

MAXA[®]

A I R C O N D I T I O N I N G



Maxa DC Fan Coil Unit Four-pipe Compact Four-way Cassette Technical Service Manual

HCA1/4-35

HCA1/4-50

HCA1/4-60

Four-Pipe Compact Four-way Cassette DC Fan Coil Unit

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DC Fan Coil Unit

1. External Appearance

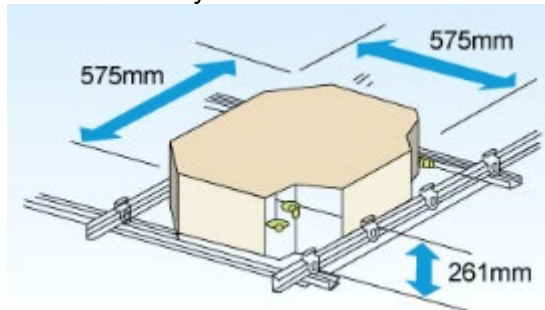


2. Features

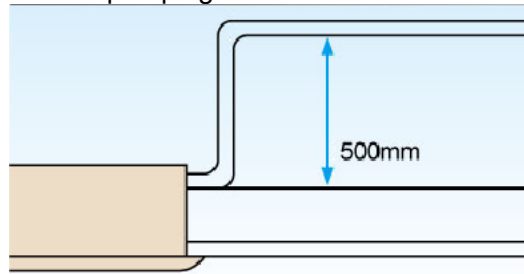
- Round blow air supply enables uniform air flow distribution.



- Compact design, simple installation and easy maintenance.

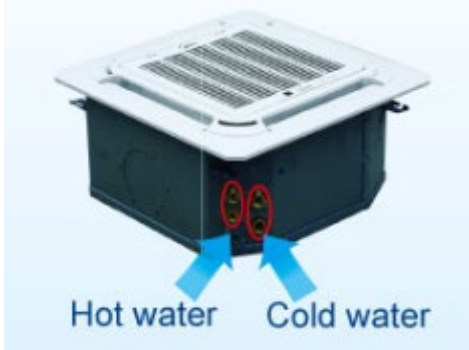


- Built-in drain water pump with 500mm pumping head



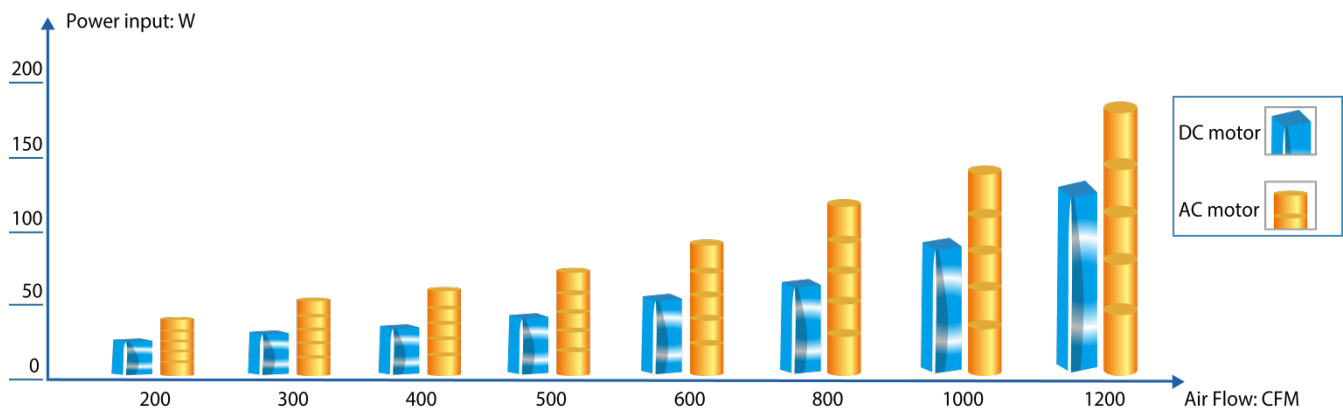
- High comfortable, cold and hot water can supply simultaneously

- Cooling and heating model can exchange conveniently



- High capacity of cooling and heating performance, high efficiency and energy-saving
- Fresh air provision makes life healthier and more comfortable
- Four-speed motor with one reserved more choice

✚ Maxa DC FCU adopt the brushless DC motor, the DC motor efficiency is up to 90%. In contrast with the original FCU. DC FCU power consumption can be reduced by more than 30%.



✚ **DC brushless motor**

The motor adopts fully enclosed structure design; it is energy-saving, of high operating efficiency and durable motor. The motor bearing can operate 80,000 hours continuously and easy for maintenance.

✚ **Low noise**

Advanced 3-D spiral fan design reduces air resistance and operating sound. The motor bearing with unique design makes less operation vibration.











3. Product Lineup

Type	35	50	60
4-Pipe Compact 4-way cassette (HCA1/4)	●	●	●





DC Fan Coil Unit

4. Accessories

4.1 Standard accessories

Accessory name	Qty.	Shape	Usage
Owner's & installation manual	1	/	Installation guide
Installation paper board	1		
Tubing& Fittings	2		Soundproof/ insulation sheath
Drainpipe Fittings	1		Out-let pipe
	1		Out-let pipe clamp
	5		Tightening band
Remote controller& Its Frame	1		Remote controller R05/BGE-20
	1		Frame
	2		Mounting screw(ST2.9x10-C-H)
	2		Alkaline dry batteries
Remote controller manual	1		

4.2 Optional accessories

Accessory name	Qty.	Shape	Usage
Wired controller KJR-12B/D	1		Wired control
Network Interface Module NIM01/E	1		Network Interface Module
Central controller CCM03	1		Central control
3-way valve assembly	1		Water flow switch

5. Specifications

Model			HCA1/4-35	HCA1/4-50	HCA1/4-60
Power supply		V/Ph/Hz	220-240/1/50		
Air flow (H/M/L)		m ³ /h	727/569/451	731/572/462	1389/1149/929
		CFM	427/334/265	430/336/271	817/675/546
Cooling ¹	Capacity (H/M/L)	kW	3.08/2.64/2.28	3.05/2.62/2.3	5.62/5/4.26
	Water flow rate(H/M/L)	m ³ /h	0.56/0.48/0.41	0.54/0.47/0.40	1.04/0.9/0.77
	Water pressure drop(H/M/L)	kPa	13.15/9.4/7	16.8/13.1/10.3	15.9/12.4/9
	Power input(H/M/L)	W	37/24/19	32/17/11	60/38/23
Heating ²	Capacity (H/M/L)	kW	5.52/3.53/2.98	5.97/3.66/3.09	7.66/6.35/5.44
	Water flow rate(H/M/L)	m ³ /h	0.36/0.31/0.27	0.39/0.33/0.28	0.65/0.58/0.50
	Water pressure drop(H/M/L)	kPa	24.14/17.9/13.1	26.8/19.2/14.5	32/25.7/19.1
	Power input(H/M/L)	W	28/16/10	32/16/10	61/38/23
Heating ³	Capacity (H/M/L)	kW	4.78/4.03/3.4	4.9/4.12/3.5	8.15/7.19/6.17
	Water flow rate(H/M/L)	m ³ /h	0.42/0.36/0.31	0.46/0.38/0.33	0.73/0.66/0.56
	Water pressure drop(H/M/L)	kPa	30.36/22.17/16.68	36.1/25.9/19	39.5/32.5/23.8
	Power input(H/M/L)	W	29/16/10	32/17/10	62/39/23
Sound pressure level	(H/M/L)	dB(A)	42/35/30	44/39/31	44/39/33
Rated current		A	0.3	0.4	0.5
Fan motor	Type		DC motor	DC motor	DC motor
	Quantity		1	1	1
Fan	Type		Centrifugal, forward-curved Blades		
	Quantity		1	1	1
Coil	Row		2		
	Max. Working pressure	MPa	1.6		
	Coil length x height	mm	1315x210		1990x252
	Fin spacing	mm	1.3		1.5
	Fin type		Hydrophilic aluminum		
	Number of circuits		Cool 4; Heat 3	Cool 4; Heat 3	Cold water 9; Hot water 3
	Diameter	mm	Φ7		
Panel	Net dimensions (W×H×D)	mm	647×50×647		950×45×950
	Packing size (W×H×D)	mm	715×123×715		1035×90×1035
	Net weight	kg	2.5		6
	Gross weight	kg	4.5		9
Body	Dimensions W×H×D	mm	575×261×575		840×300×840
	Packing W×H×D	mm	675×320×675		900×307×900
	Net weight	kg	16.7		27.5
	Gross weight	kg	22.7		33.5
Pipe connection	Water inlet/outlet pipe	inch	Cold water: G3/4 Hot water: G1/2		Cold water: RC3/4; Hot water: RC1/2
	Drain pipe	mm	ODΦ25		ODΦ32

Note:

Based on Eurovent conditions:

H: High fan speed; M: Medium fan speed; L: Low fan speed.

1 :Cooling mode (2 and 4-pipe coil): entering air temperature 27°C DB/19°C WB, entering/leaving water temperature 7°C /12°C, high fan speed.

2 :Heating mode (1) : (2-pipe coil): entering air temperature 20°C DB, entering/leaving water temperature 45/40°C, high fan speed.

3 :Heating mode (2) : (2-pipe coil): entering air temperature 20°C DB, enter water temperature/water flow 50°C/* (same water flow as in standard rating condition in cooling)

DC Fan Coil Unit

HCA1/4-50																								
EWT	ΔT	Indoor temp (W.B.)	Indoor temperature (D.B.)																					
			21				23				25				27				29					
			TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD		
°C	°C	°C	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa		
5	3	15	3.27	2.56	0.94	10.98	3.25	2.94	0.93	10.84	3.33	3.33	0.95	11.33	3.69	3.69	1.05	13.46	4.04	4.04	1.16	15.74		
		17	4.27	2.49	1.22	17.29	4.25	2.88	1.21	17.13	4.19	3.25	1.2	16.72	4.03	3.57	1.15	15.69	4.11	3.99	1.18	16.21		
		19	5.35	2.42	1.53	25.49	5.32	2.81	1.52	25.25	5.29	3.19	1.51	24.99	5.19	3.54	1.48	24.15	5.07	3.88	1.45	23.23		
		20	5.92	2.38	1.7	30.36	5.89	2.77	1.69	30.11	5.86	3.16	1.68	29.83	5.8	3.53	1.66	29.25	5.66	3.86	1.62	28.06		
	4	15	3	2.43	0.64	5.78	3.01	2.83	0.64	5.82	3.2	3.2	0.69	6.48	3.56	3.56	0.76	7.75	3.91	3.91	0.84	9.1		
		17	3.99	2.36	0.86	9.4	3.97	2.75	0.85	9.31	3.93	3.13	0.84	9.14	3.78	3.46	0.81	8.56	3.95	3.92	0.85	9.24		
		19	5.07	2.29	1.09	14.12	5.04	2.68	1.08	13.99	5.01	3.07	1.08	13.85	4.92	3.42	1.06	13.43	4.78	3.75	1.03	12.78		
		20	5.64	2.25	1.21	16.93	5.61	2.65	1.2	16.8	5.58	3.03	1.2	16.65	5.53	3.41	1.19	16.37	5.37	3.73	1.15	15.59		
	5	15	2.71	2.3	0.47	2.71	2.82	2.75	0.48	3.08	3.08	3.08	0.53	3.93	3.44	3.44	0.59	4.94	3.79	3.79	0.65	5.88		
		17	3.7	2.23	0.64	5.64	3.69	2.63	0.63	5.6	3.65	3.01	0.63	5.51	3.58	3.37	0.61	5.32	3.81	3.81	0.65	5.93		
		19	4.78	2.17	0.82	8.71	4.76	2.56	0.82	8.63	4.73	2.94	0.81	8.55	4.66	3.31	0.8	8.35	4.49	3.63	0.77	7.82		
		20	5.35	2.13	0.92	10.53	5.32	2.52	0.91	10.45	5.3	2.91	0.91	10.36	5.25	3.29	0.9	10.21	5.09	3.61	0.87	9.67		
	6	15	2.46	2.19	0.35	1.32	2.65	2.65	0.38	1.48	2.95	2.95	0.42	1.96	3.31	3.31	0.47	2.9	3.66	3.66	0.52	3.87		
		17	3.4	2.1	0.49	3.18	3.39	2.5	0.48	3.15	3.37	2.89	0.48	3.09	3.4	3.29	0.49	3.17	3.67	3.67	0.53	3.89		
		19	4.49	2.04	0.64	5.71	4.46	2.43	0.64	5.66	4.44	2.82	0.63	5.61	4.38	3.19	0.63	5.48	4.22	3.51	0.6	5.13		
		20	5.05	2	0.72	6.99	5.03	2.39	0.72	6.94	5	2.79	0.72	6.88	4.96	3.16	0.71	6.78	4.82	3.5	0.69	6.45		
7	3	15	2.51	2.21	0.72	6.9	2.63	2.63	0.75	7.47	2.96	2.96	0.85	9.14	3.32	3.32	0.95	11.09	3.68	3.68	1.05	13.19		
		17	3.49	2.14	1	12.08	3.48	2.54	1	11.98	3.45	2.92	0.99	11.83	3.38	3.28	0.97	11.4	3.68	3.68	1.05	13.2		
		19	4.57	2.08	1.31	19.14	4.54	2.47	1.3	18.94	4.52	2.85	1.29	18.76	4.45	3.22	1.28	18.3	4.27	3.53	1.22	16.99		
		20	5.14	2.04	1.47	23.39	5.11	2.43	1.46	23.2	5.08	2.82	1.46	22.98	5.04	3.2	1.44	22.63	4.86	3.51	1.39	21.28		
	4	15	2.27	2.11	0.49	3.28	2.49	2.49	0.53	4.09	2.84	2.84	0.61	5.19	3.2	3.2	0.69	6.35	3.55	3.55	0.76	7.6		
		17	3.2	2.02	0.69	6.35	3.19	2.41	0.68	6.32	3.17	2.8	0.68	6.25	3.23	3.22	0.69	6.45	3.55	3.55	0.76	7.6		
		19	4.28	1.95	0.92	10.4	4.25	2.34	0.91	10.29	4.23	2.73	0.91	10.19	4.18	3.11	0.9	10	4	3.42	0.86	9.27		
		20	4.84	1.91	1.04	12.84	4.82	2.31	1.03	12.73	4.79	2.69	1.03	12.61	4.75	3.08	1.02	12.45	4.61	3.41	0.99	11.75		
	5	15	2.07	2.03	0.36	1.3	2.35	2.35	0.4	1.8	2.71	2.71	0.47	2.92	3.07	3.07	0.53	3.98	3.43	3.43	0.59	4.87		
		17	2.89	1.89	0.5	3.46	2.89	2.29	0.5	3.46	2.92	2.7	0.5	3.57	3.09	3.09	0.53	4.02	3.43	3.43	0.59	4.88		
		19	3.97	1.82	0.68	6.26	3.95	2.22	0.68	6.19	3.93	2.61	0.67	6.14	3.05	2.61	0.54	16.8	3.76	3.33	0.65	5.7		
		20	4.53	1.78	0.78	7.83	4.51	2.18	0.78	7.77	4.49	2.57	0.77	7.69	4.46	2.96	0.77	7.61	4.34	3.3	0.75	7.28		
	6	15	1.91	1.91	0.27	0.96	2.22	2.22	0.32	1.12	2.58	2.58	0.37	1.41	2.95	2.95	0.42	2.13	3.3	3.3	0.47	3.08		
		17	2.55	1.75	0.36	1.37	2.58	2.16	0.37	1.41	2.73	2.62	0.39	1.64	2.96	2.96	0.42	2.15	3.31	3.31	0.47	3.08		
		19	3.65	1.7	0.52	3.9	3.63	2.09	0.52	3.84	3.61	2.48	0.52	3.81	3.59	2.87	0.51	3.76	3.52	3.23	0.5	3.62		
		20	4.22	1.66	0.6	5.07	4.2	2.05	0.6	5.02	4.17	2.44	0.6	4.97	4.15	2.83	0.59	4.93	4.05	3.19	0.58	4.73		
9	3	15	1.89	1.89	0.54	4.18	2.23	2.23	0.64	5.57	2.6	2.6	0.74	7.18	2.96	2.96	0.85	8.96	3.32	3.32	0.95	10.87		
		17	2.67	1.8	0.76	7.51	2.67	2.2	0.77	7.53	2.71	2.61	0.78	7.7	2.96	2.96	0.85	8.96	3.32	3.32	0.95	10.88		
		19	3.75	1.73	1.07	13.41	3.72	2.12	1.07	13.24	3.7	2.52	1.06	13.13	3.67	2.9	1.05	12.96	3.54	3.24	1.02	12.18		
		20	4.31	1.69	1.24	17.04	4.29	2.09	1.23	16.88	4.26	2.48	1.22	16.7	4.24	2.87	1.21	16.53	4.13	3.21	1.18	15.8		
	4	15	1.75	1.75	0.38	1.49	2.11	2.11	0.45	2.81	2.47	2.47	0.53	4.02	2.83	2.83	0.61	5.09	3.19	3.19	0.69	6.23		
		17	2.34	1.67	0.5	3.62	2.37	2.08	0.51	3.72	2.53	2.53	0.54	4.2	2.83	2.83	0.61	5.1	3.19	3.19	0.69	6.23		
		19	3.43	1.61	0.74	7.05	3.41	2	0.73	6.95	3.39	2.39	0.73	6.91	3.37	2.78	0.72	6.84	3.33	3.15	0.72	6.7		
		20	4	1.57	0.86	9.13	3.97	1.97	0.85	9.03	3.95	2.36	0.85	8.94	3.93	2.75	0.84	8.86	3.85	3.11	0.83	8.56		
	5	15	1.61	1.61	0.28	0.94	1.98	1.98	0.34	1.18	2.35	2.35	0.4	1.95	2.71	2.71	0.47	3.04	3.07	3.07	0.53	3.95		
		17	2.01	1.54	0.35	1.22	2.14	1.99	0.37	1.43	2.38	2.38	0.41	2.05	2.71	2.71	0.47	3.05	3.07	3.07	0.53	3.96		
		19	3.1	1.48	0.53	4.02	3.08	1.87	0.53	3.97	3.07	2.27	0.53	3.97	3.07	2.66	0.53	3.96	3.16	3.09	0.54	4.17		
		20	3.67	1.45	0.63	5.4	3.65	1.84	0.63	5.33	3.63	2.23	0.62	5.28	3.61	2.62	0.62	5.25	3.55	2.99	0.61	5.1		
	6	15	1.48	1.48	0.21	0.7	1.85	1.85	0.26	0.88	2.22	2.22	0.32	1.07	2.58	2.58	0.37	1.48	2.94	2.94	0.42	2.31		
		17	1.72	1.43	0.25	0.82	1.95	1.91	0.28	0.93	2.24	2.24	0.32	1.08	2.58	2.58	0.37	1.48	2.94	2.94	0.42	2.31		
		19	2.73	1.34	0.39	1.81	2.72	1.74	0.39	1.77	2.74	2.14	0.39	1.82	2.83	2.57	0.41	2.04	3.01	3.01	0.43	2.48		
		20	3.33	1.32	0.48	3.23	3.3	1.71	0.47	3.17	3.29	2.1	0.47	3.14	3.29	2.5	0.47	3.14	3.28	2.89	0.47	3.13		

DC Fan Coil Unit

HCA1/4-50																							
EWT	ΔT	Indoor temp (W.B.)	Indoor temperature (D.B.)																				
			21				23				25				27				29				
			TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	
°C	°C	°C	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	
11	3	15	1.5	1.5	0.43	2.5	1.86	1.86	0.53	4.03	2.23	2.23	0.64	5.46	2.59	2.59	0.74	7.05	2.95	2.95	0.85	8.78	
		17	1.79	1.45	0.51	3.74	1.93	1.91	0.55	4.29	2.23	2.23	0.64	5.46	2.59	2.59	0.74	7.05	2.95	2.95	0.85	8.79	
		19	2.86	1.39	0.82	8.34	2.84	1.78	0.81	8.23	2.84	2.18	0.82	8.24	2.84	2.57	0.81	8.21	2.98	2.98	0.85	8.92	
		20	3.44	1.36	0.99	11.4	3.41	1.75	0.98	11.23	3.39	2.14	0.97	11.12	3.38	2.53	0.97	11.05	3.33	2.91	0.96	10.81	
	4	15	1.37	1.37	0.29	0.95	1.74	1.74	0.37	1.58	2.1	2.1	0.45	2.9	2.47	2.47	0.53	3.96	2.83	2.83	0.61	5	
		17	1.52	1.35	0.33	1.08	1.77	1.77	0.38	1.7	2.11	2.11	0.45	2.9	2.47	2.47	0.53	3.96	2.83	2.83	0.61	5	
		19	2.52	1.26	0.54	4.1	2.49	1.65	0.54	4.03	2.52	2.06	0.54	4.1	2.61	2.49	0.56	4.36	2.84	2.84	0.61	5.04	
		20	3.1	1.23	0.67	5.83	3.07	1.62	0.66	5.73	3.06	2.02	0.66	5.7	3.06	2.41	0.66	5.7	3.06	2.81	0.66	5.7	
	5	15	1.23	1.23	0.21	0.68	1.61	1.61	0.28	0.89	1.98	1.98	0.34	1.19	2.34	2.34	0.4	2.11	2.7	2.7	0.47	3.09	
		17	1.31	1.27	0.23	0.72	1.63	1.63	0.28	0.89	1.98	1.98	0.34	1.19	2.34	2.34	0.4	2.11	2.7	2.7	0.47	3.09	
		19	2.14	1.12	0.37	1.55	2.15	1.53	0.37	1.56	2.23	1.95	0.38	1.79	2.43	2.42	0.42	2.37	2.71	2.71	0.47	3.11	
		20	2.74	1.1	0.47	3.18	2.7	1.49	0.47	3.09	2.7	1.89	0.47	3.09	2.73	2.3	0.47	3.16	2.85	2.73	0.49	3.43	
6	15	1.09	1.09	0.16	0.49	1.48	1.48	0.21	0.67	1.85	1.85	0.27	0.84	2.22	2.22	0.32	1.03	2.58	2.58	0.37	1.59		
	17	1.14	1.14	0.16	0.51	1.48	1.48	0.21	0.67	1.85	1.85	0.27	0.84	2.22	2.22	0.32	1.03	2.58	2.58	0.37	1.59		
	19	1.75	0.99	0.25	0.79	1.8	1.4	0.26	0.81	2.01	1.88	0.29	0.91	2.27	2.27	0.33	1.08	2.58	2.58	0.37	1.6		
	20	2.35	0.96	0.34	1.19	2.32	1.35	0.33	1.14	2.33	1.76	0.33	1.16	2.47	2.21	0.35	1.39	2.68	2.67	0.38	1.82		
13	3	15	1.12	1.12	0.32	1.04	1.49	1.49	0.43	2.59	1.86	1.86	0.53	3.96	2.23	2.23	0.64	5.36	2.59	2.59	0.74	6.91	
		17	1.14	1.14	0.33	1.09	1.49	1.49	0.43	2.6	1.86	1.86	0.53	3.96	2.23	2.23	0.64	5.36	2.59	2.59	0.74	6.91	
		19	1.91	1.04	0.55	4.14	1.91	1.44	0.55	4.14	2	1.87	0.57	4.46	2.24	2.24	0.64	5.41	2.59	2.59	0.74	6.92	
		20	2.49	1.01	0.72	6.48	2.46	1.4	0.7	6.33	2.46	1.81	0.71	6.35	2.49	2.21	0.71	6.48	2.63	2.63	0.75	7.11	
	4	15	0.99	0.99	0.21	0.65	1.37	1.37	0.29	0.91	1.74	1.74	0.37	1.72	2.1	2.1	0.45	2.93	2.46	2.46	0.53	3.9	
		17	1	1	0.21	0.66	1.37	1.37	0.29	0.91	1.74	1.74	0.37	1.72	2.1	2.1	0.45	2.93	2.46	2.46	0.53	3.9	
		19	1.56	0.92	0.34	1.18	1.59	1.33	0.34	1.25	1.81	1.8	0.39	1.98	2.11	2.11	0.45	2.94	2.46	2.46	0.53	3.9	
		20	2.12	0.88	0.46	2.97	2.09	1.28	0.45	2.9	2.1	1.68	0.45	2.93	2.25	2.13	0.48	3.33	2.49	2.49	0.53	3.95	
	5	15	-	-	-	-	1.23	1.23	0.21	0.64	1.61	1.61	0.28	0.84	1.98	1.98	0.34	1.26	2.34	2.34	0.4	2.23	
		17	-	-	-	-	1.23	1.23	0.21	0.64	1.61	1.61	0.28	0.84	1.98	1.98	0.34	1.26	2.34	2.34	0.4	2.23	
		19	-	-	-	-	1.36	1.25	0.23	0.7	1.65	1.65	0.28	0.86	1.98	1.98	0.34	1.26	2.34	2.34	0.4	2.23	
		20	-	-	-	-	1.71	1.15	0.29	0.89	1.82	1.58	0.31	1	2.06	2.06	0.36	1.48	2.35	2.35	0.4	2.25	
6	15	-	-	-	-	1.09	1.09	0.16	0.47	1.48	1.48	0.21	0.63	1.85	1.85	0.27	0.79	2.21	2.21	0.32	1.04		
	17	-	-	-	-	1.09	1.09	0.16	0.47	1.48	1.48	0.21	0.63	1.85	1.85	0.27	0.79	2.21	2.21	0.32	1.04		
	19	-	-	-	-	1.16	1.16	0.17	0.5	1.5	1.5	0.21	0.64	1.85	1.85	0.27	0.79	2.21	2.21	0.32	1.04		
	20	-	-	-	-	1.36	1.03	0.19	0.58	1.6	1.51	0.23	0.68	1.9	1.9	0.27	0.82	2.22	2.22	0.32	1.05		
15	3	15	-	-	-	-	1.12	1.12	0.32	1.08	1.49	1.49	0.43	2.63	1.86	1.86	0.53	3.89	2.22	2.22	0.64	5.26	
		17	-	-	-	-	1.12	1.12	0.32	1.08	1.49	1.49	0.43	2.63	1.86	1.86	0.53	3.89	2.22	2.22	0.64	5.26	
		19	-	-	-	-	1.16	1.16	0.33	1.23	1.49	1.49	0.43	2.63	1.86	1.86	0.53	3.89	2.22	2.22	0.64	5.26	
		20	-	-	-	-	1.48	1.07	0.42	2.57	1.59	1.51	0.46	2.97	1.87	1.87	0.54	3.93	2.22	2.22	0.64	5.26	
	4	15	-	-	-	-	0.99	0.99	0.21	0.62	1.36	1.36	0.29	0.87	1.73	1.73	0.37	1.85	2.1	2.1	0.45	2.91	
		17	-	-	-	-	0.99	0.99	0.21	0.62	1.36	1.36	0.29	0.88	1.73	1.73	0.37	1.85	2.1	2.1	0.45	2.91	
		19	-	-	-	-	1.01	1.01	0.22	0.63	1.36	1.36	0.29	0.88	1.73	1.73	0.37	1.85	2.1	2.1	0.45	2.91	
		20	-	-	-	-	1.16	0.97	0.25	0.73	1.41	1.41	0.3	0.94	1.74	1.74	0.37	1.86	2.1	2.1	0.45	2.91	
	5	15	-	-	-	-	-	-	-	-	1.23	1.23	0.21	0.61	1.61	1.61	0.28	0.8	1.97	1.97	0.34	1.36	
		17	-	-	-	-	-	-	-	-	1.23	1.23	0.21	0.61	1.61	1.61	0.28	0.8	1.97	1.97	0.34	1.36	
		19	-	-	-	-	-	-	-	-	1.23	1.23	0.21	0.61	1.61	1.61	0.28	0.8	1.97	1.97	0.34	1.36	
		20	-	-	-	-	-	-	-	-	1.26	1.26	0.22	0.62	1.61	1.61	0.28	0.8	1.97	1.97	0.34	1.36	
6	15	-	-	-	-	-	-	-	-	1.1	1.1	0.16	0.45	1.48	1.48	0.21	0.6	1.85	1.85	0.27	0.76		
	17	-	-	-	-	-	-	-	-	1.1	1.1	0.16	0.45	1.48	1.48	0.21	0.6	1.85	1.85	0.27	0.76		
	19	-	-	-	-	-	-	-	-	1.1	1.1	0.16	0.45	1.48	1.48	0.21	0.6	1.85	1.85	0.27	0.76		
	20	-	-	-	-	-	-	-	-	1.1	1.1	0.16	0.45	1.48	1.48	0.21	0.6	1.85	1.85	0.27	0.76		

Abbreviations:

EWT: Enter Water Temp. (°C) Δt: Temperature Difference (°C) DB: Dry Bulb Temp. (°C) WF: Water Flow (m³/h)
 WB: Wet Bulb Temp. (°C) TC: Total Cooling Capacity (kW) SC: Sensible Cooling Capacity (kW) WPD: Water Pressure Drop (kPa)

DC Fan Coil Unit

HCA1/4-60																							
EWT	ΔT	Indoor temp (W.B.)	Indoor temperature (D.B.)																				
			21				23				25				27				29				
			TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	
$^{\circ}C$	$^{\circ}C$	$^{\circ}C$	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	kW	kW	m ³ /h	kPa	
5	3	15	5.5	4.36	1.57	10.21	5.47	5.04	1.56	10.13	5.72	5.72	1.63	10.92	6.32	6.32	1.81	12.95	6.93	6.93	1.98	15.16	
		17	7.18	4.22	2.05	16.12	7.15	4.9	2.04	15.97	7.1	5.57	2.03	15.82	6.92	6.17	1.98	15.12	6.97	6.88	1.99	15.31	
		19	9.02	4.08	2.58	23.82	8.97	4.75	2.57	23.59	8.92	5.43	2.55	23.38	8.83	6.08	2.53	22.97	8.54	6.64	2.45	21.71	
		20	9.98	3.99	2.86	28.37	9.93	4.68	2.84	28.15	9.88	5.35	2.83	27.89	9.82	6.02	2.81	27.58	9.61	6.62	2.75	26.58	
	4	15	5.02	4.14	1.08	5.34	5.08	4.86	1.09	5.46	5.48	5.48	1.18	6.22	6.1	6.1	1.31	7.45	6.71	6.71	1.44	8.76	
		17	6.7	4	1.44	8.73	6.67	4.68	1.43	8.66	6.63	5.36	1.42	8.58	6.51	5.99	1.4	8.32	6.72	6.72	1.44	8.79	
		19	8.53	3.86	1.83	13.17	8.48	4.54	1.82	13.04	8.44	5.22	1.81	12.92	8.37	5.88	1.8	12.75	8.1	6.45	1.74	12.05	
		20	9.48	3.78	2.03	15.79	9.44	4.47	2.03	15.67	9.39	5.14	2.02	15.53	9.34	5.81	2	15.37	9.15	6.42	1.96	14.85	
	5	15	4.53	3.93	0.78	2.37	4.77	4.73	0.82	2.83	5.26	5.26	0.9	3.74	5.88	5.88	1.01	4.74	6.49	6.49	1.11	5.65	
		17	6.2	3.78	1.06	5.22	6.17	4.47	1.06	5.18	6.15	5.15	1.05	5.14	6.13	5.83	1.05	5.12	6.49	6.49	1.11	5.65	
		19	8.03	3.65	1.38	8.1	7.98	4.32	1.37	8.02	7.94	5	1.36	7.95	7.89	5.67	1.35	7.86	7.69	6.27	1.32	7.53	
		20	8.98	3.56	1.54	9.8	8.95	4.25	1.54	9.73	8.9	4.92	1.53	9.64	8.85	5.6	1.52	9.55	8.71	6.23	1.49	9.3	
	6	15	4.12	3.74	0.59	1.24	4.5	4.5	0.64	1.4	5.04	5.04	0.72	1.85	5.66	5.66	0.81	2.75	6.27	6.27	0.9	3.7	
		17	5.68	3.56	0.81	2.8	5.66	4.25	0.81	2.77	5.66	4.94	0.81	2.77	5.84	5.7	0.83	3.05	6.27	6.27	0.9	3.7	
		19	7.52	3.43	1.08	5.3	7.47	4.11	1.07	5.23	7.43	4.79	1.06	5.19	7.39	5.46	1.06	5.13	7.23	6.08	1.03	4.94	
		20	8.47	3.34	1.21	6.49	8.43	4.04	1.21	6.44	8.39	4.71	1.2	6.38	8.34	5.39	1.19	6.32	8.23	6.03	1.18	6.18	
	7	3	15	4.2	3.79	1.2	6.37	4.48	4.48	1.28	7.11	5.07	5.07	1.45	8.77	5.69	5.69	1.63	10.67	6.31	6.31	1.81	12.7
			17	5.86	3.64	1.68	11.2	5.84	4.32	1.67	11.12	5.81	5	1.66	11.03	5.84	5.7	1.67	11.13	6.31	6.31	1.81	12.71
			19	7.69	3.5	2.2	17.84	7.64	4.18	2.19	17.63	7.6	4.86	2.18	17.46	7.55	5.53	2.16	17.29	7.34	6.12	2.1	16.45
			20	8.64	3.42	2.48	21.79	8.6	4.11	2.46	21.63	8.55	4.78	2.45	21.4	8.51	5.45	2.44	21.2	8.36	6.08	2.39	20.57
4		15	3.81	3.62	0.82	2.98	4.24	4.24	0.91	3.88	4.85	4.85	1.04	4.98	5.47	5.47	1.17	6.1	6.09	6.09	1.31	7.31	
		17	5.35	3.42	1.15	5.86	5.33	4.11	1.14	5.83	5.32	4.8	1.14	5.82	5.55	5.55	1.19	6.25	6.09	6.09	1.31	7.31	
		19	7.18	3.29	1.54	9.66	7.13	3.96	1.53	9.54	7.09	4.65	1.52	9.46	7.05	5.32	1.51	9.37	6.91	5.94	1.48	9.05	
		20	8.13	3.2	1.74	11.93	8.09	3.89	1.74	11.84	8.04	4.57	1.73	11.71	8	5.25	1.72	11.61	7.9	5.89	1.7	11.37	
5		15	3.5	3.48	0.6	1.22	4.01	4.01	0.69	1.68	4.63	4.63	0.8	2.77	5.26	5.26	0.9	3.81	5.87	5.87	1.01	4.68	
		17	4.8	3.19	0.82	3.07	4.81	3.89	0.83	3.09	4.93	4.64	0.85	3.3	5.29	5.29	0.91	3.87	5.87	5.87	1.01	4.69	
		19	6.66	3.07	1.14	5.8	6.6	3.75	1.13	5.72	6.57	4.43	1.13	5.67	5.62	4.98	1.03	15.9	6.42	5.75	1.1	5.45	
		20	7.6	2.99	1.31	7.26	7.57	3.68	1.3	7.2	7.52	4.36	1.29	7.12	7.48	5.04	1.28	7.06	7.39	5.69	1.27	6.92	
6		15	3.22	3.22	0.46	0.92	3.78	3.78	0.54	1.08	4.41	4.41	0.63	1.34	5.04	5.04	0.72	2.02	5.65	5.65	0.81	2.93	
		17	4.23	2.96	0.61	1.23	4.31	3.7	0.62	1.28	4.61	4.5	0.66	1.51	5.06	5.06	0.72	2.05	5.65	5.65	0.81	2.93	
		19	6.1	2.85	0.87	3.55	6.05	3.53	0.87	3.48	6.03	4.22	0.86	3.45	6.01	4.9	0.86	3.43	6.05	5.6	0.87	3.48	
		20	7.06	2.78	1.01	4.68	7.02	3.46	1	4.63	6.97	4.14	1	4.58	6.94	4.82	0.99	4.55	6.88	5.49	0.99	4.48	
9		3	15	3.21	3.21	0.92	3.95	3.82	3.82	1.09	5.34	4.45	4.45	1.27	6.9	5.07	5.07	1.45	8.61	5.68	5.68	1.63	10.47
			17	4.44	3.05	1.27	6.89	4.46	3.75	1.28	6.93	4.59	4.49	1.31	7.26	5.07	5.07	1.45	8.61	5.69	5.69	1.63	10.47
			19	6.29	2.93	1.8	12.45	6.24	3.6	1.79	12.26	6.21	4.29	1.78	12.16	6.18	4.97	1.77	12.06	6.1	5.62	1.75	11.8
			20	7.24	2.84	2.07	15.82	7.2	3.53	2.06	15.68	7.15	4.21	2.05	15.49	7.11	4.89	2.04	15.35	7.06	5.55	2.02	15.15
	4	15	2.97	2.97	0.64	1.39	3.6	3.6	0.77	2.66	4.23	4.23	0.91	3.85	4.85	4.85	1.04	4.89	5.47	5.47	1.17	5.99	
		17	3.88	2.83	0.83	3.25	3.97	3.56	0.85	3.4	4.3	4.3	0.92	3.97	4.85	4.85	1.04	4.89	5.47	5.47	1.17	5.99	
		19	5.75	2.71	1.23	6.51	5.69	3.39	1.22	6.4	5.67	4.08	1.22	6.37	5.66	4.76	1.22	6.34	5.71	5.47	1.23	6.45	
		20	6.7	2.64	1.44	8.46	6.66	3.32	1.43	8.36	6.61	4	1.42	8.26	6.58	4.68	1.41	8.2	6.53	5.35	1.4	8.1	
	5	15	2.74	2.74	0.47	0.9	3.38	3.38	0.58	1.13	4.01	4.01	0.69	1.84	4.63	4.63	0.8	2.9	5.25	5.25	0.9	3.8	
		17	3.34	2.62	0.57	1.11	3.59	3.41	0.62	1.29	4.04	4.04	0.69	1.9	4.63	4.63	0.8	2.91	5.25	5.25	0.9	3.8	
		19	5.16	2.48	0.89	3.68	5.11	3.17	0.88	3.6	5.11	3.86	0.88	3.61	5.15	4.57	0.89	3.66	5.4	5.35	0.93	3.99	
		20	6.14	2.42	1.06	4.98	6.09	3.1	1.05	4.9	6.05	3.79	1.04	4.85	6.04	4.47	1.04	4.83	6	5.15	1.03	4.78	
	6	15	2.51	2.51	0.36	0.67	3.15	3.15	0.45	0.85	3.78	3.78	0.54	1.03	4.41	4.41	0.63	1.4	5.03	5.03	0.72	2.19	
		17	2.85	2.43	0.41	0.76	3.28	3.28	0.47	0.88	3.81	3.81	0.55	1.03	4.41	4.41	0.63	1.4	5.03	5.03	0.72	2.19	
		19	4.57	2.26	0.65	1.58	4.49	2.93	0.64	1.5	4.54	3.65	0.65	1.55	4.76	4.42	0.68	1.83	5.13	5.13	0.74	2.33	
		20	5.55	2.2	0.8	2.91	5.46	2.87	0.78	2.8	5.45	3.57	0.78	2.79	5.47	4.26	0.78	2.8	5.55	4.98	0.79	2.91	

DC Fan Coil Unit

HCA1/4-60																							
EWT	ΔT	Indoor temp (W.B.)	Indoor temperature (D.B.)																				
			21				23				25				27				29				
			TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	
°C	°C	°C	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	kW	kW	m³/h	kPa	
11	3	15	2.55	2.55	0.73	2.36	3.19	3.19	0.91	3.86	3.82	3.82	1.09	5.24	4.44	4.44	1.27	6.77	5.06	5.06	1.45	8.45	
		17	2.99	2.48	0.86	3.43	3.26	3.26	0.94	4.01	3.82	3.82	1.09	5.24	4.44	4.44	1.27	6.77	5.06	5.06	1.45	8.46	
		19	4.75	2.33	1.36	7.6	4.73	3.02	1.35	7.52	4.74	3.72	1.36	7.56	4.77	4.42	1.37	7.65	5.08	5.08	1.46	8.51	
		20	5.76	2.28	1.65	10.54	5.7	2.96	1.63	10.35	5.66	3.64	1.62	10.23	5.65	4.33	1.62	10.2	5.62	5	1.61	10.09	
	4	15	2.33	2.33	0.5	0.91	2.97	2.97	0.64	1.49	3.6	3.6	0.77	2.77	4.22	4.22	0.91	3.8	4.84	4.84	1.04	4.8	
		17	2.55	2.32	0.55	1.01	3	3	0.64	1.55	3.6	3.6	0.77	2.77	4.22	4.22	0.91	3.8	4.84	4.84	1.04	4.81	
		19	4.19	2.12	0.9	3.75	4.16	2.81	0.9	3.71	4.17	3.51	0.9	3.72	4.41	4.29	0.95	4.09	4.85	4.85	1.04	4.82	
		20	5.18	2.06	1.11	5.37	5.09	2.73	1.09	5.21	5.08	3.43	1.09	5.2	5.1	4.13	1.1	5.23	5.17	4.84	1.11	5.35	
	5	15	2.1	2.1	0.36	0.65	2.74	2.74	0.47	0.85	3.38	3.38	0.58	1.13	4.01	4.01	0.69	2	4.63	4.63	0.8	2.96	
		17	2.21	2.19	0.38	0.68	2.76	2.76	0.47	0.85	3.38	3.38	0.58	1.13	4.01	4.01	0.69	2	4.63	4.63	0.8	2.96	
		19	3.55	1.89	0.61	1.32	3.53	2.59	0.61	1.3	3.72	3.35	0.64	1.55	4.11	4.11	0.71	2.18	4.63	4.63	0.8	2.96	
		20	4.55	1.84	0.78	2.85	4.48	2.52	0.77	2.76	4.47	3.21	0.77	2.74	4.56	3.93	0.78	2.86	4.83	4.72	0.83	3.23	
	6	15	1.86	1.86	0.27	0.47	2.51	2.51	0.36	0.64	3.15	3.15	0.45	0.8	3.78	3.78	0.54	0.99	4.41	4.41	0.63	1.51	
		17	1.91	1.91	0.27	0.49	2.51	2.51	0.36	0.64	3.15	3.15	0.45	0.8	3.79	3.79	0.54	0.99	4.41	4.41	0.63	1.51	
		19	2.94	1.68	0.42	0.74	3.01	2.4	0.43	0.76	3.37	3.22	0.48	0.86	3.85	3.85	0.55	1.02	4.41	4.41	0.63	1.51	
		20	3.99	1.64	0.57	1.11	3.85	2.29	0.55	1.02	3.88	3	0.56	1.03	4.15	3.79	0.59	1.23	4.54	4.54	0.65	1.67	
13	3	15	1.91	1.91	0.55	0.99	2.55	2.55	0.73	2.47	3.18	3.18	0.91	3.8	3.81	3.81	1.09	5.15	4.43	4.43	1.27	6.65	
		17	1.94	1.94	0.56	1.02	2.55	2.55	0.73	2.47	3.18	3.18	0.91	3.8	3.81	3.81	1.09	5.15	4.43	4.43	1.27	6.65	
		19	3.18	1.76	0.91	3.78	3.18	2.46	0.91	3.79	3.35	3.22	0.96	4.13	3.82	3.82	1.1	5.16	4.43	4.43	1.27	6.65	
		20	4.14	1.69	1.19	5.91	4.09	2.38	1.17	5.8	4.07	3.07	1.17	5.75	4.16	3.79	1.19	5.97	4.48	4.48	1.29	6.78	
	4	15	1.68	1.68	0.36	0.63	2.33	2.33	0.5	0.87	2.96	2.96	0.64	1.63	3.59	3.59	0.77	2.8	4.22	4.22	0.91	3.74	
		17	1.69	1.69	0.36	0.63	2.33	2.33	0.5	0.87	2.97	2.97	0.64	1.63	3.59	3.59	0.77	2.8	4.22	4.22	0.91	3.74	
		19	2.6	1.56	0.56	1.04	2.67	2.28	0.57	1.13	3.05	3.05	0.66	1.79	3.6	3.6	0.77	2.8	4.22	4.22	0.91	3.74	
		20	3.57	1.5	0.77	2.77	3.45	2.16	0.74	2.57	3.48	2.87	0.75	2.62	3.78	3.66	0.81	3.09	4.24	4.24	0.91	3.78	
	5	15	-	-	-	-	2.1	2.1	0.36	0.62	2.74	2.74	0.47	0.81	3.38	3.38	0.58	1.19	4	4	0.69	2.12	
		17	-	-	-	-	2.1	2.1	0.36	0.62	2.74	2.74	0.47	0.81	3.38	3.38	0.58	1.19	4	4	0.69	2.12	
		19	-	-	-	-	2.28	2.15	0.39	0.67	2.78	2.78	0.48	0.82	3.38	3.38	0.58	1.19	4	4	0.69	2.12	
		20	-	-	-	-	2.83	1.95	0.49	0.83	3.05	2.72	0.52	0.92	3.48	3.48	0.6	1.33	4.01	4.01	0.69	2.13	
	6	15	-	-	-	-	1.86	1.86	0.27	0.45	2.51	2.51	0.36	0.61	3.15	3.15	0.45	0.76	3.78	3.78	0.54	0.99	
		17	-	-	-	-	1.86	1.86	0.27	0.45	2.51	2.51	0.36	0.61	3.15	3.15	0.45	0.76	3.78	3.78	0.54	0.99	
		19	-	-	-	-	1.96	1.96	0.28	0.47	2.53	2.53	0.36	0.61	3.15	3.15	0.45	0.76	3.79	3.79	0.54	0.99	
		20	-	-	-	-	2.26	1.76	0.32	0.54	2.7	2.6	0.39	0.65	3.21	3.21	0.46	0.78	3.79	3.79	0.54	0.99	
15	3	15	-	-	-	-	1.91	1.91	0.55	1.02	2.55	2.55	0.73	2.51	3.18	3.18	0.91	3.73	3.81	3.81	1.09	5.06	
		17	-	-	-	-	1.91	1.91	0.55	1.02	2.55	2.55	0.73	2.51	3.18	3.18	0.91	3.73	3.81	3.81	1.09	5.06	
		19	-	-	-	-	1.97	1.97	0.56	1.11	2.55	2.55	0.73	2.51	3.18	3.18	0.91	3.73	3.81	3.81	1.09	5.06	
		20	-	-	-	-	2.47	1.83	0.71	2.33	2.68	2.6	0.77	2.78	3.19	3.19	0.91	3.74	3.81	3.81	1.09	5.06	
	4	15	-	-	-	-	1.69	1.69	0.36	0.59	2.33	2.33	0.5	0.84	2.96	2.96	0.64	1.75	3.59	3.59	0.77	2.79	
		17	-	-	-	-	1.69	1.69	0.36	0.59	2.33	2.33	0.5	0.84	2.96	2.96	0.64	1.76	3.59	3.59	0.77	2.79	
		19	-	-	-	-	1.71	1.71	0.37	0.6	2.33	2.33	0.5	0.84	2.96	2.96	0.64	1.76	3.59	3.59	0.77	2.79	
		20	-	-	-	-	1.95	1.66	0.42	0.69	2.4	2.4	0.52	0.88	2.96	2.96	0.64	1.76	3.59	3.59	0.77	2.79	
	5	15	-	-	-	-	-	-	-	-	2.1	2.1	0.36	0.59	2.74	2.74	0.47	0.77	3.37	3.37	0.58	1.29	
		17	-	-	-	-	-	-	-	-	2.1	2.1	0.36	0.59	2.74	2.74	0.47	0.77	3.37	3.37	0.58	1.29	
		19	-	-	-	-	-	-	-	-	2.1	2.1	0.36	0.59	2.74	2.74	0.47	0.77	3.38	3.38	0.58	1.29	
		20	-	-	-	-	-	-	-	-	2.13	2.13	0.37	0.59	2.74	2.74	0.47	0.77	3.38	3.38	0.58	1.29	
	6	15	-	-	-	-	-	-	-	-	1.86	1.86	0.27	0.43	2.52	2.52	0.36	0.58	3.15	3.15	0.45	0.73	
		17	-	-	-	-	-	-	-	-	1.86	1.86	0.27	0.43	2.52	2.52	0.36	0.58	3.15	3.15	0.45	0.73	
		19	-	-	-	-	-	-	-	-	1.86	1.86	0.27	0.43	2.52	2.52	0.36	0.58	3.15	3.15	0.45	0.73	
		20	-	-	-	-	-	-	-	-	1.88	1.88	0.27	0.43	2.52	2.52	0.36	0.58	3.15	3.15	0.45	0.73	

DC Fan Coil Unit

Heating Capacity Table

HCA1/4-35													
EWT	ΔT	Indoor temperature (D.B.)											
		16			18			20			22		
		TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
°C	°C	kW	m ³ /h	kPa	kW	m ³ /h	kPa	kW	m ³ /h	kPa	kW	m ³ /h	kPa
40	5	3.14	0.54	2.64	2.82	0.49	2.2	2.51	0.44	1.81	2.2	0.38	1.44
	6	3.02	0.44	1.82	2.71	0.39	1.51	2.4	0.35	1.23	2.09	0.3	0.97
	8	2.8	0.3	0.99	2.49	0.27	0.81	2.18	0.24	0.63	1.87	0.2	0.41
	10	2.58	0.22	0.54	2.26	0.2	0.36	1.95	0.17	0.23	1.63	0.14	0.19
	12	2.34	0.17	0.24	2.02	0.15	0.2	1.7	0.12	0.17	1.38	0.1	0.14
45	5	3.91	0.68	3.76	3.6	0.62	3.26	3.28	0.57	2.79	2.97	0.52	2.35
	6	3.8	0.55	2.63	3.49	0.5	2.27	3.18	0.46	1.93	2.86	0.41	1.62
	8	3.59	0.39	1.46	3.27	0.35	1.25	2.96	0.32	1.05	2.65	0.29	0.87
	10	3.36	0.29	0.9	3.05	0.26	0.76	2.74	0.24	0.63	2.42	0.21	0.49
	12	3.14	0.23	0.58	2.82	0.2	0.45	2.51	0.18	0.31	2.19	0.16	0.21
50	5	4.69	0.82	5.04	4.37	0.76	4.46	4.06	0.71	3.92	3.74	0.65	3.41
	6	4.58	0.66	3.54	4.27	0.62	3.13	3.95	0.57	2.74	3.64	0.53	2.38
	8	4.37	0.47	1.99	4.05	0.44	1.75	3.74	0.41	1.53	3.42	0.37	1.32
	10	4.15	0.36	1.25	3.83	0.33	1.1	3.52	0.31	0.95	3.21	0.28	0.81
	12	3.93	0.28	0.84	3.61	0.26	0.73	3.3	0.24	0.63	2.98	0.22	0.52
55	5	5.46	0.95	6.44	5.15	0.9	5.8	4.83	0.84	5.2	4.51	0.79	4.62
	6	5.36	0.78	4.54	5.04	0.73	4.09	4.72	0.69	3.65	4.41	0.64	3.24
	8	5.15	0.56	2.59	4.83	0.53	2.32	4.51	0.49	2.06	4.2	0.46	1.82
	10	4.93	0.43	1.65	4.62	0.4	1.47	4.3	0.37	1.3	3.99	0.35	1.14
	12	4.72	0.34	1.12	4.4	0.32	1	4.09	0.3	0.88	3.77	0.27	0.77
60	5	6.24	1.09	7.97	5.92	1.03	7.27	5.6	0.98	6.6	5.28	0.92	5.96
	6	6.14	0.89	5.64	5.82	0.85	5.14	5.5	0.8	4.66	5.18	0.75	4.2
	8	5.93	0.65	3.23	5.61	0.61	2.94	5.29	0.58	2.66	4.97	0.54	2.39
	10	5.72	0.5	2.07	5.4	0.47	1.88	5.08	0.44	1.69	4.76	0.41	1.52
	12	5.5	0.4	1.43	5.19	0.38	1.29	4.87	0.35	1.16	4.55	0.33	1.03

Abbreviations:

Δt: Temperature Difference (°C) TH: Total Heating Capacity (kW) WF: Water Flow (m³/h) WPD: Water Pressure Drop (kPa)

DC Fan Coil Unit

HCA1/4-50													
EWT	ΔT	Indoor temperature (D.B.)											
		16			18			20			22		
		TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
°C	°C	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa
40	5	2.95	0.51	1.31	2.65	0.46	1.09	2.36	0.41	0.89	2.06	0.36	0.71
	6	2.84	0.41	0.9	2.54	0.37	0.74	2.24	0.32	0.6	1.95	0.28	0.47
	8	2.61	0.28	0.47	2.31	0.25	0.36	2.02	0.22	0.23	1.72	0.19	0.15
	10	2.38	0.21	0.19	2.08	0.18	0.15	1.78	0.15	0.12	1.48	0.13	0.1
	12	2.14	0.15	0.13	1.84	0.13	0.11	1.54	0.11	0.09	1.24	0.09	0.07
45	5	3.7	0.64	1.87	3.4	0.59	1.62	3.1	0.54	1.38	2.8	0.49	1.16
	6	3.59	0.52	1.3	3.29	0.48	1.12	2.99	0.43	0.95	2.69	0.39	0.8
	8	3.36	0.36	0.72	3.06	0.33	0.61	2.76	0.3	0.52	2.47	0.27	0.42
	10	3.13	0.27	0.44	2.84	0.25	0.35	2.54	0.22	0.26	2.24	0.19	0.17
	12	2.91	0.21	0.22	2.61	0.19	0.16	2.31	0.17	0.12	2.01	0.14	0.11
50	5	4.44	0.77	2.51	4.14	0.72	2.22	3.84	0.67	1.95	3.54	0.62	1.7
	6	4.33	0.63	1.76	4.03	0.58	1.55	3.73	0.54	1.36	3.43	0.5	1.18
	8	4.11	0.45	0.99	3.81	0.41	0.87	3.51	0.38	0.75	3.21	0.35	0.65
	10	3.89	0.34	0.62	3.59	0.31	0.54	3.29	0.29	0.47	2.99	0.26	0.4
	12	3.67	0.26	0.41	3.37	0.24	0.35	3.07	0.22	0.28	2.77	0.2	0.21
55	5	5.19	0.9	3.22	4.89	0.85	2.9	4.58	0.8	2.59	4.28	0.75	2.31
	6	5.08	0.74	2.26	4.78	0.69	2.04	4.48	0.65	1.82	4.17	0.61	1.61
	8	4.86	0.53	1.28	4.56	0.5	1.15	4.26	0.46	1.02	3.96	0.43	0.9
	10	4.64	0.4	0.81	4.34	0.38	0.73	4.04	0.35	0.64	3.74	0.33	0.56
	12	4.42	0.32	0.55	4.12	0.3	0.49	3.82	0.28	0.43	3.52	0.25	0.38
60	5	5.94	1.04	3.99	5.63	0.98	3.64	5.33	0.93	3.3	5.02	0.88	2.98
	6	5.83	0.85	2.82	5.52	0.8	2.57	5.22	0.76	2.33	4.92	0.71	2.1
	8	5.61	0.61	1.61	5.31	0.58	1.46	5	0.55	1.32	4.7	0.51	1.19
	10	5.4	0.47	1.03	5.09	0.44	0.93	4.79	0.42	0.84	4.49	0.39	0.75
	12	5.18	0.38	0.71	4.88	0.35	0.64	4.57	0.33	0.57	4.27	0.31	0.51

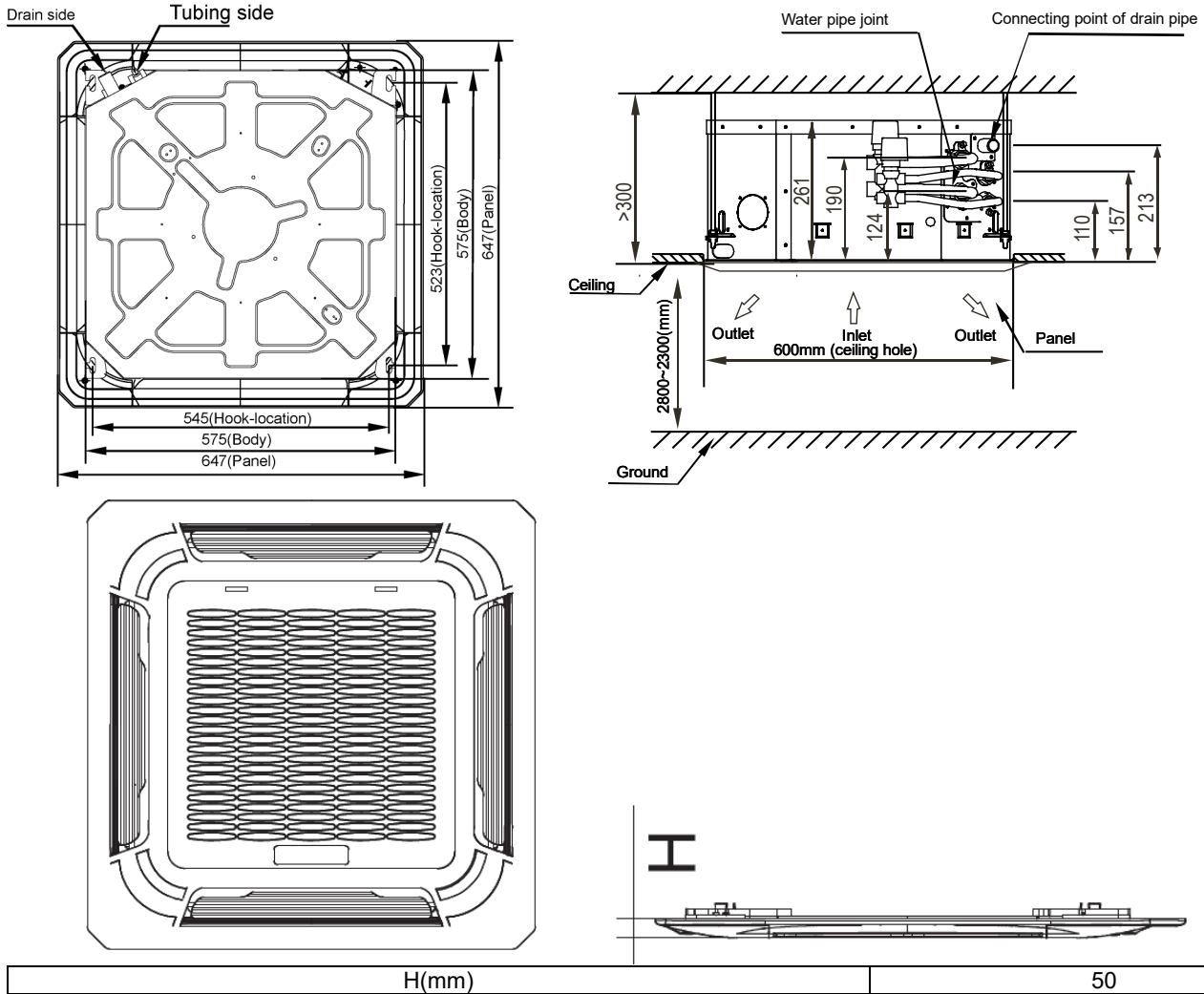
Abbreviations:

Δt: Temperature Difference (°C) TH: Total Heating Capacity (kW) WF: Water Flow (m³/h) WPD: Water Pressure Drop (kPa)

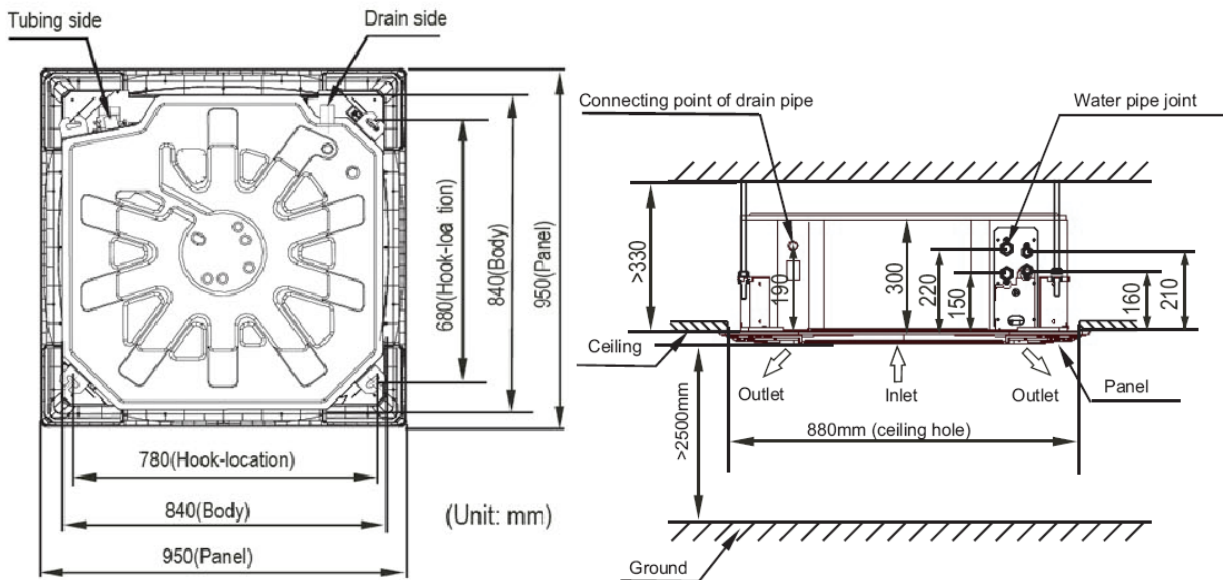
HCA1/4-60													
EWT	ΔT	Indoor temperature (D.B.)											
		16			18			20			22		
		TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
°C	°C	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa
40	5	4.53	0.78	1.29	4.08	0.71	1.08	3.63	0.63	0.88	3.18	0.55	0.71
	6	4.36	0.63	0.89	3.91	0.56	0.74	3.46	0.5	0.6	3.01	0.44	0.45
	8	4.03	0.44	0.45	3.58	0.39	0.31	3.13	0.34	0.2	2.68	0.29	0.16
	10	3.69	0.32	0.18	3.24	0.28	0.16	2.79	0.24	0.13	2.34	0.2	0.11
	12	3.35	0.24	0.14	2.89	0.21	0.12	2.44	0.18	0.1	1.97	0.14	0.08
45	5	5.66	0.98	1.84	5.2	0.9	1.59	4.75	0.82	1.36	4.3	0.75	1.15
	6	5.49	0.79	1.28	5.04	0.73	1.11	4.59	0.66	0.94	4.14	0.6	0.79
	8	5.17	0.56	0.71	4.72	0.51	0.61	4.27	0.46	0.51	3.82	0.41	0.41
	10	4.84	0.42	0.42	4.39	0.38	0.32	3.94	0.34	0.22	3.49	0.3	0.16
	12	4.51	0.33	0.19	4.05	0.29	0.15	3.6	0.26	0.13	3.14	0.23	0.12
50	5	6.79	1.18	2.45	6.33	1.1	2.18	5.88	1.02	1.92	5.43	0.94	1.67
	6	6.63	0.96	1.72	6.17	0.89	1.53	5.72	0.83	1.34	5.27	0.76	1.16
	8	6.31	0.68	0.97	5.85	0.64	0.86	5.4	0.59	0.75	4.95	0.54	0.65
	10	5.98	0.52	0.61	5.53	0.48	0.54	5.08	0.44	0.46	4.63	0.4	0.39
	12	5.66	0.41	0.4	5.2	0.38	0.33	4.75	0.34	0.25	4.3	0.31	0.18
55	5	7.91	1.38	3.13	7.46	1.3	2.83	7	1.22	2.53	6.55	1.14	2.26
	6	7.76	1.13	2.21	7.3	1.06	1.99	6.85	0.99	1.78	6.39	0.93	1.59
	8	7.44	0.81	1.26	6.99	0.76	1.13	6.53	0.71	1.01	6.08	0.66	0.89
	10	7.12	0.62	0.8	6.67	0.58	0.72	6.21	0.54	0.64	5.76	0.5	0.56
	12	6.8	0.49	0.55	6.35	0.46	0.49	5.89	0.43	0.43	5.44	0.39	0.37
60	5	9.04	1.58	3.87	8.58	1.5	3.54	8.13	1.42	3.22	7.67	1.34	2.91
	6	8.89	1.29	2.74	8.43	1.23	2.5	7.97	1.16	2.27	7.52	1.09	2.05
	8	8.57	0.93	1.57	8.12	0.88	1.43	7.66	0.83	1.3	7.21	0.79	1.17
	10	8.26	0.72	1.01	7.81	0.68	0.92	7.35	0.64	0.83	6.89	0.6	0.74
	12	7.95	0.58	0.7	7.49	0.54	0.63	7.03	0.51	0.57	6.58	0.48	0.51

DC Fan Coil Unit

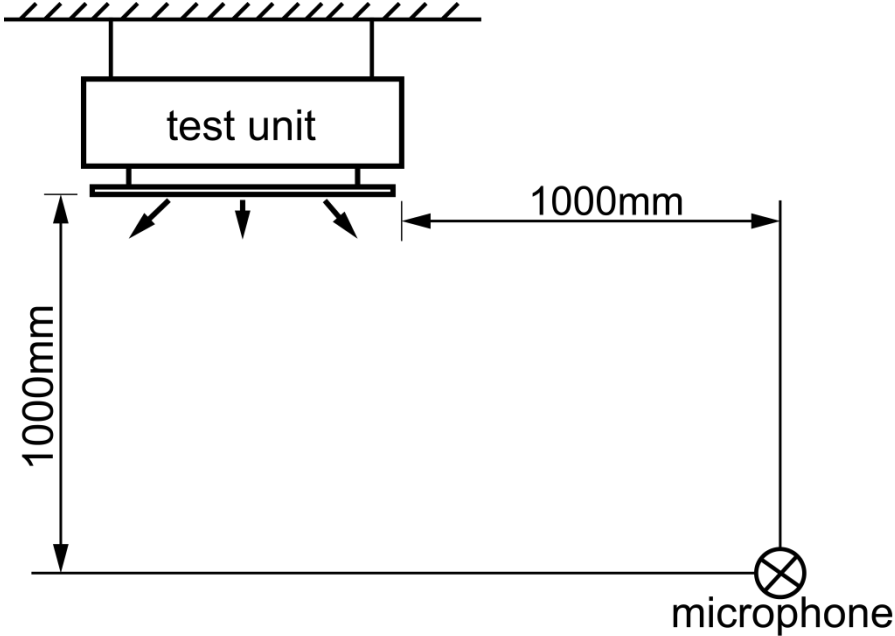
7. Dimension



Mod. 60



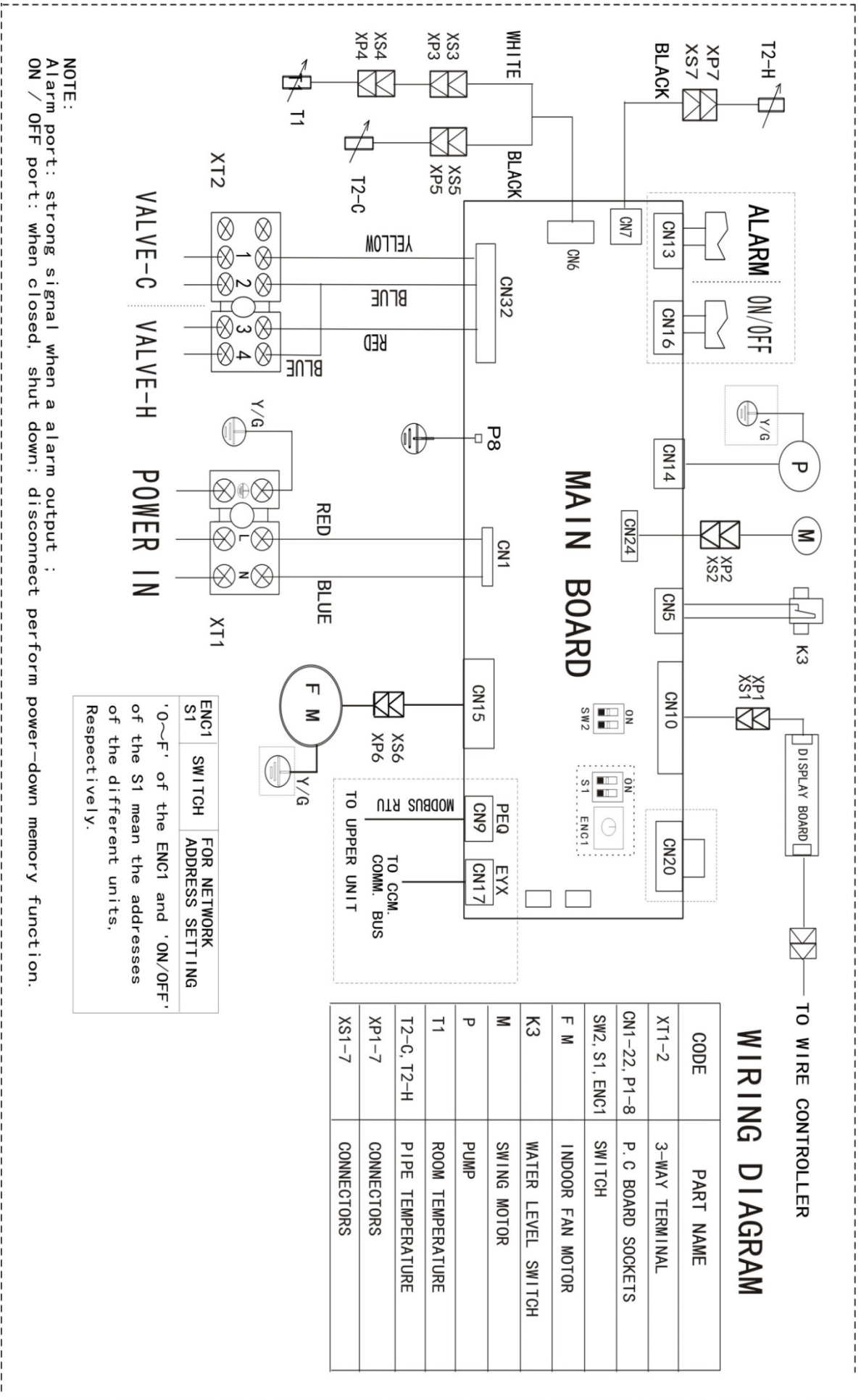
8. Sound Levels



Model			35	50	60
Sound pressure level	(H/M/L)	dB(A)	42/35/30	44/39/31	44/39/33

DC Fan Coil Unit

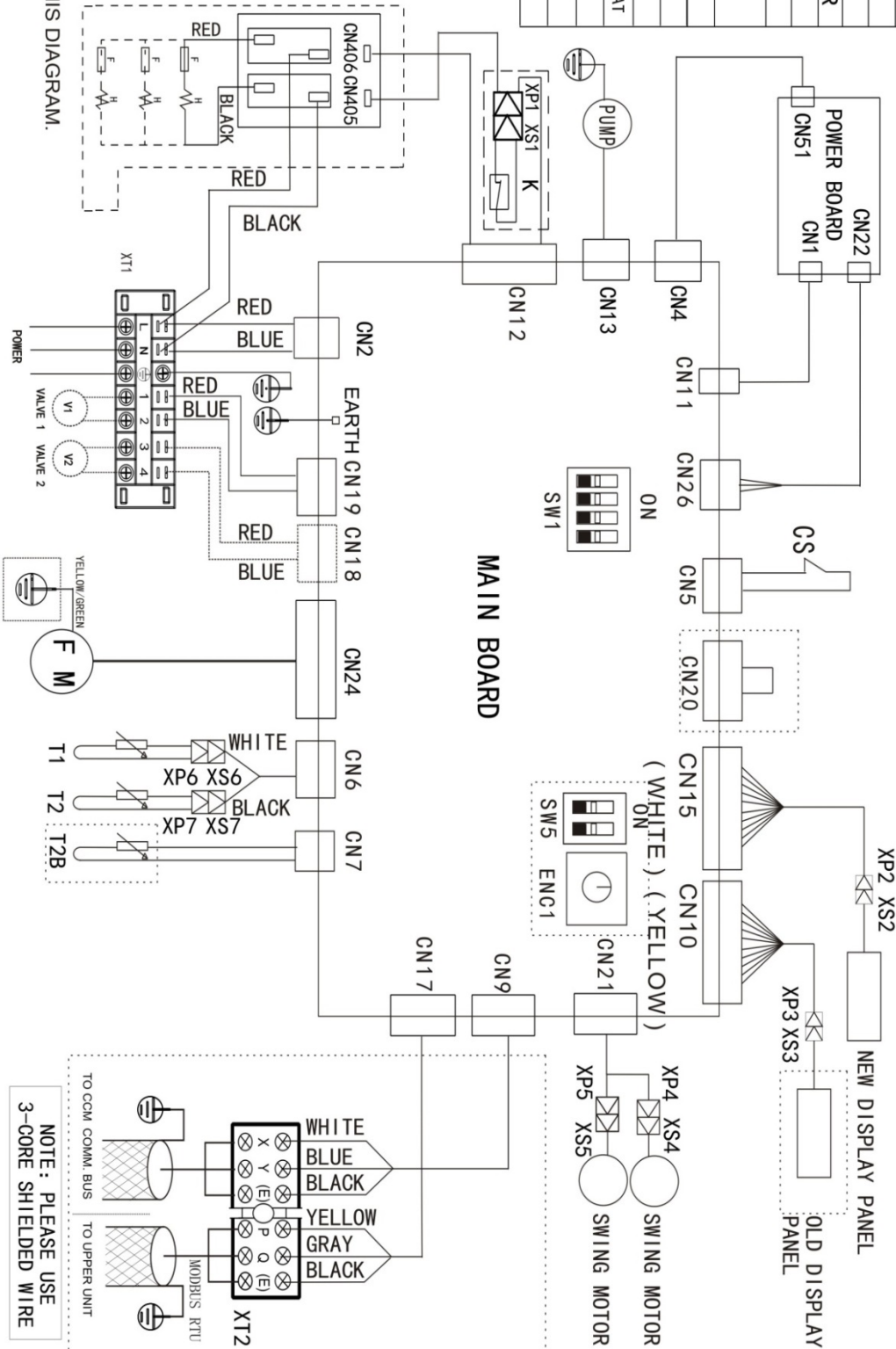
9. Wiring Diagrams



CODE	DESCRIPTION
FM	FAN MOTOR
V1-2	VALVE
T1	ROOM TEMP. SENSOR
T2	PIPE TEMP. SENSOR
T2B	PIPE TEMP. SENSOR
XP1-8	CONNECTORS
XS1-8	CONNECTORS
XT1	TERMINAL
XT2	TERMINAL
F	FUSE
K	PROTECTOR SWITCH OVER HEAT
H	AUXILIARY HEATER
CS	WATER LEVEL SWITCH
PUMP	PUMP MOTOR

MODEL	DIP SW1
MKA-V600F	
MKA-V750F	
MKA-V850F	
MKA-V950F	
MKA-V1200F	
MKA-V1500F	

NOTE:
SW1 MUST BE SETTED AS THIS DIAGRAM.



NOTE: PLEASE USE
3-CORE SHIELDED WIRE

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10. Troubleshooting

Troubles and causes of air conditioner

Symptoms	Causes	Solution
The fan speed can not be changed.	<ul style="list-style-type: none"> Check whether the MODE indicated on the display is "AUTO" 	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
	<ul style="list-style-type: none"> Check whether the MODE indicated on the display is "DRY" 	When dry operation is selected, the air conditioner automatically change the fan speed. The fan speed can be selected during "COOL" , "FAN ONLY", and "HEAT"
The remote controller signal is not transmitted even when the ON/OFF button is pushed.	<ul style="list-style-type: none"> Check whether the batteries in the remote controller are exhausted. 	The power supply is off.
The TEMP. indicator does not come on.	<ul style="list-style-type: none"> Check whether the MODE indicated on the display is FAN ONLY 	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	<ul style="list-style-type: none"> Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display. 	The air conditioner operation will stop up to the set time
The TIMER ON indicator goes off after a lapse of certain time.	<ul style="list-style-type: none"> Check whether the timer operation is started when the TIMER ON is indicated on the display. 	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone sounds from the indoor unit even when the ON/OFF button is pressed.	<ul style="list-style-type: none"> Check whether the signal transmitter of the remote controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed. 	Directly transmit the signal transmitter of the remote controller to the infrared signal receiver of the indoor unit, and then repeatedly push the ON/OFF button twice.

Malfunction and malfunction code

If anything happens like the situation described below, please shut off the power supply of the unit and contact with the customer service center immediately.

No.	Malfunction	running lamp	timer lamp	defrosting lamp	alarm lamp	alarm lamp
1	Room temperature sensor checking channel is abnormal	×	☆	×	×	E2
2	Evaporator sensor checking channel is abnormal	☆	×	×	×	E3
3	EEprom malfunction	☆	☆	×	×	E7
4	Water-level switch malfunction	×	×	×	☆	EE
5	Fan failure	☆	×	☆	×	E8
6	Not set models	×	×	☆	☆	PH

Note: × extinguish, ☆ flash at 5Hz.

11.1 Installation space

The indoor unit should be installed in a location that meets the following requirements:

- There is enough room 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 water pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters.

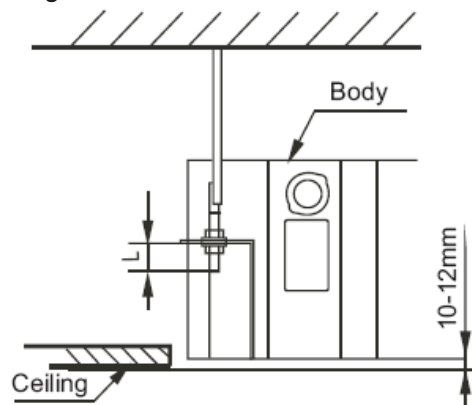
Caution:

Keep indoor unit, outdoor unit, power supply wiring and transmission wiring at least 1 meter away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 meter is kept.)

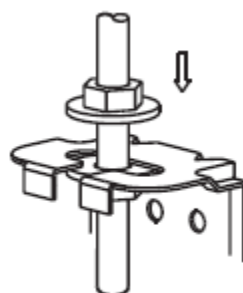
11.2 Install the main body

A. The existing ceiling (to be horizontal)

- Cut a quadrangular hole of 880×880mm in the ceiling according to the shape of the installation paper board.
 - The center of the hole should be at the same position of that of the air conditioner body.
 - Determine the lengths and outlets of the connecting pipe, drain pipe and cables.
 - To balance the ceiling and to avoid vibration, please enforce the ceiling when necessary.
- Select the position of installation hooks according to the hook holes on the installation board.
 - Drill four holes of $\varnothing 12\text{mm}$, 50~55mm deep at the selected positions on the ceiling. Then embed the expansible hooks (fittings).
 - Face the concave side of the installation hooks toward the expansible hooks. Determine the length of the installation hooks from the height of ceiling, and then cut off the unnecessary part.
 - If the ceiling is extremely high, please determine the length of the installation hook according to facts.
- Adjust the hexangular nuts on the four installation hooks evenly, to ensure the balance of the body.
 - If the drainpipe is awry, leakage will be caused by the malfunction of the water-level switch.
 - Adjust the position to ensure the gaps between the body and the four sides of ceiling are even. The body's lower part should sink into the ceiling for 10~12 mm.



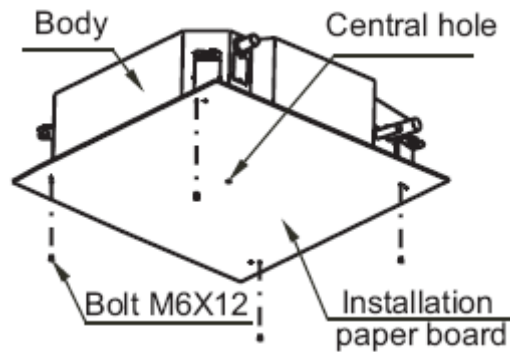
- In general, L is half of the screw length of the installation hook.
- Locate the air conditioner firmly by wrenching the nuts after having adjusted the body's position well.



B. New built houses and ceilings

DC Fan Coil Unit

- a. In the case of new built house, the hook can be embedded in advance (refer to the A.b mentioned above). But it should be strong enough to bear the indoor unit and will not become loose because of concrete shrinking.
- b. After installing the body, please fasten the installation paper board onto the air conditioner with bolts (M6*12) to determine in advance the sizes and positions of the hole opening on ceiling.



- Please first guarantee the flatness and horizontal of ceiling when installing it.
 - Refer to the A.a mentioned above for others.
- c. Refer to the A.c mentioned above for installation.
 - d. Remove the installation paper board.

Caution:

After installing the body, the four bolts(M6x12) must be fastened to the air conditioner onto ensure the body is grounded well.

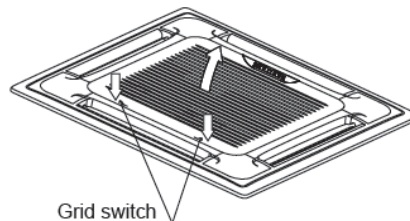
11.3 Install the Panel

Caution:

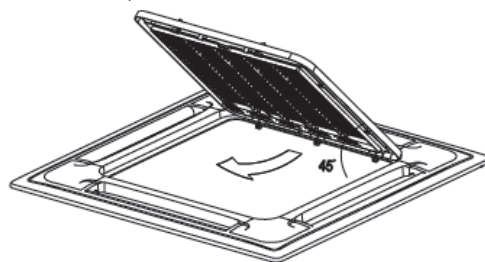
Never put the panel face down on floor or against the wall, or on bulgy objects.
Never crash or strike it.

(1) Remove the air inlet grill.

- a. Slide two grid switches toward the middle at the same time, and then pull them up.

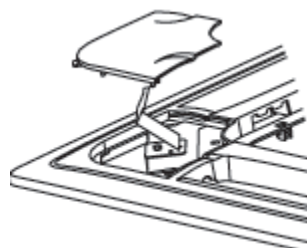


- b. Draw the grid up to an angle of about 45°, and remove it.



(2) Remove the installation covers at the four corners.

Wrench off the bolts, loose the rope of the installation covers, and remove them.



(3) Install the panel

- a. Align the swing motor on the panel to the tubing joints of the body properly.
- b. Fix hooks of the panel at swing motor and its opposite sides to the hooks of corresponding water receiver. Then hang the other two panel hooks onto corresponding hangers of the body.

Cautions

Do not coil the wiring of the swing motor into the seal sponge.

- c. Adjust the four panel hook screws to keep the panel horizontal, and screw them up to the ceiling evenly.
- d. Regulate the panel in the direction of the arrow slightly to fit the panel's center to the center of the ceiling's opening. Guarantee that hooks of four corners are fixed well.
- e. Keep fastening the screws under the panel hooks, until the thickness of the sponge between the body and the panel's outlet has been reduced to about 4~6mm. The edge of the panel should contact with the ceiling well.

If the gap between the panel and ceiling still exists after fastening the screws, the height of the indoor unit should be modified again.

You can modify the height of the indoor unit through the openings on the panel's four corners; if the lift of the indoor unit and the drainpipe is not influenced.

(4) Hang the air-in grid to the panel, and then connect the lead terminator of the swing motor and that of the control box with corresponding terminators on the body respectively.

(5) Relocate the air-in grid in the procedure of reversed order.

(6) Relocate the installation cover.

- a. Fasten the rope of installation cover on the bolt of the installation cover. (Refer to chart 16-left)
- b. Press the installation cover into the panel slightly. (Refer to chart 16-right)

11.4 Connect the Drain Pipe

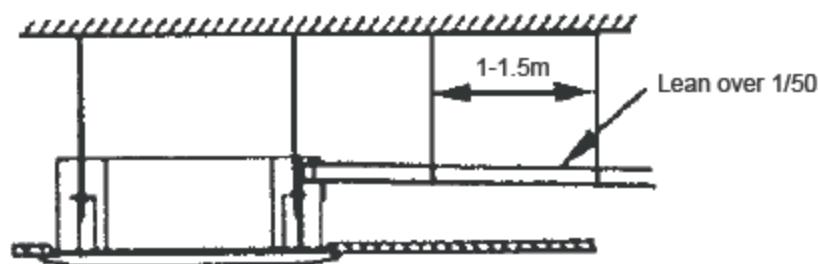
11.4.1 Install the drainpipe

- You can use a polyethylene tube as the drainpipe (out-dia. 37~39mm, in-dia. 32mm). It could be bought at local market or from your dealer.
- Set the mouth of the drainpipe onto the root of the body's pump-pipe, and clip the drainpipe and the out-let pipe sheath (fittings) together firmly with the out-let pipe clasp (fitting).

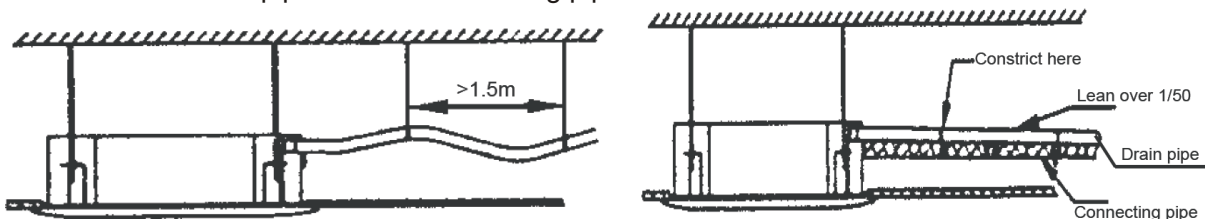
Cautions:

Use your strength carefully to prevent the pump-pipe from breaking.

- The body's pump pipe and the drainpipe (especially the indoor part) should be covered evenly with the out-let pipe sheath (fittings) and be bound tightly with the constrictor to prevent condensation caused by entered air.
- To prevent water from flowing backwards into the air conditioner while the air conditioner stops, please lean the drainpipe down toward outdoor (outlet-side) at a degree of over 1/50. And please avoid any bulge or water deposit. (Refer to the following)



- Do not drag the drainpipe violently when connecting to prevent the body from being pulled.
- Meanwhile, one support-point should be set every 1~1.5m to prevent the drainpipe from yielding. Or you can tie the drainpipe with the connecting pipe to fix it.

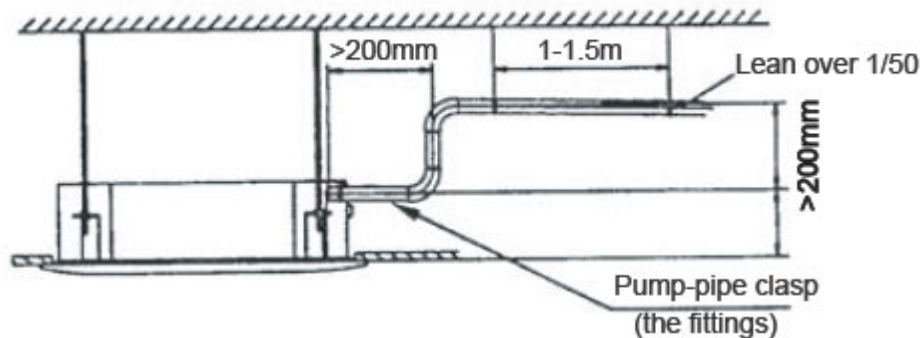


- In the case of prolonged drainpipe, you had better tighten its indoor part with a protection tube to prevent it

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from loosening.

- If the outlet of the drainpipe is higher than the body's pump joint, the pipe should be arranged as vertically as possible. And the lift distance must be less than 500mm, otherwise the water will overflow when the air conditioner stops.



- The end of the drainpipe should be over 50mm higher than the ground or the bottom of the drainage chute, and do not immerse it in water. If you discharge the water directly into sewage is sure to make a U-form aqua seal by bending the pipe up to prevent the smelly gas entering the house through the drain pipe.

Cautions:

All the joints of the drain system must be sealed to prevent water leakage.

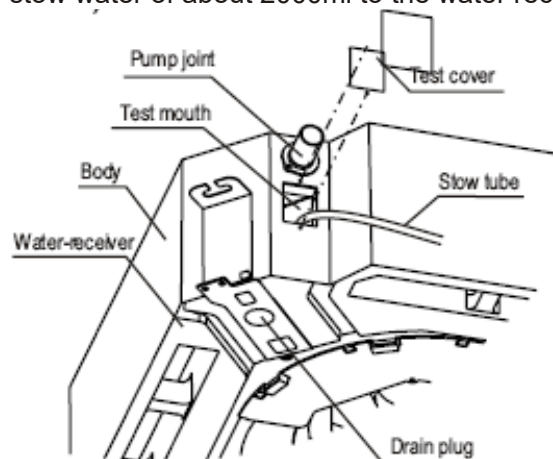
1. All field piping must be provided by a licensed water technician and must comply with the relevant local and national codes.
2. Do not let air, dust, or other impurities fall in the pipe system during the time of installation.
3. The connecting pipe should not be installed until the indoor and outdoor units have been fixed already.
4. Keep the connecting pipe dry, and do not let moisture in during installation.

Note:

All the pictures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased (depend on model).The actual shape shall prevail.

11.4.2 Drainage Test

- Check whether the drainpipe is unhindered.
 - New built house should have this test done before paving the ceiling.
1. Remove the test cover, and stow water of about 2000ml to the water receiver through the stow tube.



2. Turn on the power, and operate the air conditioner under the "COOLING" mode. Listen to the sound of the drain pump. Check whether the water is discharged well (a lag of 1min is allowed before discharging, according to the length of the drain pipe), and check whether water leaks from the joints.

Cautions: If there is any malfunction, please resolve it immediately.

3. Stop the air conditioner for three minutes, check if everything is ok. If the drain hose is located unreasonable, water overflow will cause the Alarm indicator lamp flashing (For both cooling and heating type or cooling only type), even the water leak out from the water receiver.
4. Check the drain pump whether drain water immediately when alarm sound for the high water lever. If the water lever can't come down below to the limited water lever, the air conditioner will stop. Restart it until turn off the power and drain off all the water.
5. Turn off the power, drain the water away.

- The drain plug is used to empty the water-receiver for maintenance of the air conditioner. Please stuff it imposition at all times during operation to avoid leakage.

11.5 Cleaning the air filter

The air filter can prevent the dust or other particulate from going inside. In case of blockage of the filter, the working efficiency of the air conditioner may greatly decrease.

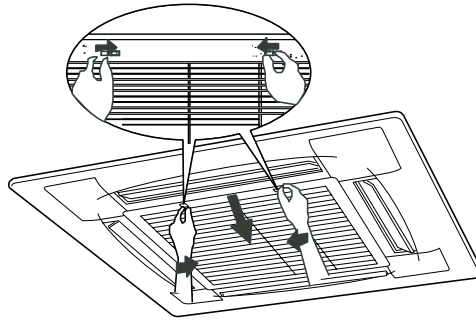
Therefore, the filter must be cleaned once two weeks during long time frequent.

If the accumulated dust is too heavy to be cleaned, please replace the filter with a new one(replaceable air filter is an optional filter).

1. Open the air-in grill

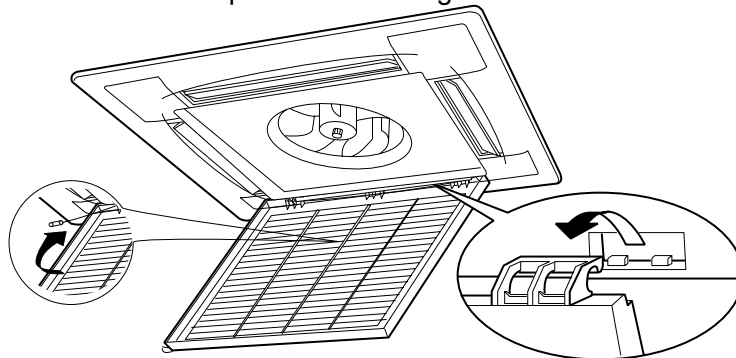
Push the grill switches towards the middle simultaneously as the following fig. Then pull down the air-in grill.

The control box cables, which are originally connected with the main body electrical terminators must be pulled off before doing as indicated above.



2. Take out the air-in grill(together with the air filter shown the following fig.

Pull the air-in grill down at 45° and lift it up to take out the grill.



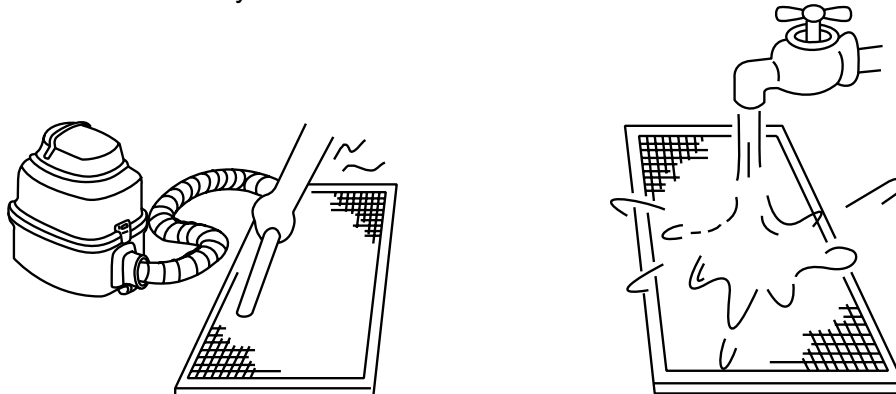
3. Dismantle the air filter.

4. Clean the air filter

Vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, please use soft brush and mild detergent to clean it and dry out in cool place.

- The air-in side should face up when using vacuum cleaner.
- The air-in side should face down when using water.

Caution: Do not dry out the air filter under direct sunshine or with fire.



5. Re-install the air filter.

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6. Install and close the air-in grill in the reverse order of step 1 and 2 and connect the control box cables to the corresponding terminators of the main body.

11.6 Wiring

Caution:

1. The air conditioner should use separate power supply with rated voltage.
2. The external power supply to the air conditioner should have ground wiring, which is linked to the ground wiring of the indoor and outdoor unit.
3. The wiring work should be done by qualified persons according to circuit drawing.
4. An all-pole disconnection switch having a contact separation of at least 3mm in a pole should be connected in fixed wiring.
5. Be sure to locate the power wiring and the signal wiring well to avoid cross-disturbance.
6. Do not turn on the power until you have checked carefully after wiring.

Note:

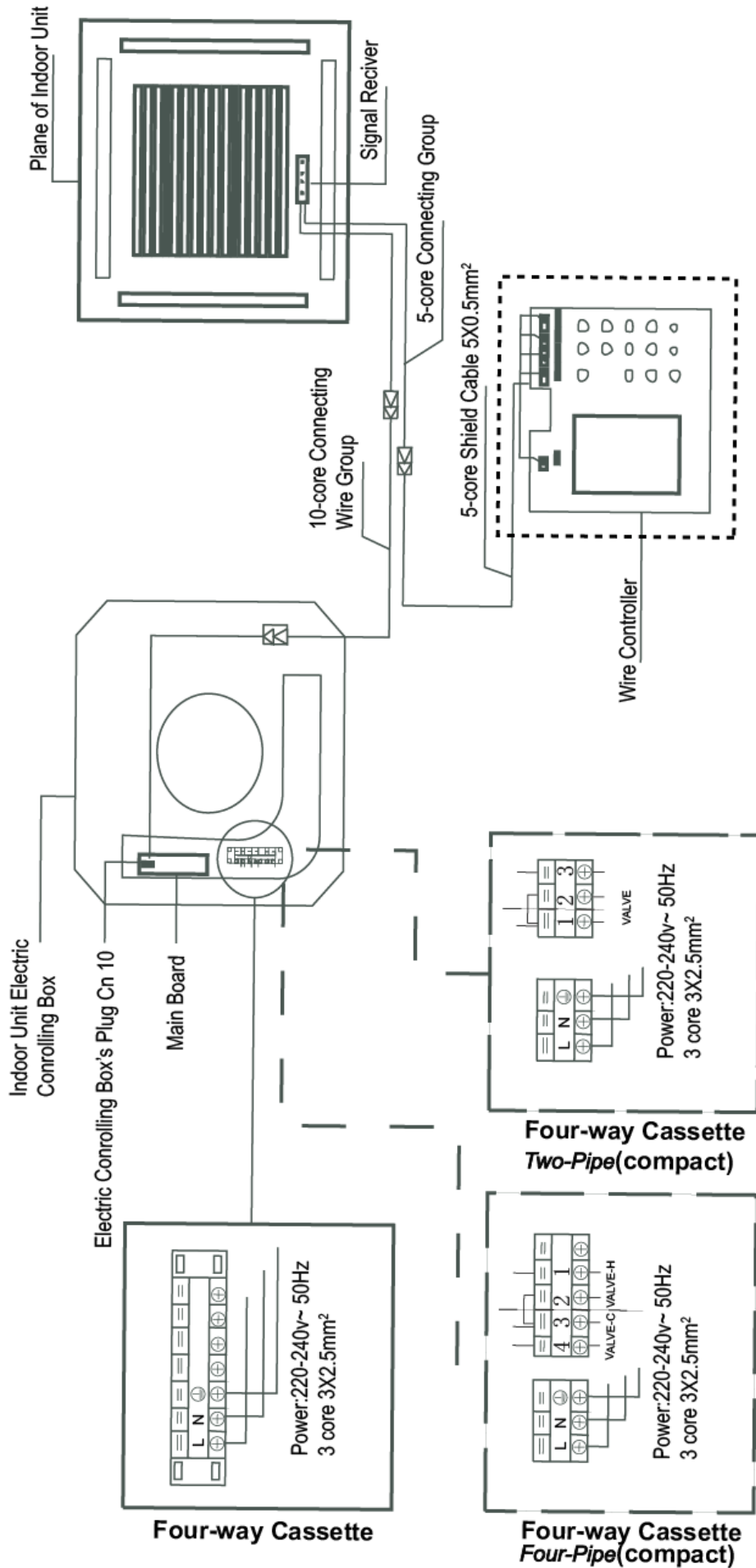
Remark per EMC Directive 89/336/EEC to prevent flicker impressions during the start of the compressor (technical process), following installation conditions do apply.

1. The power connection for the air conditioner has to be done at the main power distribution. The distribution has to be of a low impedance, normally the required impedance reaches at a 32A fusing point.
2. No other equipment has to be connected with this power line.
3. For detailed installation acceptance please refer to your power supplier, if restrictions do apply for products like washing machines, air conditioners or electrical ovens.
4. For power details of the air conditioner refer to the rating plate of the product.
5. For any question contact your local dealer.

10.6.1 Connect the cable

- Disassemble the bolts from the cover.(If there isn't a cover on the outdoor unit, disassemble the bolts from the maintenance board, and pull it in the direction of the arrow to remove the protection board.)
- Connect the connective cables to the terminals as identified with their respective matched numbers on the terminal block of indoor and outdoor units.
- Re-install the cover or the protection board.

11.6.2 Wiring figure



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11.7 Test operation

(1) The test operation must be carried out after the entire installation has been completed.

(2) Please confirm the following points before the test operation.

The indoor unit and outdoor unit are installed properly.

Tubing and wiring are correctly completed.

The refrigerant pipe system is leakage-checked.

The drainage is unimpeded.

The ground wiring is connected correctly.

The length of the tubing and the added stow capacity of the refrigerant have been recorded.

The power voltage fits the rated voltage of the air conditioner.

There is no obstacle at the outlet and inlet of the outdoor and indoor units.

The gas-side and liquid-side stop valves are both opened.

The air conditioner is pre-heated by turning on the power.

(3) According to the user's requirement, install the remote controller when the remote controller's signal can reach the indoor unit smoothly.

(4) Test operation

Set the air conditioner under the mode of "COOLING" with the remote controller, and check the following points.

- Whether the switch on the remote controller works well.
- Whether the buttons on the remote controller works well.
- Whether the air flow louver moves normally.
- Whether the room temperature is adjusted well.
- Whether the indicator lights normally.
- Whether the temporary buttons works well.
- Whether the drainage is normal.
- Whether there is vibration or abnormal noise during operation.
- Whether the air conditioner heats well in the case of the HEATING/COOLING type.



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