

# TECHNICAL SERVICE MANUAL

Fancoil unit

Duct

Models:

KFKC30H0EN1

KFKC38H0EN1

KFKC43H0EN1

KFKC48H0EN1

KFKC57H0EN1

KFKC70H0EN1

KFKC78H0EN1

KFKC89H0EN1

KFKC112H0EN1

KFKC140H0EN1

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# 1. Specification

TYPE		KFKC30H0 EN1	KFKC38H0 EN1	KFKC43H0 EN1	KFKC48H0 EN1	KFKC57H0 EN1
air-flow volume m <sup>3</sup> /h	High-speed	500	630	710	800	1000
	Middle-speed	420	500	550	716	850
	Low-speed	310	390	430	622	762
Capacity	Cooling capacity (W)	3035	3790	4350	4835	5709
	Heating capacity (W)	5130	6425	6480	8210	9660
	water-flow volume(L/H)	530	653	740	850	1005
	hydraulic resistance (kPa)	10.1	14.5	18.3	27.1	38
Noise level	dB(A)	33	33	33	34	35
air-flow volume adjustment		Remote control, Wire control, 3 level adjustment				
fan	type	Front-wing double-inlet centrifugal type fan				
	number	1		2		
motor	type	3 level speed, low noise, capacitance motor				
	number	1				
	power supply	AC 1Φ-220V-50HZ				
	input power (w)	38	39	47	70	84
coil	type	copper tube, grided aluminum fin				
	rows	2				
	Working pressure	1.6MPa				
Connection pipe	water inlet	RC3/4" internal thread				
	water outlet	RC3/4" internal thread				
	drainage	ZG3/4" internal thread				
net weight (kg)	no air-return box	16	16	22	22	22
Dimension	Width (mm)	975	975	975	1275	1275
	Height (mm)	490	490	490	490	490
	Depth (mm)	240	240	240	240	240

**Remark:**

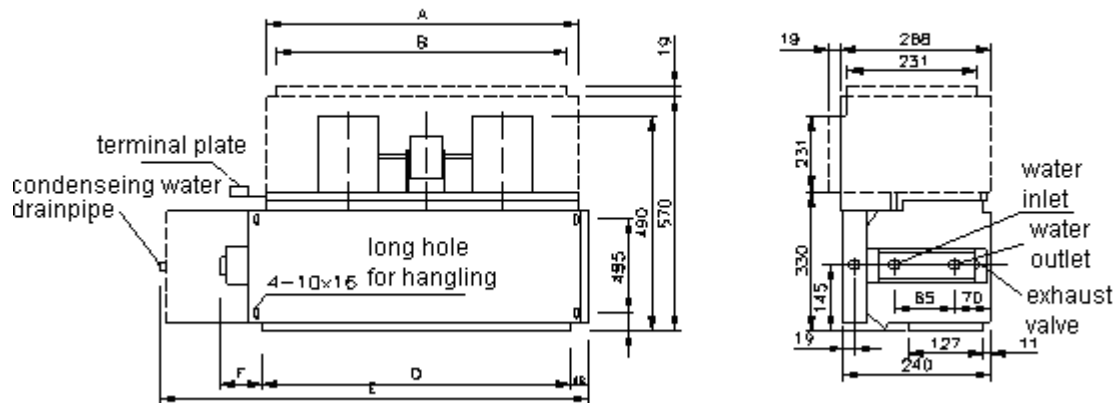
- All performance data above is based upon 0Pa ambient static pressure.
- Cooling capacity test condition: air inlet Temp. : 27DB°C/19.5WB°C, water inlet Temp. 7°C, water Temp. difference 5°C.
- Heating capacity test condition: air inlet Temp. : 21DB°C, water inlet Temp. 60°C, the volume of air and water is same as cooling.
- Noise level is tested in full-anechoic room. 5. Can customize Fan Coil smaller than KFKC30H0EN1.

TYPE		KFKC70H0E N1	KFKC78H0E N1	KFKC89H0E N1	KFKC112H0 EN1	KFKC140H0 EN1
air-flow volume m <sup>3</sup> /h	High-speed	1250	1400	1600	2000	2500
	Middle-speed	1069	1180	1400	1706	2110
	Low-speed	890	1050	1185	1304	1602
Capacity	Cooling capacity (W)	6985	7860	8910	11259	13956
	Heating capacity (W)	11550	13640	15011	19065	22820
	water-flow volume(L/H)	1204	1382	1541	1928	2388
	hydraulic resistance(kPa)	25.2	27	30	44	46
Noise level	dB(A)	35	38	39	39	40
air-flow volume adjustment		linear controller control, 3 level adjustment				
fan	type	Front-wing double-inlet centrifugal type fan				
	number	3			4	
motor	type	3 speed, low noise capacitance motor				
	number	1			2	
	power supply	AC 1Φ-220V-50HZ				
	input power (w)	108	137	142	201	250
coil	type	copper tube, grilled aluminum fin				
	rows	2				
	Working pressure	1.6MPa				
Connection pipe	water inlet	RC3/4" internal thread				
	water outlet	RC3/4" internal thread				
	drainage	ZG3/4" internal thread				
net weight (kg)	no air-return box	27	27	27	32	32
Dimension	Width (mm)	1445	1445	1445	1995	1995
	Height (mm)	490	490	490	490	490
	Depth (mm)	240	240	240	240	240

**Remark:**

1. All performance data above is based upon 0Pa ambient static pressure.
2. Cooling capacity test condition: air inlet Temp. : 27DB°C/19.5WB°C, water inlet Temp. 7°C, water Temp. difference 5°C.
3. Heating capacity test condition: air inlet Temp. : 21DB°C, water inlet Temp. 60°C, the volume of air and water is same as cooling.
4. Noise level is tested in full-anechoic room. 5. Can customize Fan Coil smaller than KFKC30H0EN1.

## 2. Dimensions

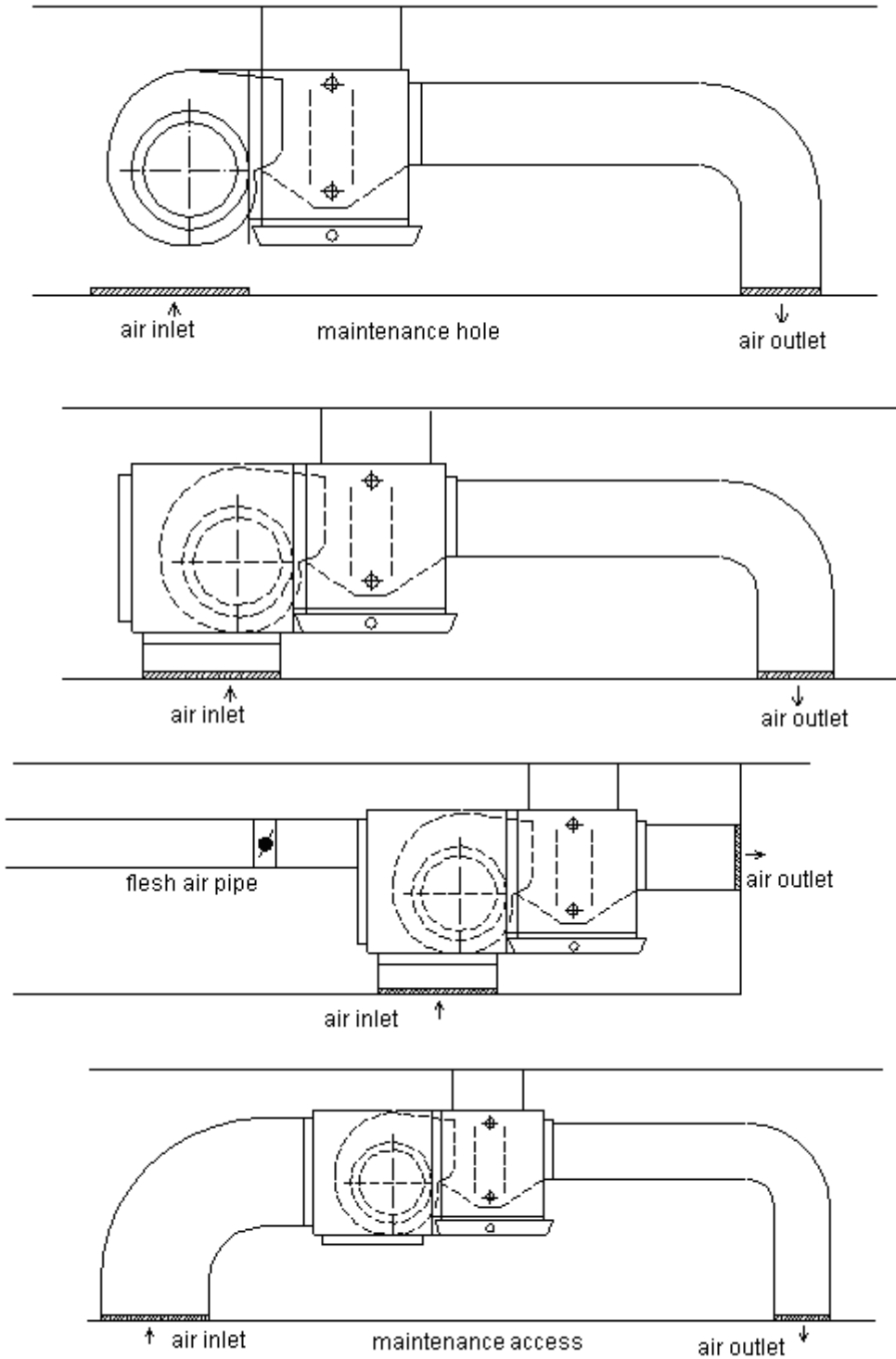


model dimension	KFKC3 0H0EN 1	KFKC3 8H0EN 1	KFKC4 3H0EN 1	KFKC48H0 EN1 KFKC57H0 EN1	KFKC70H0E N1 KFKC78H0E N1	KFKC89H0E N1	KFKC112H0 EN1 KFKC140H0 EN1
A	582			882	1082		1347
B	552			852	1052		1317
C	615			915	1115		1380
D	587			887	1087		1352
E	975			1275	1445		1995
F	94			94	94		94

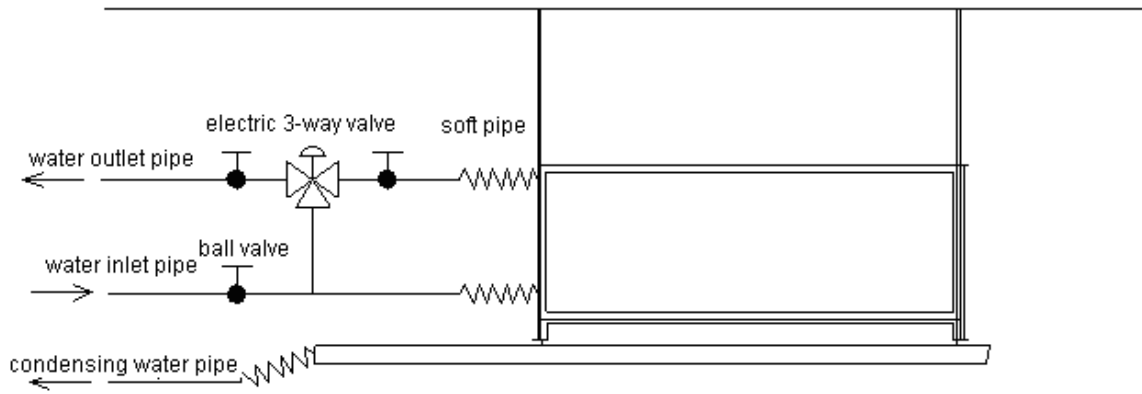
**Notice:**

1. Example above is based on double scroll cases type, it may be different from the one you chose
2. Double-dash line in drawing is the dimension of air-return box (down air-return type and rear air-return type)
3. If customer need air-return box, please declare when booking, furthermore, please explain whether it is down air-return type or rear air-return type.

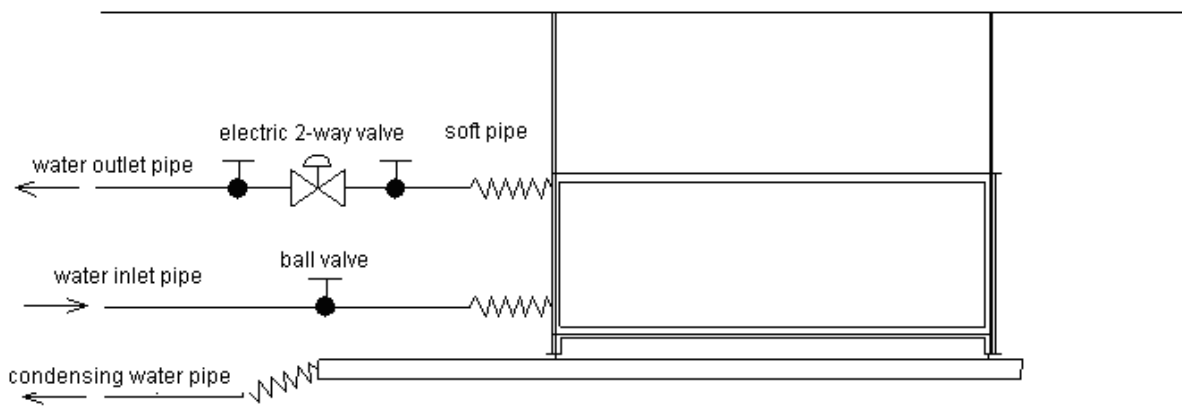
### 3. Installation Sketch Map



Air pipeline installation sketch

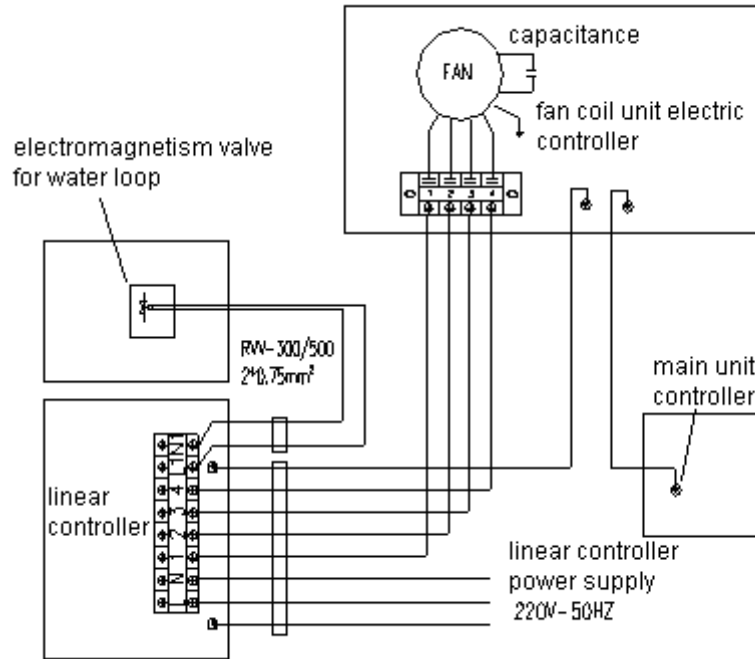


Constant water flux system pipeline sketch

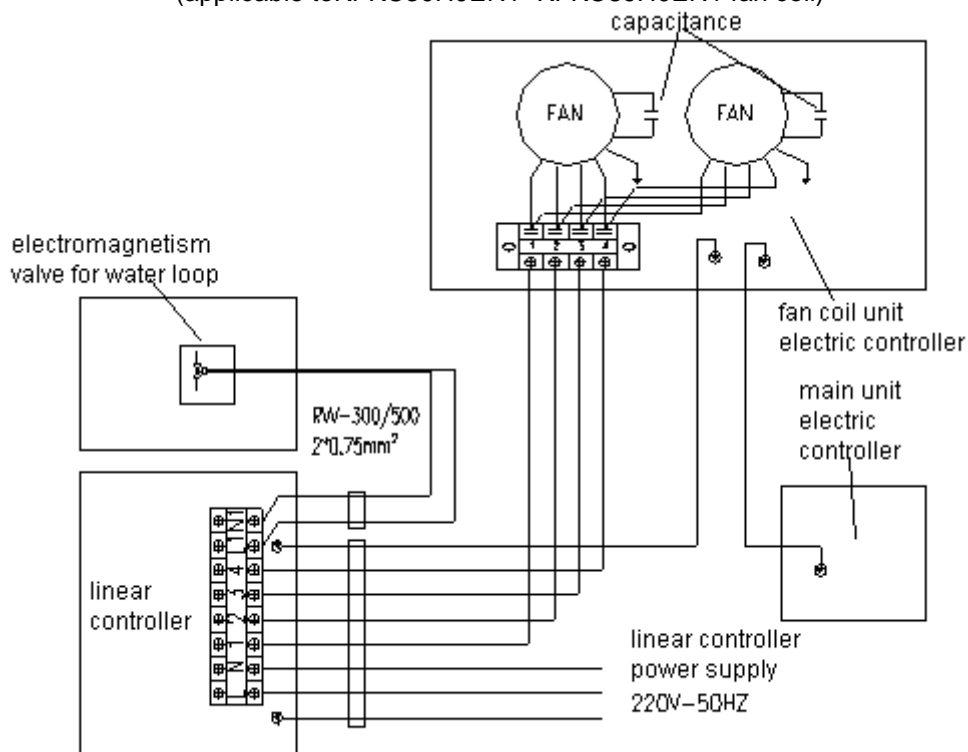


Variable water volume system pipeline sketch

## 4. Wiring Diagram



Duct-type fan coil wiring diagram  
(applicable to KFKC30H0EN1~KFKC89H0EN1 fan coil)



Thin type fan coil wiring diagram  
(Apply to KFKC112H0EN1~KFKC140H0EN1 type unit)



## 5. Unit installation, operation and maintenance

1. Unit installation: unit should be fixed by supporter and hanger, and easy disassembly and maintenance. Pay attention to keep unit's outer integrity and inner rotary components shouldn't be touched by any other part. Ensure to keep any sundries away from fan impeller, motor and heat-exchanger, as well as keep draining side lower at least 3-5mm than the other side to make condensing water draining out well.
2. Air duct connection: install filter at air inlet to prevent fins from being jammed by dirty and keep heat-exchanger working with high efficiency. Installation, please refer to air duct installation sketch above.
3. Water pipeline installation: fan coil chilled water applies down-inlet and up-outlet type, soft pipe should be applied between water pipe and fan coil. Outlet and inlet water pipeline should be heat insulated well. And sealing screw thread connection place by some material made up of polite tra fluoro ethylene (PTFE) to prevent leakage. Moreover, condensing water pipe should be inclined to insure condensate can be drained out well. Fan coil connection should be done after having cleaned pipeline well to avoid jamming heat-exchanger.
4. Electric wiring: unit should be grounded well, and correctly wired, wiring, please refer to corresponding electric wiring sketch.
5. Debugging: clear all possible sundries, and check wire connection, water pipeline connection, after having ensured all connection is well, start unit, please use 3-level speed switch to adjust, it is better to start with high-speed level then shift it to other speed level.
6. Unit running: before normal running, please open manual exhaust valve in water outlet pipeline to drain out air from fan coil and water pipeline, and this operation should be done in term during future's running period. In summer, chilled water Temp should be no less than 5°C; in winter, heated water should be not higher than 65°C, as well as, water should be pre-disposed to achieve demanded quality.
7. Maintenance: fan coil heat-exchanger should be clean and dry in term, as well as the same thing should be done for filter net. It is suggested to fully pour water to fan coil to prevent tube from rusting when stop using. In winter, anti-freeze solutions should be done to prevent tube from being broken caused by freezing.

## 6. Capacity Tables

Cooling Capacity:

unit: W

model	Water inlet Temp°C	water-flow volume LPM	Hydraulic pressure drop kPa	air inlet condition									
				DB24°C WB17°C		DB25°C WB17°C		DB26°C WB17°C		DB27°C WB17°C		DB28°C WB17°C	
				TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
KFKC38H0EN1	5	6	1.2	2200	2600	2270	2860	2330	3120	2450	3260	2450	3670
		8	7.3	2340	2930	2420	3220	2490	3520	2620	3680	2640	4150
		10	11.1	2430	3150	2520	3470	2610	3800	2730	3970	2770	4490
		12	15.4	2520	3340	2610	3680	2700	4040	2830	4220	2880	4780
	6	6	1.2	2120	2400	2180	2650	2250	2910	2370	3050	2370	3460
		8	7.3	2240	2700	2320	2990	2390	3290	2520	3440	2540	3920
		10	11.1	2330	2190	2410	3230	2500	3560	2630	3720	2660	4240
		12	15.4	2400	3090	2500	3430	2590	3780	2720	3960	2770	4520
	7	6	1.2	2030	2190	2100	2440	2160	2700	2280	2840	2280	3240
		8	7.3	2140	2470	2220	2760	2300	3060	2420	3210	2440	3680
		10	11.1	2220	2660	2310	2980	2390	3300	2520	3470	2560	3990
		12	15.4	2290	2830	2380	3170	2480	3510	2610	3690	2650	4250
	8	6	1.2	1940	1980	2010	2230	2080	2490	2200	2620	2200	3030
		8	7.3	2040	2240	2120	2520	2200	2820	2320	2970	2350	3440
		10	11.1	2110	2410	2200	2730	2290	3050	2420	3220	2450	3730
		12	15.4	2170	2570	2270	2900	2360	3250	2500	3420	2540	3970
	9	6	1.2	1860	1860	1930	2020	1990	2280	2110	2410	2120	2810
		8	7.3	1950	2000	2030	2290	2110	2580	2230	2730	2250	3190
		10	11.1	2010	2160	2210	2470	2180	2790	2310	2960	2350	3460
		12	15.4	2060	2300	2160	2630	2250	2980	2390	3150	2430	3700
	10	6	1.2	1770	1700	1840	1840	1910	2060	2030	2190	2040	2590
		8	7.3	1850	1850	1930	2040	2010	2340	2140	2480	2160	2940
		10	11.1	1900	1900	1990	2210	2080	2530	2210	2690	2250	3200
		12	15.4	1950	2030	2050	2360	2140	2700	2280	2870	2330	3410

Remark:

1. DB: Dry Bulb Temp

WB: Wet Bulb Temp

2. Table above is based on normal type fan coil high speed air-flow volume; cooling capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

3. TH: Total heat

SH: Sensible heat

Cooling Capacity:

unit: W

Model	water inlet Temp°C	water-flow volume LPM	hydraulic pressure drop kPa	air inlet condition									
				DB24°C WB17°C		DB25°C WB17°C		DB26°C WB17°C		DB27°C WB17°C		DB28°C WB17°C	
				TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
KFKC48H0EN1	5	6	9.5	2970	3470	3050	3810	3140	4160	3300	4340	3290	4890
		8	19.9	3230	4100	3340	4510	3450	4940	3620	5160	3650	5830
		10	33.6	3390	4480	3510	4940	3640	5410	3810	5650	3870	6400
		12	50.7	3510	4760	3650	5250	3780	5760	3970	6020	4040	6820
	6	6	9.5	2850	3200	2940	3540	3020	3880	3180	4060	3180	4610
		8	19.9	3090	3780	3200	4190	3310	4620	3480	4830	3510	5500

KFKC duct fancoil unit

		10	33.6	3240	4140	3360	4590	3490	5060	3660	5300	3720	6040
		12	50.7	3350	4400	3490	4890	3620	5390	3800	5650	3880	6450
	7	6	9.5	2730	2920	2820	3260	2910	3600	3070	3780	3070	4320
		8	19.9	2950	3460	3060	3870	3170	4290	3340	4500	3380	5170
		10	33.6	3080	3790	3210	4240	3330	4710	3510	4940	3570	5680
		12	50.7	3190	4030	3320	4520	3460	5020	3640	5270	3720	6070
	8	6	9.5	2620	2640	2710	2980	2800	3320	2970	3490	2960	4030
		8	19.9	2810	3140	2930	3540	3040	3960	3210	4170	3240	4830
		10	33.6	2930	3440	3060	3880	3190	4350	3360	4580	3420	5320
		12	50.7	3020	3660	3160	4140	3300	4640	3480	4890	3560	5680
	9	6	9.5	2500	2500	2600	2690	2680	3030	2840	3210	2850	3740
		8	19.9	2680	2810	2790	3210	2900	3620	3070	3830	3110	4480
		10	33.6	2780	3080	2910	3520	3040	3980	3220	4220	3280	4940
		12	50.7	2860	3280	3000	3760	3140	4250	3330	4510	3410	5290
	10	6	9.5	2390	2390	2480	2480	2570	2740	2730	2910	2740	3440
		8	19.9	2540	2540	2660	2870	2770	3280	2940	3490	2980	4140
		10	33.6	2640	2710	2760	3160	2890	3610	3070	3840	3130	4570
		12	50.7	2710	2900	2850	3370	2990	3860	3170	4110	3250	4890

Remark:

1. DB: Dry Bulb Temp

WB: Wet Bulb Temp

2. Table above is based on normal type fan coil high speed air-flow volume; cooling capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

3. TH: Total heat

SH: Sensible heat

**Cooling Capacity:**

unit: W

model	water inlet Temp°C	water-flow volume LPM	hydraulic pressure drop kPa	air inlet condition									
				DB24°C WB17°C		DB25°C WB17°C		DB26°C WB17°C		DB27°C WB17°C		DB28°C WB17°C	
				TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
KFKC57H0EN1	5	10	16.2	3850	4530	3960	4980	4070	5440	4280	5680	4280	6400
		15	33.8	4160	5300	4310	5840	4450	6390	4670	6670	4710	7540
		20	57.2	4380	5800	4540	6390	4700	7010	4930	7320	5000	8290
		25	86.3	4510	6110	4680	6730	4850	7380	5090	7720	5180	8750
	6	10	16.2	3690	4180	3810	4620	3920	5080	4130	5310	4130	6030
		15	33.8	3980	4890	4130	5420	4270	5970	4490	6250	4530	7110
		20	57.2	4180	5360	4340	6960	4500	6550	4730	6870	4810	7830
		25	86.3	4300	5640	4470	6270	4650	6910	4880	7250	4980	8270
	7	10	16.2	3540	3820	3660	4260	3770	4710	3980	4940	3990	5650
		15	33.8	3800	4480	3950	5000	4090	5550	4310	5820	4360	6680
		20	57.2	3980	4910	4150	5490	4310	6100	4540	6410	4610	7360
		25	86.3	4090	5170	4270	5790	4440	6440	4680	6760	4770	7790
	8	10	16.2	3390	3450	3510	3890	3620	4340	3830	4570	3840	5280
		15	33.8	3630	4060	3770	4580	3920	5120	4140	5390	4190	6240
		20	57.2	3790	4450	3950	5030	4110	5630	4340	5940	4420	6890
		25	86.3	3880	4700	4060	5310	4240	5950	4470	6280	4570	7290
	9	10	16.2	3240	3240	3360	3520	3480	3970	3690	4190	3700	4890
		15	33.8	3450	3630	3600	4150	3740	4680	3960	4960	4020	5800
		20	57.2	3590	3990	3760	4570	3920	5160	4150	5460	4230	6410
		25	86.3	3680	4210	3860	4820	4030	5460	4270	5780	4370	6790

10	10	16.2	3090	3090	3220	3220	3330	3590	3540	3810	3560	4510
	15	33.8	3280	3280	3430	3710	3570	4240	3790	4510	3850	5350
	20	57.2	3400	3520	3570	4090	3730	4680	3960	4980	4050	5920
	25	86.3	3480	3720	3660	4320	3830	4950	4070	5270	4170	6270

Remark:

1. DB: Dry Bulb Temp

WB: Wet Bulb Temp

2. Table above is based on normal type fan coil high speed air-flow volume; cooling capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

3. TH: Total heat

SH: Sensible heat

**Cooling Capacity:**

unit: W

model	water inlet Temp°C	water-flow volume LPM	hydraulic pressure drop kPa	air inlet condition									
				DB24°C WB17°C		DB25°C WB17°C		DB26°C WB17°C		DB27°C WB17°C		DB28°C WB17°C	
				TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
KFKC78H0EN1	5	15	5.4	5020	6070	5170	6670	5320	7290	5590	7600	5610	8580
		20	9	5290	6740	5480	7410	5650	8110	5930	8470	5990	9580
		25	13.4	5510	7250	5710	7990	5910	8750	6200	9140	6280	10350
		30	18.5	5650	7570	5870	8350	6080	9150	6370	9750	6480	10840
	6	15	5.4	4810	5590	4970	6190	5120	6800	5390	7120	5410	8090
		20	9	5070	6210	5250	6890	5430	7580	5710	7940	5760	9040
		25	13.4	5260	6690	5470	7430	5670	8180	5950	8570	6040	9770
		30	18.5	5390	7000	5610	7770	5820	8570	6120	8980	6220	10240
	7	15	5.4	4610	5110	4770	5710	4920	6320	5190	6630	5210	7590
		20	9	4840	5690	5020	6360	5200	7050	5480	7400	5540	8490
		25	13.4	5020	6130	5220	6860	5420	7610	5710	8000	5800	9190
		30	18.5	5140	6410	5350	7180	5570	7970	5860	8380	5970	9640
	8	15	5.4	4400	4630	4570	5220	4720	5820	4990	6130	5020	7080
		20	9	4610	5150	4800	5820	4980	6500	5260	6850	5320	7930
		25	13.4	4780	5560	4980	6280	5180	7030	5470	7410	5560	8590
		30	18.5	4880	5820	5100	6580	5310	7370	5610	7770	5720	9020
	9	15	5.4	4210	4210	4370	4720	4530	5320	4800	5630	4820	6570
		20	9	4390	4610	4580	5270	4760	5950	5040	6300	5110	7370
		25	13.4	4530	4980	4740	5700	4940	6440	5230	6820	5330	7990
		30	18.5	4630	5220	4850	5970	5060	6750	5360	7150	5470	8390
	10	15	5.4	4010	4010	4170	4220	4330	4820	4600	5120	4630	6060
		20	9	4170	4170	4360	4720	4540	5390	4820	5730	4890	6800
		25	13.4	4300	4390	4500	5100	4710	5840	5000	6210	5100	7380
		30	18.5	4380	4600	4600	5350	4810	6130	5110	6520	5230	7750

Remark:

1. DB: Dry Bulb Temp

WB: Wet Bulb Temp

2. Table above is based on normal type fan coil high speed air-flow volume; cooling capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

3. TH: Total heat

SH: Sensible heat

**Heating Capacity:**

Unit:W

model	Water volume LPM	Hydraulic drop kPa	air inlet condition DB18°C						
			Water inlet Temp.						
			40	45	50	55	60	70	80
KFKC38H0EN1	6	1.2	2950	3620	4290	4960	5630	6970	8310
	8	7.3	3110	2820	4530	5240	5950	7360	8780
	10	11.1	3220	2960	4690	5420	6160	7630	9090
	12	15.4	3300	1050	4810	5560	6310	7810	9320
KFKC48H0EN1	8	9.5	3970	4880	5780	6690	7590	9400	11210
	12	19.9	4290	5260	6240	7210	8190	10140	12090
	16	33.6	4470	5480	6500	7510	8530	10560	12590
	20	50.7	4580	5620	6670	7710	8750	10840	12920
KFKC57H0EN1	10	16.2	5120	6280	7440	8610	9770	12100	14430
	15	33.8	5520	6770	8030	9280	10540	13050	15560
	20	57.2	5750	7060	8360	9670	10980	13590	16210
	25	86.3	5900	7240	8580	9920	11260	13950	16630
KFKC78H0EN1	15	5.4	6700	8230	9750	11280	12800	15850	18900
	20	9	7050	8650	10260	11860	13460	16670	19870
	25	13.4	7280	8930	10590	12240	13900	17210	20520
	30	18.5	7440	9130	10830	12520	14210	17590	20980

Remark:

1. DB: Dry Bulb Temp

WB: Wet Bulb Temp

2. Table above is based on normal type fan coil high speed air-flow volume; heating capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

**Heating Capacity:**

Unit:W

Model	Water volume LPM	Hydraulic drop kPa	Air inlet condition: DB20°C						
			Water inlet Temp.						
			40	45	50	55	60	70	80
KFKC38H0EN1	6	1.2	2680	3350	4020	4690	5360	6700	8040
	8	7.3	2830	3540	4250	4950	5660	7080	8500
	10	11.1	2930	3660	4400	5150	5860	7330	8800
	12	15.4	3000	3750	4510	5260	6010	7510	9020
KFKC48H0EN1	8	9.5	3610	4520	5420	6320	7230	9040	10850
	12	19.9	3900	4870	5850	6820	7800	9750	11700
	16	33.6	4060	5070	6090	7110	8120	10150	12190
	20	50.7	4160	5210	6250	7290	8330	10420	12500
KFKC57H0EN1	10	16.2	4650	5810	6980	8140	9310	11630	13960
	15	33.8	5020	6270	7530	8780	10040	12550	15060
	20	57.2	5220	6530	7840	9150	10450	13070	15680
	25	86.3	5350	6700	8040	9380	10730	13410	16090
KFKC78H0EN1	15	5.4	6090	7620	9140	10670	12190	15240	18290
	20	9	6410	8010	9610	11220	12820	16030	19230
	25	13.4	6620	8270	9930	11580	13240	16550	19860
	30	18.5	6760	8460	10150	11840	13530	16920	20300

Remark

- 1. DB: Dry Bulb Temp WB: Wet Bulb Temp
- 2. Table above is based on normal type fan coil high speed air-flow volume; heating capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).

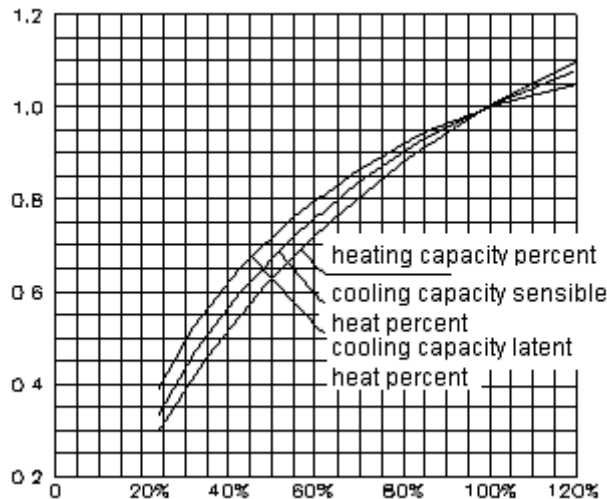
**Heating Capacity:**

Unit:W

Model	Water volume LPM	Hydraulic drop kPa	Air inlet condition: DB21°C						
			Water inlet Temp.						
			40	45	50	55	60	70	80
KFKC38H0EN1	6	1.2	2540	3210	3880	4550	5230	6570	7910
	8	7.3	2690	3400	4100	4810	5520	6940	8350
	10	11.1	2780	3520	4250	4980	5720	7180	8650
	12	15.4	2850	3600	4350	5110	5860	7360	8860
KFKC48H0EN1	8	9.5	3430	4340	5240	6140	7050	8860	10670
	12	19.9	3700	4680	5650	6630	7600	9550	11500
	16	33.6	3860	4870	5890	6900	7920	9950	11980
	20	50.7	3960	5000	6040	7080	8130	10210	12290
KFKC57H0EN1	10	16.2	4420	5580	6740	7910	9070	11400	13730
	15	33.8	4760	6020	7280	8530	9790	12300	14810
	20	57.2	4960	6270	7580	8890	10190	12810	15420
	25	86.3	5090	6430	7780	9120	10460	13140	15820
KFKC78H0EN1	15	5.4	5790	7310	8840	10360	11890	14930	17980
	20	9	6090	7690	9290	10900	12500	15710	18910
	25	13.4	6280	7940	9600	11250	12910	16220	19530
	30	18.5	6430	8120	9810	11500	13190	16580	19960

Remark

- 1. DB: Dry Bulb Temp WB: Wet Bulb Temp
- 2. Table above is based on normal type fan coil high speed air-flow volume; heating capacity on other speed air flow volume should multiply with corresponding capacity modification coefficient (refer to capacity modification coefficient diagram).



**Capacity modification coefficient diagram**