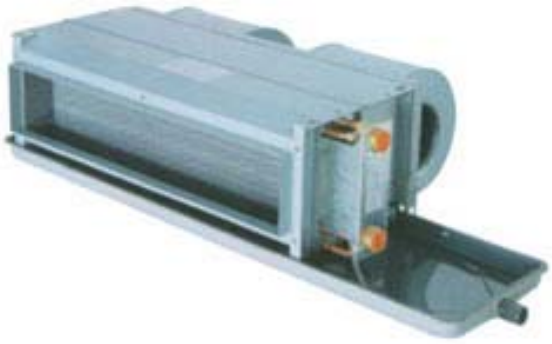
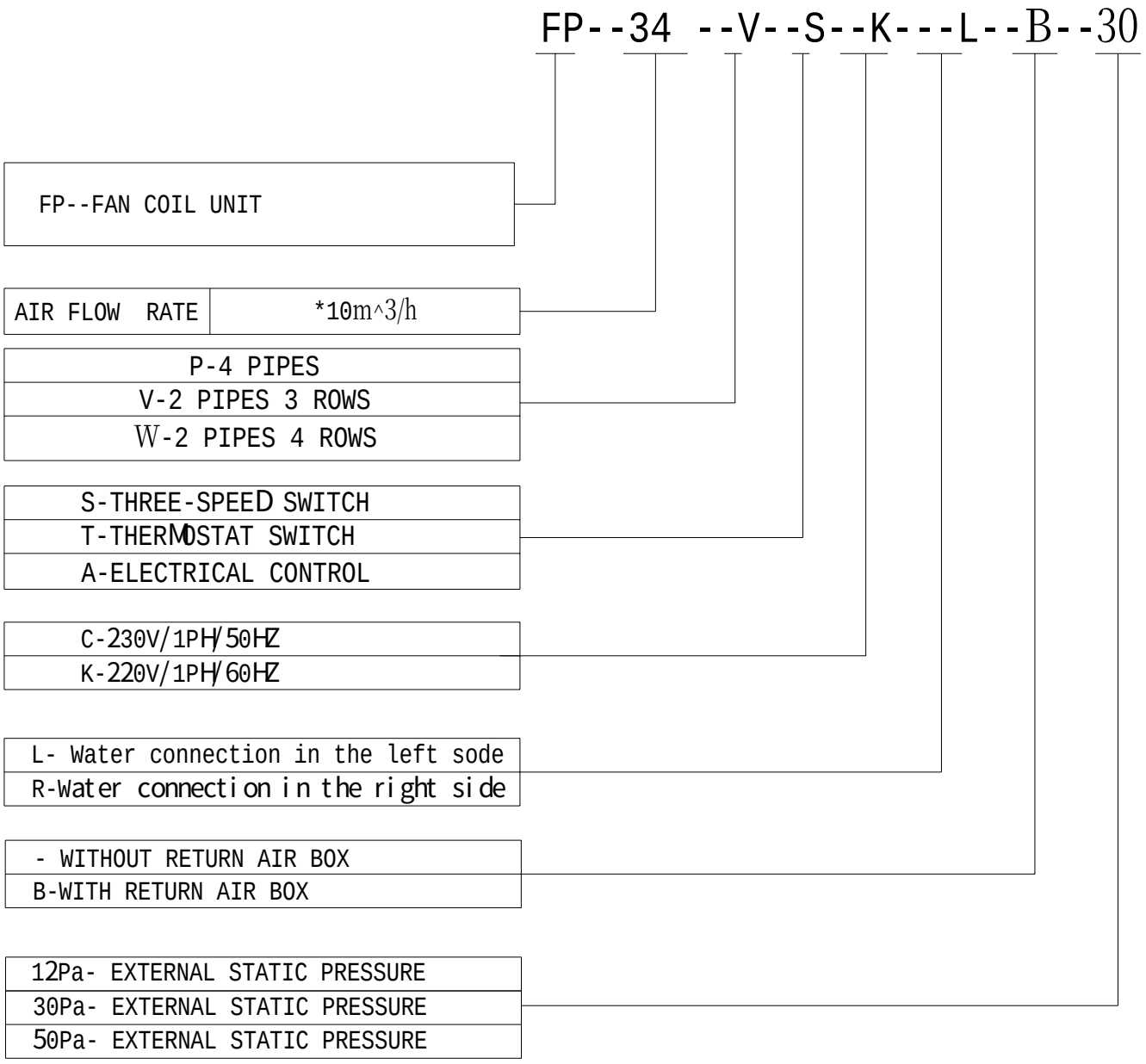
TECHNICAL CATALOGUE

2-pipe ceiling concealed duct hydraulic terminal units with electronic and electromechanical



CEILING CONCEALED FAN COIL UNIT MODEL ASSIGNMENTS



How to tell the left or right unit

Face the unit.

If the water connection is in the right, the unit is right unit.

If the water connection is in the left, the unit is left unit.

● GENERAL TECHNICAL DATA

3-ROWS

MODEL			FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
AIR FLOW	H	m^3/h	340	510	680	850	1020	1360	1700	2040	2380
	M		260	384	510	638	765	1020	1275	1530	1785
	L		168	258	340	425	510	680	850	1020	1180
COOLING CAP.	H	W	1750	2680	3640	4480	5350	7180	8950	10600	12000
	M		1545	2270	3020	3770	4530	6040	7515	8350	9750
	L		1070	1650	2170	2710	3250	4340	5420	6050	6670
SENSIBLE COOLING CAP.	H	W	1271	1900	2536	3171	3803	5071	6339	6540	8039
	M		1070	1573	2083	2607	3125	4167	5184	5443	6664
	L		745	1149	1511	1887	2263	3022	3774	4174	4821
HEATING CAP.	H	W	3000	4000	5950	7300	8300	11100	13350	15450	17900
	M		2700	3600	4800	5860	6800	9030	10800	12600	14600
	L		2400	3100	3500	4330	5000	6700	8010	9450	10800
NOISE LEVEL		dB(A)	32/34/37	34/37/39	36/38/41	38/40/43	39/42/45	40/43/46	41/44/48	43/47/50	45/48/52
POWER SUPPLY			220～240V /1P/50HZ								
POWER INPUT		W	33	47	56	72	89	111	140	180	221
MOTOR CURRENT		Amp.	0.168	0.236	0.282	0.345	0.436	0.61	0.69	0.86	1.04
CONTROL METHOD			THREE-SPEED SWITCH ,THERMOSTAT OR ELECTRICAL PCB								
WATER FLOW		Kg/h	351	520	700	876	1050	1400	1750	1990	2324
WATER PRESSURE DROP		KPa	2.4	5.9	11.9	19.7	31.9	47.8	18.2	24.4	37.1
COND. PIPE SIZ		inch	R3/4								
WEIGHT（Kg）		WA	14.5	16.5	18.5	20	22	32.5	35.5	37	40
		LA	20	22	25	30	35	40	50	65	70
WORKING PRESSSURE		MPa	1.6								
CONNECTION METHOD			SOCKET								
WATER CONNECTION	IN	inch	Rc3/4								
	OUT	inch	Rc3/4								

1. External static pressure is 12Pa.
2. 27℃db /19.5℃wb entering air temperature, 7℃ entering water and 12℃ leaving water temperature.
3. 20℃db entering air temperature, 60℃ entering water and 50℃ leaving water.

4-ROWS

MODEL			FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
AIR FLOW	H	m^3/h	340	510	680	850	1020	1360	1700	2040	2380
	M		260	384	510	638	765	1020	1275	1530	1785
	L		168	258	340	425	510	680	850	1020	1180
COOLING CAP.	H	W	2000	3100	4300	5300	6000	7900	10.7	12.05	13000
	M		1800	2700	3700	4700	4800	6300	8500	9340	10050
	L		1700	2200	2300	3400	3400	4700	7200	6510	6960
SENSIBLE COOLING CAP.	H	W	1400	2100	3000	3700	4200	5100	6800	7610	8150
	M		1300	1900	2600	3200	3300	4100	5600	6310	6770
	L		1200	1500	1600	2300	2300	3000	4600	4750	5160
HEATING CAP.	H	W	3200	4800	6500	7800	8800	11600	16100	17200	19000
	M		2900	4200	4800	6800	7000	9200	12500	13880	15400
	L		2600	3700	3900	5000	4900	6500	9700	10300	11460
NOISE LEVEL		dB(A)	32/34/37	34/37/39	36/38/41	38/40/43	39/42/45	40/43/46	41/44/48	43/47/50	45/48/52
POWER SUPPLY			220～240V /1P/50HZ								
POWER INPUT		W	33	47	56	72	89	111	140	180	221
MOTOR CURRENT		Amp.	0.168	0.236	0.282	0.345	0.436	0.61	0.69	0.86	1.04
CONTROL METHOD			THREE-SPEED SWITCH ,THERMOSTAT OR ELECTRICAL PCB								
WATER FLOW		Kg/h	351	520	700	876	1050	1400	1750	1990	2324
WATER PRESSURE DROP		KPa	2.4	5.9	11.9	19.7	31.9	47.8	18.2	24.4	37.1
COND. PIPE SIZ		inch	R3/4								
WEIGHT（Kg）		WA	14.5	16.5	18.5	20	22	32.5	35.5	37	40
		LA	20	22	25	30	35	40	50	65	70
WORKING PRESSSURE		MPa	1.6								
CONNECTION METHOD			SOCKET								
WATER CONNECTION	IN	inch	Rc3/4								
	OUT	inch	Rc3/4								

1. External static pressure is 12Pa.
2. 27℃db /19.5℃wb entering air temperature, 7℃ entering water and 12℃ leaving water temperature.
3. 20℃db entering air temperature, 60℃ entering water and 50℃ leaving water

● COOLING PERFORMANCE

3-ROW COOLING CAPACITY

FP-34-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dPw	qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
°C	l/h	kPa	m3/h	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C
5	461	12.6	360	1.8	1.4	13.5	12.4	2.2	1.6	13.7	12.7	2.3	1.6	13.7	12.9	2.7	1.7	14.5	12.9
	432	11.2	315	1.7	1.2	13.2	12.2	2	1.4	13.4	12.4	2.1	1.4	13.3	12.6	2.5	1.6	13.6	12.8
	389	9.3	270	1.5	1.1	12.8	12	1.8	1.3	13	12.2	1.9	1.3	12.8	12.2	2.3	1.4	13	12.6
7	393	9.4	360	1.3	1.1	16.1	14.1	1.7	1.3	16.3	14.5	1.8	1.3	16	14.6	2.3	1.5	16.2	15.1
	358	7.9	315	1.2	1	16	14.0	1.5	1.2	15.9	14.3	1.6	1.2	15.7	14.4	2.1	1.4	15.8	14.8
	320	6.5	270	1	0.8	15.8	13.9	1.4	1	15.7	14	1.5	1	15.4	14.2	1.9	1.2	15.3	14.5
9	321	6.5	360	1.1	1	16.9	14.9	1.3	1.1	17.8	16.0	1.4	1.1	17.9	16	1.9	1.3	17.8	16.3
	292	5.5	315	1	0.9	16.7	14.7	1.1	1	17.6	15.6	1.2	1	17.6	15.8	1.7	1.2	17.5	16.1
	261	4.5	270	0.8	0.8	16.6	14.5	1	0.9	17.5	15.4	1.1	0.9	17.4	15.6	1.5	1.1	17.1	15.9
11	240	3.8	360	0.9	0.9	17.4	15.6	1.1	1	18.2	16.1	1.1	1	18.9	16.8	1.4	1.1	19.7	17.8
	227	3.5	315	0.8	0.8	17.3	15.5	1	0.9	18.1	16	1	0.9	18.7	16.7	1.3	1	19.2	17.5
	206	2.9	270	0.7	0.7	17.1	15.3	0.8	0.8	18	16	0.8	0.8	18.6	16.6	1.2	0.9	18.7	17.2
13	189	2.5	360	0.7	0.7	18.6	16.2	0.9	0.9	18.7	16.8	0.9	0.9	19.6	17.4	1.1	1	21	18.5
	169	2	315	0.6	0.6	18.3	16.1	0.8	0.8	18.6	16.7	0.8	0.8	19.5	17.3	1	0.8	20.9	18.4
	149	1.6	270	0.6	0.6	17.9	16	0.7	0.7	18.6	16.7	0.7	0.7	19.5	17.3	0.9	0.7	20.7	18.4

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

FP-51-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dPw	qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
°C	l/h	kPa	m3/h	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C
5	685	31.6	505	2.7	1.9	13.7	12.1	3.2	2.2	14.1	12.5	3.4	2.2	14.1	12.7	4	2.4	14.5	13.2
	604	25.3	425	2.4	1.7	13.2	11.8	2.8	1.9	13.5	12.2	3	1.9	13.5	12.3	3.5	2.1	13.9	12.8
	534	20.4	360	2.1	1.5	12.7	11.5	2.5	1.7	13	11.9	2.6	1.7	13	11.9	3.1	1.9	13.3	12.4
7	583	23.5	505	2.2	1.5	16	13.5	2.6	1.8	16.5	13.8	2.8	1.8	16.3	14	3.4	2.1	16.7	14.6
	521	19.3	425	1.9	1.4	15.4	13.2	2.3	1.6	15.9	13.5	2.5	1.6	15.9	13.6	3	1.8	16.1	14.2
	461	15.5	360	1.7	1.2	14.6	12.9	2	1.4	15.2	13.3	2.2	1.4	15.1	13.3	2.7	1.6	15.7	13.9
9	482	16.6	505	1.6	1.2	17.6	14.7	2	1.5	18.1	15.2	2.2	1.5	17.9	15.5	2.8	1.8	18.2	16
	427	13.4	425	1.4	1.1	17.4	14.6	1.7	1.3	17.7	14.9	1.9	1.3	17.5	15.2	2.5	1.6	17.6	15.6
	379	10.9	360	1.2	0.9	17.2	14.5	1.5	1.2	17.3	14.7	1.7	1.2	17.1	14.9	2.2	1.4	17.2	15.3
11	391	11.4	505	1.3	1.2	18	15.3	1.6	1.3	19.1	16.1	1.6	1.2	19.6	16.6	2.3	1.6	19.6	17.1
	347	9.2	425	1.1	1	17.8	15.2	1.4	1.1	18.9	16	1.4	1.1	19.2	16.4	2	1.4	19.2	16.8
	308	7.5	360	1	0.9	17.6	15.1	1.2	1	18.6	15.8	1.3	1	18.9	16.2	1.8	1.2	18.8	16.6
13	271	5.9	505	1.1	1.1	18.8	16	1.3	1.3	19.2	16.7	1.3	1.1	20.2	17.4	1.6	1.2	22.1	18.4
	237	4.6	425	0.9	0.9	18.5	15.9	1.2	1.1	19	16.7	1.2	1	19.8	17.2	1.4	1	21.9	18.4
	208	3.7	360	0.8	0.8	18.4	15.8	1	1	18.7	16.5	1	0.9	19.6	17.1	1.2	0.9	21.6	18.2

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

FP-68-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
[°C]	[1/h]	[kPa]	[m3/h	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]
5,0	925	42	680	4.41	2.49	14.3	10.7	4.93	2.78	15	11.3	5.13	2.68	15.4	11.6	5.86	2.9	16.4	12.5
	705	30	510	3.35	2.03	13.4	10.6	3.75	2.27	14	11.2	3.91	2.27	14	11.5	4.5	2.36	15.4	12.3
	490	15.6	340	2.3	1.64	11	10.4	2.58	1.74	12.2	11	2.71	1.75	12.1	11.2	3.13	1.85	13.4	13.1
6,0	822	38	681	3.95	2.39	14.7	11.5	4.42	2.64	15.6	12.2	4.56	2.57	15.9	12.6	5.3	2.73	17.2	13.5
	635	25	511	3.06	2.01	13.5	11.3	3.41	2.18	14.5	12	3.52	2.14	14.7	12.4	4.05	2.24	16.1	13.3
	436	12.8	341	2.1	1.53	11.9	11.1	2.34	1.69	12.6	11.8	2.42	1.59	13.4	12.2	2.8	1.72	14.2	13
7,0	650	24	683	3.1	2.28	15.2	13.0	3.58	2.54	16.0	13.6	3.6	2.5	16.2	14.2	4.45	2.48	18.2	14.8
	560	18	510	2.5	1.92	14	12.6	2.87	2.08	15	13.2	3.1	2.07	15.2	13.4	3.58	2.07	17	14.3
	380	9.5	341	1.73	1.4	13	12.4	1.99	1.55	13.7	13	2.1	1.5	14.2	13.3	2.5	1.62	15.2	14.1
8,0	636	20	683	2.9	2.13	15.8	13.3	3.35	2.38	16.7	14	3.53	2.28	17.1	14.3	4.13	2.43	18.4	15.3
	496	16.2	513	2.28	1.75	15	13.1	2.6	1.94	15.8	13.8	2.75	1.9	16.1	14.1	3.2	2.0	17.4	15.1
	342	8.3	342	1.59	1.34	13.6	12.9	1.8	1.45	14.5	13.6	1.9	1.47	14.4	13.9	2.2	1.5	16	14.9
9,0	532	18	684	2.48	1.99	16.4	14	2.77	2.26	17.2	14.9	2.95	2.11	17.8	15.2	3.55	2.27	19.1	16.2
	418	11.9	513	1.9	1.67	15.4	13.9	2.23	1.86	16.3	14.6	2.32	1.79	16.7	15	2.75	1.89	18	16
	300	6.4	343	1.35	1.27	14.2	13.7	1.55	1.39	15	14.4	1.65	1.39	15.1	14.7	1.96	1.47	16.4	15.7

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

FP-85-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
[°C]	[1/h]	[kPa]	[m3/h	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]
5,0	1081	14.6	850	5.1	3.32	13.6	11.3	5.75	3.78	14	11.9	6.0	3.65	14.4	12.2	6.75	3.75	16	13.3
	815	8.8	623	3.9	2.76	12.3	11.1	4.31	3.0	12.9	11.7	4.52	2.99	13	12	5.18	3.14	14.4	13
	560	4.5	421	2.73	2.08	11	10.9	3.01	2.25	11.5	11.5	3.1	2.19	11.9	11.9	3.58	2.34	12.9	12.8
6,0	946	11.5	850	4.53	3.2	14	12.1	5.09	3.54	14.8	12.8	5.25	3.41	15.2	13.2	6.04	3.62	16.4	14.2
	726	7.15	632	3.46	2.64	12.8	11.9	3.89	2.91	13.5	12.6	4.03	2.78	14.1	13	4.6	2.91	15.4	14.0
	505	3.71	426	2.43	1.96	11.7	11.7	2.71	2.14	12.4	12.4	2.8	2.06	12.9	12.8	3.2	2.2	13.9	13.8
7,0	838	9.3	852	3.86	2.96	14.8	13	4.4	3.32	15.5	13.7	4.65	3.3	15.6	14	5.41	3.45	17	15
	642	5.7	630	2.97	2.41	13.8	12.8	3.38	2.68	14.5	13.5	3.56	2.66	14.6	13.8	4.13	2.82	15.8	14.8
	442	2.9	426	2.1	1.83	12.6	12.6	2.39	2.02	13.3	13.3	2.45	1.94	13.7	13.7	2.91	2.11	14.6	14.6
8,0	708	6.84	850	3.25	2.75	15.5	13.8	3.78	3.14	16.1	14.5	3.93	3.02	16.5	14.9	4.6	3.22	17.8	16
	543	4.23	625	2.52	2.28	14.4	13.6	2.92	2.57	15	14.3	3.01	2.48	15.3	14.7	3.52	2.59	16.8	15.8
	384	2.27	426	1.8	1.71	13.4	13.4	2.05	1.87	14.1	14.1	2.13	1.81	14.5	14.5	2.5	1.96	15.6	15.6
9,0	593	4.97	854	2.54	2.48	16.4	14.7	3.14	2.97	16.7	15.3	3.29	2.85	15.7	15.7	3.85	3.08	18.3	16.9
	461	3.2	632	2.0	1.95	15.9	14.5	2.45	2.42	15.7	15.1	2.56	2.33	15.5	15.5	2.96	2.44	17.5	16.7
	325	1.68	434	1.46	1.42	15.4	14.3	1.76	1.72	15.3	14.9	1.8	1.71	15.4	15.4	2.15	1.85	16.5	16.5

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

FP-102-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
[°C]	[1/h]	[kPa]	[m3/h]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]
5,0	1265	19.4	1020	6.02	3.84	14	11.4	6.73	4.25	14.8	12.1	7.02	4.1	15.2	12.4	8.0	4.36	16.4	13.4
	973	12.1	764	4.63	3.21	12.7	11.2	5.15	3.44	13.8	11.9	5.4	3.39	14	12.2	6.1	3.51	15.4	13.2
	670	6.1	510	3.2	2.34	11.7	11	3.55	2.52	12.6	11.7	3.71	2.52	12.6	12.0	4.2	2.58	14.2	13
6,0	1103	15.2	1021	5.25	3.66	14.5	12.3	5.92	3.96	15.6	13	6.12	3.77	16.1	13.4	7.06	4.1	17.1	14.4
	853	9.54	765	4.05	3.0	13.5	12.1	4.56	3.25	14.5	12.8	4.73	3.12	15	13.2	5.43	3.36	16	14.2
	588	4.88	511	2.85	2.26	12.1	11.8	3.06	2.32	13.5	12.7	3.26	2.31	13.8	13	3.75	2.44	15	14
7,0	988	12.4	1022	4.53	3.3	15.5	13.1	5.2	3.75	16.2	13.8	5.48	3.63	16.5	14.1	6.31	3.86	17.8	15.2
	753	7.64	765	3.52	2.81	14.2	12.9	4.01	3.11	15	13.6	4.18	3.02	15.4	14	4.86	3.23	16.5	15
	521	3.9	511	2.46	2.07	13.2	12.7	2.8	2.31	13.8	13.4	2.89	2.21	14.3	13.8	3.35	2.36	15.4	14.8
8,0	838	9.3	1028	3.89	3.22	15.7	13.8	4.44	3.56	16.7	14.6	4.65	3.44	17.1	15	5.42	3.65	18.4	16.1
	650	5.8	764	3.04	2.67	14.7	13.6	3.45	2.94	15.6	14.4	3.6	2.84	16	14.8	4.18	2.98	17.4	15.9
	452	3.1	511	2.14	2.0	13.6	13.4	2.42	2.2	14.4	14.2	2.51	2.1	14.9	14.6	2.91	2.21	16.2	15.7
9,0	676	6.3	1025	2.95	2.87	16.7	14.8	3.57	3.38	17.2	15.5	3.75	3.21	17.7	15.9	4.8	3.54	18.7	16.7
	532	4.1	765	2.35	2.3	16.1	14.6	2.81	2.76	16.3	15.3	2.95	2.64	16.8	15.7	3.75	2.89	17.8	16.5
	375	2.2	513	1.67	1.63	15.6	14.4	2.0	2.05	15.3	15.1	2.08	1.98	15.6	15.5	2.6	2.06	17	16.3

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

FP-136-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
[°C]	[1/h]	[kPa]	[m3/h]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]
5,0	1729	37.3	1361	8.25	4.93	14.4	11.2	9.17	5.37	15.4	11.9	9.59	5.27	15.6	12.2	11	5.57	16.9	13.1
	1334	23.4	1023	6.36	4.05	13.4	11.0	7.1	4.41	14.4	11.7	7.4	4.36	14.5	12	8.45	4.57	15.8	12.9
	912	11.8	682	4.37	3.07	11.9	10.8	4.85	3.27	13	11.5	5.06	3.22	13.2	11.8	5.8	3.45	14.2	12.7
6,0	1512	29.3	1361	7.22	4.64	15	12.1	8.12	5.03	16.1	12.8	8.39	4.93	16.3	13.2	9.78	5.24	17.6	14.1
	1172	18.5	1022	5.6	3.84	14	11.9	6.28	4.17	15	12.6	6.5	4.1	15.2	13	7.45	4.32	16.5	14
	815	9.6	681	3.85	2.85	12.8	11.7	4.32	3.15	13.5	12.4	4.52	3.12	13.6	12.7	5.25	3.3	14.8	13.6
7,0	1314	22.8	1362	6.28	4.35	15.6	12.9	7.04	4.75	16.7	13.7	7.29	4.69	16.8	14.1	8.52	4.95	18.2	15.1
	1024	14.5	1024	4.9	3.63	14.6	12.7	5.46	3.91	15.7	13.5	5.68	3.82	16	13.9	6.58	4.06	17.2	14.9
	717	7.6	682	3.4	2.7	13.4	12.5	3.84	2.98	14.2	13.2	3.98	2.88	14.6	13.6	4.68	3.11	15.6	14.5
8,0	1132	17.4	1361	5.31	4.16	16	13.7	6.05	4.52	17.2	14.5	6.28	4.36	17.5	14.9	7.33	4.62	18.9	16
	885	11.2	1022	4.16	3.4	15.2	13.5	4.72	3.74	16.2	14.3	4.91	3.63	16.5	14.7	5.7	3.78	18	15.8
	616	5.8	684	2.91	2.56	14	13.3	3.3	2.8	15	14.1	3.42	2.74	15.2	14.5	4.01	2.88	16.5	15.5
9,0	944	12.6	1361	4.32	3.83	16.7	14.5	5.02	4.32	17.6	15.3	5.24	4.12	18	15.7	6.12	4.38	19.4	16.9
	746	8.2	1023	3.43	3.23	15.7	14.3	3.96	3.56	16.7	15.1	4.14	3.42	17.1	15.5	4.9	3.64	18.4	16.6
	521	4.3	681	2.42	2.35	14.9	14.1	2.78	2.64	15.6	14.9	2.89	2.56	15.9	15.3	3.48	2.79	16.9	16.3

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

FP-170-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
[°C]	[1/h]	[kPa]	[m3/h]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]	[kW]	[kW]	[°C]	[°C]
5,0	2105	34.2	1700	10.18	6.16	14.4	11.3	11.32	6.65	15.5	12	11.68	6.41	15.9	12.4	13.3	6.67	17.4	13.4
	1622	21.4	1276	7.82	5.05	13.4	11.1	8.72	5.52	14.3	11.8	9.0	5.26	14.9	12.2	10.3	5.61	16	13.1
	1110	10.8	850	5.4	3.87	11.8	10.9	6.0	4.16	12.8	11.6	6.16	3.93	13.5	12	7.1	4.28	14.3	12.9
6,0	1865	27.5	1703	8.89	5.8	15	12.2	10.0	6.35	16	12.9	10.35	6.05	16.5	13.3	11.9	6.36	17.9	14.3
	1442	17.3	1276	6.86	4.82	13.9	12	7.73	5.21	15	12.7	8.0	4.99	15.5	13.1	9.16	5.25	16.8	14.1
	991	8.82	851	4.75	3.6	12.7	11.8	5.32	3.9	13.6	12.5	5.5	3.75	14.1	12.9	6.4	4.04	15.1	13.8
7,0	1644	21.9	1703	7.7	5.44	15.6	13	8.8	6.0	16.6	13.7	9.12	5.75	17	14.1	10.65	6.19	18.2	15.1
	1272	13.8	1273	5.99	4.51	14.6	12.8	6.8	4.96	15.5	13.5	7.06	4.75	16	13.9	8.2	5.06	17.2	14.9
	883	7.2	854	4.16	3.41	13.3	12.6	4.72	3.78	14	13.3	4.9	3.57	14.7	13.7	5.68	3.82	15.8	14.7
8,0	1388	16.2	1703	6.48	5.13	16.1	13.8	7.4	5.7	17.1	14.6	7.7	5.46	17.5	15	9.16	5.83	18.8	16
	1083	10.3	1275	5.08	4.24	15.2	13.6	5.77	4.7	16.1	14.4	6.01	4.48	16.6	14.8	7.11	4.8	17.8	15.8
	757	5.43	856	3.56	3.23	13.9	13.4	4.02	3.47	15	14.2	4.2	3.43	15.2	14.6	4.94	3.64	16.4	15.6
9,0	1153	11.6	1705	5.24	4.9	16.5	14.6	6.1	5.27	17.8	15.4	6.4	5.1	18.1	15.8	7.63	5.47	19.4	16.9
	908	7.53	1276	4.15	4.06	15.6	14.4	4.81	4.39	16.8	15.2	5.04	4.22	17.2	15.6	5.98	4.54	18.4	16.7
	638	3.99	854	2.95	2.88	15.1	14.2	3.4	3.31	15.6	15	3.54	3.15	16.1	15.4	4.18	3.4	17.2	16.5

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

FP-204-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dPw	qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
°C	l/h	kPa	m3/h	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C
5.0	2325	32.5	2033	11.6	6.91	15	11.6	12.65	7.59	16	12.5	12.9	7.51	16.1	13	14.9	7.92	17.4	13.9
	1802	20.4	1530	9.1	5.75	14.1	11.4	9.9	6.33	14.8	12.2	10	6.25	15	12.8	11.6	6.55	16.4	13.7
	1262	10.8	1026	6.3	4.45	12.5	11.2	6.85	4.88	13.1	12	7	4.81	13.3	12.5	8	5.1	14.3	13.4
6.0	1928	22.9	2034	9.18	6.2	16	13	10.5	6.74	17.2	13.7	10.7	6.52	17.5	14.2	12.5	6.96	18.8	15.2
	1496	14.7	1522	7.11	5.14	15.2	12.9	8.1	5.6	16.1	13.5	8.3	5.52	16.3	14	9.8	5.82	17.8	15
	1084	8.2	1040	4.99	3.98	13.6	12.6	5.7	4.38	14.5	13.3	6.02	4.21	15.2	13.7	6.78	4.56	15.8	14.7
7.0	2163	28.5	2035	10.6	6.5	15.6	12.2	11.7	7.2	16.5	13	12	7.02	16.8	13.5	13.8	7.44	18.1	14.5
	1694	18.3	1544	8.3	5.46	14.6	12	9.2	5.97	15.6	12.8	9.4	5.87	15.8	13.3	10.8	6.2	17.1	14.3
	1207	9.8	1024	5.8	4.21	13.2	11.8	6.5	4.64	14.1	12.6	6.7	4.4	14.4	12.8	7.5	4.82	15.2	14
8.0	1694	18.3	2039	7.9	5.83	16.5	13.7	9	6.44	17.6	14.5	9.4	6.2	18	14.9	10.9	6.66	19.2	16
	1316	11.5	1520	6.1	4.83	15.7	13.6	7	5.38	16.7	14.4	7.3	5.24	16.8	14.7	8.6	5.5	18.4	15.8
	920	6.11	1020	4.3	3.69	14.5	13.4	4.8	4.2	15.2	14.3	5.1	3.95	15.6	14.5	6.05	4.23	16.8	15.5
9.0	1373	12.5	2031	6.21	5.53	16.9	14.6	7.3	6.1	18.1	15.4	7.62	5.8	18.5	15.8	8.9	6.24	19.8	17
	1081	8.2	1520	4.9	4.61	16.2	14.5	5.7	5.06	17.3	15.3	6	4.86	17.5	15.6	7	5.22	18.8	16.8
	775	4.5	1014	3.53	3.48	15	14.2	4.1	3.85	16	15	4.3	3.67	16.3	15.3	5	4	17.4	16.3

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

FP-238-3 ROWS				TAI DB25°C-WB17.8°C				TAI DB27°C-WB19°C				TAI DB27°C-WB19.5°C				TAI DB29°C-WB21.1°C			
Twi	Qw	dPw	qa	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw	Pf	Pfs	Tad	Taw
°C	l/h	kPa	m3/h	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C	kW	kW	°C	°C
5.0	2938	52.8	2347	14.2	8	15	11.2	15.6	8.76	16	12	16.3	8.43	16.4	12.3	18.9	8.86	17.9	13.2
	2253	32.8	1751	11.1	6.64	14.1	11	12.2	7.3	15	11.8	12.5	7.1	15.1	12.1	14.5	7.5	16.5	13
	1586	17.5	1186	7.65	5.1	12.4	10.7	8.5	5.59	13.2	11.4	8.8	5.48	13.5	11.8	10.2	5.81	14.7	12.6
6.0	2613	42.6	2354	12.5	7.54	15.6	12.1	14	8.2	16.7	12.8	14.5	7.96	17	13.2	17	8.45	18.4	14.1
	2036	27.3	1780	9.8	6.29	14.7	11.9	11	6.94	15.6	12.6	11.3	6.7	15.9	13	13.1	7.08	17.2	13.9
	1415	14.1	1183	6.8	4.79	13.2	11.6	7.6	5.26	14	12.3	7.85	5.13	14.3	12.7	9.1	5.48	15.4	13.6
7.0	2270	33.2	2355	10.7	7.15	16.1	13	12.2	7.83	17.2	13.7	12.6	7.54	17.5	14.1	14.9	7.97	18.9	15
	1784	21.3	1787	8.4	5.96	15.2	12.8	9.5	6.56	16.1	13.5	9.9	6.29	16.6	13.9	11.7	6.76	17.8	14.8
	1243	11.2	1184	**5.87**	4.52	13.8	12.5	6.7	4.95	14.8	13.2	6.9	4.83	15	13.6	8.1	5.14	16.2	14.5
8.0	1919	24.5	2358	9	6.72	16.6	13.8	10.25	7.41	17.7	14.6	10.65	7.14	18	15	12.7	7.51	19.5	16
	1550	16.8	1970	7.3	5.59	15.8	13.5	8.25	6.16	16.8	14.3	8.6	6	17.1	14.7	10.2	6.34	18.5	15.7
	1069	8.6	1186	5.1	4.24	14.6	13.3	5.78	4.64	15.4	14	5.93	4.55	15.7	14.5	7	4.86	16.9	15.5
9.0	1593	17.5	2355	7.4	6.31	17	14.5	8.5	7.02	18.2	15.4	8.84	6.72	18.5	15.8	10.6	7.19	19.9	16.9
	1271	11.6	1786	5.8	5.24	16.3	14.4	6.75	5.79	17.4	15.2	7.05	5.59	17.7	15.6	8.4	5.94	18.9	16.6
	901	6.3	1180	4.1	4	15.1	14.2	4.7	4.41	16	15	5	4.23	16.4	15.3	5.9	4.57	17.5	16.4

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

HEATING PERFORMANCE

FP-34-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	58.9	0.4	360	1.3	28.3	1.0	28.4	0.8	28.8	0.7	29.6
	54.9	0.4	315	1.1	28.5	0.9	28.5	0.8	29.3	0.6	30
	50.4	0.3	270	1.0	28.7	0.8	29.1	0.7	29.8	0.6	30.4
50	148.3	2.2	360	2.3	36.5	2.1	37.1	1.9	37.6	1.7	38.1
	134.2	1.8	315	2.1	37.2	1.9	37.7	1.7	38.2	1.5	38.6
	119.3	1.5	270	1.8	37.9	1.7	38.4	1.5	38.8	1.4	39.1
60	231.5	4.5	360	3.2	44.2	3.0	44.8	2.8	45.4	2.7	46
	209.5	3.8	315	2.9	45.1	2.7	45.6	2.6	46.2	2.4	46.7
	186.3	3.1	270	2.6	46.1	2.4	46.6	2.3	47.1	2.1	47.6
70	313	7.4	360	4.1	51.7	3.9	52.3	3.8	53	3.6	53.6
	283	6.2	315	3.7	52.8	3.6	53.4	3.4	54	3.2	54.5
	251.4	5.0	270	3.3	54.1	3.2	54.6	3.0	55.1	2.9	55.7

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

FP-51-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	86.7	0.9	505	1.8	28.6	1.6	29.2	1.3	29.6	1.0	29.9
	69.6	0.6	425	1.6	29.1	1.4	29.6	1.1	29.9	0.8	29.6
	63.4	0.4	360	1.4	29.6	1.2	29.9	1.0	30.1	0.7	30.1
50	204.1	3.8	505	3.1	35.9	2.8	36.6	2.6	37.2	2.3	37.9
	179.8	3.0	425	2.7	36.7	2.5	37.3	2.3	37.9	2.1	38.5
	158.7	2.4	360	2.4	37.5	2.2	38.1	2.0	38.6	1.8	39.1
60	310.4	7.5	505	4.3	42.9	4.0	43.6	3.8	44.3	3.6	45
	273.1	6.0	425	3.8	44	3.6	44.7	3.3	45.3	3.1	45.9
	240.9	4.8	360	3.3	45.1	3.1	45.7	2.9	46.3	2.8	46.8
70	415.9	12.1	505	5.5	49.8	5.2	50.6	5.0	51.3	4.7	52
	365.4	9.6	425	4.8	51.2	4.6	51.9	4.4	52.6	4.2	53.2
	321.9	7.7	360	4.2	52.6	4.1	53.2	3.9	53.8	3.7	54.4

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

FP-68-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	200	2.7	686	2.54	29.5	2.33	30.5	2.08	31.4	1.84	32.3
	163	1.88	511	2.07	30.5	1.9	31.5	1.7	32.3	1.51	33.1
	121	1.1	340	1.55	32	1.41	32.8	1.26	33.4	1.13	34.2
50	351	7.51	681	4.35	37.7	4.1	38.6	3.84	39.3	3.55	40.1
	288	5.25	512	3.59	39.7	3.36	40.3	3.14	41	2.91	41.6
	214	3.08	346	2.64	41.8	2.5	42.3	2.33	43	2.16	43.5
60	510	14.6	681	6.2	46	5.95	47	5.64	47.5	5.3	48
	412	9.97	512	5.04	48.5	4.8	49	456	49.5	4.34	50.2
	300	5.65	343	3.69	51.3	3.5	51.5	3.38	52.5	3.23	53.2
70	667	23.8	687	8.0	54	7.78	55	7.44	55.6	7.1	56.2
	538	16.1	510	6.52	57.5	6.28	58	6.02	58.4	5.78	58.9
	396	9.4	342	4.86	61.6	4.62	61.8	4.45	62.2	4.3	62.7

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

FP-85-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	237	0.8	853	3.03	29	2.76	30	2.48	31	2.21	32
	191	0.6	632	2.44	29.9	2.23	30.9	2.0	31.8	1.78	32.7
	142	0.3	425	1.82	31.2	1.65	32	1.49	32.8	1.32	33.6
50	429	2.4	854	5.33	37.3	5.0	38.1	4.69	39	4.36	39.8
	346	1.6	634	4.29	39	4.04	39.7	3.78	40.4	3.51	41.2
	257	0.9	428	3.18	41	2.99	41.6	2.8	42.2	2.6	42.9
60	626	4.7	851	7.66	45.8	7.3	46.5	6.97	47.2	6.6	47.9
	502	3.2	631	6.14	48.1	5.86	48.7	5.6	49.4	5.31	50
	371	1.9	423	4.55	50.9	4.33	51.6	4.15	52	3.92	52.4
70	820	7.6	851	10	54.2	9.56	54.7	9.16	55.3	8.86	56
	664	5.2	633	8	57.2	7.74	57.8	7.41	58.4	7.15	58.9
	487	3.0	425	5.91	61	5.68	61.3	5.48	61.9	5.26	62.4

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

FP-102-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	267	1.1	1022	3.4	28.3	3.11	29.4	2.81	30.5	2.48	31.5
	219	0.7	765	2.8	29.3	2.55	30.3	2.3	31.3	2.05	32.3
	163	0.4	511	2.08	30.6	1.9	31.5	1.71	32.3	1.52	33.2
50	487	3.0	1021	6.05	36.3	5.68	37.2	5.3	38	4.96	39
	399	2.1	765	4.95	38	4.65	38.8	4.34	39.5	4.04	40.3
	295	1.2	511	3.65	40.1	3.44	40.8	3.22	41.5	2.98	42
60	712	6.0	1022	8.7	44.3	8.3	45.1	7.94	46	7.51	46.7
	583	4.2	767	7.15	46.8	6.8	47.4	6.47	48.2	6.12	48.7
	429	2.4	429	5.26	49.6	5.0	50.2	4.76	50.8	4.51	51.3
70	937	9.7	1023	11.37	52.4	10.93	53	10.5	53.7	10.02	54.3
	763	6.7	764	9.27	55.4	8.9	56	8.6	56.7	8.2	57.3
	560	3.8	510	6.82	59	6.52	59.5	6.35	60.2	6.05	60.6

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

FP-136-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	363	1.93	1362	4.64	28.5	4.23	29.6	3.79	30.6	3.39	31.7
	295	1.33	1022	3.77	29.4	3.44	30.4	3.11	31.4	2.76	32.3
	220	0.8	682	2.82	30.8	2.56	31.6	2.31	32.4	2.05	33.3
50	658	5.63	1362	8.15	36.5	7.67	37.4	7.15	38.2	6.65	39.1
	531	3.83	1023	6.63	38	6.19	38.7	5.78	39.5	5.4	40.3
	395	2.24	683	4.93	40.3	4.6	40.8	4.31	41.5	4.01	42.1
60	952	10.96	1361	11.65	44.4	11.1	45.2	10.56	45.9	9.96	46.6
	774	7.6	1022	9.51	46.8	9.03	47.3	8.58	47.9	8.12	48.6
	575	4.4	681	7.05	49.9	6.7	50.4	6.35	50.7	6.03	51.4
70	1244	17.8	1363	15.1	52.2	14.51	52.9	13.93	53.6	13.42	54.4
	1020	12.4	1024	12.35	55.2	11.9	55.9	11.43	56.5	10.96	57
	746	7.1	681	9.04	59	8.7	59.5	8.4	60.1	8.06	60.6

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

FP-170-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	430	1.68	1701	5.51	28	5.01	29.1	4.48	30.1	3.98	31.2
	351	1.2	1277	4.5	28.9	4.09	29.9	3.68	30.9	3.26	31.9
	263	0.7	852	3.36	30.2	3.06	31.1	2.76	32	2.45	32.9
50	780	4.93	1704	9.75	35.7	9.1	36.5	8.5	37.4	7.9	38.3
	638	3.43	1277	7.9	37.1	7.44	38	6.94	38.8	6.45	39.6
	475	2.0	852	5.9	39.4	5.54	40.1	5.19	40.8	4.8	41.4
60	1145	9.82	1705	14	43.4	13.35	44.2	12.7	45	11.95	45.7
	926	6.71	1275	11.32	45.4	10.8	46.2	10.3	47	9.8	47.7
	687	3.9	854	8.45	48.6	8.01	49	7.65	49.8	7.25	50.3
70	1500	16	1706	18.21	51.1	17.5	51.7	16.8	52.5	16.02	53.1
	1226	11.1	1277	14.81	54	14.3	54.6	13.7	55.2	13.1	55.7
	903	6.4	852	11	57.7	10.53	58.2	10.2	58.8	9.71	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

FP-204-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	499	1.7	2043	6.4	27.7	5.82	28.8	5.24	29.9	4.62	31
	411.4	1.24	1529	5.26	28.6	4.8	29.7	4.3	30.7	3.82	31.8
	309	0.73	1030	3.94	29.9	3.6	30.8	3.23	31.7	2.86	32.6
50	913	5.2	2044	11.3	35	10.65	36.1	9.9	37	9.2	37.9
	746	3.6	1536	9.25	36.6	8.7	37.5	8.1	38.4	7.5	39.1
	557	2.1	1035	6.9	38.9	6.5	39.4	6.04	40.1	5.6	40.8
60	1325	10	2040	16.2	42.5	15.45	43.4	14.7	44.2	13.95	45.1
	1080	6.9	1527	13.2	44.7	12.6	45.5	12	46.2	11.4	47.1
	810	4.2	1039	9.9	47.8	9.45	48.1	8.96	48.8	8.5	49.6
70	1749	16.6	2047	21.2	50	20.4	50.8	19.6	51.6	18.8	52.5
	1423	11.5	1522	17.3	53	16.6	53.7	16	54.3	15.2	55.1
	1054	6.6	1027	12.8	56.6	12.3	57	11.8	57.6	11.4	58.3

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

FP-238-3 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	581	2.47	2381	7.42	27.6	6.78	28.8	6.1	29.9	5.4	31
	476	1.72	1786	6.14	28.7	5.55	29.6	5	30.6	4.44	31.7
	358	1.04	1196	4.58	29.8	4.18	30.8	3.75	31.7	3.32	32.7
50	1020	6.75	2373	13	34.9	11.9	35.5	11.33	36.7	10.58	37.7
	857	4.94	1786	10.75	36.5	10	37.3	9.37	38.2	8.69	39.1
	643	2.96	1200	7.94	38.6	7.5	39.3	7	40.1	6.5	40.8
60	1534	14.2	2384	18.75	42.3	17.9	43.2	17	44	16.1	44.9
	1252	9.82	1790	15.3	44.3	14.6	45.2	13.87	46	13.1	46.7
	926	5.68	1192	11.3	47.4	10.8	48	10.3	48.8	9.78	49.2
70	2014	23.1	2388	24.45	49.6	23.5	50.4	22.5	51.2	21.6	52
	1629	15.6	1790	19.8	52	19	52.8	18.4	53.6	17.6	54.3
	1221	9.4	1196	14.8	56.1	14.25	56.8	13.6	57.6	13	58

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

4-ROW COOLING CAPACITY

FP-34-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	461	12.6	360	1.8	1.4	13.5	87.3	2.2	1.6	13.7	88.1	2.3	1.6	13.7	90.3	2.7	1.7	14.5	91.9
5	432.1	11.2	315	1.7	1.2	13.2	88.2	2	1.4	13.4	88.9	2.1	1.4	13.3	91.3	2.5	1.6	13.6	93.2
	388.9	9.3	270	1.5	1.1	12.8	89.2	1.8	1.3	13	90.1	1.9	1.3	12.8	92.4	2.3	1.4	13	94.6
7	433.4	11.2	360	1.5	1.2	14.9	85.3	1.9	1.4	15.2	84.2	2	1.4	15.2	86	2.5	1.6	15.7	85
	387.3	9.2	315	1.4	1.1	14.6	86.1	1.7	1.3	14.7	87.5	1.8	1.3	14.4	90.8	2.3	1.5	14.5	95.3
	352.2	7.8	270	1.2	1	14.4	86.2	1.5	1.1	14.3	87.7	1.7	1.2	14.1	90.2	2.1	1.3	14.2	93
	351.1	7.6	360	1.2	1	16.6	80.2	1.4	1.1	17.4	79.1	1.6	1.2	17.1	82.7	2	1.4	17.1	86.2
9	319.8	6.5	315	1	0.9	16.4	80.8	1.3	1	17.2	79.9	1.4	1.1	16.8	83.7	1.9	1.3	16.8	87.4
	286	5.3	270	0.9	0.8	16.3	81.3	1.1	0.9	16.9	80.7	1.3	0.9	16.5	84.7	1.7	1.1	16.3	88.7
11	289.8	5.4	360	1	0.9	17.1	81	1.2	1.1	18.1	79.6	1.2	1	18.6	80	1.7	1.3	18.5	84.2
	263.7	4.6	315	0.9	0.8	17	81.4	1.1	1	17.9	80.2	1.1	0.9	18.5	80.4	1.5	1.1	18.2	85.2
	235.5	3.7	270	0.7	0.7	17	81.7	0.9	0.8	17.7	80.7	0.9	0.8	18.3	80.9	1.4	1	17.8	86.2
	204.9	2.9	360	0.8	0.8	17.8	81.5	1	1	18.4	82.3	1	1	19	81.8	1.2	1	20.5	80.7
13	183.9	2.4	315	0.7	0.7	17.7	82.1	0.9	0.9	18.2	82.9	0.9	0.8	18.9	82.2	1.1	0.9	20.3	81.4
	161.6	1.9	270	0.6	0.6	17.2	84.4	0.8	0.8	18.1	83.5	0.8	0.7	18.8	82.6	0.9	0.8	20.2	81.9

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 UR: relative humidity

FP-51-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	704	25.1	479	2.7	2	12.4	90.4	3.2	2.3	12.6	91	3.4	2.3	12.5	93.2	4.1	2.6	12.7	95.2
5	626	20.4	411	2.4	1.8	12	91.5	2.9	2	12.2	92.3	3.1	2	12.1	94.4	3.7	2.3	12.2	96.4
	489	13.2	301	1.9	1.4	11.4	93.5	2.2	1.6	11.4	94.6	2.4	1.6	11.2	96.7	2.9	1.8	11.3	98.8
7	641	21.2	479	2.4	1.8	13.6	88.1	2.8	2.1	13.9	88.8	3.1	2.1	13.7	91.2	3.7	2.4	13.9	93.5
	571	17.3	411	2.2	1.7	13	89.9	2.5	1.9	13.4	89.9	2.7	1.9	13.3	92.2	3.3	2.1	13.4	94.5
	459	11.7	301	1.7	1.3	12.3	91.8	2.1	1.5	12.2	93.3	2.2	1.5	12.1	95.4	2.7	1.7	12.1	97.5
	526	14.8	479	1.7	1.4	16	82.3	2.1	1.7	16.3	83	2.4	1.8	16	86.5	3.1	2.1	16	89.9
9	470	12.1	411	1.5	1.3	15.9	82.9	1.9	1.5	16	84.1	2.1	1.6	15.7	87.8	2.7	1.8	15.5	91.4
	369	7.9	301	1.1	0.9	15.8	83.3	1.5	1.1	15.6	85.7	1.6	1.2	15.1	89.8	2.1	1.4	14.8	93.6
11	439	10.6	479	1.4	1.3	16.6	83.3	1.7	1.5	17.5	81.6	1.8	1.5	17.7	83.1	2.6	1.8	17.4	87.6
	392	8.7	411	1.2	1.2	16.5	83.8	1.5	1.3	17.3	82.2	1.6	1.3	17.4	83.9	2.3	1.6	17	88.8
	307	5.6	301	0.9	0.9	16.3	84.8	1.1	1	17.1	82.9	1.2	1	17.3	84.4	1.8	1.3	16.4	91
	300	5.3	479	1.1	1.1	17	85.5	1.4	1.4	17.8	84.9	1.4	1.4	18.5	83.7	1.7	1.4	19.9	82.8
13	265	4.3	411	1	1	17.2	84.9	1.3	1.3	17.6	85.5	1.3	1.2	18.3	84.3	1.5	1.3	19.7	83.4
	198	2.6	301	0.8	0.8	16.4	88.9	0.9	0.9	17.5	85.9	0.9	0.9	18.3	84.7	1.2	0.9	19.6	84

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 UR: relative humidity

FP-68-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	1039.5	59.4	675	4.2	3	11.6	92.9	4.8	3.4	11.8	93.2	5.1	3.4	11.8	95.2	6.1	3.8	12.1	96.8
5	896.1	45.7	556	3.6	2.6	11.1	94.6	4.2	2.9	11.3	95	4.4	2.9	11.2	96.9	5.2	3.2	11.4	98.5
	561.6	20.1	313	2.3	1.6	9.8	97.9	2.6	1.8	9.8	98.6	2.8	1.8	9.7	99.9	3.3	2	9.9	100
6	959	51.2	675	3.8	2.8	12.4	91.6	4.4	3.2	12.9	91.4	4.7	3.2	12.8	93.4	5.6	3.6	13.1	95.2
	832.2	39.9	556	3.3	2.4	11.9	93.2	3.9	2.8	12.1	93.8	4.1	2.8	12	95.6	4.8	3.1	12.4	96.8
	529.6	18	313	2.1	1.5	10.7	97.4	2.4	1.7	10.7	98.4	2.6	1.7	10.6	100	3.1	1.9	10.7	100
	899.6	45.5	675	3.3	2.6	13.5	89.8	4	3	13.8	89.9	4.3	3	13.8	89.9	5.2	3.3	14.3	89.6
7	775.1	35	556	2.9	2.2	13.1	90.8	3.5	2.6	13.2	91.8	3.7	2.6	13.1	93.8	4.5	2.9	13.2	95.6
	487.4	15.4	313	1.8	1.4	11.9	94.5	2.2	1.6	12	95.4	2.3	1.6	11.8	97.3	2.8	1.8	11.7	99.4
8	798.5	36.7	675	2.7	2.2	15.2	85.7	3.4	2.6	15.3	87.1	3.7	2.7	15.1	90.1	4.6	3.1	15.2	92.7
	692.4	28.5	556	2.4	1.9	14.8	87	2.9	2.3	14.8	88.6	3.2	2.3	14.6	90.9	4	2.7	14.6	93.7
	443.5	13	313	1.5	1.1	14	87	1.9	1.4	13.6	90.2	2.1	1.4	13.2	93.9	2.6	1.6	13.1	95.3
	737.2	31.6	675	2.4	2.1	15.8	84.5	3	2.5	16	85.4	3.3	2.5	15.8	88.6	4.3	2.9	15.9	91.5
9	639.6	24.6	556	2	1.8	15.6	85.4	2.6	2.1	15.6	87.3	2.9	2.2	15.3	90.5	3.7	2.5	15.3	93.6
	407.2	11.1	313	1.2	1	15.1	87.7	1.7	1.3	14.5	90.7	1.8	1.3	14.2	93	2.4	1.6	13.9	95.9

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 UR: relative humidity

FP-85-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	1285.7	56.2	760	5.2	3.7	10.5	96.7	6	4.1	10.6	97.2	6.4	4.2	10.5	99	7.5	4.6	10.7	100
5	1119.9	44.1	640	4.6	3.2	10	97.9	5.2	3.6	10.1	98.5	5.6	3.6	10	100	6.5	4	10.3	100
	818.2	25.4	440	3.3	2.3	9.2	98.2	3.8	2.6	9.2	98.9	4.1	2.6	9.1	100	4.8	2.9	9.3	100
6	1185.9	48.5	760	4.8	3.5	11.3	95.2	5.5	3.9	11.5	95.4	5.9	3.9	11.5	97.2	6.9	4.3	11.8	98.3
	1051.9	39.2	640	4.2	3	10.9	96.5	4.9	3.4	11	97.4	5.2	3.4	10.9	99.1	6.1	3.8	11.1	100
	772.1	22.7	440	3.1	2.2	10.2	99.2	3.6	2.5	10.1	100	3.8	2.5	10.1	100	4.5	2.7	10.2	100
	1114.5	43.2	760	4.2	3.2	12.6	92.5	5	3.6	12.6	93.4	5.3	3.7	12.5	95.3	6.5	4.1	12.6	97.2
7	972	33.9	640	3.6	2.7	12.2	93.7	4.3	3.1	12.2	94.7	4.7	3.2	12.1	96.6	5.7	3.6	12.1	98.5
	712.1	19.6	440	2.6	2	11.6	95.7	3.2	2.3	11.4	97.2	3.4	2.3	11.3	99	4.1	2.6	11.3	100
8	994.7	35.2	760	3.4	2.7	14.3	87.7	4.3	3.2	14.2	89.3	4.6	3.3	14	91.6	5.8	3.8	14	94
	873.1	27.9	640	3	2.3	14	87	3.8	2.8	13.8	89.2	4.1	2.9	13.6	92.1	5.1	3.3	13.5	95.2
	649.9	16.6	440	2.2	1.7	13.4	89.2	2.8	2.1	12.8	94.1	3	2.1	12.6	96.3	3.8	2.4	12.4	98.5
	921.6	30.5	760	2.9	2.5	15.2	87.2	3.8	3	15.1	89.6	4.2	3.1	14.8	92.4	5.4	3.6	14.7	95.1
9	807.5	24.2	640	2.6	2.2	14.9	88.2	3.3	2.6	14.7	90.5	3.7	2.7	14.4	92.7	4.7	3.1	14.3	95.2
	596.6	14.2	440	1.8	1.5	14.6	89.1	2.5	1.9	14	91.7	2.7	1.9	13.7	94.2	3.5	2.3	13.4	97

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 UR: relative humidity

FP-102-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	1429.6	46.6	918	5.8	4.2	11.3	93.7	6.7	4.7	11.6	93.9	7.1	4.7	11.6	95.7	8.3	5.2	11.9	97.2
5	1139	31.2	683	4.7	3.3	10.5	96.5	5.3	3.7	10.7	96.8	5.7	3.7	10.7	98.5	6.6	4.1	10.9	99.9
	805.6	17	446	3.3	2.3	9.5	97.8	3.8	2.6	9.6	98.5	4	2.6	9.5	99.7	4.7	2.8	9.7	100
6	1326.4	40.6	918	5.3	4	12.1	92.5	6.1	4.4	12.6	92.3	6.5	4.4	12.5	94.2	7.7	4.9	12.9	95.7
	1071.2	27.9	683	4.3	3.1	11.3	95	5	3.5	11.5	95.5	5.3	3.5	11.5	97.2	6.2	3.9	11.7	98.5
	760.6	15.2	446	3	2.2	10.4	98.6	3.5	2.5	10.4	99.2	3.7	2.5	10.4	100	4.4	2.7	10.6	100
7	1247.2	36.2	918	4.7	3.6	13.2	90.6	5.6	4.2	13.4	91.4	6	4.2	13.3	93.3	7.3	4.6	13.9	91.4
	993.8	24.3	683	3.8	2.9	12.4	92.8	4.5	3.3	12.6	93.5	4.8	3.3	12.5	95.3	5.8	3.7	12.7	97
	704.7	13.2	446	2.7	2	11.4	96.3	3.2	2.3	11.6	96.8	3.4	2.3	11.5	98.4	4.1	2.6	11.5	100
8	1109.6	29.3	918	3.9	3.1	14.8	87	4.8	3.7	14.9	88.4	5.2	3.7	14.8	90.8	6.5	4.3	14.9	93.5
	890.7	19.9	683	3.2	2.5	14	88.8	3.9	2.9	14.1	89.8	4.2	3	14	91.9	5.2	3.4	14.1	93.9
	642	11.2	446	2.3	1.8	13.1	90.7	2.8	2.1	13	93.2	3	2.1	12.7	95.8	3.7	2.4	12.8	97.4
	1027.1	25.4	918	3.4	2.9	15.6	85.6	4.3	3.5	15.7	87	4.7	3.5	15.5	89.9	6	4.1	15.6	92.5
9	826.7	17.3	683	2.7	2.3	14.9	88.3	3.5	2.7	14.9	90.1	3.8	2.8	14.7	92.4	4.8	3.2	14.8	95.1
	592.6	9.6	446	2	1.6	14.2	89.8	2.5	1.9	14	91.7	2.7	2	13.8	94	3.4	2.3	13.7	96.5

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 UR: relative humidity

FP-136-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
	1748.2	47	1320	7.1	4.9	13.9	78.6	8.2	5.6	14.3	78.7	8.7	5.6	14.3	80.9	10.2	6.1	15	82.3
6	1418.8	32.6	960	5.7	3.9	12.8	81.2	6.6	4.4	13.2	81.3	7	4.4	13.1	83.4	8.3	4.9	13.4	85.1
	1017.7	18.1	615	4.1	2.8	11.4	85	4.7	3.1	11.6	85.3	5	3.2	11.5	87.2	5.9	3.5	11.7	88.8
7	1632.4	41.4	1320	6.2	4.4	15	77.1	7.4	5.1	15.4	76.9	7.9	5.1	15.3	79.5	9.5	5.5	16.3	75.5
	1308.8	28.1	960	5.2	3.6	13.7	80.1	5.9	4.1	14.3	79.9	6.3	4.1	14.2	82	7.6	4.6	14.5	83.8
	960.9	16.3	615	3.8	2.6	12.3	83.7	4.4	3	12.5	84.1	4.7	3	12.4	86.1	5.6	3.4	12.5	87.7
8	1484.1	34.8	1320	5.6	3.8	16.3	70.2	6.7	4.5	16.7	70.8	7.2	4.6	16.6	73.8	8.6	5.3	17	77
	1222.2	24.8	960	4.5	3.2	15.1	76.3	5.4	3.6	15.6	74.3	5.8	3.6	15.6	75.7	7.1	4.2	15.8	77.7
	881.7	13.9	615	3.3	2.3	13.6	81.5	3.9	2.7	13.7	82.2	4.2	2.7	13.6	84.3	5.1	3.1	13.7	86.1
9	1341.9	29	1320	4.5	3.4	17.4	70.3	5.7	4.1	17.7	70.8	6.2	4.2	17.5	73.7	7.8	4.9	17.9	75.9
	1085	19.9	960	3.7	2.7	16.5	72.8	4.6	3.3	16.7	73.6	5	3.3	16.5	76.5	6.3	3.9	16.7	78.8
	788.1	11.4	615	2.7	2	15.5	76.4	3.4	2.4	15.5	77.5	3.7	2.4	15.2	80.4	4.6	2.8	15.2	83.2
	1237.4	25	1320	4.2	3.2	17.7	70.5	5.1	3.8	18.5	69.9	5.6	3.8	18.2	72.9	7.2	4.6	18.5	75.3
10	1001.4	17.2	960	3.3	2.5	17.2	72.2	4.1	3	17.5	72.5	4.5	3.1	17.3	75.5	5.8	3.7	17.4	78
	728.3	9.8	615	2.3	1.8	16.5	74.4	3	2.2	16.3	76.3	3.3	2.2	16.1	79.3	4.2	2.6	16	82.1

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 UR: relative humidity

FP-170-4ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dPw	qa	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR	Pf	Pfs	Tau	UR
°C	l/h	kPa	m3/h	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%	kW	kW	°C	%
6	2379.7	45.2	1710	9.4	6.7	13.3	82.4	10.8	7.5	13.8	82.2	11.5	7.5	13.8	84.2	13.9	8.5	14	86
	1896.8	30.4	1240	7.5	5.3	12.3	85.1	8.8	6	12.4	85.6	9.4	6.1	12.3	87.5	11.1	6.7	12.7	88.8
	1596.7	19.6	835	6.5	4.4	9.2	93.6	7.4	5	9.1	94.2	7.9	5	9	95.3	9.3	5.5	8.9	96.5
7	2230.5	40.1	1710	8.3	6	14.4	80.4	9.9	6.8	15	77.9	10.7	6.8	15	79.2	13	7.7	15.4	80.2
	1758	26.4	1240	6.6	4.8	13.5	83.1	7.9	5.5	13.6	83.8	8.5	5.6	13.5	85.9	10.2	6.3	13.7	87.4
	1482.3	17.1	835	5.8	4.1	10.5	92.2	6.7	4.6	10.5	92.7	7.2	4.6	10.3	94.2	8.6	5.2	10.2	95.9
8	1976.1	32.2	1710	6.8	5.1	16.1	75.6	8.4	6.1	16.2	76.4	9.2	6.2	16.1	79.2	11.5	7.2	16.2	81.5
	1572.3	21.5	1240	5.4	4	15.3	78.1	6.7	4.8	15.3	79.4	7.3	4.9	15.1	82.3	9.2	5.7	15.1	84.8
	1363.9	14.7	835	4.9	3.6	12.1	88.3	6	4.2	11.9	89.8	6.5	4.3	11.7	91.5	7.9	4.9	11.4	93.5
9	1825.3	27.8	1710	6	4.7	16.8	74.5	7.5	5.7	17	75.2	8.3	5.8	16.8	78.1	10.6	6.8	16.9	80.7
	1453.2	18.6	1240	4.7	3.6	16.2	76.5	6	4.5	16.1	78.1	6.6	4.6	15.9	81.1	8.5	5.4	15.9	83.7
	1252.1	12.5	835	4.2	3.2	13.6	84.9	5.3	3.8	13.2	86.8	5.8	3.9	13	88.8	7.3	4.5	12.7	91.1
10	1673.4	23.7	1710	5.5	4.6	17	75.3	6.6	5.2	17.9	73.9	7.4	5.3	17.6	77	9.7	6.4	17.7	79.8
	1333.6	15.9	1240	4.3	3.5	16.5	77	5.3	4.1	17.1	76.5	5.9	4.2	16.8	79.7	7.8	5.1	16.7	82.7
	1157	10.8	835	3.6	2.8	14.8	83.5	4.7	3.5	14.3	86.2	5.2	3.6	13.9	88.5	6.7	4.3	13.6	91.1

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 UR: relative humidity

FP-204-4 ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi	Qw	dpw	Qa	Pf	Pfs	Tad	UR	Pf	Pfs	Tad	UR	Pf	Pfs	Tad	UR	Pf	Pfs	Tad	UR
[°C]	[1/h]	[kPa]	[m3/h]	[kW]	[kW]	[°C]	[%]	[kW]	[kW]	[°C]	[%]	[kW]	[kW]	[°C]	[%]	[kW]	[kW]	[°C]	[%]
5,0	2748	47.5	2039	13.22	8.04	13.5	70.6	14.65	8.78	14.4	70.3	15.25	8.55	14.7	69.8	17.6	9	16	67.1
	2114	29.6	1530	10.19	6.63	12.4	78.4	11.4	7.24	13.2	77.3	11.73	7.07	13.5	78.7	12.5	7.51	14.6	77.1
	1460	15.2	1020	7.0	5.02	10.8	94	7.84	5.18	11.5	92.2	8.1	5.33	11.8	92.1	9.31	5.74	12.6	92.6
6,0	2498	39.9	2042	11.7	7.6	14.1	73.8	13.25	8.34	15	72.7	13.86	8.05	15.4	72.1	16	8.58	16.6	69.4
	1925	25	1530	9.05	6.25	13.1	81	10.22	6.85	13.9	79.4	10.68	6.68	14.2	81	12.3	7.14	15.3	78.8
	1321	12.7	1022	6.22	4.68	11.7	93	7.01	5.19	12.2	95	7.33	5.05	12.6	94	8.5	5.4	13.5	92.9
7,0	2172	31	2041	10.3	7.16	14.7	76.1	11.65	7.83	15.7	74.4	12.05	7.61	16	75.5	14.1	8.13	17.2	73.8
	1683	19.7	1532	8.0	5.91	13.7	83.7	9.03	6.47	14.6	82.8	9.34	6.31	14.9	83.2	10.9	6.75	16	82.4
	1173	10.2	1020	5.53	4.42	12.4	95	6.21	4.9	13	96.6	6.51	4.75	13.4	94.8	7.6	5.1	14.4	93.7
8,0	1903	24.5	2040	8.9	6.75	15.3	78.8	10	7.47	16.2	78.6	10.56	7.18	16.6	77.8	12.4	7.64	17.9	75.4
	1481	15.6	1531	6.94	5.54	14.4	85.1	7.8	6.1	15.3	85.4	8.22	5.92	15.6	84.5	9.59	6.36	16.7	84.4
	1024	8.03	1021	4.72	4.16	13.1	96.7	5.4	4.58	13.9	96	5.68	4.46	14.2	95.4	6.7	4.82	15.1	97
9,0	1595	17.7	2043	7.23	6.38	15.8	82.8	8.48	6.96	16.9	80.6	8.85	6.75	17.2	80.8	10.4	7.21	18.5	79.6
	1250	11.5	1531	5.7	5.21	15	87.7	6.52	5.77	15.9	88.1	6.93	5.54	16.3	87.1	8.1	5.93	17.5	86.2
	872	6.02	1024	4.0	3.84	14	95.3	4.56	4.26	14.8	96.7	4.84	4.14	15.1	97	5.72	4.5	16	97.5

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 UR: relative humidity

FP-238-4 ROWS				TAi 25°C - 50% UR				TAi 27°C - 47% UR				TAi 27°C - 50% UR				TAi 29°C - 50% UR			
Twi [°C]	Qw [1/h]	dpw [kPa]	Qa [m3/h]	Pf [kW]	Pfs [kW]	Tad [°C]	UR [%]	Pf [kW]	Pfs [kW]	Tad [°C]	UR [%]	Pf [kW]	Pfs [kW]	Tad [°C]	UR [%]	Pf [kW]	Pfs [kW]	Tad [°C]	UR [%]
5,0	2984	36.3	2380	14.42	8.53	14.5	66.9	16.05	9.39	15.4	66.6	16.56	9.14	15.7	67.9	18.75	9.66	17	64.9
	2292	22.6	1780	11.11	7.14	13.3	74.9	12.35	7.79	14.2	74.5	12.72	7.59	14.5	75.8	14.58	8.07	15.7	73.3
	1595	11.8	1191	7.65	5.46	11.7	90.2	8.59	5.94	12.5	86.8	8.85	5.8	12.8	88.5	10.1	6.2	13.8	86.4
6,0	2650	29.3	2383	12.63	8.11	15	72	14.2	8.89	16	68.6	14.7	8.64	16.3	70.6	16.85	9.17	17.6	68.4
	2044	18.4	1784	9.78	6.71	14	78.7	10.97	7.35	14.9	76.4	11.34	7.16	15.2	77.9	12.93	7.66	16.3	76.8
	1426	9.6	1191	6.75	5.15	12.4	91.6	7.55	5.5	13.5	86.9	7.91	5.46	13.6	90.3	9.0	5.88	14.5	89.8
7,0	2343	23.5	2387	11.0	7.62	15.6	73.3	12.3	8.47	16.5	73.6	13.0	8.15	16.9	73.5	14.82	8.65	18.2	71.5
	1811	14.8	1783	8.55	6.33	14.6	80.9	9.56	6.98	15.5	80.2	10.05	6.77	15.8	80	11.48	7.24	17	79.1
	1254	7.6	1193	5.94	4.82	13.2	91.9	6.71	5.28	14	91.3	6.96	5.16	14.3	91.6	8.03	5.47	15.5	89.8
8,0	1986	17.5	2389	9.28	7.2	16.1	76.7	10.56	7.88	17.2	74.4	11.02	7.57	17.6	74.7	12.78	8.16	18.8	74.8
	1546	11.1	1785	7.13	5.95	15.2	83	8.25	6.53	16.2	80.8	8.58	6.28	16.6	81.1	9.93	6.86	17.6	82
	1076	5.8	1193	5.1	4.49	14	92.6	5.74	4.95	14.8	92	5.97	4.83	15.1	93.3	6.99	5.21	16.1	92.8
9,0	1654	12.6	2384	7.56	6.78	16.6	79.4	8.77	7.55	17.6	78.3	9.18	7.14	18.1	77.5	10.65	7.74	19.3	77.7
	1303	8.2	1787	6.0	5.58	15.8	84.6	6.91	6.21	16.7	84.4	7.23	5.97	17.1	83.5	8.35	6.42	18.3	83.6
	912	4.3	1193	4.22	4.14	14.8	92	4.85	4.7	15.4	94	5.06	4.44	16	91.7	5.94	4.91	16.8	94.4

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 UR: relative humidity

HEATING PERFORMANCE

FP-34-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	71.1	0.6	360	1.5	30.1	1.3	30.5	1.1	30.7	0.8	30.8
	66.7	0.5	315	1.3	30.5	1.1	30.7	0.9	30.8	0.8	31.3
	61.8	0.5	270	1.2	30.8	1	31	0.8	31.1	0.7	31.9
50	165.2	2.6	360	2.5	38.1	2.3	31	2.1	39.2	1.9	39.7
	149.6	2.2	315	2.2	38.8	2.1	38.7	1.9	39.8	1.7	40.3
	133	1.8	270	2	39.6	1.8	39.3	1.7	40.5	1.5	40.9
60	247.9	5.1	360	3.4	45.7	3.2	40	3	46.9	2.8	47.5
	224.3	4.2	315	3.1	46.6	2.9	46.3	2.7	47.8	2.6	48.3
	199.5	3.5	270	2.7	47.7	2.6	47.2	2.4	48.7	2.3	49.2
70	329.2	8	360	4.3	53.2	4.1	48.2	3.9	54.4	3.8	55.1
	297.6	6.7	315	3.9	54.3	3.7	53.8	3.6	55.5	3.4	56.1
	264.3	5.5	270	3.5	55.7	3.3	54.9	3.2	56.7	3	57.3

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

FP-51-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	99.3	0.5	485	2.2	31.5	1.9	31.6	1.6	31.6	1.1	31
	89.9	0.5	409	1.9	31.9	1.7	31.9	1.3	31.4	1	31.6
	81.9	0.4	351	1.7	32.2	1.4	32.2	1.1	31.7	0.9	32
50	246.9	2.6	485	3.7	40.4	3.4	40.8	3.1	41.1	2.8	41.5
	215.4	2	409	3.2	41.2	3	41.5	2.7	41.8	2.5	42.1
	190.2	1.6	351	2.9	41.9	2.6	42.1	2.4	42.4	2.2	42.6
60	371.6	5.1	485	5.1	49	4.8	49.4	4.5	49.8	4.3	50.2
	323.5	4	409	4.5	50	4.2	50.3	4	50.7	3.7	51
	285.3	3.2	351	3.9	50.9	3.7	51.2	3.5	51.5	3.3	51.8
70	494.3	8	485	6.5	57.4	6.2	57.8	5.9	58.2	5.6	58.7
	429.9	6.3	409	5.7	58.6	5.4	59	5.2	59.4	4.9	59.8
	378.8	5	351	5	59.7	4.8	60	4.5	60.4	4.3	60.7

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

FP-68-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	161.3	2.6	675	3.1	31.4	2.7	31.8	2.3	32	1.9	32.2
	111.5	1.3	463	2.3	32.6	2	32.7	1.7	32.8	1.3	32.3
	84.2	0.8	313	1.7	33.5	1.4	33.5	1.2	32.9	1	33.3
50	335.6	9	675	5	39.7	4.6	40.1	4.2	40.6	3.9	41
	250.2	5.3	463	3.7	41.5	3.4	41.9	3.2	42.2	2.9	42.5
	181.8	3	313	2.7	43.3	2.5	43.5	2.3	43.7	2.1	43.9
60	498	17.2	675	6.8	47.7	6.5	48.2	6.1	48.7	5.7	49.2
	369.8	10.2	463	5.1	50.1	4.8	50.5	4.5	50.9	4.2	51.3
	267.8	5.8	313	3.7	52.4	3.5	52.7	3.3	53	3.1	53.2
70	659.2	27	675	8.7	55.6	8.3	56.1	7.9	56.7	7.5	57.2
	487.8	15.9	463	6.4	58.6	6.1	59	5.8	59.4	5.6	59.8
	352.4	9	313	4.6	61.4	4.4	61.7	4.2	62	4	62.3

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

FP-85-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	178.3	2.1	760	3.7	32.1	3.2	32.3	2.6	32.3	2.1	32.1
	141.7	1.4	640	3.2	32.6	2.7	32.7	2.3	32.6	1.6	31.6
	112	0.9	440	2.3	33.5	2	33.3	1.6	32.5	1.3	32.8
50	402.8	8.3	760	6	41.3	5.6	41.6	5.1	41.9	4.6	42.2
	350.7	6.5	640	5.3	42.1	4.8	42.3	4.4	42.6	4	42.8
	256.8	3.7	440	3.8	43.6	3.5	43.8	3.3	43.9	3	44
60	603.2	16.1	760	8.3	50.1	7.8	50.4	7.4	50.8	6.9	51.1
	524.4	12.6	640	7.2	51.1	6.8	51.4	6.4	51.7	6	52
	382.7	7.2	440	5.3	53.1	5	53.3	4.7	53.5	4.4	53.7
70	801.4	25.5	760	10.6	58.8	10.1	59.2	9.6	59.5	9.1	59.9
	695.8	19.9	640	9.2	60	8.8	60.3	8.3	60.7	7.9	61
	506.2	11.3	440	6.7	62.4	6.4	62.7	6.1	62.9	5.8	63.1

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

FP-102-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	232.9	2.3	918	4.3	31.7	3.8	32.1	3.2	32.4	2.7	32.7
	185.6	1.6	683	3.4	32.7	3.0	33	2.6	33.2	2.1	33.3
	130.4	0.8	446	2.4	34	2.1	34.1	1.8	34.2	1.5	34.1
50	460.5	7.3	918	6.8	39.8	6.3	40.3	5.8	40.7	5.3	41.2
	366.7	4.9	683	5.4	41.3	5.0	41.7	4.6	42	4.2	42.4
	260.2	2.7	446	3.8	43.2	3.6	43.5	3.3	43.8	3	44
60	678	13.9	918	9.3	47.7	8.8	48.2	8.3	48.7	7.8	49.2
	537.8	9.2	683	7.4	49.6	7.0	50	6.6	50.5	6.2	50.9
	379.9	5	446	5.2	52.2	4.9	52.5	4.6	52.8	4.3	53.1
70	894.7	21.7	918	11.7	55.5	11.2	56	10.7	56.6	10.2	57.1
	707.7	14.4	683	9.3	57.9	8.9	58.3	8.5	58.8	8.1	59.2
	498.5	7.7	446	6.5	61	6.3	61.3	6	61.7	5.7	62

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

FP-136-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	376.2	3.7	1320	6.2	31.7	5.6	32.5	5	33.1	4.3	33.8
	299.9	2.5	960	4.9	33	4.4	33.6	3.9	34.2	3.5	34.7
	215	1.4	615	3.5	34.8	3.2	35.2	2.8	35.6	2.5	36
50	644.5	9.1	1320	9.2	38.5	8.6	39.2	8	40	7.4	40.7
	511.9	6.1	960	7.3	40.4	6.8	41	6.4	41.6	5.9	42.2
	365.5	3.4	615	5.2	42.9	4.9	43.4	4.5	43.9	4.2	44.3
60	909.6	16	1320	12.2	45.2	11.6	46	11	46.7	10.4	47.5
	720.4	10.6	960	9.7	47.6	9.2	48.3	8.7	48.9	8.2	49.6
	512.3	5.8	615	6.9	50.8	6.5	51.4	6.2	51.9	5.9	52.4
70	1173.9	24.2	1320	15.2	51.8	14.6	52.6	14	53.4	13.4	54.2
	928.2	16	960	12	54.7	11.5	55.4	11	56.1	10.6	56.8
	658.6	8.7	615	8.5	58.7	8.2	59.2	7.8	59.8	7.5	60.3

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

FP-170-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	383.9	1.9	1710	7.5	30.9	6.5	31.2	5.5	31.5	4.4	31.7
	299.4	1.2	1240	5.9	31.9	5.1	32.1	4.3	32.3	3.5	32.3
	247.2	0.9	835	4.7	34.6	4.1	34.6	3.5	34.5	2.9	34.2
50	822.8	7	1710	12.3	39.2	11.4	39.6	10.4	40.1	9.5	40.5
	642.5	4.5	1240	9.6	40.8	8.9	41.1	8.1	41.4	7.4	41.8
	509.8	3	835	7.6	44.6	7	44.7	6.4	44.8	5.9	44.9
60	1235.8	13.8	1710	17	47.2	16.1	47.7	15.1	48.2	14.1	48.7
	961	8.8	1240	13.2	49.3	12.5	49.7	11.7	50.1	11	50.5
	749.5	5.7	835	10.3	54.2	9.7	54.3	9.2	54.5	8.6	54.7
70	1646.4	21.9	1710	21.7	55.2	20.7	55.7	19.7	56.2	18.8	56.7
	1275.6	14	1240	16.8	57.7	16	58.2	15.3	58.6	14.5	59
	986.4	8.9	835	13	63.6	12.4	63.8	11.8	64	11.2	64.2

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

FP-204-4ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	576	2.38	2043	7.27	29	6.61	30	5.95	31	5.29	32
	459	1.63	1531	5.9	29.9	5.35	30.8	4.85	31.8	4.31	32.7
	343	0.96	1022	4.4	31.3	4.0	32.1	3.6	32.9	3.21	33.7
50	1020	6.86	2043	12.68	37.2	11.9	38	11.1	38.8	10.3	39.6
	828	4.7	1531	10.3	38.8	9.66	39.5	8.99	40.1	8.39	40.9
	613	2.74	1023	7.6	41	7.15	41.6	6.65	42.1	6.2	42.7
60	1475	13.3	2044	18.04	45.3	17.2	46	16.38	46.8	15.5	47.4
	1190	9.1	1532	14.62	47.5	13.88	48	13.25	48.7	12.53	49.3
	883	5.3	1023	10.8	50.6	10.3	51.1	9.8	51.6	9.28	52.1
70	1931	21.6	2042	23.5	53.5	22.53	54.1	21.7	54.8	20.8	55.4
	1562	14.8	1530	18.92	56.2	18.22	56.8	17.5	57.3	16.8	57.9
	1153	8.55	1153	14	60.2	13.45	60.7	13	61.2	12.43	61.5

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

FP-238-4 ROWS				TAI 18°C		TAI 20°C		TAI 22°C		TAI 24°C	
Twi [°C]	Qw [1/h]	DPw [kPa]	Qa [m3/h]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]	Pf [kW]	Tad [°C]
40	615	1.8	2382	8.02	28.4	7.17	29.3	6.47	30.4	5.71	31.4
	500	1.3	1786	6.54	29.3	5.84	30.1	5.26	31.1	4.68	32.1
	374	0.7	1192	4.9	30.7	4.36	31.3	3.94	32.2	3.51	33.1
50	1116	5.3	2381	14.1	36.3	13.02	36.9	12.18	37.8	11.28	38.6
	913	3.7	1789	11.47	37.8	10.65	38.4	9.9	39.1	9.2	39.9
	677	2.2	1191	8.5	40	7.9	40.5	7.36	41.1	6.85	41.7
60	1629	10.5	2386	20.11	44.1	19	44.6	17.99	45.3	17	46
	1320	7.2	1789	16.35	46.2	15.4	46.6	14.7	47.3	13.86	48
	982	4.3	1196	12.11	49.4	11.46	49.6	10.9	50.2	10.28	50.9
70	2143	17.2	2384	26.2	52	25	52.4	23.9	53	22.9	53.7
	1740	11.9	1792	21.25	54.6	20.3	55	19.45	55.6	18.65	56.3
	1287	6.9	1190	15.7	58.6	15.02	59	14.45	59.4	13.85	59.9

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

- **GENARAL WARNINGS**

FP terminal units are the internal units of a duct hydraulic system. When used in combination with water chillers, they form a cooling only system. When used with reversible water chillers/heat pumps, they form a cooling and heating system.

Incorrect installation, regulation and maintenance, improper use or installation by unqualified personnel absolves the manufacturer from all liability, whether contractual or otherwise, for damage to people, animals or things. Only those applications specifically indicated in this list are allowed.

Read this manual carefully. All work must be carried out by qualified personnel in conformity with legislation in force in the country concerned.

The guarantee is invalidated if the above instructions are not respected and if the unit is started up for the first time without the presence of personnel authorized by the Company (where specified in the supply contract) who should draw up a “startup report”.

● FUNDAMENTAL SAFETY RULES

When using this unit, which requires electricity and water, a number of fundamental safety rules must be observed, Namely:

The unit must not be used by children or by unfit persons without suitable supervision.

Do not touch the unit with bare feet or with wet or damp parts of the body.

Do not carry out cleaning operations without first disconnecting the unit from the electricity supply by placing the mains switch in the ”off” position.

Do not modify safety or regulation devices without authorizations and instructions from the manufacturer.

Do not pull, detach or twist the electrical cables coming out of the unit, even when disconnected from the mains electricity supply.

Do not open doors or panels providing access to the internal parts of the unit.

Do not dispose of, abandon or leave within reach of children packaging materials (cardboard, staples, plastic bags, etc) as they may represent a hazard.

Respect safety distances between the unit and other equipment or structures. Guarantee suitable space for access to the unit for maintenance and/or service operations.

The unit must be installed in a closed technical room. The fan outlets must be protected with ducts or grills preventing access to the impellers.

Power supply: the cross section of the electrical cables must be adequate for the power of the unit and the power supply voltage must correspond with the value indicated on the respective units. All units must be earthed in conformity with current legislation in the country concerned.

Hydraulic connections should be carried out as indicated in the instructions to guarantee correct operation of the unit.

Handle the unit with the utmost care and avoid damaging it.

FP hydraulic terminals can be identified by the:

Packaging label

Giving the data identifying the product.

Rating plate

Give the technical and performance data of the unit. If this is lost, ask the After Sales Service for a replacement. Tampering with or the removal or absence of rating plates or other means enabling the unit to be identified causes problems during installation and maintenance.

● RECEIVING AND HANDLING THE PRODUCTS

FP hydraulic terminals are supplied accompanied by a plastic envelope fixed to the top of the hydraulic terminal containing:

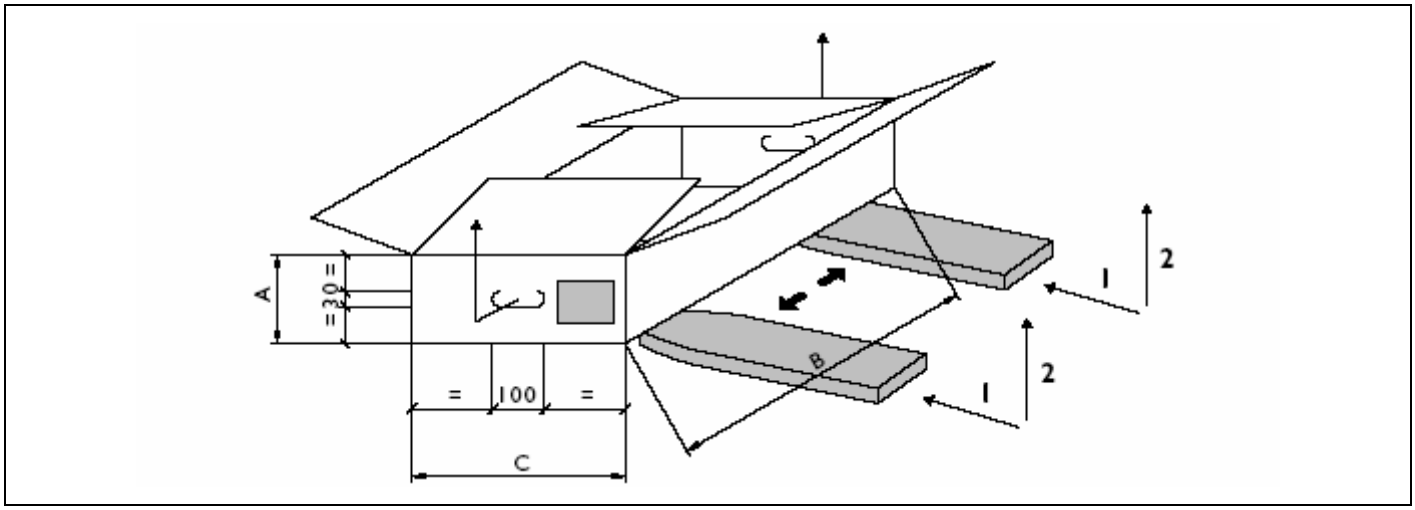
- instruction manual;
- guarantee certificate;
- CE declaration.

The unit should always be handled by using equipment adequate for the weight of the hydraulic terminal.

The instruction manual is an integral part of the unit and should thus be read and kept carefully.

Do not dispose of packaging materials in the environment or leave them within reach of children as they may represent a hazard or a source of pollution.

During transport, the hydraulic terminals should be handled with extreme care.



WITHOUT RETURN AIR BOX

MODEL	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Dimension A	245								
Dimension B	770	870	1070	1170	1270	1670	1770	1870	1970
Dimension C	510								
Gross weight	14	15	19	20	21	29	33	34	36

WITH RETURN AIR BOX

MODEL	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Dimension A	265								
Dimension B	770	870	1070	1170	1270	1670	1770	1870	1970
Dimension C	530								
Gross weight	17	18	22	23	25	35	39	41	43

● DESCRIPTION OF STANDARD UNIT

FP units are designed for flush mounting. In combination with the numerous accessories available, they can be used to create high specification installations for air distribution and environmental temperature and humidity control.

STRUCTURE

Structure is made from galvanized steel paneling. Completing with couplings for connection to ducting and gravity drain condensate pan. Internal self-extinguishing closed cell expanded polyethylene thermal and acoustic insulation. Removable and regenerate filter in self-extinguishing acrylic, efficiency class EU2.

HEAT EXCHANGE COIL

With copper tubes and high exchange surface area aluminum fins.

FAN

Centrifugal fan, three speeds regulation, statically and dynamically balanced impellers and high external static

pressure.

ACCESSORIES

- Electric heater module:

(1 kW for sizes FP-34-51)

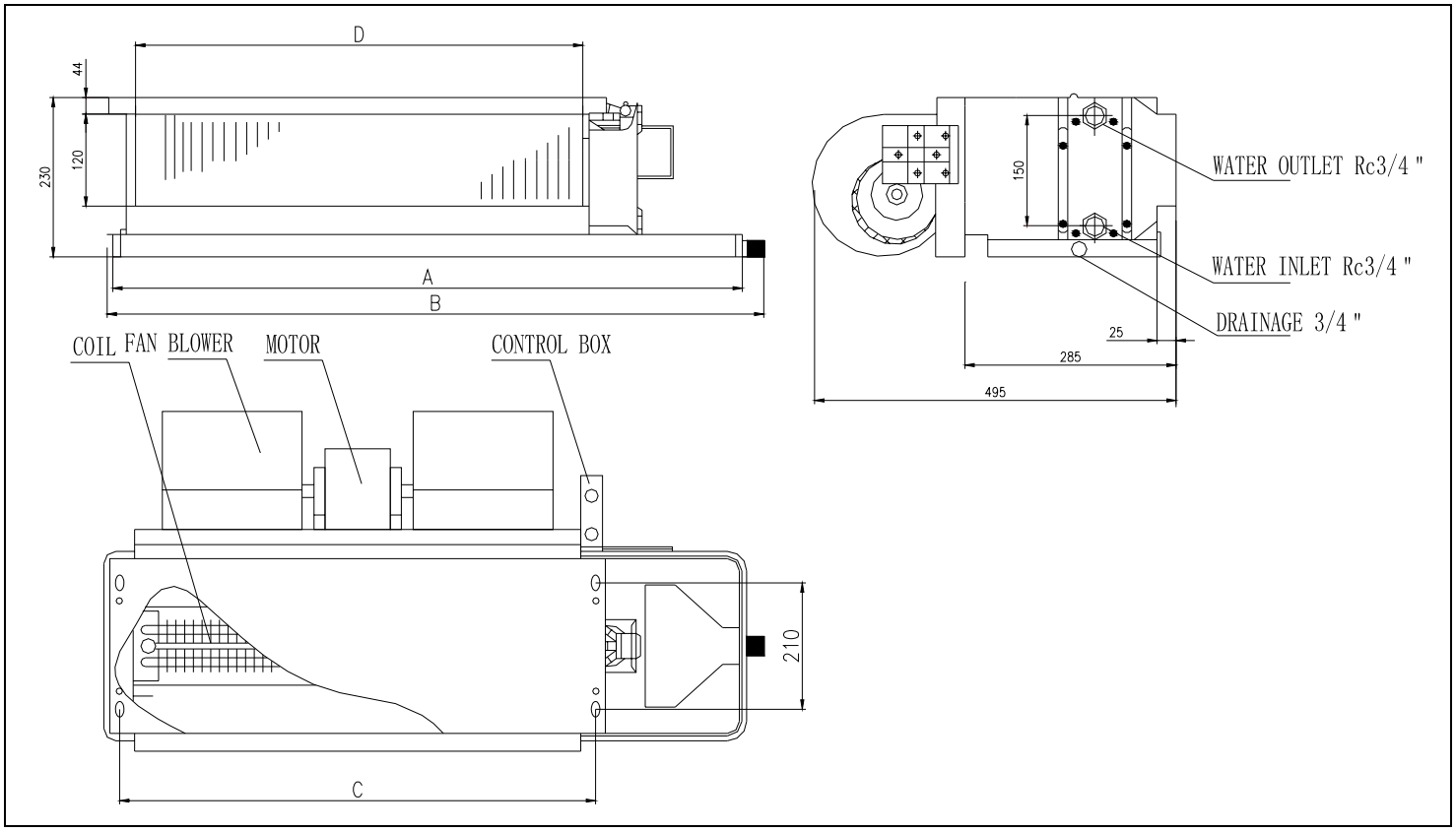
(3 kW for sizes FP-68-85-102-136-170)

(4.5 kW for sizes FP-204-238)

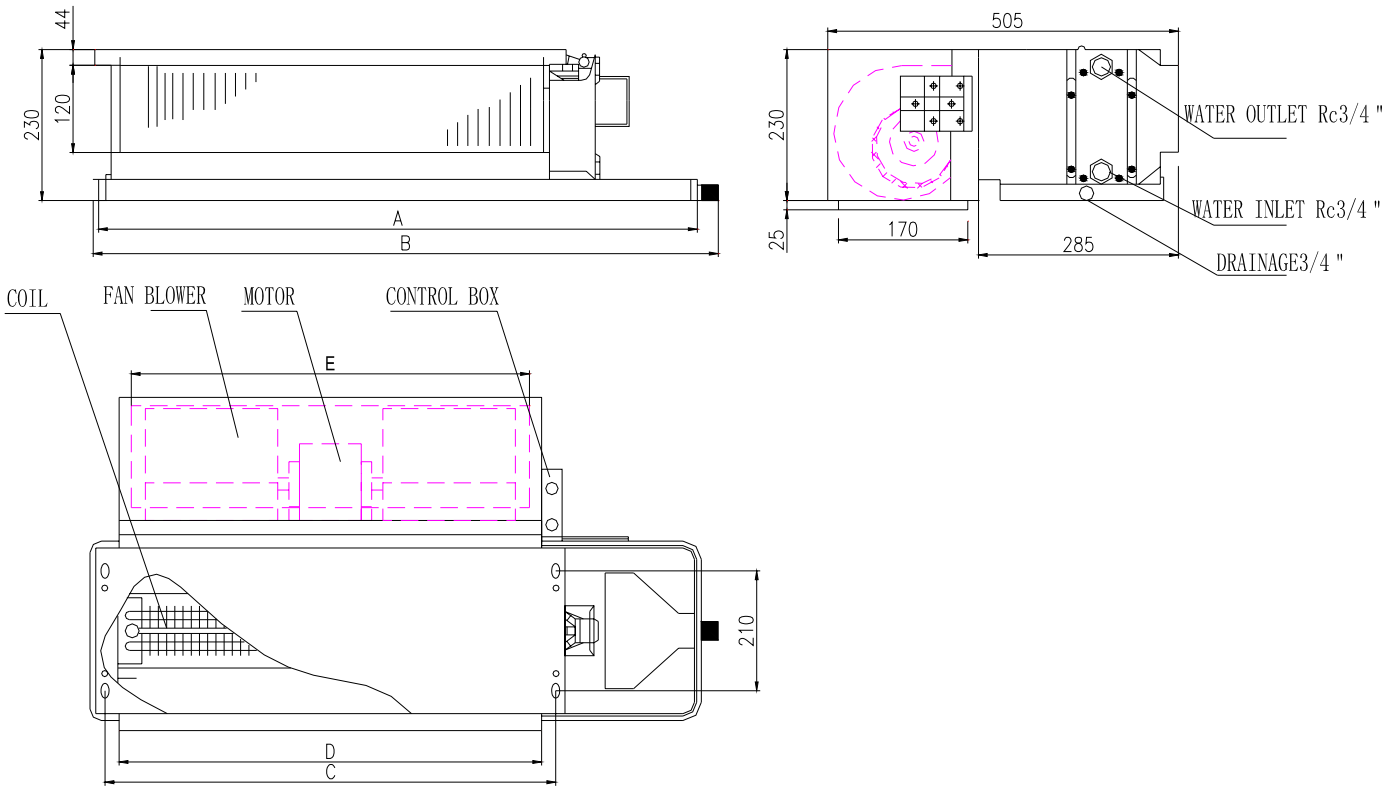
- Three speed switch
- Thermostat switch
- Electrical PCB with wall pad.

-Valve kit

NOTE: for the complete operation of the unit, a valve must be installed for each water coil used. If valves are not used on the machine.



Model	A	B	C	D
FP-34	720	755	510	480
FP-51	820	855	610	580
FP-68	920	955	710	680
FP-85	1020	1055	810	780
FP-102	1120	1155	910	880
FP-136	1520	1555	1310	1280
FP-170	1620	1655	1410	1380
FP-204	1820	1855	1550	1520
FP-238	1920	1955	1670	1640



Model	A	B	C	D	E
FP-34	720	755	510	480	492
FP-51	820	855	610	580	592
FP-68	920	955	710	680	692
FP-85	1020	1055	810	780	792
FP-102	1120	1155	910	880	892
FP-136	1520	1555	1310	1280	1292
FP-170	1620	1655	1410	1380	1392
FP-204	1820	1855	1550	1520	1532
FP-238	1920	1955	1670	1640	1652

• INSTALLATION

CHOICE OF INSTALLATION SITE

Before installing the unit, agree the site where it will be installed with the customer, taking the following points into consideration:

- Check that the fixing points are adequate to support the weight of the unit;
- Pay scrupulous respect to safety distances between the unit and other equipment or structures (see Minimum Installation Distances);
- Install the unit with a minimum slope of 2 mm/m to guarantee condensate drainage.

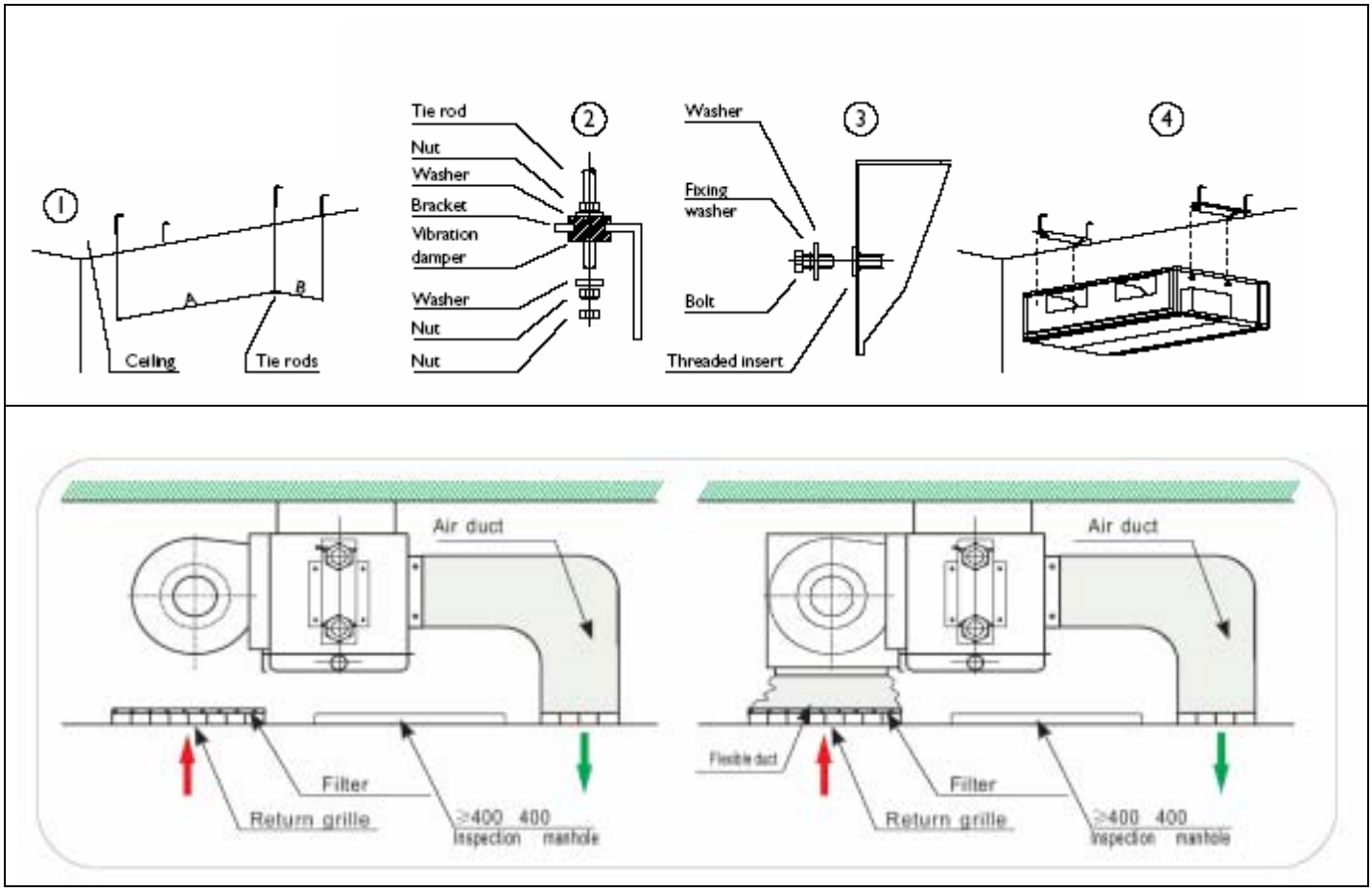
POSITIONING

Before handling the unit, check the capacity of the lift equipment used, respecting the instructions on the packaging.

To move the unit horizontally, make appropriate use of lift trucks or similar.

Units are supplied with the following accessories to simplified installation: support brackets, threaded tie rods for ceiling fixing, vibration dampers, washers and fixing bolts.

The figure below illustrates the installation procedure.



Note: the unit must slope by at least 2 mm/m towards the condensate drain.

● HYDRAULIC CONNECTION

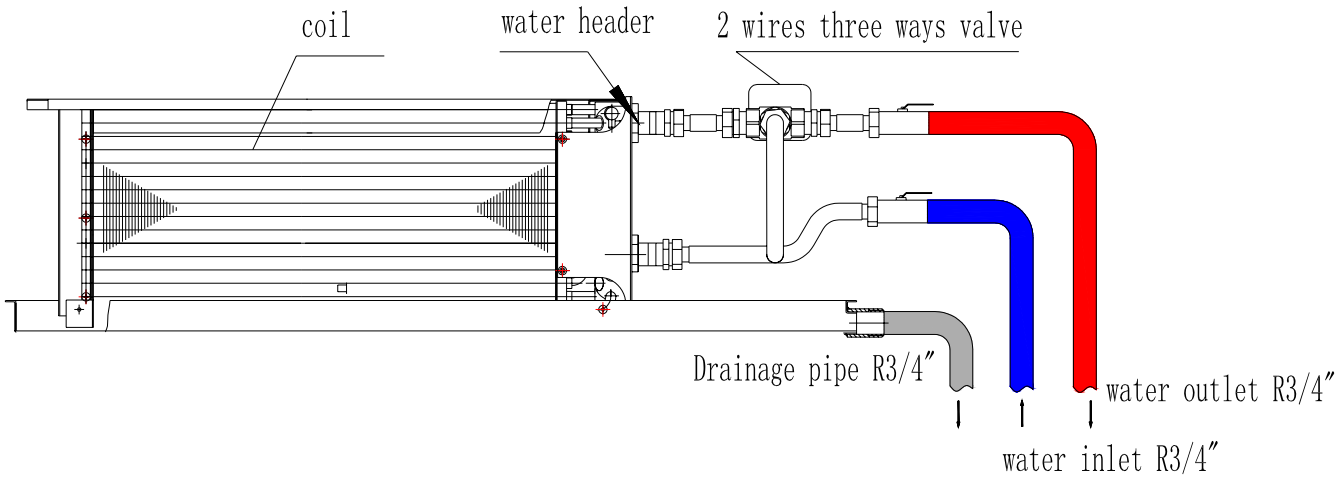
WATER PIPE CONNECTION

Make sure the diameter of the water pipes is adequate for the actual length of the piping and in any case not less than the diameter of the connection on the unit. When connecting the water pipes to the coil, take care not to damage the coil manifold. During this operation, hold the coil connections firm with a spanner to avoid damaging them.
The fittings are located on the back of the unit looking at the air outlets.

CONNECTING THE WATER PIPING

This operation must be carried out with particular care. The unit is fitted with a gravity drainage condensate drain pan with an open connection on the back of the unit. The pipe should have an internal diameter of at least 16 mm.
The drain connection has an external diameter of 19 mm. Proceed according to the following instructions (see figure).

1. Connect the condensate drain hose to the pan outlet with a hose clip.
2. Make sure the drainage pipe has a slope of at least 2 cm/m without obstructions or bottlenecks.
3. Fit a siphon. By eliminating the pressure drop caused by the fan, this prevents air being sucked up by the drain hose.
4. Connect the condensate drainage pipe to a rainwater drainage system. Do not connect to the sewage system as odors may be sucked up if the water in the siphon evaporates.
5. After connecting, check correct drainage of the condensate by pouring water into the pan.



IMPORTANT
Gravity drainage may be converted into forced drainage by fitting the condensate drain pump available as an accessory.

HYDRAULIC CIRCUIT
For correct operation of the unit, the JP11 room sensor must be positioned directly in the inflow of air.

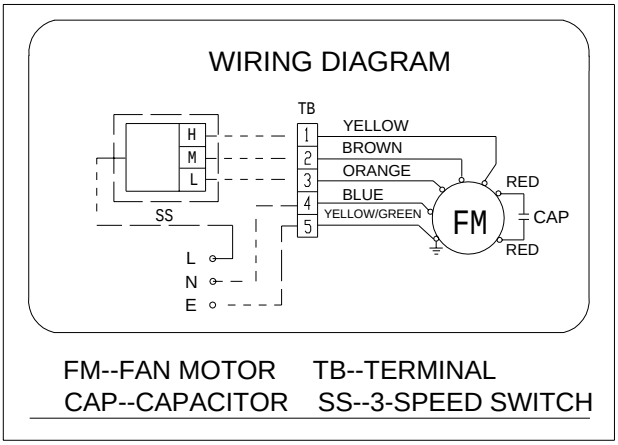
● POWER CONNECTIONS

FP hydraulic terminals leave the factory completely wired and ready for connection to the mains electricity supply, the auxiliary devices, the accessories and the wall pad. The receiver must be connected using shielded cable to avoid radio interference that could lead to malfunction. All electrical connections must be carried out by qualified personnel. For all electrical work, refer to the electrical wiring diagrams in this manual.
You are also recommended to check that the characteristics of the mains electricity supply are adequate for the absorptions indicated in the electrical characteristics table below, also bearing in mind the possible use of other equipment at the same time.

Power to the unit must be turned on only after installation work (mechanical, water and electrical) has been completed.
All electrical connections must be carried out by qualified personnel in accordance with legislation in force in the country concerned.
Respect instructions for connecting phase, neutral and earth conductors.
The power line should be fitted upstream with a suitable device to protect against short-circuits and leakage to earth, isolating the installation from other equipment. This protection device should also act as a main switch and, if not visible from the electrical switchboard of the unit, should be lockable.
Voltage must be within a tolerance of ±10 of the rated power supply voltage for the unit. If this is not the case, contact the electricity supply company.
For electrical connections, use double insulation cable in conformity with current legislation in the country concerned.
An efficient earth connection is obligatory.
Failure to earth the appliance absolves the manufacturer of all liability for damage.
Do not use water pipes to earth the unit.

● ELECTRICAL WIRING DIAGRAMS----OPTIONAL

FP-S (with three-speed switch)

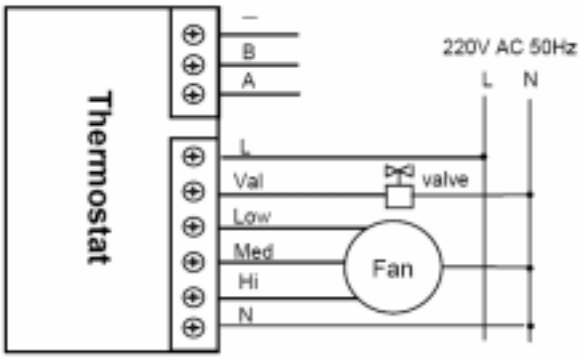


FM--FAN MOTOR TB--TERMINAL
CAP--CAPACITOR SS--3-SPEED SWITCH

Fan speed selector

To switch the fan on and off and to select the operating speed

FP-T (with thermostat switch)



FP-T SPECIFICATION

☞ Start/Stop: Press " ⏻ " one time to turn on the thermostat and once more to turn off it;

☞ Temperature Setting: Press " ▼ " to decrease the temperature and press" ▲ "to increase it and each press means 1℃ changed;

☞ Cool Mode: Press "M" till " ❄ " flashes and the system will confirm it automatically in 5 seconds;

☞ Heat Mode: Press "M" till "☼" flashes and the system will confirm it automatically in 5 seconds;

☞ Ventilation Mode: Press "M" till "🌀" flashes and the system will confirm it automatically in 5 seconds and the fan runs according to the speed selected;

☞ Speed Mode: Press "🌀" to select fan speed "🌀 (Hi) ,🌀 (Mid) ,🌀 (Low) or🌀 (Auto) ;

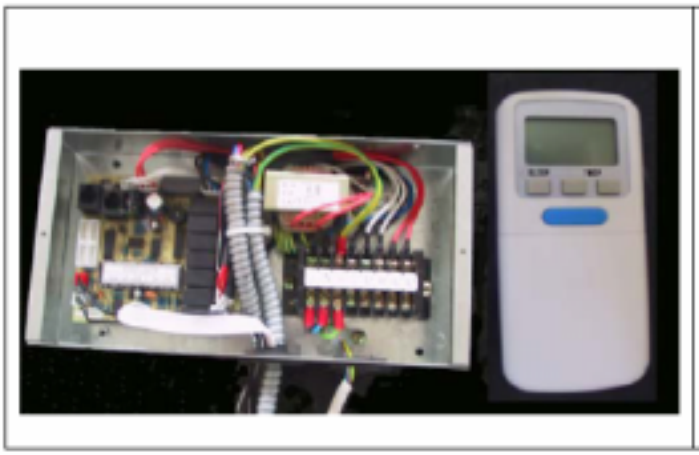
In Auto Mode, the fan will change its speed automatically, which means it runs at low speed when the temperature difference is higher than 1℃ and it runs at high speed, when the temperature difference is higher than 3℃; and if the difference is equal, DA model will close the motorized valve with fan running at low speed and DB model will close the motorized valve and the fan as well.

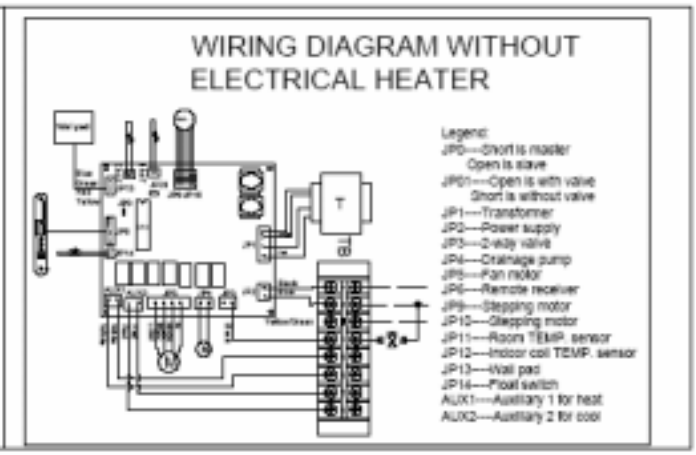
☞ Sleep Setting: press "◴" till "☽" flashes and press "▲" to confirm the setting or press "▼" to disable it;
☞ Clock setting: Press "◴" till " hh:mm " displays with "hh" flashing, then press "▲" or "▼" to adjust Hour and press "◴" till "mm" in "hh:mm" flashes, then press "▲" or "▼" to adjust Minute, and finally press "◴" to confirm the setting;
☞ Timer –on Setting: Press "◴" till "◴" and "TIMER ON" flash, together with "hh" in "hh:mm" flashing, press "▲" or "▼" to adjust Timer-on Hours, and press "◴" till "mm" in "hh:mm" flashes, then press "▲" or "▼" to adjust Timer-off Minute, and finally press "◴" to confirm the setting;
☞ Timer-off Setting: Press "◴" till "◴" and "TIMER OFF" flash, together with "hh" in " hh:mm " flashing, press "▲" or "▼" to adjust Timer-off Hour, and press "◴" till "mm" in "hh:mm" flashes, then press "▲" or "▼" to adjust Timer-off Minute, and finally press "◴" to confirm the setting;
☞ Cancellation of Timer-on: Press "◴" till "◴" and "TIMER ON " flash, together with "hh" in "hh:mm" flashing, press "▲" or "▼" to adjust Timer-on Hour to "00", press "◴" till "mm" in "hh:mm" flashes, then press "▲" or "▼" to adjust Timer-on Minute to "00" , and finally press "◴" to confirm the setting;
☞Cancellation of Timer-off: Press "◴" till "◴" and "TIMER OFF" flashes, together with "hh" in "hh:mm" flashing, press "▲" or "▼" to adjust Timer-off Hour to "00", and press "◴" till "mm" in "hh:mm" flashes, press "▲" or "▼" to adjust Timer-off Minute to "00", and finally press "◴" to confirm the setting.

Parameter setting when the unit is off:
1. Temperature Amendment when the temperature is incorrect:

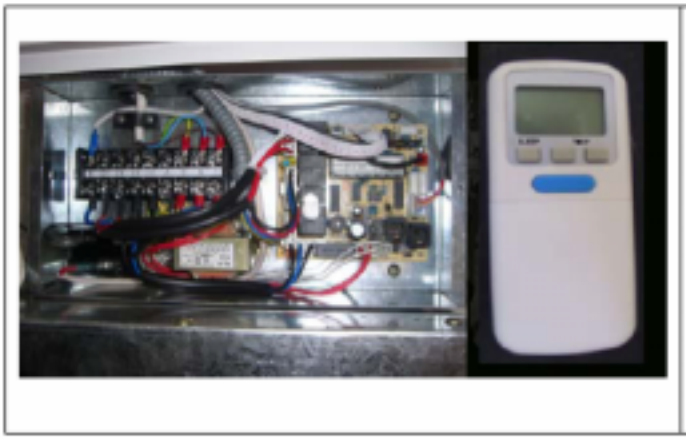
☞ Simultaneously press "M" and "◴" for 3 seconds till it displays " XX ℃ " (" RT " does not show) , and press "▲" or "▼" to adjust the temperature to the right degree and the system will confirm it automatically in 5 seconds.
2. Code Setting:
Simultaneously press "◴" and "M" till "RT" disappears and then press "✣" and " ℃" will automatically disappear, and thereafter, press "▼" and "▲" to number them and the system will automatically confirm the codes set(The codes range from 1 to 32).
3. Low Temperature Protection Setting:
☞ When the unit is off, press "M" for 3 seconds till it displays " 00 " or " 01 " , then press "▲" or "▼" to adjust it. "00" means to disable the function and "01" means to enable the function.
If the function is valid, the thermostat will be turned on automatically in heat mode when the room temperature is lower than 5℃. When the room temperature rises to 7℃, it will be turned off automatically.

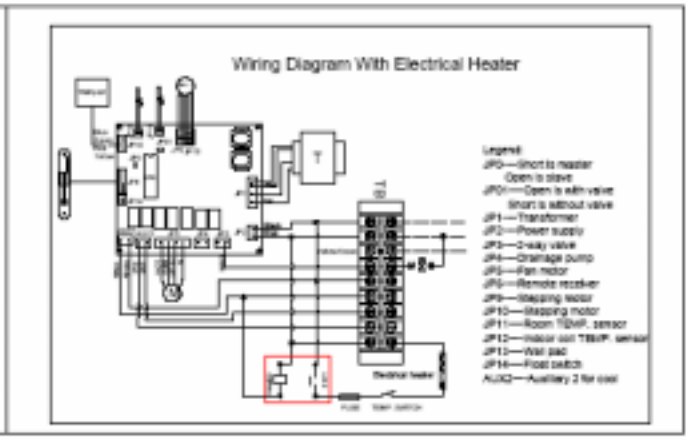
FP-A WITHOUT ELETRICAL HEATER



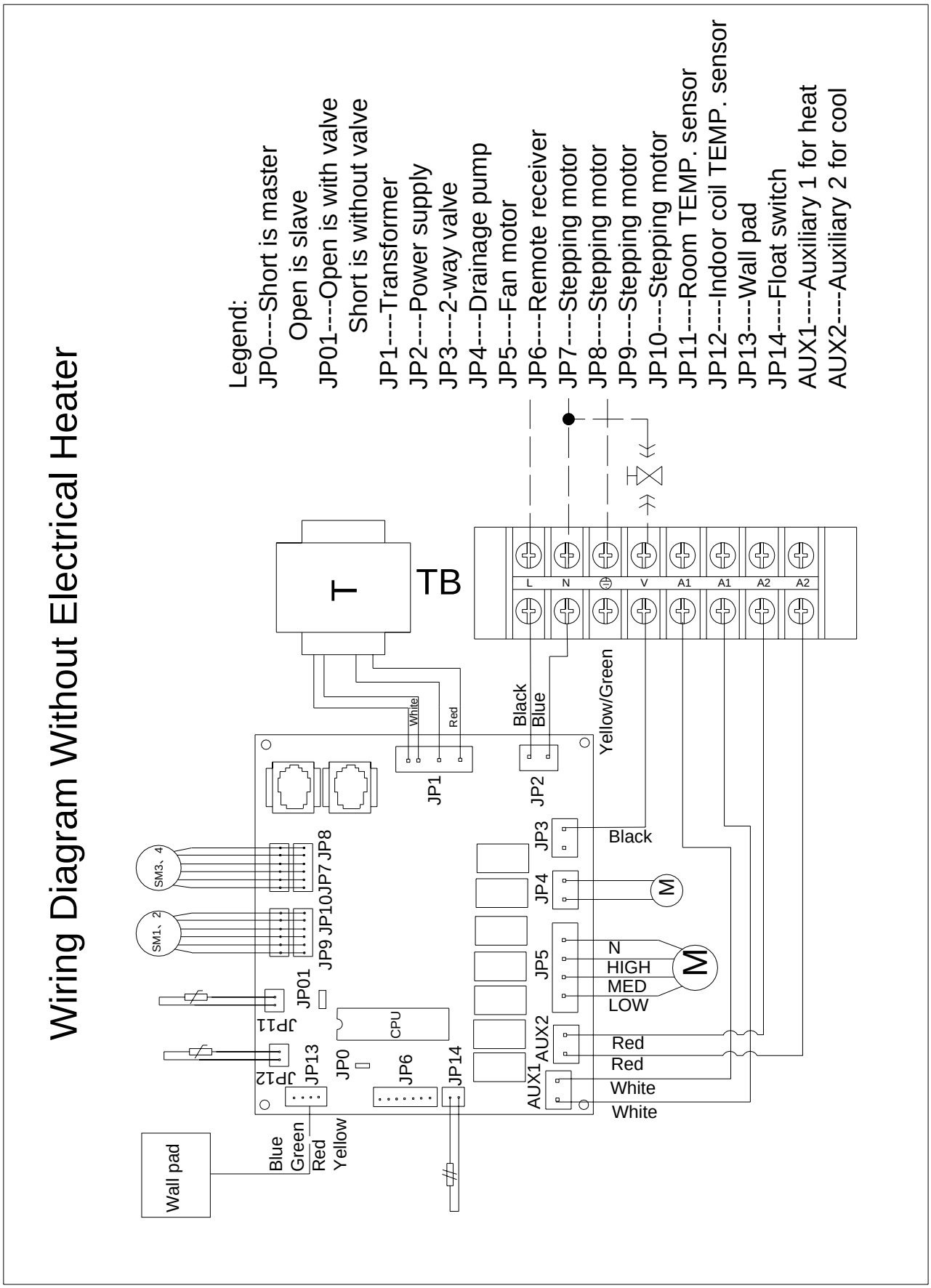


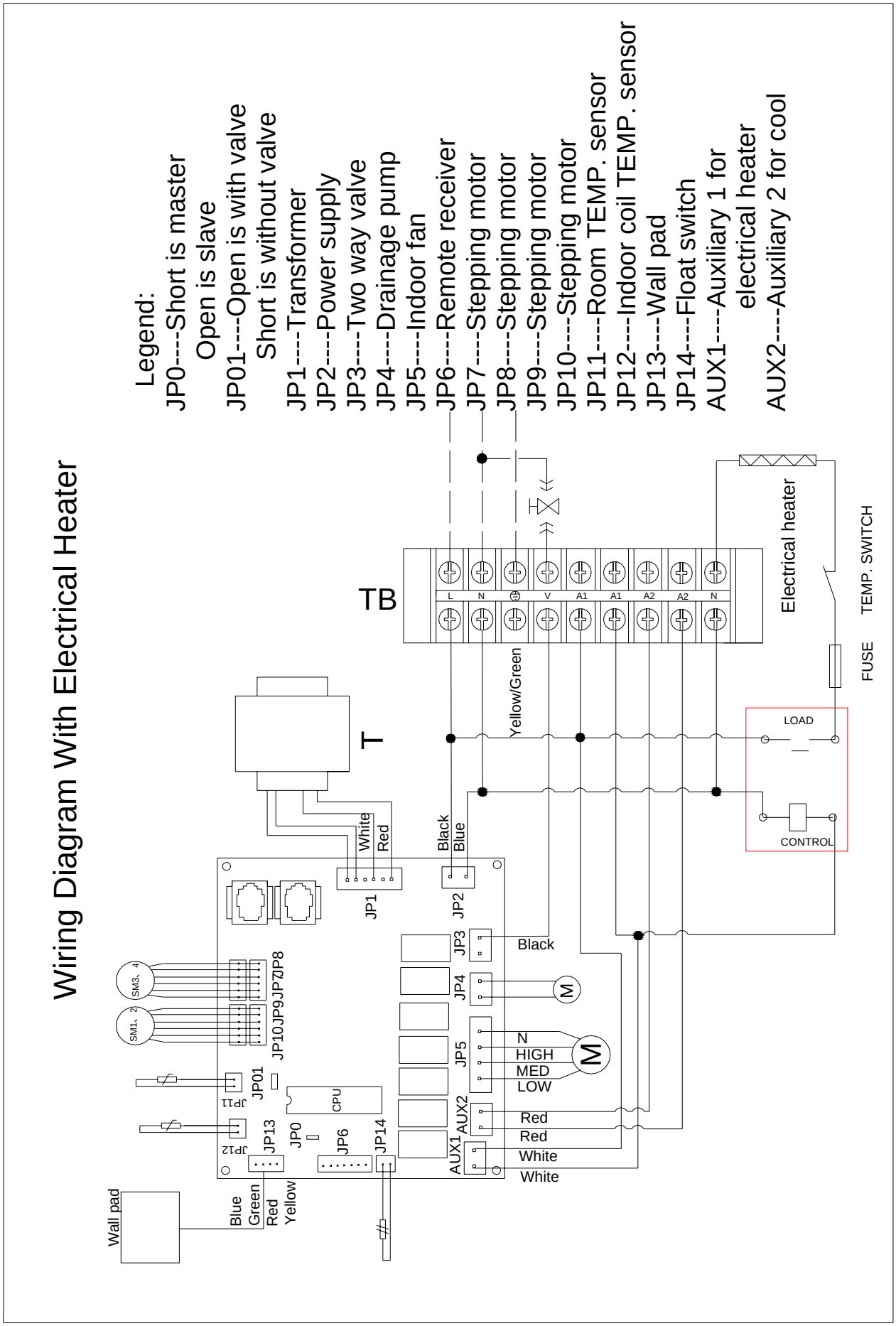
FP-A WITH ELETRICAL HEATER



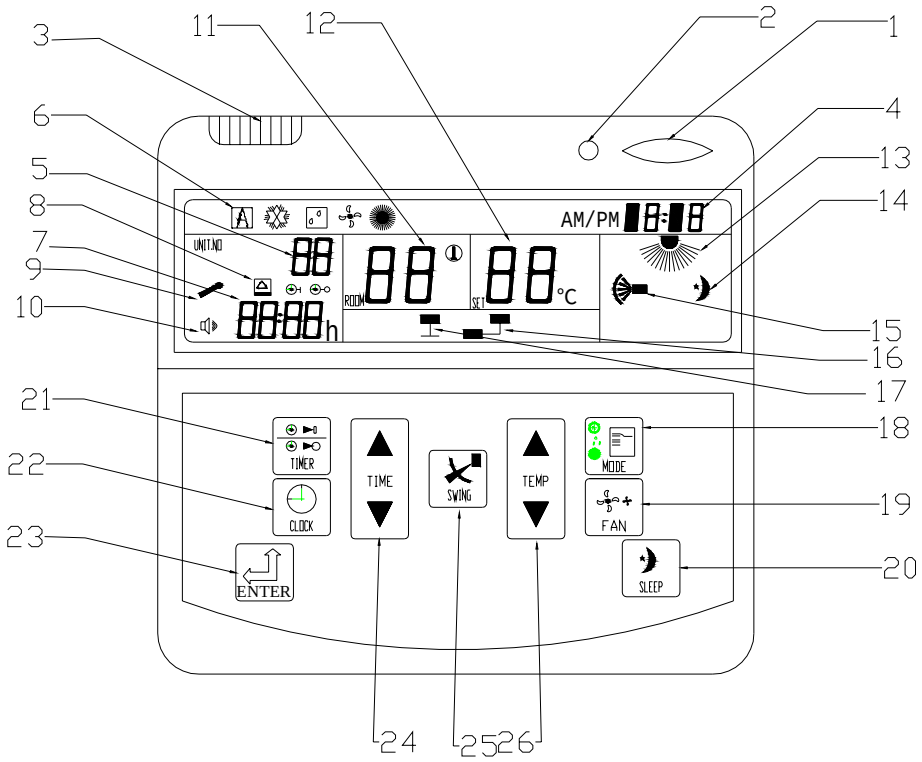


FP-A (with electrical PCB)




Wiring Diagram With Electrical Heater
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
TB
L
N
V
A1
A1
A2
A2
N
Electrical heater
TEMP. SWITCH
FUSE
LOAD
CONTROL
T
Yellow/Green
White
Red
Black
Blue
JP1
JP2
JP3
JP4
JP5
AUX2
AUX1
Black
M
N
HIGH
MED
LOW
Red
Red
White
White
SM3、4
SM1、2
JP10JP9JP7JP8
JP01
JP11
JP12
JP13
JP0
CPU
JP6
JP14
Wall pad
Blue
Green
Red
Yellow

● WALL PAD FOR 2-PIPES AND 4-PIPES



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) parametres on the master wall pad.
6--Mode: Auto,Cool, Dehumidification, Ventilation and Heat

Auto mode Cool mode
Dehumidification Ventilation mode Heat mode

7--Setting Time
8--Timer ON and OFF

Cycle Timer Timer ON Timer 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----Connecttion 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,commumication 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 selcted or all slave units when you press Enter Button.

21----Timer ON/OFF Button
1) Press TIMER button, or 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 or 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 and SET appear in LCD, then press TIMER button to confirm it. , and 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. 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℃ step (MAX:30℃)
Press Down Button to decrease temperature 1℃ step (MIN:16℃)

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.

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

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			

CONTROLS SPECIFICATION

2 PIPE HOT AND CHILLED WATER DUCT 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 shiled 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.

  Without motorized valve: the master unit will respond with 4 beeps.

  The slave unit will respond with 2 beep.

- More than 2 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 Tr > = Ts+1 °C, cool operation is activated. MTV is turned on. AUX2 is closed. Indoor fan runs at set speed.
- If Tr < = Ts, cool operation is terminated. MTV is turned off. AUX2 is opened. Indoor fan runs at set speed.
- The range of Ts 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 Ti < 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 Ti ≥ 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 WITHOUT ELECTRICAL HEATER.

- If Tr < = Ts-1, heat operation is activated, MTV is turned on. AUX1 is closed. Indoor fan runs at the set speed.
- If Tr> = Ts, 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 Ts 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 WITH ELECTRICAL HEATER AS BOOSTER(OPTIONAL)

- If Tr < = Ts-1, heat operation is activated, MTV is turned on. Electrical heater is turned on. Indoor fan runs at the set speed.

- If Tr > = Ts, 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 Ti<40°C, Electrical heater is turned on. If 40=<Ti<45°C, Electrical heater is kept original state. If Ti>=45°C, Electrical heater is turned off.
- The range of Ts 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 WITH ELECTRICAL HEATER AS PRIMARY HEAT SOURCE. (OPTIONAL)

- If Tr < = Ts-1, heat operation is activated, MTV is turned off. Electrical heater is turned on. Indoor fan runs at the set speed.
- If Tr > = Ts, 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 Ts 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 WITHOUT ELECTRICAL HEATER.

- If Ti < 32 °C, when MTV is on, indoor fan remains off and AUX1 is closed.
- If 32 °C < = Ti < = 38 °C, when MTV is on, AUX1 is closed and indoor fan keeps original state.
- If Ti > 38 °C, when MTV is on, AUX1 is closed and Indoor fan runs at set speed.
- If indoor coil temperature sensor is damages, 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 WITH ELECTRICAL HEATER.

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

2.G.2 Post-Heat -------FSTZ-KM-V6.2 FOR FP WITHOUT ELECTRICAL HEATER.

- If Ti > 38 °C, when MTV is off, indoor fan remains on at set speed and AUX1 is opened.
- If 35 °C < = Ti < = 38 °C, when MTV is off, AUX1 is opened. Indoor fan keeps original state.
- If Ti < 35 °C, when MTV is off, AUX1 is opened. Indoor fan stops.
- If indoor coil temperature sensor is damages, 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 WITH ELECTRICAL HEATER.

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

2.G.3 Protection of indoor coil

- If Ti > = 75 °C, MTV is turned off, indoor fan remains on and AUX1 is opened. Indoor fan at high speed.
- If Ti < 70°C, MTV is turned on, indoor fan remains on and AUX1 is closed. Indoor fan at set speed.

2.H DEHUMIDIFICATION MODE

If Tr > = 25°C, MTV will be ON for 3 minutes and OFF for 4 minutes.

If 16 °C < = Ti < 25 °C, MTV will be ON for 3 minutes and OFF for 6 minutes.

If Tr < 16°C, MTV will be turned off.

2.I AUTO HEAT-DEHUMIDIFICATION-COOL MODE

In auto mode, the set temperature of the system is 24°C and the indoor fan runs in auto fan mode.

If Tr < 21°C, the unit will operate in heat mode.

If Tr > 25°C, the unit will operate in cool mode.

If 21°C≤ Tr ≤25°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.

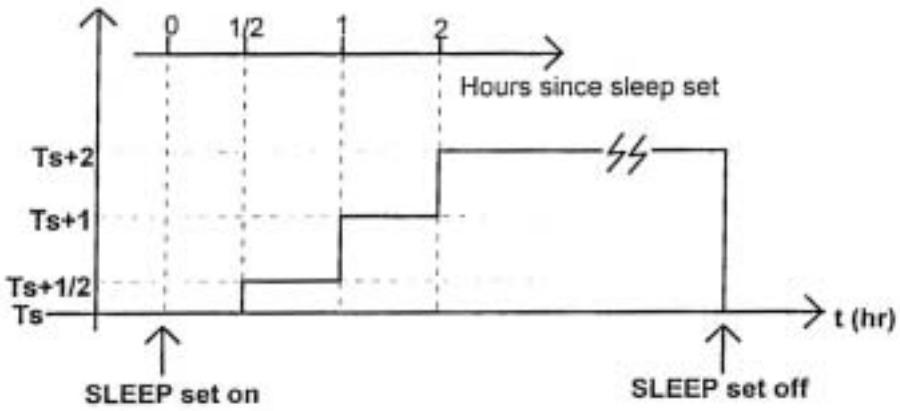
- Heat mode (AUX1) for unit without electrical heater.

  AUX1 is closed when MTV is on (in normal operation). AUX1 is opened when MTV is off or protection of indoor coil is operating.

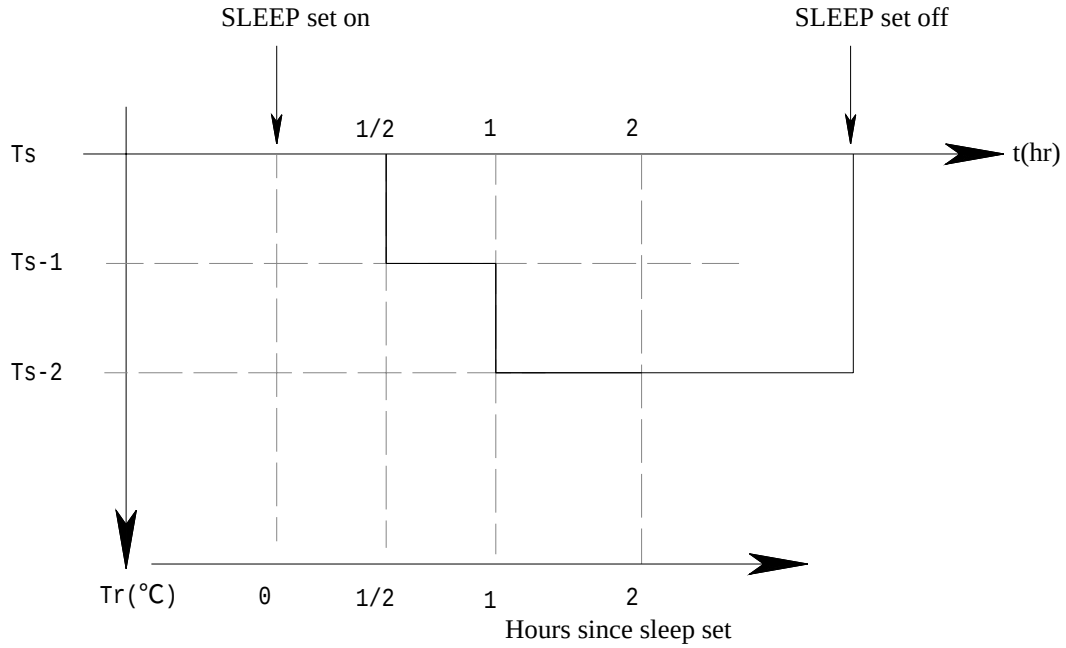
2.K SLEEP FUNCTION

- 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 Ts 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 Ts will decrease 2°C during 2 hours.
- Changing of operation mode will cancel sleep function

The COOL mode SLEEP profile is as follow:

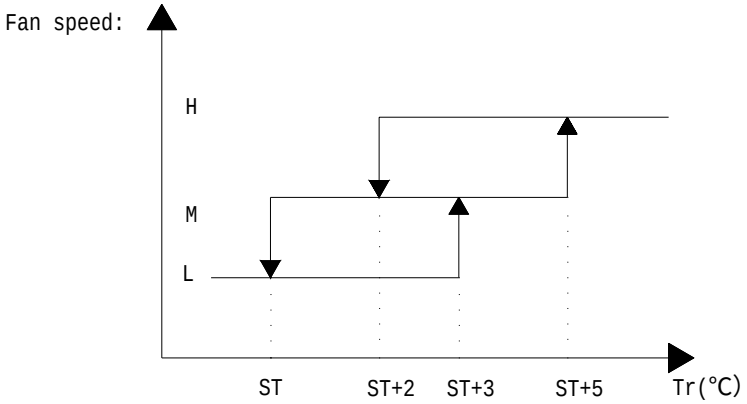


The HEAT mode SLEEP profile is as follows:



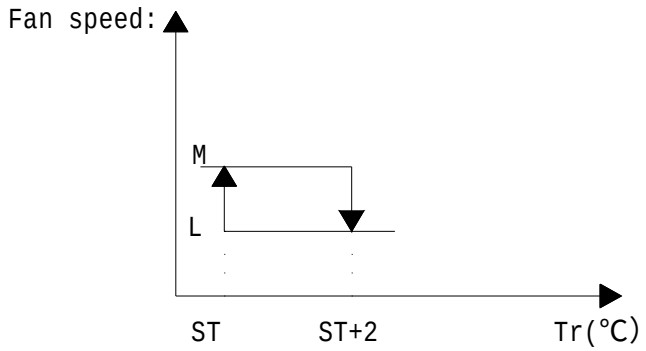
2.L AUTO FAN SPEED

- 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 BUZZER

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

● ROUTINE MAINTENANCE

IMPORTANT:

- Power to the unit must be disconnected before carrying out maintenance or cleaning.
- At the beginning of the season you are recommended to contact qualified personnel for the seasonal start-up.

To guarantee efficient long-term operation of the unit, a number of essential and simple operations and checks should be carried out. These do not require the intervention of qualified personnel, but can be carried out by the user.

1. Checking the state of the air filters;
2. Checking the coil;
3. Checking the structural condition of the unit.

CHECKING THE STATE OF AIR FILTERS

Depending on the environment where the internal unit is installed, the air filters need cleaning periodically. In particularly dusty atmospheres, the air filters should be cleaned every three months and you are recommended to have a differential pressure switch installed to indicate when the filters are dirty. This should be done by qualified personnel only.

REMOVING AND CLEANING THE FILTERS

1. Remove the fixing screw, then the door.
2. Remove the air filter gently from the bottom, avoiding dispersion of dust in the atmosphere.
3. Wash the filtering layer with warm water and ordinary detergent, rinse and dry thoroughly.
4. Replace the filter
5. Replace the door and fix with the screw.

CHECKING THE COIL

1. Remove any scale and dirt from the coil.
2. Check that the aluminum fins are not bent. If necessary, straighten them using a special tool to restore correct air flow through the coil. This should be done by qualified personnel only.

CONTROL CONDITIONS STRUCTURAL OF THE MACHINE

1. Check the state of the unit as a whole.
2. Check for the formation of rust. If necessary, treat the parts affected with rust inhibiting paint.
3. Check the fixing of the external panels.
4. Check that fixing elements are not causing excessive noise and/or vibrations.
5. Check that condensate is draining correctly and that the pan is free from scale.
6. Check that the power supply cable is in good condition without cracks or lacerations. This should be done by qualified personnel only.

● SEASONAL MAINTENANCE

These operations should be carried out by qualified personnel only.

1. Check correct operation of accessories.
2. If the electric heater module is present, check electrical absorptions and operation of safety devices.
3. If the purifier module is fitted, check the condition of the filtering section and clean if necessary. Check the operation of the safety devices.
4. If the humidifier module is present, turn off the power supply. Empty the water pan by means of the cock provided. Check the state of the electric heater. Remove any scale present and check operation of safety devices.

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

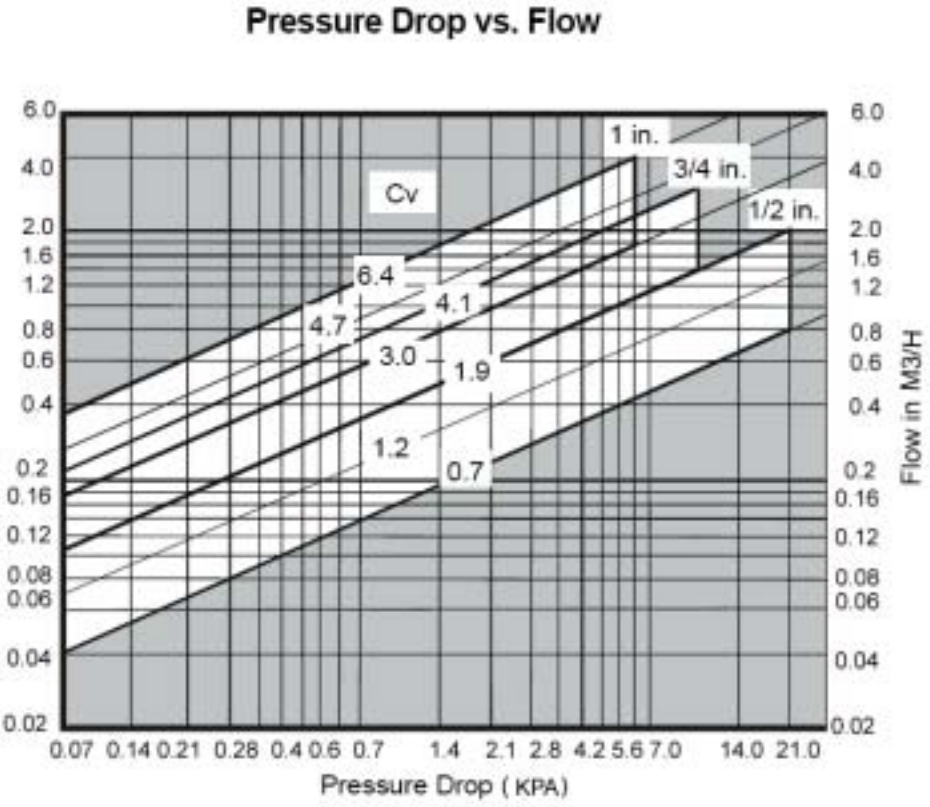
Input: 4W

Electric machine type: synchronous

Working pressure: 1.6Mpa

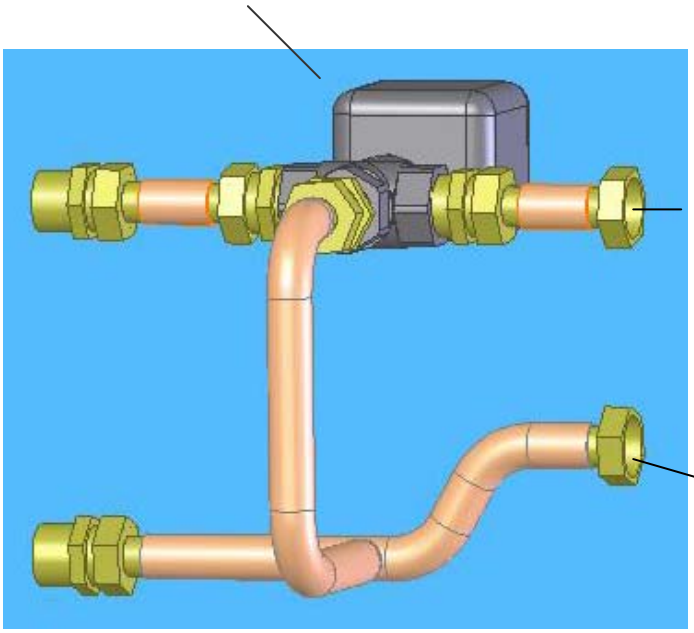
Ambient operating temperature: 0~65℃

Liquid temperature range: 1~95℃



2 wires 3-way valve 230V

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
Sulpur ions	none
Ammonia ions	none
Silicon ions	Less than 300 ppm

TROUBLE SHOOTING

MALFUNCTION	CAUSE	REMENDY
The fan coil does not start up	No voltage	- Check for presence of voltage - Check fuse on board
	Mains switch in the "OFF position	- Place in the "ON" position
	Faulty room control	- Check the room control
	Faulty fan	- Check fan motor
Insufficient output	Mash filter clogged	- Clean the filter
	Air flow obstructed	- Remove obstacles
	Room control regulation	- Check
	Incorrect water temperature	- Check
	Air present	- Vent
Noise and vibrations	Contact between metal parts	- Check
	Loose screws	- Tighten screws