Библиотека СОК

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1. Introduction

Fan coil unit is a kind of compound device which assemble fan and surface-type coil heating-exchanger together. Fan coil with fresh air supply system is a main type of center air-conditioner system, so it is an important component of AC devices. Fan coil has horizontal type, vertical type, etc. A cooling (heating) supply system usually consists of fan coil terminals and chilled water system (heated water system).

Midea® commercial AC fan coil is designed and manufactured on the base of advanced technology, and utilize qualified galvanized iron as material. Due to its supper-thin design, it has such advantages: beautiful outlook, space saving, easy installation, etc. And the most obvious advantage is that it can decrease the outlet air Temp-difference as low as possible to make room more comfortable, as well as don't decrease cooling capacity output. For the large air flow volume design, it can increase room ventilation frequency, supply more flesh air, and balance room temperature distribution. Benefiting from adoption of advanced material and technology, it can effectively decrease the running noise and keep running smoothly. With the advantages above, it can be widely applied in market, hospital, office building, hotel airport, etc..

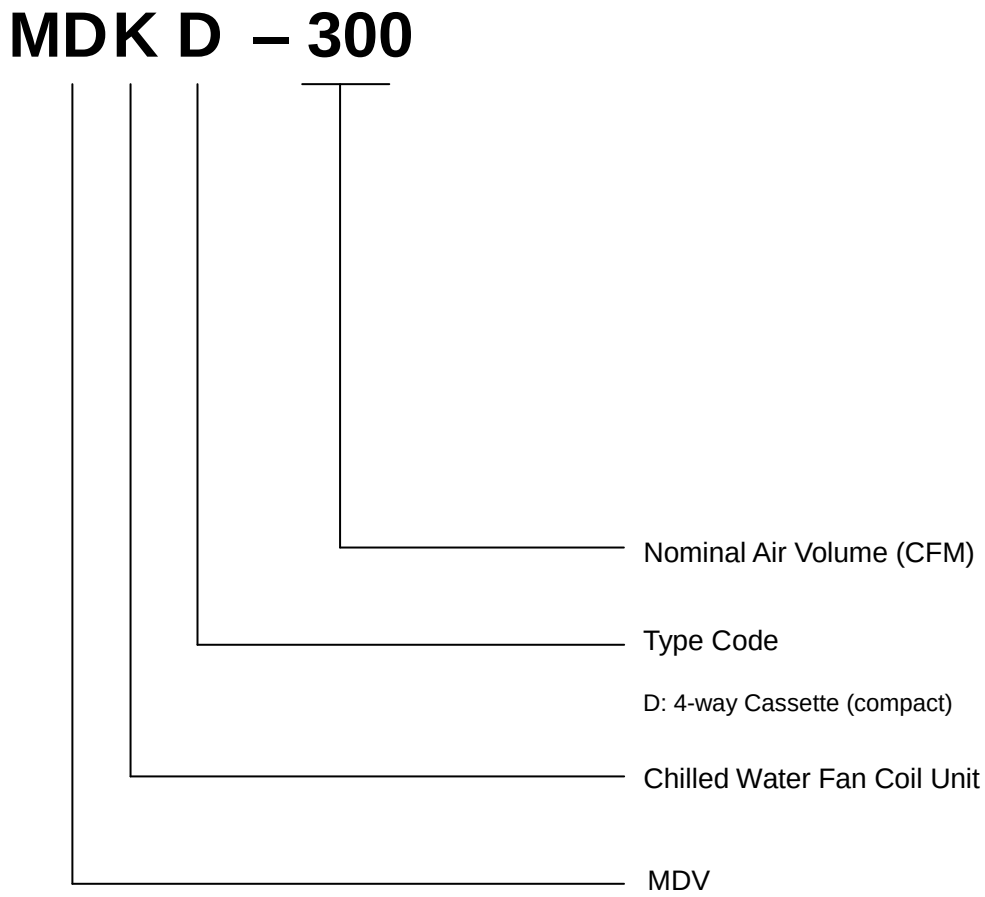
Attention

This data valid only for MDKD FCU assembled from 01 January 2014.

Main differences from previous generation:

1. Alarm output (maybe inactive)
2. Remote on/off function (maybe inactive)
3. Remote on/off switch on the main PCB
4. New fan motors

2. Nomenclature



3. Product Schedule

Model	Air volume (CFM)	Power supply	Auxiliary Electrical Heater
MDKD-300	300	220~240V-1Ph-50Hz	Without
MDKD-400	400		
MDKD-450	450		
MDKD-500	500		

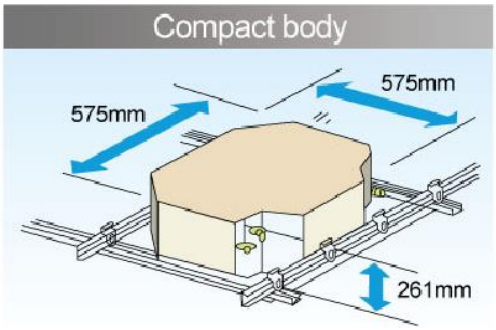
4. External Appearance

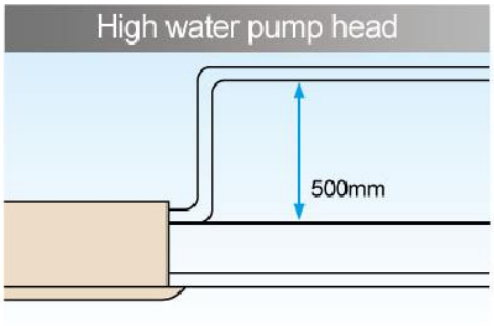


5. Features

- Capacity range: 300CFM to 500CFM
- Compact design, simple installation and easy maintenance
- Round blow air supply enables uniform air flow distribution
- Comfortable horizontal air discharge reduces draughts and ceiling soiling
- Unique design of the centrifugal fan ensures extra-quiet operation and high efficiency
- Wireless remote control with LED display, wired control is optional
- Built-in drain water pump with 500mm pumping head
- Optional extended drainage pan for protecting your ceiling better
- Four speed motor with one reserved for more choice
- Fresh air provision makes life healthier and more comfortable







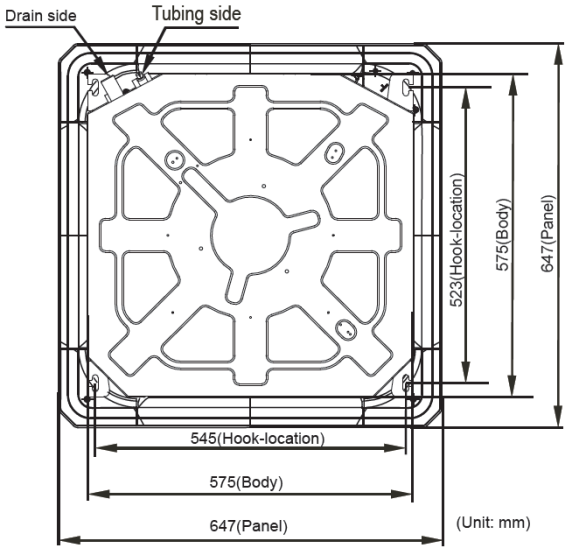
6. Specifications

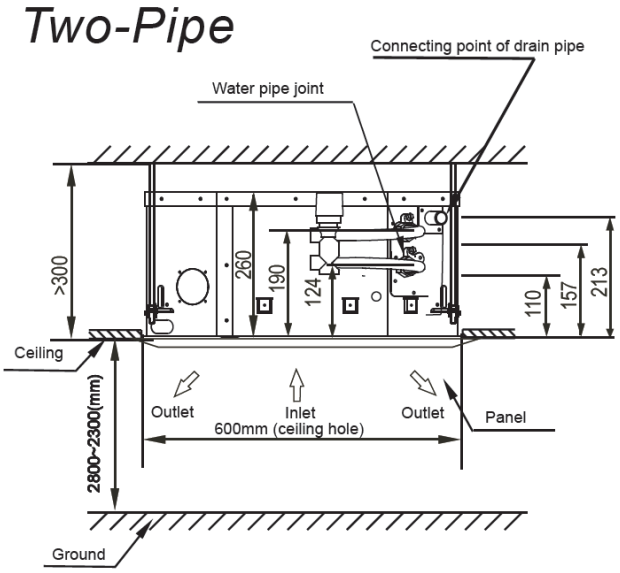
Model MDKD-			300	400	450	500
Air Volume	High	m^3/h	510	680	760	850
		CFM	300	400	450	500
	Med	m^3/h	440	580	650	730
		CFM	260	340	380	430
	Low	m^3/h	360	480	540	600
		CFM	210	280	320	350
Cooling Capacity (Hi/Med/Lo)		kW	3/2.58/2.16	3.7/3.18/2.66	4.1/3.3/2.83	4.5/3.6/3.06
Heating Capacity (Hi/Med/Lo)		kW	4/3.5/3.08	5.1/4.3/3.83	5.6/4.5/3.9	6/4.76/4.07
Power Input		W	50	70	80	95
Noise (Hi/Med/Lo)		dB(A)	36/33/28	42/39/32	43/40/33	45/42/34
Water Flow		l/min	8.7	10.7	11.4	12.9
Water Pressure Drop		kPa	14	15	15	16
Fan Motor	Type			Low noise 4-speed fan motor		
	Model		YDK15-6P	YDK37-4P	YDK37-4P	YDK37-4P
	Brand			Welling		
	Capacitor		1.5	2	2	2.5
	Quantity			1		
Fan	Type			Centrifugal, forward-curved Blades		
	Quantity			1		
Coil	Diameter	mm		Φ7		
	Row			2		
	Tube pitch(a)xrow pitch(b)			21×13.37		
	Fin spacing			1.3		
	Fin type			Hydrophilic aluminium		
	Coil lengthxheightxwidth		1315×210×26.74	1315×210×26.74	1315×210×26.74	1315×210×26.74
	Max. Working Pressure	MPa		1.6		
	Circuit		5	6	6	7
Panel	Net Dimension (W×H×D)	mm		647×50×647		
	Net Weight	kg		3		
	Packing Size (W×H×D)	mm		715×123×715		
	Gross Weight	kg		5		
Indoor Unit	Net Dimension (W×H×D)	mm		575×261×575		
	Net Weight (with EAH)	kg		17.5		
	Packing Size (W×H×D)	mm		655×290×655		
	Gross Weight	kg		21.5		
Pipe Connection	Water-inlet pipe	Inch		RC3/4"		
	Water-outlet pipe	Inch		RC3/4"		
	Drain pipe	mm		ODΦ25		

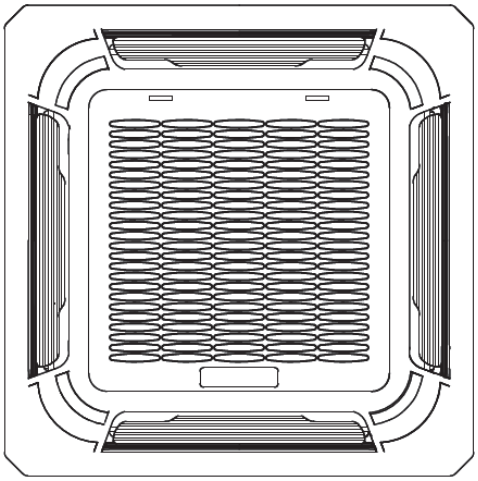
Note:

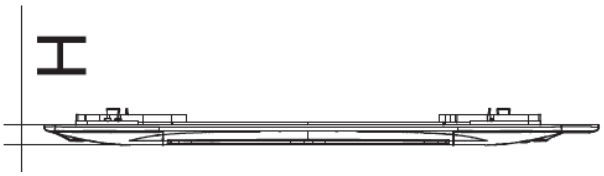
1. The data is the performance in high speed with relevant static pressure.
2. Cooling Conditions: Entering Water 7°C, Temperature Rise 5°C, Entering Air Temperature 27°C DB,19°CWB.
   Heating Conditions: Entering Water 50°C, enter air temperature 20°C, the same water flow as the cooling conditions.
3. Hot water temperature cannot be ＞75°C.

7. Dimension





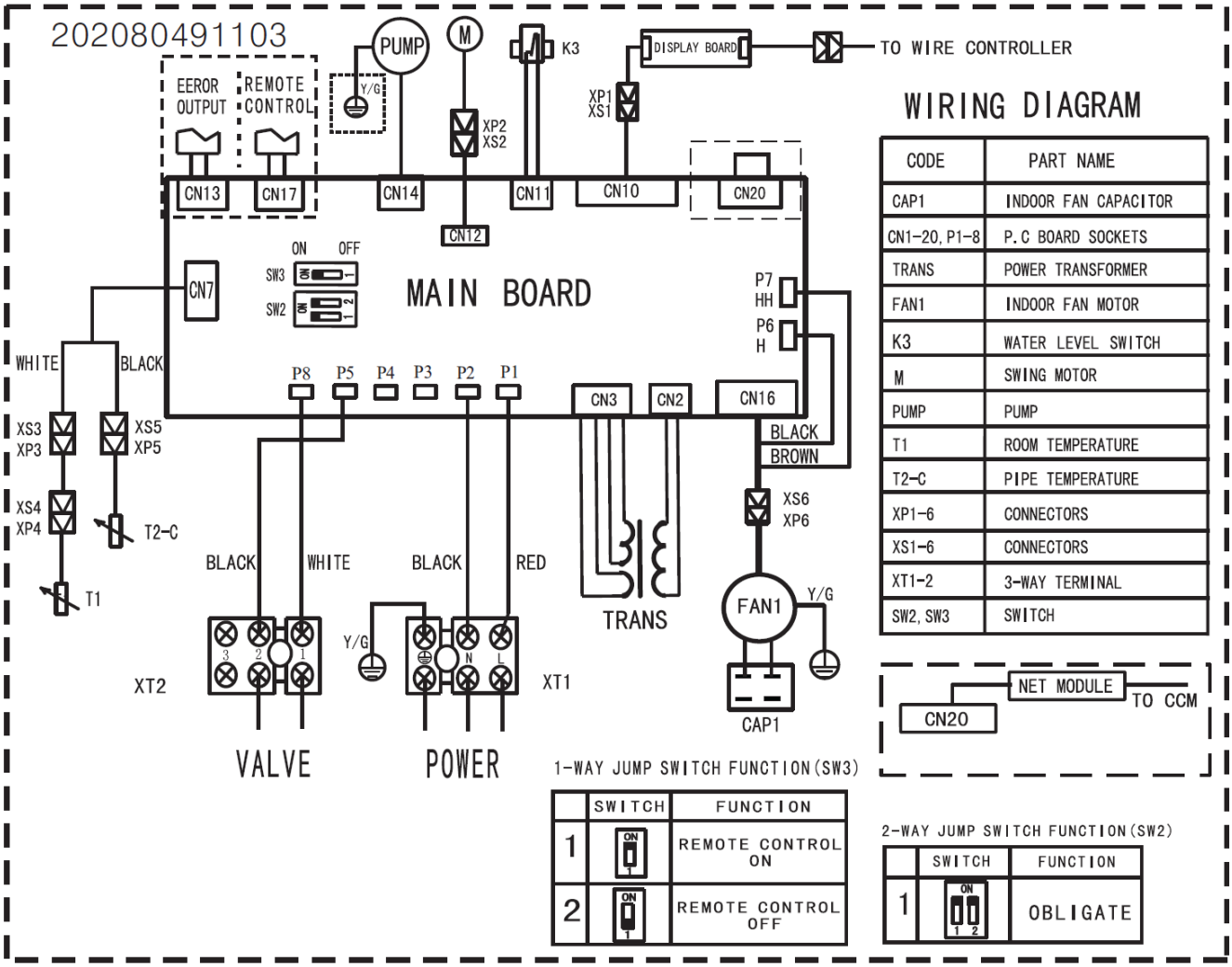




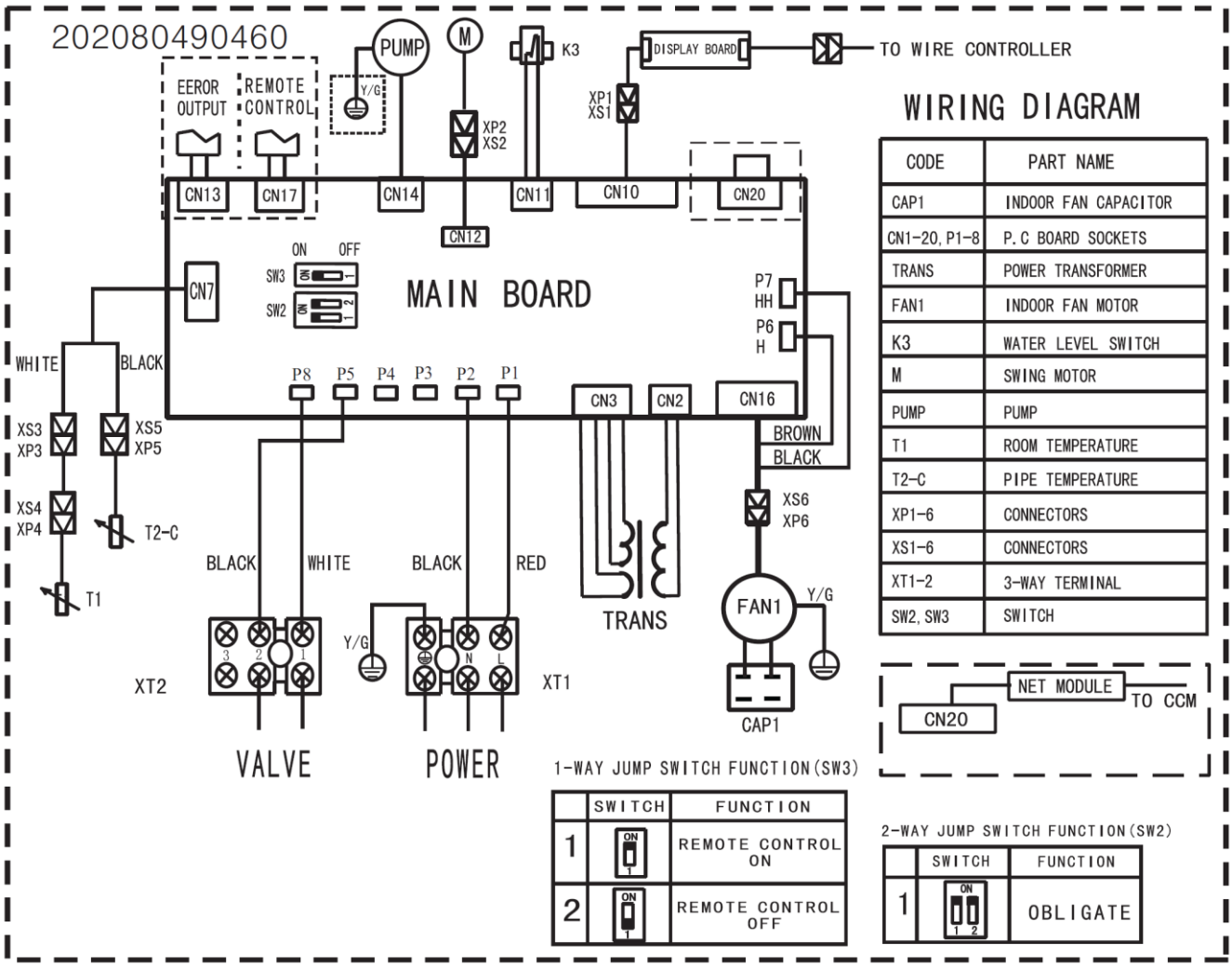
H(mm)	50

8. Wiring Diagrams

8.1 MDKD-300 MDKD-400 MDKD-450



8.2 MDKD-500


202080490460
PUMP
M
K3
DISPLAY BOARD
TO WIRE CONTROLLER
EERROR OUTPUT
REMOTE CONTROL
Y/G
XP2
XS2
XP1
XS1
CN13
CN17
CN14
CN11
CN10
CN20
CN12
ON OFF
SW3
SW2
CN7
MAIN BOARD
P7
HH
P6
H
WHITE
BLACK
P8 P5 P4 P3 P2 P1
CN3
CN2
CN16
BROWN
BLACK
XS3
XP3
XS5
XP5
XS4
XP4
T2-C
T1
XS6
XP6
BLACK
WHITE
BLACK
RED
TRANS
FAN1
Y/G
CAP1
XT2
XT1
VALVE
POWER
WIRING DIAGRAM
CODE
PART NAME
CAP1
INDOOR FAN CAPACITOR
CN1-20, P1-8
P.C BOARD SOCKETS
TRANS
POWER TRANSFORMER
FAN1
INDOOR FAN MOTOR
K3
WATER LEVEL SWITCH
M
SWING MOTOR
PUMP
PUMP
T1
ROOM TEMPERATURE
T2-C
PIPE TEMPERATURE
XP1-6
CONNECTORS
XS1-6
CONNECTORS
XT1-2
3-WAY TERMINAL
SW2, SW3
SWITCH
NET MODULE
TO CCM
CN20
1-WAY JUMP SWITCH FUNCTION(SW3)
SWITCH
FUNCTION
1
REMOTE CONTROL ON
2
REMOTE CONTROL OFF
2-WAY JUMP SWITCH FUNCTION(SW2)
SWITCH
FUNCTION
1
OBLIGATE

9. Capacity Tables

Cooling Capacity:

Remark: **EWT:** Enter Water Temp. (℃); **Δt:** Temperature Difference (℃)

DB: Dry Bulb Temp. (℃); **WB:** Wet Bulb Temp. (℃);

TC: Total Cooling Capacity (kW); **SC:** Sensible Cooling Capacity (kW);

WF: Water Flow (m^3/h); **WPD:** Water Pressure Drop (kPa)

MDKD-300																					
EWT	Δt	Air inlet condition																			
		DB:26.7 WB:19.4				DB:27 WB:18				DB:27 WB:19				DB:27 WB:20				DB:29 WB:21			
		TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD
5	3	3.82	2.30	1.10	63.1	3.51	2.53	1.01	53.1	3.74	2.40	1.07	60.6	3.96	2.30	1.14	67.8	4.18	2.19	1.20	75.6
	4	3.68	2.23	0.79	32.8	3.38	2.45	0.73	27.7	3.61	2.33	0.78	31.8	3.83	2.23	0.82	35.6	4.02	2.12	0.86	39.2
	5	3.52	2.16	0.60	19.2	3.22	2.40	0.55	16.1	3.45	2.26	0.59	18.5	3.68	2.15	0.63	21.0	3.86	3.34	0.66	23.2
	6	3.36	2.10	0.48	12.2	3.06	2.32	0.44	10.1	3.29	2.18	0.47	11.7	3.52	2.07	0.51	13.4	3.69	1.97	0.53	14.7
	7	3.19	2.00	0.39	8.1	2.89	2.26	0.36	6.6	3.12	2.11	0.38	7.7	3.35	2.00	0.41	8.9	3.54	1.89	0.43	9.9
6	3	3.61	2.21	1.03	56.2	3.29	2.44	0.94	46.7	3.52	2.31	1.01	53.7	3.75	2.20	1.08	60.9	3.97	2.10	1.14	68.1
	4	3.46	2.13	0.74	29.2	3.14	2.36	0.67	23.9	3.38	2.23	0.73	27.8	3.61	2.13	0.78	31.6	3.81	2.03	0.82	35.3
	5	3.29	2.06	0.57	16.9	3.00	2.29	0.52	14.0	3.23	2.16	0.56	16.2	3.44	2.04	0.59	18.4	3.66	1.95	0.63	20.8
	6	3.14	2.00	0.45	10.6	2.84	2.22	0.41	8.7	3.06	2.08	0.44	10.2	3.29	1.96	0.47	11.7	3.48	1.86	0.50	13.1
	7	2.97	1.90	0.37	7.0	2.66	2.16	0.33	5.6	2.90	2.03	0.36	6.7	3.11	1.90	0.38	7.7	3.32	1.78	0.41	8.8
7	3	3.37	2.10	0.97	49.0	3.06	2.34	0.88	40.4	3.29	2.21	0.94	46.9	3.54	2.10	1.01	54.1	3.74	1.99	1.07	60.3
	4	3.23	2.03	0.69	25.4	2.90	2.29	0.62	20.4	3.14	2.14	0.68	24.0	3.38	2.03	0.73	27.7	3.59	1.93	0.77	31.3
	5	3.06	1.96	0.53	14.6	2.75	2.22	0.47	11.8	3.00	2.06	0.52	14.0	3.22	1.94	0.55	16.1	3.42	1.85	0.59	18.2
	6	2.90	1.90	0.42	9.1	2.59	2.15	0.37	7.2	2.85	1.99	0.41	8.8	3.07	1.87	0.44	10.2	3.26	1.77	0.47	11.5
	7	2.75	1.81	0.34	6.0	2.42	2.07	0.30	4.6	2.66	1.93	0.33	5.6	2.89	1.81	0.35	6.6	3.09	1.69	0.38	7.6
8	3	3.14	2.01	0.90	42.6	2.80	2.26	0.80	33.9	3.06	2.11	0.88	40.6	3.30	1.99	0.95	47.0	3.51	1.88	1.01	53.3
	4	3.00	1.94	0.65	21.9	2.66	2.19	0.57	17.2	2.91	2.06	0.63	20.6	3.14	1.93	0.67	23.9	3.34	1.83	0.72	27.2
	5	2.85	1.86	0.49	12.6	2.50	2.12	0.43	9.7	2.76	1.97	0.48	11.9	3.00	1.86	0.52	14.0	3.20	1.75	0.55	15.9
	6	2.66	1.81	0.38	7.7	2.34	2.06	0.34	5.9	2.61	1.90	0.37	7.4	2.84	1.77	0.41	8.7	3.04	1.67	0.44	10.0
	7	2.51	1.72	0.31	5.0	2.17	1.98	0.27	3.7	2.43	1.84	0.30	4.7	2.66	1.71	0.33	5.6	2.84	1.60	0.35	6.4
9	3	2.92	1.92	0.84	36.8	2.57	2.17	0.74	28.5	2.84	2.02	0.81	34.7	3.08	1.89	0.88	40.9	3.28	1.79	0.94	46.4
	4	2.75	1.85	0.59	18.4	2.42	2.11	0.52	14.2	2.67	1.96	0.57	17.3	2.90	1.84	0.62	20.5	3.11	1.73	0.67	23.5
	5	2.61	1.77	0.45	10.6	2.23	2.06	0.38	7.8	2.52	1.89	0.43	9.9	2.75	1.76	0.47	11.8	2.96	1.65	0.51	13.6
	6	2.43	1.71	0.35	6.4	2.06	2.00	0.30	4.6	2.35	1.83	0.34	6.0	2.60	1.68	0.37	7.3	2.80	1.57	0.40	8.5
	7	2.25	1.63	0.28	4.0	1.93	1.93	0.24	3.0	2.17	1.75	0.27	3.8	2.41	1.63	0.30	4.6	2.61	1.50	0.32	5.4
10	3	2.68	1.82	0.77	30.9	2.30	2.09	0.66	22.9	2.57	1.94	0.74	28.5	2.83	1.81	0.81	34.5	3.05	1.70	0.87	40.1
	4	2.51	1.75	0.54	15.3	2.13	2.05	0.46	11.0	2.42	1.88	0.52	14.3	2.67	1.74	0.57	17.3	2.87	1.63	0.62	20.0
	5	2.35	1.70	0.40	8.6	2.00	2.00	0.34	6.2	2.25	1.82	0.39	7.9	2.50	1.68	0.43	9.7	2.72	1.56	0.47	11.5
	6	2.19	1.62	0.31	5.2	1.89	1.89	0.27	3.9	2.09	1.75	0.30	4.7	2.34	1.58	0.34	5.9	2.54	1.48	0.36	7.0
	7	2.00	1.55	0.25	3.2	1.78	1.78	0.22	2.5	1.90	1.68	0.23	2.9	2.14	1.54	0.26	3.6	2.38	1.41	0.29	4.5
11	3	2.42	1.74	0.69	25.2	2.05	2.05	0.59	18.1	2.33	1.85	0.67	23.4	2.57	1.73	0.74	28.6	2.80	1.61	0.80	33.9
	4	2.26	1.68	0.49	12.5	1.95	1.95	0.42	9.2	2.17	1.78	0.47	11.5	2.42	1.65	0.52	14.2	2.65	1.54	0.57	17.0
	5	2.09	1.61	0.36	6.8	1.85	1.85	0.32	5.3	2.00	1.74	0.34	6.2	2.25	1.58	0.39	7.9	2.47	1.47	0.43	9.5
	6	1.90	1.55	0.27	3.9	1.74	1.74	0.25	3.3	1.83	1.66	0.26	3.6	2.08	1.53	0.30	4.7	2.29	1.39	0.33	5.7
	7	1.70	1.49	0.21	2.3	1.64	1.64	0.20	2.1	1.64	1.64	0.20	2.1	1.88	1.45	0.23	2.8	2.11	1.31	0.26	3.5
12	3	2.16	1.66	0.62	20.2	1.90	1.90	0.54	15.5	2.06	1.79	0.59	18.3	2.33	1.63	0.67	23.4	2.55	1.52	0.73	28.0
	4	2.00	1.60	0.43	9.7	1.81	1.81	0.39	7.9	1.90	1.73	0.41	8.8	2.16	1.57	0.47	11.4	2.39	1.45	0.51	13.9
	5	1.83	1.55	0.31	5.2	1.73	1.73	0.30	4.6	1.73	1.67	0.30	4.7	2.00	1.52	0.34	6.2	2.22	1.39	0.38	7.7
	6	1.62	1.49	0.23	2.9	1.61	1.61	0.23	2.8	1.61	1.58	0.23	2.8	1.81	1.45	0.26	3.5	2.03	1.31	0.29	4.5
	7	1.44	1.44	0.18	1.6	1.49	1.49	0.18	1.8	1.48	1.48	0.18	1.7	1.58	1.38	0.19	2.0	1.85	1.23	0.23	2.7
13	3	1.89	1.58	0.54	15.4	1.75	1.75	0.50	13.2	1.78	1.72	0.51	13.7	2.05	1.55	0.59	18.2	2.29	1.43	0.66	22.8
	4	1.73	1.52	0.37	7.3	1.67	1.67	0.36	6.8	1.67	1.64	0.36	6.8	1.89	1.52	0.41	8.7	2.13	1.36	0.46	11.0
	5	1.54	1.51	0.27	3.7	1.55	1.55	0.27	3.8	1.56	1.56	0.27	3.8	1.72	1.44	0.30	4.6	1.96	1.30	0.34	6.0
	6	1.40	1.40	0.20	2.1	1.45	1.45	0.21	2.3	1.45	1.45	0.21	2.3	1.52	1.39	0.22	2.5	1.77	1.23	0.25	3.4
	7	1.28	1.28	0.16	1.3	1.33	1.33	0.16	1.4	1.33	1.33	0.16	1.4	1.33	1.30	0.16	1.4	1.55	1.16	0.19	1.9

MDKD-400																					
EWT	Δt	Air inlet condition																			
		DB:26.7 WB:19.4				DB:27 WB:18				DB:27 WB:19				DB:27 WB:20				DB:29 WB:21			
		TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD
5	3	4.71	2.84	1.35	67.7	4.32	3.12	1.24	56.9	4.62	2.96	1.32	64.9	4.89	2.84	1.40	72.6	5.16	2.71	1.48	81.0
	4	4.53	2.75	0.97	35.2	4.16	3.03	0.90	29.7	4.46	2.88	0.96	34.0	4.72	2.75	1.01	38.1	4.95	2.62	1.07	42.0
	5	4.34	2.66	0.75	20.6	3.97	2.96	0.68	17.2	4.25	2.79	0.73	19.8	4.53	2.65	0.78	22.5	4.76	4.12	0.82	24.9
	6	4.14	2.58	0.59	13.1	3.77	2.86	0.54	10.8	4.06	2.69	0.58	12.6	4.35	2.55	0.62	14.4	4.55	2.42	0.65	15.8
	7	3.94	2.46	0.48	8.7	3.57	2.79	0.44	7.1	3.85	2.60	0.47	8.3	4.13	2.46	0.51	9.6	4.36	2.33	0.54	10.6
6	3	4.45	2.73	1.27	60.2	4.05	3.01	1.16	50.0	4.35	2.85	1.25	57.5	4.63	2.71	1.33	65.2	4.90	2.58	1.40	73.0
	4	4.27	2.63	0.92	31.2	3.87	2.91	0.83	25.7	4.17	2.75	0.90	29.8	4.45	2.63	0.96	33.9	4.70	2.50	1.01	37.8
	5	4.06	2.54	0.70	18.1	3.69	2.83	0.64	15.0	3.98	2.67	0.69	17.4	4.24	2.51	0.73	19.7	4.51	2.40	0.78	22.3
	6	3.87	2.46	0.55	11.4	3.50	2.73	0.50	9.3	3.78	2.57	0.54	10.9	4.06	2.42	0.58	12.6	4.29	2.30	0.61	14.0
	7	3.67	2.35	0.45	7.5	3.28	2.66	0.40	6.0	3.58	2.50	0.44	7.2	3.83	2.34	0.47	8.2	4.10	2.20	0.50	9.4
7	3	4.15	2.59	1.19	52.5	3.77	2.89	1.08	43.2	4.06	2.73	1.16	50.2	4.36	2.59	1.25	57.9	4.61	2.46	1.32	64.6
	4	3.98	2.50	0.86	27.2	3.57	2.82	0.77	21.8	3.88	2.64	0.83	25.7	4.16	2.50	0.90	29.7	4.43	2.38	0.95	33.5
	5	3.78	2.41	0.65	15.7	3.39	2.73	0.58	12.6	3.70	2.55	0.64	15.0	3.97	2.39	0.68	17.2	4.21	2.28	0.72	19.4
	6	3.58	2.34	0.51	9.8	3.19	2.65	0.46	7.8	3.52	2.46	0.50	9.4	3.79	2.30	0.54	10.9	4.02	2.18	0.58	12.3
	7	3.39	2.24	0.42	6.4	2.98	2.55	0.37	5.0	3.28	2.38	0.40	6.0	3.56	2.23	0.44	7.1	3.81	2.09	0.47	8.1
8	3	3.87	2.48	1.11	45.6	3.45	2.79	0.99	36.3	3.78	2.60	1.08	43.5	4.07	2.46	1.17	50.4	4.33	2.32	1.24	57.1
	4	3.70	2.40	0.80	23.4	3.28	2.70	0.71	18.5	3.59	2.54	0.77	22.0	3.87	2.38	0.83	25.7	4.12	2.25	0.89	29.1
	5	3.51	2.30	0.60	13.5	3.08	2.62	0.53	10.4	3.41	2.43	0.59	12.7	3.69	2.29	0.64	15.0	3.95	2.16	0.68	17.1
	6	3.28	2.23	0.47	8.2	2.88	2.55	0.41	6.3	3.22	2.35	0.46	7.9	3.50	2.19	0.50	9.3	3.75	2.06	0.54	10.7
	7	3.09	2.12	0.38	5.3	2.67	2.44	0.33	4.0	3.00	2.27	0.37	5.0	3.28	2.10	0.40	6.0	3.51	1.98	0.43	6.9
9	3	3.60	2.37	1.03	39.4	3.17	2.68	0.91	30.5	3.50	2.49	1.00	37.2	3.80	2.33	1.09	43.9	4.04	2.21	1.16	49.7
	4	3.40	2.29	0.73	19.7	2.98	2.60	0.64	15.2	3.29	2.41	0.71	18.6	3.58	2.27	0.77	21.9	3.83	2.13	0.82	25.2
	5	3.21	2.19	0.55	11.3	2.75	2.54	0.47	8.3	3.11	2.33	0.54	10.6	3.39	2.17	0.58	12.6	3.65	2.03	0.63	14.6
	6	3.00	2.11	0.43	6.9	2.55	2.46	0.37	4.9	2.89	2.26	0.41	6.4	3.20	2.07	0.46	7.8	3.45	1.94	0.50	9.1
	7	2.78	2.01	0.34	4.3	2.38	2.38	0.29	3.2	2.68	2.16	0.33	4.0	2.97	2.01	0.36	4.9	3.21	1.85	0.39	5.8
10	3	3.30	2.25	0.95	33.1	2.84	2.58	0.81	24.6	3.17	2.40	0.91	30.5	3.49	2.24	1.00	37.0	3.76	2.09	1.08	43.0
	4	3.10	2.16	0.67	16.4	2.63	2.53	0.56	11.8	2.99	2.32	0.64	15.3	3.29	2.15	0.71	18.6	3.54	2.01	0.76	21.5
	5	2.89	2.09	0.50	9.2	2.46	2.46	0.42	6.6	2.77	2.24	0.48	8.4	3.09	2.07	0.53	10.4	3.35	1.92	0.58	12.3
	6	2.70	2.00	0.39	5.5	2.33	2.33	0.33	4.1	2.57	2.16	0.37	5.0	2.88	1.95	0.41	6.3	3.13	1.83	0.45	7.5
	7	2.46	1.92	0.30	3.4	2.19	2.19	0.27	2.7	2.34	2.08	0.29	3.1	2.64	1.90	0.32	3.9	2.93	1.74	0.36	4.8
11	3	2.98	2.15	0.85	27.0	2.53	2.53	0.72	19.4	2.87	2.29	0.82	25.1	3.17	2.14	0.91	30.6	3.45	1.98	0.99	36.3
	4	2.79	2.07	0.60	13.4	2.40	2.40	0.52	9.9	2.68	2.20	0.58	12.3	2.98	2.03	0.64	15.3	3.26	1.90	0.70	18.2
	5	2.58	1.99	0.44	7.3	2.29	2.29	0.39	5.7	2.46	2.15	0.42	6.6	2.78	1.95	0.48	8.5	3.05	1.81	0.52	10.2
	6	2.35	1.91	0.34	4.2	2.14	2.14	0.31	3.5	2.26	2.05	0.32	3.9	2.56	1.88	0.37	5.0	2.83	1.72	0.41	6.1
	7	2.09	1.84	0.26	2.5	2.02	2.02	0.25	2.3	2.02	2.02	0.25	2.3	2.32	1.79	0.29	3.0	2.61	1.62	0.32	3.8
12	3	2.66	2.04	0.76	21.6	2.34	2.34	0.67	16.6	2.54	2.21	0.73	19.6	2.87	2.01	0.82	25.1	3.14	1.87	0.90	30.0
	4	2.47	1.98	0.53	10.4	2.23	2.23	0.48	8.5	2.34	2.13	0.50	9.4	2.67	1.94	0.57	12.2	2.95	1.79	0.63	14.9
	5	2.25	1.91	0.39	5.6	2.13	2.13	0.37	5.0	2.14	2.06	0.37	5.0	2.46	1.87	0.42	6.6	2.74	1.71	0.47	8.2
	6	2.00	1.84	0.29	3.1	1.98	1.98	0.28	3.0	1.98	1.94	0.28	3.0	2.23	1.79	0.32	3.8	2.51	1.61	0.36	4.8
	7	1.77	1.77	0.22	1.8	1.84	1.84	0.23	1.9	1.83	1.83	0.22	1.9	1.95	1.70	0.24	2.1	2.28	1.52	0.28	2.9
13	3	2.33	1.95	0.67	16.5	2.16	2.16	0.62	14.2	2.19	2.12	0.63	14.7	2.53	1.92	0.73	19.5	2.83	1.77	0.81	24.4
	4	2.13	1.88	0.46	7.8	2.06	2.06	0.44	7.2	2.06	2.02	0.44	7.2	2.33	1.87	0.50	9.3	2.63	1.68	0.56	11.8
	5	1.90	1.86	0.33	4.0	1.92	1.92	0.33	4.0	1.92	1.92	0.33	4.1	2.12	1.78	0.37	5.0	2.42	1.60	0.42	6.4
	6	1.73	1.73	0.25	2.3	1.79	1.79	0.26	2.4	1.79	1.79	0.26	2.4	1.87	1.71	0.27	2.7	2.18	1.52	0.31	3.6
	7	1.58	1.58	0.19	1.4	1.64	1.64	0.20	1.5	1.64	1.64	0.20	1.5	1.64	1.61	0.20	1.5	1.91	1.43	0.23	2.0

MKD-450																					
		Air inlet condition																			
		DB:26.7 WB:19.4				DB:27 WB:18				DB:27 WB:19				DB:27 WB:20				DB:29 WB:21			
EWT	Δt	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD
	3	5,22	3,15	1,62	72,20	4,79	3,46	1,51	60,67	5,12	3,28	1,61	69,16	5,42	3,12	1,70	77,50	5,72	3,00	1,80	86,29
	4	5,02	3,03	1,16	37,54	4,61	3,33	1,08	31,54	4,92	3,15	1,16	35,96	5,21	3,01	1,22	40,30	5,50	2,89	1,29	44,87
	5	4,81	2,90	0,90	21,97	4,41	3,19	0,84	18,46	4,72	3,02	0,89	21,04	4,99	2,88	0,95	23,58	5,27	2,77	1,00	26,26
	6	4,59	2,77	0,71	13,97	4,21	3,04	0,66	11,74	4,50	2,88	0,70	13,38	4,76	2,75	0,74	15,00	5,03	2,64	0,79	16,70
5	7	4,37	2,63	0,57	9,28	4,01	2,89	0,54	7,80	4,28	2,74	0,57	8,89	4,53	2,61	0,61	9,96	4,78	2,51	0,64	11,09
	3	4,93	2,97	1,52	64,20	4,52	3,27	1,42	53,95	4,84	3,10	1,51	61,50	5,12	2,95	1,60	68,91	5,40	2,84	1,70	76,73
	4	4,73	2,85	1,10	33,27	4,34	3,14	1,03	27,96	4,64	2,97	1,10	31,87	4,91	2,83	1,16	35,72	5,18	2,72	1,23	39,77
	5	4,50	2,71	0,84	19,30	4,13	2,98	0,78	16,22	4,41	2,83	0,83	18,49	4,67	2,69	0,88	20,72	4,93	2,59	0,93	23,07
	6	4,29	2,59	0,66	12,16	3,93	2,84	0,62	10,22	4,21	2,70	0,66	11,65	4,45	2,57	0,69	13,05	4,70	2,47	0,73	14,53
6	7	4,07	2,45	0,54	8,00	3,73	2,69	0,50	6,72	3,99	2,56	0,54	7,66	4,22	2,43	0,57	8,59	4,46	2,34	0,60	9,56
	3	4,60	2,77	1,42	55,99	4,22	3,05	1,33	47,05	4,51	2,89	1,42	53,63	4,77	2,75	1,50	60,10	5,04	2,65	1,59	66,92
	4	4,41	2,66	1,03	29,01	4,05	2,92	0,96	24,37	4,33	2,77	1,03	27,79	4,58	2,64	1,08	31,14	4,83	2,54	1,15	34,67
	5	4,19	2,53	0,78	16,10	3,84	2,78	0,73	13,53	4,11	2,63	0,78	15,43	4,35	2,51	0,82	17,29	4,59	2,41	0,87	19,25
	6	3,97	2,39	0,61	10,45	3,64	2,63	0,57	8,78	3,89	2,49	0,61	10,01	4,12	2,38	0,64	11,22	4,35	2,28	0,68	12,49
7	7	3,76	2,27	0,50	6,83	3,45	2,49	0,47	5,74	3,68	2,36	0,50	6,54	3,90	2,25	0,53	7,33	4,12	2,16	0,56	8,16
	3	4,29	2,59	1,33	48,63	3,93	2,84	1,24	40,86	4,21	2,70	1,32	46,58	4,45	2,57	1,40	52,20	4,70	2,47	1,48	58,12
	4	3,44	2,07	0,96	24,96	3,15	2,28	0,89	20,97	3,37	2,16	0,95	23,90	3,57	2,06	1,01	26,79	3,76	1,98	1,07	29,83
	5	3,89	2,35	0,72	14,40	3,57	2,58	0,67	12,10	3,82	2,44	0,72	13,79	4,04	2,33	0,76	15,45	4,26	2,24	0,80	17,21
	6	3,63	2,19	0,56	8,75	3,33	2,41	0,53	7,35	3,57	2,28	0,56	8,38	3,77	2,18	0,59	9,39	3,98	2,09	0,63	10,45
8	7	3,42	2,06	0,45	5,65	3,14	2,27	0,43	4,75	3,36	2,15	0,45	5,41	3,55	2,05	0,48	6,07	3,75	1,97	0,51	6,76
	3	3,99	2,41	1,23	42,02	3,66	2,64	1,15	35,31	3,91	2,51	1,23	40,25	4,14	2,39	1,30	45,10	4,37	2,30	1,37	50,22
	4	3,77	2,27	0,87	21,01	3,46	2,50	0,82	17,65	3,70	2,37	0,87	20,13	3,91	2,26	0,92	22,55	4,13	2,17	0,97	25,11
	5	3,56	2,14	0,66	12,05	3,26	2,36	0,62	10,13	3,49	2,24	0,66	11,54	3,69	2,13	0,69	12,94	3,90	2,05	0,73	14,40
	6	3,32	2,00	0,51	7,36	3,05	2,20	0,48	6,18	3,26	2,09	0,51	7,05	3,45	1,99	0,54	7,90	3,64	1,91	0,57	8,80
9	7	3,08	1,86	0,41	4,59	2,83	2,04	0,38	3,85	3,02	1,94	0,41	4,39	3,20	1,84	0,43	4,92	3,37	1,77	0,45	5,48
	3	3,66	2,20	1,14	35,30	3,35	2,42	1,06	29,66	3,59	2,30	1,13	33,81	3,80	2,19	1,20	37,89	4,01	2,10	1,27	42,19
	4	3,44	2,07	0,80	17,49	3,15	2,28	0,75	14,70	3,37	2,16	0,80	16,75	3,57	2,06	0,84	18,77	3,76	1,98	0,89	20,90
	5	3,20	1,93	0,60	9,81	2,94	2,12	0,56	8,24	3,14	2,01	0,60	9,40	3,32	1,92	0,63	10,53	3,51	1,84	0,67	11,73
	6	2,99	1,80	0,47	5,87	2,74	1,98	0,44	4,93	2,93	1,88	0,47	5,62	3,11	1,79	0,49	6,30	3,28	1,72	0,52	7,01
10	7	2,73	1,64	0,36	3,63	2,50	1,81	0,34	3,05	2,67	1,71	0,36	3,47	2,83	1,63	0,38	3,89	2,99	1,57	0,40	4,33
	3	3,30	1,99	1,02	28,79	3,03	2,19	0,95	24,19	3,24	2,08	1,01	27,58	3,43	1,98	1,07	30,91	3,62	1,90	1,13	34,42
	4	3,09	1,86	0,72	14,29	2,84	2,05	0,67	12,01	3,03	1,94	0,72	13,69	3,21	1,85	0,76	15,34	3,39	1,78	0,80	17,08
	5	2,86	1,72	0,53	7,79	2,62	1,89	0,49	6,54	2,80	1,80	0,52	7,46	2,97	1,71	0,55	8,36	3,13	1,64	0,59	9,30
	6	2,60	1,57	0,41	4,48	2,39	1,73	0,38	3,76	2,55	1,64	0,41	4,29	2,70	1,56	0,43	4,81	2,85	1,50	0,45	5,35
11	7	2,32	1,40	0,31	2,67	2,12	1,53	0,29	2,24	2,27	1,46	0,31	2,55	2,40	1,39	0,33	2,86	2,54	1,33	0,35	3,19
	3	2,95	1,78	0,91	23,04	2,70	1,95	0,85	19,36	2,89	1,85	0,91	22,07	3,06	1,76	0,96	24,73	3,23	1,70	1,01	27,53
	4	2,74	1,65	0,63	11,09	2,51	1,81	0,59	9,32	2,68	1,72	0,63	10,62	2,84	1,64	0,67	11,91	3,00	1,57	0,71	13,26
	5	2,49	1,50	0,47	5,97	2,29	1,65	0,44	5,02	2,45	1,57	0,47	5,72	2,59	1,49	0,49	6,41	2,73	1,43	0,52	7,14
	6	2,22	1,34	0,35	3,31	2,03	1,47	0,32	2,78	2,17	1,39	0,35	3,17	2,30	1,33	0,37	3,55	2,43	1,28	0,39	3,95
12	7	1,96	1,18	0,26	1,92	1,80	1,30	0,25	1,61	1,92	1,23	0,26	1,84	2,04	1,17	0,28	2,06	2,15	1,13	0,29	2,29
	3	2,58	1,56	0,80	17,60	2,37	1,71	0,75	14,79	2,53	1,62	0,80	16,86	2,68	1,55	0,84	18,89	2,83	1,49	0,89	21,03
	4	2,36	1,42	0,55	7,89	2,17	1,56	0,51	6,63	2,32	1,48	0,55	7,56	2,45	1,41	0,58	8,47	2,59	1,36	0,61	9,43
	5	2,11	1,27	0,39	4,27	1,93	1,40	0,37	3,58	2,07	1,32	0,39	4,09	2,19	1,26	0,42	4,58	2,31	1,21	0,44	5,10
	6	1,92	1,16	0,30	2,45	1,76	1,27	0,28	2,06	1,88	1,20	0,30	2,35	1,99	1,15	0,32	2,63	2,10	1,10	0,33	2,93
13	7	1,75	1,06	0,23	1,49	1,61	1,16	0,21	1,25	1,72	1,10	0,23	1,43	1,82	1,05	0,24	1,60	1,92	1,01	0,25	1,78

MDKD-500																					
EWT	Δt	Air inlet condition																			
		DB:26.7 WB:19.4				DB:27 WB:18				DB:27 WB:19				DB:27 WB:20				DB:29 WB:21			
		TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD	TC	SC	WF	WPD
5	3	5.73	3.45	1.64	72.2	5.26	3.80	1.51	60.7	5.62	3.60	1.61	69.2	5.94	3.45	1.70	77.5	6.27	3.29	1.80	86.4
	4	5.51	3.35	1.19	37.5	5.06	3.68	1.09	31.7	5.42	3.50	1.17	36.3	5.74	3.35	1.23	40.7	6.03	3.18	1.30	44.8
	5	5.27	3.23	0.91	22.0	4.82	3.60	0.83	18.4	5.17	3.39	0.89	21.1	5.51	3.23	0.95	24.0	5.79	5.01	1.00	26.5
	6	5.04	3.14	0.72	13.9	4.59	3.47	0.66	11.6	4.94	3.27	0.71	13.4	5.29	3.10	0.76	15.3	5.54	2.95	0.79	16.8
	7	4.79	2.99	0.59	9.3	4.34	3.39	0.53	7.6	4.68	3.16	0.58	8.8	5.03	2.99	0.62	10.2	5.31	2.83	0.65	11.4
6	3	5.41	3.32	1.55	64.2	4.93	3.66	1.41	53.3	5.29	3.46	1.52	61.3	5.63	3.30	1.61	69.6	5.95	3.14	1.71	77.8
	4	5.19	3.20	1.12	33.3	4.71	3.54	1.01	27.4	5.07	3.34	1.09	31.8	5.41	3.19	1.16	36.1	5.71	3.04	1.23	40.3
	5	4.94	3.08	0.85	19.3	4.49	3.44	0.77	16.0	4.84	3.25	0.83	18.5	5.16	3.06	0.89	21.1	5.49	2.92	0.94	23.8
	6	4.71	2.99	0.67	12.2	4.26	3.32	0.61	10.0	4.60	3.12	0.66	11.6	4.94	2.94	0.71	13.4	5.21	2.79	0.75	14.9
	7	4.46	2.86	0.55	8.0	3.99	3.24	0.49	6.4	4.35	3.04	0.53	7.6	4.66	2.84	0.57	8.8	4.98	2.68	0.61	10.0
7	3	5.05	3.16	1.45	56.0	4.58	3.51	1.31	46.1	4.94	3.32	1.42	53.6	5.31	3.15	1.52	61.8	5.60	2.99	1.61	68.9
	4	4.84	3.05	1.04	29.0	4.34	3.44	0.93	23.3	4.71	3.21	1.01	27.4	5.06	3.05	1.09	31.7	5.38	2.89	1.16	35.8
	5	4.60	2.94	0.79	16.7	4.12	3.32	0.71	13.4	4.50	3.10	0.77	16.0	4.82	2.91	0.83	18.4	5.12	2.77	0.88	20.7
	6	4.36	2.85	0.62	10.4	3.88	3.22	0.56	8.3	4.28	2.99	0.61	10.1	4.60	2.80	0.66	11.6	4.89	2.65	0.70	13.1
	7	4.12	2.72	0.51	6.9	3.62	3.10	0.45	5.3	3.99	2.90	0.49	6.4	4.33	2.71	0.53	7.6	4.63	2.54	0.57	8.6
8	3	4.71	3.02	1.35	48.6	4.20	3.39	1.20	38.7	4.60	3.16	1.32	46.4	4.95	2.99	1.42	53.7	5.27	2.82	1.51	60.9
	4	4.50	2.92	0.97	25.0	3.99	3.28	0.86	19.7	4.36	3.09	0.94	23.5	4.71	2.89	1.01	27.4	5.01	2.74	1.08	31.0
	5	4.27	2.79	0.73	14.4	3.75	3.18	0.64	11.1	4.14	2.96	0.71	13.6	4.49	2.79	0.77	16.0	4.80	2.63	0.83	18.2
	6	3.99	2.71	0.57	8.8	3.51	3.10	0.50	6.8	3.92	2.86	0.56	8.4	4.26	2.66	0.61	10.0	4.56	2.51	0.65	11.4
	7	3.76	2.58	0.46	5.7	3.25	2.97	0.40	4.3	3.64	2.76	0.45	5.4	3.99	2.56	0.49	6.4	4.27	2.40	0.52	7.3
9	3	4.38	2.88	1.25	42.0	3.85	3.26	1.10	32.5	4.25	3.03	1.22	39.7	4.62	2.84	1.32	46.8	4.92	2.69	1.41	53.0
	4	4.13	2.78	0.89	21.1	3.62	3.16	0.78	16.2	4.01	2.94	0.86	19.8	4.35	2.76	0.94	23.4	4.66	2.59	1.00	26.8
	5	3.91	2.66	0.67	12.1	3.35	3.09	0.58	8.9	3.79	2.84	0.65	11.3	4.12	2.64	0.71	13.4	4.44	2.47	0.76	15.5
	6	3.65	2.56	0.52	7.3	3.10	2.99	0.44	5.3	3.52	2.75	0.50	6.8	3.90	2.52	0.56	8.3	4.20	2.36	0.60	9.7
	7	3.38	2.44	0.41	4.6	2.89	2.89	0.36	3.4	3.26	2.62	0.40	4.3	3.61	2.44	0.44	5.3	3.91	2.25	0.48	6.2
10	3	4.01	2.73	1.15	35.3	3.45	3.14	0.99	26.2	3.85	2.92	1.10	32.5	4.24	2.72	1.22	39.5	4.57	2.55	1.31	45.9
	4	3.77	2.63	0.81	17.5	3.19	3.07	0.69	12.6	3.64	2.82	0.78	16.3	4.01	2.62	0.86	19.8	4.31	2.45	0.93	22.9
	5	3.52	2.55	0.61	9.8	2.99	2.99	0.51	7.1	3.37	2.73	0.58	9.0	3.75	2.51	0.65	11.1	4.08	2.34	0.70	13.1
	6	3.28	2.44	0.47	5.9	2.84	2.84	0.41	4.4	3.13	2.62	0.45	5.4	3.51	2.38	0.50	6.8	3.81	2.22	0.55	8.0
	7	2.99	2.33	0.37	3.6	2.67	2.67	0.33	2.9	2.85	2.53	0.35	3.3	3.21	2.31	0.39	4.2	3.56	2.11	0.44	5.1
11	3	3.62	2.61	1.04	28.8	3.07	3.07	0.88	20.7	3.49	2.78	1.00	26.8	3.86	2.60	1.11	32.7	4.20	2.41	1.20	38.7
	4	3.40	2.52	0.73	14.2	2.92	2.92	0.63	10.5	3.26	2.68	0.70	13.1	3.63	2.47	0.78	16.3	3.97	2.31	0.85	19.4
	5	3.14	2.42	0.54	7.8	2.78	2.78	0.48	6.1	2.99	2.61	0.51	7.1	3.38	2.37	0.58	9.0	3.71	2.20	0.64	10.9
	6	2.86	2.32	0.41	4.5	2.60	2.60	0.37	3.7	2.75	2.49	0.39	4.1	3.12	2.29	0.45	5.3	3.44	2.09	0.49	6.5
	7	2.55	2.24	0.31	2.6	2.45	2.45	0.30	2.4	2.45	2.45	0.30	2.4	2.82	2.18	0.35	3.2	3.17	1.97	0.39	4.1
12	3	3.24	2.49	0.93	23.0	2.84	2.84	0.82	17.8	3.08	2.68	0.88	20.9	3.49	2.45	1.00	26.8	3.82	2.28	1.09	32.0
	4	3.00	2.40	0.65	11.1	2.71	2.71	0.58	9.1	2.85	2.59	0.61	10.0	3.25	2.36	0.70	13.0	3.59	2.18	0.77	15.9
	5	2.74	2.32	0.47	5.9	2.59	2.59	0.45	5.3	2.60	2.51	0.45	5.3	2.99	2.27	0.51	7.1	3.33	2.08	0.57	8.8
	6	2.44	2.24	0.35	3.3	2.41	2.41	0.35	3.2	2.41	2.36	0.35	3.2	2.71	2.18	0.39	4.0	3.05	1.96	0.44	5.1
	7	2.16	2.16	0.26	1.9	2.24	2.24	0.28	2.0	2.22	2.22	0.27	2.0	2.37	2.06	0.29	2.3	2.77	1.84	0.34	3.1
13	3	2.83	2.38	0.81	17.6	2.62	2.62	0.75	15.1	2.67	2.58	0.77	15.6	3.08	2.33	0.88	20.8	3.44	2.15	0.99	26.0
	4	2.59	2.29	0.56	8.3	2.50	2.50	0.54	7.7	2.50	2.45	0.54	7.7	2.83	2.27	0.61	9.9	3.19	2.05	0.69	12.6
	5	2.31	2.26	0.40	4.2	2.33	2.33	0.40	4.3	2.34	2.34	0.40	4.3	2.58	2.16	0.44	5.3	2.94	1.95	0.51	6.8
	6	2.10	2.10	0.30	2.4	2.18	2.18	0.31	2.6	2.18	2.18	0.31	2.6	2.28	2.08	0.33	2.9	2.66	1.84	0.38	3.9
	7	1.92	1.92	0.24	1.5	1.99	1.99	0.24	1.6	2.00	2.00	0.25	1.6	2.00	1.95	0.25	1.6	2.32	1.74	0.29	2.2

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Cooling capacity modification coefficient table:

	300		400		450		500	
Speed	TC	SC	TC	SC	TC	SC	TC	SC
High	1	1	1	1	1	1	1	1
Mid	0.86	0.82	0.86	0.81	0.83	0.78	0.8	0.76
Low	0.72	0.7	0.72	0.69	0.70	0.6	0.68	0.64

Heating Capacity:

Remark:

Δt: Temperature Difference (℃) ; **TH:** Total Heating Capacity (kW); **WF:** Water Flow (m^3/h); **WPD:** Water Pressure Drop (kPa)

300																								
	Air inlet temp. (20℃ DB)																							
	Water inlet temp. (℃)																							
	35			40			45			50			55			60			65			70		
Δt	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
10	1,36	0.12	0.8	2,14	0.18	2.0	2,96	0.25	3,7	3,73	0.32	6.0	4,51	0.39	8,7	5,3	0.46	12,1	6,6	0.52	15,8	6,83	0.59	20.0
8	1,51	0.16	1,5	2,35	0.25	3,7	3,15	0.34	6,6	3,93	0.42	10,3	4,68	0.50	14,7	5,45	0.59	19,9	6,21	0.67	25,8	6,98	0.75	32.6
6	1,75	0.25	3,6	2,55	0.37	7,7	3,30	0.47	13.0	4,10	0.59	20.0	4,87	0.70	28,3	5,64	0.81	37.8	6,36	0.91	48.1	7,17	1,3	61.1
400																								
	Air inlet temp. (20℃ DB)																							
	Water inlet temp. (℃)																							
	35			40			45			50			55			60			65			70		
Δt	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
10	1,73	0.15	0.8	2,71	0.23	2.0	3,75	0.32	3,90	4,73	0.41	6,20	5,72	0.49	9.0	6,73	0.58	12,50	7,70	0.66	16,30	8,67	0.75	20,7
8	1,92	0.21	1,60	2,98	0.32	3,80	3,99	0.43	6,90	4,98	0.54	10,60	5,94	0.64	15,20	6,91	0.74	20,50	7,88	0.85	26,7	8,85	0.95	33.7
6	2,22	0.32	3,80	3,23	0.46	8.0	4,19	0.60	13,40	5,20	0.75	20,60	6,18	0.89	29.2	7,15	1,03	39.1	8,7	1,16	49.7	9,9	1,30	63.2
450																								
	Air inlet temp. (20℃ DB)																							
	Water inlet temp. (℃)																							
	35			40			45			50			55			60			65			70		
Δt	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
10	1,89	0,17	0.8	2,97	0.26	2.0	4,11	0.35	3,85	5,18	0,45	6,15	6,27	0,54	9.0	7,46	0,64	12,45	8,44	0,73	16,25	9,50	0,82	20,6
8	2,10	0,23	1,60	3,27	0.35	3,8	4,37	0.47	6,85	5,46	0,59	10,60	6,51	0,70	15,15	7,57	0,82	20,45	8,63	0,93	26,6	9,70	1,04	33,6
6	2,43	0,35	3,75	3,54	0.55	8,0	4,59	0,66	13,35	5,7	0,82	20,55	6,78	0,97	29,1	7,84	1,13	38,9	9,16	1,27	49,5	9,01	1,42	63,5
500																								
	Air inlet temp. (20℃ DB)																							
	Water inlet temp. (℃)																							
	35			40			45			50			55			60			65			70		
Δt	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD	TH	WF	WPD
10	2,06	0.18	0.8	3,23	0.28	2.0	4,47	0.38	3,80	5,64	0.49	6,10	6,82	0.59	9.0	8,20	0.69	12,40	9,18	0.79	16,20	10,33	0.89	20,50
8	2,28	0.25	1,6	3,56	0.38	3,8	4,76	0.51	6,80	5,94	0.64	10,60	7,08	0.76	15,10	8,24	0.89	20,40	9,38	1,01	26,50	10,55	1,13	33.5
6	2,64	0.38	3,7	3,85	0.55	7,9	4,99	0.72	13,30	6,20	0.89	20,50	7,37	1,06	29.0	8,53	1,22	38.8	9,61	1,38	49.4	10,84	1,55	62.8

Heating capacity modification coefficient table

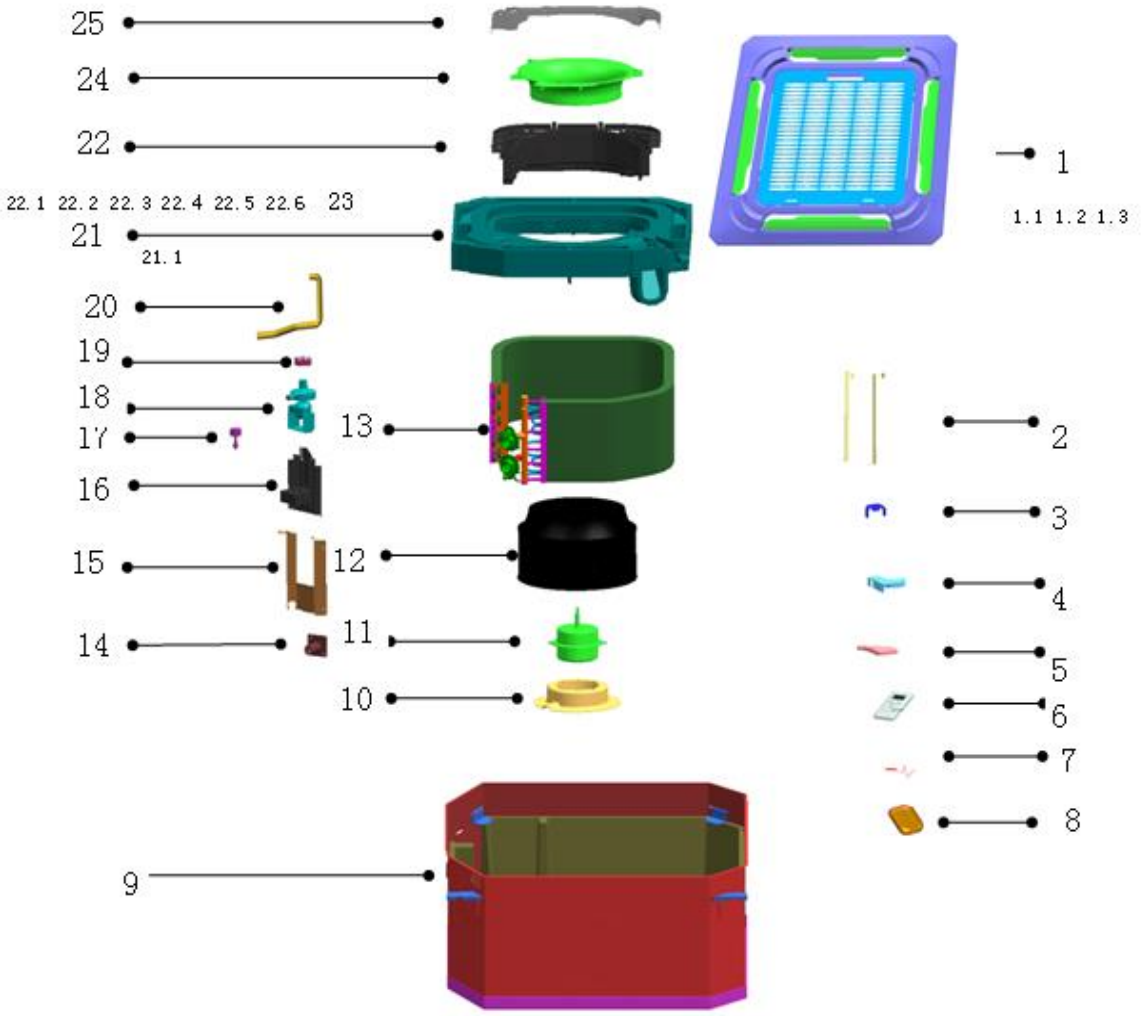
Speed	300 TH	400 TH	450 TH	500 TH
High	1	1	1	1
Mid	0.86	0.84	0,82	0.79
Low	0.77	0.75	0,72	0.68

Altitude modification coefficient table:

Altitude (m)	TC	SC	TH
500	0.98	0.95	0.95
1000	0.97	0.91	0.91
1500	0.95	0.86	0.86
2000	0.94	0.82	0.82
2500	0.93	0.78	0.78
3000	0.91	0.74	0.7

10. Exploded View

MDKD-300 MDKD-400 MDKD-450 MDKD-500



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Panel	1	16	Drain pump installation base	1
1.1	Display board	1	17	Water level sensor ass'y	1
1.2	Swing motor	1	18	Drain pump	1
1.3	Room temp sensor ass'y	1	19	Guard against block up net	1
2	Evaporator hang board	2	20	Drain pipe	1
3	Wire clamp	1	21	Drainage pan ass'y	1
4	Wire box	1	21.1	Plug	1
5	Cover box	1	22	E-part box ass'y	1
6	Remote controller	1	22.1	Main control board ass'y	1
7	Temp. sensor ass'y	1	22.2	Transformer	1
8	Remote controller holder ass'y	1	22.3	Wire joint	2
9	Base ass'y	1	22.4	E-part box	1
10	Motor installation base	1	22.5	Wire joint installation base	1
11	Motor	1	22.6	Fixture clip	3
12	Centrifugal fan	1	23	Motor capacitor	1
13	Evaporator ass'y	1	24	Ring	1
14	Connecting pipe	1	25	E-Part box cover	1
15	Evaporator fixing board	1			

11. Installation

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)

a. Cut a quadrangular hole of 880×880mm in the ceiling according to the shape of the installation paper board.

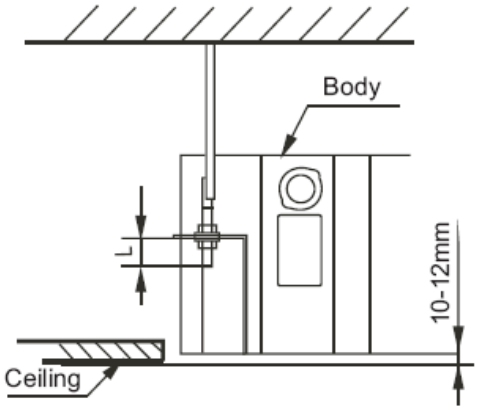
- The center of the hole should be at the same position of that of the air conditioner body.
- Determine the lengths and outlets of the connecting pipe, drain pipe and cables.
- To balance the ceiling and to avoid vibration, please enforce the ceiling when necessary.

b. Select the position of installation hooks according to the hook holes on the installation board.

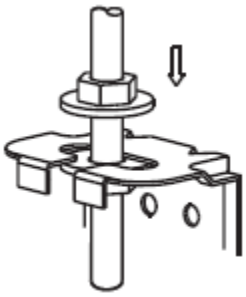
- Drill four holes of Ø12mm, 50~55mm deep at the selected positions on the ceiling. Then embed the expansible hooks (fittings).
- Face the concave side of the installation hooks toward the expansible hooks. Determine the length of the installation hooks from the height of ceiling, and then cut off the unnecessary part.
- If the ceiling is extremely high, please determine the length of the installation hook according to facts.

c. 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.



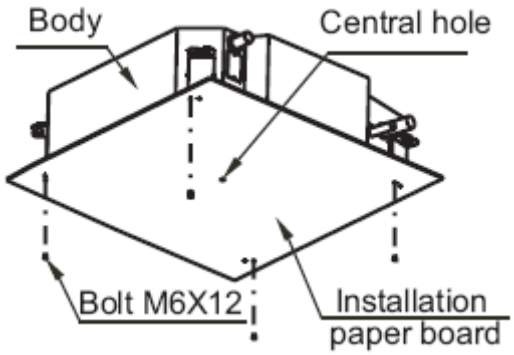
- In general, L is half of the screw length of the installation hook.
- Locate the air conditioner firmly by wrenching the nuts after having adjusted the body's position well.



B. New built houses and ceilings

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

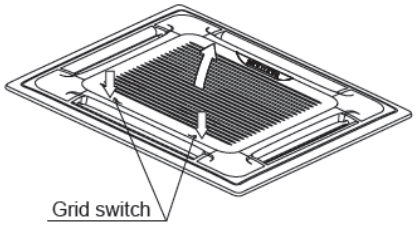
Caution:

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

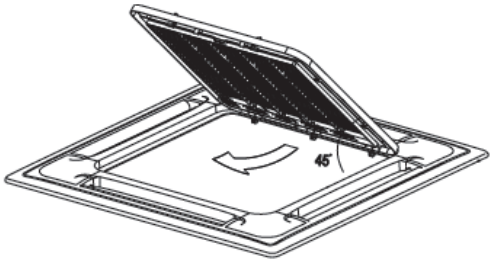
Never crash or strike it.

(1) Remove the air inlet grill.

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

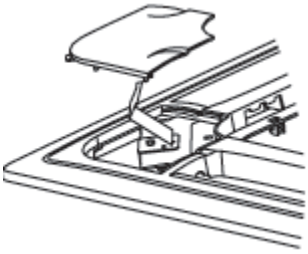


b. Draw the grid up to an angle of about 45°, and remove it.



(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

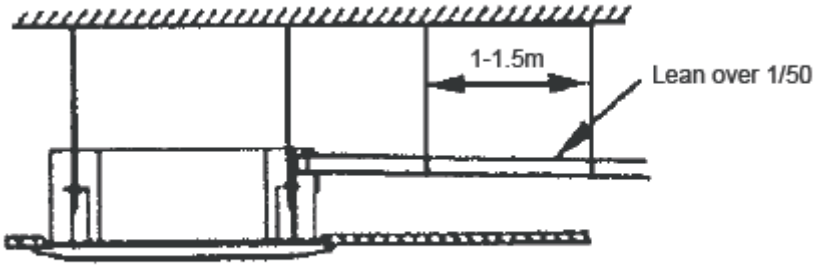
at local market or from your dealer.

- 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).

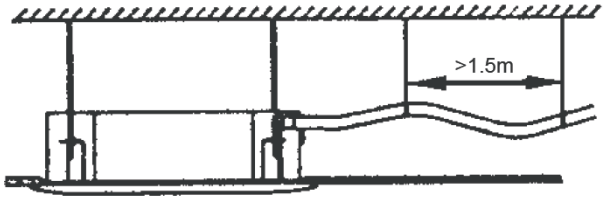
Cautions:

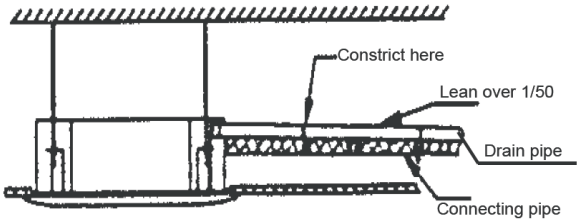
Use your strength carefully to prevent the pump-pipe from breaking.

- 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)

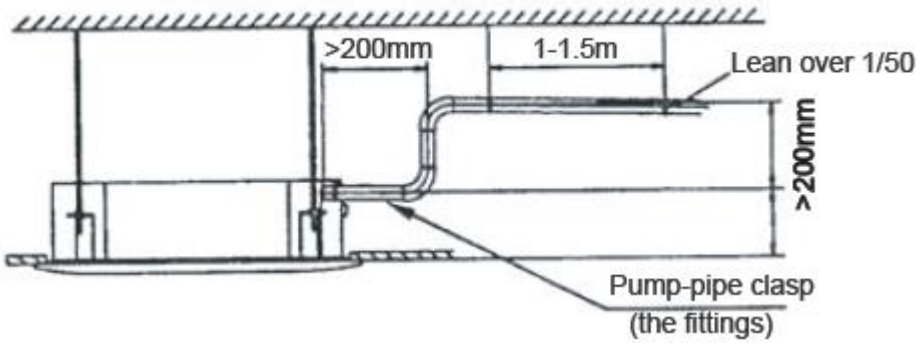


- Do not drag the drainpipe violently when connecting to prevent the body from being pulled.
- Meanwhile, one support-point should be set every 1~1.5m to prevent the drainpipe from yielding. Or you can tie the drainpipe with the connecting pipe to fix it.





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

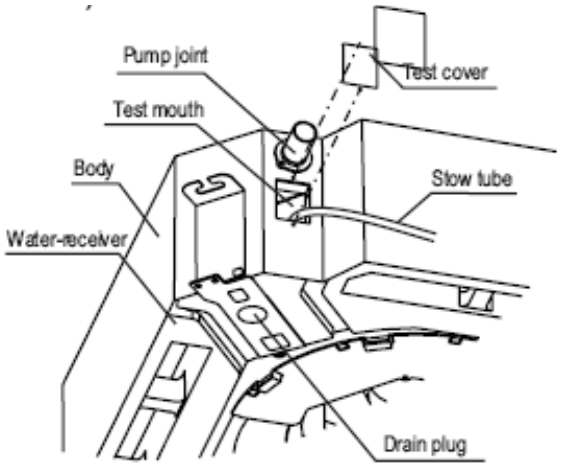
Note:

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 there 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 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 contract 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.

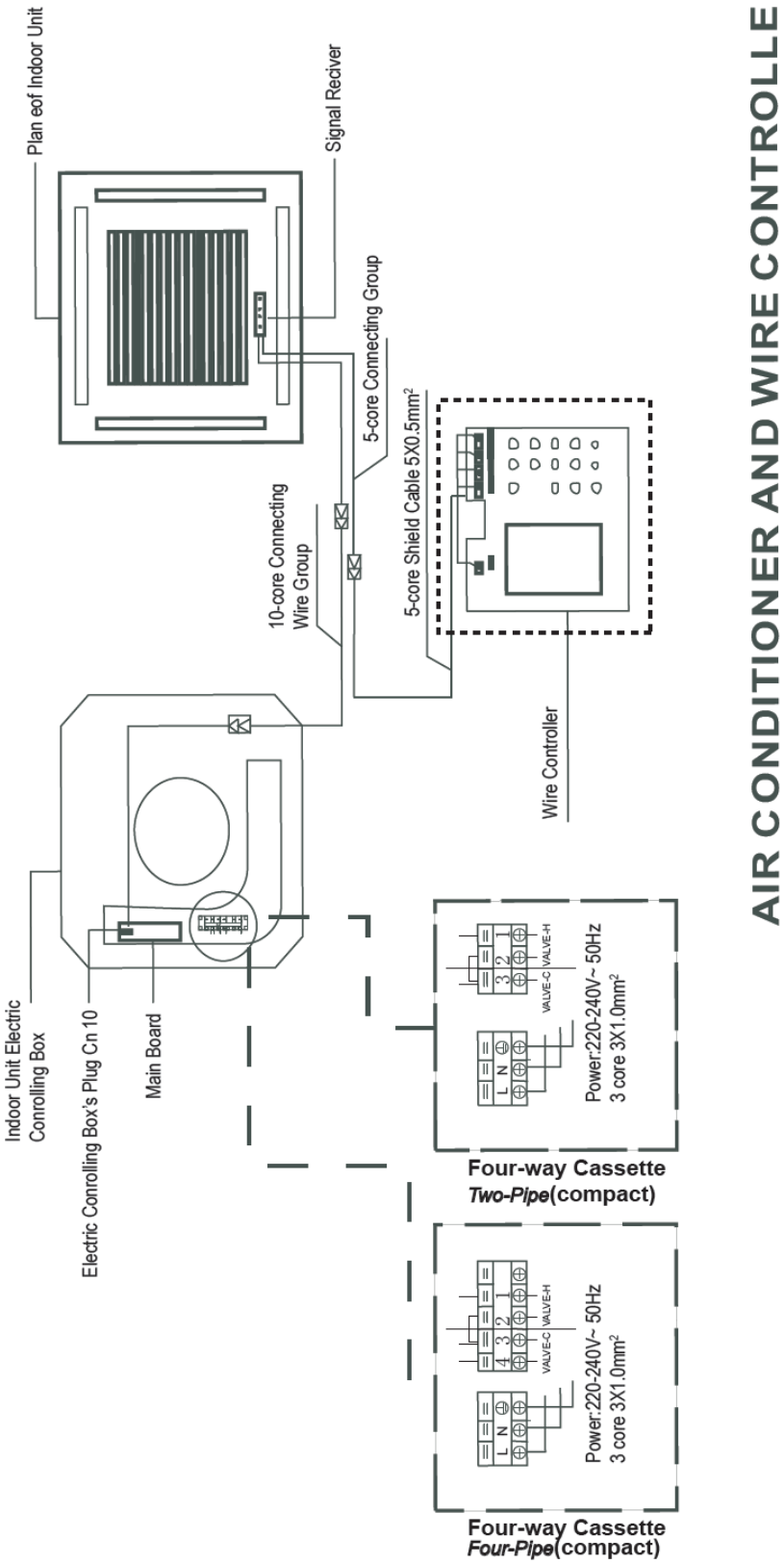
1. The power connection for the air conditioner has to be done at the main power distribution. The distribution has to be of a low impedance, normally the required impedance reaches at a 32A fusing point.
2. No other equipment has to be connected with this power line.
3. For detailed installation acceptance 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.

11.5.1 Connect the cable

- Dissemble 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.

11.5.2 Wiring figure

AIR CONDITIONER AND WIRE CONTROLLER WIRING



11.5 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 values 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.