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TECKA Fan Coil Unit

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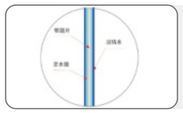
Content

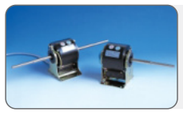
Product features

TECKA FCU adopts the international advanced manufacturing technology, with the characteristics of high efficiency, energy saving, health, environmental protection, etc., and has a variety of types for options. The excellent design and performance make TECKA FCU widely used in various buildings.

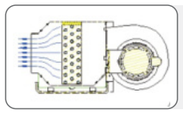


The heat exchanger fins adopt high-efficiency anti-corrosive hydrophilic coating aluminum fins. The hydrophilic membrane can effectively improve the hydrophilicity of the fins, so that the condensed water is evenly distributed on the fins, to avoid the "bridging" of the condensed water and reduce the air capacity and heat exchange efficiency of the FCU. At the same time, the hydrophilic membrane can effectively inhibit fin corrosion.

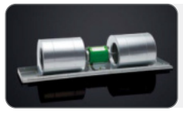
The double air inlet type centrifugal galvanized steel fan wheel was tested strictly for strict dynamic and static balance. It equipped with a volute that meets aerodynamic performance, and the air inlet is equipped with an air guide ring, so that the airflow is zero loss into the impeller, ensuring high efficiency and low noise of the FCU.



The single-phase three-speed permanent-magnet motor is an important power driving component of the unit. The motor shaft is chrome-plated and anti-corrosion treatment on the surface to prevent rust and wear. It is equipped with high-precision permanent oil-lubricated rolling bearings to ensure the highest efficiency and ultra-low noise. The motor is equipped with an overheat protector to fully protect the motor from any damage.

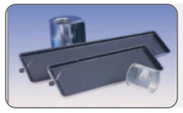


The FCU adopts an intermediate streamlined tuyere design with low noise, higher heat exchange efficiency, and avoid local eddies. At the same time, the middle air outlet design effectively saves the ceiling space and is convenient for installation and maintenance.



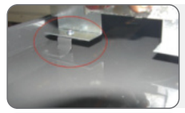
The FCU adopts a high-quality brushless DC motor, high efficiency, low noise, convenient for speed control, good reliability, compact structure, environmental protection, and reliable.

Each FCU has passed the 2.5MPa high-pressure nitrogen leak detection and the strict pressure-tightness test. The FCU design working pressure is 1.6MPa to ensure that the unit does not leak.



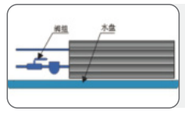
The water tray adopts one-time stretch molding design, and the surface is sprayed with plastic treatment, which is high strength, no leakage, and strong corrosion resistance. It is designed with a dedicated drainage slope, which is convenient for the drainage and reduces the bacteria and corrosion. The bottom of the water tray adopts a dedicated process to form the insulation material, and the insulation material is closer to the water tray surface to prevent the secondary condensation.

The extended water tray design can avoid the objects under the coil are contaminated due to the leakage of the pipeline valve or the condensation of the metal hose.



The water tray and coil of the FCU adopt the special installation instead of the side installation, it avoids the water condensation on the screw caused by the side installation.

The FCU was tested strictly for operation, pressure, and insulation tests before delivering. The motor wire connection terminals are all placed in an electrical box to ensure safer operation of the FCU.



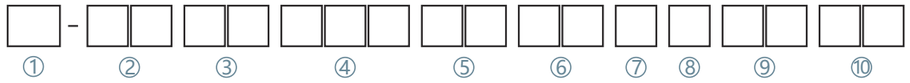
As an option, the integrated FCU with thermostat and electric two-way valve is available for choice.

Adopt DC brushless motor, with step-less speed regulation control, and the comprehensive power saving is more than 50%.
Adopt low-noise and streamlined tuyere design, the FCU was tested one by one for balance to ensure the ultimate silence.
The FCU adopts hydrophilic membrane fins to reduces air resistance, improves heat exchange efficiency, and improves the anti-corrosion performance of the fins.
Lengthened anti-overflow tray, which is integrally molded.
Adopt integrated structure and functional design, equipped with electric valves, water filters, temperature sensors, and other accessories.
Adopt communicable intelligent controller to realize step-less adjustment of air capacity and automatic temperature control.

2-tube FCU

The TECKA FP series FCU product is manufactured according to national standards, it's including Horizontal concealed FCU (WA), Horizontal surface mounted FCU (WM). Vertical concealed FCU (LA), Vertical surface mounted FCU (LM), Vertical and horizontal surface mounted general FCU (L1), and Cassette FCU (K1, K2, K3). The FCU air capacity range is 340-2380m³/h, the and cooling capacity is 2.015-12.8kW, and the outlet static pressure is 12Pa, 30Pa, 50Pa to meet the customers' all-round requirements.

Model name:



1. TECKA fan coil unit (FCU): FP, FP-Y
2. Motor type: DC, AC
3. FCU code: EA
4. FCU model: 034, 051, 068, 085, 102, 136, 170, 204, 238
5. Structure type: WA, LA, WM, LM, K1, K2, K3, L1
6. Return air method: 00, 01, 02, 03, 04
7. Air outlet direction: S, Q , X, F
8. Water inlet direction: Z, Y
9. Controller: T0, T1, T2, T3, T4, T5, T6, T7, T8, T9, Ta, Tb, Tc, Td
10. Outlet static pressure: 00, 12, 30, 50

Model instructions

1. FP: TECKA standard FCU FP-Y: TECKA F type FCU
2. Motor type: DC brushless motor (only for WA series) AC motor
3. FCU code: EA 2-tube FCU
4. FCU model: 034, 051, 068, 085, 102, 136, 170, 204, 238
5. Structure type: Horizontal concealed FCU (WA), Vertical concealed FCU (LA), Horizontal surface mounted FCU (WM), Vertical surface mounted FCU (LM), Cassette FCU ordinary type (K1), Cassette FCU luxury type with remote control (K2), Cassette FCU ultra-thin type with remote control (K3), Vertical and horizontal mutual use type surface mounted FCU with remote control (L1).
6. Return air box: 00 Without return air box, 01 Return air box at the bottom without filter, 02 Return air box at back without filter, 03 Return air box at the bottom with filter, 04 Return air box at back with filter. (For the series LA, WM, LM, K1, K2, K3, L1 can only select 00)
7. Air outlet direction: Q Air outlet in the front (horizontal FCU only), S Air outlet at the top (vertical FCU only), X Air outlet at the oblique (vertical only), F Air outlet at four directions (cassette FCU only).
8. Water inlet direction: Z Water inlet on the left, Y Water inlet on the right (Left and right type confirmation method: facing the air outlet, the FCU is left type if inlet and outlet pipes are on the left, and the FCU is right type if the pipes are on the right)
9. Controller: T0 is not equipped with any control
   T1 with TE107 controller
   T2 with TE107 controller and electric two-way valve
   T3 with TE108 controller
   T4 with TE108 controller and electric two-way valve
   T5 with TE108 controller (with remote control) and electric two-way valve
   T6 with TE108 controller and electric three-way valve
   T7 with TE108 controller (with remote control) and electric three-way valve
   T8 with electric two-way valve
   T9 with electric three-way valve
   TA with dedicated control system (without two-way valve and three-way valve)
   Tb with dedicated control system and electric two-way valve
   Tc with dedicated control system and electric three-way valve
   TD DC brushless motor step-less speed control (for DC brushless motor)
   TE Iintegrated AC motor three-speed control (for FP-Y series)
   TF Integrated DC brushless motor step-less speed control (for FP-Y Series)
   TG Integrated DC brushless motor three-speed control (for FP-Y series)
   (See the brochure page 18, controller configuration instructions)
10. Outlet static pressure (PA): 00, 12, 30, 50
(WM, LM, K1, K2, K3, L1 coil outlet static pressure select 00), (WA, LA coil outlet static pressure select 12, 30, 50)
(The static pressure is the measured value when the FCU is not equipped with a return air box and a filter)

For example: FP-Y-DC-EA085WA00QZTg12
Means: TECKA integrated DC brushless 2-tube FCU with the air capacity of 850m3/h, which is horizontal concealed left type without return air duct, the unit outlet static pressure is 12Pa, and comes with three-speed control.

Performance parameters

Vertical FCU, Horizontal FCU

Item	Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Air capacity (m^3/h)	High load	340	510	680	850	1020	1360	1700	2040	2380
	Medium load	255	383	510	638	765	1020	1275	1530	1785
	Low load	170	255	340	425	510	680	850	1020	1190
Cooling capacity (W)		2015	3150	4025	4810	5950	7990	9250	10950	12800
Heating capacity (W)		3279	5127	6551	7828	9499	12880	14911	17821	20138
AC motor input power (W)	12Pa	30	34	52	71	89	130	145	180	215
	30Pa	40	54	66	79	104	150	160	210	240
	50Pa	45	61	75	95	115	160	195	230	290
DC brushless motor input power (W)	12Pa	14	17	23	33	47	57	64	93	138
	30Pa	18	24	32	43	56	71	82	117	162
	50Pa	24	31	43	55	69	93	107	142	192
Noise dB(A)	12Pa	35	36	39	41.5	44	45	46	48	50
	30Pa	38	40	42	44	46	46	49	50	52
	50Pa	40	42	44	46	49	49	51	52	54
Power		220V/1ph/50Hz								
Heat exchanger	Structure	Double flanging hydrophilic membrane fins string copper tubes, mechanical expansion and integration.								
	Working pressure	≤1.6								
	Inlet/outlet water pipe	ZG3/4" (DN20 internal thread)								
	Water capacity	350	540	690	830	1020	1380	1590	1890	2200
Water resistance (kPa)		13	26	22	28	40	40	40	40	48
Water resistance for integrated type (kPa)		14	29	26	32	48	55	53	67	77

Note:

1. Cooling capacity test conditions: dry bulb temperature 27°C, wet bulb temperature 19.5°C; inlet water temperature 7°C, return water temperature 12°C

2. Heating capacity test conditions: dry bulb temperature 21°C, hot water inlet temperature 60°C.

3. The static pressure is the measured value when the FCU is not equipped with a return air box and a filter.

Cassette FCU - Ordinary 2-tube type with air outlet at four directions (K1 cassette FCU ordinary type, K2 cassette FCU luxury type with remote control)

Item	Model	FP-34K	FP-51K	FP-68K	FP-85K	FP-102K	FP-136K	FP-170K	FP-204K	FP-238K
Air capacity (m^3/h)	High load	340	510	680	850	1020	1360	1700	2040	2380
	Medium load	280	390	520	640	790	1030	1290	1500	1800
	Low load	180	260	350	430	520	690	860	1030	1200
Cooling capacity (kW)	High load	1.8	2.6	3.4	4.5	5.3	7	8.6	10	11.6
Water capacity	kg/h	310	447	585	774	911	1204	1479	1720	1995
Water resistance	kPa	7	9	11	16	18	19	17	19	22
Heating capacity (kW)	High	2.8	4.2	5.6	7	8.4	11.2	13.9	16.7	19.5
Input power (W)		39	52	62	76	96	132	152	189	220
Noise dB(A)		37	39	41	43	45	46	47	50	52
Power		220V/1ph/50Hz								
FCU dimensions	mm	580x580x395			710x710x395			832x832x395		
Panel dimensions	mm	680x680x30			830x830x30			980x980x30		
Working pressure (MPa)		1.6								
Inlet/outlet water pipe		ZG3/4" (DN20 internal thread)								
Drain pipe (Outer diameter)		26mm								
Weight (kg)		21			25			33.5		

Note:

1. The air capacity is the value when the external static pressure is 0Pa.

2. Cooling capacity conditions: dry bulb temperature 27°C, wet bulb temperature 19.5°C; inlet water temperature 7°C, outlet water temperature 12°C.

3. Heating capacity conditions: dry bulb temperature 21°C, inlet water temperature 60°C.

4. The noise value is measured at a position 1 meter away from each surface of the FCU in the anechoic room.

Cassette FCU 2-tube ultra-thin type with air outlet at four directions (K3)

Item		Model FP-34K	FP-51K	FP-68K	FP-85K	FP-102K	FP-136K	FP-170K	FP-204K	FP-238K
Air capacity m^3/h	High load	340	510	680	850	1020	1360	1700	2040	2380
	Medium load	280	390	520	680	790	1030	1400	1500	1850
	Low load	180	260	350	490	520	590	950	1030	1500
Cooling capacity (kW)	High load	2.0	2.6	3.6	4.7	5.6	7.2	9.2	10.8	12.0
Water capacity	kg/h	344	447	619	808	963	1238	1582	1857	2064
Water resistant	kPa	15	27	15	12	16	21	37	40	47
Heating capacity (kW)	High	2.8	4.2	5.6	7.0	8.4	11.2	13.9	16.7	19.5
Input power (W)		39	52	62	76	96	132	152	189	220
Noise dB(A)		37	39	41	43	45	46	47	50	52
Power		220V/1ph/50Hz								
FCU dimensions	mm	582x582x265			712x712x290			827x827x290		
Panel dimensions	mm	680x680x30			830x830x30			980x980x30		
Working pressure MPa		1.6								
Inlet/outlet water pipe		ZG3/4" (DN20 internal thread)								
Drain pipe (Outer diameter)		26mm								
Weight (Kg)		20			26			36		

Note:

1. The air capacity is the value when the external static pressure is 0Pa.
2. Cooling capacity conditions: dry bulb temperature 27°C, wet bulb temperature 19.5°C; inlet water temperature 7°C, outlet water temperature 12°C.
3. Heating capacity conditions: dry bulb temperature 21°C, inlet water temperature 60°C.
4. The noise value is measured at a position 1 meter away from each surface of the FCU in the anechoic room.

Vertical and horizontal mutual use type

Item		Model FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Circulation air capacity m^3/h		510	680	850	1020	1360	1700	2040	2380
Cooling capacity (W)		2700	3600	4500	5400	7200	9000	10800	12600
Heating capacity (W)		4050	5400	6750	8100	10800	13500	16200	18900
Input power (W)		45	50	80	110	120	150	170	188
Noise dB(A)		39	41	43	45	46	48	50	51
Power		220V/1ph/50Hz							
Control method		Remote control or X-by-Wire							
Circulation water capacity (kg/h)		520	620	860	980	1220	1580	1920	2100
Water resistance (kPa)		14	16	18	22	25	39	44	44
Inlet/outlet water pipe		ZG3/4" (DN20 internal thread)							
Dimensions (mm)	Net	905*673*243			1288*673*243		1672*673*243		
	Package	995*765*311			1375*765*311		1760*765*311		
Weight (kg)		25	25	25	40	40	45	45	45

Note:

1. The air capacity is the value when the external static pressure is 0Pa.
2. Cooling capacity conditions: dry bulb temperature 27°C, wet bulb temperature 19.5°C, inlet water temperature 7°C, outlet water temperature 12°C.
3. Heating capacity conditions: dry bulb temperature 21°C, inlet water temperature 60°C.

Cooling capacity in off-design condition

Vertical FCU, Horizontal FCU

Air inlet: dry bulb temperature 27°C, wet bulb temperature 19.5°C.

Model	Water capacity kg/h	Inlet water temperature °C											
		5		6		7		8		9		10	
		Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat
FP-34	300	2162	1587	2024	1527	1886	1470	1739	1411	1610	1360	1472	1302
	350	2309	1652	2171	1593	2015	1526	1877	1466	1730	1406	1573	1344
	360	2429	1704	2273	1636	2125	1571	1969	1504	1813	1439	1656	1376
FP-51	450	3337	2325	3122	2239	2926	2163	2701	2077	2476	1993	2280	1918
	540	3611	2435	3386	2346	3150	2249	2926	2163	2691	2072	2456	1983
	560	3718	2482	3474	2382	3249	2289	3014	2198	2769	2102	2525	2010
FP-68	580	4318	2965	4032	2859	3766	2761	3500	2664	3203	2559	2927	2463
	690	4615	3080	4318	2967	4025	2855	3735	2749	3418	2637	3131	2534
	730	4850	3169	4554	3057	4236	2935	3929	2820	3602	2703	3295	2591
FP-85	680	5060	3680	4751	3557	4402	3425	4083	3302	3754	3179	3406	3053
	830	5515	3864	5157	3720	4810	3580	4451	3442	4083	3302	3715	3164
	850	5699	3938	5321	3786	4954	3637	4596	3583	4228	3356	3841	3213
FP-102	850	6387	4461	5988	4306	5579	4152	5170	4000	4731	3842	4311	3691
	1020	6826	4633	6387	4461	5950	4293	5489	4121	5050	3959	4601	3794
	1050	7146	4757	6687	4578	6088	4344	5758	4220	5299	4048	4820	3873
FP-136	1130	8460	5930	7921	5723	7383	5522	6825	5315	6277	5113	5709	4912
	1380	9177	6210	8589	5980	7990	5751	7393	5526	6796	5301	6178	5077
	1420	9486	6333	8878	6095	8270	5856	7652	5622	7025	5389	6397	5159
FP-170	1320	9898	7223	9244	6971	8600	6724	7955	6484	7321	6248	6657	6008
	1590	10630	7510	9947	7240	9250	6965	8502	6707	7848	6443	7145	6185
	1670	11177	7727	10445	7435	9722	7154	8990	6873	8248	6592	7506	6317
FP-204	1560	11736	8503	10972	8214	10198	7925	9434	7643	8650	7361	7857	7079
	1890	12579	8826	11755	8509	10950	8200	10109	7890	9275	7588	8432	7285
	1920	13214	9073	12351	8736	11488	8406	10625	8083	9732	7753	8859	7491
FP-238	1830	13707	9936	12817	9599	11937	9270	11047	8932	10117	8603	9217	8282
	2200	14706	10321	13766	9960	12800	9591	11828	9229	10849	8868	9870	8515
	2330	15576	10666	14577	10273	13559	9879	12520	9486	11482	9101	10443	8724

Heating capacity in off-design condition

Vertical FCU, Horizontal FCU

Air inlet: dry bulb temperature 21°C

Model	Water capacity kg/h	Inlet water temperature °C							
		40	45	50	55	60	65	70	75
FP-34	300	1562	1971	2390	2788	3208	3617	4036	4435
	350	1572	1989	2407	2824	3279	3660	4067	4486
	360	1603	2021	2448	2866	3303	3721	4138	4565
FP-51	450	2421	3063	3693	4335	4977	5618	6249	6890
	540	2503	3153	3804	4477	5127	5789	6450	7100
	560	2516	3180	3834	4497	5151	5815	6490	7154
FP-68	580	3117	3939	4772	5583	6406	7227	8049	8860
	690	3193	4023	4872	5702	6551	7390	8229	9069
	730	3213	4051	4899	5736	6583	7412	8565	9096
FP-85	680	3642	4600	5568	6520	7488	8445	9403	10361
	830	3811	4816	5825	6819	7828	8833	9838	10837
	850	3832	4844	5934	6854	7854	8875	9878	10878
FP-102	850	4527	5714	6912	8099	9309	10496	11683	12881
	1020	4619	5850	7070	8280	9499	10720	11939	13148
	1050	4762	6012	7208	8444	9531	11439	12459	13431
FP-136	1130	6061	7653	9245	10847	12440	14043	15624	17226
	1380	6273	7925	9519	11228	12880	14531	16182	17834
	1420	6405	7939	9593	11247	12902	14557	16220	17865
FP-170	1320	7053	8907	10156	12635	14489	16353	18196	20060
	1590	7256	9175	10662	13002	14911	16819	18738	20647
	1670	7278	9205	11121	13037	14965	16880	18807	20713
FP-204	1560	8457	10690	12912	15135	17347	19579	21802	24024
	1890	8681	10959	13246	15534	17821	20099	22387	24674
	1920	8696	10982	13269	15555	17852	20137	22424	24720
FP-238	1830	9565	12092	14607	17123	19628	22154	24669	27185
	2200	9812	12383	14965	17557	20138	22709	25301	27883
	2330	9916	12524	15131	17739	20368	22976	25583	28202

Correction coefficient of off-design condition

Vertical FCU, Horizontal FCU

• Correction coefficient of cooling capacity in off-design condition

Dry bulb temp / Wet bulb temp	24℃		25℃		26℃		27℃		28℃		29℃		30℃	
	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat	Total heat	Sensible heat
17℃	0.766	0.886												
18℃			0.858	0.92	0.858	0.99								
19℃					0.95	0.946	0.955	1.02						
19.5℃							1	1						
20℃							1.05	0.977	1.05	1.06				
21℃									1.14	1.01	1.14	1.08		
22℃													1.24	1.12

• Correction coefficient of heating capacity in off-design condition

Dry bulb temp	18℃	19℃	20℃	21℃	22℃	23	24℃
Correction coefficient	1.08	1.05	1.02	1	0.97	0.94	0.92

• Correction coefficient of the cooling capacity at medium load and low load

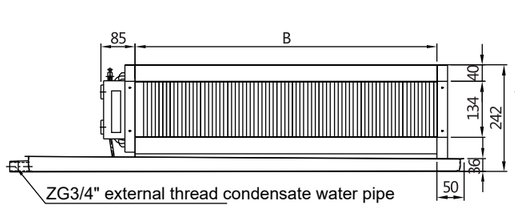
Model		FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Medium load	Total heat	0.89	0.87	0.88	0.88	0.89	0.87	0.89	0.89	0.89
	Sensible heat	0.85	0.85	0.85	0.86	0.86	0.85	0.87	0.88	0.87
Low load	Total heat	0.72	0.7	0.7	0.71	0.72	0.7	0.71	0.7	0.71
	Sensible heat	0.69	0.65	0.65	0.67	0.68	0.66	0.67	0.68	0.68

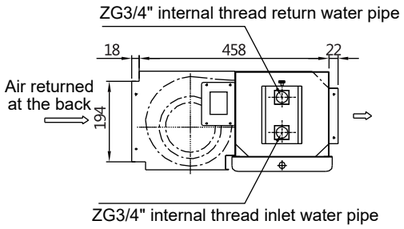
• Correction coefficient of the heating capacity at medium load and low load

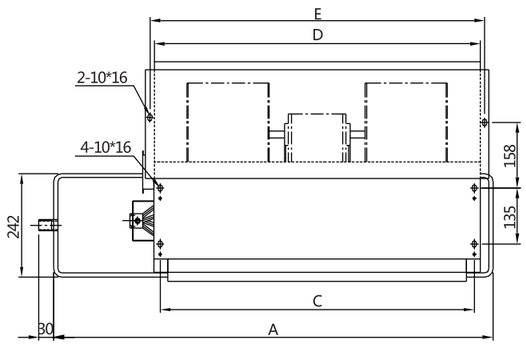
Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
Medium load	0.82	0.82	0.8	0.81	0.81	0.81	0.82	0.82	0.81
Low load	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

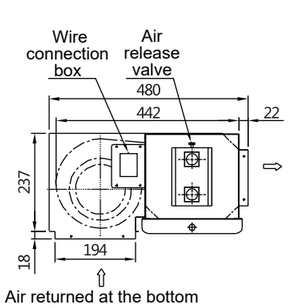
Dimensions drawing

Horizontal concealed FCU





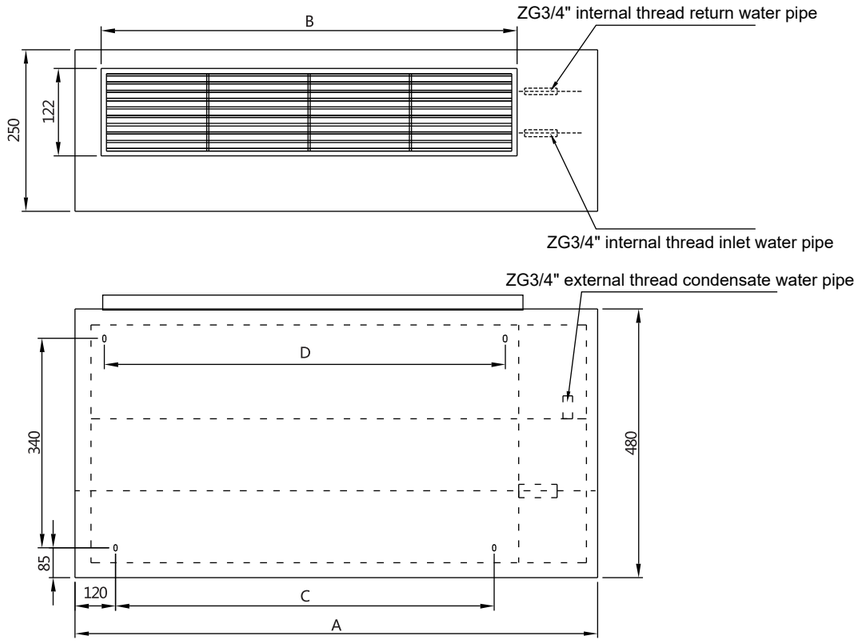




Item / Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
A	850	950	1070	1170	1300	1600	1840	1930	2170
B	460	560	680	780	910	1210	1450	1540	1780
C	485	585	705	805	935	1235	1475	1565	1805
D	510	610	730	830	960	1260	1500	1590	1830
E	530	630	750	850	980	1280	1520	1610	1850
Wight (kg)	13	15	17	18	20	28	32	34	38

Note: The dimensions of the air outlet is B*134, and the dimensions of the air outlet is D*194.

Horizontal surface-mounted FCU

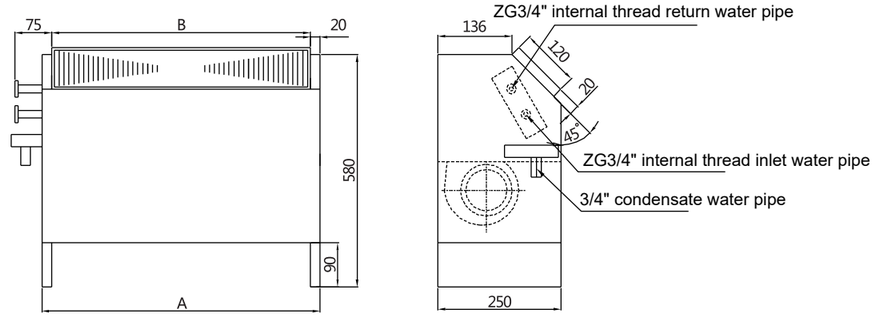


Item \ Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
A	815	915	1035	1135	1265	1565	1805	1895	2135
B	605	605	726	847	968	1331	1573	1694	1936
C	485	585	705	805	935	1235	1475	1565	1805
D	530	630	750	850	980	1280	1520	1610	1850
Weight (kg)	21	25	28	30	35	52	58	64	70

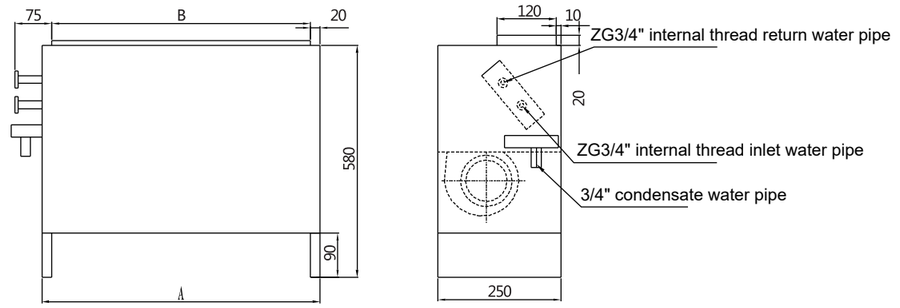
Note: The connection direction of the FCU's inlet and outlet pipes and condensate pipe is on the air inlet side of the unit.

Vertical concealed FCU

Vertical concealed FCU with air outlet at the oblique



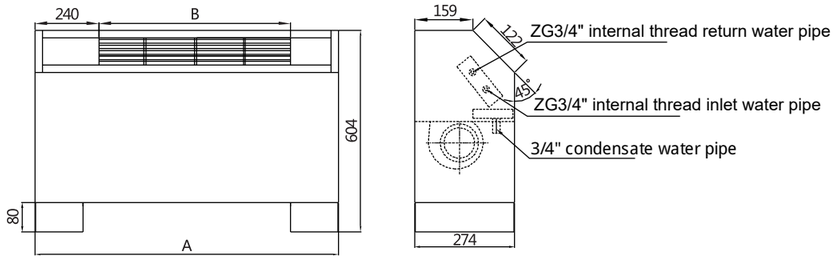
Vertical concealed FCU with air outlet in the top



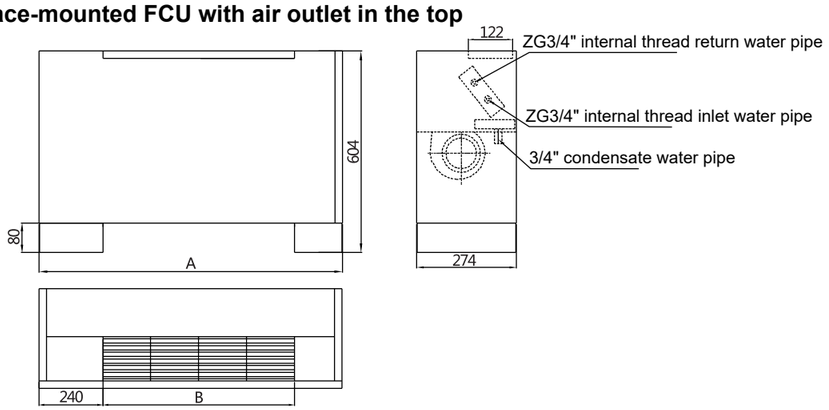
Item \ Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
A	535	635	755	855	985	1300	1540	1630	1870
B	495	595	715	815	945	1260	1500	1590	1830
2-ZGDn	ZG3/4" (internal thread)								
Weight (kg)	16	19	22	24	28	30	37	42	48

Vertical surface-mounted FCU

Vertical surface-mounted FCU with air outlet at the oblique



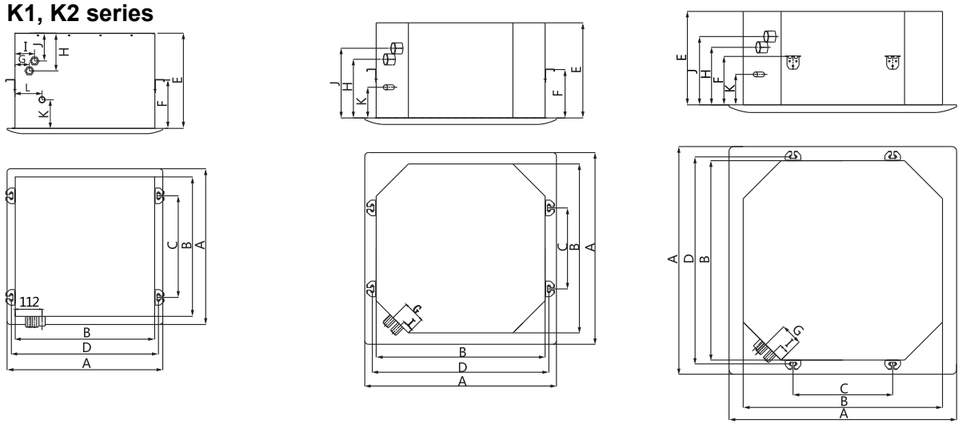
Vertical surface-mounted FCU with air outlet in the top



Item \ Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
A	865	965	1085	1185	1315	1630	1870	1960	2200
B	605	605	726	847	968	1331	1573	1694	1936
2-ZGDn	ZG3/4" (internal thread)								
Weight (kg)	28	33	40	45	50	61	68	75	84

Cassette FCU

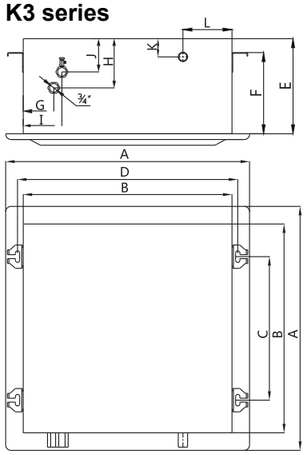
K1, K2 series



Item \ Model	A	B	C	D	E	F	G	H	I	J	K	L
FP-34/51/68K3	680	580	424	614	395	202	60	157	81.5	116	120	113
FP-85/102/136K3	830	710	338	737	395	202	90	245	45	290	128	-
FP-170/204/238K3	980	832	416	864	395	202	90	240	45	285	127	-

Note:
1. The ordinary/luxury FCU condensate is discharged by self-flow, and the condensate pipe should be arranged with slope.
2. The difference between ordinary type and luxury type unit: luxury type with remote control, ordinary type without control system.

K3 series

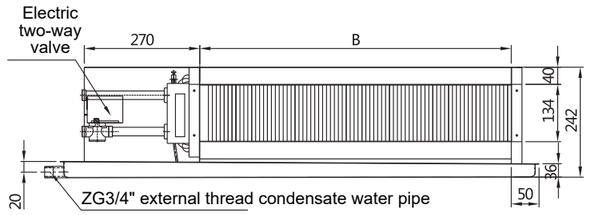


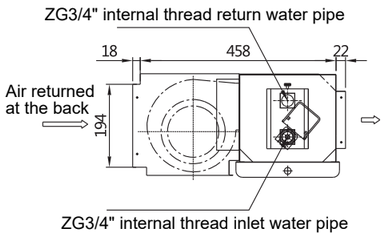
Item \ Model	A	B	C	D	E	F
FP-34/51/68/85K3	680	582	400	614	265	255
FP-102/136K3	830	712	544	744	290	220
FP-170/204/238K3	980	827	655	859	290	220

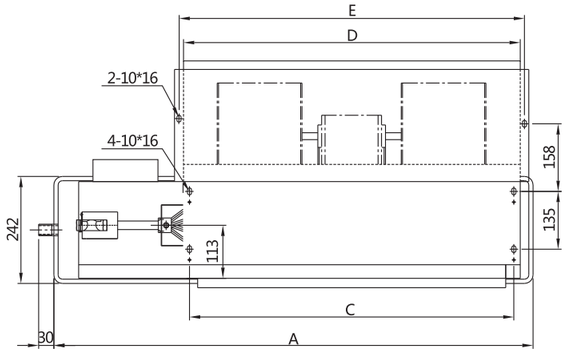
Item \ Model	G	H	I	J	K	L
FP-34/51/68/85K3	85	137	108	93	51	137
FP-102/136K3	86	220	108	106	89	142
FP-170/204/238K3	106	220	127	106	88	146

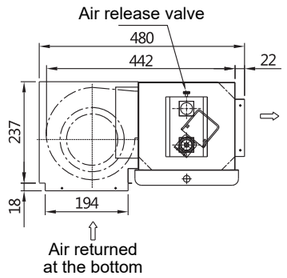
Note:
The K3 series ultra-thin FCU (with remote control) is equipped with an automatic drainage pump, which can automatically remove condensate under pressure.

Integrated FCU









Item \ Model	FP-34	FP-51	FP-68	FP-85	FP-102	FP-136	FP-170	FP-204	FP-238
A	880	980	1100	1200	1330	1630	1870	1960	2200
B	460	560	680	780	910	1210	1450	1540	1780
C	485	585	705	805	935	1235	1475	1565	1805
D	510	610	730	830	960	1260	1500	1590	1830
E	530	630	750	850	980	1280	1520	1610	1850
Weight (kg)	15	17	19	20	22	30	34	36	40

Note:

1. The size of the outlet air tuyere is B * 134. For the FCU with return air box, the size of the air outlet tuyere is D * 194. The above dimensions unit is mm.

2. The weights in the table are the FCU weight without return air box.

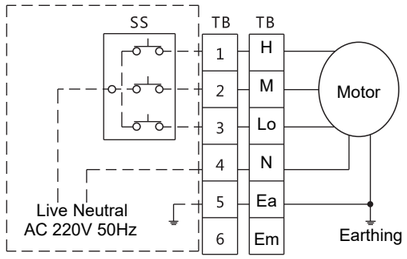
Controller configuration instructions

No.	Control code	Control method	Accessories			Applicable unit			
			Thermostat	Promote control	Electric valve	WA, WM, LA, K1	LM	K2, K3	L1, L2
1	T0	No				FP-034~238	FP-034~238		
2	T1	Knob thermostat	TE107DB			FP-034~238			
3	T2	Knob thermostat and electric two-way valve	TE107DB		TE-G2-3/4-S2	FP-034~238			
4	T3	LCD thermostat	TE108DB-RT			FP-034~238			
5	T4	LCD thermostat and electric two-way valve	TE108DB-RT		TE-G2-3/4-S2	FP-034~238	FP-034~238		
6	T5	LCD thermostat (with promote control) and electric two-way valve	TE108DB-RT (with remote control)	TE-YK02	TE-G2-3/4-S2	FP-034~238	FP-034~238		
7	T6	LCD thermostat and electric three-way valve	TE108DB-RT		TE-G2-3/4-S2	FP-034~238	FP-034~238		
8	T7	LCD thermostat (with promote control) and electric three-way valve	TE108DB-RT (with remote control)	TE-YK02	TE-G2-3/4-S2	FP-034~238	FP-034~238		
9	T8	Electric two-way valve			TE-G2-3/4-S2	FP-034~238	FP-034~238		
10	T9	Electric three-way valve			TE-G2-3/4-S2	FP-034~238	FP-034~238		
11	Ta	Dedicated control system	Dedicated controller and remote control					FP-034~238	FP-051~238
12	Tb	Dedicated control system (with electric two-way valve)	Dedicated controller and remote control		TE-G2-3/4-S2			FP-034~238	FP-034~238
13	Tc	Dedicated control system (with electric three-way valve)	Dedicated controller and remote control		TE-G2-3/4-S2			FP-034~238	FP-034~238
14	Td	DC brushless step-less load control motor	Step-less speed controller						
15	Te	Integrated AC motor control	Three speed regulation						
16	Tf	Integrated AC brushless motor control	Step-less speed regulation						
17	Tg	Integrated DC brushless motor control	Three speed regulation						

Note: The space in the table means the control type is not applicable. The control type Te, Tf, Tg are only applicable to WA series integrated FCU.

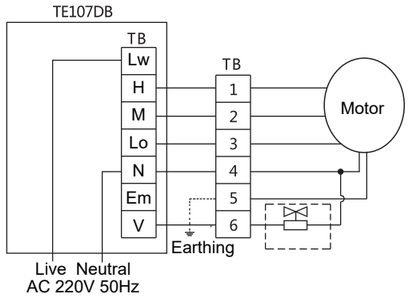
Electrical wiring diagram

T0 Electrical wiring diagram



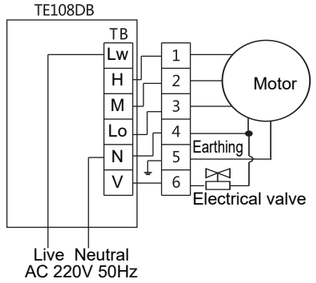
The wiring in the dotted frame should be finished by the user at the working site.

T1, T2, T3 Electrical wiring diagram



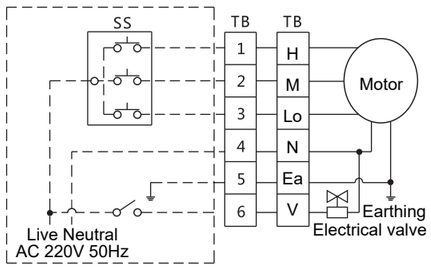
The electric valve of T1 controller should be prepared by the user, T2 T3 controller unit comes with electric valve.

T4, T5, T6, T7 Electrical wiring diagram



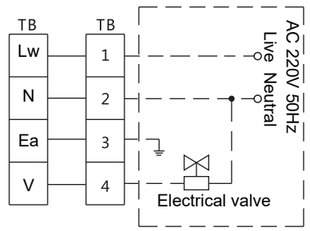
Live line and neutral line are the inlet wires of customers' power.

T8, T9 Electrical wiring diagram



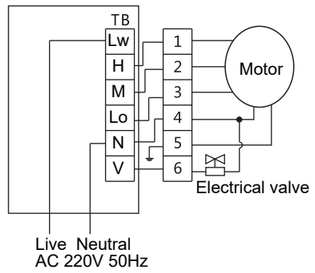
The wiring in the dotted frame should be finished by the user at the working site.

Ta, Tb, Tc Electrical wiring diagram



The wiring in the dotted frame should be finished. The electric valve of Ta controller should be prepared by the user, Tb and Tc controller unit comes with electric valve.

Te, Tf, Tg Electrical wiring diagram



Note: "H" is high, "M" is medium, "Lo" is low, "Lw" is live, "N" is neutral, "Ea" is earth, "Em" is empty, "V" is valve.

Controller instructions

TE107 series thermostat instructions

TE107 series TECKA FCU dedicated controllers are suitable for temperature control in industrial, commercial, and civil buildings. The controller adjusts the working state of the fan coil, electric valve, and electric ball valve at the end of the air conditioning system to control the indoor temperature according to the comparison of the ambient temperature and the set temperature.

TE107 series thermostat adopts electronic control technology, it's easy to use and operate. By turning the temperature knob, you can set the required indoor temperature, and manually select the cooling, heating work mode, and manually select the fan load (high, medium, low).

Model and main function instructions

TE107DB: It is suitable for 2-tube FCU. It controls the electric valves (two-way valves or three-way valves) and three-load fans. When the temperature reaches the set value, the electric valves and fans will be auto-off.

TE107FCV2: It is suitable for 4-tube FCU. It controls the cooling/heating electric valve (two-way valve or three-way valve) and three-load fans. When the temperature reaches the set value, the electric valves will be auto-off, and the fan continues to work.

Technical index

Temperature sensing element: NTC

Temperature sensing element: NTC

Voltage: AC 220V±10%, 50Hz

Temperature control accuracy: ±1°C

Load current: 1A (resistive load), 0.5A (inductive load)

Ambient temperature: 0~45°C

Shell: ABS flame retardant

Humidity: 5~90% Rh (no condensation)

Dimensions: 85*130*43 mm (W*H*T)

Storage temperature: -10~60°C

Installation hole distance: 60 mm (standard)

Conductor cross-sectional area: 0.5~2.5mm^2

Setting temperature range: 10~30°C

TE108 series thermostat instructions

TE108 series TECKA FCU dedicated digital thermostat are suitable for temperature control in 2-tube and 4 tube water system or air system. The controller adjusts the working state of the fan coil, electric valve and electric ball valve or air valve at the end of the air conditioning system to control the indoor temperature according to the comparison of the ambient temperature and the set temperature.

TE108 series thermostat adopts microcomputer control technology, large-screen LCD display. The LCD display status including working status (cooling, heating, ventilation), fan load, indoor temperature, set temperature, etc. The controller buttons including power switch, heating and cooling button, air load button, temperature button.

Model and main function instructions

TE108DB2-RL: It is suitable for 2-tube FCU. It controls the electric valves (two-way valves or three-way valves) and three-load fans. When the temperature reaches the set value, the electric valves and fans will be auto-off.
TE108FCV2-RL: It is suitable for 4-tube FCU. It controls the cooling/heating electric valve (two-way valve or three-way valve) and three-load fans. When the temperature reaches the set value, the electric valves will be auto-off, and the fan continues to work.

TE108DB-RL (with remote control): It is suitable for 2-tube FCU. It controls the cooling/heating electric valve (two-way valve or three-way valve) and three-load fans. When the temperature reaches the set value, the fans will be auto-off.

TE108FCV2-RL (with remote control): It is suitable for 4-tube FCU. It controls the cooling/heating electric valve (two-way valve or three-way valve) and three-load fans. When the temperature reaches the set value, the electric valves will be auto-off, and the fan continues to work.

Technical index

Temperature sensing element: NTC

Voltage: AC 220V±10%, 50Hz

Temperature control accuracy: ±1°C

Connection terminal:2*1.5mm^2 or 1*2.5mm^2 wire

Temperature setting: 5~35°C

Display range: 0~50°C

Load current: 2A (resistive load),1A (inductive load)

Ambient temperature: 0~45°C

Shell: PC+ABS flame retardant

Humidity: 5~90% Rh (no condensation)

Dimensions: (W*H*T)

Button: Touch buttons

Installation hole distance: 60 mm (standard)

Self-consumption power: <1W

Protection level: IP30

TECKA series electric valve technology and instructions

TECKA series electric valve is mainly used for the on-off of chilled water / hot water in the fan coil system. It controls the electric valve motor by the thermostat, and opens or closes the valve through the deceleration device and the return spring to achieve the circulation or interception of the medium in the pipeline, then supply the air through the fan coil, to keep the room temperature is always in the thermostat setting range.

Technical index

Voltage: AC220V±10%, 50Hz

Power: 6.5W

Nominal pressure: 1.6MPa

Valve control: opening time: ≤18s
closing time: ≤7s

Working conditions: ambient temperature: 5~40°C
pipeline water temperature: 5~90°C

FCU installation and maintenance

Please be careful when hoisting the FCU, make sure there are no people under the crane and the FCU, the hoisting equipment is sufficient for bearing the FCU, and the FCU four lifting points must be fixed and lifted horizontally at the same time. Forbid to use two lifting points to prevent personnel injury and equipment damage caused by the tilting of the FCU.

1. The FCU should be handled carefully during handling. It is forbidden to hold the impeller or volute to move the FCU by hand to avoid the deformation of the impeller and increase the noise and affect the working.

2. The external pipeline must be cleaned before it connects to the inlet and outlet water pipes of the FCU.

3. The connecting water pipe inlet at the bottom and outlet at the top. The water pipe and the FCU water inlet pipe should be connected with metal hoses. The inlet and outlet pipes should be equipped with valves, which are both insulated.

4. The FCU should be kept level or make the condensate end lower than the other end by 3 ~ 5mm during the installation, to facilitate the condensate tray drain smoothly.

5. The air pipes and water pipes in the system should be fixed with hooks. The unit shall not bear the weight of external water pipes and air pipes. There should be enough maintenance space at the FCU installation location.

6. A water filter should be installed at the FCU inlet pipe to prevent dirt from clogging the heat exchanger. Air filters should be installed at the return air tuyere to prevent dust from blocking the heat exchanger fins to ensure the heat exchanger efficiency.

7. The FCU power supply is 220V/1ph/50Hz. The wiring is strictly constructed according to the electrical wiring diagram. It is forbidden to connect the high-load, medium-load, low-load, and zero line wrongly. The FCU shell must be grounded, and the load current of the three-speed switch should be 1.3 times higher than the FCU rated current.

8. Please turn the wind wheel manually after the FCU is installed, and the power is only allowed to turn on if there is no mechanical friction. Please also check the wind wheel is in the correct direction.

9. During the first operation, please open the air valve first, and then close the air release valve after the air in the heat exchanger and the pipeline is exhausted, otherwise, it will affect the heat exchanger efficiency.

10. The chilled water should be ≤5℃ in cooling condition, and the hot water should be ≤70℃ in heating.

11. The heat exchanger should be cleaned regularly to remove ash accumulation on the outside of the pipe and scale inside the pipe to ensure good heat exchange performance. Regularly clean the dust accumulation on the air filter. It is forbidden to operate the FCU without a filter.

12. When the FCU is stopped for a long time, the heat exchanger should be filled with water in summer to reduce the corrosion of the pipeline. In winter, the water in the pipeline must be continuously circulated or antifreeze measures must be taken to prevent the copper tube of the heat exchanger from breaking.

13. The FCU should be controlled by professionals, and develop operating procedures and maintenance solution.