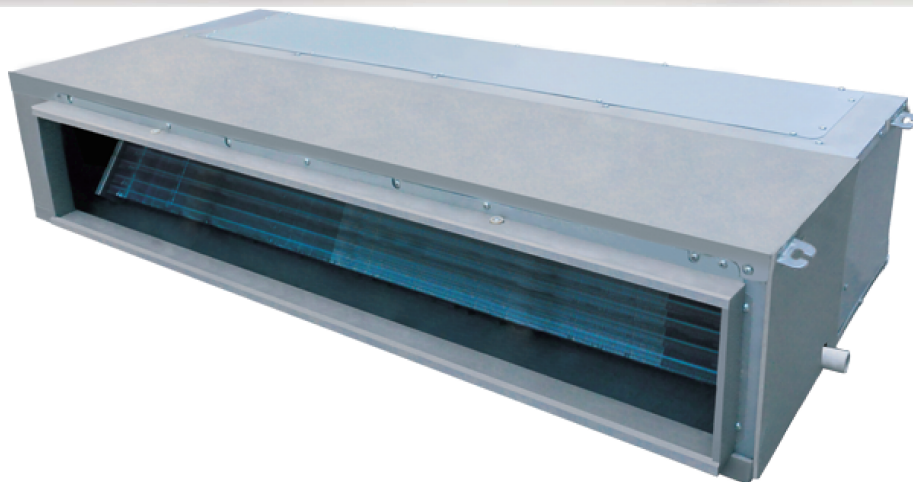
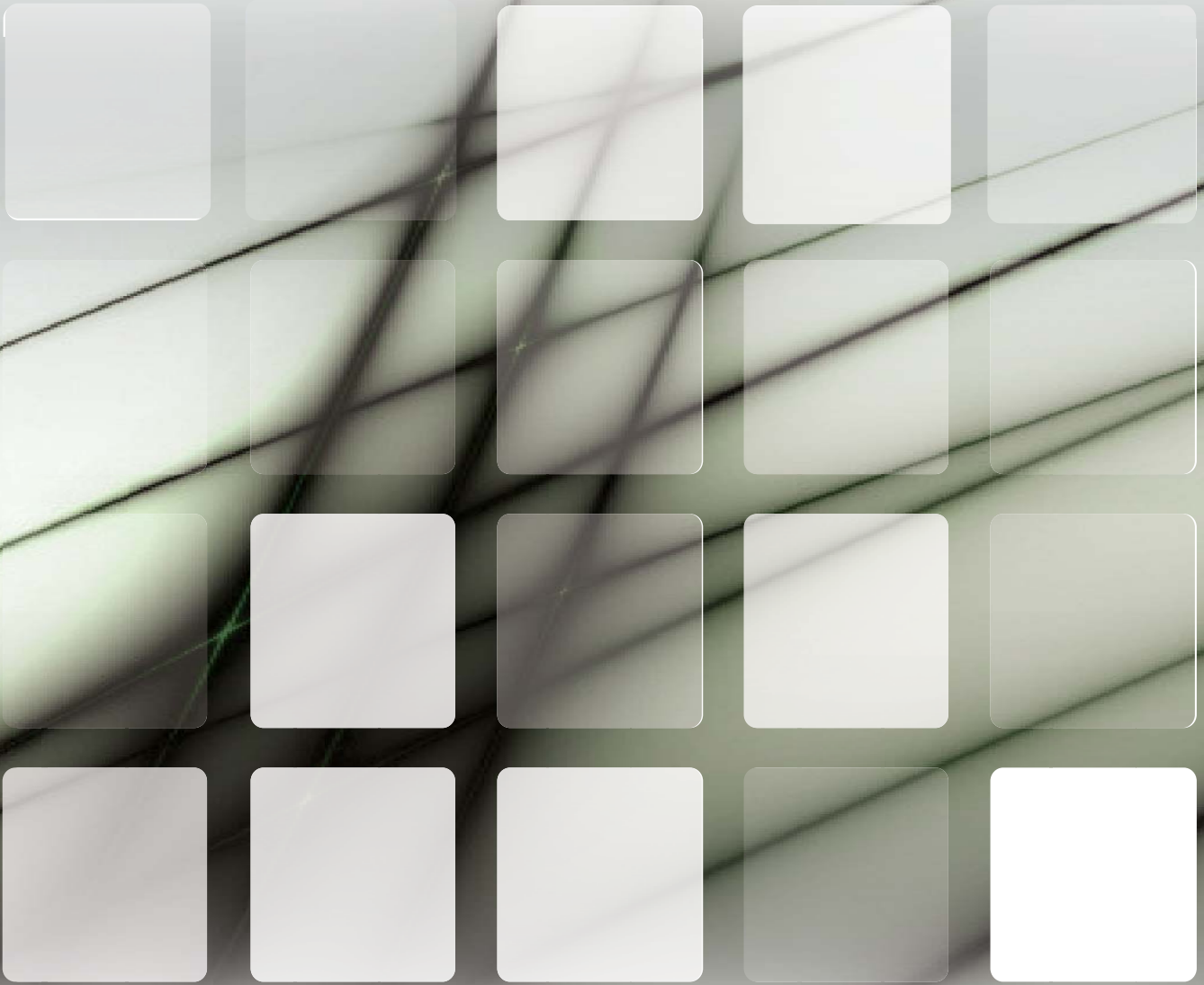


VEMP Series

Medium ESP Ducted Fan VRF Indoor Unit Technical Manual

220~240V/1/50-60Hz



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1. Specifications

Model			VEMP024Q0A-GCV071	VEMP027Q0A-GCV080	VEMP031Q0A-GCV090
Power supply			220-240V/1PH/50-60Hz	220-240V/1PH/50-60Hz	220-240V/1PH/50-60Hz
Capacity	Cooling	kW	7.1	8	9
	Heating	kW	8	9	10
Power Input		kW	0.11	0.11	0.2
Fan motor	Model		DR-310-90F-8	DR-310-90F-8	DR-310-75F-8 DR-310-150F-8
	Type		DC	DC	DC
	Brand		Panasonic	Panasonic	Panasonic
	Speed (Hi/Med/Low)	r/min	1200/1050/950	1200/1050/950	1300/1150/970 1300/1150/970
	ESP	Pa	70	70	70
Indoor coil	Number of rows		3	3	3
	Fin type		Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum
	Tube diameter and type	mm	Ø7.94,Innergroove Tube	Ø7.94,Innergroove Tube	Ø7.94,Innergroove Tube
Air flow (High speed)		m ³ /h	1220	1220	2000
Sound power level		dB(A)	36~41	36~41	40~44
Body	Dimension (W×H×D)	mm	1209×260×680	1209×260×680	1445×260×680
	Packing (W×H×D)	mm	1255×325×720	1255×325×720	1490×325×720
	Net/Gross weight	kg	31/36	31/36	43/48
Refrigerant type			R410A	R410A	R410A
Throttle type			EXV	EXV	EXV
Design pressure		MPa	4.5	4.5	4.5
Liquid pipe / Gas pipe		mm	Ø9.53/ Ø15.9	Ø9.53/ Ø15.9	Ø9.53/ Ø15.9
Connecting wire	Power wire	mm ²	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)
	Signal wire	mm ²	0.75*2 shield	0.75*2 shield	0.75*2 shield
Drainage water pipe (Outer diameter)		mm	Ø25	Ø25	Ø25
Controller	Standard		Wired controller	Wired controller	Wired controller
	Optional		Remote controller	Remote controller	Remote controller
Operation temp		°C	16~32	16~32	16~32

Notes:

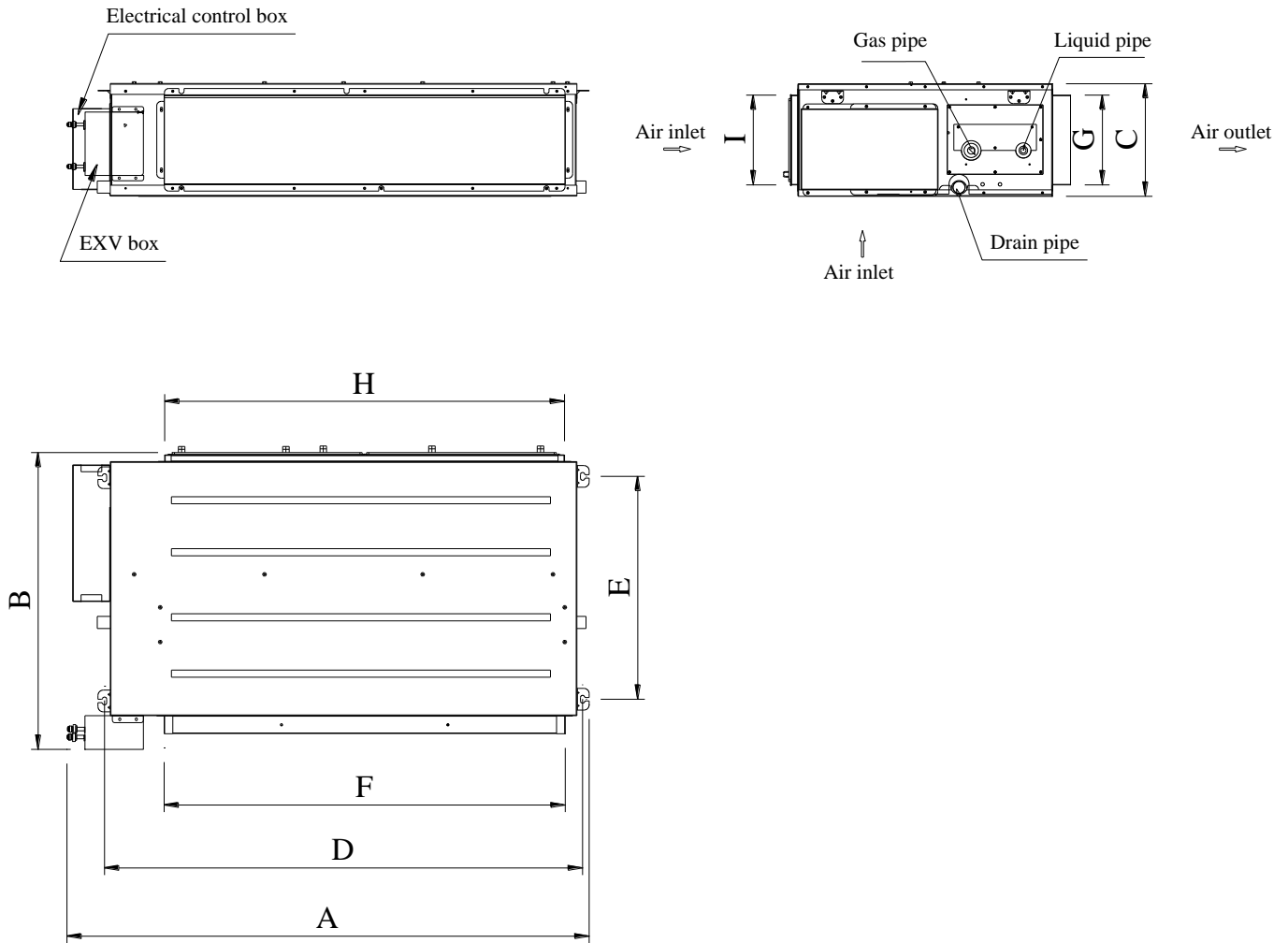
- 1) Nominal cooling capacities are based on the following conditions.
 - Outdoor temperature: 35°C DB
 - Return air temperature: 27°C DB, 19°C WB
 - Equivalent piping length: 8m in horizontal
- 2) Nominal heating capacities are based on the following condition.
 - Outdoor temperature: 7°C DB, 6°C WB
 - Return air temperature: 20°C DB
 - Equivalent piping length: 8m in horizontal
- 3) Sound pressure level: Semi-anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.4 m.
- 4) The above data may be changed without notice for future improvement on quality and performance.

Model			VEMP035Q0A-GCV100	VEMP040Q0A-GCV120	VEMP048Q0A-GCV140
Power supply			220-240V/1PH/50-60Hz	220-240V/1PH/50-60Hz	220-240V/1PH/50-60Hz
Capacity	Cooling	kW	10	12	15
	Heating	kW	11	13	17
Power Input		kW	0.340	0.2	0.2
Fan motor	Model		DR-310-75F-8 DR-310-150F-8	DR-310-75F-8 DR-310-150F-8	DR-310-75F-8 DR-310-150F-8
	Type		DC	DC	DC
	Brand		Panasonic	Panasonic	Panasonic
	Speed (Hi/Med/Low)	r/min	1300/1150/970 1300/1150/970	1300/1150/970 1300/1150/970	1300/1150/970 1300/1150/970
	ESP	Pa	70	70	70
Indoor coil	Number of rows		3	3	3
	Fin type		Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum
	Tube diameter and type	mm	Ø7.94, Innergroove Tube	Ø7.94, Innergroove Tube	Ø7.94, Innergroove Tube
Air flow (High speed)		m ³ /h	2000	2000	2000
Sound power level		dB(A)	40~44	40~44	40~44
Body	Dimension (W×H×D)	mm	1445×260×680	1445×260×680	1445×260×680
	Packing (W×H×D)	mm	1490×325×720	1490×325×720	1490×325×720
	Net/Gross weight	kg	43/48	43/48	43/48
Refrigerant type			R410A	R410A	R410A
Throttle type			EXV	EXV	EXV
Design pressure		MPa	4.5	4.5	4.5
Liquid pipe / Gas pipe		mm	Ø9.53/ Ø15.9	Ø9.53/ Ø15.9	Ø9.53/ Ø15.9
Connectin g wire	Power wire	mm ²	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)	2.5*2+2.5(L≤20m) 4*2+2.5(20m<L≤50m)
	Signal wire	mm ²	0.75*2 shield	0.75*2 shield	0.75*2 shield
Drainage water pipe (Outer diameter)		mm	Ø25	Ø25	Ø25
Controller	Standard		Wired controller	Wired controller	Wired controller
	Optional		Remote controller	Remote controller	Remote controller
Operation temp		°C	16~32	16~32	16~32

Notes:

- 1) Nominal cooling capacities are based on the following conditions.
 - Outdoor temperature: 35°C DB
 - Return air temperature: 27°C DB, 19°C WB
 - Equivalent piping length: 8m in horizontal
- 2) Nominal heating capacities are based on the following condition.
 - Outdoor temperature: 7°C DB, 6°C WB
 - Return air temperature: 20°C DB
 - Equivalent piping length: 8m in horizontal
- 3) Sound pressure level: Semi-anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.4 m.
- 4) The above data may be changed without notice for future improvement on quality and performance.

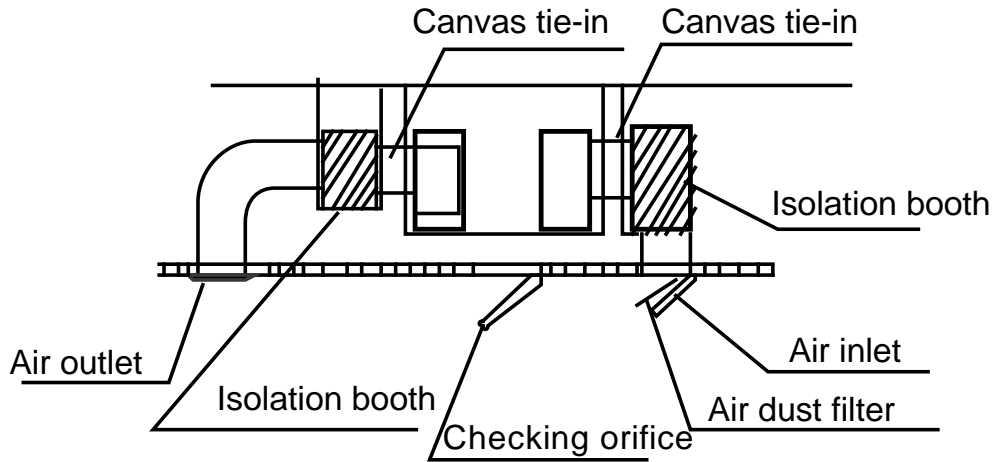
2. Dimensions



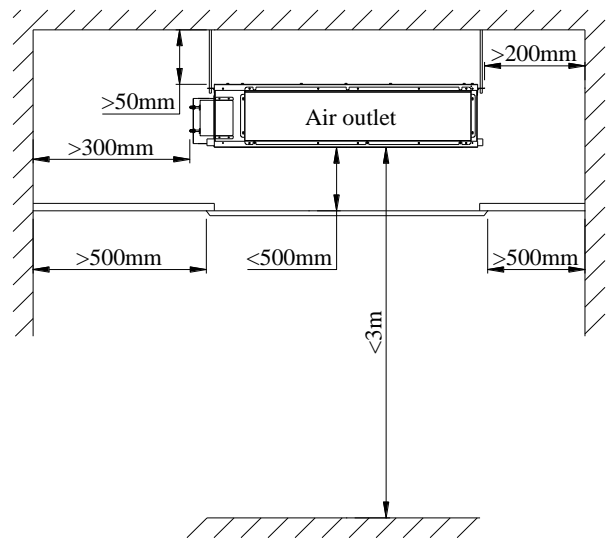
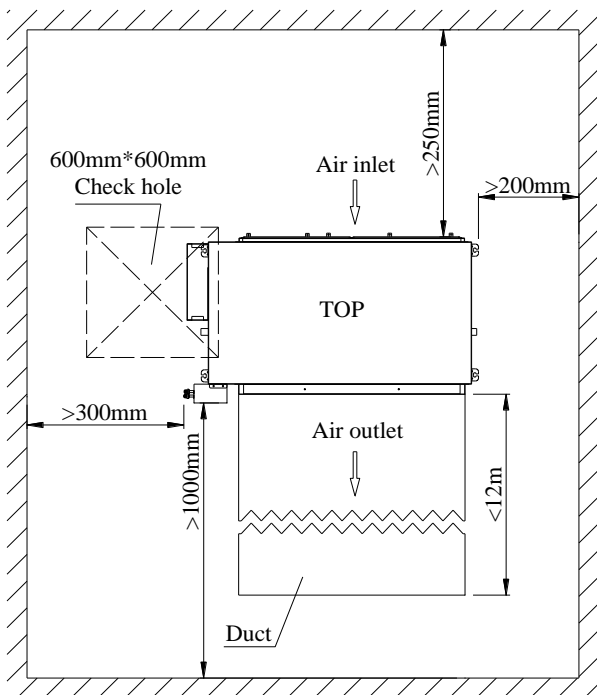
Mode	Body dimension (mm)			Installation dimension (mm)		Air outlet dimension (mm)		Air return dimension (mm)	
	A	B	C	D	E	F	G	H	I
VEMP024Q0A-GCV071	1209	680	260	1100	515	920	197	920	207
VEMP027Q0A-GCV080	1209	680	260	1100	515	920	197	920	207
VEMP031Q0A-GCV090	1445	680	260	1337	515	1156	197	1156	207
VEMP035Q0A-GCV100	1445	680	260	1337	515	1156	197	1156	207
VEMP040Q0A-GCV120	1445	680	260	1337	515	1156	197	1156	207
VEMP048Q0A-GCV140	1445	680	260	1337	515	1156	197	1156	207

3. Service space

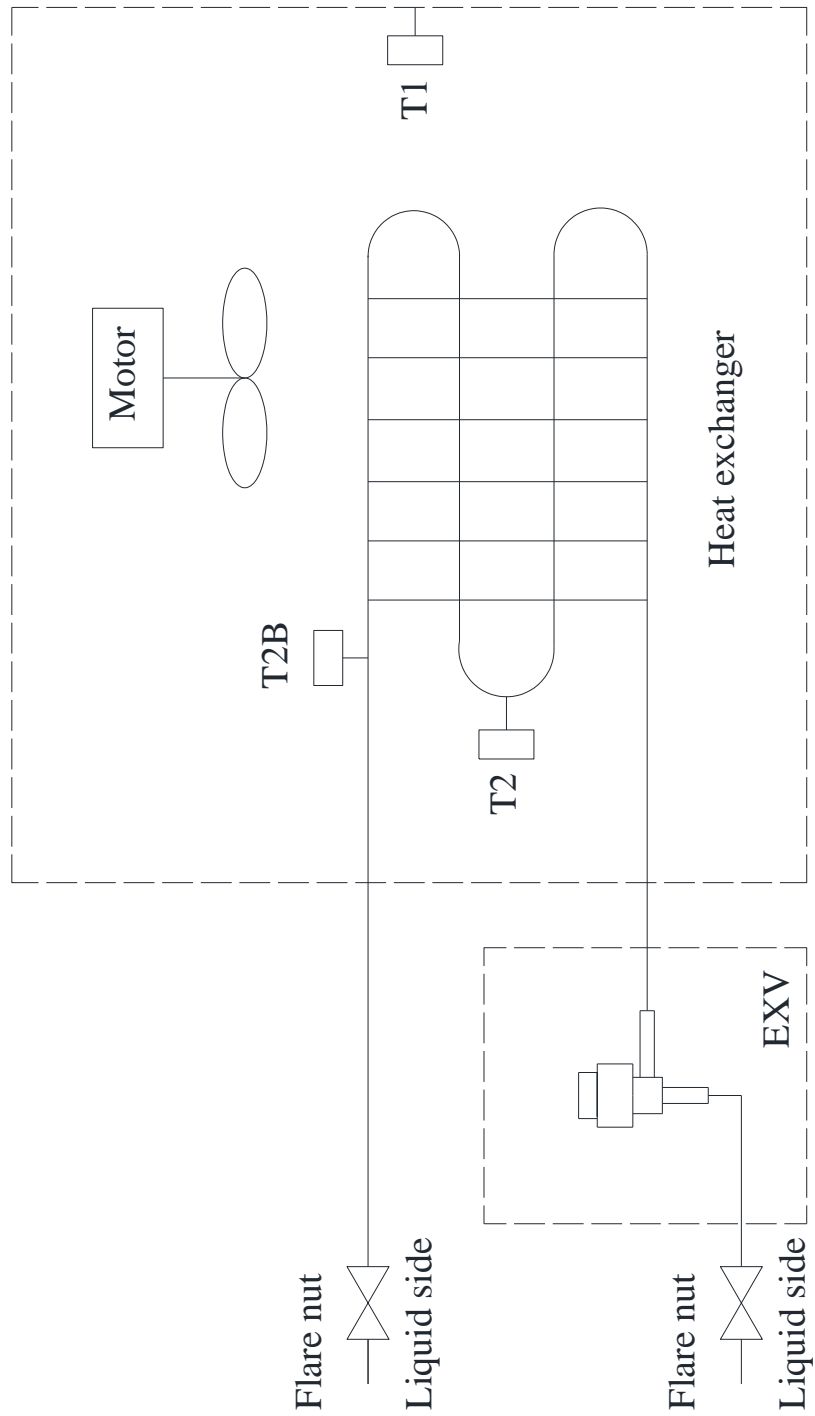
- Ensure the needed spaces for installation and maintenance.
- The ceiling is horizontal and its structure can endure the weight of the indoor unit.
- The outlet and the inlet are not impeded, and the influence of external air is the least.
- The air flow can reach throughout the room.
- The connecting pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters.
- Below is the recommended duct installation method:



- Keep min. 600*600 space for checking and maintenance:



4. Piping diagram

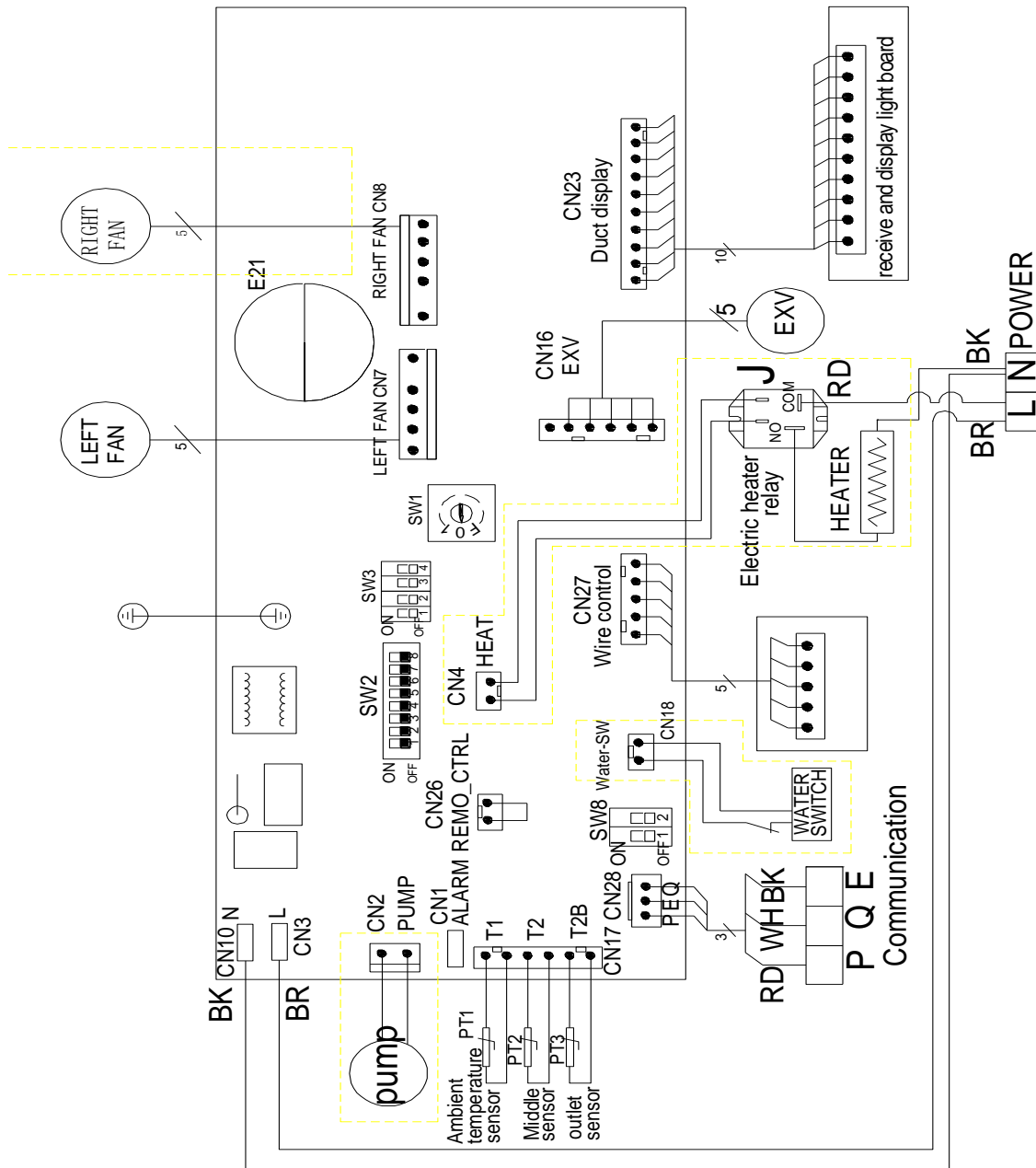


Notes:

- 1) T1: Room temperature sensor
- 2) T2: Temperature sensor of middle heat exchanger
- 3) T2B: Temperature sensor of heat exchanger outlet
- 4) EXV: Electrical expansion valve

5. Wiring diagram

5.1 Wiring diagram



Notes:

1) Color code:

RD: Red; OR: Orange; BK: Black; BR: Brown; WH: White

2) T1: Room temperature sensor

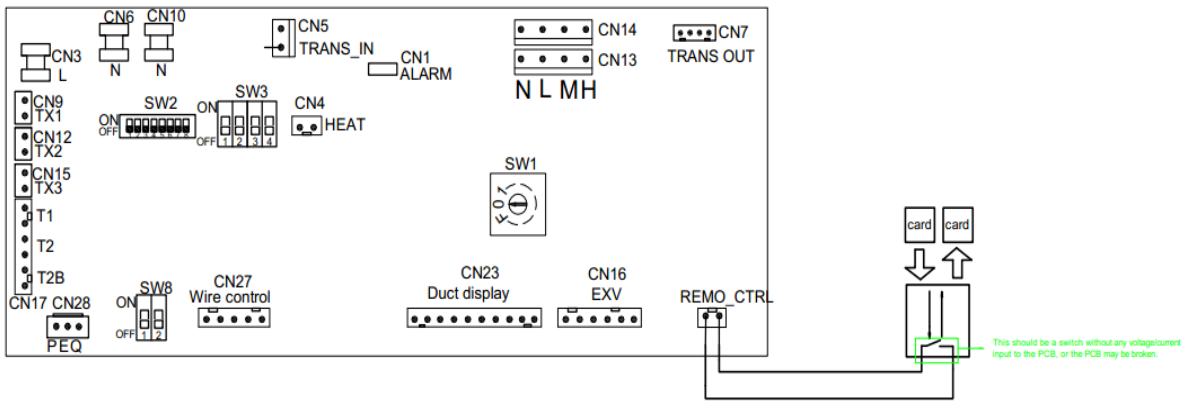
3) T2: Temperature sensor of middle heat exchanger

4) T2B: Temperature sensor of heat exchanger outlet

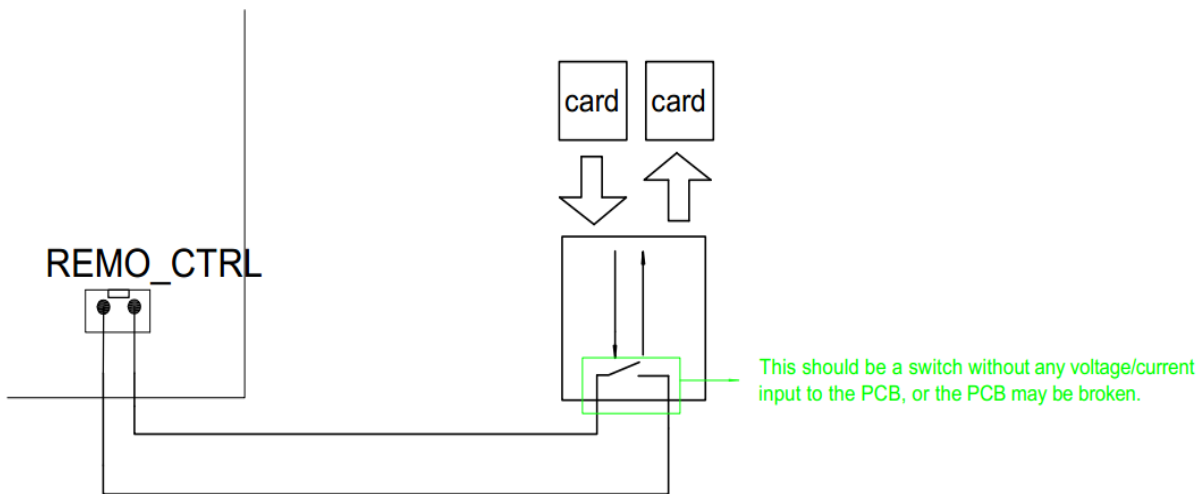
5) EXV: Electrical expansion valve

6) Electrical heater is optional, please contact to Chigo's technician for the detail.

OMEGA VRF indoor unit connect with card key



Connect the remote control terminal on the indoor PCB to the hotel card module.

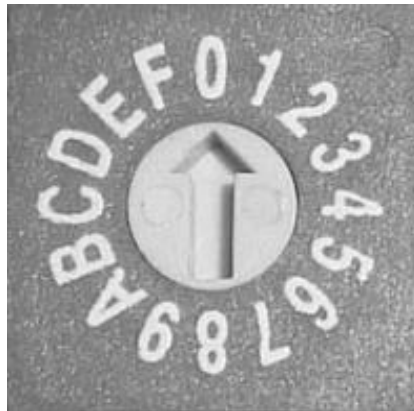


NOTE: The terminal in the hotel card module must be a switch without any voltage/current input to the PCB, otherwise the PCB will be broken.

5.2 Dial switches

5.2.1 SW1: Capacity switch.

Different number in the switch indicates different capacity. It is set in factory, leave it as default setting,



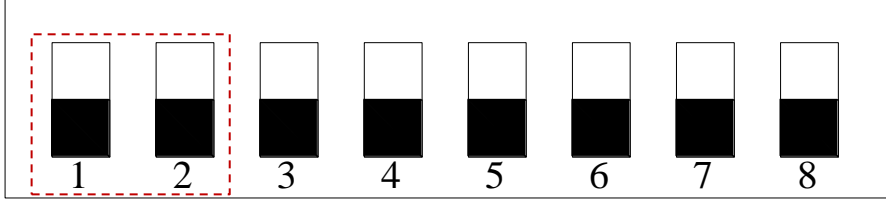
HP	0.8	1	1.2	1.7	2	2.5
Capacity (kW)	1.8/2.2	2.5/2.6/2.8	3.2/3.5/3.6	4.1/4.5/4.6	5.1/5.6	6.0/6.6/7.1
Code	0	1	2	3	4	5

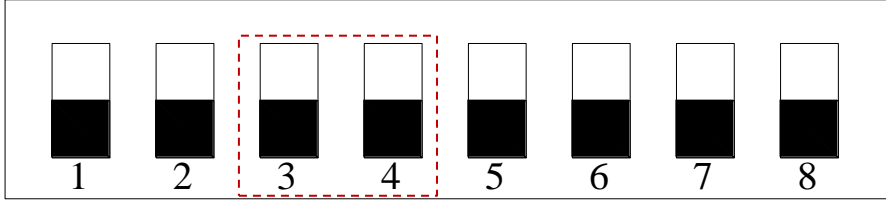
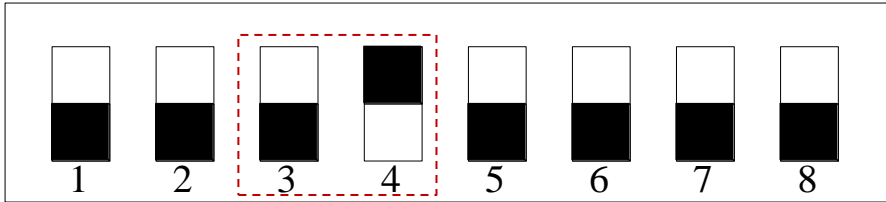
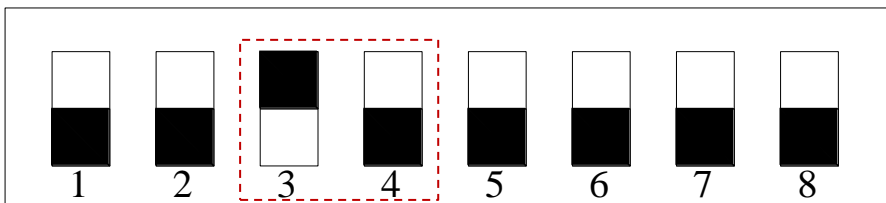
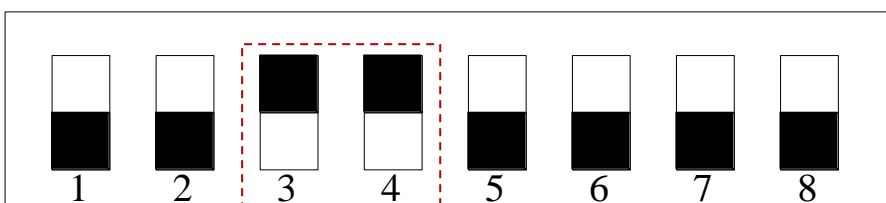
HP	3	3.2	4	5	6
Capacity (kW)	8.0	8.8/9.0	10.0/11.0/11.2	12.0/12.5/14.0	15.0/16.0
Code	6	7	8	9	9

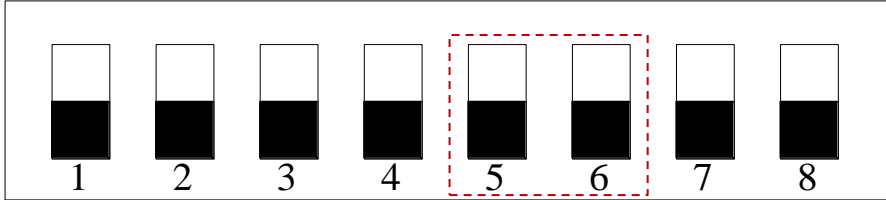
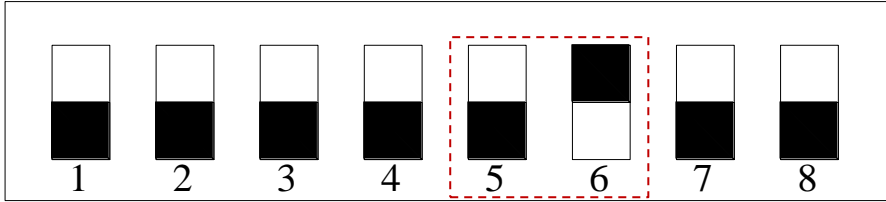
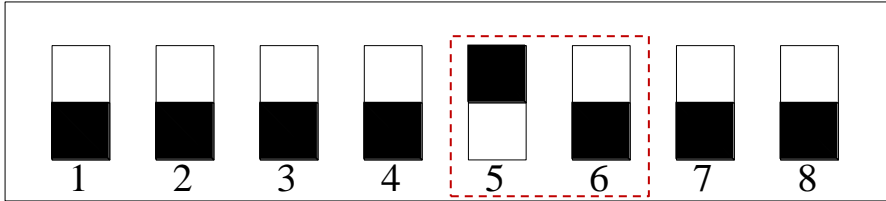
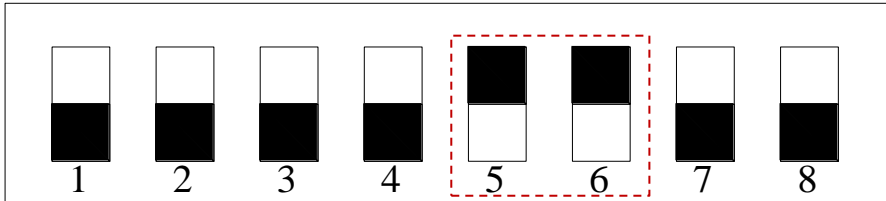
5.2.2 SW3

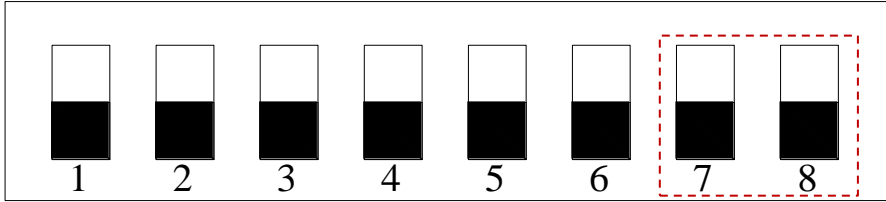
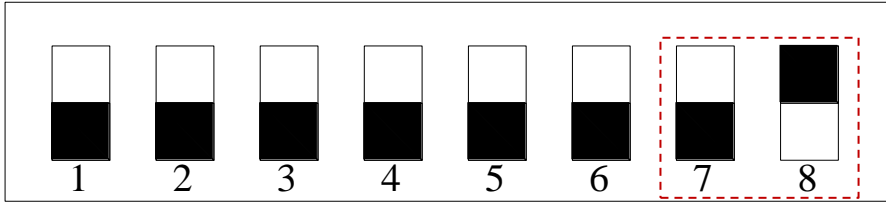
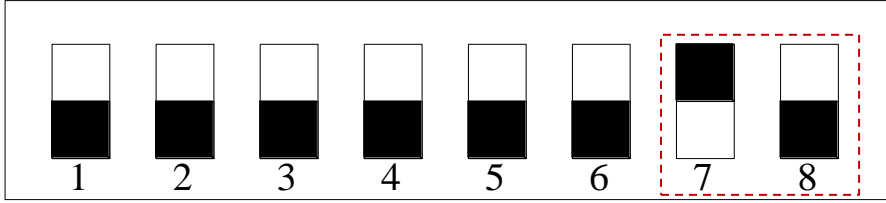
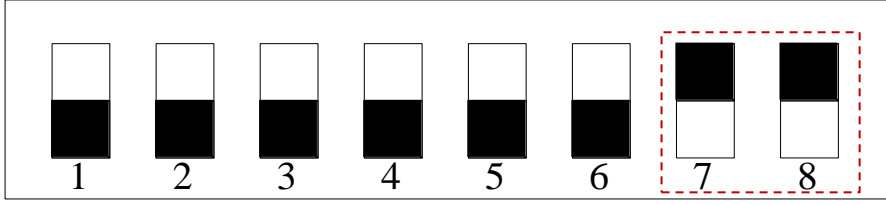
Name	Switch number 1 of SW3	Switch number 4 of SW3	Switch number 2,3 of SW3
Function	Auto-restart when power failure switch. ON/OFF status, operation mode, fan speed, temperature, swing, remote control locked will be recovered.	Indoor unit address elimination	Reserved
Setting	<p>Dial up to disable Auto-restart function</p>	<p>Dial up to erase indoor unit's address.</p>	<p>Default setting</p>
	<p>Dial down to enable Auto-restart function (Default setting)</p>	<p>Default setting</p>	

5.2.3 SW2, only available in heating mode.

Name	Switch number 1,2 of SW2	
Function	Reserved	
Setting		Default setting

Name	Switch number 3,4 of SW2	
Function	<ul style="list-style-type: none"> ● Heating temperature compensation value selection. When temperature difference between setting temperature and room temperature is higher than the setting value, indoor fan motor turns off. ● DO NOT change the default setting without professional guidance. 	
Setting	<p>ON</p> <p>OFF</p> 	6 °C Default setting
	<p>ON</p> <p>OFF</p> 	2 °C
	<p>ON</p> <p>OFF</p> 	4 °C
	<p>ON</p> <p>OFF</p> 	8 °C

Name	Switch number 5,6 of SW2	
Function	<ul style="list-style-type: none"> ● Temperature selection of turning off fan motor in anti-cold-wind-blow mode. When indoor heat exchanger temperature is lower than the setting value, indoor fan motor turns off. ● DO NOT change the default setting without professional guidance. 	
Setting	<p>ON</p>  <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	15 °C Default setting
	<p>ON</p>  <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	20 °C
	<p>ON</p>  <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	24 °C
	<p>ON</p>  <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	26 °C

Name	Switch number 7,8 of SW2	
Function	<ul style="list-style-type: none"> Indoor fan motor stopping gap selection in heating mode. When room temperature gets to (set point + temperature value in Switch number 3,4 of SW2), at this moment indoor unit capacity requirement is 0, indoor fan motor turns off for 4 minutes (this stopping duration time can be changed by below setting). After that indoor fan will run in low speed for 1 minute (this timing is fixed), if indoor unit capacity requirement is still 0, then indoor fan motor keeps off for 4 minutes, and then cycles. DO NOT change the default setting without professional guidance. 	
Setting	 <p>ON</p> <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	4 minutes Default setting
	 <p>ON</p> <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	8 minutes
	 <p>ON</p> <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	12 minutes
	 <p>ON</p> <p>OFF</p> <p>1 2 3 4 5 6 7 8</p>	16 minutes

7.2.4 SW8, reserved, leave it as default setting (both switches dial down).

6 Capacity tables

6.1 Cooling

TC: Total Capacity SC: Sensible Capacity WB: Wet-bulb Temperature DB: Dry-bulb Temperature

Capacity (kW)	Outdoor temperature (°C DB)	Indoor temperature (°C WB/DB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW	TC kW	SC kW	TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
7.1	10	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	8.27	5.63	8.60	5.05
	12	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	8.27	5.63	8.53	5.00
	14	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	8.20	5.58	8.45	4.96
	16	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	8.13	5.53	8.38	4.91
	18	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	8.05	5.47	8.30	4.87
	19	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	7.98	5.42	8.22	4.82
	21	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	7.91	5.37	8.15	4.78
	23	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.55	7.83	5.32	8.07	4.73
	25	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.73	5.50	7.76	5.27	7.99	4.69
	27	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.66	5.44	7.68	5.22	7.92	4.64
	29	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.58	5.39	7.61	5.17	7.84	4.60
	31	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.51	5.34	7.54	5.12	7.76	4.56
	33	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.44	5.24	7.46	5.07	7.69	4.51
	35	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.21	7.33	5.18	7.39	5.02	7.61	4.47
	37	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.19	7.22	5.08	7.31	4.92	7.46	4.38
	39	4.92	4.44	5.80	4.63	6.69	5.21	7.10	5.15	7.17	5.03	7.24	4.87	7.38	4.33
	41	4.92	4.44	5.80	4.63	6.60	5.21	7.03	5.13	7.10	4.98	7.17	4.82	7.31	4.29
	43	4.92	4.44	5.80	4.63	6.53	5.21	6.96	5.11	7.03	4.93	7.10	4.77	7.23	4.24
	46	4.92	4.44	5.69	4.54	6.32	5.21	6.89	5.09	6.96	4.87	7.03	4.72	7.17	4.20
	48	4.92	4.44	5.63	4.49	6.11	5.06	6.67	5.03	6.89	4.82	6.82	4.67	6.96	4.15
50	4.83	4.44	5.57	4.45	5.89	5.01	6.46	4.90	6.67	4.77	6.60	4.62	6.75	4.11	
8.0	10	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	9.32	6.34	9.70	5.69
	12	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	9.32	6.34	9.61	5.64
	14	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	9.24	6.28	9.52	5.59
	16	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	9.16	6.23	9.44	5.54
	18	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	9.07	6.17	9.35	5.49
	19	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	8.99	6.11	9.27	5.44
	21	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	8.91	6.06	9.18	5.38
	23	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.25	8.82	6.00	9.09	5.33
	25	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.71	6.19	8.74	5.94	9.01	5.28
	27	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.63	6.13	8.66	5.89	8.92	5.23
	29	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.55	6.08	8.57	5.83	8.83	5.18
	31	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.47	6.02	8.49	5.77	8.75	5.13
	33	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.38	5.90	8.41	5.72	8.66	5.08
	35	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.87	8.26	5.84	8.32	5.66	8.58	5.03
	37	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.84	8.14	5.73	8.24	5.55	8.41	4.93
	39	5.54	5.00	6.54	5.22	7.54	5.88	8.00	5.81	8.08	5.67	8.16	5.49	8.32	4.88
	41	5.54	5.00	6.54	5.22	7.44	5.88	7.92	5.78	8.00	5.61	8.08	5.43	8.23	4.83
	43	5.54	5.00	6.54	5.22	7.36	5.88	7.84	5.76	7.92	5.55	8.00	5.38	8.15	4.78
	46	5.54	5.00	6.41	5.12	7.12	5.88	7.76	5.73	7.84	5.49	7.92	5.32	8.08	4.73
	48	5.54	5.00	6.34	5.06	6.88	5.70	7.52	5.67	7.76	5.43	7.68	5.26	7.84	4.68
50	5.44	5.00	6.28	5.01	6.64	5.64	7.28	5.52	7.52	5.37	7.44	5.21	7.60	4.63	
9.0	10	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.49	7.13	10.91	6.40
	12	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.49	7.13	10.81	6.34
	14	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.39	7.07	10.71	6.28
	16	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.30	7.00	10.62	6.23
	18	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.21	6.94	10.52	6.17
	19	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.11	6.88	10.43	6.11
	21	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	10.02	6.81	10.33	6.06
	23	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	7.03	9.93	6.75	10.23	6.00
	25	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.80	6.97	9.83	6.69	10.13	5.94
	27	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.71	6.90	9.74	6.62	10.04	5.89
	29	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.61	6.84	9.65	6.56	9.94	5.83
	31	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.53	6.77	9.55	6.49	9.84	5.77
	33	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.43	6.64	9.46	6.43	9.75	5.72
	35	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.61	9.30	6.57	9.36	6.37	9.65	5.66
	37	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.57	9.16	6.44	9.27	6.24	9.46	5.55
	39	6.23	5.62	7.36	5.87	8.48	6.61	9.00	6.53	9.09	6.38	9.18	6.18	9.36	5.49
	41	6.23	5.62	7.36	5.87	8.37	6.61	8.91	6.51	9.00	6.31	9.09	6.11	9.26	5.44
	43	6.23	5.62	7.36	5.87	8.28	6.61	8.82	6.47	8.91	6.24	9.00	6.05	9.17	5.38
	46	6.23	5.62	7.21	5.76	8.01	6.61	8.73	6.45	8.82	6.18	8.91	5.98	9.09	5.32
	48	6.23	5.62	7.14	5.70	7.74	6.41	8.46	6.38	8.73	6.11	8.64	5.92	8.82	5.27
50	6.12	5.62	7.06	5.64	7.47	6.35	8.19	6.21	8.46	6.05	8.37	5.86	8.55	5.21	

TC: Total Capacity SC: Sensible Capacity WB: Wet-bulb Temperature DB: Dry-bulb Temperature

Capacity (kW)	Outdoor temperature (°C DB)	Indoor temperature (°C WB/DB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	10	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.65	7.92	12.12	7.11
	12	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.65	7.92	12.01	7.05
	14	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.55	7.85	11.90	6.98
	16	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.44	7.78	11.80	6.92
	18	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.34	7.71	11.69	6.86
	19	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.24	7.64	11.58	6.79
	21	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.13	7.57	11.47	6.73
	23	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.81	11.03	7.50	11.37	6.67
	25	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.89	7.74	10.92	7.43	11.26	6.61
	27	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.79	7.67	10.82	7.36	11.15	6.54
	29	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.68	7.59	10.72	7.29	11.04	6.48
	31	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.58	7.52	10.62	7.22	10.94	6.42
	33	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.48	7.38	10.51	7.15	10.83	6.35
	35	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.34	10.33	7.30	10.40	7.07	10.72	6.29
	37	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.30	10.17	7.16	10.30	6.93	10.51	6.16
	39	6.92	6.25	8.17	6.53	9.42	7.34	10.00	7.26	10.10	7.08	10.20	6.86	10.40	6.10
	41	6.92	6.25	8.17	6.53	9.30	7.34	9.90	7.23	10.00	7.01	10.10	6.79	10.29	6.04
	43	6.92	6.25	8.17	6.53	9.20	7.34	9.80	7.19	9.90	6.94	10.00	6.72	10.19	5.98
	46	6.92	6.25	8.01	6.39	8.90	7.34	9.70	7.16	9.80	6.86	9.90	6.65	10.10	5.91
	48	6.92	6.25	7.93	6.33	8.60	7.12	9.40	7.09	9.70	6.79	9.60	6.58	9.80	5.85
50	6.80	6.25	7.85	6.26	8.30	7.05	9.10	6.90	9.40	6.72	9.30	6.51	9.50	5.79	
12	10	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.99	9.51	14.54	8.53
	12	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.99	9.51	14.41	8.45
	14	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.86	9.42	14.29	8.38
	16	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.73	9.34	14.16	8.30
	18	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.61	9.25	14.03	8.23
	19	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.49	9.17	13.90	8.15
	21	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.36	9.08	13.77	8.08
	23	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.38	13.23	9.00	13.64	8.00
	25	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	13.07	9.29	13.11	8.91	13.51	7.93
	27	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	12.94	9.20	12.99	8.83	13.38	7.85
	29	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	12.82	9.11	12.86	8.74	13.25	7.78
	31	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	12.70	9.03	12.74	8.66	13.12	7.70
	33	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	12.58	8.85	12.61	8.57	13.00	7.62
	35	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.81	12.40	8.76	12.49	8.49	12.87	7.55
	37	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.77	12.21	8.59	12.36	8.32	12.61	7.40
	39	8.31	7.50	9.81	7.83	11.31	8.81	12.00	8.71	12.12	8.50	12.24	8.23	12.48	7.32
	41	8.31	7.50	9.81	7.83	11.16	8.81	11.88	8.68	12.00	8.41	12.12	8.15	12.35	7.25
	43	8.31	7.50	9.81	7.83	11.04	8.81	11.76	8.63	11.88	8.33	12.00	8.06	12.22	7.17
	46	8.31	7.50	9.61	7.67	10.68	8.81	11.64	8.60	11.76	8.24	11.88	7.98	12.12	7.10
	48	8.31	7.50	9.51	7.60	10.32	8.55	11.28	8.51	11.64	8.15	11.52	7.89	11.76	7.02
50	8.16	7.50	9.42	7.52	9.96	8.46	10.92	8.28	11.28	8.06	11.16	7.81	11.40	6.94	
15	10	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	17.48	11.88	18.18	10.66
	12	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	17.48	11.88	18.02	10.57
	14	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	17.32	11.78	17.86	10.47
	16	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	17.17	11.67	17.70	10.38
	18	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	17.01	11.57	17.54	10.29
	19	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	16.86	11.46	17.38	10.19
	21	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	16.70	11.35	17.21	10.10
	23	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.72	16.54	11.25	17.05	10.00
	25	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.33	11.61	16.39	11.14	16.89	9.91
	27	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.18	11.50	16.23	11.04	16.73	9.81
	29	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	16.02	11.39	16.08	10.93	16.57	9.72
	31	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	15.88	11.28	15.92	10.82	16.40	9.62
	33	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	15.72	11.06	15.76	10.72	16.24	9.53
	35	10.39	9.37	12.26	9.79	14.14	11.02	15.00	11.01	15.49	10.95	15.61	10.61	16.08	9.44
	37	10.39	9.37	12.26	9.79	14.14	11.02	15.00	10.96	15.26	10.73	15.45	10.40	15.76	9.25
	39	10.39	9.37	12.26	9.79	14.14	11.02	15.00	10.89	15.15	10.63	15.30	10.29	15.60	9.15
	41	10.39	9.37	12.26	9.79	13.95	11.02	14.85	10.85	15.00	10.52	15.15	10.19	15.44	9.06
	43	10.39	9.37	12.26	9.79	13.80	11.02	14.70	10.79	14.85	10.41	15.00	10.08	15.28	8.96
	46	10.39	9.37	12.02	9.59	13.35	11.02	14.55	10.75	14.70	10.30	14.85	9.97	15.15	8.87
	48	10.39	9.37	11.89	9.49	12.90	10.69	14.10	10.64	14.55	10.19	14.40	9.87	14.70	8.78
50	10.20	9.37	11.77	9.40	12.45	10.58	13.65	10.35	14.10	10.08	13.95	9.76	14.25	8.68	

6.2 Heating

TC: Total Capacity WB: Wet-bulb Temperature DB: Dry-bulb Temperature

Capacity (kW)	Outdoor temperature (° C)		Indoor temperature (°C DB)					
			16	18	20	21	22	24
	WB	DB	TC kW	TC kW	TC kW	TC kW	TC kW	TC kW
7.1	-20	-19.8	4.48	4.48	4.48	4.48	4.48	4.48
	-19	-18.8	4.80	4.80	4.80	4.80	4.80	4.80
	-17	-16.7	5.04	5.04	5.04	5.04	5.04	5.04
	-15	-14.7	5.20	5.20	5.20	5.20	5.20	5.20
	-13	-12.6	5.36	5.36	5.36	5.36	5.36	5.36
	-11	-10.5	5.60	5.60	5.60	5.60	5.60	5.60
	-10	-9.5	5.84	5.84	5.84	5.84	5.84	5.84
	-9.1	-8.5	6.00	6.00	6.00	6.00	6.00	6.00
	-7.6	-7	6.08	6.08	6.08	6.08	6.08	6.08
	-5.6	-5	6.32	6.32	6.32	6.32	6.32	6.32
	-3.7	-3	6.64	6.64	6.64	6.64	6.64	6.64
	-0.7	0	7.12	7.12	7.12	7.12	7.12	6.72
	2.2	3	7.52	7.52	7.52	7.52	7.36	6.72
	4.1	5	7.76	7.76	7.76	7.76	7.36	6.72
	6	7	8.00	8.00	8.00	7.76	7.36	6.72
7.9	9	8.24	8.24	8.00	7.76	7.36	6.72	
9.8	11	8.48	8.48	8.00	7.76	7.36	6.72	
11.8	13	8.80	8.64	8.00	7.76	7.36	6.72	
13.7	15	9.04	8.64	8.00	7.76	7.36	6.72	
8	-20	-19.8	5.04	5.04	5.04	5.04	5.04	5.04
	-19	-18.8	5.40	5.40	5.40	5.40	5.40	5.40
	-17	-16.7	5.67	5.67	5.67	5.67	5.67	5.67
	-15	-14.7	5.85	5.85	5.85	5.85	5.85	5.85
	-13	-12.6	6.03	6.03	6.03	6.03	6.03	6.03
	-11	-10.5	6.30	6.30	6.30	6.30	6.30	6.30
	-10	-9.5	6.57	6.57	6.57	6.57	6.57	6.57
	-9.1	-8.5	6.75	6.75	6.75	6.75	6.75	6.75
	-7.6	-7	6.84	6.84	6.84	6.84	6.84	6.84
	-5.6	-5	7.11	7.11	7.11	7.11	7.11	7.11
	-3.7	-3	7.47	7.47	7.47	7.47	7.47	7.47
	-0.7	0	8.01	8.01	8.01	8.01	8.01	7.56
	2.2	3	8.46	8.46	8.46	8.46	8.28	7.56
	4.1	5	8.73	8.73	8.73	8.73	8.28	7.56
	6	7	9.00	9.00	9.00	8.73	8.28	7.56
7.9	9	9.27	9.27	9.00	8.73	8.28	7.56	
9.8	11	9.54	9.54	9.00	8.73	8.28	7.56	
11.8	13	9.90	9.72	9.00	8.73	8.28	7.56	
13.7	15	10.17	9.72	9.00	8.73	8.28	7.56	
9	-20	-19.8	5.60	5.04	5.60	5.60	5.60	5.60
	-19	-18.8	6.00	5.40	6.00	6.00	6.00	6.00
	-17	-16.7	6.30	6.30	6.30	6.30	6.30	6.30
	-15	-14.7	6.50	6.50	6.50	6.50	6.50	6.50
	-13	-12.6	6.70	6.70	6.70	6.70	6.70	6.70
	-11	-10.5	7.00	7.00	7.00	7.00	7.00	7.00
	-10	-9.5	7.30	7.30	7.30	7.30	7.30	7.30
	-9.1	-8.5	7.50	7.50	7.50	7.50	7.50	7.50
	-7.6	-7	7.60	7.60	7.60	7.60	7.60	7.60
	-5.6	-5	7.90	7.90	7.90	7.90	7.90	7.90
	-3.7	-3	8.30	8.30	8.30	8.30	8.30	8.30
	-0.7	0	8.90	8.90	8.90	8.90	8.90	8.40
	2.2	3	9.40	9.40	9.40	9.40	9.20	8.40
	4.1	5	9.70	9.70	9.70	9.70	9.20	8.40
	6	7	10.00	10.00	10.00	9.70	9.20	8.40
7.9	9	10.30	10.30	10.00	9.70	9.20	8.40	
9.8	11	10.60	10.60	10.00	9.70	9.20	8.40	
11.8	13	11.00	10.80	10.00	9.70	9.20	8.40	
13.7	15	11.30	10.80	10.00	9.70	9.20	8.40	

TC: Total Capacity WB: Wet-bulb Temperature DB: Dry-bulb Temperature

Capacity (kW)	Outdoor temperature (° C)		Indoor temperature (°C DB)					
			16	18	20	21	22	24
	WB	DB	TC kW	TC kW	TC kW	TC kW	TC kW	TC kW
10	-20	-19.8	6.22	5.60	6.22	6.22	6.22	6.22
	-19	-18.8	6.67	6.00	6.67	6.67	6.67	6.67
	-17	-16.7	7.00	7.00	7.00	7.00	7.00	7.00
	-15	-14.7	7.22	7.22	7.22	7.22	7.22	7.22
	-13	-12.6	7.44	7.44	7.44	7.44	7.44	7.44
	-11	-10.5	7.78	7.78	7.78	7.78	7.78	7.78
	-10	-9.5	8.11	8.11	8.11	8.11	8.11	8.11
	-9.1	-8.5	8.33	8.33	8.33	8.33	8.33	8.33
	-7.6	-7	8.44	8.44	8.44	8.44	8.44	8.44
	-5.6	-5	8.78	8.78	8.78	8.78	8.78	8.78
	-3.7	-3	9.22	9.22	9.22	9.22	9.22	9.22
	-0.7	0	9.89	9.89	9.89	9.89	9.89	9.33
	2.2	3	10.44	10.44	10.44	10.44	10.22	9.33
	4.1	5	10.78	10.78	10.78	10.78	10.22	9.33
	6	7	11.00	11.00	11.00	10.78	10.22	9.33
	7.9	9	11.44	11.44	11.00	10.78	10.22	9.33
9.8	11	11.78	11.78	11.00	10.78	10.22	9.33	
11.8	13	12.22	12.00	11.00	10.78	10.22	9.33	
13.7	15	12.56	12.00	11.00	10.78	10.22	9.33	
12	-20	-19.8	7.50	7.50	7.50	7.50	7.50	7.50
	-19	-18.8	8.04	8.04	8.04	8.04	8.04	8.04
	-17	-16.7	8.44	8.44	8.44	8.44	8.44	8.44
	-15	-14.7	8.71	8.71	8.71	8.71	8.71	8.71
	-13	-12.6	8.98	8.98	8.98	8.98	8.98	8.98
	-11	-10.5	9.38	9.38	9.38	9.38	9.38	9.38
	-10	-9.5	9.78	9.78	9.78	9.78	9.78	9.78
	-9.1	-8.5	10.05	10.05	10.05	10.05	10.05	10.05
	-7.6	-7	10.18	10.18	10.18	10.18	10.18	10.18
	-5.6	-5	10.59	10.59	10.59	10.59	10.59	10.59
	-3.7	-3	11.12	11.12	11.12	11.12	11.12	11.12
	-0.7	0	11.93	11.93	11.93	11.93	11.93	11.25
	2.2	3	12.59	12.59	12.59	12.59	12.32	11.25
	4.1	5	13.00	13.00	13.00	13.00	12.32	11.25
	6	7	13.39	13.39	13.39	13.00	12.32	11.25
	7.9	9	13.80	13.80	13.39	13.00	12.32	11.25
9.8	11	14.20	14.20	13.39	13.00	12.32	11.25	
11.8	13	14.73	14.46	13.39	13.00	12.32	11.25	
13.7	15	15.14	14.46	13.39	13.00	12.32	11.25	
15	-20	-19.8	9.30	9.30	9.30	9.30	9.30	9.30
	-19	-18.8	9.96	9.96	9.96	9.96	9.96	9.96
	-17	-16.7	10.47	10.47	10.47	10.47	10.47	10.47
	-15	-14.7	10.80	10.80	10.80	10.80	10.80	10.80
	-13	-12.6	11.14	11.14	11.14	11.14	11.14	11.14
	-11	-10.5	11.68	11.68	11.68	11.68	11.68	11.68
	-10	-9.5	12.11	12.11	12.11	12.11	12.11	12.11
	-9.1	-8.5	12.43	12.43	12.43	12.43	12.43	12.43
	-7.6	-7	12.64	12.64	12.64	12.64	12.64	12.64
	-5.6	-5	13.18	13.18	13.18	13.18	13.18	13.18
	-3.7	-3	13.82	13.82	13.82	13.82	13.82	13.82
	-0.7	0	14.79	14.79	14.79	14.79	14.79	13.93
	2.2	3	15.64	15.64	15.64	15.64	15.32	13.93
	4.1	5	16.37	16.37	16.37	16.37	15.32	13.93
	6	7	17.00	17.00	17.00	16.37	15.32	13.93
	7.9	9	17.14	17.14	17.00	16.37	15.32	13.93
9.8	11	17.57	17.57	17.00	16.37	15.32	13.93	
11.8	13	18.32	17.89	17.00	16.37	15.32	13.93	
13.7	15	18.75	17.89	17.00	16.37	15.32	13.93	

7 Electrical characteristics

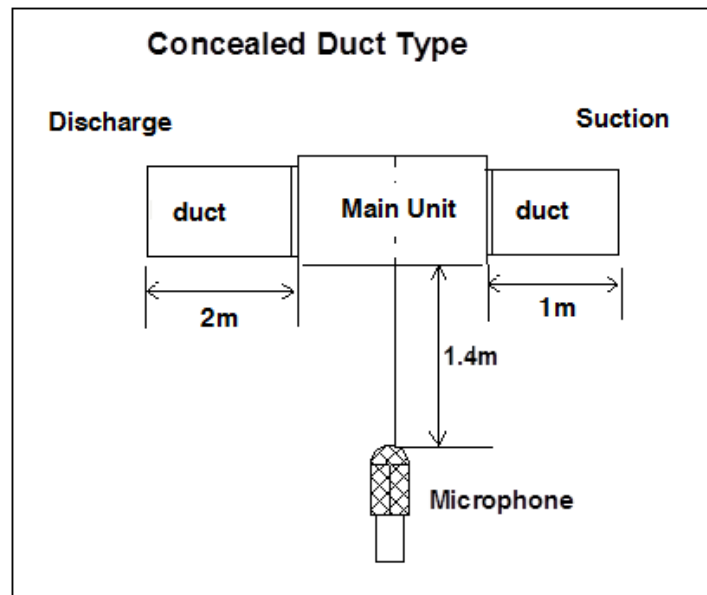
Model	Indoor unit				MFC	Power cable			Signal cable
	Hz	Voltage	Minimum	Maximum		L ≤ 20m	L ≤ 50m	Grounded	
VEMP024Q0A-GCV071	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²
VEMP027Q0A-GCV080	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²
VEMP031Q0A-GCV090	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²
VEMP035Q0A-GCV100	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²
VEMP040Q0A-GCV120	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²
VEMP048Q0A-GCV140	50-60Hz	220-240V	198	264	15	2*2.5mm ²	2*4.0mm ²	2.5mm ²	2*0.75 mm ²

Notes:

- 1) *Minimum: Permitted minimum operating voltage, lower than this value may damage the system*
- 2) *Maximum: Permitted maximum operating voltage, higher than this value may damage the system*
- 3) *MC: Minimum Current (A)*
- 4) *MFC: Maximum Fuse Current (A)*
- 5) *Output: Fan motor rated power Output (W)*
- 6) *FLC: Full Load Current (A)*

8 Sound levels

8.1 Test condition



Notes:

Semi-anechoic chamber conversion value, measured at a point 1m in front of the unit at a height of 1.4m

8.2 Test data (Sound pressure level)



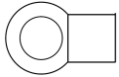

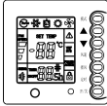
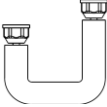
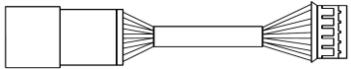
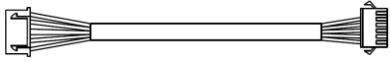

Model	Sound pressure level (dB(A))		
	High speed	Medium speed	Low speed
VEMP024Q0A-GCV071	41	39	36
VEMP027Q0A-GCV080	41	39	36
VEMP031Q0A-GCV090	43	40	38
VEMP035Q0A-GCV100	44	42	40
VEMP040Q0A-GCV120	44	42	40
VEMP048Q0A-GCV140	44	42	40

Notes:

During actual operation, these values are normally somewhat higher as a result of ambient conditions.

9 Accessories

9.1 Standard accessories.

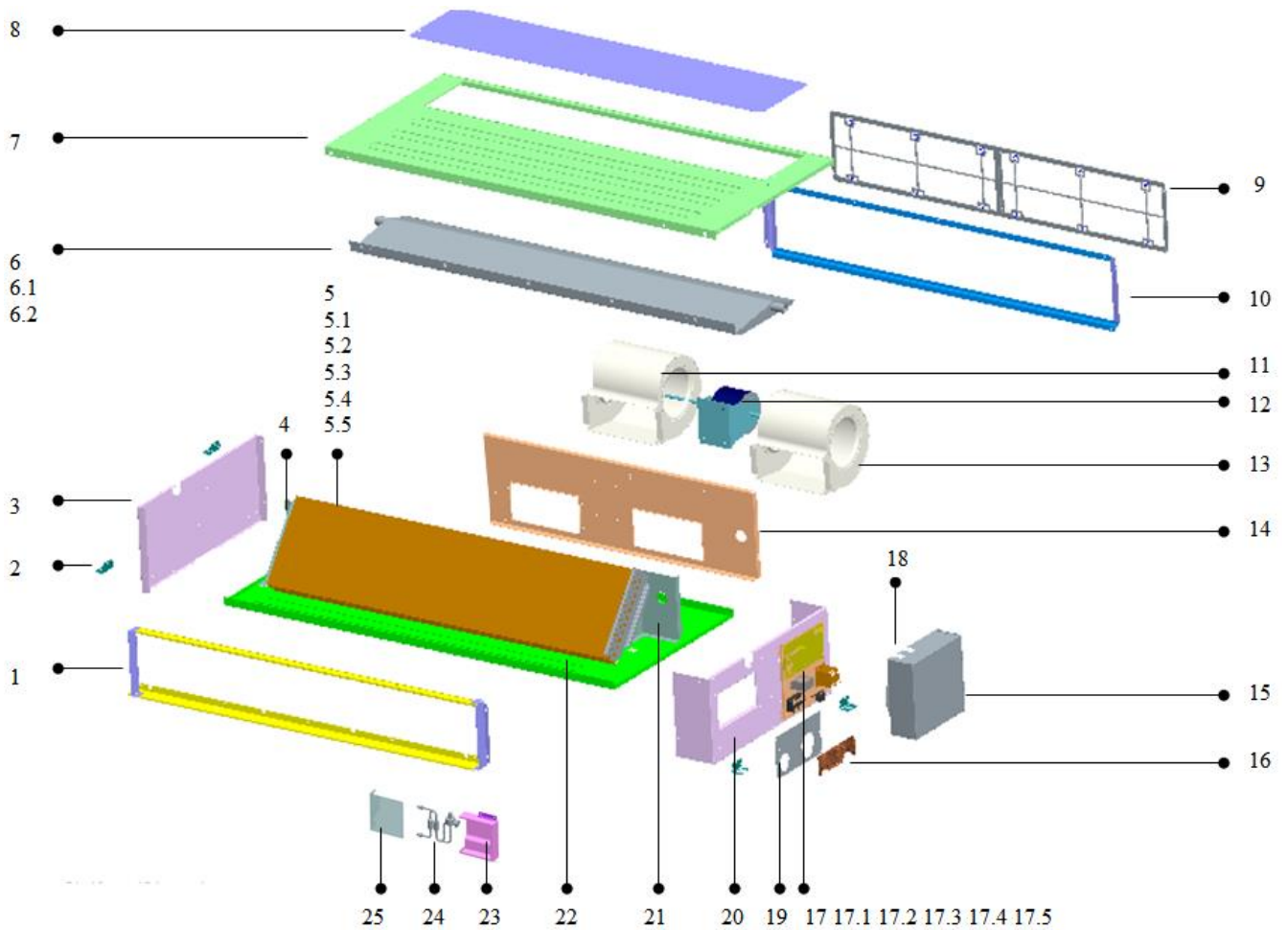
Item	Quantity	Shape	Usage
Installation manual for indoor unit	1	/	Must deliver to customer
Insulation sheath	2		Thermal insulation for the jointing part of piping
Strapping tapes	6		Bind up the wires and pipes
Round shape insulation termination points	6		For wiring
U shape insulation termination points	3		For wiring
Wired controller	1		For controlling indoor unit
EXV connection pipe	1		Connecting with EXV box and indoor unit liquid pipe
Wired controller connection wire group	1		For connecting wired controller to indoor PCB
Wired controller connection wire group	1		For connecting wired controller to indoor PCB
Bag	3		For bagging accessories

9.2 Local buy accessories.

Item	Specification	
	7.1kW~8.0kW	9.0kW~15.0kW
Liquid side copper pipe	Ø9.53mm*0.75mm	
Gas side copper pipe	Ø15.9mm*1.0mm	Ø15.9mm*1.0mm
Drainage pipe	PVC	
Pipe insulation	Thickness ≥ 10mm	
Power cables	2*2.5 mm ² (When total cable length is ≤20m) 2*4.0 mm ² (When total cable length is ≤50m)	
Grounded cable	2.5 mm ²	
Signal cables	2*0.75 mm ² (AVP, RVP, RVVP)	

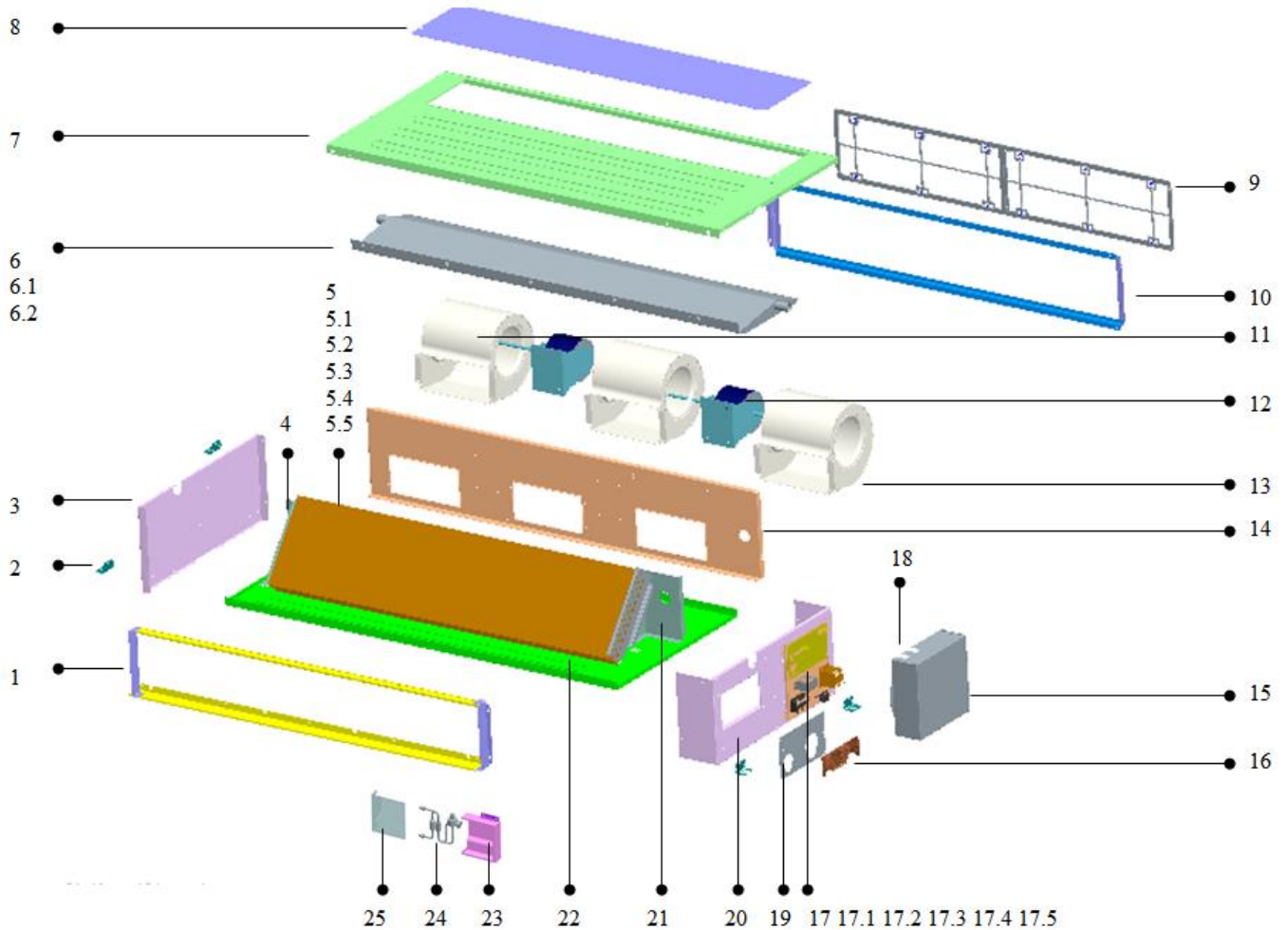
10 Exploded view

VEMP024Q0A-GCV071, VEMP027Q0A-GCV080



No.	Part name	Quantity	No.	Part name	Quantity
1	Air outlet assy	1	13	Right scroll case	1
2	Hanger	4	14	Fixing board assy for fan	1
3	Left side board	1	15	E- parts box cover	1
4	Left connecting panel for evaporator	1	16	Small cover	1
5	Evaporator components	1	17	Electronic control components	1
5.1	Transition	6	17.1	Electronic control board of indoor unit	1
5.2	Current dividing assy	1	17.2	Temp sensor	1
5.3	Collecting pipe assy	1	17.3	Transformer	1
5.4	Evaporator assy	1	17.4	Terminal	1
5.5	Installation tube for probe	1	17.5	Groove clamp 7	2
6	Water pan assy	1	18	E- parts box base	1
6.1	Discharge pipe assy	2	19	Big cover	1
6.2	Rubber cover for water outlet joint	2	20	Right side board	1
7	Lower panel	1	21	Right connecting panel for evaporator	1
8	Air return baffle	1	22	Upper panel	1
9	Air filter	2	23	Welding assy for large expansion valve	1
10	Air return assy	1	24	EXV box welding assy	1
11	Left scroll case	1	25	Large expansion valve cover	1
12	Indoor motor	1			

VEMP031Q0A-GCV090, VEMP035Q0A-GCV100, VEMP040Q0A-GCV120, VEMP048Q0A-GCV140



No.	Part name	Quantity	No.	Part name	Quantity
1	Air outlet assy	1	13	Right scroll case	2
2	Hanger	4	14	Fixing board assy for fan	1
3	Left side board	1	15	E- parts box cover	1
4	Left connecting panel for evaporator	1	16	Small cover	1
5	Evaporator components	1	17	Electronic control components	1
5.1	Transition	6	17.1	Electronic control board of indoor unit	1
5.2	Current dividing assy	1	17.2	Temp sensor	1
5.3	Collecting pipe assy	1	17.3	Transformer	1
5.4	Evaporator assy	1	17.4	Terminal	1
5.5	Installation tube for probe	1	17.5	Groove clamp 7	2
6	Water pan assy	1	18	E- parts box base	1
6.1	Discharge pipe assy	2	19	Big cover	1
6.2	Rubber cover for water outlet joint	2	20	Right side board	1
7	Lower panel	1	21	Right connecting panel for evaporator	1
8	Air return baffle	1	22	Upper panel	1
9	Air filter	2	23	Welding assy for large expansion valve	1
10	Air return assy	1	24	EXV box welding assy	1
11	Left scroll case	1	25	Large expansion valve cover	1
12	Indoor motor	2			



OMEGA
ENVIRONMENTAL
TECHNOLOGIES LLC.

17702 Mitchell North, #101
Irvine, CA. 92614 .USA
Tel: 714 795 2830
Fax: 714 966 1646
info@otecomega.com
www.otecomega.com

OTECTM
AIR CONDITIONING

Showroom & Technology Center
11380 Interchange Circle North
Miramar, FL 33025 .USA
Tel: 305 901 1270
Fax: 954 212 8280
info@otecomega.com
www.otecomega.com

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