33	108.34	17.94	108.92	18.13
	20	64.29	10.88	77.39	13.46	88.88	16.39	95.45	18.17	99.76	19.40	104.29	19.97	104.54	19.81
	25	64.29	12.31	77.39	15.85	88.88	19.52	95.45	21.71	96.30	21.69	100.45	22.29	101.17	22.13
	27	64.29	13.11	77.39	16.95	88.88	20.83	93.92	22.63	94.77	22.54	99.21	23.24	99.65	23.05
	29	64.29	14.02	77.39	18.10	88.88	22.32	92.69	23.54	93.55	23.55	97.65	24.19	98.32	23.97
	31	64.29	14.89	77.39	19.29	88.88	23.85	91.16	24.38	92.03	24.47	96.41	25.14	96.79	24.92
	33	64.29	15.82	77.39	20.53	88.27	25.10	89.84	25.32	90.81	25.35	94.85	26.10	95.57	25.84
	35	64.29	16.90	77.39	21.95	86.74	25.99	88.30	26.31	89.18	26.25	93.29	27.14	94.04	26.89
	37	64.29	17.96	77.39	23.28	85.52	27.02	87.08	27.20	87.66	27.18	91.94	28.05	92.51	27.84
	39	64.29	19.10	77.39	24.85	83.99	27.85	85.55	28.14	86.43	28.18	90.39	28.97	91.29	28.74
	41	64.29	19.32	77.39	24.99	83.28	28.01	84.83	28.32	85.82	28.37	89.25	29.27	88.54	29.02
	43	64.29	19.47	77.39	25.42	82.67	28.21	84.22	28.49	85.11	28.54	88.52	29.29	87.11	29.55
	46	64.29	20.07	77.39	25.46	81.86	28.56	83.30	28.83	84.40	28.86	87.58	30.10	86.30	30.24
	48	64.29	20.72	77.39	27.58	80.64	28.59	81.97	29.00	83.38	29.12	86.13	30.14	85.18	30.52
	50	61.08	20.19	73.52	26.85	76.61	27.80	77.88	28.20	79.22	28.23	81.83	29.31	80.92	29.65
	52	57.41	19.41	69.11	25.75	72.01	26.72	73.20	27.13	74.46	27.18	76.92	28.14	76.06	28.50
	55	53.97	18.62	64.97	24.78	67.69	25.73	68.81	26.08	69.99	26.05	72.30	27.10	71.50	27.31
100%	-15	58.31	6.97	68.84	8.35	79.82	9.91	85.00	10.68	91.13	11.52	102.51	13.13	109.42	13.88
	-10	58.31	7.53	68.84	9.01	79.82	10.68	85.00	11.52	91.13	12.48	102.51	14.21	109.42	14.96
	-5	58.31	8.15	68.84	9.75	79.82	11.52	85.00	12.45	91.13	13.44	102.51	15.33	109.42	16.17
	-2	58.31	8.25	68.84	9.86	79.82	11.67	85.00	12.66	91.13	13.62	102.51	15.55	109.42	16.24
	0	58.31	8.32	68.84	9.95	79.82	11.80	85.00	12.82	91.13	13.77	102.51	15.80	109.42	16.44
	2	58.31	8.50	68.84	10.11	79.82	11.91	85.00	13.02	91.13	13.93	102.51	16.04	109.42	16.69
	4	58.31	8.55	68.84	10.21	79.82	12.13	85.00	13.18	91.13	14.10	102.51	16.14	109.42	16.87
	6	58.31	8.70	68.84	10.41	79.82	12.27	85.00	13.42	91.13	14.28	102.51	16.43	109.42	17.16
	8	58.31	8.84	68.84	10.53	79.82	12.46	85.00	13.57	91.13	14.55	102.51	16.64	109.42	17.45
	10	58.31	8.94	68.84	10.74	79.82	12.67	85.00	13.83	91.13	14.83	102.51	16.90	109.42	17.72
	12	58.31	9.09	68.84	10.95	79.82	12.95	85.00	14.05	91.13	15.09	102.51	17.21	107.79	17.87
	14	58.31	9.24	68.84	11.18	79.82	13.17	85.00	14.36	91.13	15.37	102.51	17.61	106.57	18.09
	20	58.31	9.77	68.84	11.85	79.82	14.10	85.00	15.66	91.13	17.10	99.18	19.28	102.30	19.59
	25	58.31	10.80	68.84	13.58	79.82	16.74	85.00	18.62	91.13	20.33	95.75	21.54	98.84	21.92
	27	58.31	11.51	68.84	14.48	79.82	17.90	85.00	19.88	91.13	21.75	94.24	22.41	97.31	22.83
	29	58.31	12.29	68.84	15.44	79.82	19.11	85.00	21.26	90.83	23.10	93.03	23.40	96.09	23.79
	31	58.31	13.05	68.84	16.49	79.82	20.37	85.00	22.67	89.52	24.02	91.52	24.25	94.56	24.65
	33	58.31	13.88	68.84	17.59	79.82	21.74	85.00	24.24	88.01	24.87	90.31	25.13	93.34	25.70
	35	58.31	14.73	68.84	18.66	79.82	23.21	85.00	25.85	86.50	25.85	88.70	26.09	91.81	26.59
	37	58.31	15.72	68.84	19.88	79.82	24.76	83.50	26.73	85.29	26.74	87.49	26.97	90.18	27.57
	39	58.31	16.65	68.84	21.13	79.82	26.25	82.30	27.60	83.78	27.69	85.98	27.99	88.96	28.49
	41	58.31	17.42	68.84	21.94	79.82	27.32	81.00	27.80	83.07	28.11	84.47	28.54	87.74	29.08
	43	58.31	18.22	68.84	22.69	79.82	27.77	79.70	28.18	82.47	28.39	84.97	28.83	86.11	29.43
	46	58.31	19.31	68.84	23.72	79.82	28.27	78.00	28.54	82.07	28.85	84.26	29.22	84.38	29.85
	48	58.31	20.09	68.84	24.55	79.82	28.34	74.80	28.86	81.97	29.32	79.12	29.55	82.55	30.10
	50	55.40	19.55	65.40	23.92	75.83	27.53	71.06	28.06	77.87	28.51	75.17	28.74	78.42	29.18
	52	52.07	18.81	61.48	22.94	71.28	26.46	66.80	26.92	73.20	27.38	70.66	27.51	73.72	28.11
	55	48.95	18.02	57.79	22.05	67.00	25.40	62.79	25.92	68.80	26.39	66.42	26.49	69.29	27.04

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

Table continued on next page …

Table2-8.13:30HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
90%	-15	52.98	6.25	62.64	7.41	73.66	8.87	77.94	9.55	84.63	10.38	94.76	11.93	103.11	13.41
	-10	52.98	6.75	62.64	8.00	73.66	9.57	77.94	10.36	84.63	11.21	94.76	12.85	103.11	14.48
	-5	52.98	7.30	62.64	8.66	73.66	10.32	77.94	11.16	84.63	12.11	94.76	13.92	103.11	15.57
	-2	52.98	7.35	62.64	8.72	73.66	10.48	77.94	11.31	84.63	12.25	94.76	14.06	103.11	15.74
	0	52.98	7.46	62.64	8.87	73.66	10.64	77.94	11.44	84.63	12.42	94.76	14.22	103.11	15.88
	2	52.98	7.56	62.64	8.95	73.66	10.72	77.94	11.65	84.63	12.64	94.76	14.47	103.11	16.15
	4	52.98	7.67	62.64	9.09	73.66	10.90	77.94	11.81	84.63	12.80	94.76	14.74	103.11	16.31
	6	52.98	7.79	62.64	9.27	73.66	11.13	77.94	12.01	84.63	13.01	94.76	14.92	103.11	16.65
	8	52.98	7.95	62.64	9.46	73.66	11.34	77.94	12.16	84.63	13.21	94.76	15.25	103.11	16.75
	10	52.98	8.11	62.64	9.68	73.66	11.55	77.94	12.34	84.63	13.51	94.76	15.43	103.11	17.03
	12	52.98	8.24	62.64	9.83	73.66	11.78	77.94	12.55	84.63	13.76	94.76	15.74	103.11	17.39
	14	52.98	8.39	62.64	10.00	73.66	11.96	77.94	12.82	84.63	14.04	94.76	16.02	103.11	17.68
	20	52.98	8.85	62.64	10.63	73.66	12.66	77.94	13.59	84.63	15.12	94.76	17.89	100.06	19.44
	25	52.98	9.59	62.64	11.90	73.66	14.77	77.94	16.10	84.63	17.96	94.76	21.28	96.60	21.74
	27	52.98	10.17	62.64	12.70	73.66	15.76	77.94	17.22	84.63	19.19	94.76	22.80	95.08	22.61
	29	52.98	10.86	62.64	13.54	73.66	16.79	77.94	18.34	84.63	20.58	93.83	23.77	93.86	23.54
	31	52.98	11.53	62.64	14.38	73.66	17.90	77.94	19.61	84.63	21.91	92.17	24.72	92.33	24.47
	33	52.98	12.21	62.64	15.33	73.66	19.13	77.94	20.83	84.63	23.33	90.92	25.66	91.11	25.43
	35	52.98	13.02	62.64	16.25	73.66	20.39	77.94	22.24	84.63	24.92	89.37	26.61	89.49	26.28
	37	52.98	13.81	62.64	17.29	73.66	21.66	77.94	23.73	84.63	26.54	87.81	27.59	88.27	27.29
	39	52.98	14.64	62.64	18.41	73.66	23.11	77.94	25.27	84.63	28.31	86.57	28.58	86.74	28.23
	41	52.98	15.11	62.64	19.28	73.66	23.95	77.94	25.83	84.63	28.40	85.95	29.19	86.13	28.91
	43	52.98	15.88	62.64	20.08	73.66	24.69	77.94	26.52	84.63	29.06	85.53	29.69	85.42	29.35
	46	52.98	16.88	62.64	21.10	73.66	25.71	77.94	27.42	84.63	29.89	85.01	30.00	84.10	29.65
	48	52.98	17.82	62.64	22.07	73.66	26.67	77.94	27.80	84.63	30.07	84.29	30.30	81.86	30.05
	50	50.33	17.34	59.51	21.44	69.98	25.91	74.05	26.95	80.40	29.29	80.07	29.46	77.77	29.16
	52	47.31	16.67	55.94	20.63	65.78	24.98	69.60	26.00	75.58	28.13	75.27	28.40	73.10	28.14
	55	44.48	15.96	52.58	19.81	61.83	24.01	65.43	24.92	71.04	26.98	70.75	27.29	68.71	26.99
80%	-15	47.53	5.55	56.61	6.57	65.35	7.73	70.57	8.27	75.27	8.89	83.74	10.22	92.62	11.66
	-10	47.53	6.00	56.61	7.10	65.35	8.34	70.57	8.96	75.27	9.62	83.74	11.03	92.62	12.56
	-5	47.53	6.47	56.61	7.67	65.35	9.02	70.57	9.64	75.27	10.37	83.74	11.89	92.62	13.55
	-2	47.53	6.57	56.61	7.76	65.35	9.11	70.57	9.82	75.27	10.51	83.74	12.05	92.62	13.70
	0	47.53	6.70	56.61	7.84	65.35	9.20	70.57	9.92	75.27	10.68	83.74	12.20	92.62	13.89
	2	47.53	6.85	56.61	7.97	65.35	9.32	70.57	10.13	75.27	10.88	83.74	12.46	92.62	14.16
	4	47.53	6.96	56.61	8.09	65.35	9.53	70.57	10.34	75.27	11.06	83.74	12.67	92.62	14.35
	6	47.53	7.06	56.61	8.31	65.35	9.69	70.57	10.58	75.27	11.26	83.74	12.84	92.62	14.62
	8	47.53	7.20	56.61	8.49	65.35	9.91	70.57	10.72	75.27	11.54	83.74	13.04	92.62	14.85
	10	47.53	7.26	56.61	8.66	65.35	10.15	70.57	11.00	75.27	11.80	83.74	13.34	92.62	15.02
	12	47.53	7.37	56.61	8.83	65.35	10.35	70.57	11.23	75.27	12.06	83.74	13.63	92.62	15.34
	14	47.53	7.52	56.61	9.00	65.35	10.53	70.57	11.38	75.27	12.26	83.74	13.88	92.62	15.60
	20	47.53	7.90	56.61	9.50	65.35	11.14	70.57	12.09	75.27	12.96	83.74	14.96	92.62	17.34
	25	47.53	8.38	56.61	10.40	65.35	12.60	70.57	13.92	75.27	15.15	83.74	17.75	92.62	20.61
	27	47.53	8.89	56.61	11.06	65.35	13.43	70.57	14.86	75.27	16.17	83.74	18.92	92.62	22.08
	29	47.53	9.47	56.61	11.80	65.35	14.32	70.57	15.81	75.27	17.29	83.74	20.19	92.62	23.54
	31	47.53	10.06	56.61	12.51	65.35	15.25	70.57	16.81	75.27	18.39	83.74	21.63	90.98	24.52
	33	47.53	10.68	56.61	13.34	65.35	16.22	70.57	17.91	75.27	19.56	83.74	22.98	89.74	25.42
	35	47.53	11.31	56.61	14.15	65.35	17.25	70.57	19.05	75.27	20.86	83.74	24.50	88.20	26.31
	37	47.53	12.03	56.61	15.03	65.35	18.35	70.57	20.37	75.27	22.29	83.74	26.15	86.97	27.28
	39	47.53	12.70	56.61	16.06	65.35	19.52	70.57	21.66	75.27	23.71	83.74	27.85	85.43	28.16
	41	47.53	13.02	56.61	16.21	65.35	19.85	70.57	22.23	75.27	24.06	83.74	28.56	84.92	28.69
	43	47.53	13.41	56.61	16.29	65.35	20.11	70.57	22.53	75.27	24.45	83.74	28.89	84.40	29.02
	46	47.53	13.80	56.61	16.52	65.35	20.44	70.57	23.03	75.27	24.81	83.74	29.27	83.27	29.47
	48	47.53	14.22	56.61	16.58	65.35	20.83	70.57	23.38	75.27	25.10	83.74	29.54	82.66	29.81
	50	45.15	13.78	53.78	16.15	62.08	20.16	67.04	22.69	71.50	24.38	79.56	28.72	78.53	28.99
	52	42.44	13.26	50.55	15.51	58.36	19.39	63.02	21.79	67.21	23.34	74.78	27.52	73.81	27.83
	55	39.90	12.76	47.52	14.92	54.86	18.66	59.23	20.98	63.18	22.48	70.30	26.53	69.39	26.86

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

Table continued on next page …

Table2-8.13:30HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70%	-15	40.94	4.88	49.48	5.77	57.26	6.54	61.92	7.08	65.98	7.56	72.97	8.57	80.31	9.72
	-10	40.94	5.26	49.48	6.25	57.26	7.05	61.92	7.68	65.98	8.19	72.97	9.22	80.31	10.52
	-5	40.94	5.70	49.48	6.76	57.26	7.63	61.92	8.28	65.98	8.81	72.97	9.97	80.31	11.38
	-2	40.94	5.75	49.48	6.77	57.26	7.69	61.92	8.43	65.98	9.00	72.97	10.13	80.31	11.50
	0	40.94	5.79	49.48	6.87	57.26	7.86	61.92	8.61	65.98	9.13	72.97	10.33	80.31	11.70
	2	40.94	5.81	49.48	6.89	57.26	7.97	61.92	8.77	65.98	9.30	72.97	10.58	80.31	11.84
	4	40.94	5.88	49.48	7.07	57.26	8.16	61.92	8.91	65.98	9.49	72.97	10.73	80.31	12.16
	6	40.94	5.99	49.48	7.19	57.26	8.34	61.92	9.20	65.98	9.72	72.97	10.90	80.31	12.39
	8	40.94	6.08	49.48	7.40	57.26	8.52	61.92	9.35	65.98	9.95	72.97	11.25	80.31	12.63
	10	40.94	6.21	49.48	7.53	57.26	8.76	61.92	9.51	65.98	10.21	72.97	11.46	80.31	12.74
	12	40.94	6.35	49.48	7.65	57.26	8.96	61.92	9.72	65.98	10.38	72.97	11.67	80.31	13.00
	14	40.94	6.46	49.48	7.79	57.26	9.09	61.92	9.88	65.98	10.58	72.97	11.87	80.31	13.22
	20	40.94	6.77	49.48	8.18	57.26	9.62	61.92	10.43	65.98	11.16	72.97	12.58	80.31	14.16
	25	40.94	7.11	49.48	8.78	57.26	10.51	61.92	11.65	65.98	12.66	72.97	14.64	80.31	16.79
	27	40.94	7.52	49.48	9.31	57.26	11.22	61.92	12.39	65.98	13.54	72.97	15.61	80.31	17.95
	29	40.94	7.98	49.48	9.88	57.26	11.92	61.92	13.24	65.98	14.37	72.97	16.67	80.31	19.19
	31	40.94	8.43	49.48	10.52	57.26	12.72	61.92	14.07	65.98	15.29	72.97	17.77	80.31	20.39
	33	40.94	8.98	49.48	11.16	57.26	13.55	61.92	14.93	65.98	16.34	72.97	18.94	80.31	21.78
	35	40.94	9.48	49.48	11.87	57.26	14.38	61.92	15.95	65.98	17.33	72.97	20.17	80.31	23.21
	37	40.94	10.01	49.48	12.55	57.26	15.30	61.92	16.86	65.98	18.46	72.97	21.44	80.31	24.76
	39	40.94	10.61	49.48	13.31	57.26	16.22	61.92	17.99	65.98	19.60	72.97	22.78	80.31	26.35
	41	40.94	11.10	49.48	13.76	57.26	16.65	61.92	18.54	65.98	20.18	72.97	23.72	80.31	27.55
	43	40.94	11.98	49.48	14.74	57.26	17.36	61.92	19.57	65.98	20.84	72.97	24.68	80.31	28.40
	46	40.94	12.23	49.48	15.07	57.26	17.76	61.92	19.83	65.98	21.86	72.97	25.97	80.31	29.44
	48	40.94	12.49	49.48	15.13	57.26	17.96	61.92	20.19	65.98	22.42	72.97	27.19	80.31	30.22
	50	38.89	12.13	47.00	14.68	54.39	17.40	58.83	19.61	62.68	21.78	69.33	26.46	76.29	29.29
	52	36.56	11.66	44.18	14.10	51.13	16.79	55.30	18.88	58.92	20.93	65.17	25.36	71.72	28.13
	55	34.36	11.22	41.53	13.58	48.06	16.12	51.98	18.17	55.39	20.12	61.26	24.40	67.41	27.14
60%	-15	34.95	4.16	42.10	4.85	49.45	5.72	52.47	6.04	56.46	6.61	62.76	7.32	69.65	8.41
	-10	34.95	4.49	42.10	5.24	49.45	6.16	52.47	6.52	56.46	7.14	62.76	7.91	69.65	9.06
	-5	34.95	4.86	42.10	5.68	49.45	6.66	52.47	7.04	56.46	7.68	62.76	8.56	69.65	9.80
	-2	34.95	4.87	42.10	5.77	49.45	6.80	52.47	7.16	56.46	7.77	62.76	8.68	69.65	9.87
	0	34.95	4.94	42.10	5.82	49.45	6.88	52.47	7.24	56.46	7.90	62.76	8.81	69.65	10.00
	2	34.95	5.03	42.10	5.96	49.45	7.00	52.47	7.37	56.46	8.02	62.76	8.97	69.65	10.15
	4	34.95	5.19	42.10	6.07	49.45	7.15	52.47	7.47	56.46	8.13	62.76	9.15	69.65	10.29
	6	34.95	5.22	42.10	6.19	49.45	7.29	52.47	7.65	56.46	8.29	62.76	9.33	69.65	10.52
	8	34.95	5.33	42.10	6.29	49.45	7.43	52.47	7.77	56.46	8.45	62.76	9.50	69.65	10.69
	10	34.95	5.44	42.10	6.44	49.45	7.52	52.47	7.99	56.46	8.63	62.76	9.65	69.65	10.84
	12	34.95	5.54	42.10	6.54	49.45	7.68	52.47	8.14	56.46	8.77	62.76	9.86	69.65	10.99
	14	34.95	5.61	42.10	6.66	49.45	7.79	52.47	8.28	56.46	8.97	62.76	10.03	69.65	11.23
	20	34.95	5.85	42.10	6.99	49.45	8.20	52.47	8.75	56.46	9.47	62.76	10.60	69.65	11.89
	25	34.95	6.09	42.10	7.29	49.45	8.75	52.47	9.42	56.46	10.29	62.76	11.89	69.65	13.63
	27	34.95	6.33	42.10	7.76	49.45	9.30	52.47	10.08	56.46	11.02	62.76	12.62	69.65	14.57
	29	34.95	6.71	42.10	8.21	49.45	9.92	52.47	10.69	56.46	11.73	62.76	13.48	69.65	15.58
	31	34.95	7.12	42.10	8.70	49.45	10.54	52.47	11.37	56.46	12.44	62.76	14.34	69.65	16.55
	33	34.95	7.51	42.10	9.21	49.45	11.18	52.47	12.07	56.46	13.23	62.76	15.25	69.65	17.64
	35	34.95	7.96	42.10	9.81	49.45	11.88	52.47	12.83	56.46	14.04	62.76	16.24	69.65	18.81
	37	34.95	8.43	42.10	10.38	49.45	12.58	52.47	13.60	56.46	14.95	62.76	17.30	69.65	19.93
	39	34.95	8.87	42.10	10.94	49.45	13.33	52.47	14.45	56.46	15.89	62.76	18.37	69.65	21.29
	41	34.95	9.14	42.10	11.44	49.45	13.80	52.47	15.02	56.46	16.46	62.76	19.21	69.65	22.17
	43	34.95	9.45	42.10	11.89	49.45	14.28	52.47	15.46	56.46	17.03	62.76	20.03	69.65	23.22
	46	34.95	9.91	42.10	12.50	49.45	14.90	52.47	16.02	56.46	17.83	62.76	20.94	69.65	24.44
	48	34.95	10.26	42.10	13.02	49.45	15.38	52.47	16.40	56.46	18.49	62.76	21.67	69.65	25.59
	50	33.20	9.99	39.99	12.65	46.98	14.91	49.85	15.96	53.63	17.98	59.62	21.05	66.17	24.93
	52	31.21	9.60	37.59	12.17	44.16	14.39	46.85	15.35	50.42	17.28	56.04	20.21	62.20	23.94
	55	29.34	9.21	35.34	11.70	41.51	13.78	44.04	14.74	47.39	16.63	52.68	19.43	58.47	22.97

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

Table continued on next page …

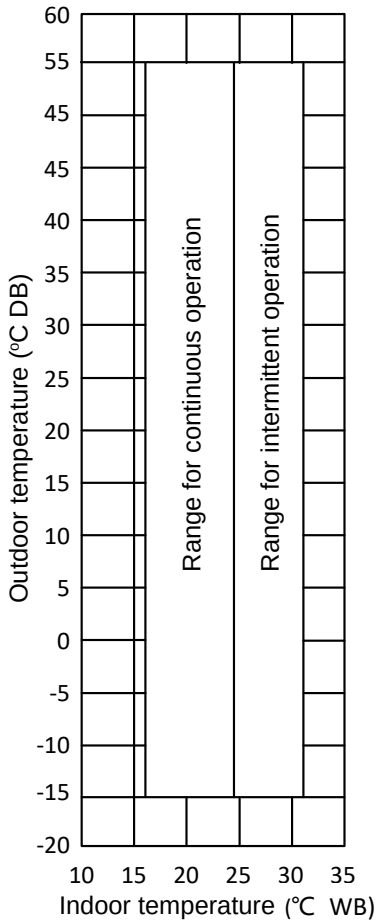
Table2-8.13:30HP Cooling capacity(continued)

CR	Outdoor air temp. (°CDB)	Indoor air temp. (°C DB/WD)													
		20.8/14		23.3/16		25.8/18		27/19		28.2/20		30.7/22		32/24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
50%	-15	29.18	3.60	35.22	4.22	40.95	4.83	43.39	5.04	46.86	5.41	52.21	6.09	58.24	6.58
	-10	29.18	3.88	35.22	4.55	40.95	5.24	43.39	5.43	46.86	5.83	52.21	6.58	58.24	7.12
	-5	29.18	4.20	35.22	4.92	40.95	5.65	43.39	5.87	46.86	6.29	52.21	7.10	58.24	7.69
	-2	29.18	4.23	35.22	5.00	40.95	5.72	43.39	5.96	46.86	6.39	52.21	7.22	58.24	7.77
	0	29.18	4.30	35.22	5.10	40.95	5.82	43.39	6.03	46.86	6.47	52.21	7.32	58.24	7.90
	2	29.18	4.35	35.22	5.15	40.95	5.92	43.39	6.11	46.86	6.58	52.21	7.36	58.24	8.05
	4	29.18	4.40	35.22	5.26	40.95	5.98	43.39	6.20	46.86	6.71	52.21	7.54	58.24	8.26
	6	29.18	4.48	35.22	5.33	40.95	6.08	43.39	6.33	46.86	6.83	52.21	7.65	58.24	8.52
	8	29.18	4.60	35.22	5.42	40.95	6.17	43.39	6.49	46.86	6.93	52.21	7.76	58.24	8.77
	10	29.18	4.70	35.22	5.48	40.95	6.29	43.39	6.56	46.86	7.13	52.21	7.96	58.24	8.90
	12	29.18	4.74	35.22	5.54	40.95	6.37	43.39	6.71	46.86	7.29	52.21	8.13	58.24	9.05
	14	29.18	4.79	35.22	5.62	40.95	6.46	43.39	6.86	46.86	7.38	52.21	8.27	58.24	9.24
	20	29.18	5.01	35.22	5.87	40.95	6.77	43.39	7.16	46.86	7.79	52.21	8.68	58.24	9.74
	25	29.18	5.17	35.22	6.12	40.95	7.09	43.39	7.53	46.86	8.25	52.21	9.41	58.24	10.71
	27	29.18	5.30	35.22	6.37	40.95	7.49	43.39	8.02	46.86	8.73	52.21	9.98	58.24	11.44
	29	29.18	5.55	35.22	6.71	40.95	7.92	43.39	8.51	46.86	9.30	52.21	10.66	58.24	12.17
	31	29.18	5.88	35.22	7.09	40.95	8.39	43.39	9.04	46.86	9.90	52.21	11.32	58.24	12.98
	33	29.18	6.22	35.22	7.51	40.95	8.93	43.39	9.57	46.86	10.49	52.21	12.01	58.24	13.77
	35	29.18	6.59	35.22	7.95	40.95	9.44	43.39	10.14	46.86	11.12	52.21	12.75	58.24	14.59
	37	29.18	6.92	35.22	8.41	40.95	9.97	43.39	10.73	46.86	11.78	52.21	13.51	58.24	15.51
	39	29.18	7.30	35.22	8.89	40.95	10.55	43.39	11.38	46.86	12.52	52.21	14.33	58.24	16.50
	41	29.18	7.61	35.22	9.24	40.95	10.94	43.39	11.86	46.86	13.06	52.21	15.15	58.24	17.27
	43	29.18	8.13	35.22	9.90	40.95	11.30	43.39	12.39	46.86	13.36	52.21	15.86	58.24	18.07
	46	29.18	8.30	35.22	10.17	40.95	12.08	43.39	13.39	46.86	13.95	52.21	17.44	58.24	19.61
	48	29.18	8.48	35.22	10.39	40.95	12.74	43.39	14.28	46.86	14.58	52.21	18.79	58.24	21.06
	50	27.73	8.23	33.46	10.08	38.90	12.36	41.22	13.86	44.52	14.18	49.60	18.29	55.33	20.44
	52	26.06	7.92	31.45	9.71	36.56	11.91	38.74	13.33	41.85	13.63	46.62	17.51	52.01	19.70
	55	24.50	7.58	29.56	9.34	34.37	11.45	36.42	12.80	39.34	13.13	43.83	16.88	48.89	18.90

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

9 Operating Limits

Figure 2-9.1: Cooling operating limits



Notes:

1. These figures assume the following operating conditions:

10 Sound Levels

10.1 Overall

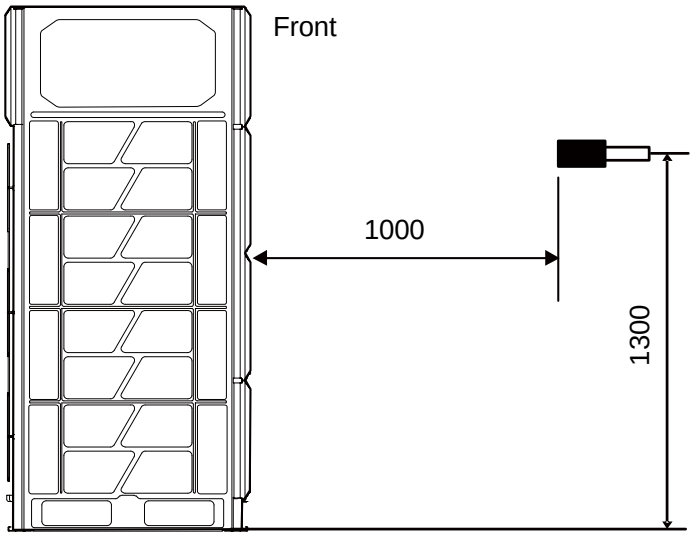
Table 2-10.1: Sound pressure level

Model	dB(A)	Model	dB(A)	Model	dB(A)
8HP	57	36HP	65	64HP	66
10HP	58	38HP	65	66HP	66
12HP	60	40HP	65	68HP	66
14HP	60	42HP	65	70HP	66
16HP	61	44HP	65	72HP	66
18HP	62	46HP	65	74HP	66
20HP	63	48HP	66	76HP	67
22HP	63	50HP	66	78HP	67
24HP	64	52HP	66	80HP	67
26HP	64	54HP	66	82HP	67
28HP	64	56HP	66	84HP	68
30HP	64	58HP	66	86HP	68
32HP	64	60HP	66	88HP	68
34HP	65	62HP	66	90HP	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

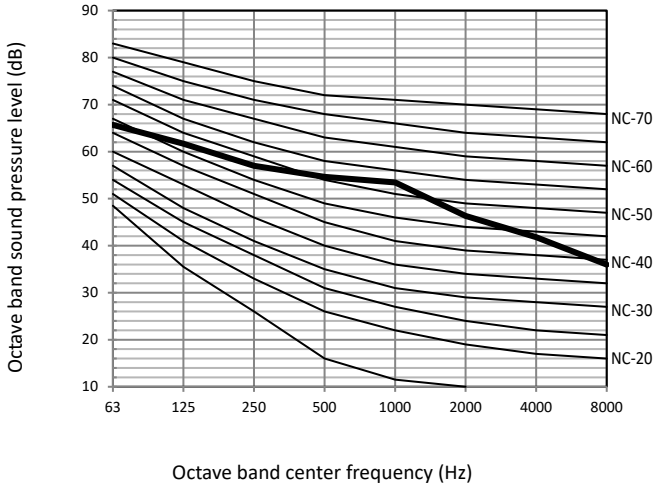


Figure 2-10.3: 10HP octave band level

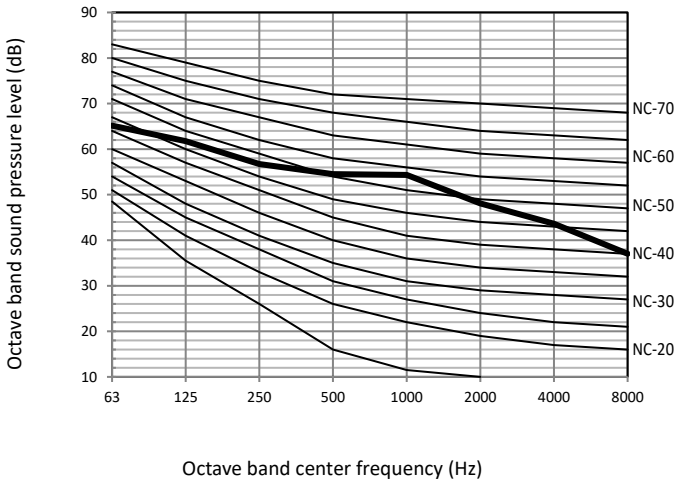


Figure 2-10.4: 12HP octave band level

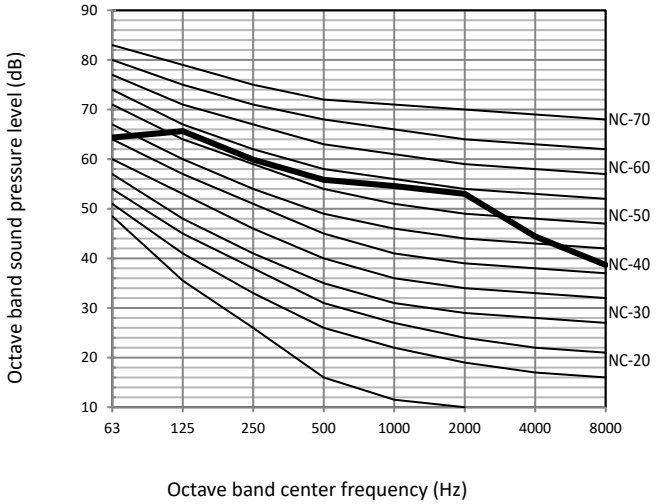


Figure 2-10.5: 14HP octave band level

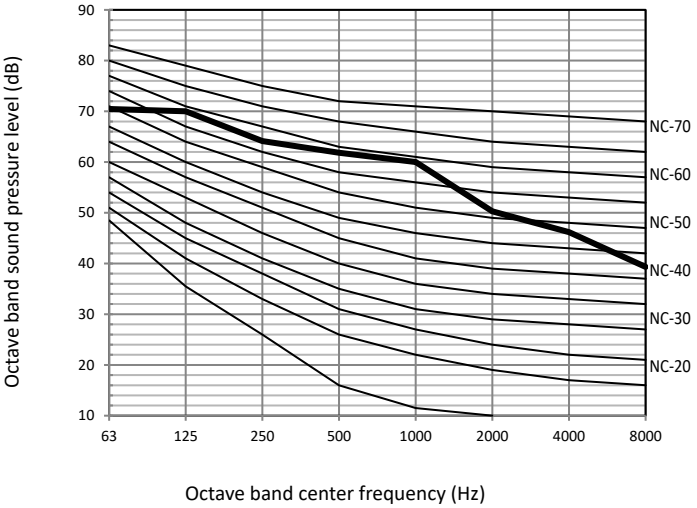


Figure 2-10.6: 16HP octave band level

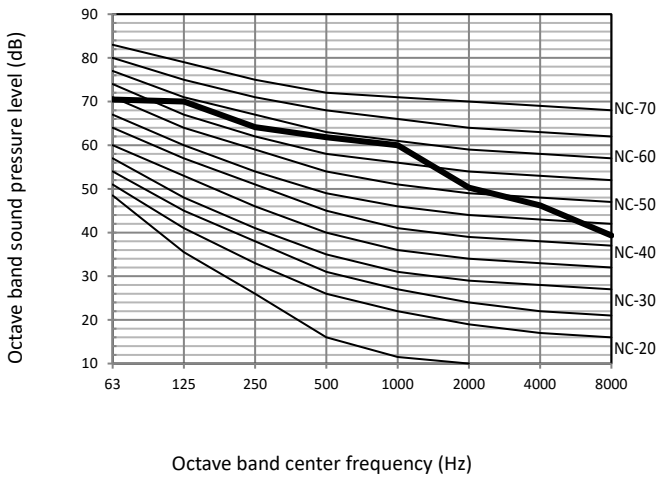


Figure 2-10.7: 18HP octave band level

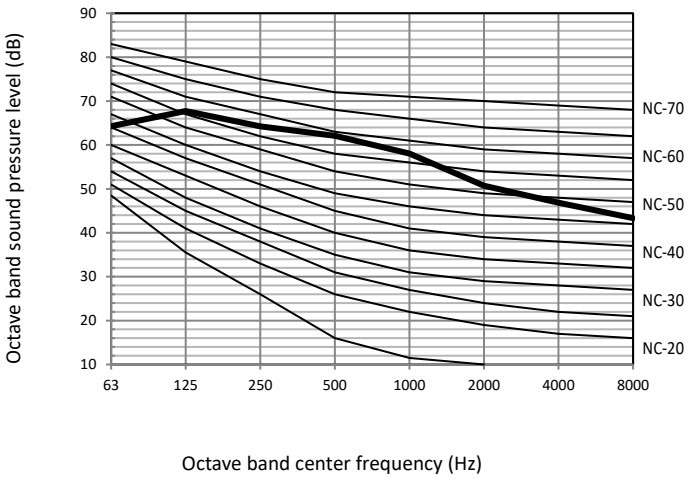


Figure 2-10.8: 20HP octave band level

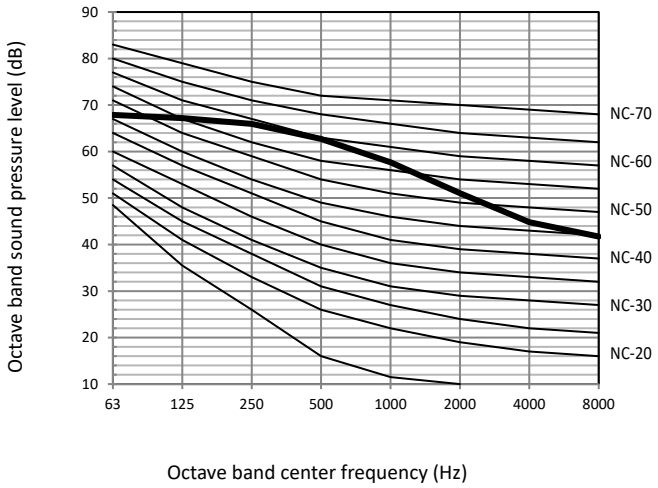


Figure 2-10.9: 22HP octave band level

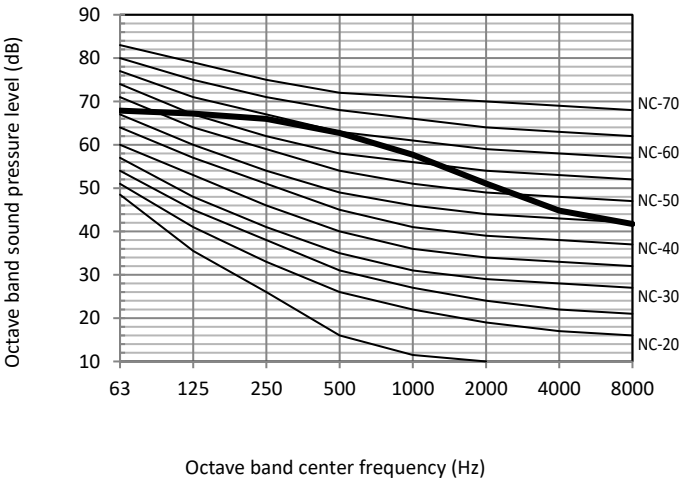


Figure 2-10.10: 24HP octave band level

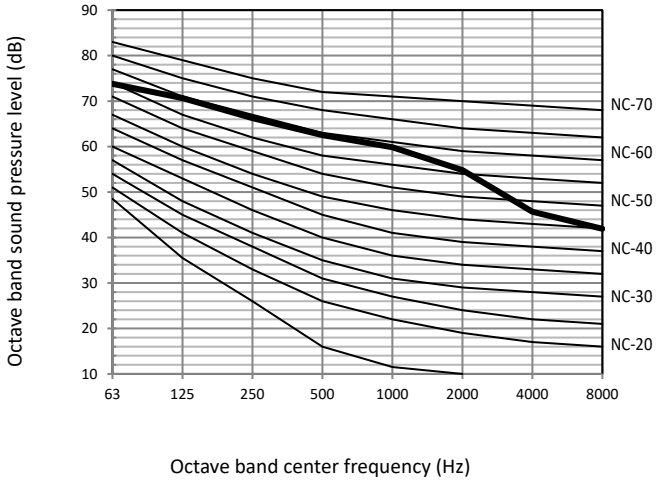


Figure 2-10.11: 26HP octave band level

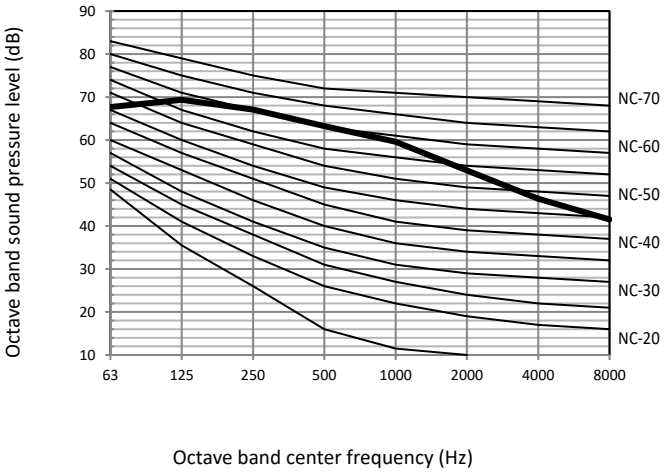


Figure 2-10.12: 28HP octave band level

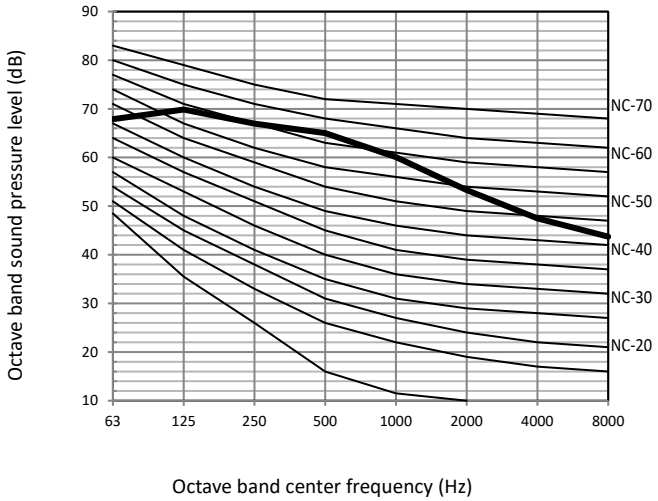
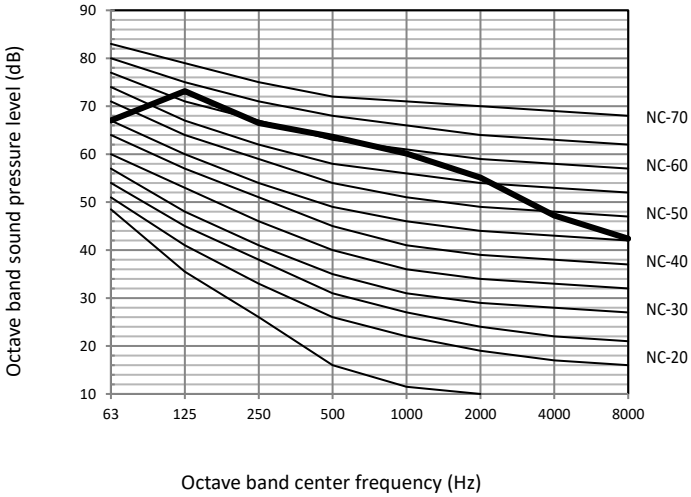


Figure 2-10.13: 30HP octave band level



11 Accessories

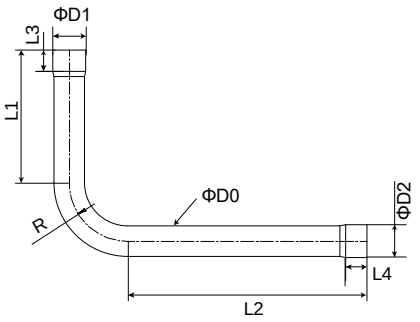
11.1 Standard Accessories

Table 2-11.1: Standard accessories

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

L-shaped pipe

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



	8-12HP		14-16HP		18-24HP		26-30HP	
	Gas	Liquid	Gas	Liquid	Gas	Liquid	Gas	Liquid
ΦD0(OD)	25.4	12.7	28.6	15.9	31.8	22.2	31.8	22.2
ΦD1(ID)	25.4	12.7	28.6	15.9	31.8	22.2	31.8	22.2
ΦD2(ID)	25.4	12.7	28.6	15.9	31.8	19.1	31.8	22.2
L1	130	160	125	155	130	165	130	165
L2	230	265	225	255	130	245	130	165
L3	20	15	20	15	25	20	25	20
L4	20	15	20	15	25	15	25	20
R	50	25	55	30	60	40	60	40

11.2 Optional Accessories

Table 2-11.3: Optional accessories

Optional accessories	Model	Packed dimensions (mm)	Net/gross weight (kg)	Function
Outdoor branch joint kits	FQZHW-02N1E	255×150×185	1.8 / 2.0	Distribute refrigerant to indoor units and balance flow resistance between outdoor units
	FQZHW-03N1E	345×160×285	3.7 / 4.3	
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

1 Preface to Part 3 114

2 Unit Placement and Installation 115

3 Outdoor Unit Ducting and Shielding 119

4 Refrigerant Piping Design 122

5 Refrigerant Piping Installation 132

6 Drain Piping 144

7 Insulation 147

8 Charging Refrigerant 149

9 Electrical Wiring 151

10 Installation in Areas of High Salinity 158

11 Commissioning 159

12 Appendix to Part 3 – System Commissioning Report 163

1 Preface to Part 3

1.1 Notes for Installers Boxes

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

Notes for installers

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

1.2 Definitions

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

1.3 Precautions

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

2 Unit Placement and Installation

2.1 Outdoor Units

2.1.1 Placement considerations

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

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

2.1.2 Spacing

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

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

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

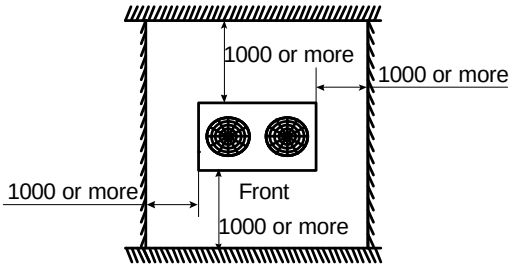


Figure 3-2.2: Single row installation (unit: mm)

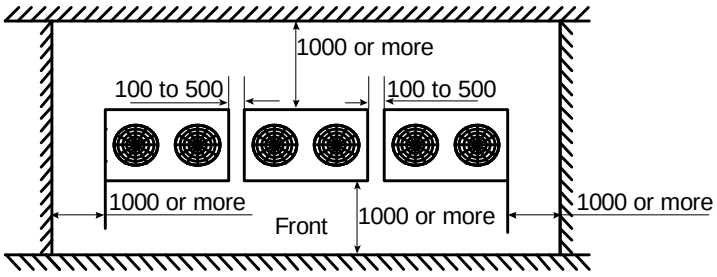
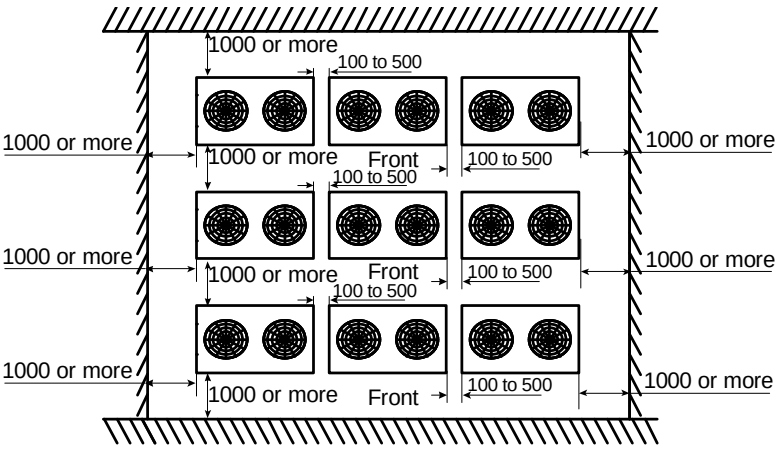


Figure 3-2.3: Multi-row installation (unit: mm)



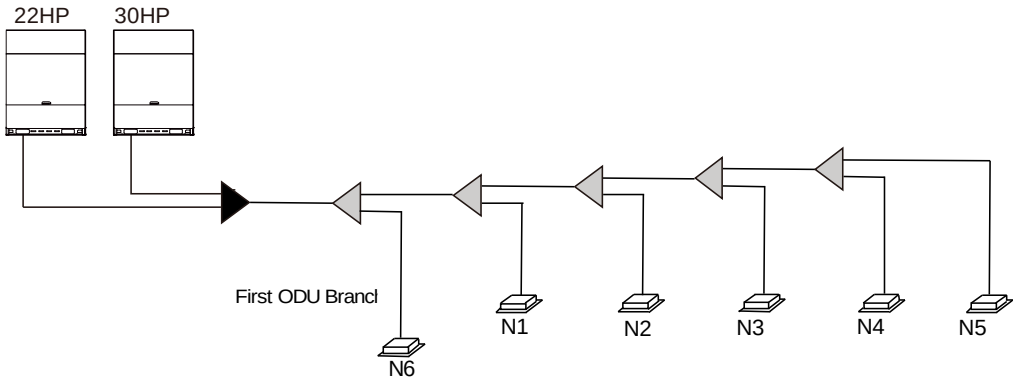
2.1.3 Master and slave unit positioning

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

The example in Figure 3-2.4 illustrates the placing of units in a 52 (30+22) HP combination:

- Place the 30HP unit on the first branch and set it as the master unit.
- Place the 22HP units on the next branches and set them as slave units.

Figure 3-2.4: Positioning of master and slave units



2.1.4 Base structures

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

- A solid base prevents excess vibration and noise. Outdoor unit bases should be constructed on solid ground or on structures of sufficient strength to support the units' weight.
- Bases should be at least 200mm high to provide sufficient access for installation of piping.
- Either steel or concrete bases may be suitable.
- A typical concrete base design is shown in Figure 3-2.5. A typical concrete specification is 1 part cement, 2 parts sand and 4 parts crushed stone with Φ8mm steel reinforcing bar. The edges of the base should be chamfered.
- Use four ground bolts (M8) to secure the unit in place. Best is to screw in the ground bolt until it is embedded in the base surface by at least 3 threads.
- To ensure that all contact points are equally secure, bases should be completely level. Base design should ensure that the points on the units' bases designed for weight-bearing support are fully supported. Bolt spacings should be as per Figure 3-2.6 and Table 3-2.1.

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

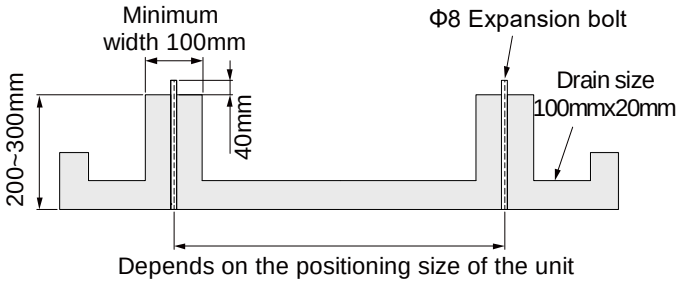


Figure 3-2.6: Expansion bolt positioning

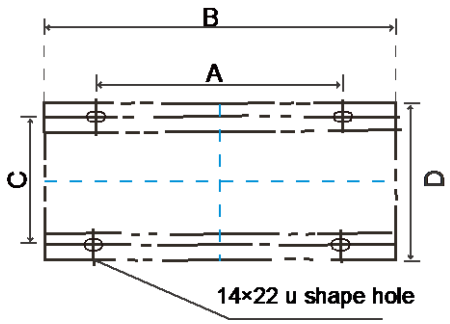


Table 3-2.1: Expansion bolt spacings (unit: mm)

Dimension	8-16HP	18-30HP
A	705	1105
B	960	1360
C	710	710
D	850	850

2.1.5 Acceptance and unpacking

Notes for installers

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

2.1.6 Hoisting

Notes for installers

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

Figure 3-2.7: Hoisting

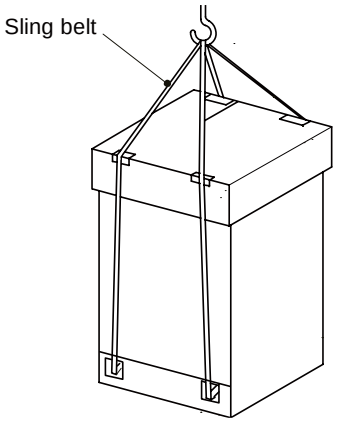


Figure 3-2.8: 8-16HP Center of gravity

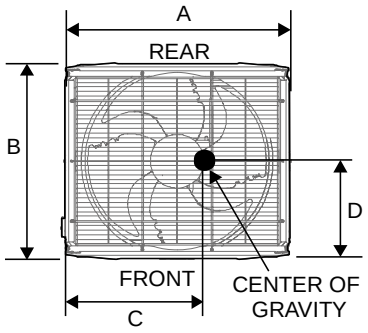
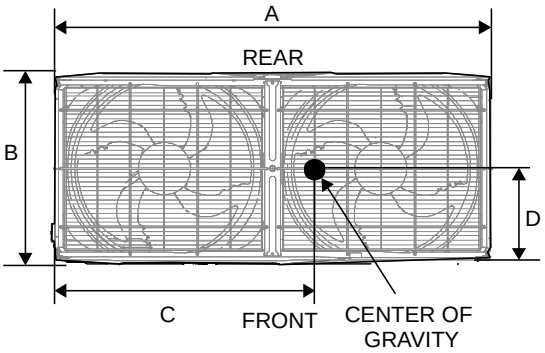


Figure 3-2.9: 18-30HP Center of gravity



Dimension	8-16HP	18-30HP
A	940	1340
B	825	825
C	449	609
D	487	424

2.2 Indoor Units

2.2.1 Placement considerations

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

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

Notes for installers

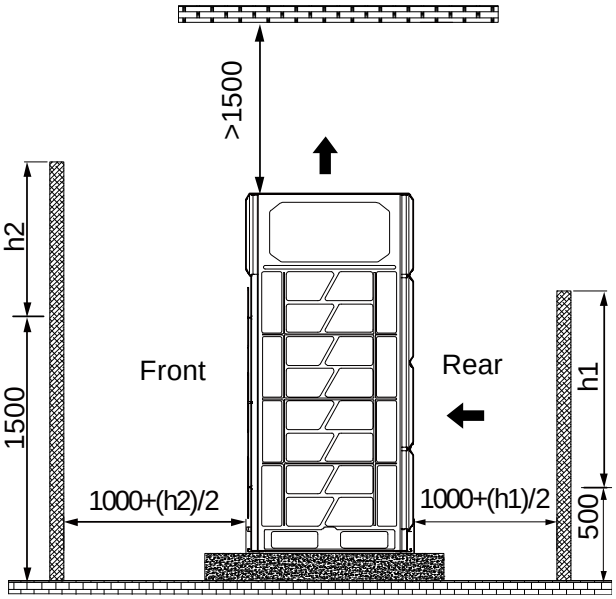
- Before installing an indoor unit, check that the model to be installed is as specified in the construction drawings and confirm the correct orientation of the unit.
- Ensure that units are installed at the correct height.
- To allow smooth condensate drainage and to ensure unit stability (to prevent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

3 Outdoor Unit Ducting and Shielding

3.1 Ducting Requirements

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

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

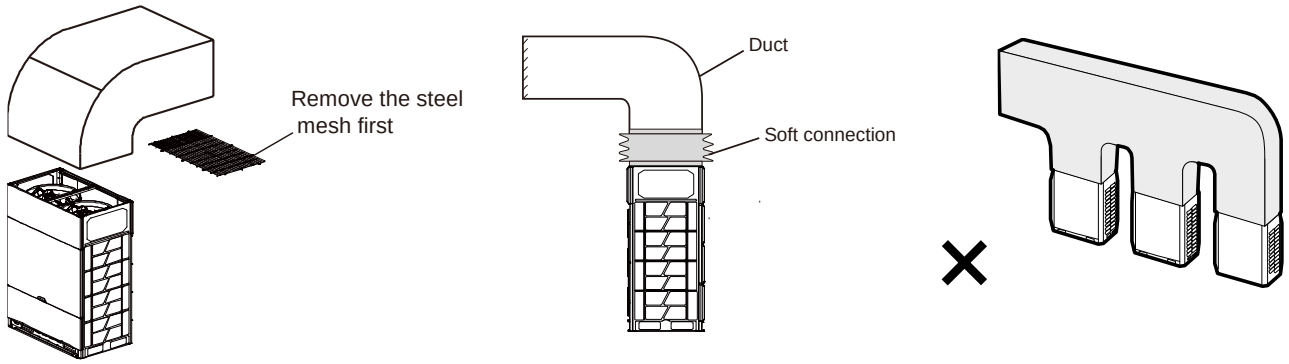


3.2 Design Considerations

Outdoor unit ducting design should take account of the following:

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

Figure 3-3.2: Ducting requirements



3.3 Transverse Ducting

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

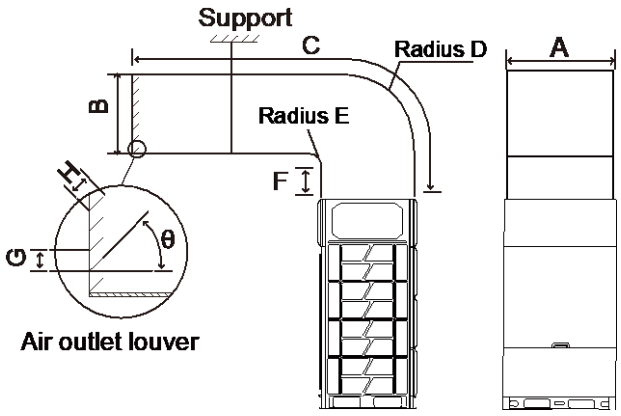


Table 3-3.1: Duct dimensions (unit: mm)

	8-16HP	18-30HP
A	800	1290
B	770≤B≤800	770≤B≤800
C	≤ 3000	≤ 3000
D	D= E+770	D= E+770
E	≥ 300	≥ 300
F	≥ 250	≥ 250
θ	Θ ≤ 15°	Θ ≤ 15°
G	≥ 100	≥ 100
H	≤ 90	≤ 90

Table 3-3.2: External static pressure

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

3.4 Longitudinal Ducting

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

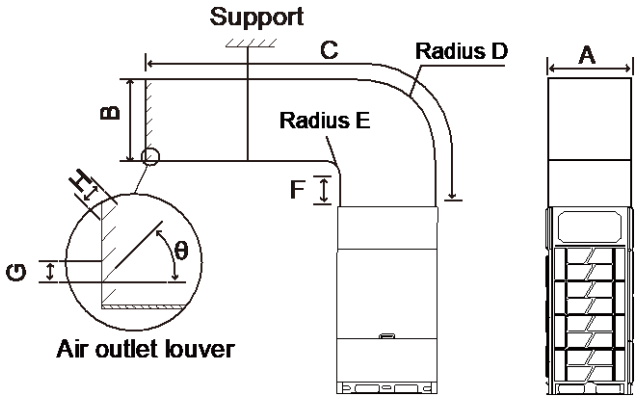


Table 3-3.3: Duct dimensions (unit: mm)

	8-16HP	18-30HP
A	770	770
B	820	1310
C	≤ 3000	≤ 3000
D	D= E+800	D= E+1290
E	≥ 300	≥ 300
F	≥ 250	≥ 250
θ	Θ ≤ 15°	Θ ≤ 15°
G	≥ 100	≥ 100
H	≤ 90	≤ 90

Table 3-3.4: External static pressure

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

3.5 Fan Performance

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

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

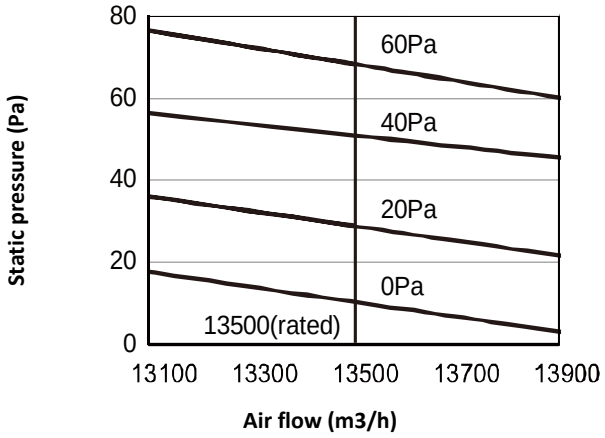


Figure 3-3.10: 14-16HP units fan performance

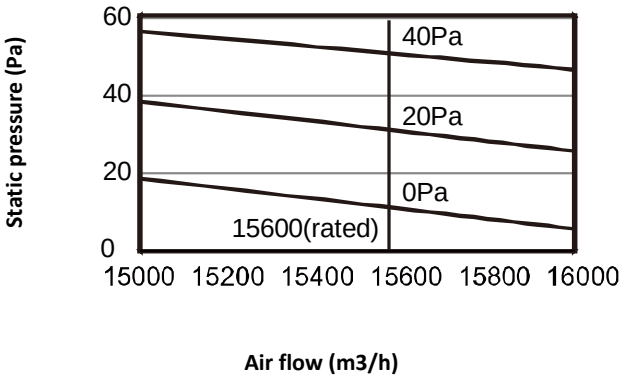
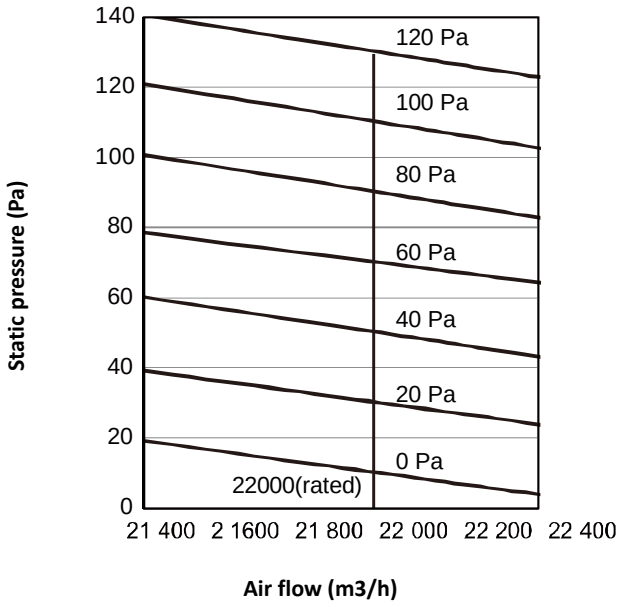


Figure 3-3.11: 18-30HP units fan performance



Notes for installers

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

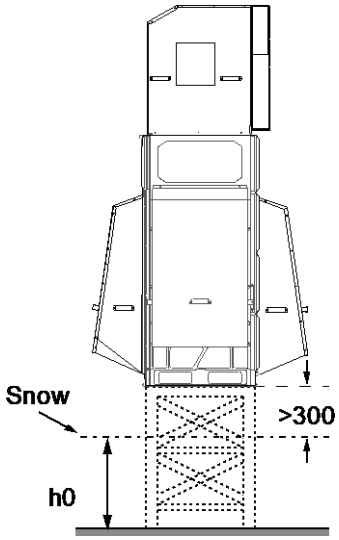
Notes for installers

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

3.6 Snow Shielding

In areas of high snowfall, snow shields should be installed on air inlets and outlets to prevent snow from entering the units. Additionally, the foundation or base height of ODU is required to be the expected maximum snowfall thickness h0 + 300mm, preventing the snow from exceeding the bottom of the unit.

Figure 3-3.14: Outdoor unit snow shielding



4 Refrigerant Piping Design

4.1 Design Considerations

Refrigerant piping design should take account of the following considerations:

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

4.2 Material Specification

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

Table 3-4.1: Piping temper and thickness

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

Notes:

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

4.3 Permitted Piping Lengths and Level Differences

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

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

   Conditions:

   a) Each indoor auxiliary pipe (from each indoor unit to its nearest branch joint) joint does not exceed 40m in length (a to k each ≤ 40m).

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

   Measures:

   a) Increase the diameter of the indoor main pipes (the gas and liquid piping between the first indoor branch joint and all other indoor branch joints, L_2 to L_{10}) as per Table 3-4.2, except for indoor main pipes which are already the same size as the main pipe (L_1), for which no diameter increases are required.

Table 3-4.2: Diameter increase requirements

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

4. **Requirement 4:** The largest level difference between indoor unit and outdoor unit should not exceed 110m. Additionally: (i) If the outdoor unit is above and the level difference is greater than 20m, it is recommended that an oil return bend with dimensions as specified in Figure 3-4.1 is set every 10m in the gas pipe of the main pipe; and (ii) if the level difference is more than 50m (the outdoor unit is above) or 40m (the outdoor unit is below), the liquid pipe of the main pipe (L_1) should be selected according to Table 3-4.5 when equivalent length to the farthest IDU ≥ 90m.

Figure 3-4.1: Oil return bend

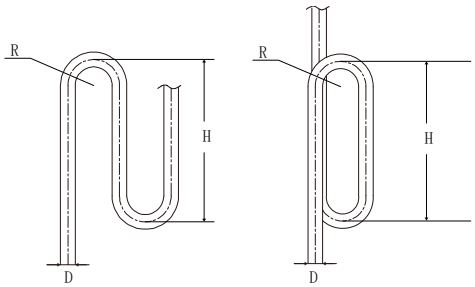
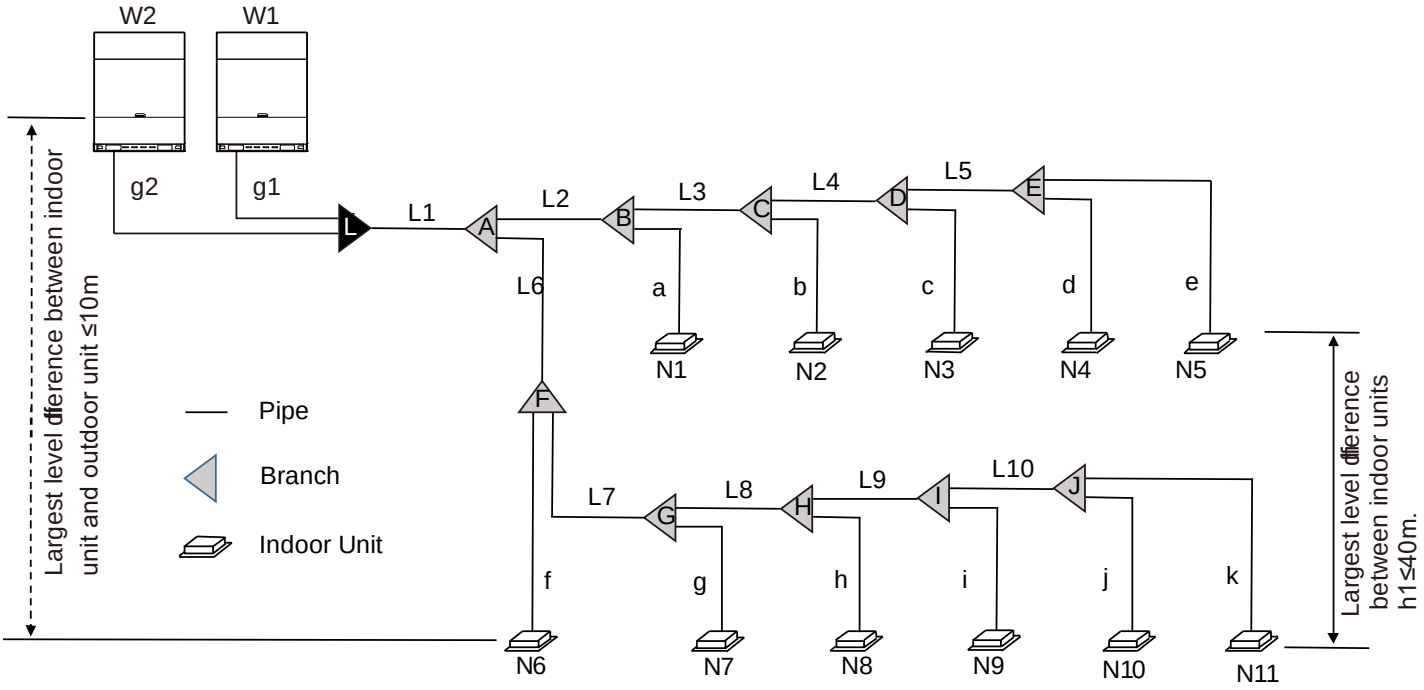


Table 3-4.3: Oil return bend requirements unit (mm)

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

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

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



Legend		
L_1	Main pipe	Figures in parentheses indicate indoor unit capacity indexes.
L_2 to L_{10}	Indoor main pipes	
a to k	Indoor auxiliary pipes	
A to J	Indoor branch joints	
L, M	Outdoor branch joints	
g1 to g3, G_1	Outdoor connection pipes	

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

			Permitted values	Piping in Figure 3-4.2
Piping lengths	**Total piping length**[1]		≤ 1100m	$L_1 + 2 \times \Sigma\{L_2 \text{ to } L_{10}\} + \Sigma\{a \text{ to } k\}$
	Piping between farthest indoor unit and first outdoor branch joint[2]	**Actual length**	≤ 220m	$L_1 + \Sigma\{L_6 \text{ to } L_{10}\} + k$
		Equivalent length	≤ 260m	
	Piping between farthest indoor unit and first indoor branch joint[3]		≤ 40m/120m	$\Sigma\{L_6 \text{ to } L_{10}\} + k$
	Piping between outdoor unit and outdoor branch joint		≤ 10m	g1+G1 ≤ 10m; g2+G1 ≤ 10m; g3 ≤ 10m
Level differences	**Largest level difference between indoor unit and outdoor unit**[4]		≤ 110m	
	Largest level difference between indoor units[5]		≤ 40m	

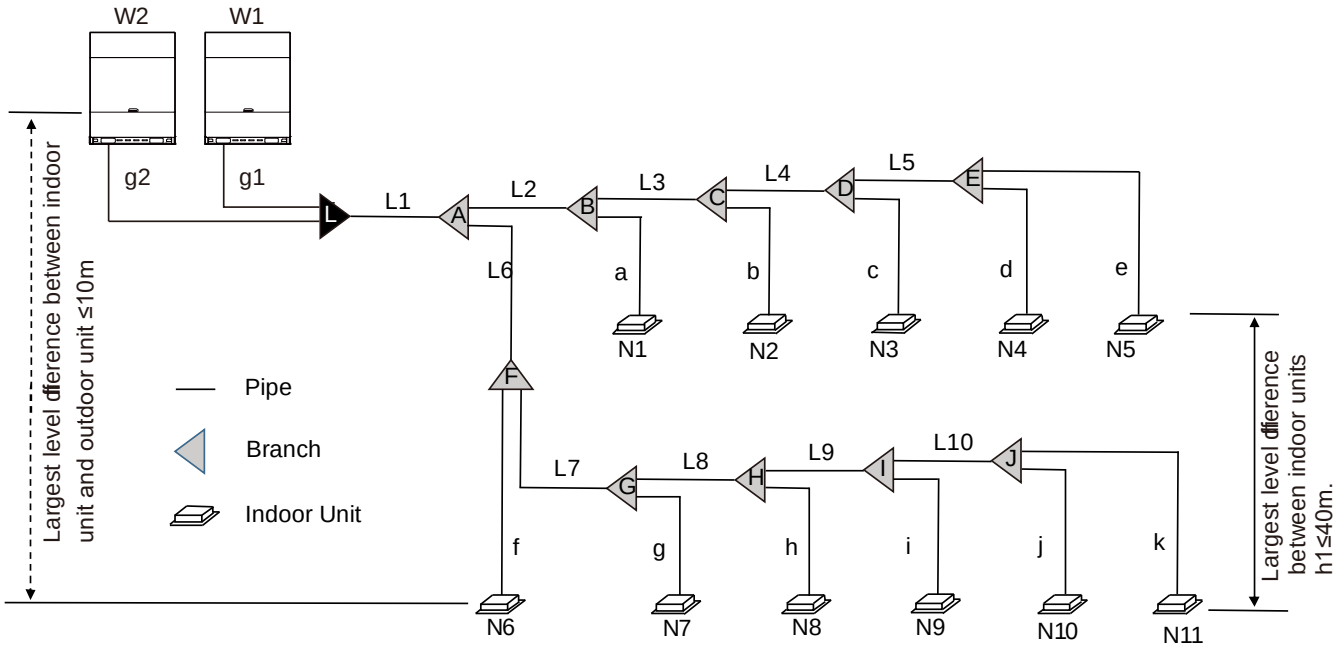
Notes:

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

4.4 Selecting Piping Diameters

Tables 3-4.5 to 3-4.9, below, specify the required pipe diameters for the indoor and outdoor piping. The main pipe (L_1) and first indoor branch joint (A) should be sized according to 3-4.5.

Figure 3-4.3: Selecting piping diameters



Legend		
L_1	Main pipe	Figures in parentheses indicate indoor unit capacity indexes.
L_2 to L_{10}	Indoor main pipes	
a to k	Indoor auxiliary pipes	
A to J	Indoor branch joints	
L, M	Outdoor branch joints	
g1 to g3, G_1	Outdoor connection pipes	

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
26-34HP	Φ31.8	Φ19.1	FQZHN-03D	Φ38.1	Φ22.2	FQZHN-04D
36-54HP	Φ38.1	Φ19.1	FQZHN-04D	Φ41.3	Φ22.2	FQZHN-05D
56-66HP	Φ41.3	Φ19.1	FQZHN-05D	Φ44.5	Φ22.2	FQZHN-05D
68-82HP	Φ44.5	Φ22.2	FQZHN-05D	Φ50.8	Φ25.4	FQZHN-06D
84-90HP	Φ50.8	Φ22.2	FQZHN-06D	Φ54.0	Φ25.4	FQZHN-06D

Notes:

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

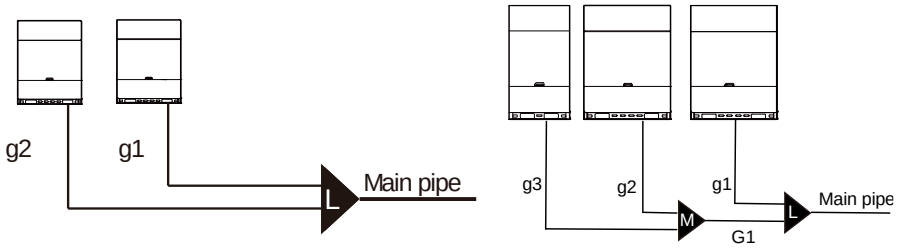
Table 3-4.6: Indoor main pipes (L_2 to L_{10}) and indoor branch joint kits

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

Notes:

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.

Figure 3-4.4: Outdoor connection pipes



Two units' combination　　Three units' combination

Pipes	Outdoor unit capacity	Gas pipe (mm)	Liquid pipe (mm)
g1 to g2	8-12HP	Φ25.4	Φ12.7
	14-24HP	Φ31.8	Φ15.9
	26-30HP	Φ38.1	Φ19.1

Pipes	Outdoor unit capacity	Gas pipe (mm)	Liquid pipe (mm)
g1 to g3	8-12HP	Φ25.4	Φ12.7
	14-24HP	Φ31.8	Φ15.9
	26-30HP	Φ38.1	Φ19.1
G1	/	Φ41.3	Φ22.2

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

No. of outdoor units	Branch joint kit
2	FQZHW-02N1E
3	FQZHW-03N1E

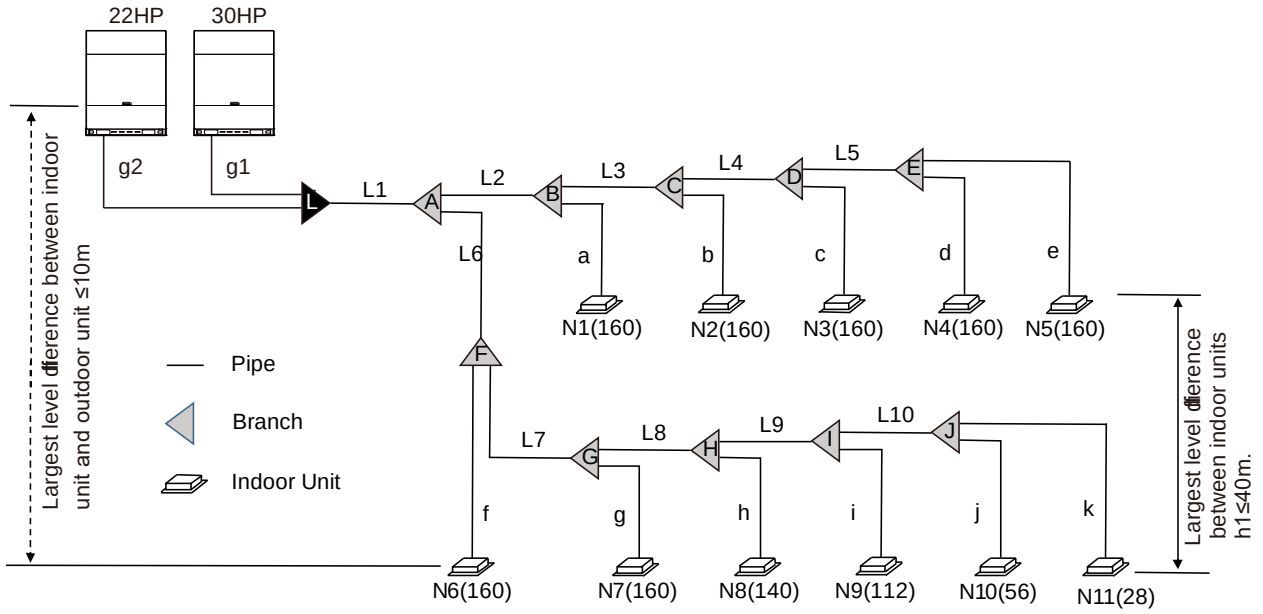
Table 3-4.10: Indoor auxiliary pipes (a to k)

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

4.5 Refrigerant Piping Selection Example

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

Figure 3-4.4: Refrigerant piping selection example



Legend	
L_1	Main pipe
L_2 to L_{10}	Indoor main pipes
a to k	Indoor auxiliary pipes
A to J	Indoor branch joints
L	Outdoor branch joints
g1 , g2	Outdoor connection pipes
Figures in parentheses indicate indoor unit capacity indexes.	

Step 1: Select indoor auxiliary pipes

- Indoor units N_1 to N_9 are of capacity greater than 5.6kW. Refer to Table 3-4.8. Indoor auxiliary pipes a to i are Φ15.9 / Φ9.52.
- Indoor units N_{10} and N_{11} are of capacity 5.6kW or less. Refer to Table 3-4.8. Indoor auxiliary pipes g and l are Φ12.7 / Φ6.35.

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

- The indoor units (N4 and N5) downstream of indoor branch E have total capacity of 16 x 2=32kW. Refer to Table 3-4.6. Indoor main pipe L5 is Φ22.2 / Φ9.52. Indoor branch joint E is FQZHN-02D.
- The indoor units (N3 to N5) downstream of indoor branch E have total capacity of 16 x 3=48kW. Refer to Table 3-4.6. Indoor main pipe L4 is Φ28.6 /Φ15.9. Indoor branch joint D is FQZHN-03D.
- The indoor units (N2 to N5) downstream of indoor branch C have total capacity of 16 x 4=64kW. Refer to Table 3-4.6.

Indoor main pipe L3 is Φ28.6 /Φ15.9. Indoor branch joint C is FQZHN-03D.

- The indoor units (N1 to N5) downstream of indoor branch B have total capacity of 16 x 5=80kW. Refer to Table 3-4.6. Indoor main pipe L2 is Φ31.8/Φ19.1 Indoor branch joint B is FQZHN-03D.
- The indoor units (N10 and N11) downstream of indoor branch J have total capacity of 5.6+2.8= 8.4 kW. Refer to Table 3-4.6. Indoor main pipe L10 is Φ15.9/Φ9.52. Indoor branch joint J is FQZHN-01D.
- The indoor units (N9 to N11) downstream of indoor branch I have total capacity of 8.4+11.2=19.6 kW. Refer to Table 3-4.6. Indoor main pipe L9 is Φ19.1/Φ9.52. Indoor branch joint I is FQZHN-01D.
- The indoor units (N8 to N11) downstream of indoor branch H have total capacity of 19.6+14=33.6 kW. Refer to Table 3-4.6. Indoor main pipe L8 is Φ28.6/Φ12.7. Indoor branch joint H is FQZHN-03D.
- The indoor units (N7 to N11) downstream of indoor branch G have total capacity of 33.6+16=49.6 kW. Indoor main pipe L7 is Φ28.6/Φ15.9. Indoor branch joint G is FQZHN-03D.
- The indoor units (N6 to N11) downstream of indoor branch F have total capacity of 49.6+16=65.6 kW. Refer to Table 3-4.6. Indoor main pipe L6 is Φ28.6/Φ15.9. Indoor branch joint F is FQZHN-03D.

Step 3: Select main pipe and indoor branch joint A

- The system's equivalent length of all liquid pipes is in excess of 90m. The total capacity of the outdoor units is 30 + 22 = 52HP. Refer to Tables 3-4.5. Main pipe L_1 is the larger of Φ38.1/ Φ19.1. Indoor branch joint A is FQZHN-04D.

Step 4: Select outdoor connection pipes and outdoor branch joints

- The master unit is 30HP and the slave units is 22HP. Refer to Table 3-4.7. Outdoor connection pipes g1 is Φ38.1/19.1, g2 is Φ31.8 / Φ15.9.
- There are two outdoor units in the system. Refer to Table 3-4.8. Outdoor branch joints L is FQZHW-02N1E.

4.6 Branch Joints

Branch joint design should take account of the following:

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

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

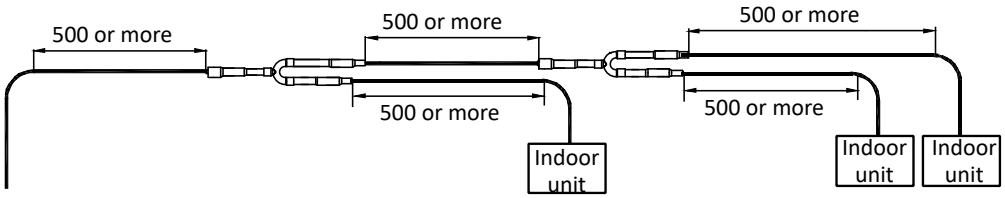


Table 3-4.9: Indoor branch joint dimensions (unit: mm)

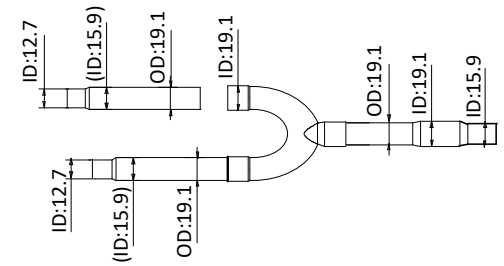
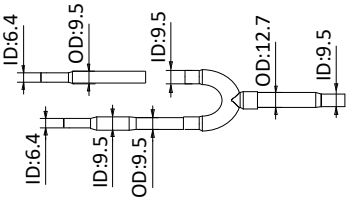
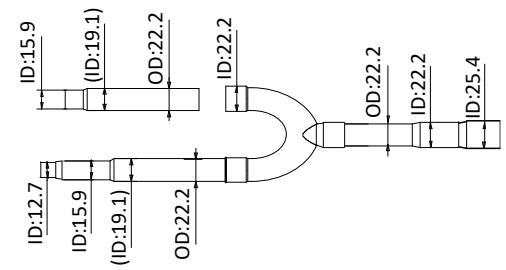
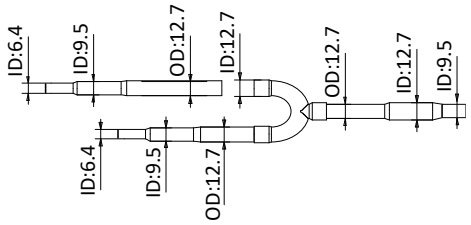
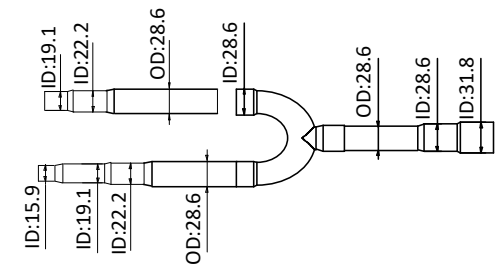
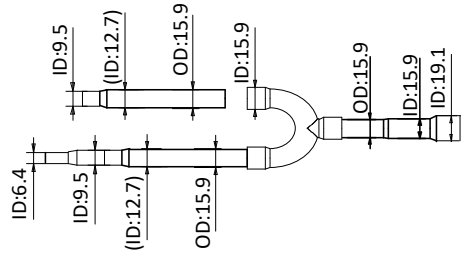
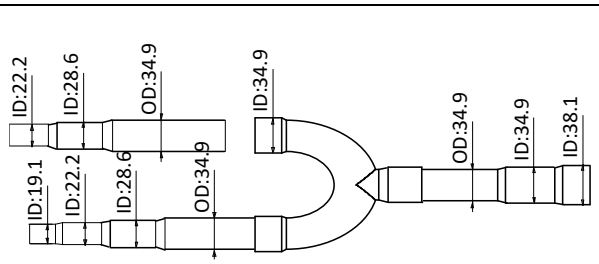
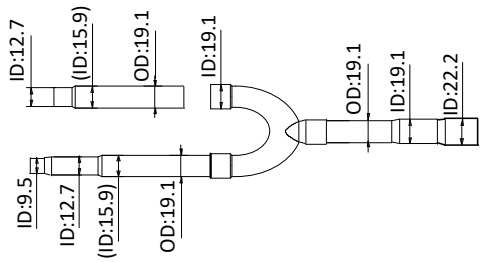
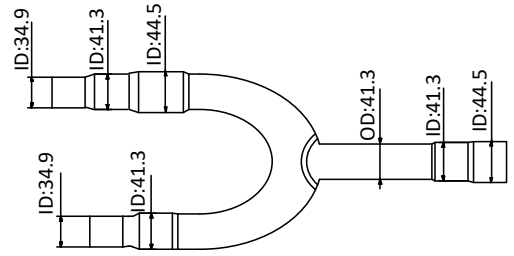
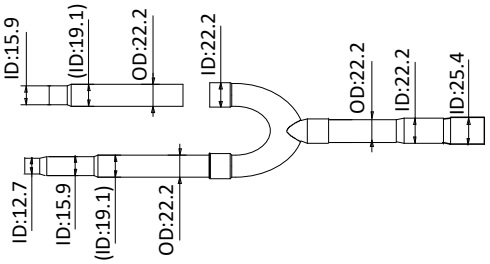
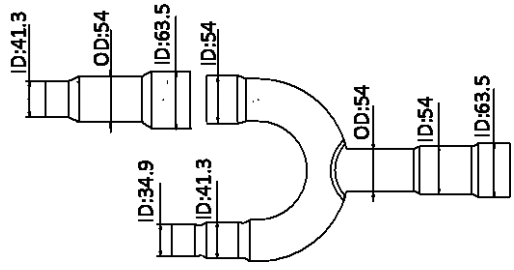
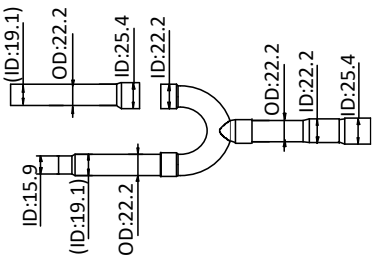
Model	Gas side joints	Liquid side joints
FQZHN-01D		
FQZHN-02D		
FQZHN-03D		
FQZHN-04D		
FQZHN-05D		
FQZHN-06D		

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

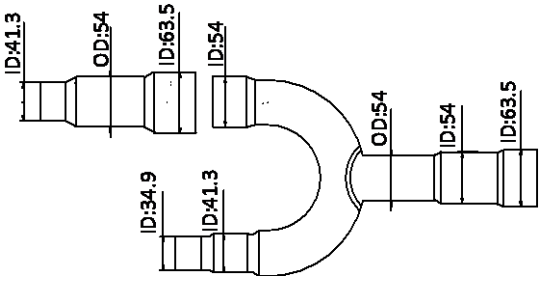
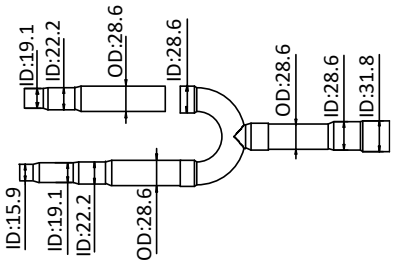
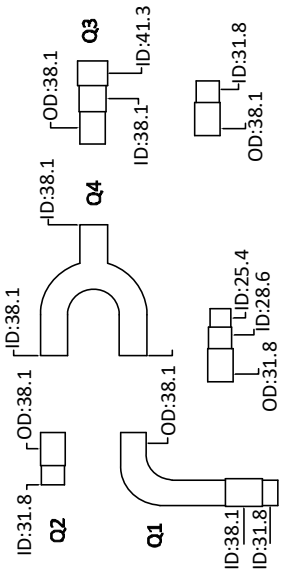
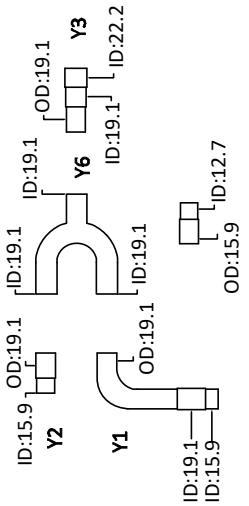
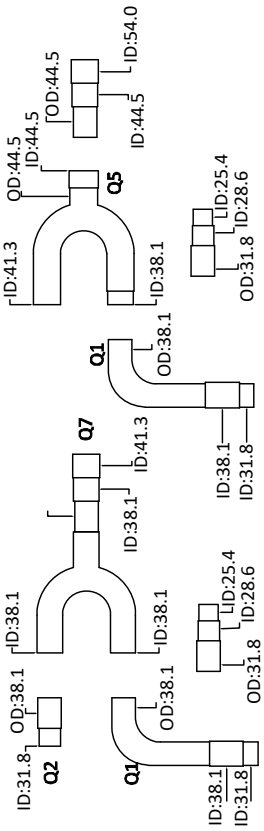
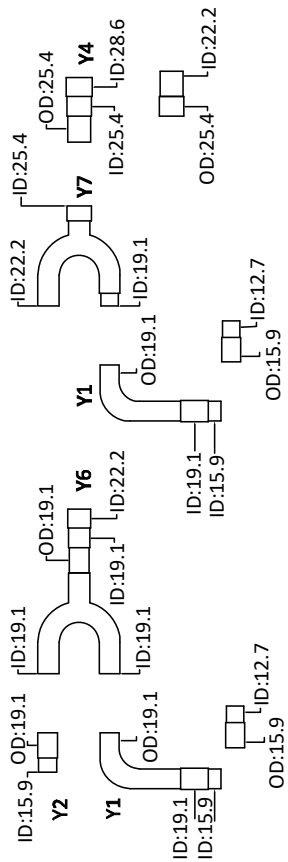
Model	Gas side joints	Liquid side joints
FQZHN-07D		

Table 3-4.10: Outdoor branch joint dimensions combined units (unit: mm)

No. of outdoor units	Model	Gas side joints	Liquid side joints
2	FQZHW-02N1E		
3	FQZHW-03N1E		

4.7 Refrigerant Leakage Precautions

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

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

Figure 3-4.6: Potential refrigerant leak scenario

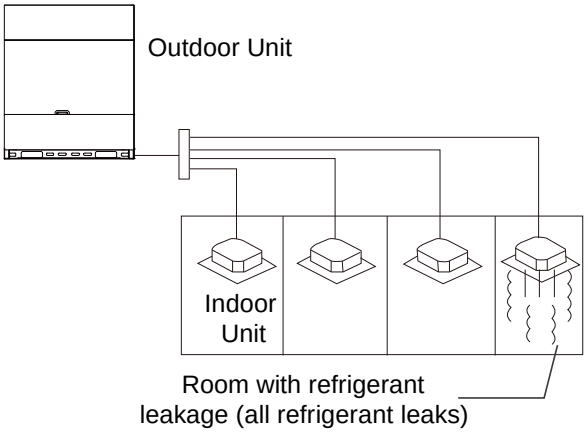
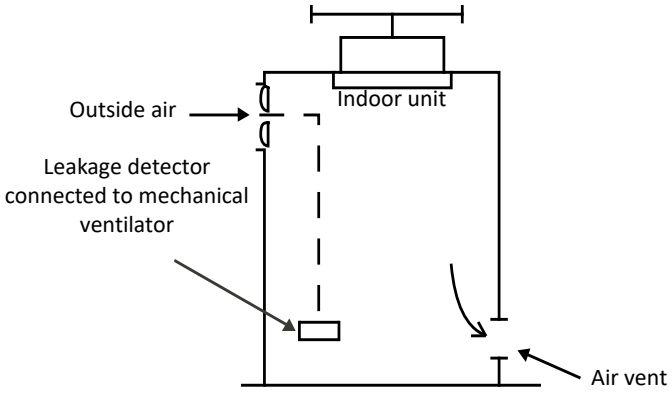


Figure 3-4.7: Mechanical ventilator controlled by refrigerant leak detector



5 Refrigerant Piping Installation

5.1 Procedure and Principles

5.1.1 Installation procedure

Notes for installers

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

Pipe insulation → Pipe brazing and installation → Pipe flushing → Gastightness test → Joint insulation → Vacuum drying

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

5.1.2 Three principles for refrigerant piping

	Reasons	Measures
CLEAN	Particles such as oxide produced during brazing and/or building dust can lead to compressor malfunction	▪ Seal piping during storage[1] ▪ Flow nitrogen during brazing[2] ▪ Pipe flushing[3]
DRY	Moisture can lead to ice formation or oxidization of internal components leading to abnormal operation or compressor damage	▪ Pipe flushing[3] ▪ Vacuum drying[4]
SEALED	Imperfect seals can lead to refrigerant leakage	▪ Pipe manipulation[5] and brazing[2] techniques ▪ Gastightness test[6]

Notes:

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

5.2 Storing Copper Piping

5.2.1 Pipe delivery, storage and sealing

Notes for installers

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

5.3 Manipulating Copper Piping

5.3.1 De-oiling

Notes for installers

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

Caution

- Never use carbon tetrachloride (CCl_4) for pipe cleansing or flushing, as doing so will seriously damage the system.

5.3.2 Cutting copper piping and removing burrs

Notes for installers

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

5.3.3 Expanding copper piping ends

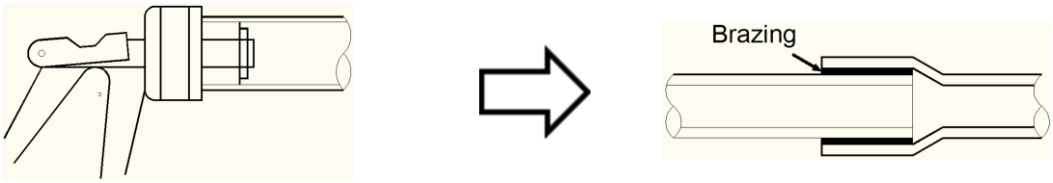
Notes for installers

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

Caution

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

Figure 3-5.1: Expanding copper piping ends



5.3.4 Flared joints

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

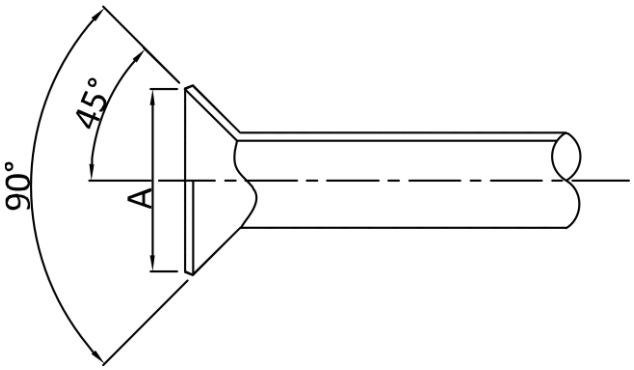
Notes for installers

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

Table 3-5.1: Flared opening size ranges

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

Figure 3-5.2: Flared opening



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

5.3.5 Bending piping

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

Notes for installers

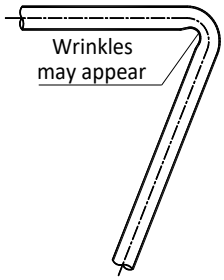
Piping bending methods

- Hand bending is suitable for thin copper piping (Φ6. 35mm - Φ12. 7mm).
- Mechanical bending (using a bending spring, manual bending machine or powered bending machine) is suitable for a wide range of diameters (Φ6. 35mm - Φ54.0mm).

Caution

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

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



5.4 Refrigerant Piping Supports

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

Table 3-5.2: Refrigerant piping support spacings

Pipe (mm)	Interval between support points (m)	
	Horizontal Piping	Vertical Piping
< Φ20	1	1.5
Φ20 – Φ40	1.5	2
> Φ40	2	2.5

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

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

5.5 Brazing

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

Notes for installers

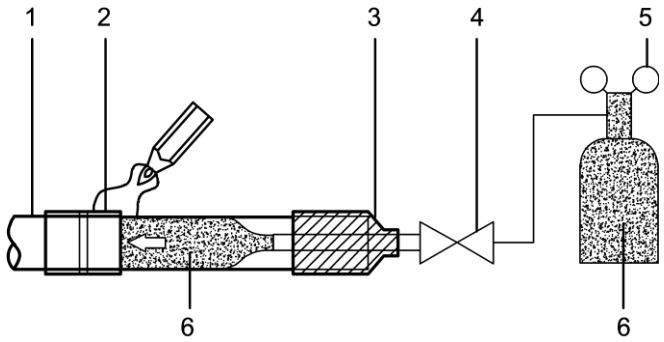
Warning

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

Flowing nitrogen during brazing

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

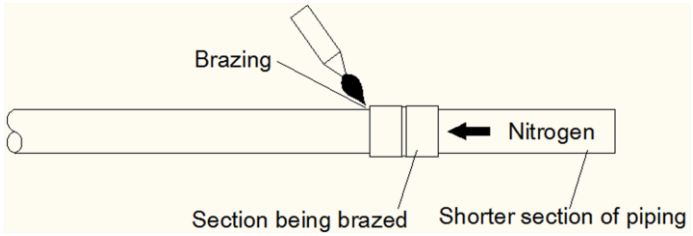
Figure 3-5.4: Flowing nitrogen through piping during brazing

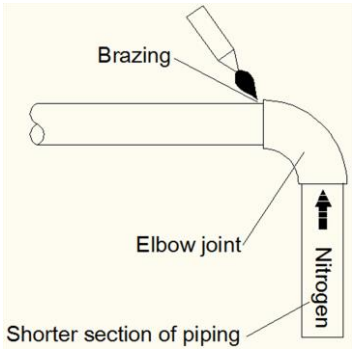


Legend	
1	Copper piping
2	Section being brazed
3	Nitrogen connection
4	Hand valve
5	Pressure-reducing valve
6	Nitrogen

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

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





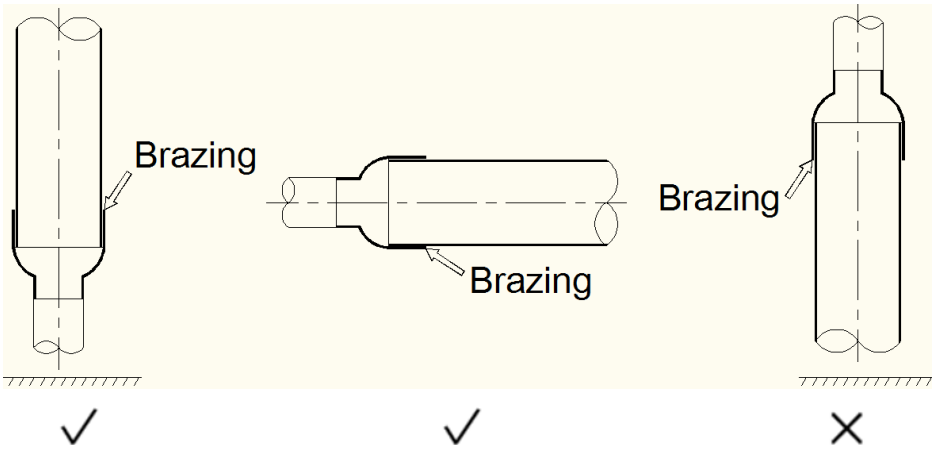
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Piping orientation during brazing

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

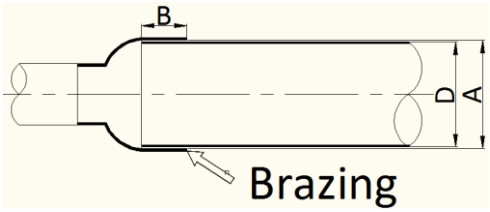
Figure 3-5.6: Piping orientation during brazing



Piping overlap during brazing

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

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



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

Table 3-5.3: Piping overlap and gap for brazed joints[1]

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

Notes:

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

Filler

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

5.6 Branch Joints

Notes for installers

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

Figure 3-5.8: Branch joint orientation

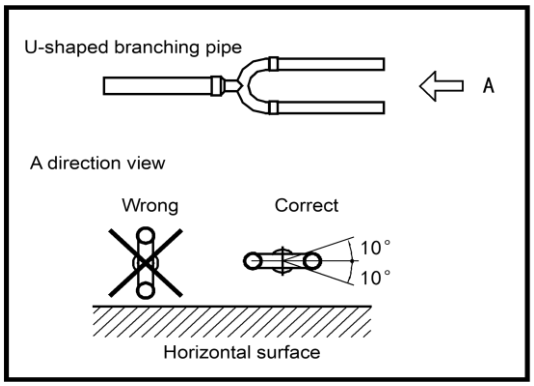
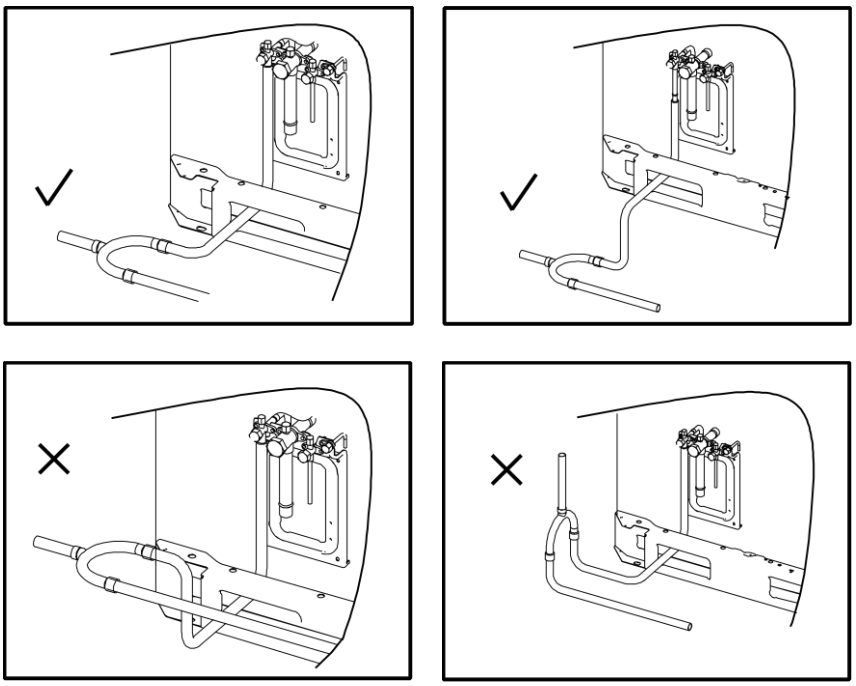


Figure 3-5.9: Installation of outdoor branch joints

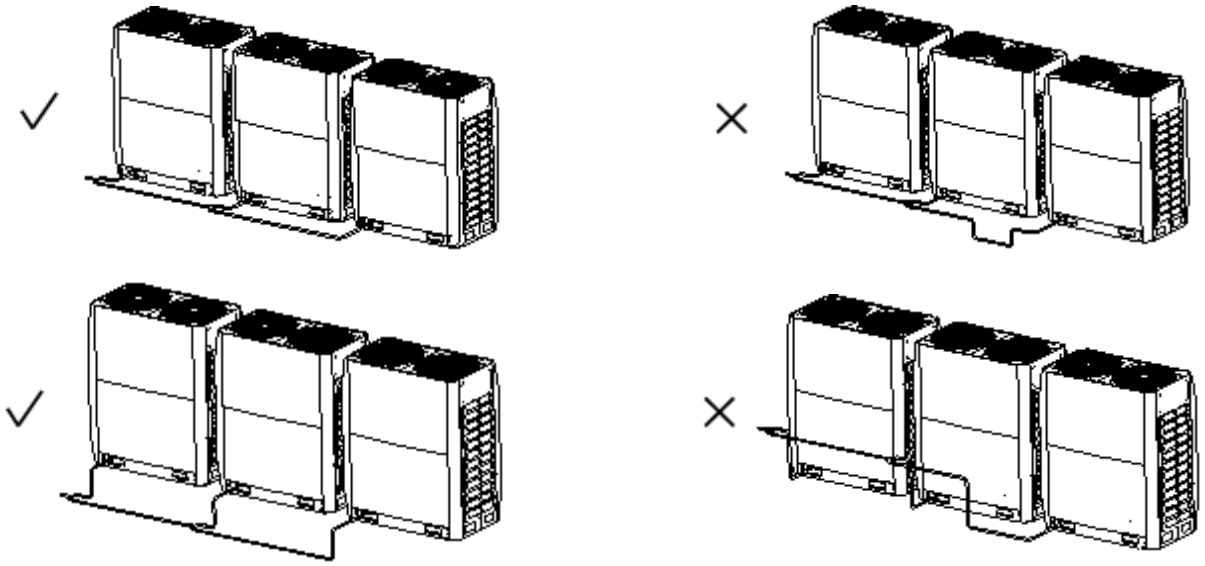


- To ensure even distribution of refrigerant, a limitation is placed on how close branch joints may be installed to bends, other branch joints and the straight sections of piping leading to indoor units. Refer to Part 3, 4.6 “Branch Joints”.

5.7 Piping Connections between Outdoor Units

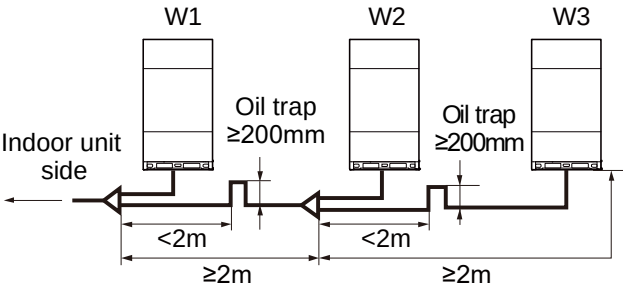
The piping connecting the outdoor units should be horizontal and must not be higher than the refrigerant outlets. If necessary, to avoid obstacles the piping may be vertically offset below the outlets. When inserting a vertical offset to avoid an obstacle, the whole outdoor piping should be offset, rather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

Figure 3-5.10: Piping connections between outdoor units



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

Figure 3-5.11: Oil trap between outdoor units



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

5.8 Pipe Flushing

5.8.1 Purpose

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

5.8.2 Procedure

Notes for installers

Warning

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

Procedure

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

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

Figure 3-5.12: Pipe flushing using nitrogen

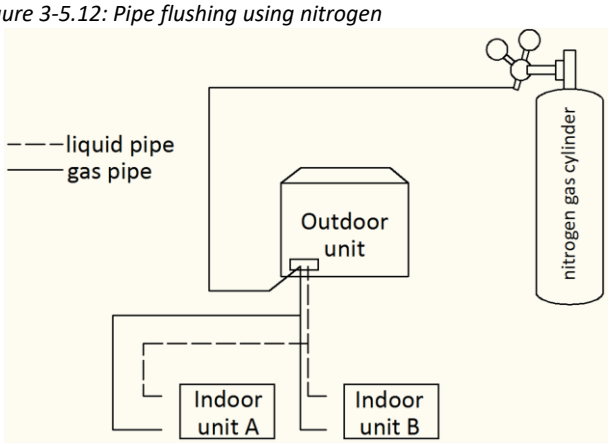
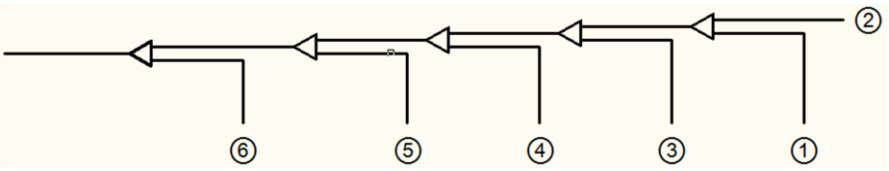


Figure 3-5.13: Pipe flushing sequence[1]



Notes:

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

5.9 Gastightness Test

5.9.1 Purpose

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

5.9.2 Procedure

Notes for installers

Warning

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

Procedure

The gastightness test procedure is as follows:

Step 1

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

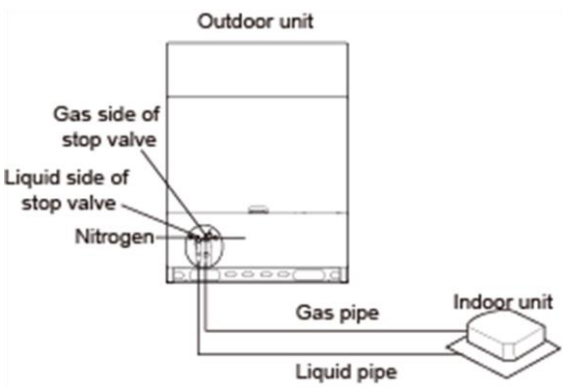
Step 2

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

Step 3

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

Figure 3-5.14: Gastightness test



5.9.3 Leak detection

Notes for installers

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

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

5.10 Vacuum Drying

5.10.1 Purpose

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

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

5.10.2 Procedure

Notes for installers

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

Caution

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

Procedure

The vacuum drying procedure is as follows:

Step 1

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

Step 2

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

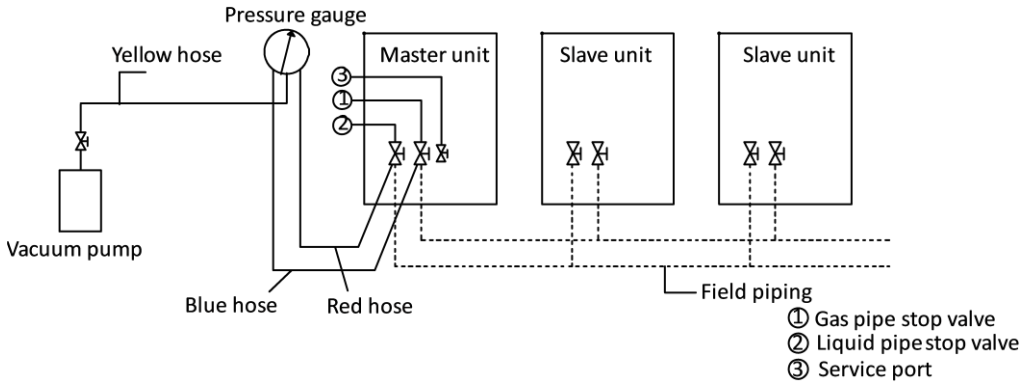
Step 3

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

Step 4

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

Figure 3-5.15: Vacuum drying





Pressure gauge

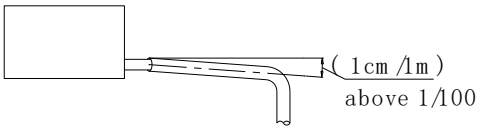
6 Drain Piping

6.1 Design Considerations

Drain piping design should take account of the following considerations:

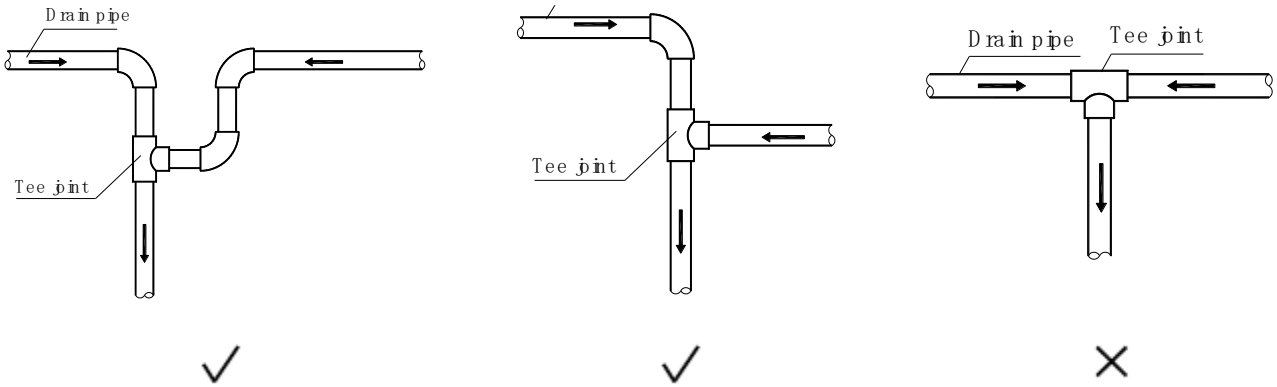
- Indoor unit condensate drain piping needs to be of sufficient diameter to carry the volume of condensate produced at the indoor units and installed at a slope sufficient to allow drainage. Discharge as close as possible to the indoor units is usually preferable.
- To prevent the drain piping becoming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

Figure 3-6.1: Drain piping minimum slope requirement



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

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



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

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

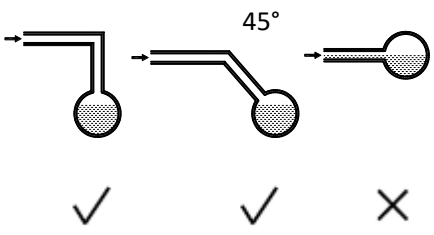
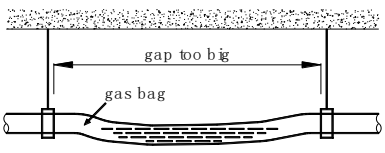
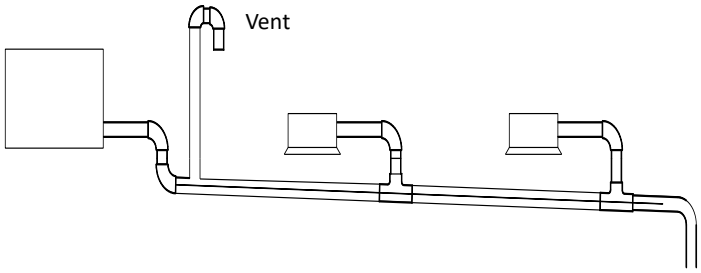


Figure 3-6.4: Effect of insufficient drain piping support



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Figure 3-6.5: Drain piping air vents

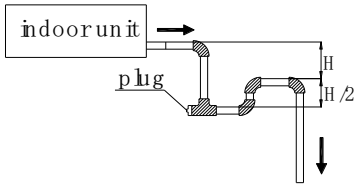


- Air conditioner drain piping should be installed separately from waste, rainwater and other drain piping and should not come into direct contact with the ground.
- Drain piping diameter should be not less than the indoor units' drain piping connection.
- To allow inspection and maintenance, the piping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

6.2 Water Traps

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

Figure 3-6.6: Drain piping water traps



6.3 Selecting Piping Diameters

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

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

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

Table 3-6.1: Horizontal drain piping diameters

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

Table 3-6.2: Vertical drain piping diameters

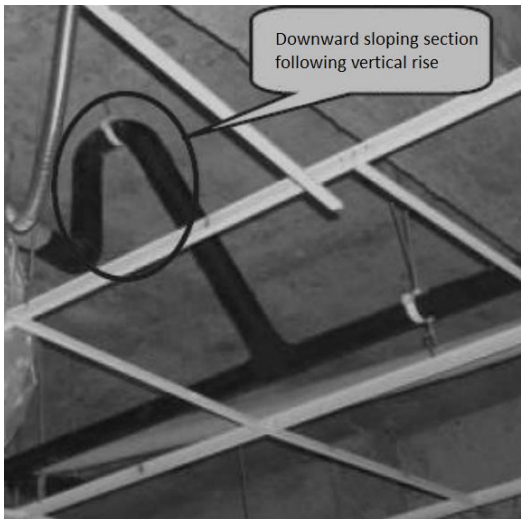
PVC piping	Nominal diameter (mm)	Capacity (L/h)	Remarks
PVC25	25	220	Branch piping only
PVC32	32	410	
PVC40	40	730	Branch or main piping
PVC50	50	1440	
PVC63	63	2760	
PVC75	75	5710	
PVC90	90	8280	

6.4 Drain Piping for Units with Lift Pumps

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

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

Figure 3-6.7: Downward sloping section of drain piping



6.5 Drain Piping Installation

Notes for installers

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

Indoor unit installation → Drain piping installation → Watertightness test → Drain piping insulation

Caution

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

6.6 Watertightness Test and Water Flow Test

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

Notes for installers

Watertightness test

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

Water flow test (natural drainage test)

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

Caution

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

7 Insulation

7.1 Refrigerant Piping Insulation

7.1.1 Purpose

During operation, the temperature of the refrigerant piping varies. Insulation is required to ensure unit performance and compressor lifespan. During cooling, the gas pipe temperature can be very low. Insulation prevents condensation forming on the piping.

7.1.2 Selecting insulation materials

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

7.1.3 Thickness of insulation

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

Table 3-7.1: Refrigerant piping insulation thickness

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

7.1.4 Installation of piping insulation

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

Notes for installers

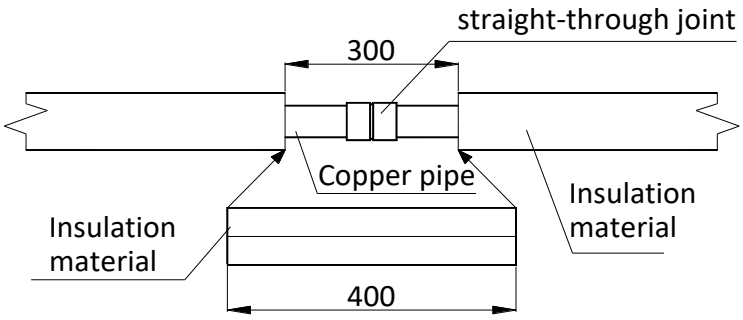
- Installation of insulation should be carried out in a manner suited to the type of insulation material being used.
- Ensure there are no gaps at the joints between sections of insulation.
- Do not apply tape too tightly as doing so may shrink insulation, reducing its insulating properties leading to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

7.1.5 Installation of joint insulation

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

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

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



7.2 Drain Piping Insulation

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

7.3 Ducting Insulation

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

8 Charging Refrigerant

8.1 Calculating Additional Refrigerant Charge

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

Additional refrigerant charge R (kg) = L_1 (**Φ6.35**) × 0.022
+ L_2 (**Φ9.52**) × 0.057
+ L_3 (**Φ12.7**) × 0.110
+ L_4 (**Φ15.9**) × 0.170
+ L_5 (**Φ19.1**) × 0.260
+ L_6 (**Φ22.2**) × 0.360
+ L_7 (**Φ25.4**) × 0.520
+ L_8 (**Φ28.6**) × 0.680

Table 3-8.1: Additional refrigerant charge

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

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

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

Model	Maximum additional refrigerant	Model	Maximum additional refrigerant	Model	Maximum additional refrigerant
8HP	28.1	36HP	67.8	64HP	74.6
10HP	29.8	38HP	67.8	66HP	74.9
12HP	32.7	40HP	67.8	68HP	92.8
14HP	33.9	42HP	67.8	70HP	93.1
16HP	35.8	44HP	71.5	72HP	93.4
18HP	36.6	46HP	73.3	74HP	93.7
20HP	38.8	48HP	73.3	76HP	94.0
22HP	38.8	50HP	74.2	78HP	94.3
24HP	38.8	52HP	74.6	80HP	94.6
26HP	50.3	54HP	74.6	82HP	94.8
28HP	50.3	56HP	74.6	84HP	95.2
30HP	50.3	58HP	74.6	86HP	95.5
32HP	63.5	60HP	74.6	88HP	95.7
34HP	66.8	62HP	74.6	90HP	96.1

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

8.2 Adding Refrigerant

Notes for installers

Caution

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

Procedure

The procedure for adding refrigerant is as follows:

Step 1

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

Step 2

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

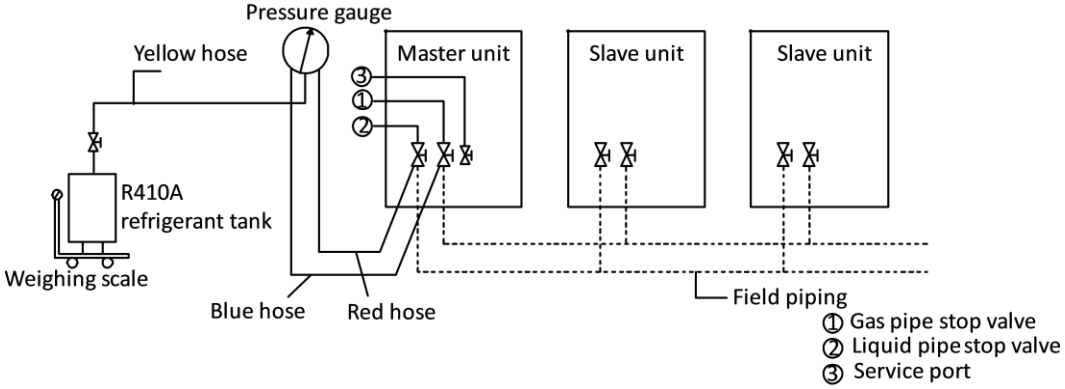
Step 3

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

Step 4

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

Figure 3-8.1: Charging refrigerant





Pressure gauge

9 Electrical Wiring

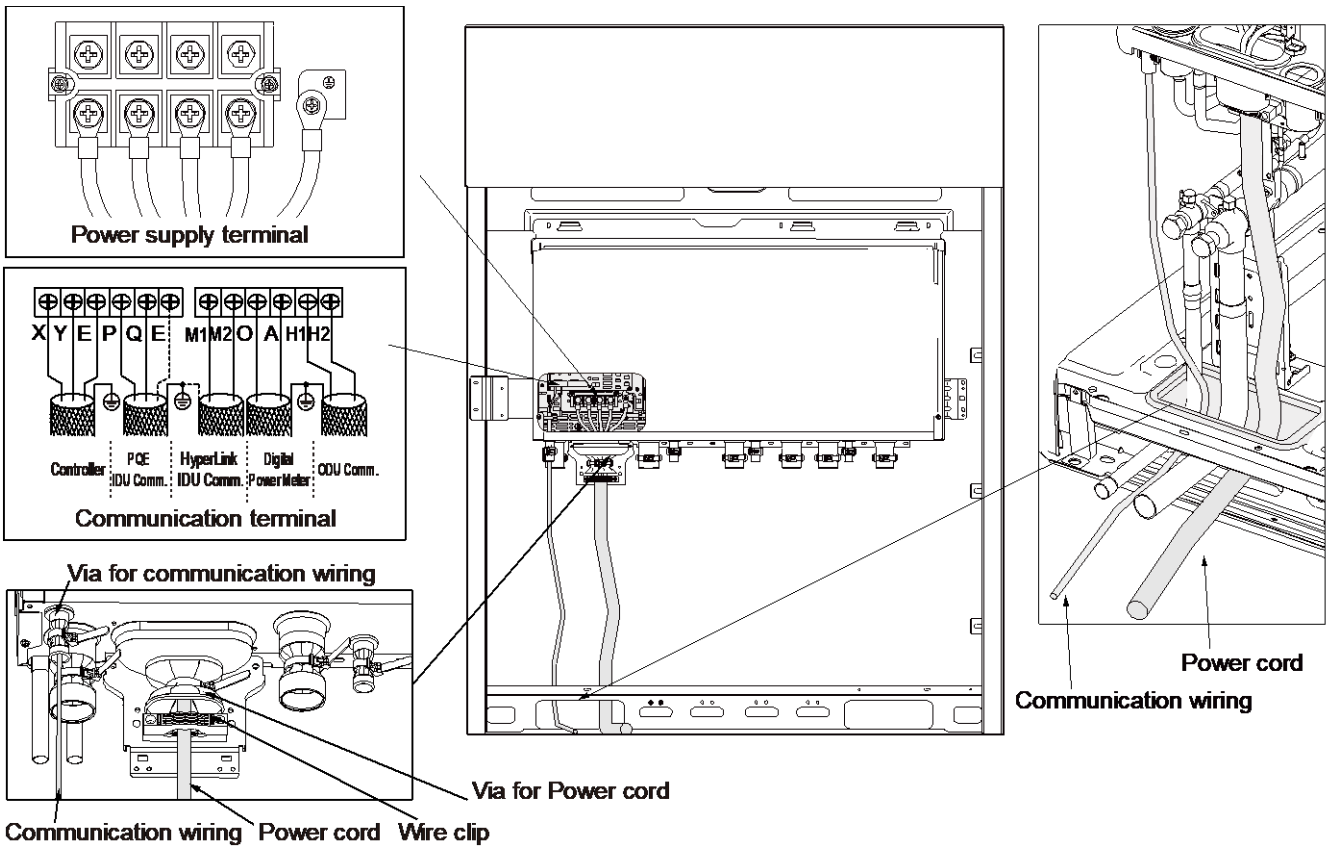
9.1 General

Notes for installers

Caution

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

Figure 3-9.1: Wiring layout



9.2 Power Supply Wiring

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

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

Figure 3-9.2: Outdoor unit power supply wiring

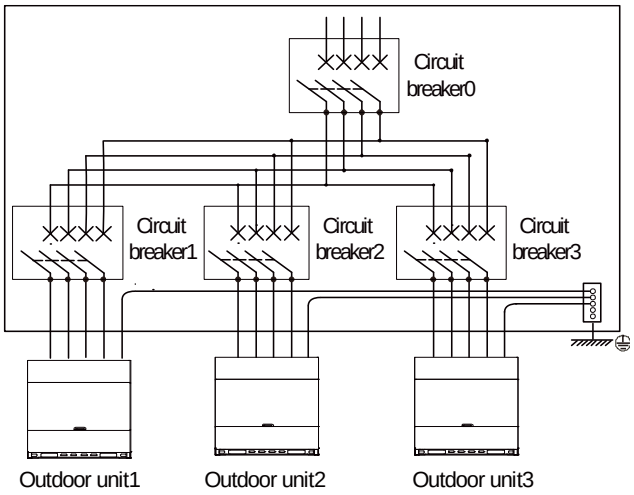
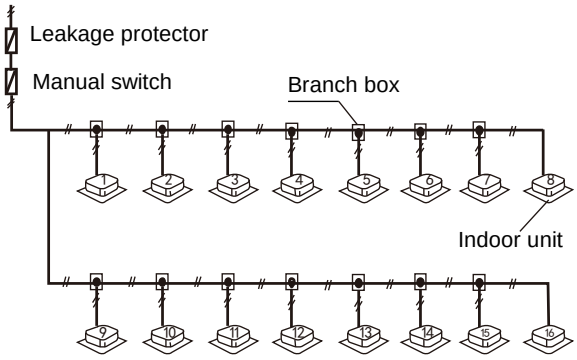


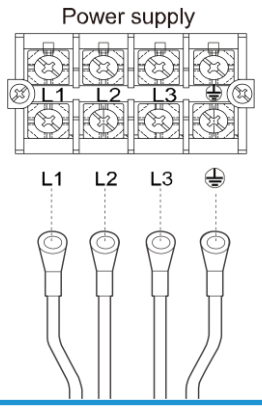
Figure 3-9.3: Indoor unit unified power supply wiring



Notes for installers

The 3~60Hz, 220V power supply should be connected to the outdoor unit power supply terminals as shown in Figure 3-9.4.

Figure 3-9.4: Outdoor unit power supply terminals



9.3 Communication Wiring

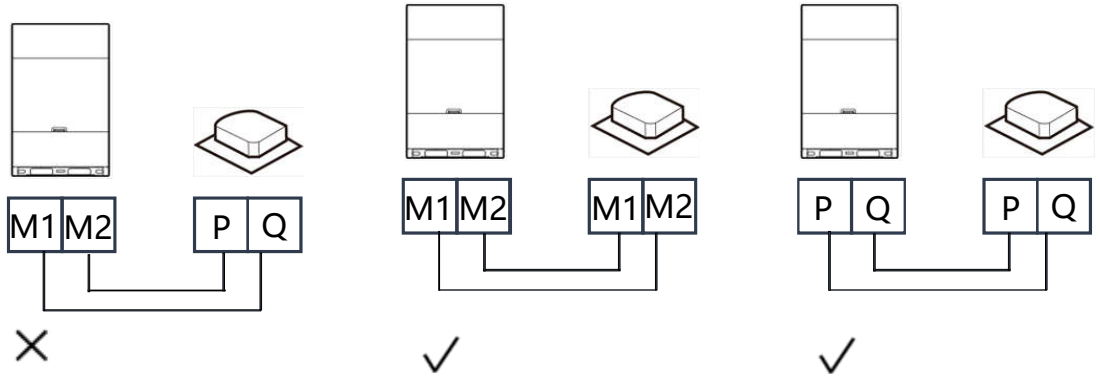
Communication wiring design and installation should adhere to the following requirements:

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

Table 3-9.1: Communication connection between ODU and IDUs

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

Figure 3-9.5: Communication wiring

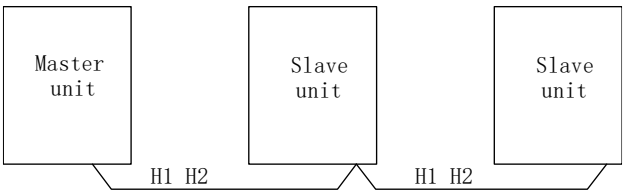


9.3.1 Outdoor units' H1 H2 communication

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

- The H1 H2 communication wires should be connected one unit after another in a daisy chain from the master outdoor unit to the final slave outdoor unit.
- 0.75mm^2 two-core shielded cable should be used for communication wiring.
- Connect the shielding nets at both ends of the shielded wire to the sheet metal " ⏚ " of the electronic control box.

Figure 3-9.6: Outdoor units' communication

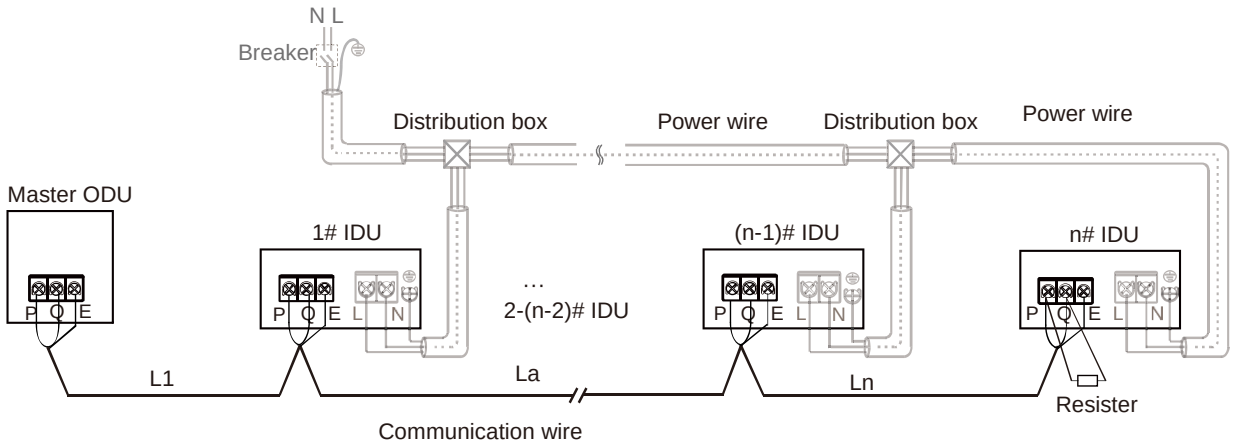


9.3.2 Outdoor unit and indoor units' P Q E communication

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

- 0.75mm^2 three-core shielded cable should be used for communication wiring. Using other types of cable can lead to interference and malfunction.
- The P Q E communication wires should be connected one unit after another in a daisy chain from the outdoor unit to the final indoor unit as shown in Figure 3-9.7. At the final indoor unit, a 120Ω resistor should be connected between the P and Q terminals. After the final indoor unit, the communication wiring should NOT be continued back to the outdoor unit – that is, do not attempt to form a closed loop.
- The P and Q communication wires should NOT be connecting to E.
- The shielding nets of the communication wires should be connected together and grounded. Grounding can be achieved by connecting to the metal casing adjacent to the P Q E terminals of the outdoor unit electrical control box.

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



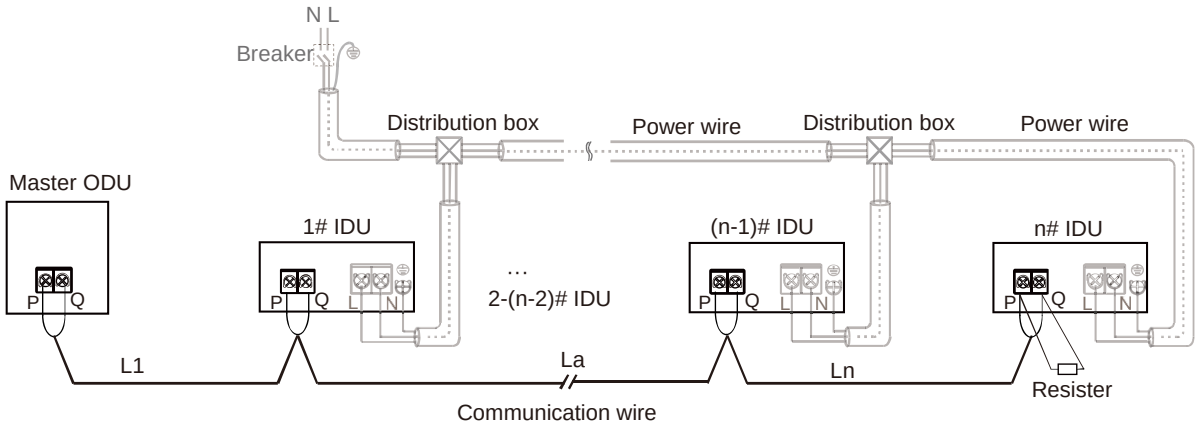
9.3.3 Outdoor unit and indoor units' P Q communication

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

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

same time

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

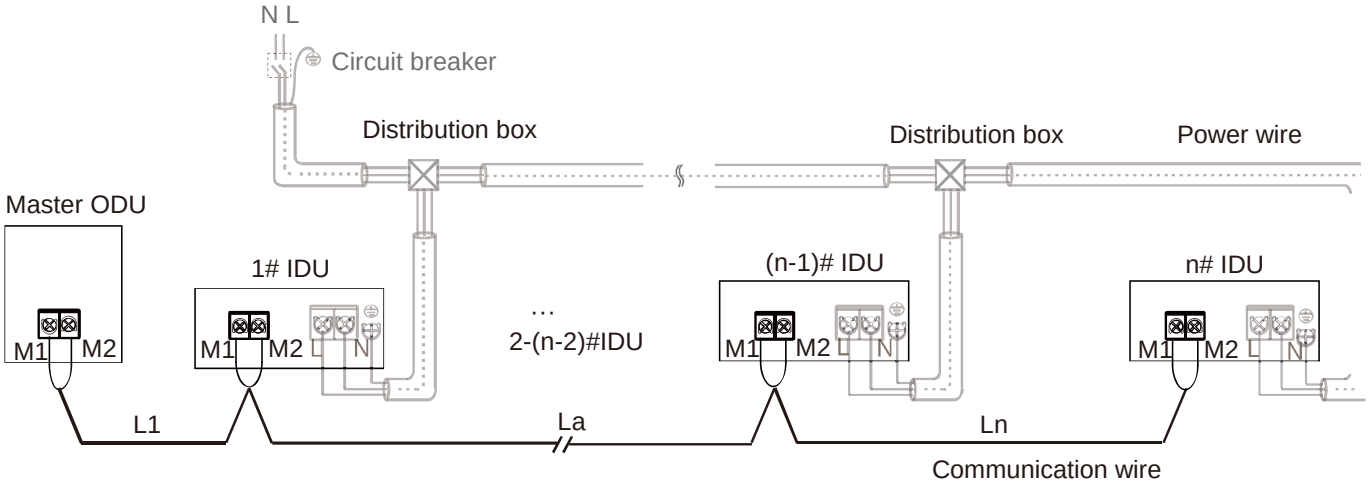


9.3.4 Outdoor unit and indoor units' M1, M2 communication-IDUs uniform power supplied

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

- 0.75mm^2 two-core cable should be used for communication wiring when all the indoor units are uniform power supplied.
- All indoor units in the system are VC Max indoor units.
- After the final indoor unit, the communication wiring CAN be continued back to the outdoor unit to ensure communication in case of disconnection point. In this situation, M1 M2 are polarized and M1 should connect to M1, M2 should connect to M2.

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



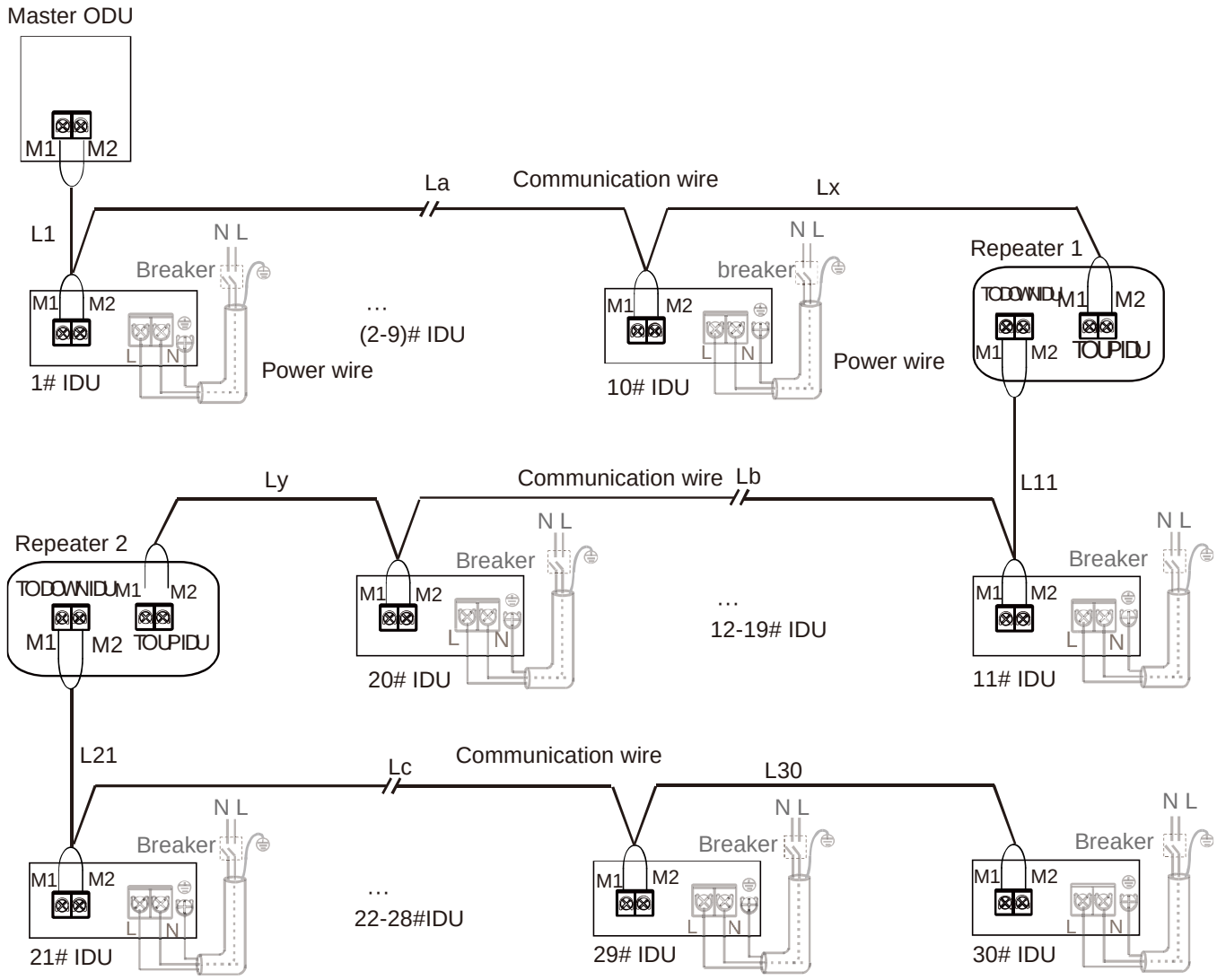
9.3.5 Outdoor unit and indoor units' M1, M2 communication- IDUs with separate power supply

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

- 1.5mm^2 two-core cable should be used for communication wiring when there is indoor unit separate power supplied.
- All indoor units in the system are VC Max indoor units.
- If the total distance is less than or equal to 200m and the total number of IDUs is less than or equal to 10 sets, the valve is powered and controlled by the master ODU.
- If the total distance is longer than 200m or the total number of IDUs is more than 10 sets, a repeater is required to increase the bus voltage. The load capacity of the repeater is the same as that of the ODU, and it can load a bus length of 200m or 10 IDUs.
- Maximum two repeaters can be installed in the same refrigerant system.
- The number of IDUs requiring power supply in the same refrigerant system is less than or equal to 30 sets.
- Keep the power on/off for both the repeater and the ODUs, or the repeater use an uninterruptible power supply.

- For repeater installation, please refer to the repeater installation manual. Do not reversely connect the upstream and downstream IDU ports of the repeater; otherwise, it will cause a communication failure
- After the final indoor unit, the communication wiring CAN be continued back to the outdoor unit. In this situation, M1 M2 are polarized and M1 should connect to M1, M2 should connect to M2. Repeaters CANNOT be installed in the refrigerant system, and the total number of IDUs CANNOT exceed 10 sets.

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



- L1+La+Lx≤200m,L11+Lb+Ly≤200m,L21+Lc+L30≤200mm

Notes for installers

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

Caution

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

Figure 3-9.11: Master outdoor unit communication terminals

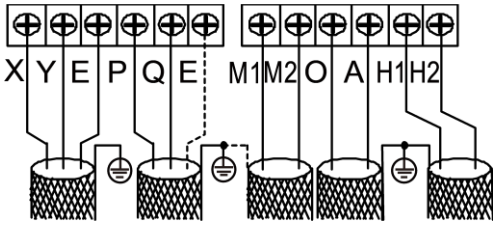


Table 3-9.2: Communication connections

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

10 Installation in Areas of High Salinity

10.1 Caution

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

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

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

10.2 Placement and Installation

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

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

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

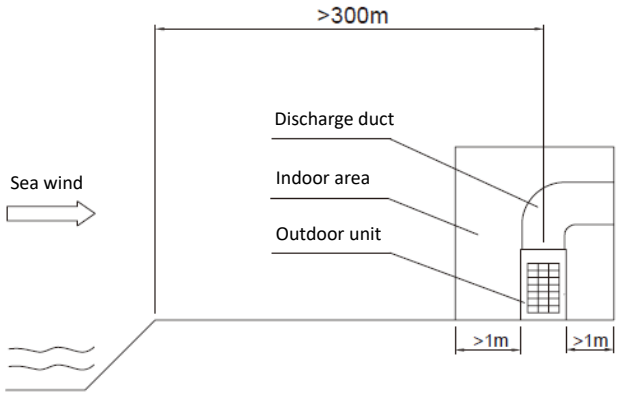
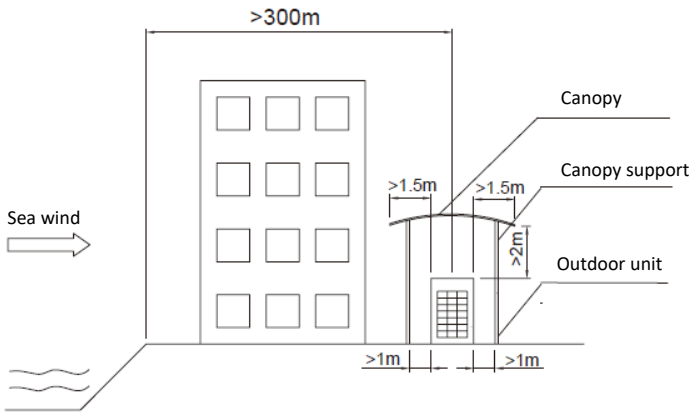


Figure 3-10.2: Installation outdoors under a canopy



10.3 Inspection and maintenance

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

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

11 Commissioning

11.1 Outdoor Unit Address and Communication Type Setting

Step **1: Power on**

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

Step **2: Enter commissioning mode**

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

Step **3: Set the number of IDUs in a system**

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

Step **4: Select the system communication protocol**

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

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

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

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

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

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

Step **5: IDU and ODUs address setting**

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

Step **6: System initialization**

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

Step **7: Test run**

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

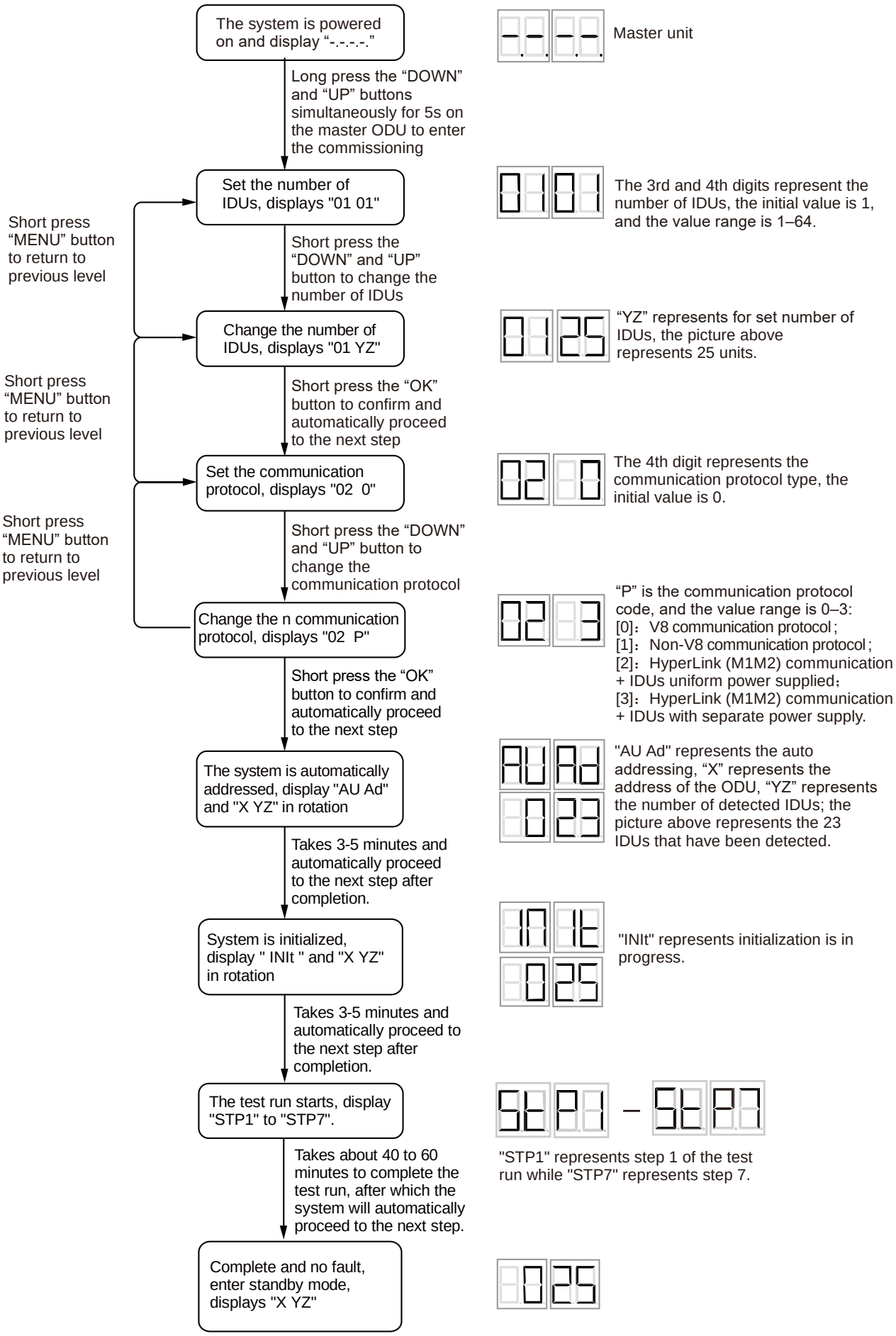
If the system is wired and installed correctly, the test run will last for about 40 to 60 minutes, the ODU digital display will show "STP1" to "STP7". After the test run, the digital display will show "End", 10 seconds after which the system will automatically proceed to the next step.

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

Step **8: End**

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

Figure 3-11.1: Commissioning Procedure



11.2 Multi-system Projects

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

11.3 Pre-commissioning Checks

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

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

During commissioning, it is important that you:

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

11.4 Operating the system

11.4.1 Operating single refrigerant system

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

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

The Operating procedure is as follows:

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

11.4.2 Operating multiple refrigerant systems

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

12 Appendix to Part 3 – System Commissioning Report

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

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

VC Max 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	Slave unit 2	
Model				
Serial no.				

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

OUTDOOR UNITS												
	Master unit			Slave unit 1			Slave unit 2			Slave unit 3		
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?

VC Max Series System Commissioning Report – Sheet C

Project name and location		System name	

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

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

	Commissioning engineer	Dealer	Midea representative
Name:			
Signature:			
Date:			

VC Max Series System Commissioning Report – Sheet D

Project name and location		System name	

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

Table continued on next page …

VC Max Series System Commissioning Report – Sheet E

Project name and location		System name	

... table continued from previous page

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

Notes:

1. Need to convert to current compressor output volume, example: compressor output volume is 70， Target frequency = Actual frequency * 70 / 60 Outdoor unit capacity setting:
2. Operating mode:
   - 0: off; 2: cooling; 3: reserved; 5: reserved; 6: reserved.
3. Heat exchanger status:
   - 0: off; 1: C1 (Condenser. Running) 2: D1 (Condenser. Not running); 3: D2(Reserved); 4: E1 (Evaporator. Running) 5: F1:(Reserved); 6: F2 (Evaporator. Not running)
4. Special mode:
   - 0: no special mode; 1: oil return; 2: reserved; 3: start up; 4: stop; 5: quick check; 6: self cleaning.
5. Static pressure mode:
   - 0: 0 Pa; 1: 20 Pa; 2: 40 Pa; 3: 60 Pa; 4: 80 Pa; 5: 100 Pa; 6: 120 Pa.
6. Te: Low pressure equivalent saturation temperature (°C) Tes: Target Te value.
   Tc: High pressure equivalent saturation temperature (°C) Tcs: Target Tc value.
7. Refrigerant volume:
   - 0: no result; 1: significantly insufficient; 2: insufficient; 3: normal; 4: excessive; 5: significantly insufficient.

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