



FOUNDATION
Air Conditioning and Ventilation

Installation and Operation Manual

Hydronic Ceiling Cassette Fan Coil Units

2-pipe system

FP-KM-VS



CONTENT

	PAGE
A. MODEL ASSIGNMENTS.....	1
B. SPECIFICATIONS.....	2-17
....	
a) COOLING CAPACITY TABLES.....	4-10
b) HEATING CAPACITY TABLES.....	11-17
C. INSTALLATION MANUAL.....	18-33
a) SAFETY CONSIDERATIONS.....	18
b) OPERATING LIMITS.....	18
c) BEFORE INSTALLATION.....	18
d) SELECT LOCATION.....	19
e) INSTALLATION LOCATION.....	20
f) INSTALLATION METHOD.....	21
g) DRAIN PIPEWORK.....	25
h) WATER CONNECTIONS.....	25
i) ELECTRICAL WIRING.....	26
j) INTERCONNECTING WIRING.....	26
k) MOUNTING FRONT PANEL AND FILTER REMOVAL.....	27
l) PRELIMINARY CHECKS BEFORE START-UP.....	28
m) MAINTENANCE.....	28
n) FRESH AIR RENEWAL AND BRANCH DUCTING.....	31
o) BRANCH DUCT AND FRESH AIR DUCT INSTALLATION AND POSITIONS.....	33
D. DIMENSIONAL DRAWINGS.....	34-42
E. REMOTE CONTROLLER.....	43
F. WIRED WALL PAD CONTROL.....	44
G. CONTROLS SPECIFICATION.....	45-51
WITH MASTER-SLAVE CONTROL & COMPUTER MANAGEMENT CONTROL	
H. WIRING DIAGRAM.....	52-60
I. SOLENOID VALVE (OPTIONAL)	61-62
J. TROUBLESHOOTING	63

CASSETTE FAN COIL UNITS MODEL ASSIGNMENTS

FP-KM4----34 ----- P-----S

FAN COIL UNIT

KM4	4-WAY CASSETTE
KM6	6-WAY CASSETTE

FP-KM4-34-51-68-80	PANEL SIZE: 650×650
FP-KM4-85-102-136	PANEL SIZE: 850×850
FP-KM4-170-204-238	PANEL SIZE: 1050×1050
FP-KM6-102-136-160	PANEL SIZE: 690×1220

P-4 PIPES WATER CASSETTE
V-2 PIPES WATER CASSETTE

A-220-240V/1PH/50HZ
S-230/1PH/50HZ
W-230/1PH/50HZ NO ELECTRONIC CONTROLS

2-pipe FP-KM Series Fan Coil Unit

WATER CASSETE UNITS - FP-KM4 SERIES SPECIFICATIONS:									
Model			FP-34KM4	FP-51KM4	FP-68KM4	FP-80KM4	FP-85KM4	FP-102KM4	FP-136KM4
Number Of Fan Blowers			Single	Single	Single	Single	Single	Single	Single
Nominal Airflow	H	m ³ /h	450	510	624	768	852	1020	1360.2
	M		396	420	564	624	648	780	1050
	L		336	348	468	516	498	600	799.8
Nominal Cooling Capacity*	H	kW	2.52	3.11	4.05	4.98	5.42	6.32	8.17
	M		2.25	2.6	3.4	4.2	4.21	5	6.5
	L		2.1	2.21	2.9	3.52	3.29	3.9	5.02
Nominal Sensible Cooling Capacity	H	kW	2.03	2.17	2.84	3.17	3.74	4.21	4.99
	M		1.79	1.92	2.51	2.84	3.12	3.51	4.25
	L		1.67	1.67	2.19	2.47	2.44	2.91	3.54
Nominal Heating Capacity**	H	kW	5.76	6.18	8.21	9.66	10.6	12.05	14.7
	M		5.15	5.45	7.13	8.15	8.55	9.93	12.25
	L		4.8	4.7	6.2	7.01	7.13	8.18	10.1
Nominal Heating Capacity***	H	kW	3.03	3.29	4.29	5.02	5.54	6.31	7.71
	M		2.71	2.84	3.73	4.25	4.55	5.2	6.45
	L		2.52	2.5	3.24	3.69	3.75	4.3	5.3
Noise Level at 1 m (L/M/H)		dB(A)	34/36/38	35/37/39	39/41/43	42/44/46	37/39/42	39/42/45	44/47/50
Power Supply			230V/1PHASE/50HZ						
Fan Motor Power		Watt	26	31.7	58	61.1	70.2	80.5	100
Fan Motor Running Current		Amp.	0.113	0.146	0.253	0.264	0.305	0.367	0.435
Fan Motor Starting Current		Amp.	0.34	0.438	0.759	0.792	0.915	1.1	1.31
Electrical heater power (optional)		kw	1	1	2	2	3	3	3
Operation Control & Thermostat			Remote Controller and Wired Wall Mounted Controller						
Water Flow Rate		l/h	480	587	765	940	1023	1193	1543
Water Pressure Drop		KPa	7	10.2	9.6	13.9	12.1	15.6	24.8
Water Content		l	1.3	1.3	1.79	1.79	2.531	2.531	2.531
Cond. Drain Connection pipe I.D.		mm(inch)	19.05(3/4")						
Product Dimensions	L	mm	570	570	570	570	730	730	730
	W	mm	570	570	570	570	730	730	730
	D	mm	250	250	290	290	290	290	290
Panel Dimensions		mm	650x650x28				850x850x28		
Net Weight		kgs	26	26	29	29	40	40	40
Gross Weight		kgs	28	28	31	31	42	42	42
Connection Method			Socket (Threaded Female)						
Water Connection pipe	Inlet	mm(inch)	19.05(3/4")						
	Outlet	mm(inch)	19.05(3/4")						
Packing box size(mm)			750x750x395				910x910x395		

Cooling *:27°C db/19.5°C wb entering air temperature,7°C entering water and 12°C leaving water temperature.
 Heating **:20°C db entering air temperature ,70°C entering water with water flow rate the same as for the cooling test (Under Eurovent testing requirement).

2-pipe FP-KM Series Fan Coil Unit

Heating***:20°C db entering air temperature, 50°C entering water with water flow rate the same as for the cooling test (Under Eurovent testing requirement).

WATER CASSETE UNITS - FP-KM4 SERIES SPECIFICATIONS:

Model			FP-170KM4	FP-204KM4	FP-238KM4	FP-102KM6	FP-136KM6	FP-160KM6	
Number Of Fan Blowers			Single	Single	Single	Twin	Twin	Twin	
Nominal Airflow	H	m ³ /h	1699.8	2040	2380.2	1020	1284	1500	
	M		1309.8	1570.2	1830	840	1110	1260	
	L		1009.8	1210.2	1410	690	930	1050	
Nominal Cooling Capacity*	H	kW	10.05	11.68	13.4	6.7	8	9.04	
	M		7.88	9.28	10.65	5.67	6.78	7.71	
	L		6.27	7.29	8.47	4.8	5.77	6.52	
Nominal Sensible Cooling Capacity	H	kW	6.52	7.26	7.97	4.7	5.38	6.3	
	M		5.49	6.19	6.77	4.04	4.73	5.6	
	L		4.63	5.21	5.76	3.48	4.2	4.92	
Nominal Heating Capacity**	H	kW	19.1	21.68	24.08	13.2	15.9	17.1	
	M		15.86	18.04	20.05	11.48	13.65	15.04	
	L		13.15	15	16.7	9.85	12.1	13.2	
Nominal Heating Capacity***	H	kW	9.97	11.29	12.48	7.05	8.32	8.9	
	M		8.3	9.4	10.49	6.1	7.21	7.9	
	L		6.85	7.84	8.72	5.25	6.37	6.95	
Noise Level at 1 m (L/M/H)		dB(A)	47/49/51	48/50/52	47/49/55	36/38/40	44/46/49	46/49/52	
Power Supply			230V/1PHASE/50HZ						
Fan Motor Power		Watt	150	192	241	63.4	116	124	
Fan Motor Running Current		Amp.	0.652	0.844	1.079	0.292	0.528	0.584	
Fan Motor Starting Current		Amp.	1.956	2.532	3.237	0.876	1.59	1.752	
Electrical heater power (optional)		kw	3	4	4	3	3	3	
Operation Control & Thermostat			Remote Controller and Wired Wall Mounted Controller						
Water Flow Rate		l/h	1898	2205	2530	1265	1510	1707	
Water Pressure Drop		KPa	14.23	18.65	23.9	22.5	12.4	15.4	
Water Content		l	3.625	3.625	3.625	1.47	2.84	2.84	
Cond. Drain Connection pipe I.D.		mm(inch)	19.05(3/4 ")						
Product Dimensions	L	mm	930	930	930	1100	1100	1100	
	W	mm	930	930	930	570	570	570	
	D	mm	290	290	290	290	290	290	
Panel Dimensions		mm	1050x1050x28			690x1220x28			
Net Weight		kgs	58	58	58	55	57	57	
Gross Weight		kgs	60	60	60	57	59	59	
Connection Method			Socket(Threaded Female)						
Water Connection pipe	Inlet	mm(inch)	19.05(3/4 ")						
	Outlet	mm(inch)	19.05(3/4 ")						
Packing box size(mm)			1110x1110x395			1280x750x395			

Cooling *:27°C db/19.5°C wb entering air temperature,7°C entering water and 12°C leaving water temperature.

Heating**:20°C db entering air temperature ,70°C entering water with water flow rate the same as for the cooling test (Under Eurovent testing requirement).

Heating***:20°C db entering air temperature, 50°C entering water with water flow rate the same as for the cooling test (Under Eurovent testing requirement).

COOLING CAPACITY TABLE

FP-KM4-34				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	dpw [kPa]	Qa [m³/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	502	7.69	323	2.33	1.7	9.9	9.9	2.53	1.82	10.7	10.7	2.66	1.8	10.9	10.9	3.05	1.95	11.6	11.6
	593	10.4	391	2.75	2.0	10.3	10.1	3.01	2.16	11.1	10.9	3.14	2.09	11.5	11.1	3.61	2.3	12	11.8
	670	12.9	452	3.1	2.21	10.9	10.3	3.41	2.38	11.7	11	3.55	2.3	12.2	11.3	4.11	2.51	12.8	11.9
7.0	387	4.81	340	1.63	1.43	12.7	12.7	1.82	1.53	13.2	13.2	2.05	1.58	13.4	13.4	2.43	1.74	14.1	14.1
	425	5.7	398	1.88	1.67	12.8	12.8	2.12	1.82	13.5	13.5	2.25	1.79	13.8	13.8	2.74	1.98	14.3	14.3
	476	6.97	453	2.12	1.9	12.9	12.9	2.39	2.07	13.6	13.6	2.52	2.03	13.9	13.9	3.06	2.16	15	14.5
9.0	306	3.15	336	1.31	1.28	13.8	13.7	1.53	1.45	14.4	14.4	1.62	1.41	14.7	14.7	2.04	1.54	15.5	15.2
	353	4.08	396	1.51	1.47	14.1	13.8	1.76	1.68	14.5	14.5	1.87	1.64	14.8	14.8	2.32	1.75	15.9	15.4
	400	5.11	458	1.71	1.67	14.3	13.9	1.99	1.9	14.8	14.6	2.12	1.79	15.5	14.9	2.61	1.93	16.6	15.6
11.0	240	2.03	338	1.0	0.98	16.4	14.7	1.2	1.18	16.6	15.4	1.27	1.24	16.2	15.8	1.6	1.33	17.2	16.5
	264	2.42	393	1.11	1.09	16.4	14.9	1.34	1.31	17.2	15.6	1.4	1.34	16.9	16.0	1.81	1.40	17.8	16.7
	302	3.08	462	1.19	1.17	17.4	15.1	1.47	1.44	17.7	15.8	1.6	1.53	17.2	16.1	2.01	1.68	18.1	16.9
13.0	189	1.32	337	0.75	0.74	18.5	15.5	0.92	0.9	19.1	16.3	1.0	0.97	18.4	16.6	1.26	1.22	18.2	17.5
	208	1.57	397	0.81	0.79	19.1	15.7	1.0	0.97	19.7	16.5	1.1	1.07	19	16.8	1.4	1.35	18.8	17.7
	236	1.97	469	0.86	0.84	19.6	15.9	1.11	1.09	19.9	16.6	1.25	1.23	19.2	16.9	1.56	1.52	19.3	17.9

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: inflow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4 -51				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	dpw [kPa]	Qa [m³/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	540	8.76	352	2.48	1.82	10.1	10.1	2.75	1.98	10.7	10.7	2.86	1.94	11	11	3.26	2.09	11.7	11.7
	644	12.0	425	2.94	2.11	10.6	10.2	3.29	2.31	11.3	10.8	3.41	2.19	12	11.1	3.91	2.41	12.5	11.8
	755	16.0	510	3.48	2.35	11.6	10.3	3.89	2.6	12.2	10.9	4.0	2.50	12.7	11.3	4.59	2.71	13.5	12.0
7.0	417	5.51	351	1.95	1.6	11.9	11.9	2.17	1.74	12.6	12.6	2.21	1.67	13.1	13.1	2.62	1.84	13.8	13.8
	491	7.38	420	2.29	1.83	12.4	12	2.56	2.0	13.1	12.7	2.6	1.92	13.6	13.2	3.1	2.1	14.5	13.9
	587	10.2	510	2.71	2.09	13	12.1	3.06	2.29	13.9	12.8	3.11	2.17	14.5	13.3	3.68	2.38	15.3	14.0
9.0	323	3.47	354	1.45	1.4	13.5	13.5	1.67	1.54	14.2	14.2	1.71	1.48	14.7	14.7	2.0	1.6	15.6	15.6
	378	4.6	423	1.7	1.61	13.9	13.6	1.96	1.79	14.6	14.3	2.0	1.73	15	14.8	2.37	1.87	16	15.7
	446	6.2	510	2.0	1.83	14.5	13.7	2.32	2.05	15.2	14.4	2.36	1.96	15.7	14.9	2.8	2.11	16.8	15.8
11.0	253	2.24	356	1.05	1.03	16.4	14.7	1.27	1.24	16.6	15.4	1.34	1.3	16.2	15.8	1.59	1.45	16.9	16.8
	287	2.81	427	1.19	1.17	16.9	14.9	1.45	1.41	17.2	15.6	1.52	1.48	16.7	16	1.82	1.63	17.6	17
	327	3.54	514	1.38	1.34	17.2	15	1.69	1.64	17.5	15.7	1.73	1.68	17.3	16.2	2.08	1.86	18.2	17.2
13.0	208	1.57	358	0.87	0.85	18	15.3	1.07	1.04	18.3	16	1.1	1.07	18.1	16.5	1.3	1.24	18.6	17.6
	232	1.92	429	0.95	0.93	18.5	15.5	1.2	1.17	18.8	16.2	1.23	1.19	18.7	16.7	1.47	1.4	19.2	17.8
	259	2.33	514	1.05	1.02	19.1	15.7	1.34	1.31	19.4	16.4	1.37	1.34	19.2	16.9	1.65	1.57	19.8	18

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: in flow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

2-pipe FP-KM Series Fan Coil Unit

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4 -68				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	690	7.96	463	3.49	2.49	9.4	9.4	3.5	2.56	11	11	3.65	2.48	11.5	11.3	4.22	2.67	12.2	12
	823	10.96	561	4.22	2.85	10.4	9.5	4.25	2.91	12	11	4.36	2.81	12.4	11.4	5.02	3.02	13.3	12.2
	970	14.6	682	5.04	3.22	11.3	9.6	5.05	3.29	13	11.2	5.12	3.2	13.3	11.7	6.0	3.42	14.4	12.4
7.0	550	5.26	460	2.5	2.06	12.1	12	2.82	2.27	12.7	12.7	2.9	2.19	13.1	13.1	3.4	2.37	14	14
	642	7.0	565	2.94	2.33	12.9	12.2	3.35	2.58	13.7	12.9	3.4	2.51	14	13.4	4.05	2.69	15.1	14.2
	765	9.6	684	3.5	2.65	13.6	12.3	3.9	2.93	14.4	13.1	4.05	2.84	14.8	13.5	4.8	3.04	15.9	14.3
9.0	405	3.04	462	1.81	1.79	13.7	13.7	2.06	1.97	14.5	14.5	2.14	1.9	14.9	14.9	2.54	2.05	15.9	15.9
	472	4.03	563	2.1	2.04	14.4	13.9	2.4	2.28	15.1	14.7	2.5	2.18	15.6	15.1	3.04	2.36	16.6	16
	560	5.46	683	2.49	2.33	15	14	2.85	2.6	15.8	14.8	2.96	2.47	16.3	15.2	3.56	2.68	17.4	16.2
11.0	311	1.91	460	1.42	1.39	16.1	14.6	1.48	1.45	17.7	15.8	1.65	1.61	16.7	16	1.88	1.81	17.3	17.3
	348	2.32	563	1.67	1.63	16.4	14.7	1.81	1.77	17.7	15.8	1.84	1.80	17.5	16.3	2.12	2.06	18.1	17.6
	421	3.3	686	1.91	1.85	17	14.9	2.19	2.15	17.7	15.8	2.23	2.11	17.8	16.3	2.58	2.39	18.6	17.6
13.0	245.4	1.24	469	1.16	1.12	17.8	15.2	1.26	1.23	19.1	16.3	1.3	1.28	18.9	16.8	1.57	1.51	19.4	18
	283.2	1.6	562.3	1.31	1.29	18.2	15.4	1.48	1.46	19.3	16.4	1.5	1.47	19.2	16.9	1.77	1.73	19.8	18.2
	332	2.1	685.6	1.52	1.49	18.5	15.5	1.72	1.7	19.6	16.5	1.76	1.72	19.5	17	2.01	1.99	20.3	18.4

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4 -80				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	816	10.79	516	3.8	2.62	10.4	9.7	4.2	2.85	11	10.3	4.32	2.78	11.4	10.7	5.0	3.02	12	11.2
	974	14.83	624	4.51	2.97	11.2	9.8	5.02	3.25	11.9	10.4	5.16	3.15	12.3	10.8	5.93	3.42	13	11.4
	1146	19.88	750	5.3	3.36	12	10	5.96	3.66	12.8	10.5	6.07	3.58	13.1	11	7.05	3.82	14.1	11.5
7.0	665	7.46	516	3.01	2.3	12	11.5	3.41	2.55	12.6	12.1	3.52	2.47	13	12.5	4.1	2.68	13.8	13.2
	793	10.25	624	3.59	2.64	12.7	11.6	4.06	2.9	13.4	12.2	4.2	2.84	13.7	12.6	4.88	3.06	14.6	13.3
	940	13.92	750	4.25	2.98	13.4	11.7	4.83	3.26	14.3	12.3	4.98	3.17	14.6	12.7	5.8	3.42	15.6	13.4
9.0	506	4.56	516	2.2	2.03	13.5	13.3	2.59	2.24	14.3	13.9	2.68	2.16	14.7	14.3	3.18	2.35	15.6	15.1
	591	6.04	626	2.61	2.3	14.2	13.4	3.06	2.55	15	14	3.13	2.46	15.4	14.5	3.72	2.68	16.3	15.3
	695	8.08	751	3.07	2.61	14.8	13.5	3.55	2.88	15.7	14.2	3.68	2.77	16.1	14.6	4.4	3.02	17.1	15.4
11.0	329	2.1	517	1.44	1.41	16.9	14.9	1.7	1.68	17.4	15.7	1.74	1.69	17.3	16.2	2.15	2.03	17.3	17.1
	385	2.79	625	1.69	1.65	17.2	15	2	1.96	17.7	15.8	2.04	2.0	17.5	16.3	2.54	2.33	17.9	17.2
	449	3.68	752	1.96	1.9	17.5	15.1	2.33	2.3	17.9	15.9	2.38	2.33	17.8	16.4	2.98	2.62	18.6	17.3
13.0	251	1.29	518	1.1	1.07	18.8	15.6	1.25	1.23	19.9	16.6	1.33	1.3	19.5	17	1.73	1.68	19.3	17.9
	291	1.69	624	1.27	1.23	19.1	15.7	1.45	1.42	20.2	16.7	1.54	1.5	19.8	17.1	2.02	1.9	19.9	18
	336	2.18	752	1.46	1.43	19.3	15.8	1.67	1.63	20.5	16.8	1.78	1.73	20.1	17.2	2.35	2.13	20.5	18.1

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4-85				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	793	7.66	501	3.63	2.64	9.8	9.8	4.04	2.88	10.4	10.4	4.2	2.82	10.7	10.7	4.77	3.03	11.4	11.4
	1006	11.8	650	4.61	3.33	10.2	10	5.14	3.62	10.9	10.6	5.33	3.54	11.2	10.9	6.08	3.82	11.9	11.6
	1288	18.3	851	5.88	3.99	11.4	10.2	6.56	4.39	12.0	10.8	6.82	4.24	12.5	11.1	7.8	4.58	13.3	11.8
7.0	621	4.93	501	2.89	2.31	11.6	11.6	3.23	2.53	12.3	12.3	3.29	2.44	12.8	12.8	3.9	2.68	13.4	13.4
	795	7.7	650	3.64	2.94	11.9	11.8	4.08	3.22	12.6	12.5	4.21	3.12	13	12.9	4.93	3.4	13.7	13.6
	1023	12.1	851	4.6	3.53	12.9	12	5.25	3.87	13.7	12.6	5.42	3.74	14.1	13	6.35	4.08	14.9	13.7
9.0	476	3.1	503	2.14	2.01	13.3	13.3	2.47	2.23	14	14	2.52	2.14	14.5	14.5	2.94	2.31	15.4	15.4
	604	4.7	651	2.66	2.56	13.5	13.5	3.08	2.84	14.2	14.2	3.2	2.73	14.7	14.6	3.76	2.98	15.5	15.5
	759	7.08	852	3.32	3.07	14.4	13.7	3.87	3.42	15.2	14.4	4.02	3.29	15.6	14.8	4.74	3.57	16.6	15.7
11.0	347	1.73	503	1.5	1.46	16.4	14.7	1.8	1.76	16.6	15.4	1.84	1.80	16.4	15.9	2.2	2.05	16.9	16.9
	438	2.63	651	1.88	1.83	16.7	14.8	2.27	2.22	16.9	15.5	2.32	2.27	16.7	16	2.72	2.62	17.1	17.1
	542	3.9	853	2.3	2.24	17.2	15	2.81	2.76	17.4	15.7	2.87	2.82	17.2	16.2	3.38	3.15	18	17.3
13.0	244	0.91	502	1.07	1.04	18.8	15.6	1.26	1.24	19.6	16.5	1.29	1.26	19.5	17	1.63	1.57	19.7	18
	304	1.36	653	1.33	1.29	19.1	15.7	1.58	1.55	19.6	16.6	1.61	1.57	19.8	17.1	2.04	1.96	20	18.1
	381	2.05	854	1.576	1.54	19.6	15.9	1.98	1.94	20.2	16.7	2.02	1.97	20.1	17.2	2.58	2.53	20.1	18.2

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4-102				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	921	9.81	600	4.21	3.08	10.1	10.1	4.7	3.39	10.7	10.7	4.88	3.29	11	11	5.57	3.55	11.8	11.7
	1171	15.1	781	5.4	3.72	11.2	10.2	6.02	4.08	11.8	10.8	6.2	3.94	12.3	11.2	7.09	4.28	13	11.9
	1494	23.4	1020	6.88	4.46	12.3	10.4	7.68	4.83	13.2	11	7.91	4.72	13.5	11.4	9.06	5.08	14.4	12.1
7.0	736	6.55	602	3.31	2.71	11.9	11.9	3.78	3	12.5	12.5	3.9	2.91	12.9	12.9	4.56	3.17	13.6	13.6
	944	10.2	784	4.23	3.3	12.7	12	4.82	3.61	13.5	12.6	5.0	3.51	13.9	13	5.78	3.81	14.7	13.8
	1193	15.6	1022	5.43	3.95	13.7	12.1	6.11	4.32	14.6	12.8	6.32	4.21	14.9	13.2	7.34	4.51	16	14
9.0	550	3.87	604	2.41	2.35	13.6	13.6	2.8	2.61	14.3	14.3	2.91	2.53	14.7	14.7	3.42	2.74	15.6	15.6
	699	5.96	784	3.06	2.89	14.2	13.7	3.55	3.19	15	14.4	3.7	3.06	15.5	14.8	4.36	3.36	16.3	15.7
	874	8.92	1023	3.89	3.44	15.1	13.8	4.44	3.81	16	14.6	4.63	3.67	16.4	15	5.5	4.0	17.4	15.9
11.0	395	2.131	603	1.68	1.64	16.9	14.9	2.05	2.0	17.2	15.6	2.09	2.04	17	16.1	2.51	2.41	17.1	17.1
	498	3.25	785	2.12	2.07	17.2	15	2.59	2.54	17.4	15.7	2.64	2.6	17.2	16.2	3.2	2.91	18	17.2
	614	4.72	1026	2.57	2.52	17.7	15.2	3.17	3.1	18	15.9	3.25	3.18	17.8	16.4	3.95	3.46	18.9	17.4
13.0	317	1.44	607	1.29	1.26	18.8	15.6	1.65	1.61	19.1	16.3	1.68	1.65	18.9	16.8	1.95	1.89	19.6	18
	396	2.15	787	1.6	1.55	19.1	15.7	2.06	2.0	19.4	16.4	2.1	2.06	19.2	16.9	2.45	2.38	19.9	18.1
	478	3.01	1026	1.89	1.85	19.6	15.9	2.48	2.43	19.9	16.6	2.53	2.47	19.8	17.1	2.99	2.9	20.5	18.3

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4-136				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1195	15.66	797.5	5.53	3.78	11.3	10.2	6.15	4.12	12	10.8	6.33	4.0	12.4	11.2	7.24	4.32	13.2	11.9
	1537	24.63	1051	7.08	4.51	12.5	10.4	7.9	4.89	13.4	11	8.14	4.78	13.7	11.4	9.32	5.16	14.6	12.1
	1964	38.29	1361	9.04	5.32	13.6	10.5	9.98	5.8	14.5	11.2	10.4	5.66	14.8	11.5	11.81	6.05	15.9	12.3
7.0	948	10.3	799	4.33	3.35	12.8	12	4.86	3.66	13.6	12.7	5.02	3.54	14	13.1	5.89	3.83	14.9	13.8
	1227	16.43	1051	5.5	3.99	13.9	12.2	6.28	4.4	14.7	12.8	6.5	4.25	15.1	13.2	7.55	4.6	16.1	14
	1543	24.8	1363	7.0	4.69	14.9	12.3	7.89	5.18	15.8	13	8.17	4.99	16.2	13.4	9.5	5.38	17.3	14.2
9.0	699	5.96	800	3.13	2.92	14.3	13.7	3.56	3.24	15.1	14.5	3.7	3.12	15.5	14.9	4.45	3.38	16.5	15.7
	899	9.38	1052	4.01	3.5	15.2	13.8	4.58	3.89	16.1	14.6	4.76	3.74	16.5	15	5.65	4.08	17.5	15.9
	1140	14.4	1365	4.96	4.17	16	14	5.8	4.61	17	14.7	6.04	4.42	17.4	15.1	7.17	4.76	18.6	16
11.0	510	3.38	802	2.09	2.03	17.5	15.1	2.64	2.59	17.4	15.7	2.7	2.62	17.3	16.2	3.25	2.95	18	17.2
	650	5.23	1054	2.65	2.56	17.8	15.2	3.27	3.23	17.9	15.9	3.44	3.19	18	16.3	4.17	3.49	19.1	17.3
	789	7.42	1363	3.3	3.21	18	15.3	3.97	3.9	18.5	16.1	4.18	3.79	18.7	16.5	5.12	4.14	19.9	17.5
13.0	404	2.22	802	1.71	1.67	18.8	15.6	2.09	2.03	19.4	16.4	2.14	2.1	19.2	16.9	2.6	2.44	19.9	18
	512	3.4	1056	2.15	2.09	19.1	15.7	2.65	2.57	19.7	16.5	2.71	2.65	19.5	17	3.3	2.95	20.6	18.1
	610	4.67	1365	2.52	2.46	19.6	15.9	3.16	3.09	20.2	16.7	3.23	3.14	20.1	17.2	3.98	3.44	21.4	18.3

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4-170				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1480	9.1	1008	6.83	4.92	10.9	10.4	7.63	5.36	11.6	11	7.84	5.2	12	11.4	9.01	5.65	12.7	12.1
	1877	13.95	1310	8.72	5.86	12	10.5	9.65	6.38	12.8	11.2	9.94	6.19	13.2	11.6	11.42	6.71	14	12.3
	2377	21.4	1701	11.03	6.88	13.2	10.7	12.21	7.55	14	11.4	12.59	7.31	14.4	11.8	14.48	7.86	15.4	12.5
7.0	1184	6.09	1011	5.38	4.33	12.5	12.1	6.06	4.77	13.2	12.8	6.27	4.63	13.6	13.2	7.28	5.03	14.4	14
	1488	9.19	1311	6.74	5.15	13.5	12.3	7.61	5.72	14.2	13	7.88	5.49	14.7	13.4	9.17	5.96	15.6	14.2
	1898	14.23	1701	8.59	6.15	14.4	12.4	9.72	6.71	15.4	13.1	10.05	6.52	15.7	13.5	11.57	7.08	16.7	14.4
9.0	865	3.46	1011	3.86	3.76	14.1	13.8	4.4	4.19	14.8	14.6	4.58	4.05	15.2	15	5.54	4.38	16.2	15.8
	1097	5.31	1311	4.88	4.55	14.8	13.9	5.58	5.03	15.7	14.7	5.81	4.84	16.1	15.1	6.91	5.26	17.1	16
	1361	7.83	1701	6.02	5.37	15.7	14.1	6.91	5.98	16.6	14.9	7.21	5.74	17	15.3	8.62	6.17	18.2	16.2
11.0	604	1.81	1011	2.73	2.66	17.2	15	3.14	3.06	18	15.9	3.2	3.13	17.8	16.4	3.9	3.8	17.8	17.4
	759	2.74	1311	3.3	3.23	17.7	15.2	3.94	3.83	18.3	16	4.02	3.92	18.1	16.5	4.79	4.57	18.6	17.6
	923	3.89	1705	4.12	4.01	18	15.3	4.78	4.68	18.8	16.2	4.89	4.75	18.7	16.7	5.86	5.46	19.4	17.8
13.0	510	1.34	1012	2.26	2.21	18.5	15.5	2.65	2.58	19.4	16.4	2.7	2.64	19.2	16.9	3.27	3.18	19.6	18
	636	1.99	1313	2.68	2.6	19.1	15.7	3.3	3.2	19.7	16.5	3.37	3.29	19.5	17	3.97	3.85	20.2	18.2
	761	2.75	1703	3.31	3.25	19.3	15.8	3.95	3.87	20.2	16.7	4.03	3.92	20.1	17.2	4.79	4.59	20.9	18.4

Pf: total cooling capacity Tal: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

2-pipe FP-KM Series Fan Coil Unit

COOLING CAPACITY TABLE

FP-KM4-204				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1756	12.4	1211	8.08	5.55	11.7	10.5	9.04	6.08	12.4	11.1	9.3	5.9	12.8	11.5	10.68	6.34	13.7	12.2
	2220	18.9	1570	10.2	6.58	12.8	10.7	11.43	7.21	13.6	11.3	11.76	6.97	14	11.7	13.52	7.48	15	12.4
	2813	28.9	2040	13.04	7.74	13.9	10.8	14.45	8.41	14.9	11.5	14.9	8.19	15.2	11.9	17.16	8.78	16.3	12.6
7.0	1376	7.99	1212	6.24	4.9	13.2	12.3	7.15	5.38	14	12.9	7.29	5.21	14.4	13.4	8.49	5.68	15.2	14.2
	1752	12.33	1570	7.94	5.85	14.1	12.4	8.97	6.41	15	13.1	9.28	6.19	15.4	13.5	10.84	6.65	16.5	14.3
	2205	18.65	2042	9.95	6.88	15.1	12.6	11.27	7.54	16.1	13.3	11.68	7.26	16.5	13.7	13.67	7.85	17.6	14.5
9.0	1018	4.64	1215	4.52	4.3	14.6	13.9	5.16	4.77	15.4	14.7	5.39	4.57	15.9	15.1	6.4	5.0	16.8	16
	1257	6.79	1571	5.7	5.07	15.5	14	6.39	5.69	16.3	14.9	6.66	5.41	16.8	15.3	7.97	5.87	17.9	16.2
	1595	10.42	2041	7.04	6.02	16.3	14.2	8.1	6.68	17.3	15	8.45	6.39	17.7	15.4	9.95	7.0	18.8	16.4
11.0	793	2.96	1213	3.5	3.4	16.7	14.8	4.12	4.01	17.2	15.6	4.2	3.88	17.5	16.1	5.06	4.28	18.5	17.1
	999	4.48	1573	4.4	4.25	17	14.9	5.03	4.92	17.7	15.8	5.29	4.6	18.3	16.2	6.22	5.1	19.3	17.3
	1222	6.44	2044	5.33	5.1	17.6	15.1	6.14	5.97	18.3	16	6.47	5.41	19.1	16.4	7.66	6.06	20.1	17.5
13.0	589	1.73	1215	2.36	2.32	19.3	15.8	3.06	2.97	19.7	16.5	3.12	3.05	19.5	17	3.8	3.56	20.2	18.1
	733	2.57	1573	2.91	2.85	19.6	15.9	3.8	3.73	19.9	16.6	3.88	3.78	19.8	17.1	4.59	4.34	20.7	18.3
	874	3.53	2044	3.58	3.48	19.9	16	4.53	4.42	20.5	16.8	4.63	4.5	20.4	17.3	5.53	5.09	21.5	18.5

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: in flow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM4-238				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	2020	15.9	1411	9.28	6.16	12.3	10.6	10.39	6.72	13.1	11.2	10.7	6.52	13.5	11.6	12.28	6.97	14.5	12.3
	2556	24.3	1831	11.71	7.27	13.4	10.8	13.12	7.86	14.4	11.4	13.54	7.68	14.7	11.8	15.57	8.2	15.8	12.5
	3200	36.5	2380	14.81	8.45	14.6	11	16.63	9.22	15.6	11.6	16.95	8.97	15.9	12.1	19.58	9.58	17.1	12.8
7.0	1599	10.5	1410	7.25	5.45	13.7	12.3	8.2	5.97	14.6	13	8.47	5.76	15	13.4	9.87	6.27	15.9	14.2
	2011	15.8	1832	9.1	6.44	14.7	12.5	10.29	7.03	15.7	13.2	10.65	6.77	16.1	13.6	12.44	7.36	17.1	14.4
	2530	23.9	2382	11.38	7.6	15.6	12.7	12.93	8.3	16.7	13.4	13.4	7.97	17.1	13.8	15.5	8.74	18.1	14.7
9.0	1156	5.83	1411	5.12	4.75	15.1	14	5.87	5.31	15.9	14.8	6.12	5.06	16.4	15.2	7.3	5.52	17.4	16.1
	1465	8.94	1832	6.48	5.65	15.9	14.1	7.44	6.25	16.9	14.9	7.76	5.99	17.3	15.3	9.1	6.52	18.4	16.3
	1818	13.2	2382	7.98	6.68	16.7	14.3	9.22	7.38	17.8	15.1	9.63	7.05	18.2	15.5	11.36	7.66	19.4	16.5
11.0	791	2.95	1412	3.68	3.62	17.4	15.1	3.97	3.88	18.8	16.2	4.19	4.08	18.4	16.6	5.01	4.82	18.8	17.7
	991	4.42	1831	4.26	4.13	18.3	15.4	4.97	4.85	19.1	16.3	5.25	5.1	18.7	16.7	6.12	5.76	19.6	17.9
	1199	6.23	2380	5.08	4.95	18.8	15.6	5.99	5.81	19.7	16.5	6.35	6.14	19.3	16.9	7.46	6.83	20.4	18.1
13.0	631	1.96	1412	3.01	2.94	18.8	15.6	3.27	3.2	20.2	16.7	3.34	3.25	20.1	17.2	3.97	3.85	20.8	18.4
	784	2.9	1832	3.56	3.5	19.3	15.8	4.07	3.97	20.5	16.8	4.15	4.03	20.4	17.3	4.96	4.75	21.2	18.5
	929	3.93	2385	4.17	4.06	19.9	16	4.82	4.68	21.1	17	4.92	4.76	21	17.5	5.94	5.6	21.9	18.7

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: in flow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

2-pipe FP-KM Series Fan Coil Unit

COOLING CAPACITY TABLE

FP-KM6 -102				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1100	17.3	691	5.13	3.69	9.6	9.6	5.71	4.03	10.2	10.2	5.8	3.9	10.7	10.7	6.85	4.31	11	11
	1300	23.7	840	6.16	4.37	10	9.7	6.85	4.77	10.6	10.3	6.9	4.58	11.2	10.9	8.16	5.01	11.7	11.2
	1550	32.3	1022	7.41	4.95	11	9.8	8.15	5.47	11.5	10.5	8.2	5.27	12	11.1	9.71	5.68	12.8	11.4
7.0	906	12.3	694	4.12	3.26	11.4	11.4	4.65	3.58	12	12	4.8	3.48	12.4	12.4	5.63	3.8	13	13
	1070	16.6	841	4.92	3.83	11.8	11.5	5.56	4.15	12.6	12.1	5.67	4.04	13	12.6	6.7	4.47	13.5	13.2
	1265	22.5	1022	5.8	4.39	12.5	11.7	6.6	4.81	13.3	12.3	6.7	4.7	13.6	12.8	8	5.05	14.5	13.3
9.0	695	7.64	695	3.02	2.8	13.2	13.2	3.53	3.12	13.8	13.8	3.68	3.04	14.2	14.2	4.4	3.32	14.9	14.9
	827	10.5	843	3.68	3.32	13.5	13.2	4.21	3.73	14	13.9	4.38	3.59	14.5	14.3	5.28	3.96	15.2	15
	972	14	1029	4.37	3.85	14	13.3	5.03	4.26	14.8	14	5.15	4.1	15.3	14.5	6.3	4.51	16	15.1
11.0	493	4.1	694	2.07	2.02	16.4	14.7	2.56	2.52	16.3	15.3	2.61	2.54	16.2	15.8	3.1	2.85	16.8	16.8
	585	5.6	846	2.45	2.38	16.7	14.8	3.04	2.98	16.6	15.4	3.1	3.03	16.4	15.9	3.78	3.45	16.9	16.8
	672	7.2	1028	2.86	2.76	17	14.9	3.56	3.48	16.9	15.5	3.56	3.57	16.7	16.1	4.37	3.89	17.7	17
13.0	429	3.2	695	1.75	1.71	17.7	15.2	2.16	2.11	18	15.9	2.27	2.22	17.5	16.3	2.47	2.38	18.8	17.7
	506	4.3	846	2.05	2.0	18	15.3	2.55	2.54	18.1	16	2.68	2.53	18.1	16.4	2.9	2.82	19	17.8
	576	5.45	1027	2.38	2.31	18.3	15.4	2.98	2.92	18.5	16.1	3.05	2.97	18.4	16.6	3.42	3.3	19.4	17.9

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: in flow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

COOLING CAPACITY TABLE

FP-KM6 -136				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1365	10.3	930	6.29	4.47	11.1	10.4	7.03	4.84	11.9	11	7.23	4.7	12.3	11.4	8.3	5.04	13.2	12.1
	1610	13.9	1111	7.41	5.05	11.8	10.5	8.3	5.51	12.6	11.1	8.53	5.33	13	11.5	9.78	5.77	13.8	12.2
	1912	18.9	1352	8.9	5.72	12.7	10.6	9.95	6.25	13.5	11.2	10.13	6.05	13.9	11.7	11.65	6.54	14.8	12.4
7.0	1089	6.9	931	4.96	3.93	12.7	12.1	5.6	4.31	13.5	12.8	5.77	4.2	13.8	13.2	6.7	4.53	14.7	14
	1280	9.2	1111	5.82	4.42	13.4	12.2	6.55	4.93	14	12.9	6.78	4.73	14.5	13.3	7.9	5.14	15.4	14.1
	1510	12.4	1353	6.84	5.04	14.1	12.4	7.73	5.52	15	13.1	8.0	5.38	15.3	13.5	9.45	5.86	16.2	14.2
9.0	814	4.1	932	3.56	3.47	14.1	13.8	4.15	3.87	14.8	14.5	4.31	3.7	15.3	14.9	5.11	4.01	16.3	15.8
	952	5.4	1112	4.15	3.91	14.7	13.9	4.83	4.33	15.5	14.6	5.04	4.19	15.9	15.0	5.98	4.51	17	15.9
	1108	7.1	1354	4.91	4.41	15.4	14	5.62	4.9	16.3	14.8	5.87	4.76	16.6	15.2	7.0	5.15	17.7	16.1
11.0	593	2.3	933	2.52	2.46	17.2	15	3.08	3.02	17.4	15.7	3.14	3.05	17.3	16.2	3.7	3.51	17.8	17.3
	685	2.99	1112	2.9	2.81	17.5	15.1	3.56	3.48	17.7	15.8	3.63	3.56	17.5	16.3	4.3	3.96	18.4	17.4
	784	3.8	1354	3.27	3.19	18	15.3	4.08	3.92	18.4	16	4.15	4.05	18.1	16.5	4.95	4.54	19	17.6
13.0	487	1.6	932	1.9	1.84	19.1	15.7	2.53	2.47	19.1	16.3	2.58	2.5	19	16.8	3.12	2.9	19.7	17.9
	561	2.1	1113	2.16	2.16	19.3	15.8	2.91	2.83	19.4	16.4	2.97	2.91	19.2	16.9	3.6	3.23	20.3	18
	631	2.6	1354	2.38	2.32	19.9	16	3.27	3.21	19.9	16.6	3.34	3.26	19.8	17.1	4.1	3.7	20.8	18.2

Pf: total cooling capacity **Tal:** in flow air temperature **dpw:** pressure drop standard coil
Twi: in flow fluid temperature **Qw:** fluid flow rate in heat exchanger **Qa:** air flow
Pfs: sensible cooling capacity **Tad:** discharge air dry temperature **Taw:** discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

2-pipe FP-KM Series Fan Coil Unit

COOLING CAPACITY TABLE

FP-KM6 -160				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]	Pf [kW]	Pfs [kW]	Tad [°C]	Taw [°C]
5.0	1544	12.9	1050	7.1	5.19	10.7	10.4	7.94	5.72	11.2	11	8.18	5.57	11.6	11.4	9.35	5.61	13.4	12.1
	1831	17.5	1262	8.4	5.9	11.4	10.5	9.41	6.46	12.1	11.1	9.7	6.28	12.5	11.5	11.09	6.32	14.3	12.2
	2128	23	1502	9.76	6.67	12.1	10.7	10.93	7.21	13	11.3	11.27	7.05	13.3	11.7	12.93	7	15.3	12.4
7.0	1231	8.6	1051	5.61	4.63	12.2	12.1	6.31	5.04	13	12.8	6.52	4.92	13.3	13.2	7.55	4.93	15.2	14
	1456	11.6	1262	6.61	5.24	12.9	12.2	7.4	5.78	13.5	12.9	7.71	5.6	14	13.3	8.94	5.6	15.9	14.1
	1707	15.4	1504	7.73	5.91	13.5	12.3	8.75	6.47	14.4	13	9.04	6.3	14.7	13.4	10.5	6.31	16.6	14.2
9.0	900	4.9	1052	4.02	3.92	14.1	13.8	4.58	4.44	14.6	14.6	4.77	4.29	15	15	5.65	4.37	16.7	15.9
	1057	6.5	1262	4.7	4.6	14.3	13.9	5.38	5.07	15.2	14.7	5.6	4.93	15.5	15.1	6.65	4.89	17.5	16
	1231	8.6	1503	5.46	5.17	14.9	14	6.25	5.7	15.8	14.8	6.52	5.5	16.2	15.2	7.78	5.57	18	16.1
11.0	633	2.6	1058	2.45	2.37	18.3	15.4	3.17	3.08	18.3	16	3.35	3.27	17.8	16.4	3.86	3.83	18.2	17.6
	733	3.37	1265	2.82	2.76	18.5	15.5	3.68	3.61	18.5	16.1	3.88	3.78	18.1	16.5	4.5	4.4	18.7	17.7
	818	4.1	1510	3.22	3.14	18.8	15.6	4.23	4.14	18.8	16.2	4.33	4.2	18.7	16.7	5.2	4.9	19.3	17.8
13.0	553	2.03	1059	2.05	2.01	19.3	15.8	2.76	2.69	19.4	16.4	2.93	2.84	19	16.8	3.3	3.2	19.9	18.1
	638	2.63	1267	2.34	2.29	19.6	15.9	3.19	3.09	19.7	16.5	3.38	3.31	19.2	16.9	3.82	3.71	20.2	18.2
	702	3.1	1508	2.64	2.57	19.9	16	3.65	3.58	19.9	16.6	3.72	3.63	19.8	17.1	4.23	4.1	20.8	18.4

Pf: total cooling capacity Tai: in flow air temperature dpw: pressure drop standard coil
 Twi: in flow fluid temperature Qw: fluid flow rate in heat exchanger Qa: air flow
 Pfs: sensible cooling capacity Tad: discharge air dry temperature Taw: discharge air wet temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4 -34				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	105	0.41	323	1.46	32	1.35	32.9	1.2	33.5	1.06	34.2
	122	0.53	395	1.72	31.4	1.56	32.2	1.4	33	1.24	33.7
	133	0.627	459	1.87	30.6	1.71	31.5	1.53	32.3	1.37	33.2
50	183	1.11	323	2.51	42	2.35	42.5	2.23	43.3	2.07	43.8
	211	1.44	395	2.96	41	2.71	41.2	2.58	42.2	2.4	42.7
	236	1.76	459	3.26	40	3.03	40.4	2.85	41.2	2.67	42
60	267	2.18	324	3.58	52.1	3.42	52.6	3.28	53.4	3.11	53.9
	314	2.93	395	4.24	51	4.03	51.5	3.81	51.7	3.64	52.3
	346	3.5	458	4.66	49.5	4.44	50	4.26	50.8	4.05	51.3
70	351	3.58	326	4.65	62.3	4.5	62.7	4.31	63.4	4.15	63.9
	413	4.8	394	5.51	61	5.31	61.6	5.1	61.5	4.88	62
	449	5.58	458	6.0	58.5	5.76	58.8	5.59	59.7	5.35	60.2

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4 -51				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	109	0.44	355	1.55	31.5	1.4	32.2	1.28	33.1	1.14	34
	128	0.58	425	1.78	30.9	1.64	31.9	1.46	32.6	1.31	33.5
	145	0.73	513	2.03	30.3	1.86	31.2	1.64	31.9	1.46	32.8
50	195	1.24	354	2.69	41.4	2.5	41.8	2.36	42.4	2.2	43.2
	221.3	1.56	424	3.07	40.3	2.84	40.7	2.68	41.5	2.52	42.3
	256.5	2.04	513.5	3.5	39.1	3.29	39.8	3.03	40.3	2.84	41.1
60	286	2.5	354	3.85	51.6	3.67	52	3.5	52.4	3.32	53.1
	328	3.16	425	4.41	50	4.2	50.5	3.98	50.9	3.8	51.6
	376	4.05	513.6	5.06	48.5	4.82	49	4.53	49.3	4.31	50.1
70	366	3.97	354	4.91	60.9	4.7	61	4.54	61.6	4.42	62.4
	425	5.05	424	5.71	59.5	5.45	59.7	5.29	60.3	5.11	61.1
	482	6.34	513.4	6.54	57.5	6.18	57.2	5.93	57.8	5.75	58.6

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4 -68				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	140	0.386	465	1.97	31.2	1.79	31.9	1.62	32.7	1.435	33.6
	161	0.497	563	2.27	30.5	2.06	31.3	1.855	32.2	1.65	33.1
	184	0.634	682	2.6	29.7	2.36	30.7	2.126	31.6	1.89	32.5
50	252	1.12	464	3.46	41	3.24	41.6	3.02	42.2	2.81	42.7
	291	1.45	562	3.98	39.9	3.73	40.5	3.49	41.1	3.23	41.8
	334	1.86	683	4.57	38.7	4.29	39.4	3.97	40.4	3.68	41.1
60	366	2.19	463	4.94	50.9	4.7	51.4	4.46	51.8	4.23	52.2
	425	2.86	568	5.71	49.2	5.45	49.6	5.155	50.3	4.89	50.8
	486	3.65	684	6.54	47.6	6.24	48.2	5.93	48.8	5.63	49.3
70	483	3.61	467	6.43	60.7	6.2	61	5.93	61.5	5.68	61.9
	556	4.6	565	7.4	58.6	7.13	59	6.84	59.6	6.57	59.9
	640	6.0	686	8.54	56.4	8.21	57	7.9	57.5	7.56	58.1

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4 -80				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	159	0.488	513	2.24	31.6	2.04	32.3	1.84	33.1	1.63	33.9
	183	0.63	621	2.58	30.9	2.35	31.7	2.11	32.5	1.88	33.4
	216	0.847	751	3.05	30.5	2.77	31.4	2.49	32.3	2.22	33.1
50	288	1.42	511	3.93	41.8	3.69	42.3	3.44	42.8	3.19	43.3
	331	1.83	622	4.54	40.5	4.25	41.1	3.97	41.8	3.69	42.3
	391	2.47	753	5.37	40.1	5.02	40.6	4.7	41.3	4.36	41.9
60	417	2.77	513	5.62	52	5.35	52.2	5.09	52.7	4.82	53.1
	481	3.59	622	6.49	50.3	6.18	50.7	5.88	51.2	5.57	51.7
	570	4.87	754	7.7	49.6	7.32	50	6.97	50.6	6.6	51.1
70	546	4.51	512	7.31	62.1	7.01	62.3	6.75	62.8	6.47	63.1
	635	5.91	625	8.45	60.1	8.15	60.3	7.81	60.9	7.48	61.3
	753	8.02	756	10.05	59.1	9.66	59.5	9.28	60.1	8.89	60.5

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-85				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	164	0.38	502	2.31	32.3	2.11	33	1.89	33.6	1.68	34.4
	199	0.53	651	2.8	31.3	2.55	32.1	2.3	32.9	2.04	33.7
	241	0.75	853	3.39	30.3	3.09	31.2	2.78	32.1	2.46	32.9
50	292	1.07	502	4.0	42.6	3.75	43.1	3.51	43.6	3.26	44.1
	354	1.51	651	4.85	41	4.55	41.6	4.26	42.2	3.96	42.8
	432	2.16	852	5.9	39.4	5.54	40.1	5.16	40.7	4.8	41.4
60	423	2.08	502	5.7	53.1	5.43	53.4	5.17	53.8	4.89	54.1
	517	2.99	653	6.95	50.9	6.64	51.4	6.3	51.8	5.96	52.3
	627	4.22	852	8.45	48.7	8.05	49.2	7.65	49.7	7.25	50.3
70	556	3.39	503	7.4	63.5	7.13	63.8	6.82	64	6.54	64.3
	666	4.71	652	8.95	60.4	8.55	60.5	8.29	61.3	7.98	61.7
	826	6.93	857.5	10.96	57.7	10.6	58.2	10.17	58.7	9.74	59.2

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-102				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	188	0.48	600	2.65	31.6	2.41	32.4	2.16	33.1	1.925	33.9
	226	0.67	780	3.19	30.6	2.9	31.5	2.61	32.3	2.323	33.2
	273	0.94	1020	3.85	29.6	3.5	30.6	3.14	31.5	2.81	32.5
50	335	1.37	601	4.6	41.6	4.3	42.1	4.02	42.7	3.73	43.2
	405	1.92	780	5.56	40	5.2	40.6	4.86	41.2	4.52	41.9
	492	2.72	1021	6.74	38.4	6.31	39.1	5.88	39.8	5.46	40.5
60	484	2.65	602	6.55	51.5	6.21	51.9	5.91	52.4	5.61	52.9
	590	3.78	782	7.93	49.4	7.57	49.9	7.19	50.4	6.81	51
	710	5.28	1020	9.61	47.1	9.11	47.6	8.7	48.3	8.25	48.9
70	635	4.32	601	8.5	61.6	8.18	62	7.85	62.3	7.52	62.7
	774	6.16	783	10.32	58.8	9.93	59.2	9.51	59.6	9.14	60.1
	940	8.73	1026	12.51	55.8	12.05	56.3	11.58	56.9	11.08	57.5

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-136				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m ³ /h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	230	0.69	800	3.24	30.5	2.95	31.4	2.64	32.2	2.36	33.1
	278	0.98	1051	3.91	29.5	3.57	30.5	3.2	31.4	2.86	32.4
	330	1.33	1361	4.67	28.6	4.23	29.6	3.79	30.6	3.39	31.7
50	413	1.99	799	5.65	39.8	5.3	40.5	4.95	41.1	4.6	41.8
	503	2.834	1050	6.88	38.2	6.45	39	6.02	39.7	5.58	40.4
	601	3.91	1361	8.23	36.7	7.71	37.5	7.18	38.3	6.69	39.2
60	600	3.89	798	8.05	49.1	7.69	49.8	7.31	50.3	6.92	50.7
	729	5.53	1051	9.82	46.9	9.35	47.5	8.88	48.1	8.41	48.7
	873	7.65	1363	11.76	44.7	11.2	45.4	10.65	46.2	10.08	46.9
70	787	6.35	800	10.5	58.5	10.1	59	9.68	59.5	9.29	59.9
	955	8.99	1052	12.71	55.4	12.25	56	11.78	56.6	11.3	57.2
	1146	12.5	1360	15.29	52.7	14.7	53.4	14.15	54.1	13.54	54.7

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-170				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	296	0.431	1012	4.16	30.7	3.8	31.6	3.42	32.5	3.04	33.3
	357	0.604	1310	5.01	29.8	4.58	30.8	4.12	31.7	3.65	32.6
	425	0.824	1701	6.0	28.9	5.45	29.9	4.9	30.9	4.36	31.9
50	534	1.24	1008	7.33	40.5	6.85	41	6.4	41.6	5.95	42.2
	647	1.76	1309	8.86	38.9	8.3	39.6	7.72	40.2	7.17	40.9
	777	2.45	1702	10.62	37.3	9.97	38.1	9.3	38.9	8.64	39.7
60	779	2.46	1013	10.5	50.1	10	50.5	9.5	51.1	9.0	51.5
	939	3.44	1311	12.67	47.9	12.05	48.4	11.46	49	10.86	49.6
	1130	4.8	1704	15.25	45.6	14.5	46.3	13.8	47	13.04	47.7
70	1025	4.03	1013	13.61	59.7	13.15	60.1	12.6	60.6	12.07	61
	1236	5.64	1314	16.5	56.9	15.86	57.3	15.22	57.9	14.6	58.4
	1488	7.88	1706	19.86	54	19.1	54.6	18.3	55.2	17.56	55.8

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-204				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	336	0.54	1211	4.74	30.1	4.31	31	3.88	31.9	3.45	32.8
	404	0.76	1572	5.7	29.2	5.19	30.2	4.64	31.1	4.12	32.1
	478	1.02	2040	6.75	28.2	6.14	29.3	5.55	30.4	4.89	31.4
50	611	1.59	1211	8.35	39.3	7.84	40	7.32	40.7	6.79	41.3
	733	2.2	1570	10.03	37.7	9.4	38.5	8.8	39.3	8.14	40
	880	3.06	2040	12.04	36.2	11.29	37.1	10.5	37.9	9.78	38.8
60	888	3.11	1211	11.95	48.5	11.4	49.1	10.81	49.6	10.27	50.2
	1071	4.36	1573	14.39	46.3	13.74	47	13.02	47.6	12.35	48.3
	1238	6.04	2044	17.1	43.9	16.47	44.9	15.49	45.4	14.66	46.2
70	1169	5.1	1213	15.55	57.7	15	58.2	14.4	58.7	13.8	59.1
	1406	7.11	1570	18.78	54.9	18.04	55.5	17.34	56.1	16.61	56.7
	1690	9.9	2043	22.5	52	21.68	52.8	20.75	53.4	19.9	54.1

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM4-238				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	373	0.65	1410	5.26	29.5	4.79	30.5	4.3	31.4	3.84	32.4
	448	0.91	1832	6.33	28.7	5.75	29.7	5.16	30.7	4.56	31.7
	534	1.24	2379	7.48	27.7	6.85	28.9	6.17	30	5.47	31.1
50	680	1.92	1411	9.31	38.4	8.72	39.1	8.13	39.8	7.57	40.6
	817	2.68	1831	11.14	36.8	10.49	37.7	9.78	38.5	9.07	39.3
	972	3.66	2381	13.33	35.3	12.48	36.2	11.64	37.1	10.79	38
60	990	3.78	1412	13.35	47.2	12.7	47.8	12.05	48.4	11.46	49.1
	1191	5.27	1830	16	45	15.28	45.8	14.52	46.5	13.74	47.2
	1423	7.27	2381	19.2	42.9	18.26	43.7	17.34	44.5	16.41	45.3
70	1301	6.19	1410	17.4	56	16.7	56.6	16.02	57.1	15.38	57.7
	1562	8.6	1833	20.9	53.2	20.05	53.8	19.25	54.5	18.5	55.2
	1876	11.96	2385	25	50.4	24.08	51.2	23.12	52	22.11	52.7

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM6-102				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	232	0.914	692	3.29	32.7	2.98	33.3	2.69	34	2.39	34.7
	270	1.2	842	3.82	32	3.46	32.7	3.11	33.4	2.77	34.2
	312	1.55	1022	4.39	31.3	4	32.1	3.57	32.8	3.17	33.6
50	409	2.53	690	5.6	43	5.25	43.5	4.92	44	4.57	44.4
	475	3.32	841	6.52	41.9	6.1	42.4	5.71	43	5.3	43.5
	549	4.31	1023	7.53	40.8	7.05	41.3	6.59	41.9	6.12	42.5
60	591	4.92	692	7.95	53.4	7.59	53.9	7.21	54.2	6.82	54.5
	686	6.42	842	9.2	51.8	8.8	52.3	8.35	52.7	7.92	53.1
	790	8.3	1024	10.62	50.1	10.14	50.6	9.59	51	9.12	51.5
70	768	7.87	692	10.3	63.9	9.85	64	9.51	64.5	9.1	64.7
	895	10.4	845	11.95	61.9	11.48	62	11.03	62.5	10.57	62.8
	1028	13.3	1022	13.79	59.7	13.2	59.9	12.73	60.5	12.2	60.9

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM6 -136				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	275	0.497	932	3.87	30.8	3.53	31.7	3.18	32.5	2.81	33.3
	310	0.62	1108	4.39	30.3	3.98	31.1	3.57	32	3.18	32.9
	358	0.8	1351	5.04	29.5	4.59	30.5	4.12	31.4	3.67	32.4
50	496	1.44	933	6.77	40.4	6.37	41.1	5.94	41.6	5.52	42.3
	562	1.8	1103	7.7	39.5	7.21	40.2	6.72	40.8	6.25	41.5
	648	2.33	1353	8.86	38.2	8.32	39	7.76	39.7	7.19	40.4
60	717	2.79	932	9.68	50	9.2	50.5	8.75	51	8.32	51.5
	815	3.51	1103	10.96	48.7	10.46	49.3	9.92	49.8	9.42	50.4
	943	4.57	1354	12.7	47	12.1	47.6	11.48	48.2	10.88	48.8
70	943	4.57	935	12.6	59.7	12.1	60	11.63	60.5	11.15	61
	1064	5.67	1104	14.28	57.9	13.65	58.2	13.1	58.7	12.6	59.3
	1239	7.45	1354	16.5	55.7	15.9	56.3	15.25	56.8	14.62	57.4

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

HEATING CAPACITY TABLE

FP-KM6-160				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [l/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	300	0.58	1053	4.23	30.4	3.85	31.3	3.47	32.2	3.07	33
	341	0.73	1265	4.82	29.8	4.38	30.7	3.92	31.6	3.51	32.6
	383	0.9	1502	5.4	29.1	4.91	30.1	4.43	31.1	3.94	32.1
50	542	1.68	1053	7.42	39.8	6.95	40.4	6.48	41	6.03	41.7
	616	2.12	1265	8.41	38.6	7.9	39.3	7.35	40	6.85	40.8
	694	2.63	1503	9.53	37.6	8.9	38.3	8.32	39.1	7.73	39.9
60	786	3.29	1052	10.59	49.1	10.08	49.6	9.57	50.1	9.08	50.6
	898	4.18	1262	12.06	47.5	11.52	48.2	10.94	48.8	10.36	49.4
	1013	5.19	1505	13.61	46	13	46.7	12.35	47.4	11.71	48.1
70	1029	5.34	1051	13.74	58.3	13.2	58.8	12.72	59.4	12.18	59.8
	1172	6.75	1263	15.7	56.4	15.04	56.8	14.48	57.4	13.9	58
	1332	8.51	1505	17.7	54.4	17.1	55.1	16.4	55.7	15.7	56.3

Pf: total heating capacity Tai: in flow air temperature
 dpw: pressure drop standard coil Twi: in flow fluid temperature
 Qw: fluid flow rate in heat exchanger Qa: air flow
 Tad: discharge air temperature

Note: Design and specification are subject to change without prior notice for product Improvement.

THE INSTALLATION MANUAL

HOT & CHILLED WATER SYSTEM AIR CONDITIONERS

First check the contents of the package.

FACTORY SUPPLIED ACCESSORIES

Check to ensure all factory supplied accessories are supplied with the unit.

FACTORY SUPPLIED ACCESSORIES	AMOUNT
LCD Remote control	1
Mounting Bracket (Already on the unit)	1
Installation manual	1
Batteries	2
External drain pan	1

The appliance should be Installed In accordance with national wiring regulation.

SAFETY CONSIDERATIONS

- When working on air conditioning equipment, observe precautions in this manual, and on plates and tables attached to the unit. Follow all safety codes and other safety precautions that may apply.
- Installing and servicing air conditioning equipment should be done by trained and qualified service personnel only. Untrained personnel can perform only basic maintenance functions such as cleaning coils, filters and replacing filters.
- Ensure that the electrical supply and frequency are adequate for the operating current required for this specific installation.

WARNING-Before any service or maintenance operations turn off the main power switch.

- The manufacturer denies any responsibility and warranty shall be void if these installation instructions are not observed.
- Never switch off the power main supply when unit is operating in the cooling cycle. To switch off the fan coil unit use only the ON-OFF button.
- This avoids over-flow in the drain pan, by allowing the pump to drain any condensate water due to regulating valve losses when chiller is working.

OPERATING LIMITS

- Power supply

Volt	Phase	Hz
230	1	50

- Water circuit
 - Minimum entering water temperature: +2 °C
 - Maximum entering water temperature: +70 °C
 - Water side maximum pressure: 1400 kPa (142 m.w.c)

BEFORE INSTALLATION

2-pipe FP-KM Series Fan Coil Unit

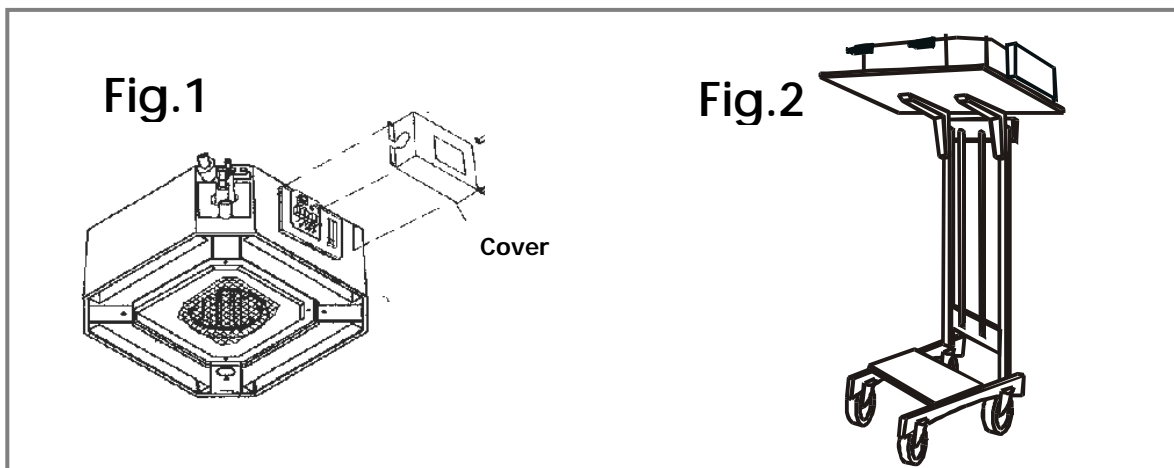
The installation site must be established by the system designer or other qualified professional, taking account of the technical requisites and current standards and legislation.

FP-KM fan coils must be installed by an authorized company only.

FP-KM fan coils are designed for installation in a false ceiling, for intake of fresh air from outside and for deviation of a small part of the treated air for discharge in a neighboring room.

They must be installed in such a way as to enable treated air to circulate throughout the room and in respect of the minimum required for technical maintenance operations.

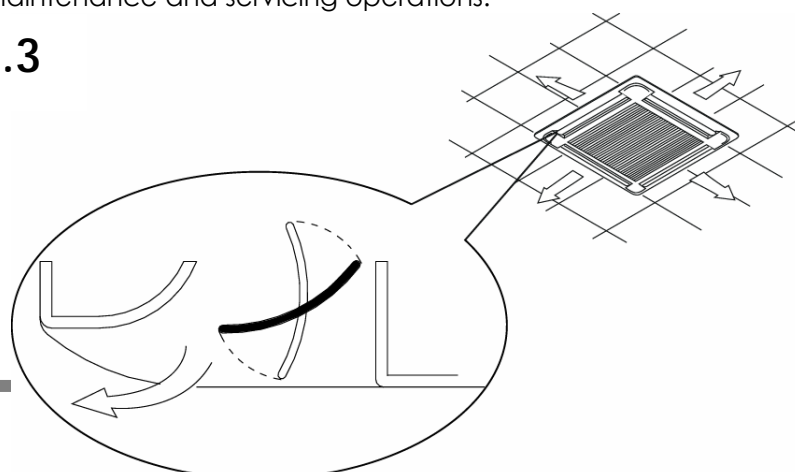
- It is advisable to place the unit close to the installation site without removing it from the packaging. Do not put heavy tools or weights on the packaging.
- Upon receipt, the unit and the packaging must be checked for damage sustained in transit and if necessary, a damage claim must be filed with the shipping company.
- Check immediately for installation accessories inside the packaging.
- Do not lift unit by the condensate drain discharge pipe or by the water connections; lift it by the four corners.(Fig.1)
- Check and note the unit serial number.



SELECT LOCATION

- Do not install the unit in rooms where flammable gas or alkaline acid substances are present. Aluminum/copper coils and/or internal plastic components can be damaged irreparably.
 - Do not install in workshops or kitchens; oil vapors drawn in by treated air might deposit on the coils and alter their performance or damage the internal plastic parts of the unit.
 - Installation of the unit will be facilitated by using a stacker and inserting a plywood sheet between the unit and the elevated stacker.(Fig.2)
 - It is recommended to position the unit as centrally as possible in the room to ensure optimum air distribution. (Fig.3)
- Generally the best louver position is the one which allows air diffusion along the ceiling. Alternatively intermediate positions can be selected.
- Check that it is possible to remove panels from ceiling in the selected position, to allow enough clearance for maintenance and servicing operations.

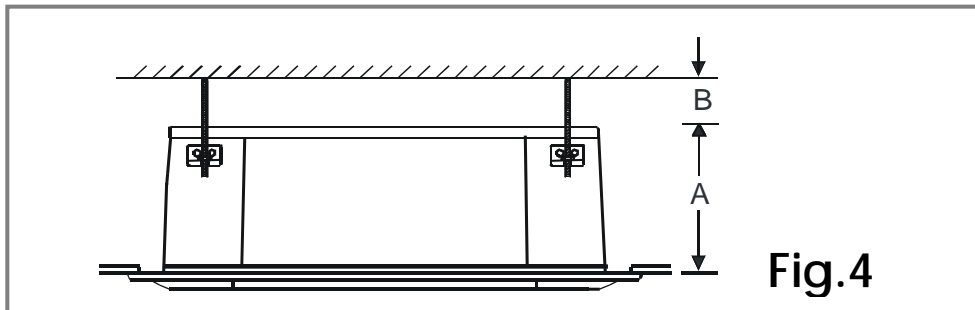
Fig.3



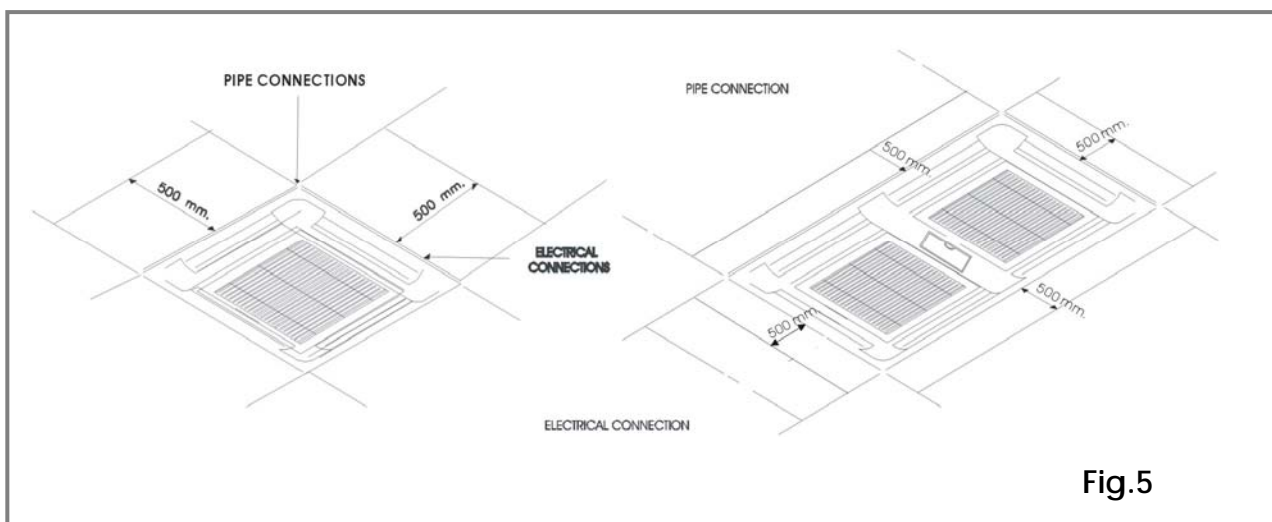
INSTALLATION LOCATION

Install the unit in a position:

- Having sufficient strength to carry the weight of the unit.
- Where the inlet and outlet grilles are not obstructed and the conditioned air is able to blow all over the room.
- From where condensate can be easily run to drain.
- Check the distance between the upper slab and false ceiling to ensure the unit will suit the distance. See Fig.4



Model	A (mm.)	B (mm.)
FP-KM4-34/51	250	10 or more
FP-KM4-68/80; FP-KM6/102/136/160 FP-KM4-85/102/136/170/204/238	290	10 or more



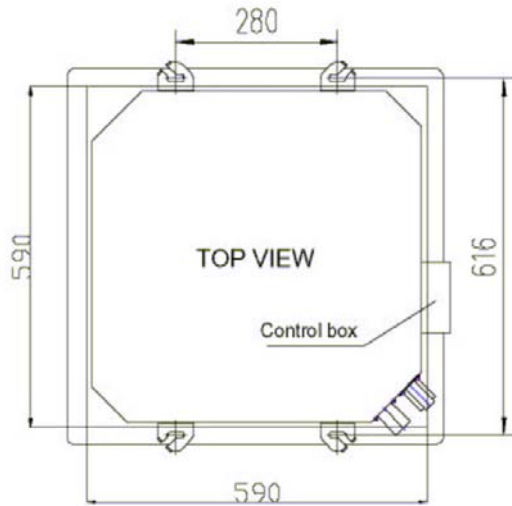
2-pipe FP-KM Series Fan Coil Unit

- Ensure there is sufficient space around the unit to service it. See Fig.5

INSTALLATION METHOD

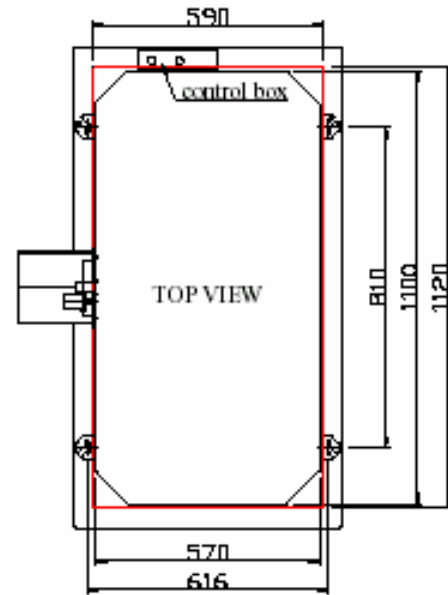
Cassette Unit

- Using the installation template open ceiling panels and install the suspension bolts as in Fig.6 below



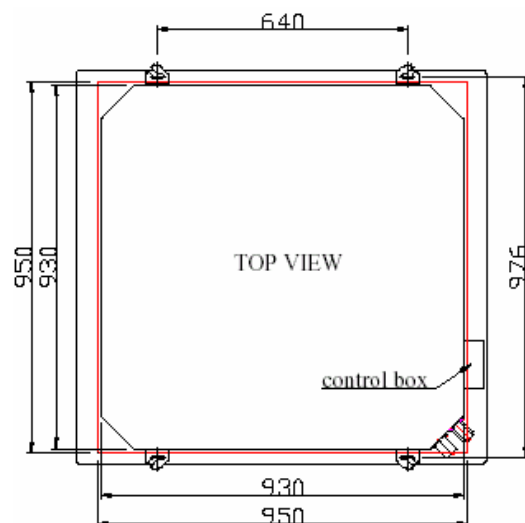
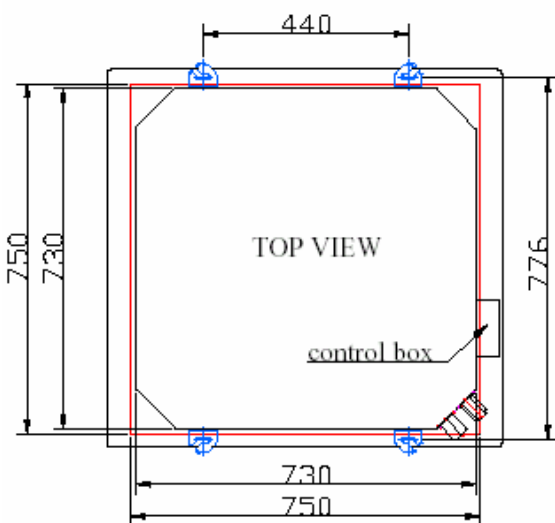
590x590: Dimensions for opening
616x280: Suspension Bolts

MODELS	FP-KM4-34,51,68,80
--------	--------------------



590x1120: Dimensions for opening
616x 810: Suspension Bolts

MODELS	FP-KM6-102,136,160
--------	--------------------



2-pipe FP-KM Series Fan Coil Unit

750x750: Dimensions for opening
440x776: Suspension Bolts

MODELS	FP-KM4-85,102,136
--------	-------------------

950x 950: Dimensions for opening
640x 976: Suspension Bolts

MODELS	FP-KM4-170,204,238
--------	--------------------

Fig. 6

Opening Dimensions and Positions for Suspension Bolts

- Mark position of suspension rods, water lines and condensate drain pipe, power supply cables and remote control cable.
Supporting rods can be fixed, depending on the type of ceiling, as shown in Fig. 7 and Fig.8.
- Fit suspension brackets supplied with the unit to the threaded rods (Fig.9).
Do not tighten nuts and counter nuts; this operation has to be done only after final leveling of the unit, when all the connections have been completed.

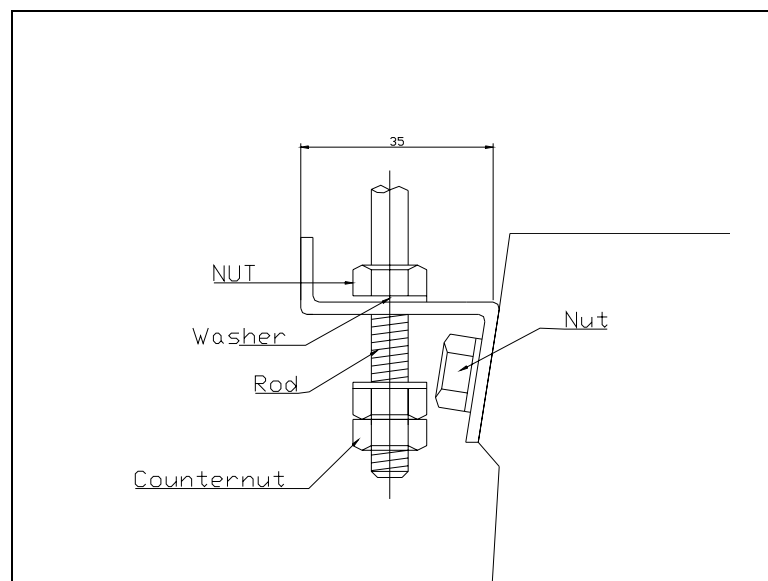
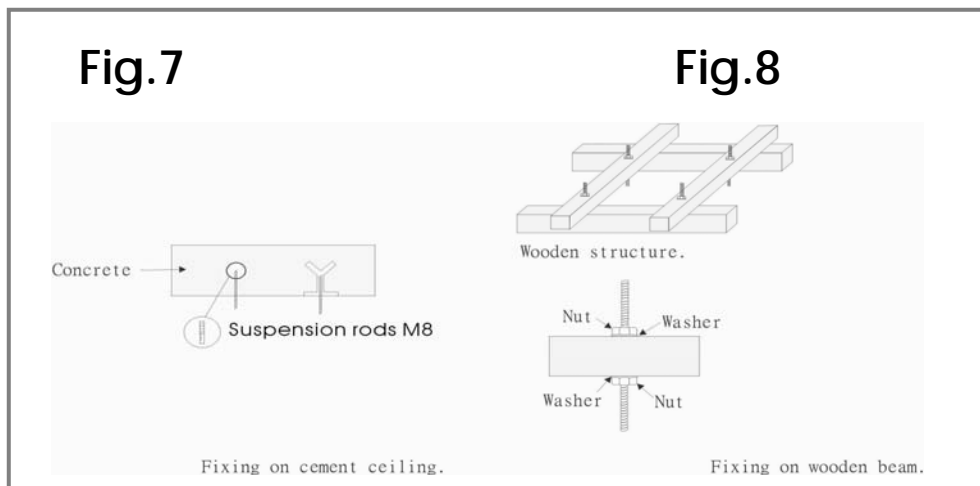


Fig.9

- Ensure the ceiling is horizontally level, otherwise condensate water cannot drain.
- The casing is fixed to the slab with 4 drop rods. The rods should have two nuts and washers to lock the unit in position. The Cassette brackets will then hook over the washers.

2-pipe FP-KM Series Fan Coil Unit

- When lifting the Cassette into position care should be taken not to lift the unit by the drip tray, which could be damaged.
- Lift unit (without the air panel) with care by its four corners only. Do not lift unit by the condensate drain discharge pipe or by the piping connections.
- Incline unit (Fig.10, Fig.11, Fig.13, Fig.14) and insert it into the false ceiling. Insert the rods into the bracket slot.

With minimum height (see table) false ceilings, it might be necessary to remove some T brackets of the false ceiling temporarily.

- Using a level guide, line up the unit with a spirit level, and keep dimension between the body and the lower part of the false ceiling (Fig.12 Fig.15).
- Line up the unit to the supporting bars of the false ceiling tightening the nuts and counter nuts of the threaded rods.
- After connection of the condensate drain piping and piping connections, check again that the unit is level.

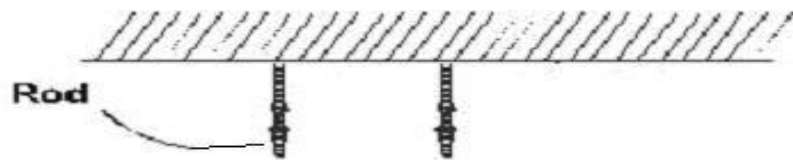


Fig.10

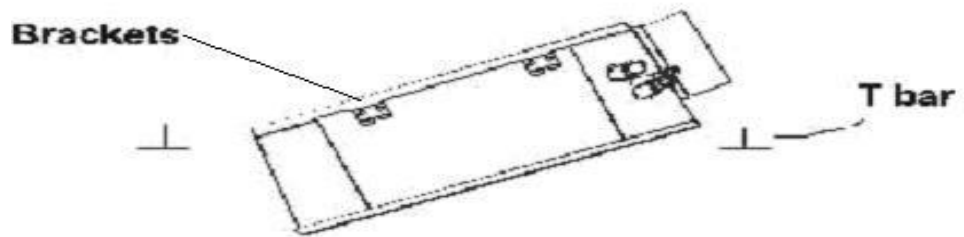


Fig.11

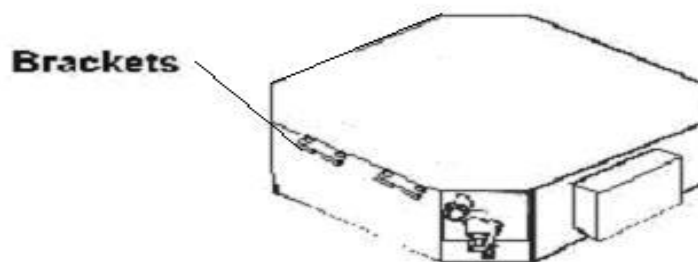
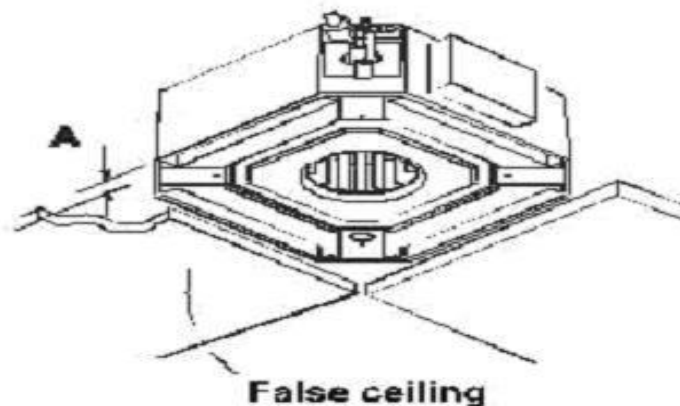


Fig.12



MODEL	FP-KM4-34-51-68-80 FP-KM4-85-102-136-170-204-238
A (mm.)	3

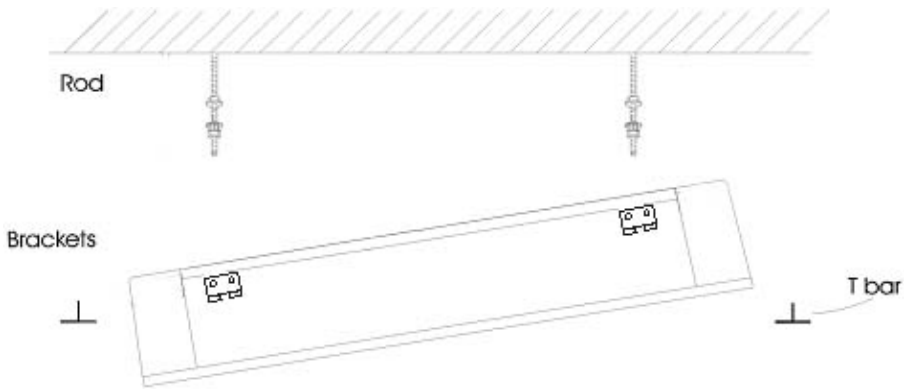


Fig. 13

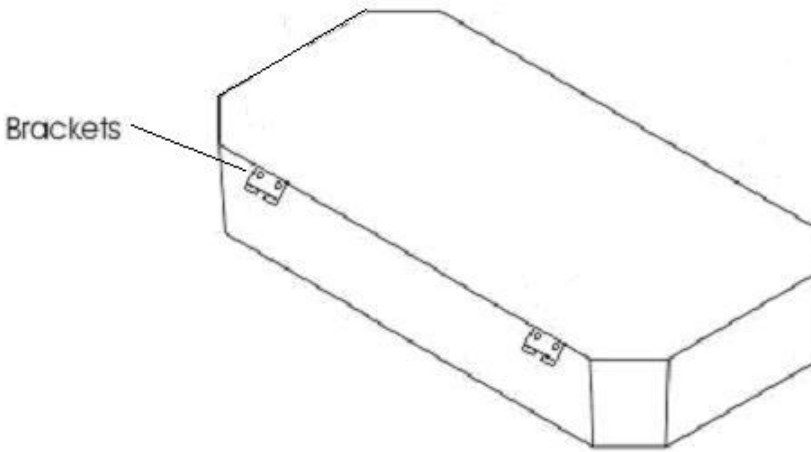


Fig. 14

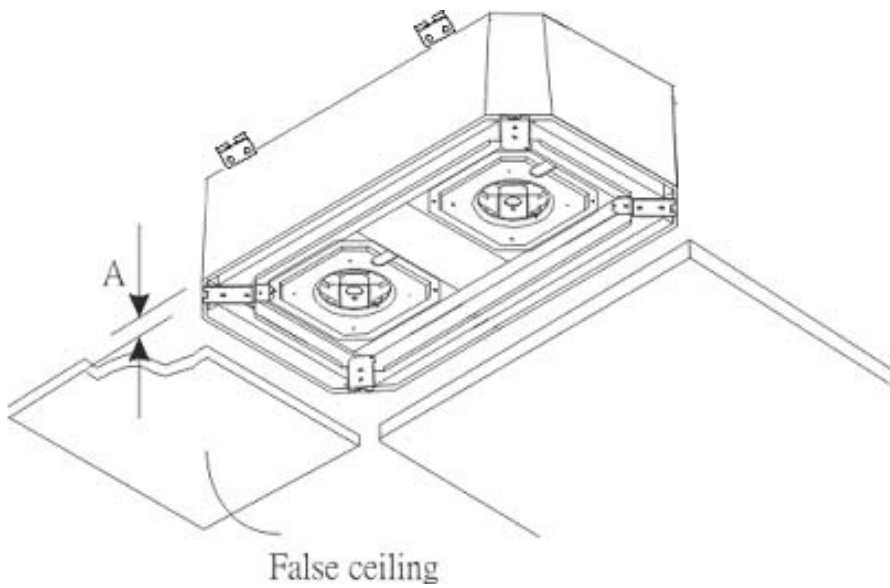


Fig. 15

MODEL	FP-KM6-102-136-160
A (mm.)	3

2-pipe FP-KM Series Fan Coil Unit

The spaces between the unit and ceiling can now be adjusted. Use the drop rods to make the adjustment.

- Check to ensure the unit is level. The drain will then automatically be lower than the rest of the drip tray.
- Tighten the nuts on the suspended rods.

DRAIN PIPE WORK

Indoor Unit

- The unit is fitted with a condensate pump with a 500 mm. lift.
- The unit is provided with 22 mm. bore flexible hose 300 mm. long.
- The flexible hose should be fitted into a 22 mm O/S Φ . polyvinyl tube and sealed. The drain must be installed with a downward slope.
- On completion the drain line should be insulated.

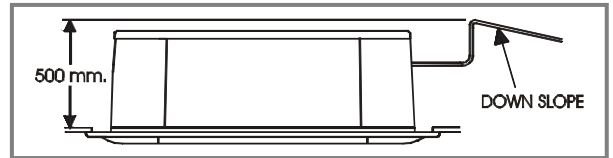


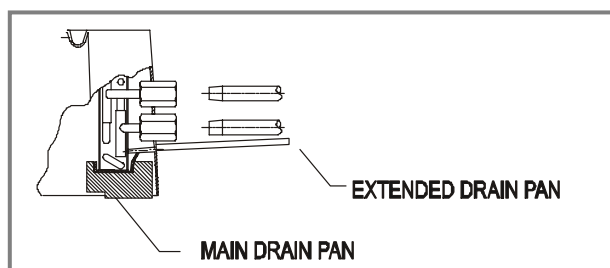
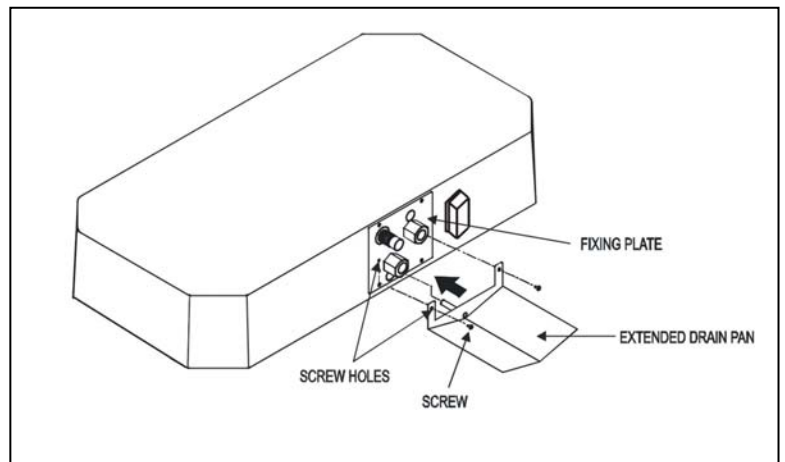
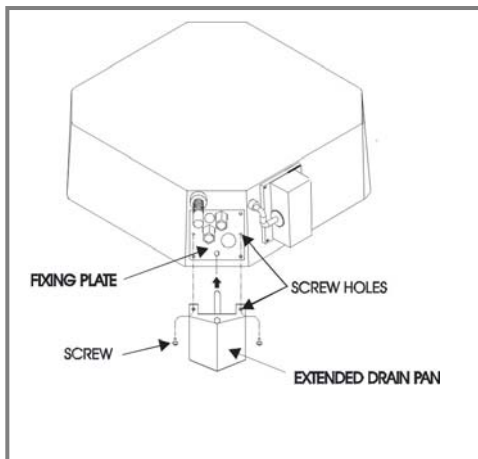
Fig. 16

MODEL	FP-KM4-09-10-12-16
A (mm.)	3

WATER CONNECTIONS

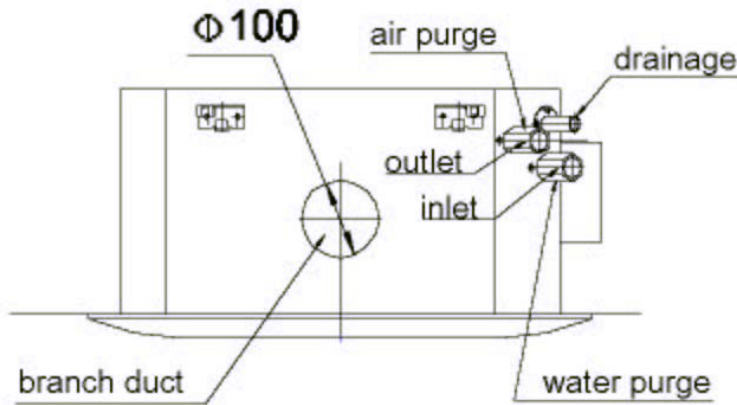
- Water connections are fixed to the unit body to avoid breaks when pipes are connected to valve assemblies; it is advisable to tighten the connection with a spanner.
- The upper coil connection is supplied with air purge screw, the lower connection with water purge screw, suitable for 8mm. wrench or screw-driver.
- Coil is partially drainable; it is advisable to blow air into the coil for complete drainage.

EXTENDED DRAIN PAN ACCESSORY



INSTALLATION PROCEDURES

- Align the two (2) screw holes in the fixing plate to the two (2) holes in the external drain pan.
- Make sure the drain pan is horizontal.
- Tighten the two screws and making sure the external drain pan is installed flush with the fixing plate.

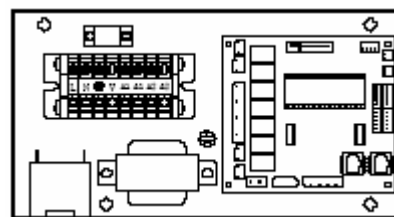
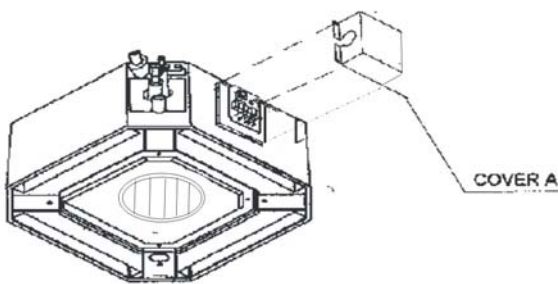


When the installation is completed, it is necessary to wrap connecting pipe with insulation to prevent leakage to ceiling tile.

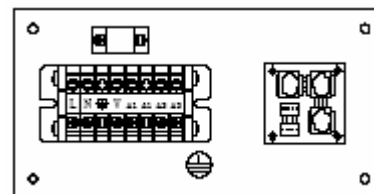
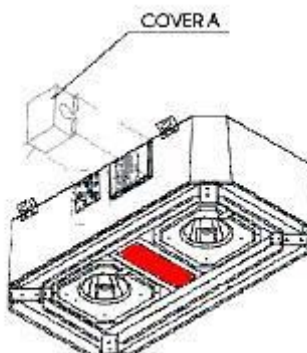
INTER CONNECTING WIRING

We recommend that screened cable be used in electrically noisy areas.

1. Always separate low voltage (5VDC) signal wires from power line (230 VAC) to avoid electromagnetic disturbance of control system.
2. Do not install the unit where electromagnetic waves are directly radiated at the infra red receiver on the unit.
3. Install the unit and components as far away as is practical (at least 5 meters) from the electromagnetic wave source.
4. Where electromagnetic waves exist use shielded sensor cable.
5. Install a noise filter if any harmful noise exists in the power supply.

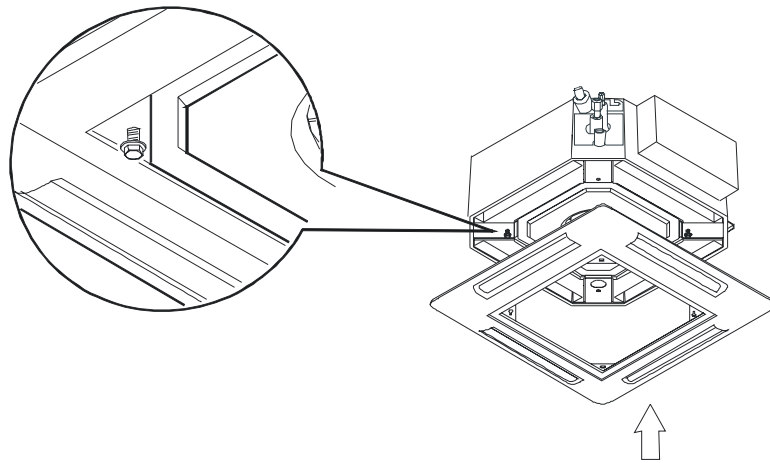


Power Supply Terminal
FP-KM4-34-51-68-80



Power Supply Terminal
FP-KM4-85-102-136-170-204-
238
FD-KM6-102-136-160

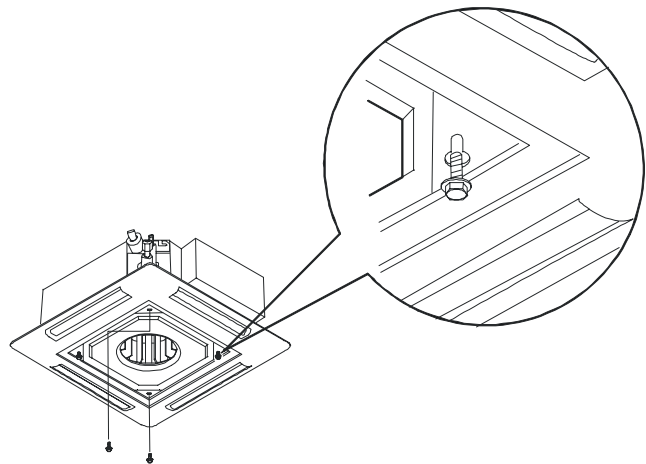
Fig. 17



MOUNTING FRONT PANEL ASSEMBLY

- Remove return grille from front panel.
- Move the front panel to casing.
- Tighten 4 screws as shown in Fig 17,18

Fig. 18



FILTER REMOVAL

- Unlock the two fasteners on the front panel.
- Open the grille downward with care.
- Pull the filter out along the slot.
- Clean the filter and reassemble.

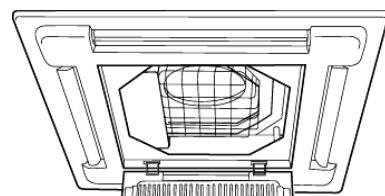
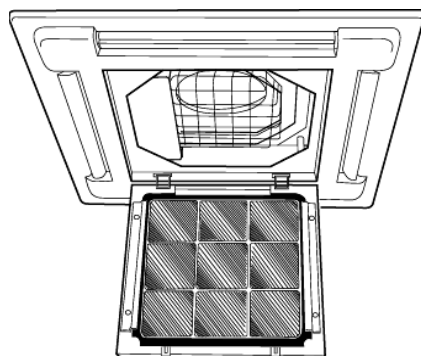
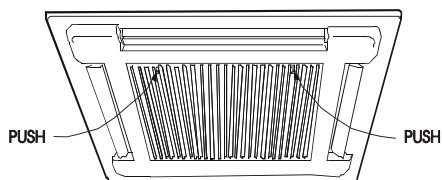


Fig.19

PRELIMINARY CHECKS BEFORE START-UP

- The unit should not be started up until the system piping has been cleaned and all the air has been purged.
- Check condensate drain pipe slope.
- Make sure that air filter is clean and properly installed.
- Ensure that voltage and current values correspond with the unit nameplate values; check electrical connections.
- Verify that air outlets are not closed.

MAINTENANCE

- Before performing any service or maintenance operations, turn off the main power switch.
- The air filter is made of acrylic fiber and is washable in water. To remove filter simply open the intake grille by releasing the two catches. See Fig.19 and the section filter removal.
- Check the filter periodically and before the operating season; clean or replace as necessary.

PROLONGED UNIT SHUT-DOWN

- Prior to restarting the unit:
- Clean or replace the air filters.
- Check and remove any obstruction from the external drain pan and the internal drain pan.

EXTRA MAINTENANCE

- The electrical panel is easily accessible by removing the cover panel.
- The inspection or replacement of internal components such as; heat exchanger coil, condensate Drain pump, float switch, involves the removal of the condensate drain pan. See Fig.20-25.
- During the removal of the condensate drain pan protect the floor under the unit with a plastic sheet from condensate water that could be spilled.
- Remove fixing screws of the drain pan fixture and remove condensate drain pan with care.

The appliance are intended to be maintained by qualified service personnel and located at a level not less than 2.5m.

Fig.20

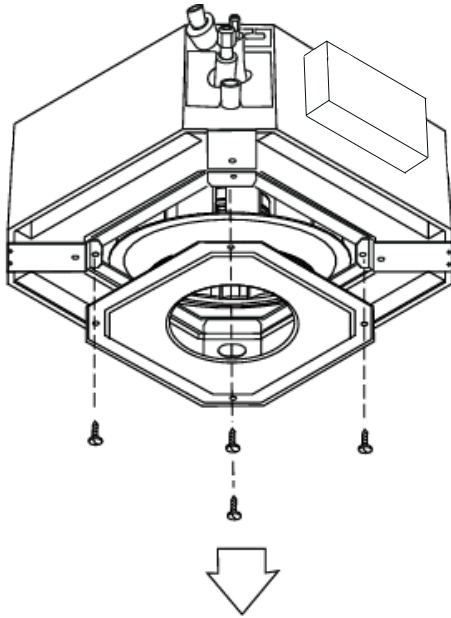


Fig.21

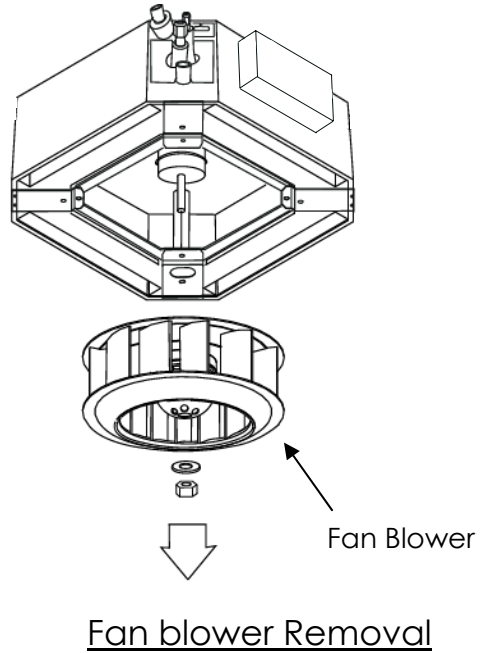


Fig.22

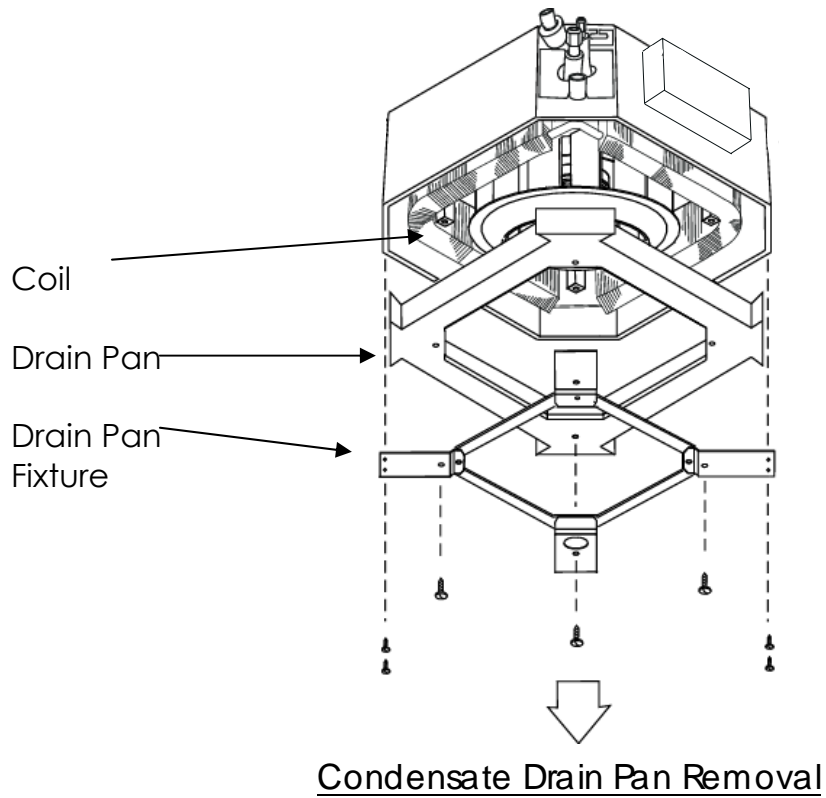


Fig. 23

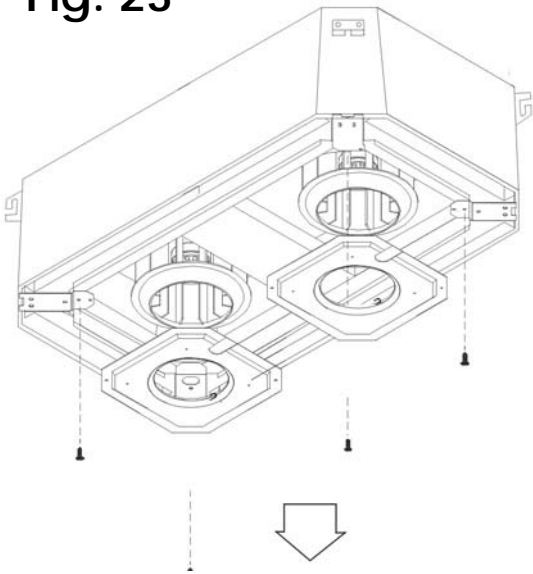
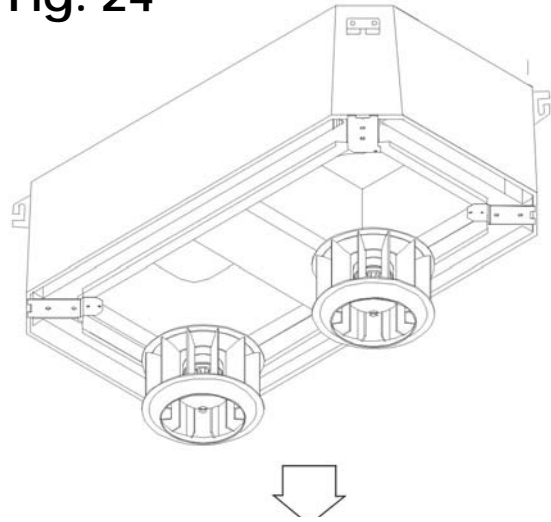
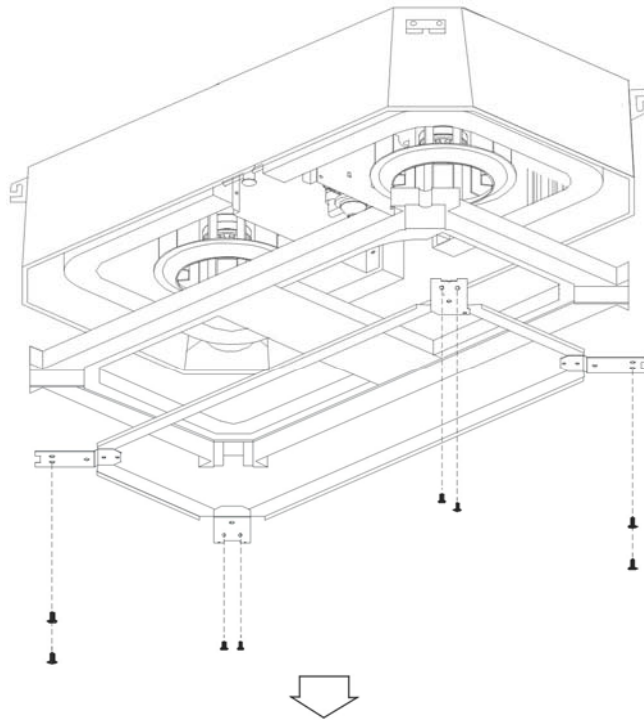


Fig. 24



Fan blower removal

Fig. 25



Condensate drain pan removal

FRESH AIR RENEWAL AND BRANCH DUCT.

- The side opening allows separate ductwork to be installed for outside air intake and branch ducting. See Fig.26
- Cut and remove anti-condensate insulating material.
- Install your flanges and conduits to casing. Conduit can be flexible polyester with spring core or corrugated aluminium externally coated (dia.4 in.) with anti-condensate material (fiberglass 12-25 mm thickness).

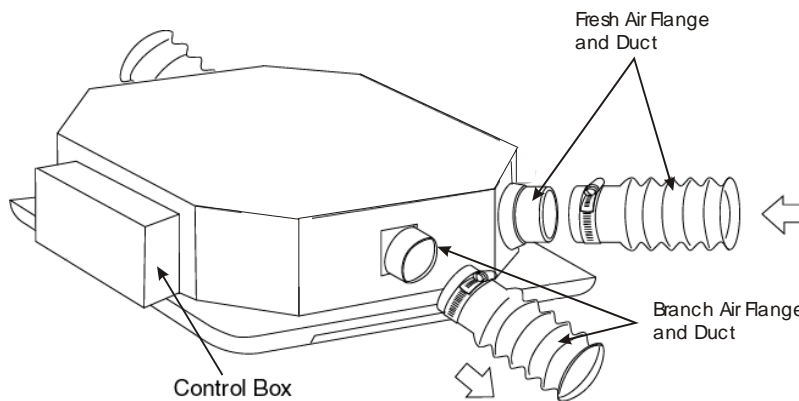


Fig. 26

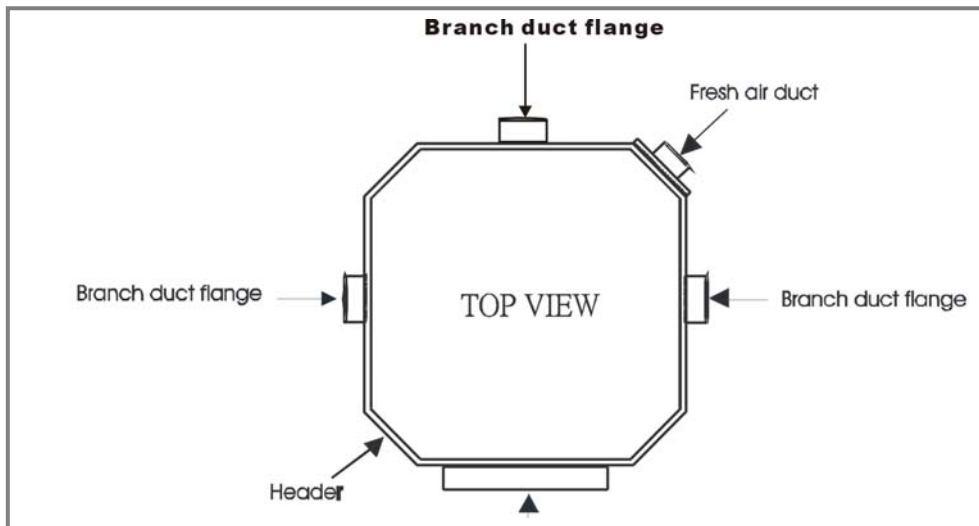
Fresh air - There is one (1) opening for connecting a fresh air duct for FP-KM4-34-51-68-80 , and for FP-KM4-85-102-136-170-204-238

There are two (2) openings for connecting fresh air ducts for FP-KM6-102-136-160.

Branch air –FP-KM4-34-51-68-80, FP-KM4-85-102-136-170-204-238: Two(2) openings each.

FP-KM6-102-136-160 : Four (4) openings each.

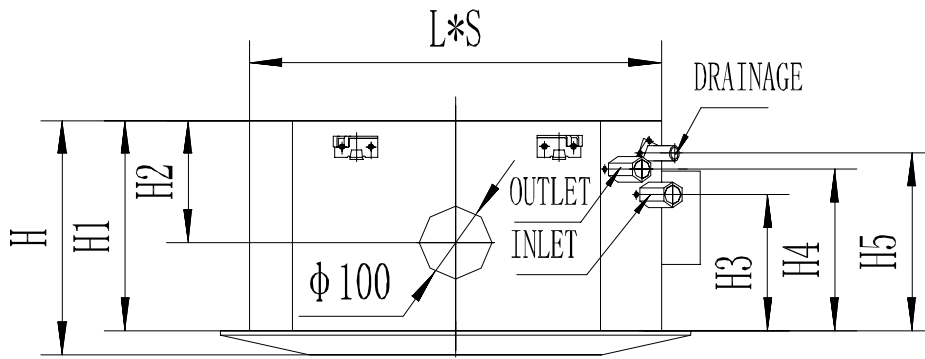
Order flanges (spigots) and blanking plates as accessories separately.



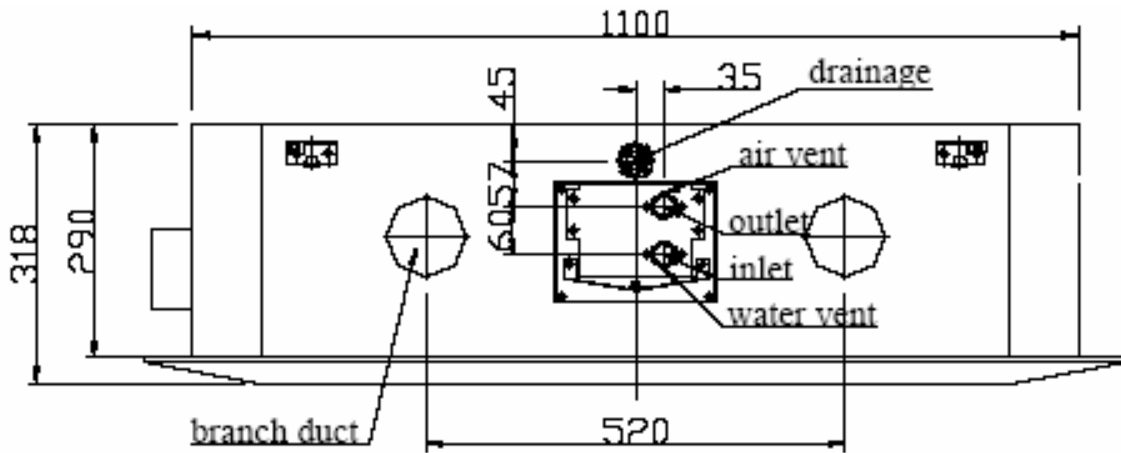
NOTE:

- Branch duct flange (Optional part)
- Fresh air duct flange (Optional part)
- Blanking plate (Optional part)

2-pipe FP-KM Series Fan Coil Unit

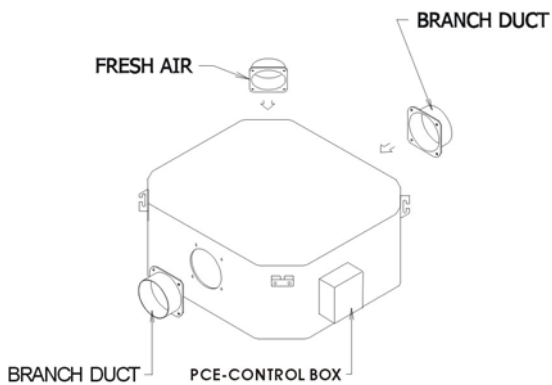


MODEL	L	S	H1	H2	H3	H4	H5
FP-KM4-34-51	570	570	278	125	148	183	205
FP-KM4-68-80	570	570	318	145	188	223	245
FP-KM4-85-102-136	730	730	318	145	188	223	245
FP-KM4-170-204-238	930	930	318	145	188	223	245

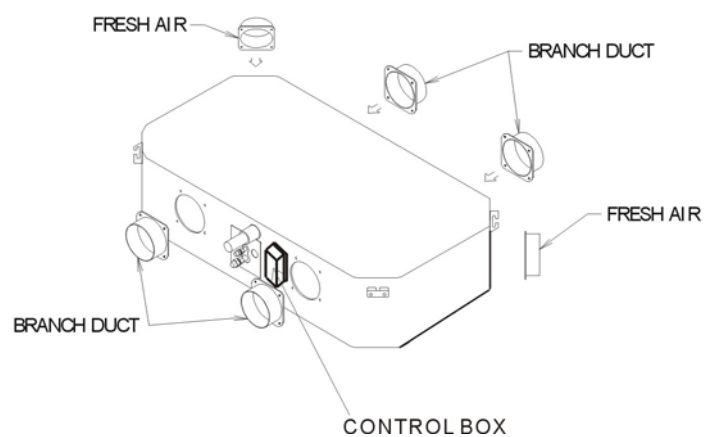


MODEL FP-KM6-102-136-160

Branch Duct and Fresh Air Duct Installation

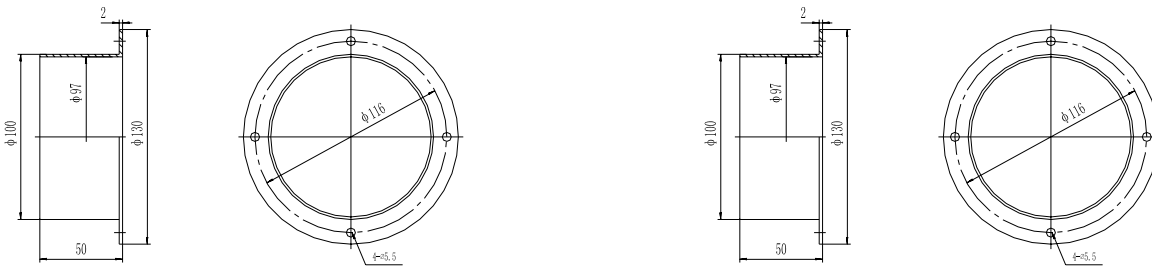


FP-KM4-34-51-68-80
FP-KM4-85-102-136-170-204-238



FP-KM6-102-136-160

2-pipe FP-KM Series Fan Coil Unit

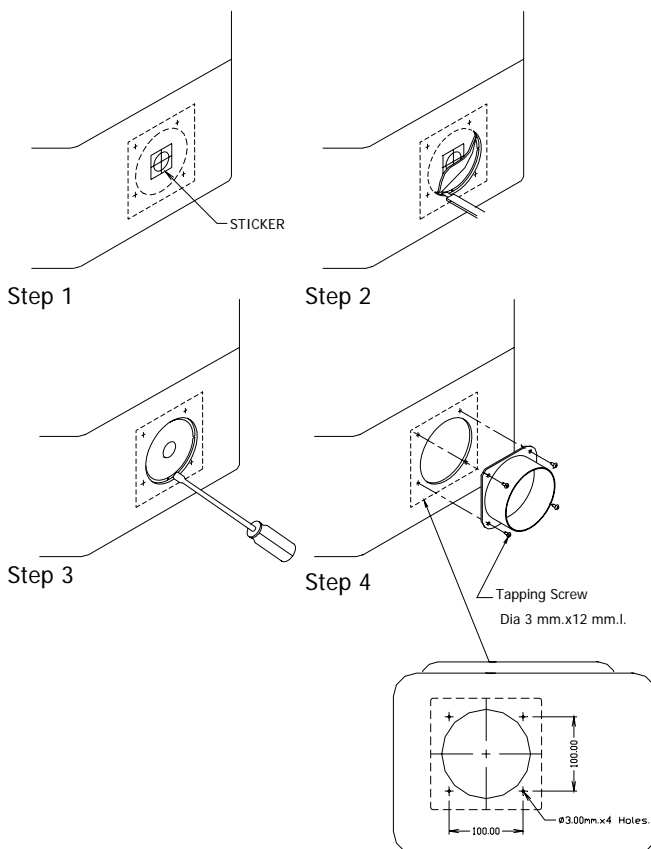


BRANCH DUCT DIMENSION

FRESH AIR DIMENSION

MODEL	BRANCH DUCT		FRESH AIR	
	Dia(mm)	QTY	Dia.(mm)	QTY
FP-KM4-34-51-68-80	100	2	100	1
FP-KM4-85-102-136-170-204-238	100	2	100	1
FP-KM4-09-10-12-16	100	4	100	2

BRANCH DUCT AND FRESH AIR DUCT POSITIONS

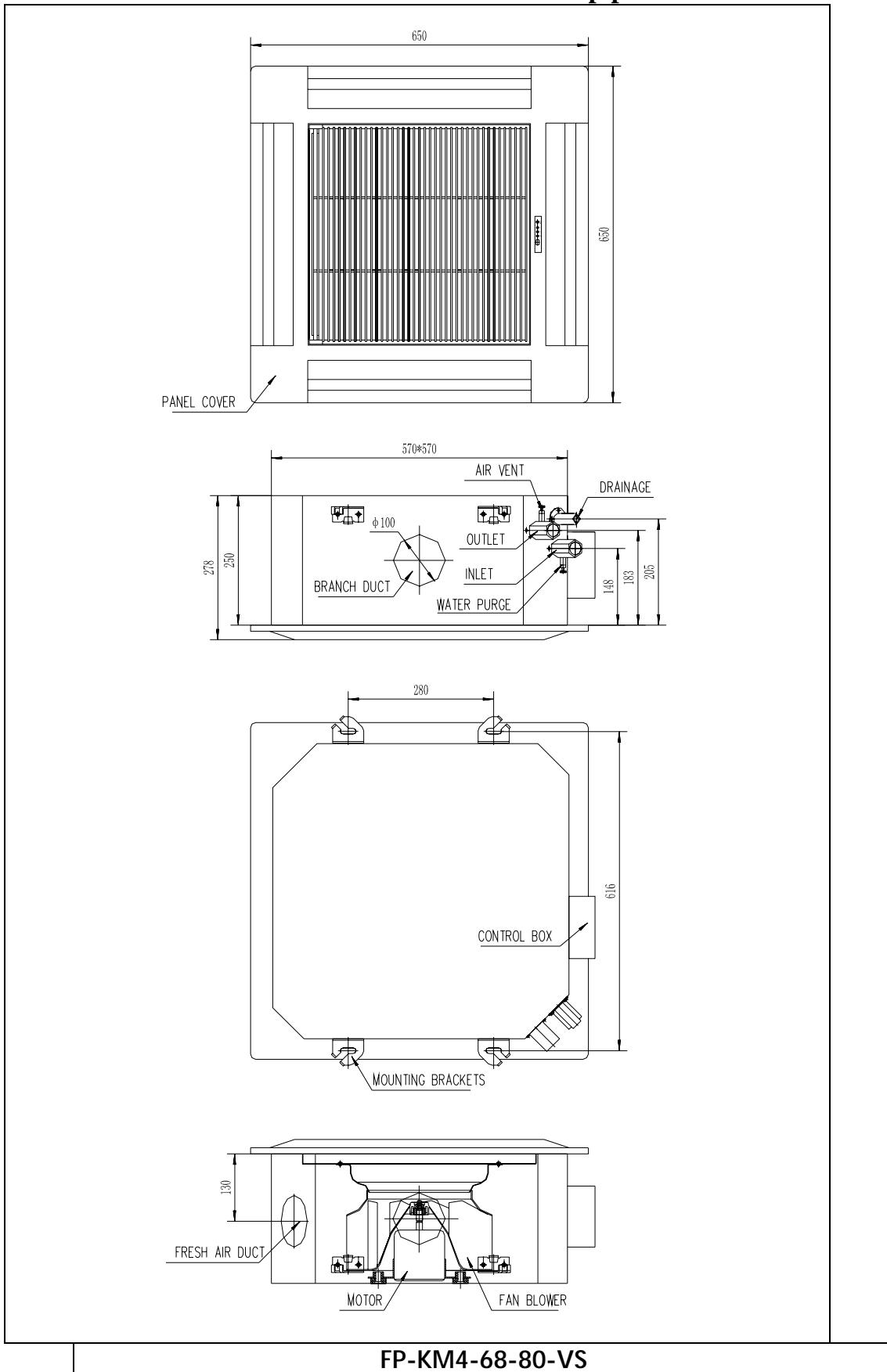


1. Look for the yellow sticker on the casing for location of branch duct or fresh air intake connections.
2. The sticker is at the center of a knock out hole underneath the casing insulation. Use a cutter and follow along the pre-cut circular marking as shown and trim off the insulation.
3. Knock out the pre-cut hole.
4. Connect the flange on to the opening with $\Phi 3$ mm. x 12 mm. tapping screws.

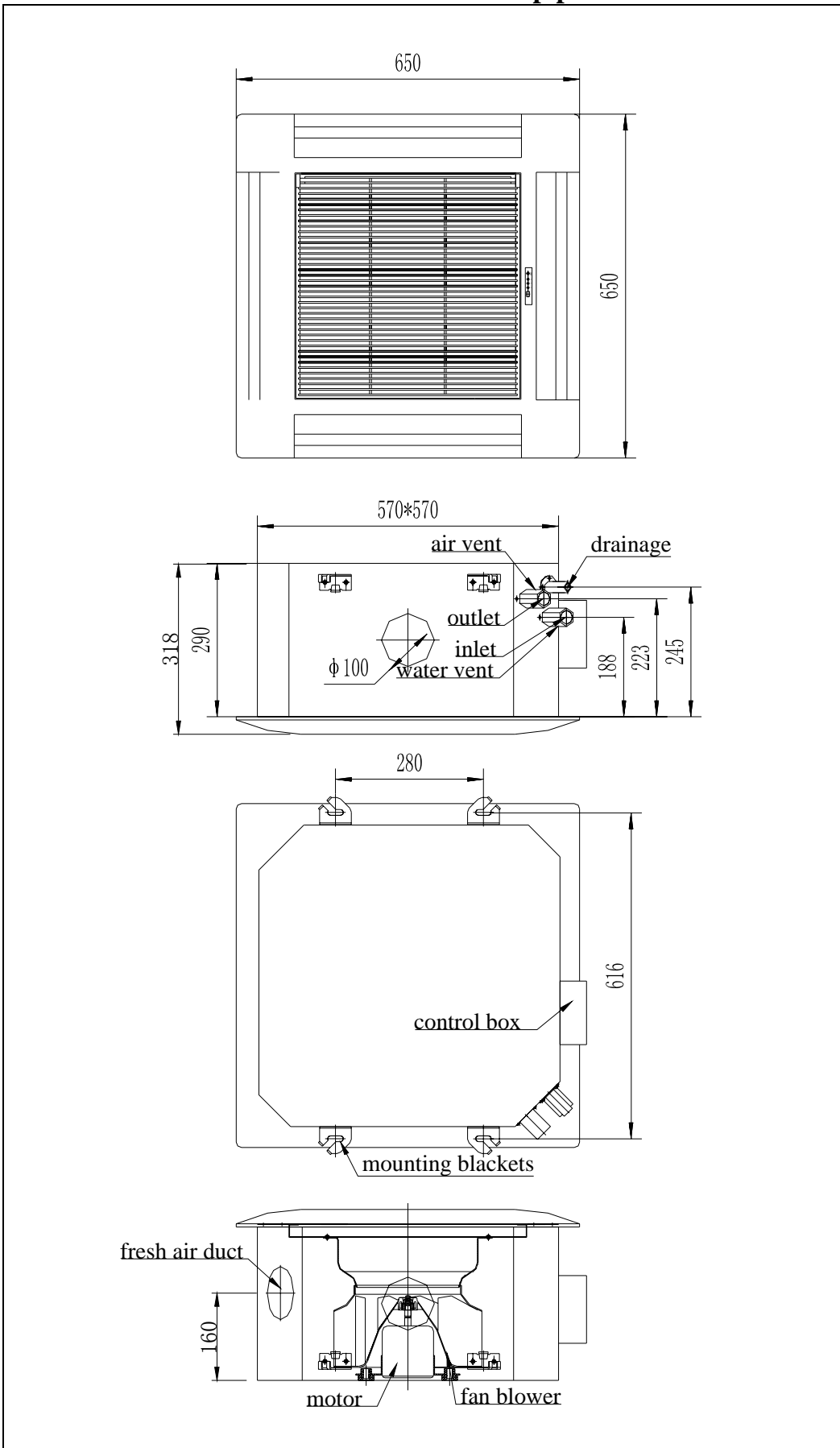
FP-KM4 DIMENSIONAL DRAWINGS

FP-KM4-34-51-VS

2-pipe FP-KM Series Fan Coil Unit

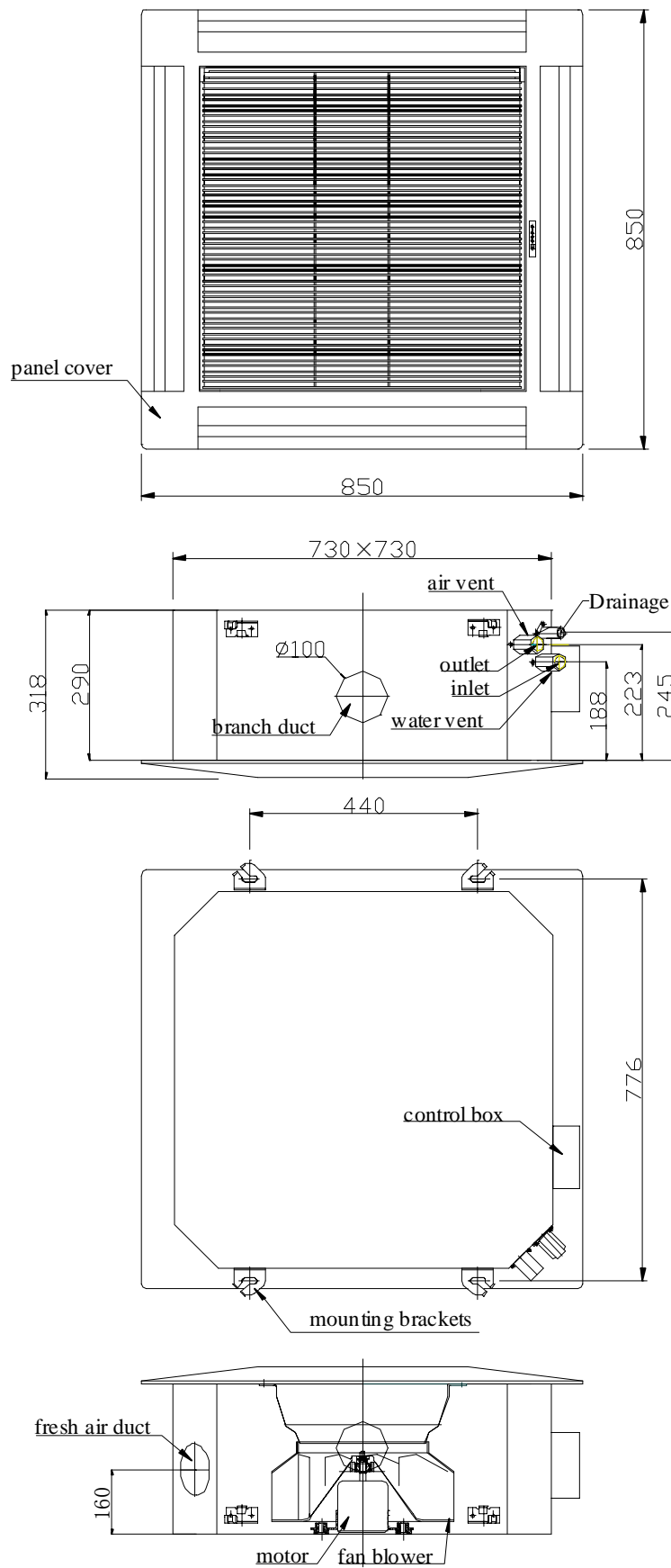


2-pipe FP-KM Series Fan Coil Unit



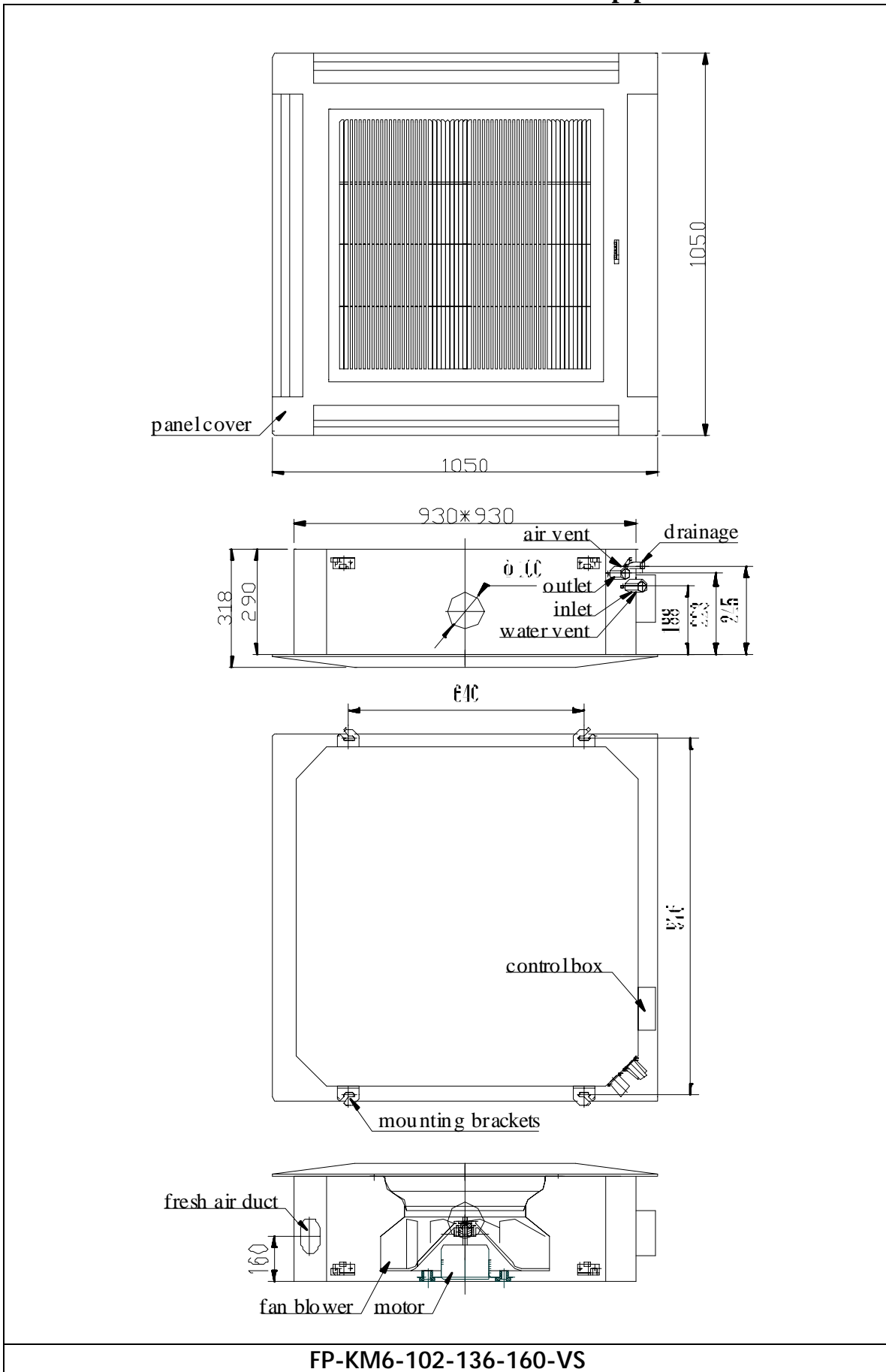
FP-KM4-85-102-136-VS

2-pipe FP-KM Series Fan Coil Unit



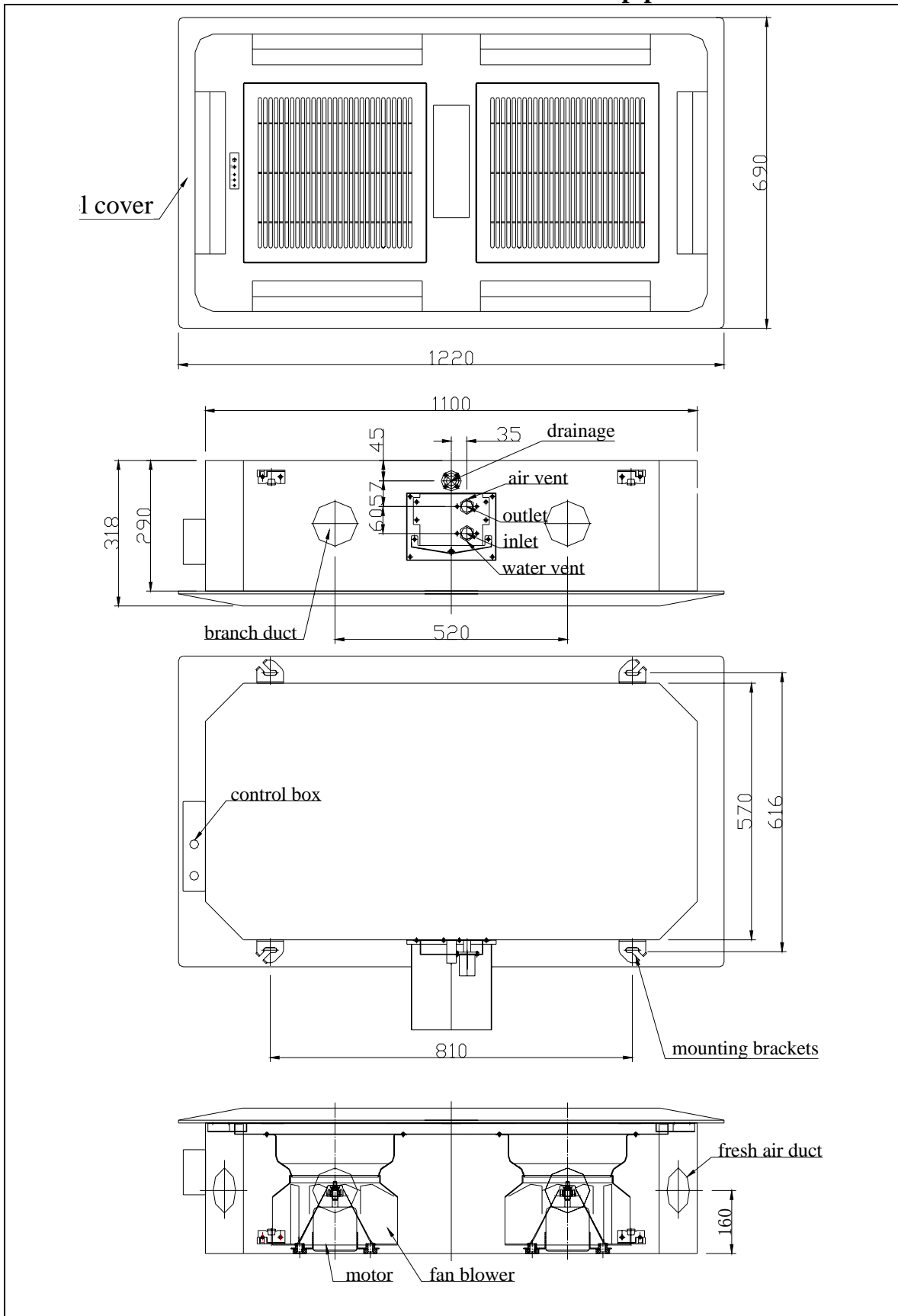
FP-KM4-170-204-238-VS

2-pipe FP-KM Series Fan Coil Unit



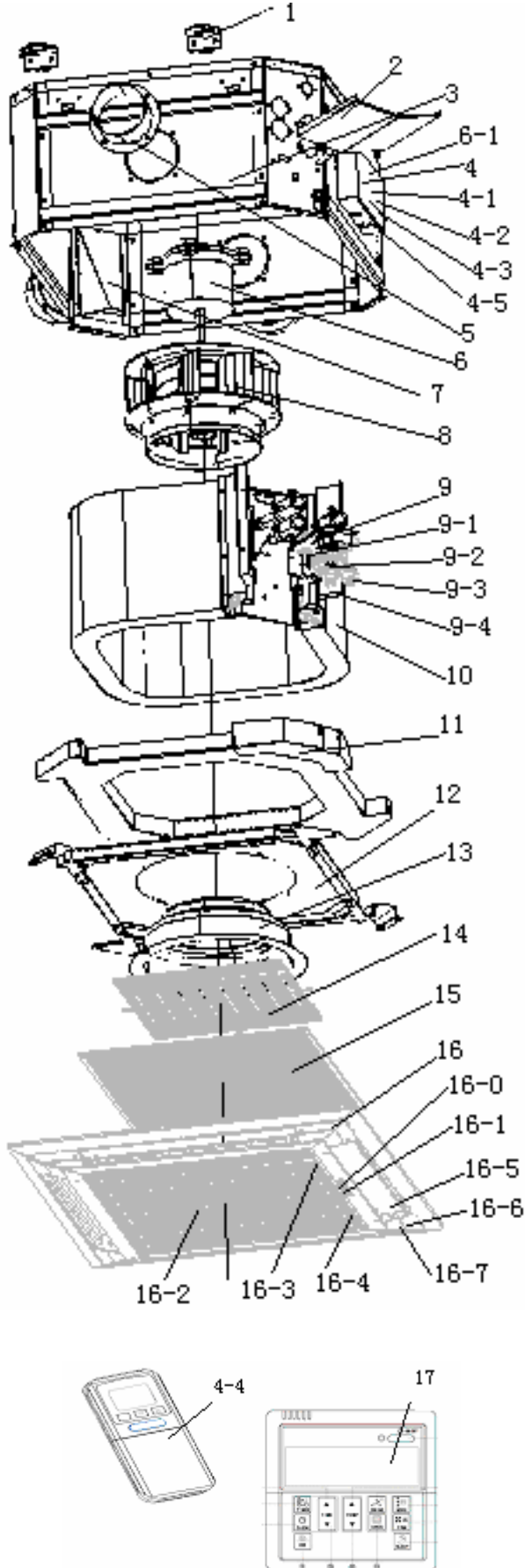
FP-KM6-102-136-160-VS

2-pipe FP-KM Series Fan Coil Unit



2-pipe FP-KM Series Fan Coil Unit

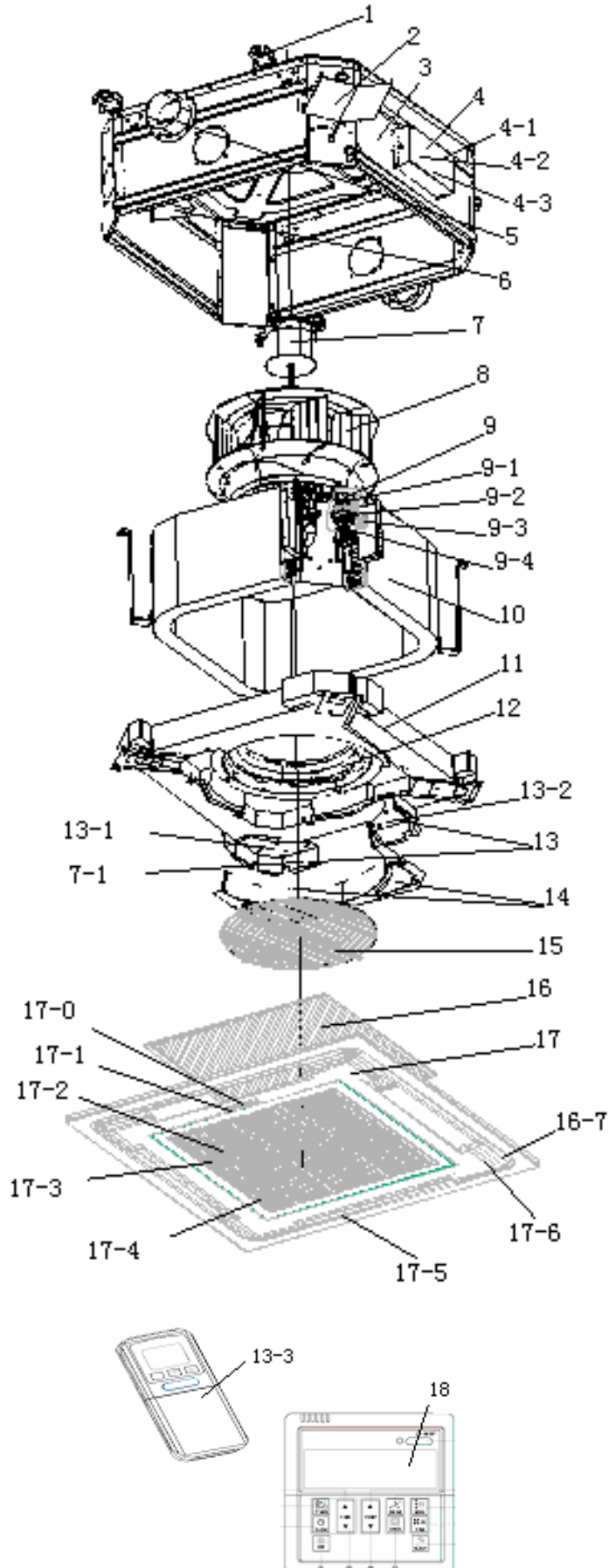
FP-KM4-34-51-68-80-VS



- 1-Mounting brackets
- 2-External drain pan
- 3-Load bearing structure
- 4-Control box
- 4-1- Main PCB
- 4-2-Transformer
- 4-3-Terminal block
- 4-4-Remote handset
- 4-5-Wire clip
- 5-Branch duct
- 6-Fan motor
- 6-1- motor capacitor
- 7- Fresh air outlet
- 8-Fan blower
- 9-Drain pump assembly
- 9-1- Drain pump fixture
- 9-2- Drain pump
- 9-3-Drainage tube
- 9-4- Float switch
- 10-Heat exchanger
- 11-Drain pan
- 12-Drain pan fixture
- 13-Venturi
- 14-Shield
- 15-Air filter
- 16-Cover panel
- 16-0- Receiver display
- 16-1-Receiver label sticker
- 16-2-Grille
- 16-3-Bolt (Left)
- 16-4-Bolt (Right)
- 16-5-Louver
- 16-6-Stepping motor
- 16-7-Fan bearing
- 17- Wire wall pad

2-pipe FP-KM Series Fan Coil Unit

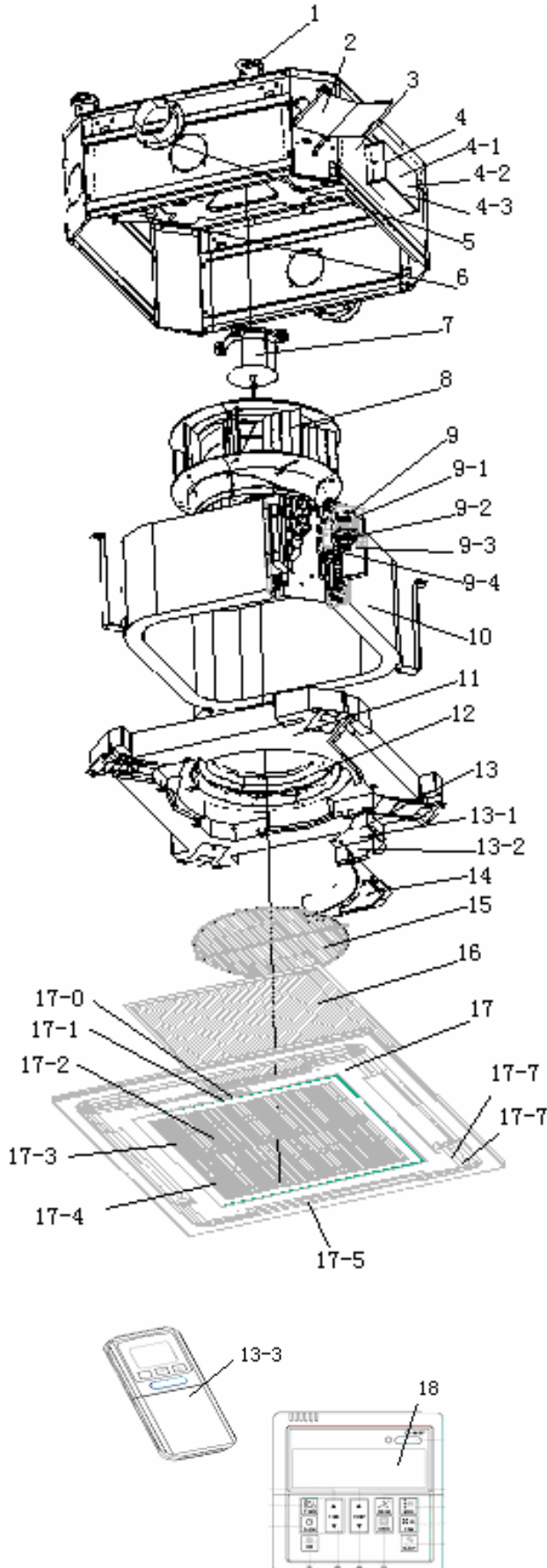
FP-KM4-85-102-136-VS



- 1-Mounting brackets
- 2-External drain pan
- 3- Load bearing structure
- 4- Outside control box
- 4-1-Terminal Block
- 4-2-Invert board
- 4-3-Wire clip
- 5-Branch duct
- 6-Fresh air outlet
- 7-Fan motor
- 7-1-Fan motor capacitor
- 8-Fan blower
- 9-Drain pump assembly
- 9-1- Pump fixture
- 9-2-Drain pump
- 9-3-Drainage tube
- 9-4-Float switch
- 10-Heat exchanger
- 11-Drain pan
- 12-Venturi
- 13-Inside control box
- 13-1-Transformer
- 13-2-Main PCB
- 13-3- Remote handset
- 14-Inside control box cover
- 15- Shield
- 16-Air filter
- 17-Panel
- 17-0- Receiver display
- 17-1-Receiver label sticker
- 17-2-Grille
- 17-3-Bolt (Left)
- 17-4-Bolt (Right)
- 17-5-Louver
- 17-6-Stepping motor
- 17-7-Fan bearing
- 18- Wire wall pad

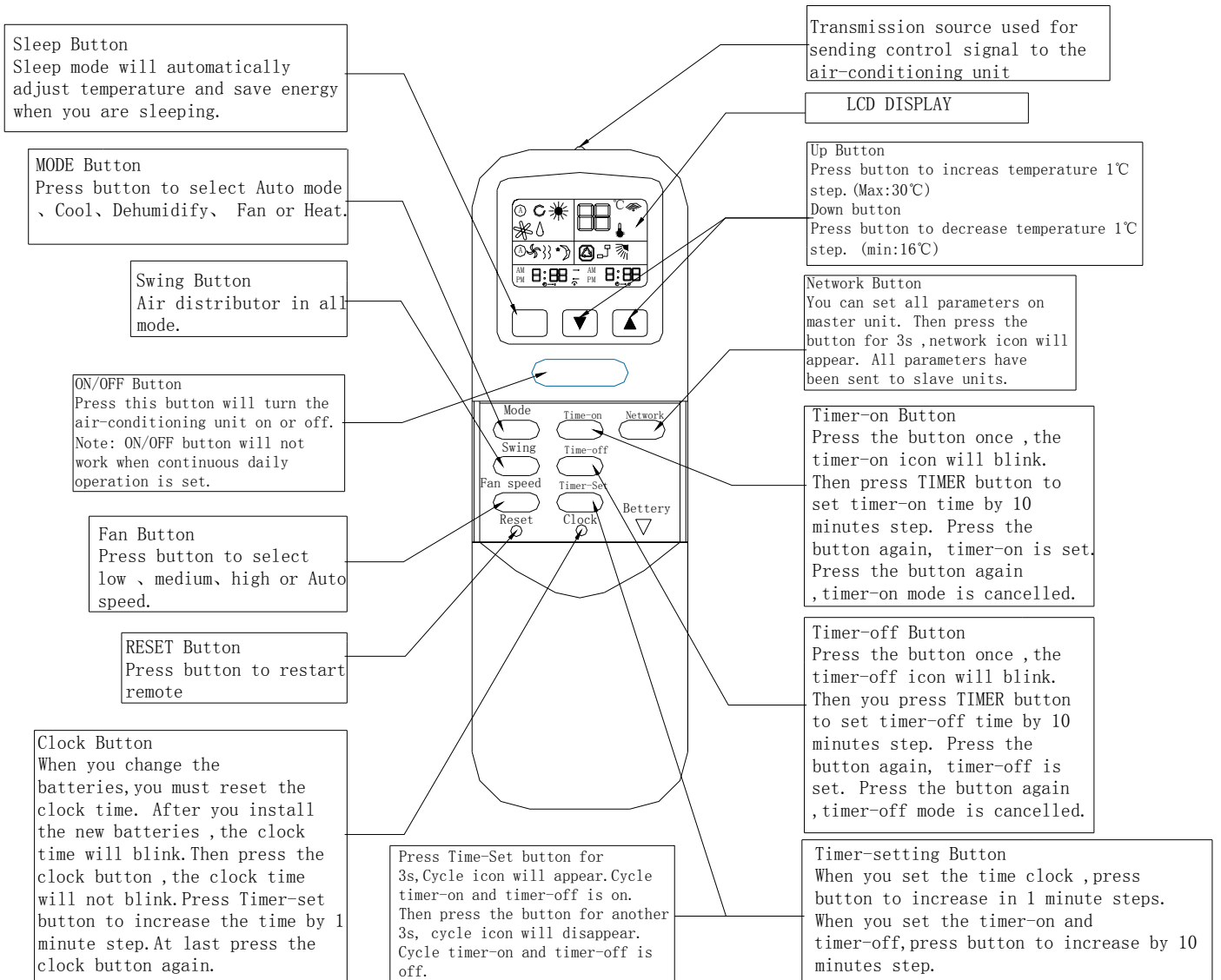
2-pipe FP-KM Series Fan Coil Unit

FP-KM4-170-204-238-VS

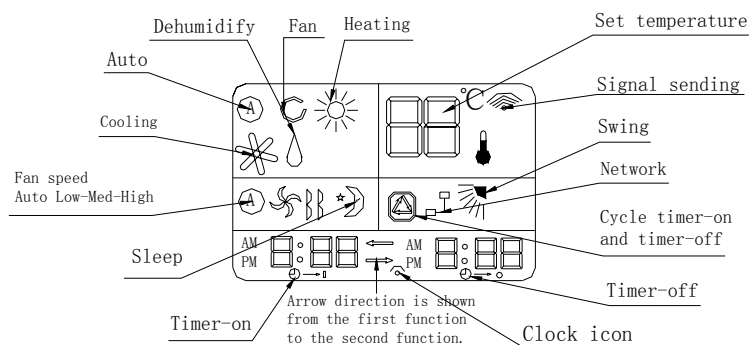


- 1-Mounting brackets
- 2-External drain pan
- 3- Load bearing structure
- 4- Outside control box
- 4-1-Terminal Block
- 4-2-Invert board
- 4-3-Wire clip
- 5-Branch duct
- 6-Fresh air outlet
- 7-Fan motor
- 7-1-fan motor capacitor
- 8-Fan blower
- 9--Drain pump assembly
- 9-1- Pump fixture
- 9-2-Drain pump
- 9-3-Drainage tube
- 9-4-Float switch
- 10-Heat exchanger
- 11-Drain pan
- 12-Venturi
- 13-Inside control box
- 13-1-Transformer
- 13-2-Main PCB
- 13-3- Remote handset
- 14-Inside control box cover
- 15- Shield
- 16-Air filter
- 17-Panel
- 17-0- Receiver display
- 17-1-Receiver label sticker
- 17-2-Grille
- 17-3-Bolt (Left)
- 17-4-Bolt (Right)
- 17-5-Louver
- 17-6-Stepping motor
- 17-7-Fan bearing
- 18- Wire wall pad

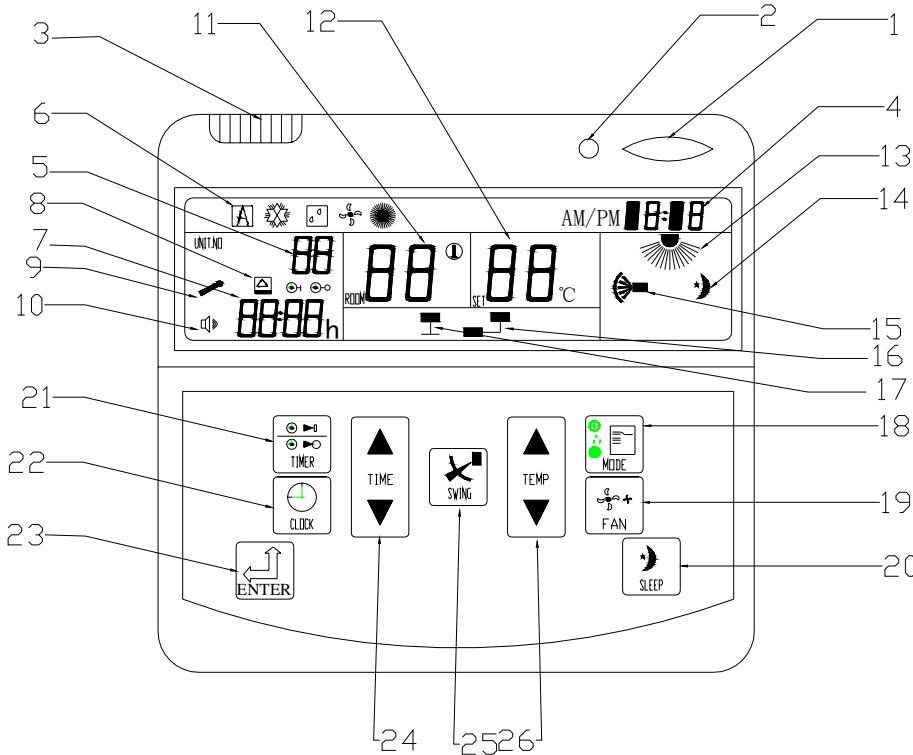
REMOTE CONTROL HANDSET



LCD DISPLAY



WALL PAD (OPTIONAL)



- 1—ON/OFF Button
Press the button, the unit will be turned on or off.
- 2—LED signal
- 3—Room temperature Sensor
- 4—Real time o'clock
- 5—Unit Number
No.00 is the master unit. You can set slave units(No.01--31) parametes on the master wall pad.
- 6—Mode: Auto,Cool, Dehumidification, Ventilation and Heat
- 7—Setting Time
- 8—Timer ON and OFF
- 9—Error Mark
01_ Room temperature sensor is damaged;
02_ Drainage system is damaged;
03_ Coil temperature sensor is damaged;
04_ Auto restart function is damaged.
05_ Outdoor coil temperature sensor is damaged;
06_ High or low pressure switch is opened;
08_ The unit is shortage of refrigerant.
- 10—Error Alarm
- 11—Room temperature
- 12—Setting temperature
- 13----Fan Speed Icon: Auto,Low,Medium and High
- 14----Sleep Mode Icon
- 15----Louver Swing Icon
- 16----Communication Icon
- 17----Connection check Icon
- 18----Mode Select Button
Press the button to select Auto, cool, dehumidification, ventilation or heat mode.
- 19----Fan Speed Select Button
Press the button to select Auto,low,medium or high speed.
- 20----Sleep Mode Button.
It will automatically adjust temperature and save energy when you are sleeping in cool mode or heat mode.
If the wall pad is the master,press it for 3s,communication icon appears, you can select slave unit from 1 to 31 by pressing Time up or down button,all parameters appear on the wall pad will be sent to unit you selected or all slave units when you press Enter Button.
- 21----Timer ON/OFF Button
1) Press TIMER button, \odot - \uparrow or \odot - \downarrow appears in LCD;
2) Press TIME (up) or (down) to select TIMER ON or TIMER OFF or SET;
3) If TIMER ON or TIMER OFF is selected. "h" and \odot - \uparrow or \odot - \downarrow blink in LCD; Press the TIMER(up) or (down) to set time by 10 minutes step; Press the TIMER button to confirm it. Repeat step 2) and 3) to set TIMER OFF or ON;
4) After setting TIMER ON and OFF, Press the TIME (up) or (down). When \square and SET appear in LCD, then press TIMER button to confirm it. \square , \odot - \uparrow and \odot - \downarrow appear in LCD at the same time. Then press ENTER button to confirm it.
5) When you cancel cycle timer on and off, press TIMER button for 30s. \square disappears in LCD. When you cancel timer on or/and off, press TIMER button first, then press the TIME (up) or (down) to select SET only in LCD. Press the TIMER button again, then cancel timer on or/and off.
- 22----Clock Button
Press it first, then press Time up or down button to set real time o'clock
- 23----Enter Button
In order to avoid misoperation ,all setting(except ON/OFF Button)is valid after pressing the button.
- 24----Time up/down
Press Timer ON/OFF Button or Clock Button first,then press it to set timer time or clock time
- 25----Swing Button,
26----Temperature Up/Down Button
Press Up Button to increase temperature 1°C step (MAX:30°C)
Press Down Button to decrease temperature 1°C step (MIN:16°C)

FOR SETTING MASTER-SLAVE UNIT USING WALL PAD

- 1.Open the wall pad's plastic box.
- 2.You will find the figure shown below in the right corner of the PCB.

```

      0 0 0 0 0 0
      5 4 3 2 1 0
    
```
3. Cut the wires of 0,1,2,3,4,5. The unit with the wall pad is master unit. Unit No.is 00.

```

      0 0 0 0 0 0
      0 0 0 0 0 0
      0 0 0 0 0 0
      5 4 3 2 1 0
    
```
4. The unit with the wall pad (No.01--31) is slave unit.

UNIT NO.	5	4	3	2	1	0	UNIT NO.	5	4	3	2	1	0	UNIT NO.	5	4	3	2	1	0	UNIT NO.	5	4	3	2	1	0
00	○	○	○	○	○	○	09	○	○	○	○	○	○	18	○	○	○	○	○	○	27	○	○	○	○	○	○
01	○	○	○	○	○	○	10	○	○	○	○	○	○	19	○	○	○	○	○	○	28	○	○	○	○	○	○
02	○	○	○	○	○	○	11	○	○	○	○	○	○	20	○	○	○	○	○	○	29	○	○	○	○	○	○
03	○	○	○	○	○	○	12	○	○	○	○	○	○	21	○	○	○	○	○	○	30	○	○	○	○	○	○
04	○	○	○	○	○	○	13	○	○	○	○	○	○	22	○	○	○	○	○	○	31	○	○	○	○	○	○
05	○	○	○	○	○	○	14	○	○	○	○	○	○	23	○	○	○	○	○	○							
06	○	○	○	○	○	○	15	○	○	○	○	○	○	24	○	○	○	○	○	○							
07	○	○	○	○	○	○	16	○	○	○	○	○	○	25	○	○	○	○	○	○							
08	○	○	○	○	○	○	17	○	○	○	○	○	○	26	○	○	○	○	○	○							

Remark:

- 1) Error mark from 01 to 04 is for water cassette fan coil unit:

CONTROLS SPECIFICATION**2 PIPE HOT AND CHILLED WATER CASSETTE
WITH MOTORIZED VALVE, MASTER – SLAVE CONTROL,
AND COMPUTER MANAGEMENT SYSTEM CONTROL****1.0 ABBREVIATIONS**

Ts = Setting temperature

Tr = Room air temperature sensor

Ti = Indoor coil temperature sensor

Aux = Auxiliary contact

MTV = Motorized valve

2.0 SYSTEM OPERATION**2.A MASTER AND SLAVE UNIT FUNCTION**

The control board can be set either as a master unit or slave unit.

2.A.1 MASTER UNIT FUNCTION

- The master unit can send its parameters to the slave unit using remote handset or wired wall pad.
- The master unit setting parameters are Unit ON/OFF, Mode, Fan Speed, Set Temperature, Sleep Function and Swing function.

2.A.2 SLAVE UNIT FUNCTION

- The slave unit runs according to master unit parameters.
- Every unit is allowed to change to locally desired setting using remote handset or wired wall pad.

2.A.3 MASTER – SLAVE INSTALLATION

- When using remote handset, for the master unit ensure the JP0 jumper is shorted and for the slave units JP0 is opened before turning ON the main power supply.
- When using wired wall pad, JP0 jumper will not function. Unit with No.00 wall pad is master unit. Unit with No.01—31 is slave unit. See wired wall pad function guide to see how to set wall pad Numbers.
- Connect master to slave units with shielded wire. NOTE: Use 4-core cable and one to one configuration.
- When MAIN POWER SUPPLY is ON :
 - With motorized valve: the master unit will respond with 3 beeps.
 - The slave unit will respond with 1 beep.

2-pipe FP-KM Series Fan Coil Unit

Without motorized valve: the master unit will respond with 4 beeps.
The slave unit will respond with 2 beep.

- More than 1 masters are allowed in a group. Masters can control commutatively.

2.B COMPUTER MANAGEMENT SYSTEM

- You can connect a group of units to your computer management system through the RS-485 converter. You need install the special software in your computer. The software can change the unit running parameters and check the unit working parameters. Detailed information can be found in Appendix 1.

2.C AIR CONDITIONER ON/OFF

There are 3 ways to turn the system on or off:

- by programmable timer on the handset or wall pad controls.
- by ON/OFF button on the handset or wired wall pad.
- by manual control button on the air conditioner.

2.D POWER ON SETTING

- When power on signal is received by the air conditioner, the Mode, Fan Speed, Set Temperature and Swing settings will be the same as the last handset settings before the last power off.

2.E COOL MODE

- If $T_r \geq T_s + 1$ °C, cool operation is activated. MTV is turned on. AUX2 is closed. Indoor fan runs at set speed.
- If $T_r \leq T_s$, cool operation is terminated. MTV is turned off. AUX2 is opened. Indoor fan runs at set speed.
- The range of T_s is 16 to 30 °C
- Indoor fan speed can be adjusted for low, medium, high and auto.
- When turned on, MTV requires 30 seconds before it is fully open.
- When turned off, MTV requires 120 seconds before it is fully closed.
- When the unit is turned off, indoor fan will delay for 5 seconds before it is turned off.

2.E.1. Protection of indoor coil

- If $T_i < 2$ °C for 2 minutes, MTV is turned off. AUX2 is opened. If indoor fan is set for low speed, it will run at medium speed. If it is set for medium or high speed, it will keep running at the same speed.
- When $T_i \geq 5$ °C for 2 minutes, MTV is turned on. AUX2 is closed. Indoor fan runs at set speed.

2.F FAN MODE

- Indoor fan runs at the set speed while MTV is turned off. AUX1 and AUX2 are opened.
- Indoor fan speed can be adjusted for low, medium, high and auto.

2.G HEAT MODE-----FSTZ-KM-V6.2 FOR FP-KM4(6) WITHOUT ELECTRICAL HEATER.

- If $T_r \leq T_s - 1$, heat operation is activated, MTV is turned on. AUX1 is closed. Indoor fan runs at the set speed.
- If $T_r \geq T_s$, heat operation is terminated, MTV is turned off. AUX1 is opened. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.
- The range of T_s is 16 to 30 °C
- Indoor fan speed can be adjusted for low, medium, high and auto
- When turned on, MTV requires 30 seconds before it is fully open.
- When turned off, MTV requires 120 seconds before it is fully closed.

2.G HEAT MODE----- FSTZ-KM-V6.2C FOR FP-KM4(6) WITH ELECTRICAL HEATER AS BOOSTER(OPTIONAL)

- If $T_r \leq T_s - 1$, heat operation is activated, MTV is turned on. Electrical heater is turned on. Indoor fan runs at the set speed.
- If $T_r \geq T_s$, heat operation is terminated, MTV is turned off. Electrical heater is turned off. Indoor fan runs according to POST heat condition. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.
- If $T_i < 40^\circ\text{C}$, Electrical heater is turned on. If $40 \leq T_i < 45^\circ\text{C}$, Electrical heater is kept original state. If $T_i \geq 45^\circ\text{C}$, Electrical heater is turned off.
- The range of T_s is 16 to 30 °C
- Indoor fan speed can be adjusted for low, medium, high and auto
- When turned on, MTV requires 30 seconds before it is fully open.
- When turned off, MTV requires 120 seconds before it is fully closed.

2.G HEAT MODE----- FSTZ-KM-V6.2 D FOR FP-KM4(6) WITH ELECTRICAL HEATER AS PRIMARY HEAT SOURCE. (OPTIONAL)

- If $T_r \leq T_s - 1$, heat operation is activated, MTV is turned off. Electrical heater is turned on. Indoor fan runs at the set speed.
- If $T_r \geq T_s$, heat operation is terminated, MTV is turned off. Electrical heater is turned off. Indoor fan runs according to POST heat condition. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.
- The range of T_s is 16 to 30 °C
- Indoor fan speed can be adjusted for low, medium, high and auto
- When turned on, MTV requires 30 seconds before it is fully open.
- When turned off, MTV requires 120 seconds before it is fully closed.

2.G.1 Pre-Heat-----FSTZ-KM-V6.2 FOR FP-KM4(6) WITHOUT ELECTRICAL HEATER.

- If $T_i < 32^\circ\text{C}$, when MTV is on, indoor fan remains off and AUX1 is closed.
- If $32^\circ\text{C} \leq T_i \leq 38^\circ\text{C}$, when MTV is on, AUX1 is closed and indoor fan keeps original state.

2-pipe FP-KM Series Fan Coil Unit

- If $T_i > 38\text{ }^\circ\text{C}$, when MTV is on, AUX1 is closed and Indoor fan runs at set speed.
- If indoor coil temperature sensor is damaged, pre-heat time is set for 2 minutes and Indoor fan runs at set speed.

2.G.1 Pre-Heat-----FSTZ-KM-V6.2 C(D) FOR FP-KM4(6) WITH ELECTRICAL HEATER.

- Indoor fan will be turned on after the electrical heater is turned on 30S.

2.G.2 Post-Heat -----FSTZ-KM-V6.2 FOR FP-KM4(6) WITHOUT ELECTRICAL HEATER.

- If $T_i > 38\text{ }^\circ\text{C}$, when MTV is off, indoor fan remains on at set speed and AUX1 is opened.
- If $35\text{ }^\circ\text{C} \leq T_i < 38\text{ }^\circ\text{C}$, when MTV is off, AUX1 is opened. Indoor fan keeps original state.
- If $T_i < 35\text{ }^\circ\text{C}$, when MTV is off, AUX1 is opened. Indoor fan stops.
- If indoor coil temperature sensor is damaged, post-heat time is set for 3 minutes with indoor fan running at set speed.

2.G.2 Post-Heat -----FSTZ-KM-V6.2 C(D) FOR FP-KM4(F) WITH ELECTRICAL HEATER.

- Indoor fan will be turned off after the unit is turned off 20S.

2.G.3 Protection of indoor coil

- If $T_i \geq 75\text{ }^\circ\text{C}$, MTV is turned off, indoor fan remains on and AUX1 is opened. Indoor fan at high speed.
- If $T_i < 70\text{ }^\circ\text{C}$, MTV is turned on, indoor fan remains on and AUX1 is closed. Indoor fan at set speed.

2.H DEHUMIDIFICATION MODE

If $T_r \geq 25\text{ }^\circ\text{C}$, MTV will be ON for 3 minutes and OFF for 4 minutes.

If $16\text{ }^\circ\text{C} \leq T_i < 25\text{ }^\circ\text{C}$, MTV will be ON for 3 minutes and OFF for 6 minutes.

If $T_r < 16\text{ }^\circ\text{C}$, MTV will be turned off.

2.I AUTO HEAT-DEHUMIDIFICATION-COOL MODE

In auto mode, the set temperature of the system is $24\text{ }^\circ\text{C}$ and the indoor fan runs in auto fan mode.

If $T_r < 21\text{ }^\circ\text{C}$, the unit will operate in heat mode.

If $T_r > 25\text{ }^\circ\text{C}$, the unit will operate in cool mode.

If $21\text{ }^\circ\text{C} \leq T_r \leq 25\text{ }^\circ\text{C}$, the unit will operate in dehumidification mode.

Once the unit is turned on in auto mode, it will operate in that mode and will not changeover.

If the unit has been turned off for 2 hours, when turning on the unit, it will select the operating mode depending on the room temperature.

2.J AUXILIARY CONTACTS

- Cool mode (AUX2)
AUX2 is closed when MTV is on (in normal operation). AUX2 is opened when MTV is off or protection of indoor coil is operating.
- Fan mode (AUX1 and AUX2)

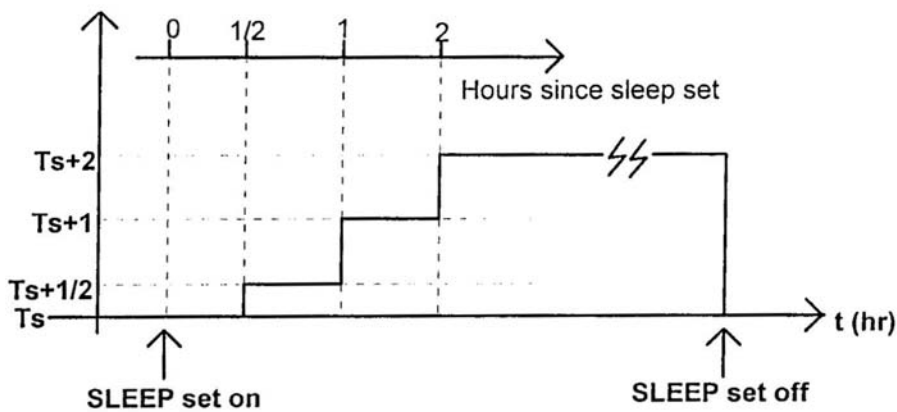
AUX1 and AUX2 are opened when Indoor fan is on.

- Heat mode (AUX1) for unit without electrical heater.
AUX1 is closed when MTV is on (in normal operation). AUX1 is opened when MTV is off or protection of indoor coil is operating.

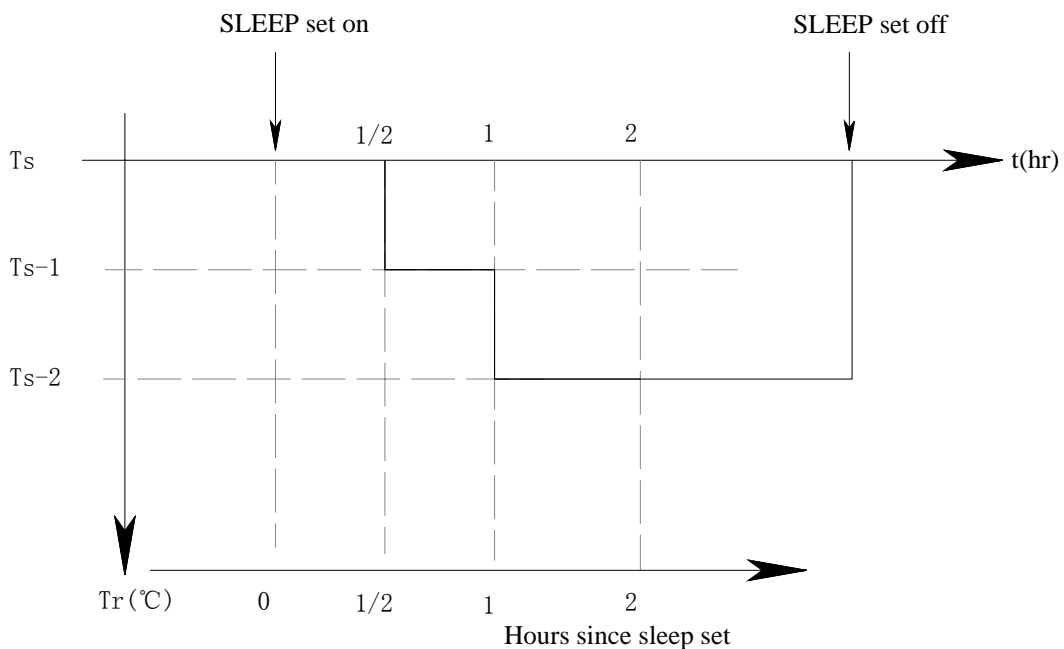
2.K SLEEP FUNCTION

- Sleep function can only be set in cool or heat modes.
- In cool mode, after sleep function is set, the indoor fan will run at low speed and T_s will increase 2°C during 2 hours.
- In heat mode, after sleep function is set, the indoor fan will run at auto fan mode and T_s will decrease 2°C during 2 hours.
- Changing of operation mode will cancel sleep function

The COOL mode SLEEP profile is as follow:

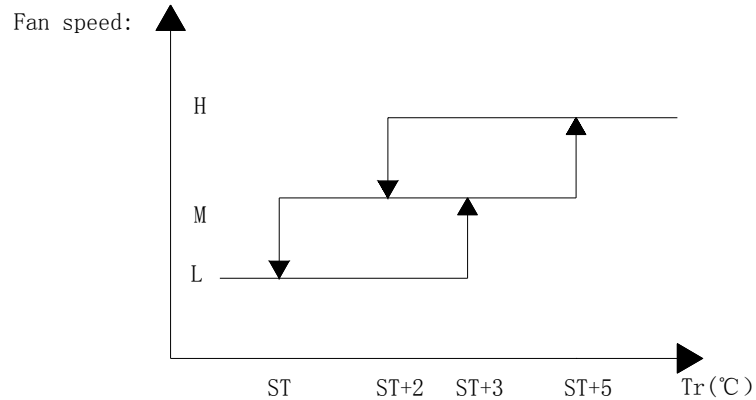


The HEAT mode SLEEP profile is as follows:

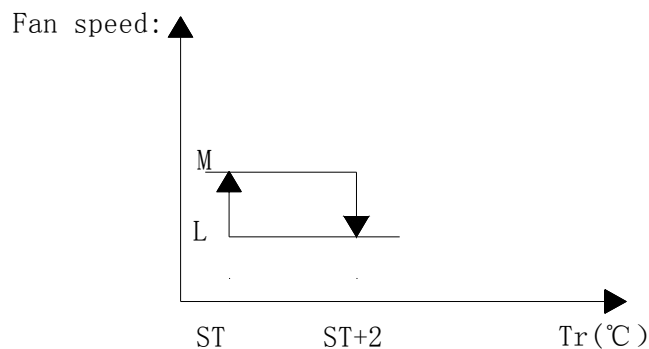


2.L **AUTO FAN SPEED**

- In cool mode, the auto fan speed will operate as the following diagram:



- In COOL mode, the fan speed cannot change until it has run at this speed over 30 seconds.
- In heat mode, the auto fan speed will operate as the following diagram:



- In HEAT mode, the fan speed cannot change until it has run at this speed over 30 seconds.

2.M **SWING / LOUVER**

- If the indoor fan is operating, the louver will swing or can be stopped at a preferred location in any mode.

2.N **BUZZER**

- If a command is received by the air conditioner, the system will respond with a beep.

2.O **AUTO RESTART**

- The system uses non-volatile memory to save the present operation parameters when system is turned off or in case of system failure or cessation of power supply. Operation parameters are

2-pipe FP-KM Series Fan Coil Unit

mode, set temperature, swing, and the fan speed. When power supply resumes or the system is switched on again, the same operations as previously set will function.

2.P MANUAL OPERATION BUTTON

- On the unit front panel next to the LED lights is the reset button. Press it once and unit will operate according to auto mode.

2.Q DRAIN PUMP

In cool and dehumidification mode :

- The drain pump will be turned on when the MTV is on, and will remain on for 5 minutes after the MTV closed.
- The drain pump will keep running for 5 minutes after the mode is changed.

Warning ! If turn off the system by circuit breaker (or main power supply) the drain pump does not work after turn off.

2.R FLOAT SWITCH

2.R.1 Float switch open before turning on.

When float switch(N/C) is opened before the unit is turned on. MTV is off. Drain pump and indoor fan will operate. After float switch is closed, MTV is on.

2.R.2 Float switch is opened, when unit is on.

If the float switch is opened, the drain pump will work. When the float switch is closed, the drain pump will run continuously for 5 minutes.

If the float switch is opened for 5 minutes continuously, MTV will be turned off. Indoor fan runs at set speed.

If the float switch is opened for 10 minutes continuously, MTV will remain off. Indoor fan runs at set speed. Red · yellow and green LED will blink with beeps.

2.R.3 Float switch is opened, when unit is off.

If the float switch is opened, the drain pump will work. When the float switch is closed, the drain pump will run continuously for 5 minutes.

If the float switch is opened for 10 minutes continuously, Red · yellow and green LED will blink. The drain pump continues to work.

3.0 LED LIGHTS

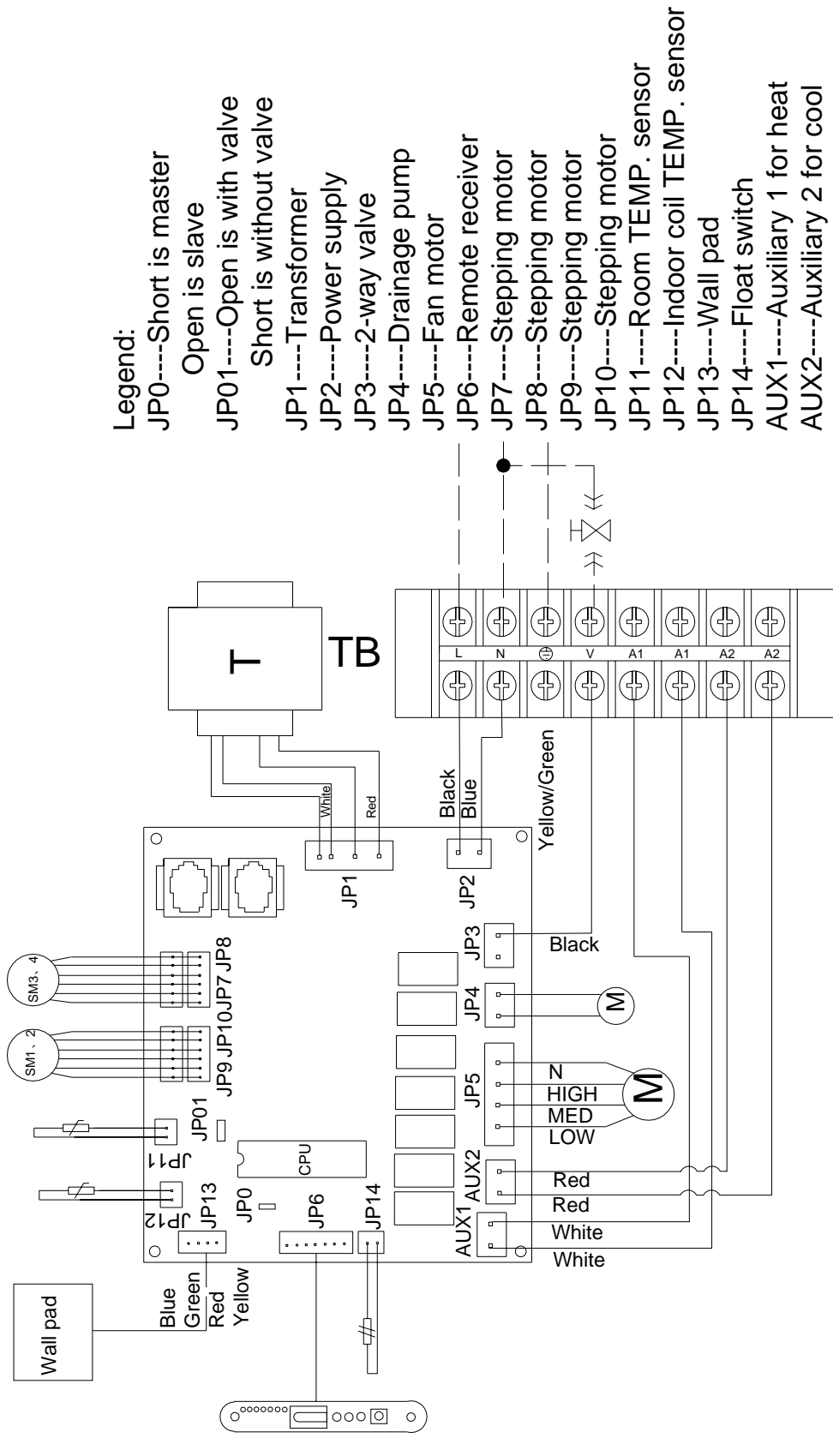
ITEM	RED LED	YELLOW LED	GREEN LED
High speed	ON		
Medium speed		ON	
Low speed			ON
Pre-heat		BLINK	
Post-heat			BLINK
Low temperature coil protection	BLINK		
Over heat indoor coil protection		BLINK	BLINK

2-pipe FP-KM Series Fan Coil Unit

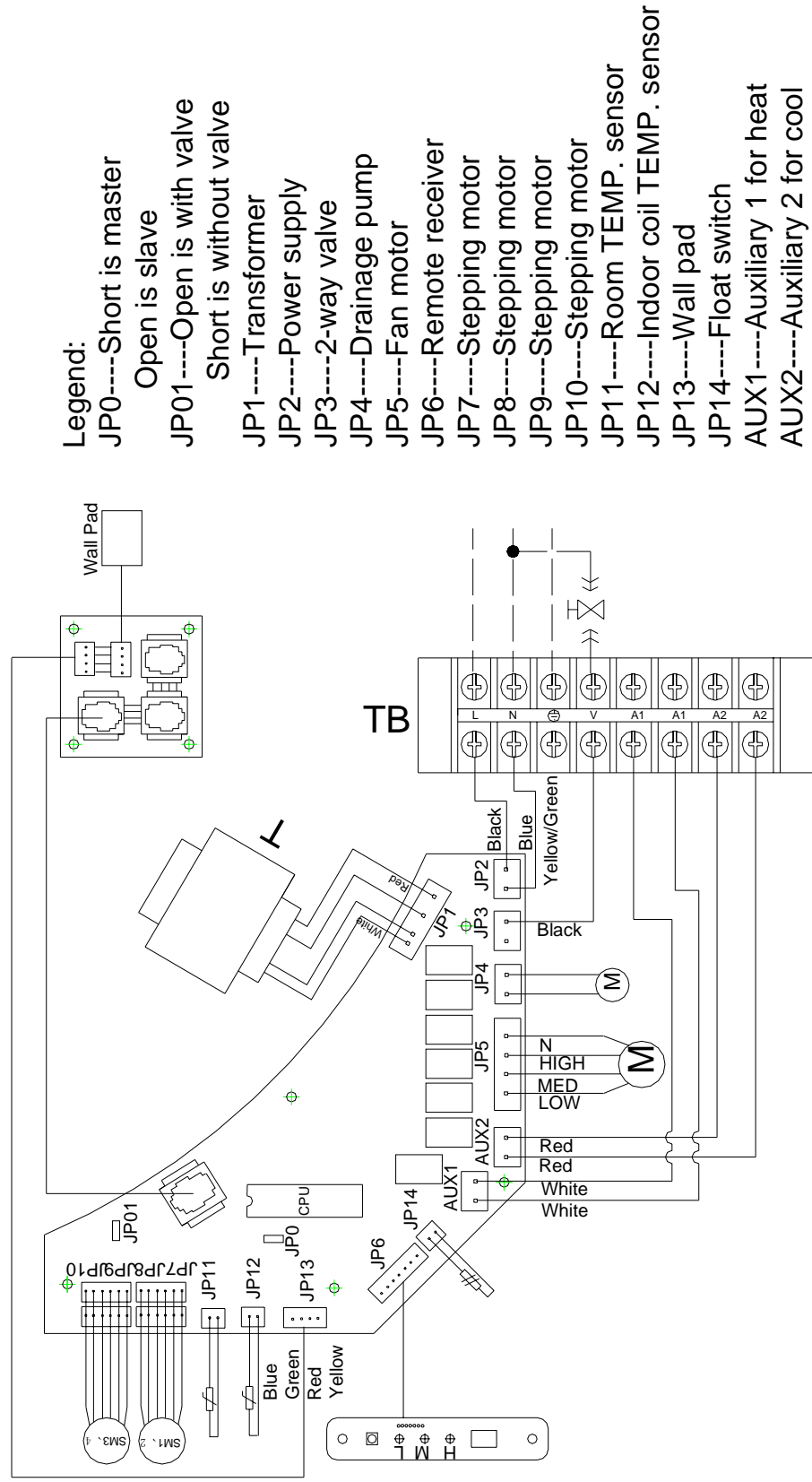
Coil Temperature sensor damaged	ON	BLINK	BLINK
Room Temperature sensor damaged	BLINK		BLINK
Condensate pump damaged	BLINK	BLINK	BLINK
<ul style="list-style-type: none"> • If the sensor malfunctions, the red and yellow LED will blink with beep. Press reset button or any of the remote handset buttons, and the beeping will stop. • If the drain pump malfunctions, the red, yellow and green LED will blink with beeping sound. Press reset button or any of the remote handset buttons, and the beeping will stop. 			

Wiring Diagrams

Water Cassette Wiring Diagram Without Electrical Heater FP-KM4-34-51-68-80-VS



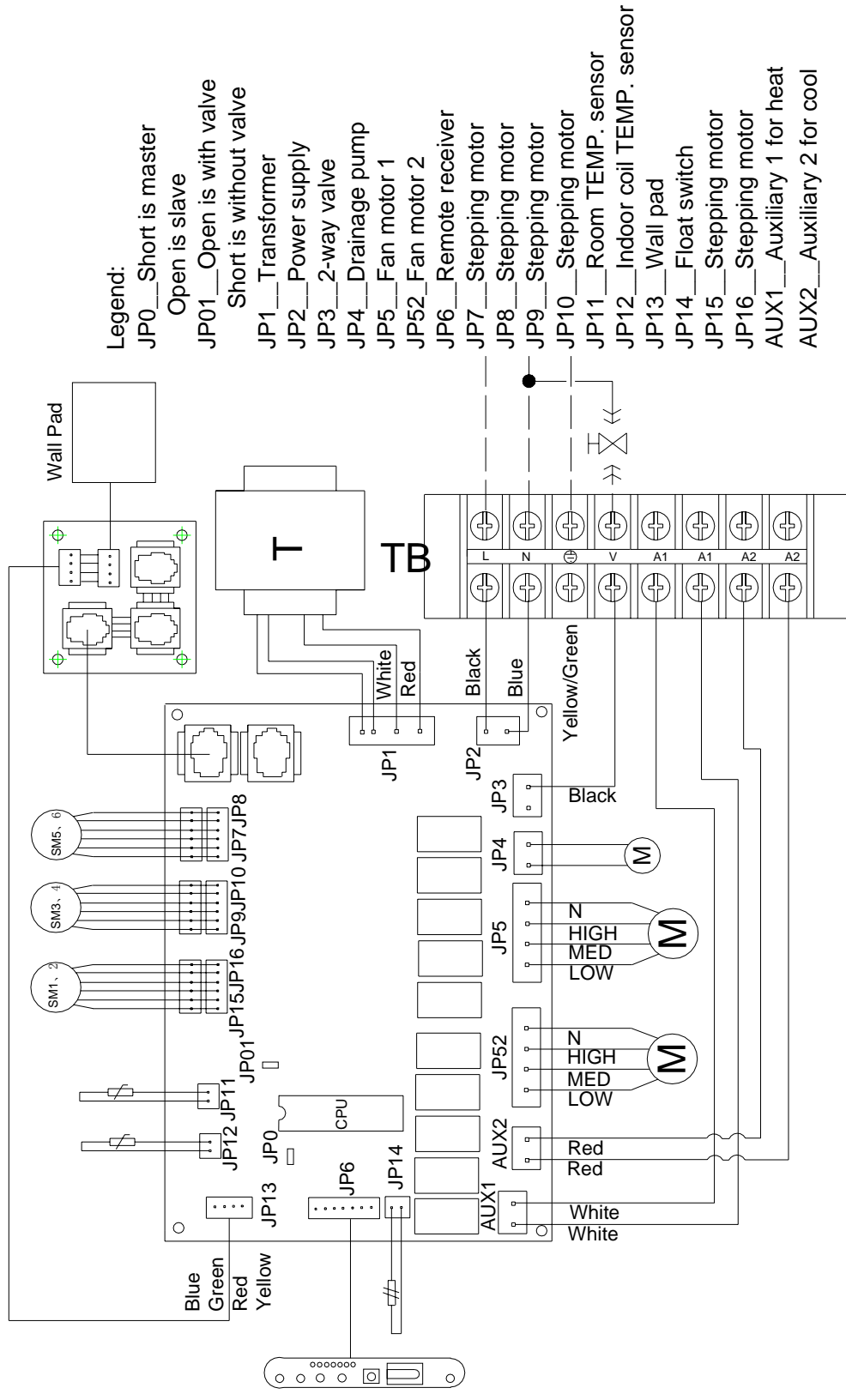
Water Cassette Wiring Diagram Without Electrical Heater FP-KM4-85-102-136-170-204-238-VS



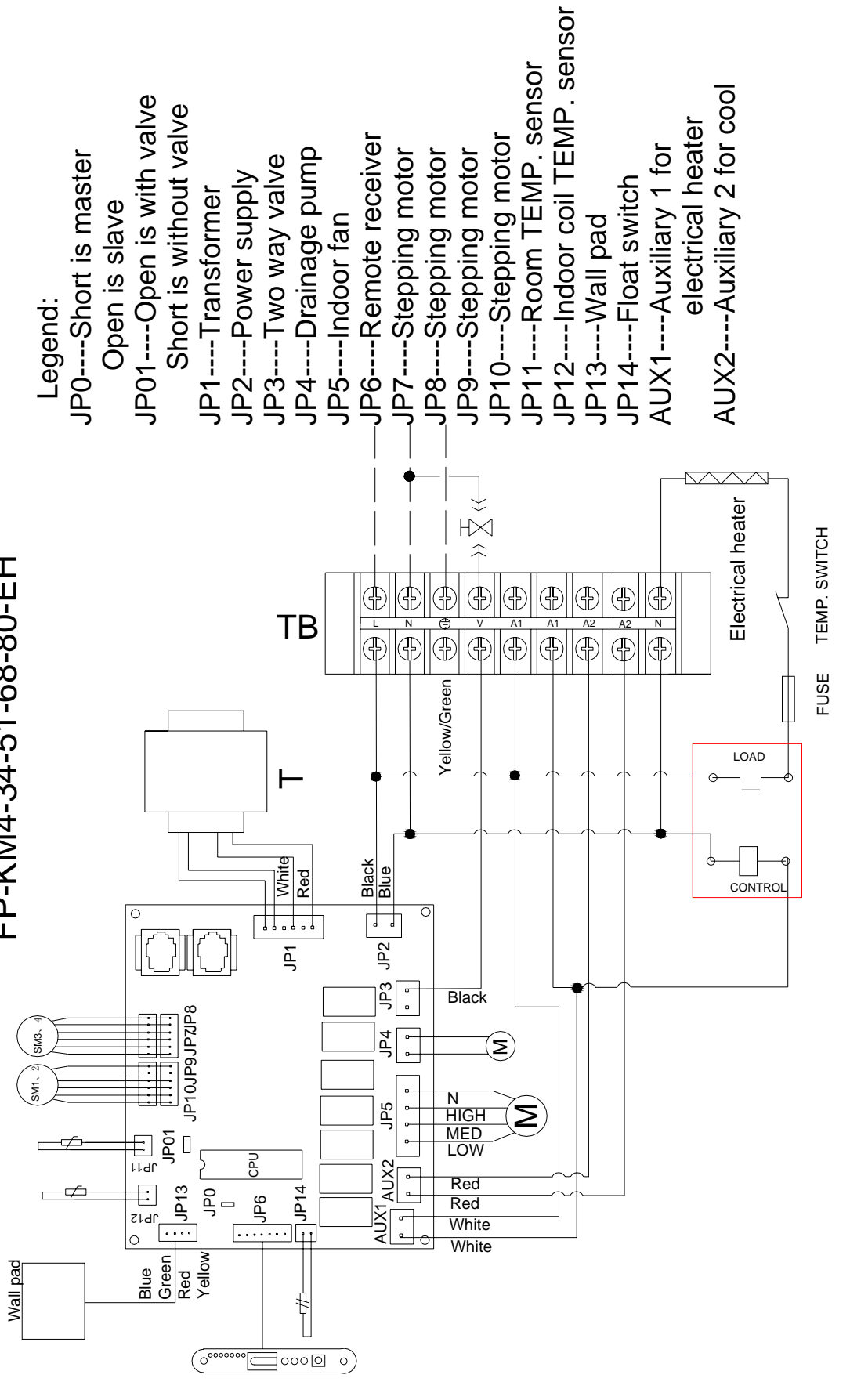
- Legend:**
- JP0----Short is master
Open is slave
 - JP01----Open is with valve
Short is without valve
 - JP1 ---- Transformer
 - JP2----Power supply
 - JP3----2-way valve
 - JP4----Drainage pump
 - JP5----Fan motor
 - JP6----Remote receiver
 - JP7----Stepping motor
 - JP8----Stepping motor
 - JP9----Stepping motor
 - JP10----Stepping motor
 - JP11----Room TEMP. sensor
 - JP12----Indoor coil TEMP. sensor
 - JP13----Wall pad
 - JP14----Float switch
 - AUX1----Auxiliary 1 for heat
 - AUX2----Auxiliary 2 for cool

Water Cassette Wiring Diagram Without Electrical Heater

FP-KM6-102-136-160



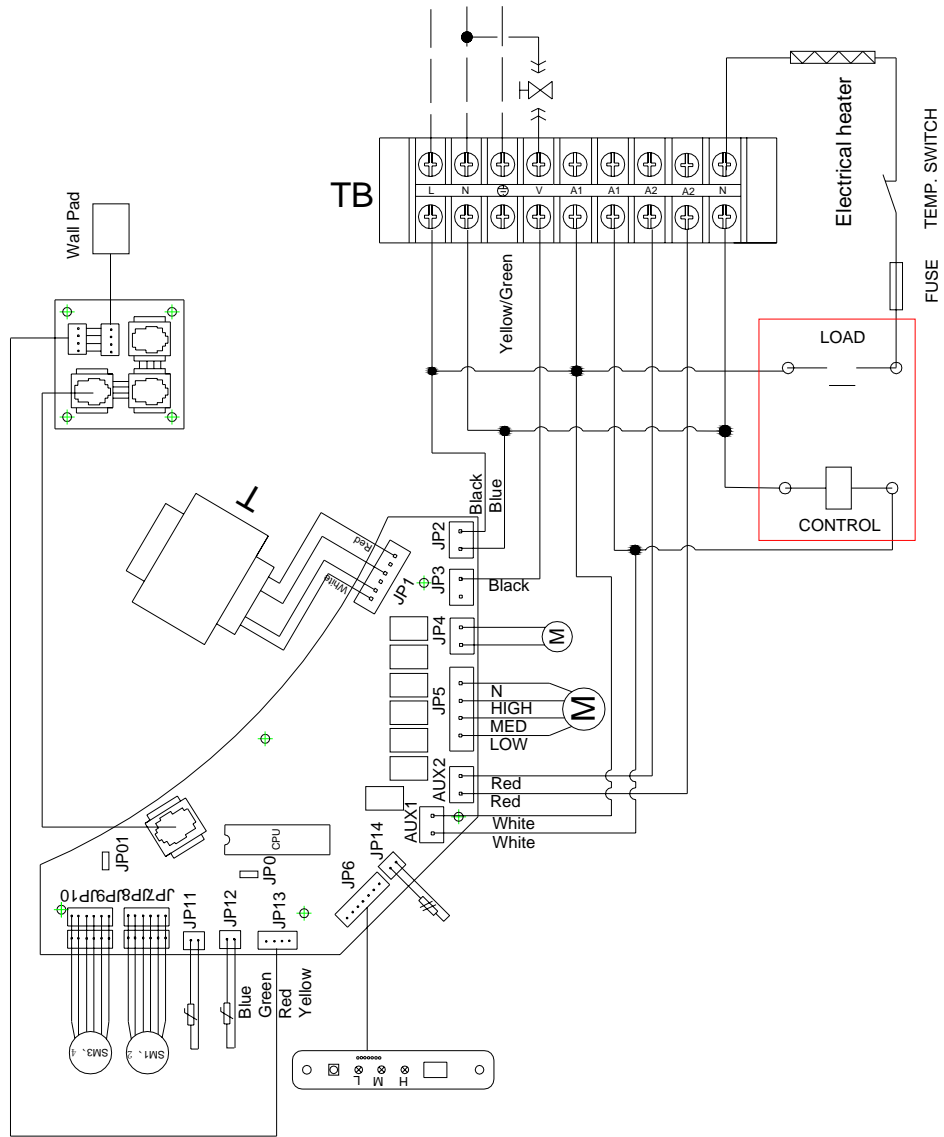
Water Cassette Wiring Diagram With Electrical Heater FP-KM4-34-51-68-80-EH



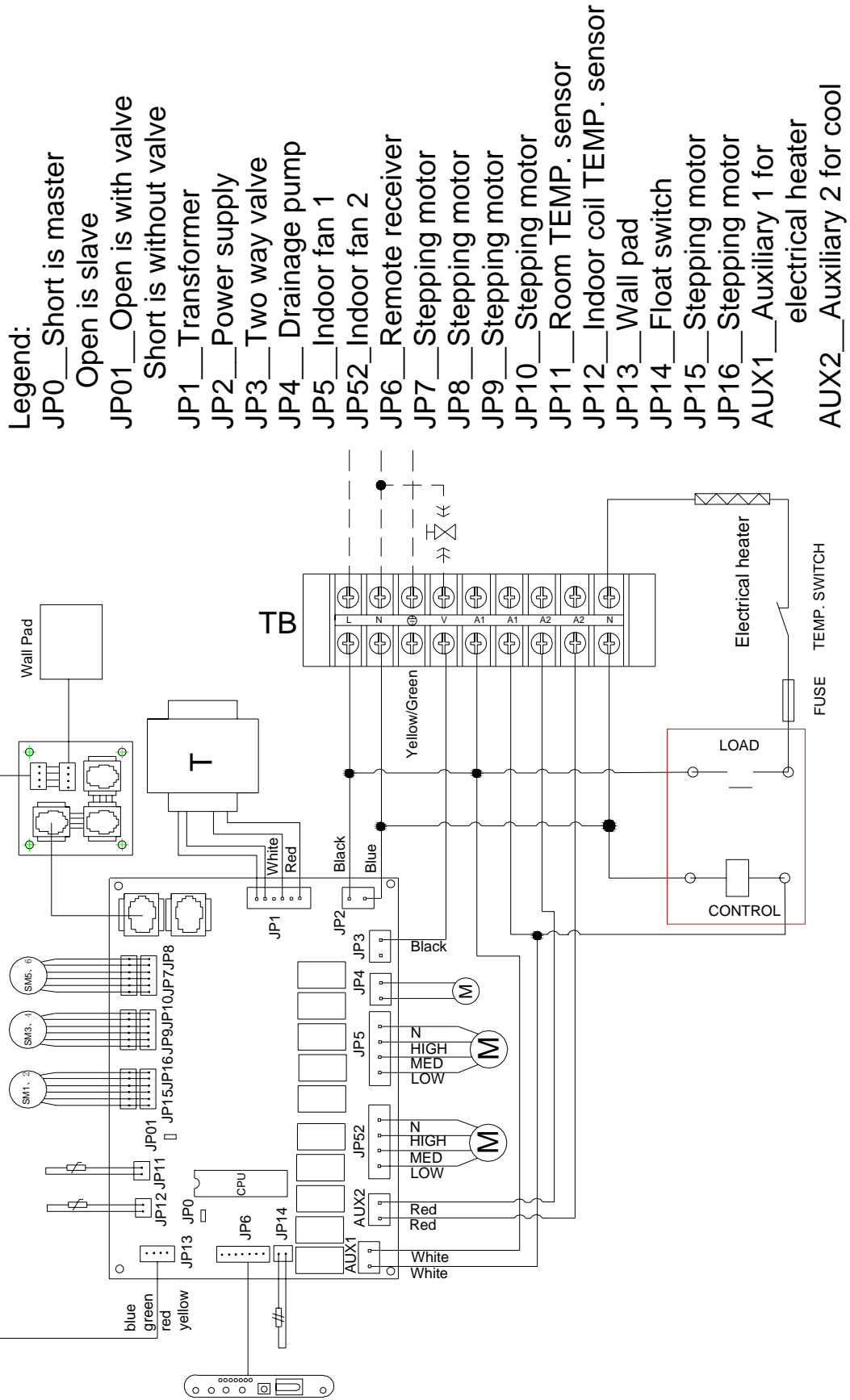
- Legend:**
- JP0----Short is master
Open is slave
 - JP01----Open is with valve
Short is without valve
 - JP1----Transformer
 - JP2----Power supply
 - JP3----Two way valve
 - JP4----Drainage pump
 - JP5----Indoor fan
 - JP6----Remote receiver
 - JP7----Stepping motor
 - JP8----Stepping motor
 - JP9----Stepping motor
 - JP10----Stepping motor
 - JP11----Room TEMP. sensor
 - JP12----Indoor coil TEMP. sensor
 - JP13----Wall pad
 - JP14----Float switch
 - AUX1----Auxiliary 1 for
electrical heater
 - AUX2----Auxiliary 2 for cool

Water Cassette Wiring Diagram With Electrical Heater FP-KM4-85-102-136-170-204-238-EH

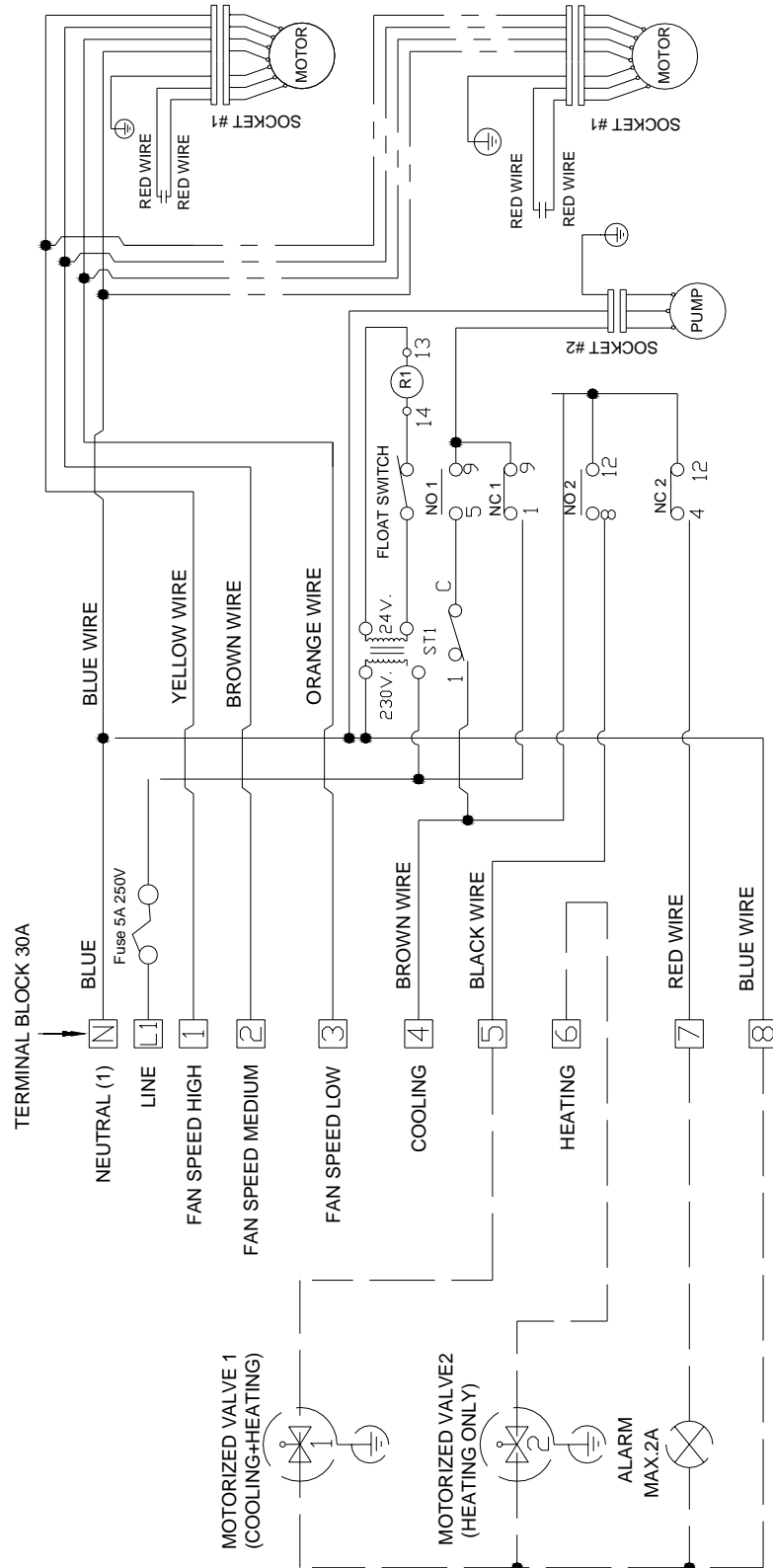
- Legend:**
- JP0----Short is master
Open is slave
 - JP01----Open is with valve
Short is without valve
 - JP1----Transformer
 - JP2----Power supply
 - JP3----Two way valve
 - JP4----Drainage pump
 - JP5----Indoor fan
 - JP6----Remote receiver
 - JP7----Stepping motor
 - JP8----Stepping motor
 - JP9----Stepping motor
 - JP10----Stepping motor
 - JP11----Room TEMP. sensor
 - JP12----Indoor coil TEMP. sensor
 - JP13----Wall pad
 - JP14----Float switch
 - AUX1----Auxiliary 1 for electrical heater
 - AUX2----Auxiliary 2 for cool



Water Cassette Wiring Diagram With Electrical Heater FP-KM6-102-136-160-EH

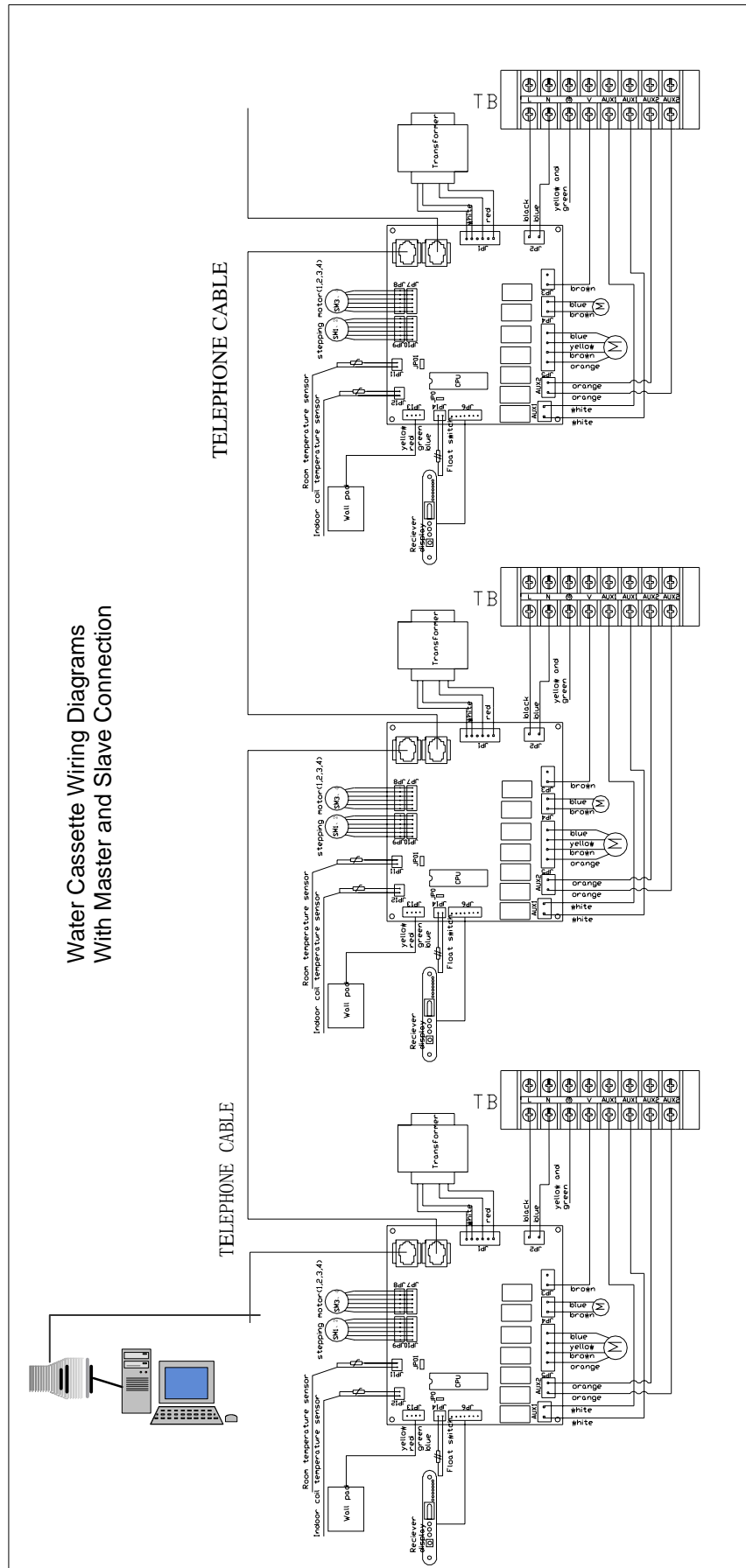


Water Cassette Wiring Diagram Without Control PCB



Field Wire	SYM	DESCRIPTION	ST1_Temperature control
-----	R1	RELAY COIL 24V. OMRON LY2 DPDT	

Water Cassette Wiring Diagrams
With Master and Slave Connection



OPTIONAL SOLENOID VALVE KIT



The solenoid valve consists of a motor and a main body. The synchronous motor recovers by a spring and can be controlled by a handle. The main body adopts the piston system.

1. Technical data of solenoid valve

Power supply: 220VAC50/60Hz

Input: 4W

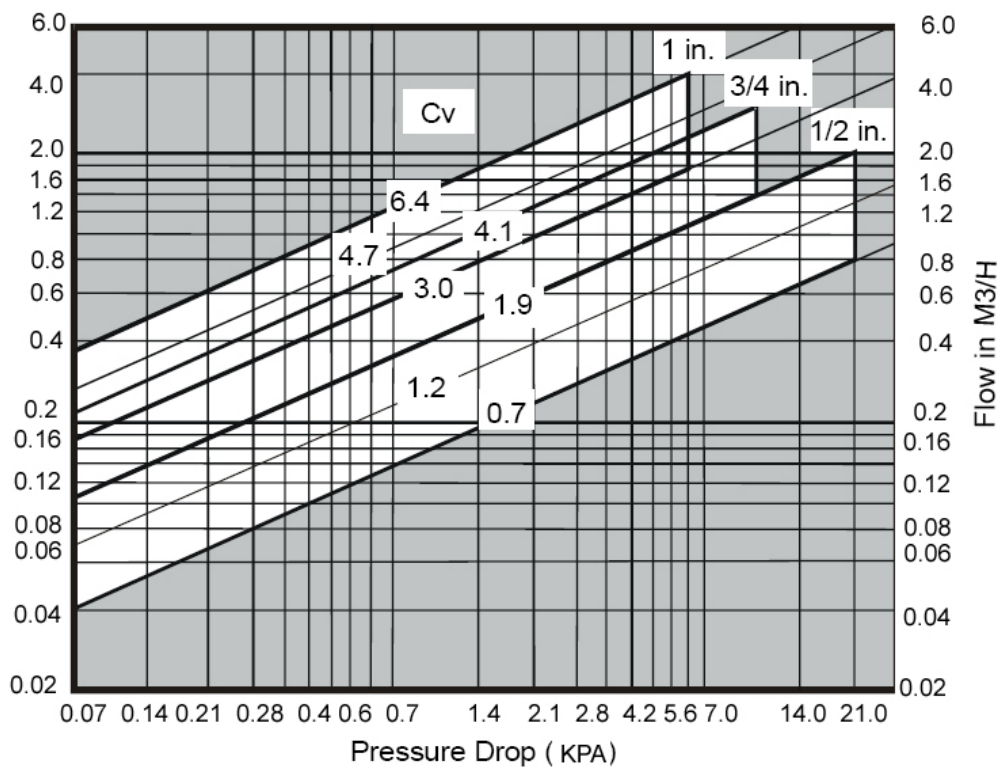
Electric machine type: synchronous

Working pressure: 1.6Mpa

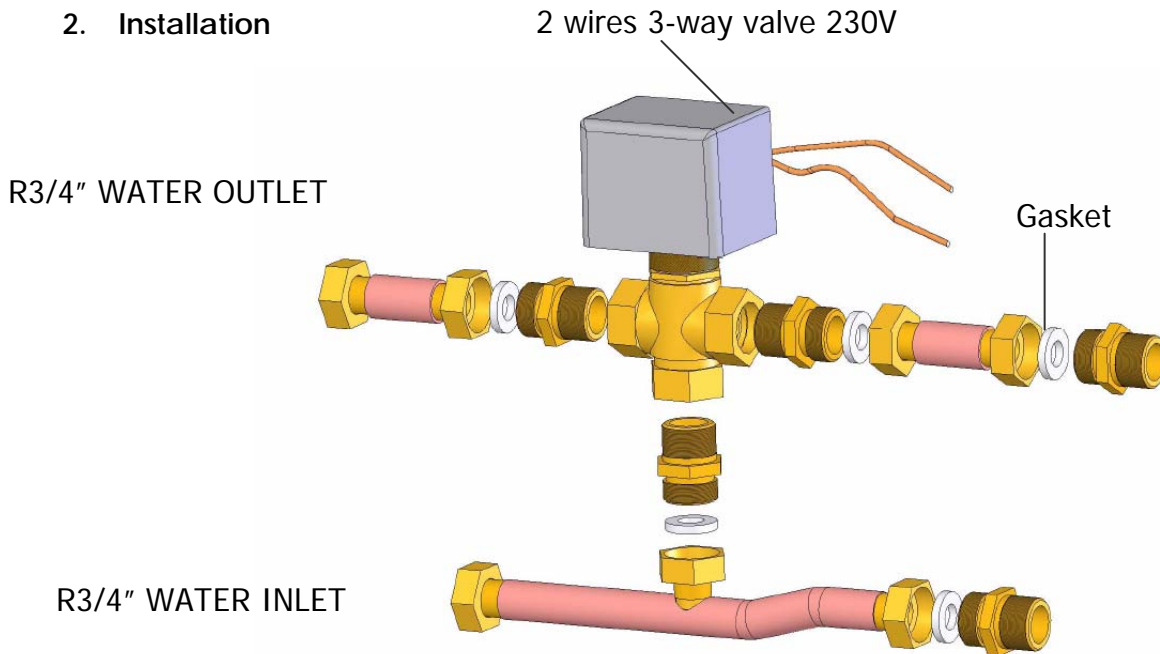
Ambient operating temperature: 0~65°C

Liquid temperature range: 1~95°C

Pressure Drop vs. Flow



2. Installation



A solenoid valve (available as accessory) must be fitted to cut off water flow.

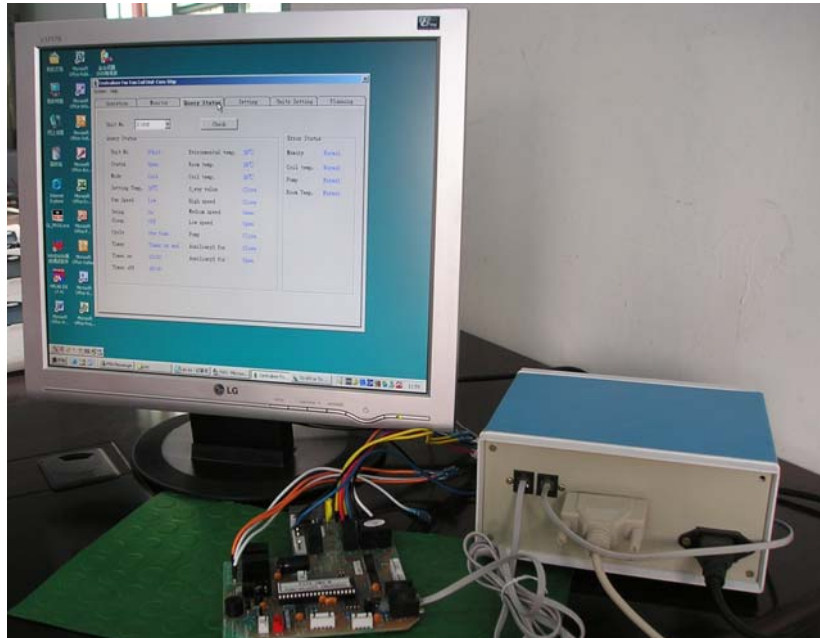
The choice and installation of components is the responsibility of the installer who should follow good working practice and legislation in force in the country concerned.

Reference values	
pH	6 – 8
Electrical conductivity	Less than 200 mV/cm (25°C)
Chlorine ions	Less than 50 ppm
Sulphuric acid ions	Less than 50 ppm
Total iron	Less than 0.3 ppm
Alkalinity M	Less than 50 ppm
Total hardness	Less than 35°f
Sulphur ions	none
Ammonia ions	none
Silicon ions	Less than 300 ppm

TROUBLE SHOOTING

MALFUNCTION	CAUSE	SOLUTION
The fan coil does not start up	No voltage	<ul style="list-style-type: none"> - Check for presence of voltage - Check fuse on board
	Mains switch in the "OFF" position	<ul style="list-style-type: none"> - Place in the "ON" position
	Faulty room control	<ul style="list-style-type: none"> - Check the room control
	Faulty fan	<ul style="list-style-type: none"> - Check fan motor
Insufficient output	Mash filter clogged	<ul style="list-style-type: none"> - Clean the filter
	Air flow obstructed	<ul style="list-style-type: none"> - Remove obstacles
	Room control regulation	<ul style="list-style-type: none"> - Check
	Incorrect water temperature	<ul style="list-style-type: none"> - Check
	Air present	<ul style="list-style-type: none"> - Vent
Noise and vibrations	Contact between metal parts	<ul style="list-style-type: none"> - Check
	Loose screws	<ul style="list-style-type: none"> - Tighten screws

APPENDIX1:



- Use the telephone cable to connect fan coil units and converter.
- Connect the converter COM1 or COM2 to computer.
- Install special software supplied by factory in computer. Open the software, you will find the follow figure. You can control or check the units working parameters.

