



**TEKNOGEN**<sup>®</sup>  
Hvac Systems

“Simply The Best Solutions”

## Cassette type FCU

### Water terminal units

Indoor installation

Capacity from 1.8 to 12.6 kW

TFP-KM4

Cassette type FCU



The Cassette type terminal unit has been designed for installation in suspended ceilings without requiring any extra part for operation. The unit has an intake grille and four-way outlet with adjustable diffuser flaps for changing air-flow direction.

The Cassette type is therefore suited for use in environments such as shops, restaurants, hotels and gyms, where the excellent out flowing air control makes them ideal air-conditioning units:

- ✘ available in version for 2 and 4-pipe systems;
- ✘ available in electro-mechanical or electronic version with set-up for connection to HM Control or general supervisors;
- ✘ possibility of controlling several units from a single point;
- ✘ the unit comes with a condensate drain pump (500 mm vertical).

### available configurations

TFP-KM4

(1)

(2)

(3)

(4)

FPKM4

34

V

S

D

- (1)-----The unit nominal air flow (340m<sup>3</sup>/h)
- (2)----- V 2 pipe  
P 4 pipe
- (3)----- S power supply 230V/1Ph/50hz with electronic  
W power supply 230V/1Ph/50hz with electronic-mechanic  
A power supply 220V/1Ph/60Hz
- (4)----- the unit without Electrical heater  
D the unit with Electrical heater

### accessories

- Wall pad for all type FCU
- 3V2-KM4---3-way valve kit for 2-pipe cassette type FCU
- 3V4-KM4---3-way valve kit for 4-pipe cassette type FCU

## technical data

TFP-KM4-V(2 PIPES)

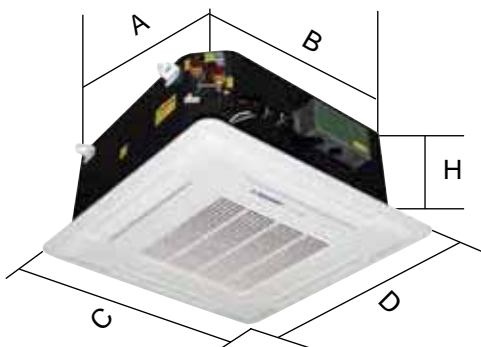
			34	51	68	80	85	102	136	170	204	238
Total Cooling Capacity(1)	High	kW	1,80	2,70	3,60	4,20	4,50	5,40	7,20	9,00	10,80	12,60
	Medium		1,56	2,34	3,08	3,57	3,81	4,51	6,19	7,60	9,22	10,51
	Low		1,37	2,06	2,70	3,20	3,36	4,04	5,52	6,73	8,23	9,39
Heating Capacity(2)	High	kW	2,70	4,05	5,40	6,35	6,75	8,10	10,80	13,50	16,20	18,90
	Medium		2,19	3,21	4,38	5,11	5,44	6,55	8,69	11,00	13,26	15,30
	Low		1,90	2,81	3,75	4,40	4,67	5,57	7,41	9,32	11,31	12,89
Air volume	High	m <sup>3</sup> /h	340	510	680	800	850	1020	1360	1700	2040	2380
	Medium		290	400	540	650	700	850	1110	1400	1670	1950
	Low		200	290	400	500	550	680	860	1100	1300	1520
Fan Motor Power		W	37	52	62	65	76	96	134	152	189	228
Sound Pressure Level(3)		dB(A)	37	39	41	42	43	45	46	48	50	52
Water inlet/outlet diameter		inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Weight		kg	24	24	26	27	33	34	34	40	41	42

TFP-KM4-P(4PIPES)

			34	51	68	80	85	102	136	170	204	238
Total Cooling Capacity(1)	High	kW	1,40	2,10	2,80	3,25	3,50	4,20	5,60	7,00	8,40	9,85
	Medium		1,20	1,79	2,34	2,79	2,99	3,57	4,76	5,95	7,14	8,36
	Low		1,06	1,57	2,11	2,47	2,61	3,15	4,20	5,25	6,30	7,35
Heating Capacity(2)	High	kW	1,08	1,62	2,16	2,46	2,70	3,24	4,32	5,40	6,48	7,20
	Medium		0,87	1,31	1,76	2,00	2,16	2,62	3,49	4,37	5,25	5,83
	Low		0,75	1,10	1,50	1,70	1,85	2,23	2,98	3,73	4,45	4,97
Air volume	High	m <sup>3</sup> /h	340	510	680	800	850	1020	1360	1700	2040	2380
	Medium		290	400	540	650	700	850	1110	1400	1670	1950
	Low		200	290	400	500	550	680	860	1100	1300	1520
Fan Motor Power		W	37	52	62	65	76	96	134	152	189	228
Sound Pressure Level(3)		dB(A)	37	39	41	42	43	45	46	48	50	52
Water inlet/outlet diameter		inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Weight		kg	25	25	27	28	34	35	35	41	42	43

- (1) Ambient air at 27°C, %50 RH water at inlet 7°C and outlet 12°C ,
- (2) Ambient air at 20°C, %50 RH water at inlet 60°C and outlet 50°C ,
- (3) The sound pressure is measured at 1m when the unit with full load in open field conditions.
- (4) Power supply must be 230V/1Ph/50Hz

## dimensions and functional spaces



MODEL	34-51-68-80	85-102-136	170-204-238
A	570	730	930
B	570	730	930
C	650	850	1050
D	650	850	1050
H	290		

## Floor standing with/without cassette

### Water terminal units

Indoor installation  
**Capacity**  
from 1.6 to 11.3 Kw

### TFX-VA/CA



The Cassette models have beautiful, modern styled cabinet well proportioned smoothed outline to perfectly match with any interior. The double bank grill's louvers can be easily singularly manually adjusted, allowing to have air-flow in desired direction. Highly efficient coil made of copper pipes and aluminium fins fixed by mechanical expansion. Coil connections provided with anti-torsion system, manual air vent valves, manual water drain valves.

### available configurations

TFX-V/C	(1) A/B	(2) TR	(3) EH	(4) L	(5) 3V2	(6) F
<b>(1) VARYING INTAKE</b> A=Bottom intake B=Front intake		<b>(2) CONTROLS</b> TR =Fan terminal board (standard) SPS=3-speed switch TSC=thermostat switch PCW=Electronic PCB +wired wall pad				
<b>(3) WATER COIL / ELECTRICAL HEATER</b> -----Not required Standard HC=Hot water coil 1Rows (4-pipe system) EH=Electrical heater			<b>(4) WATER FITTINGS</b> SX=Water fittings to the left DX= Water fittings to the right Water connections reversibility during installation			
<b>(5) VALVES</b> -- = Not required Standard 2 /3 way valve can be mounted on request				<b>(6) FUNNEL</b> --- Not required Standard Extra funnel can be supplied for horizontal applications		

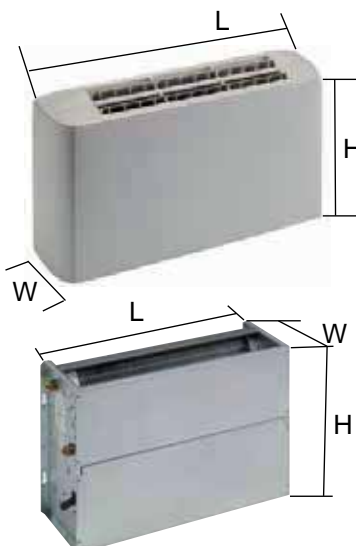
## technical data

		TFX-VA/CA(2PIPES)												
			130	230	330	430	530	630	730	830	930	1030	1130	1230
Total Cooling Capacity(1)	High	kW	1,58	2,11	2,66	3,18	3,95	4,47	5,81	6,76	7,93	9,50	10,11	11,27
	Medium		1,44	1,92	2,43	2,90	3,64	4,12	5,36	6,23	7,39	8,86	9,43	10,52
	Low		1,19	1,58	2,00	2,38	3,04	3,45	4,48	5,21	6,37	7,63	8,12	9,05
Heating Capacity(2)	High	kW	4,57	5,77	7,35	8,19	10,64	12,28	16,21	18,16	22,69	25,43	28,15	32,27
	Medium		4,12	5,20	6,61	7,37	9,70	11,20	14,79	16,57	20,97	23,50	26,01	29,82
	Low		3,31	4,17	5,31	5,92	7,93	9,15	12,08	13,54	17,72	19,86	21,98	25,20
Air volume	High	m <sup>3</sup> /h	350	360	435	447	647	665	975	1003	1431	1472	1908	1962
	Medium		291	299	361	371	550	565	829	853	1245	1281	1660	1707
	Low		200	205	248	255	388	399	585	602	930	957	1240	1275
Fan Motor Power		W	58	58	83	83	108	108	147	147	159	159	270	270
Sound Pressure Level(3)		dB(A)	38	38	40	40	42	42	43	43	49	49	50	50
Water inlet/outlet diameter		inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Weight		kg	10,7	10,7	13,5	13,5	19,5	20,5	22,9	22,9	24,4	28,3	28,3	34,2

		TFX-VA/CA(4PIPES)												
			131	231	331	431	531	631	731	831	931	1031	1131	1231
Total Cooling Capacity(1)	High	kW	1,69	2,24	2,86	3,37	4,24	4,75	6,26	7,14	8,53	10,00	10,88	11,88
	Medium		1,54	2,04	2,61	3,07	3,91	4,38	5,76	6,58	7,95	9,32	10,14	11,07
	Low		1,26	1,68	2,14	2,52	3,26	3,65	4,81	5,49	6,84	8,02	8,72	9,53
Heating Capacity(2)	High	kW	2,39	2,43	4,01	4,07	5,71	5,79	8,49	8,56	11,25	11,29	13,68	13,73
	Medium		2,15	2,18	3,61	3,66	5,20	5,28	7,75	7,81	10,40	10,44	12,64	12,69
	Low		1,73	1,76	2,90	2,94	4,25	4,31	6,33	6,38	8,79	8,82	10,68	10,73
Air volume	High	m <sup>3</sup> /h	360	370	447	455	665	680	1003	1015	1472	1480	1962	1975
	Medium		299	307	371	378	565	578	853	863	1281	1288	1707	1718
	Low		205	211	255	259	399	408	602	609	957	962	1275	1284
Fan Motor Power		W	58	58	83	83	108	108	147	147	159	159	270	270
Sound Pressure Level(3)		dB(A)	38	38	40	40	42	42	43	43	49	49	50	50
Water inlet/outlet diameter		inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Weight(TFX-VA)		kg	14,4	15	17,4	18	23,6	24,6	27,2	28,7	31	32,8	35	38,9
Weight(TFX-CA)		kg	11,6	12,1	14,5	15,3	20,6	21,6	24,1	25,6	28,1	29,6	32,1	35,6

- (1) Ambient air at 27°C, %50 RH water at inlet 7°C and outlet 12°C ,
- (2) Ambient air at 20°C, %50 RH water at inlet 90°C and outlet 70°C ,
- (3) The sound pressure is measured at 1m when the unit with full load in open field conditions.
- (4) Power supply must be 230V/1Ph/50Hz

## dimensions and functional spaces



MODEL	130	230	330	430	530	630	730	830	930	1030	1130	1230
L	670		870		1070		1270		1470		1670	
W	220											
H	520											

MODEL	130	230	330	430	530	630	730	830	930	1030	1130	1230
L	450		650		850		1050		1250		1450	
W	215											
H	450											

## Ceiling concealed type FCU

### Water terminal units

Indoor installation

Capacity from 1.95 to 8.7kW

**TFP-WA**



The ceiling concealed type water terminals is designed for installations where air is conducted at low pressure, their fans give enough static pressure to distribute air to different spaces, through conducting systems, grilles or diffusers.

- ※ Water connections reversibility during installation
- ※ 1-row additional coil for 4-pipe system ( This is optional part.)
- ※ The available controls are simple and user-friendly, satisfying the most

Varied of requirements, with top-of-the-range electronic control designed for connection to the HM Control or general supervisors.

- ※ available in 4 kinds of ESP(12,30,50,70Pa).
- ※ easy installation and maintenance

### available configurations

		(1)	(2)	(3)	(4)	(5)
<b>TFP-WA</b>	34	R3	TR	EH	L	3V2-C

<p><b>(1) VARYING INTAKE</b> R3=Bottom intake RF=Front intake</p>	<p><b>(2) CONTROLS</b> TR =Fan terminal board (standard) SPS=3-speed switch TSC=thermostat switch PCW=Electronic PCB +wired wall pad</p>
<p><b>(3) WATER COIL / ELECTRICAL HEATER</b> -----Not required Standard HC=Hot water coil 1Rows (4-pipe system) EH=Electrical heater</p>	<p><b>(4) WATER FITTINGS</b> L=Water fittings to the left R=Water fittings to the right Water connections reversibility during installation</p>
<p><b>(5) VALVES</b> -- = Not required Standard 2V2-C = ON/OFF 2 way valve for 2-pipe unit for WA 3V2-C = ON/OFF 3 way valve for 2-pipe unit for WA</p>	<p>2V4-C = ON/OFF 2 way valve for 4-pipe unit for WA 3V4-C = ON/OFF 3 way valve for 4-pipe unit for WA</p>

## technical data

**TFP-WA-V(2 PIPES)**

			34	51	68	85	102	136	170
Total Cooling Capacity(1)	High	kW	1,95	2,83	3,87	4,55	5,50	7,58	8,69
	Medium		1,70	2,50	3,40	4,00	4,90	6,70	7,70
	Low		1,40	2,00	2,80	3,30	4,00	5,50	6,30
Heating Capacity(2)	High	kW	5,57	7,52	9,47	12,24	14,56	20,16	23,84
	Medium		4,64	6,24	8,00	10,24	12,16	16,96	20,00
	Low		3,52	4,80	6,08	7,84	9,28	12,96	15,20
Air volume	High	m³/h	360	540	720	880	1030	1500	1780
	Medium		285	430	570	660	820	1150	1380
	Low		210	310	420	510	590	870	1000
External Static Pressure	Pa	50	50	50	50	50	50	70	
Fan Motor Power	W	49	63	83	98	116	170	205	
Sound Pressure Level(3)	dB(A)	39	41	42	44,5	46	50	50	
Water inlet/outlet diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	
Weight	kg	14	17	19	21	23	26	31	

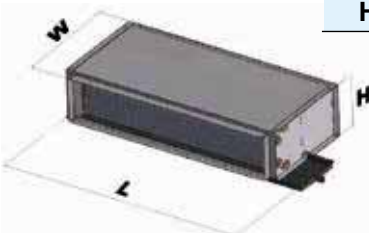
**TFP-WA-P(4 PIPES)**

			34	51	68	85	102	136	170
Total Cooling Capacity(1)	High	kW	2,15	3,26	4,00	4,85	5,80	7,32	9,48
	Medium		1,90	2,80	3,40	4,30	4,80	6,40	8,00
	Low		1,50	2,20	2,70	3,50	3,90	5,20	6,50
Heating Capacity(2)	High	kW	3,01	4,40	5,71	6,80	8,66	10,32	13,79
	Medium		2,56	3,68	4,80	5,76	7,20	8,64	11,52
	Low		1,92	2,88	3,68	4,32	5,60	6,56	8,80
Air volume	High	m³/h	340	510	680	850	1020	1360	1700
	Medium		270	400	540	670	810	1080	1360
	Low		200	300	400	510	610	810	1000
External Static Pressure	Pa	50	50	50	50	50	70	70	
Fan Motor Power	W	46	60	80	96	110	134	194	
Sound Pressure Level(3)	dB(A)	39	41	42	44,5	46	50	50	
Inlet/outlet diameter(cooling)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	
Inlet/outlet diameter(heating)	inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Weight	kg	19	22	25	27	30	36	42	

- (1) Ambient air at 27°C, %50 RH water at inlet 7°C and outlet 12°C ,  
 (2) Ambient air at 20°C, %50 RH water at inlet 90°C and outlet 70°C ,  
 (3) The sound pressure is measured at 1m when the unit with full load in open field conditions.  
 (4) Power supply must be 230V/1Ph/50Hz

## dimensions and functional spaces

MODEL	34	51	68	85	102	136	170
L	635	755	865	945	1055	1325	1515
W	497						
H	250						



## Duct type FCU-High ESP

### Water terminal units

Indoor installation

Capacity from 7.2 to 22.6 kW

### TFP-WA-H



The Duct type water terminal units are ideal air-treatment terminal units for installations where ducted air distribution is necessary. The units are designed for ceiling suspended installation and are distinguished by their compactness and extremely low noise levels obtained thanks to internal insulation.

The main features are:

- ✘ Water connections reversibility during installation
- ✘ various available controls, from simple speed control through to the electronic control set-up for connection to HM Control or general supervisors;
- ✘ available in version for 2 and 4-pipe systems;
- ✘ wide choice of accessories (plenum for round ducts);
- ✘ electric heater section with different power plus electronic power modulation control;
- ✘ high head-pressure fans for ducted air distribution.

### available configurations

TFP — (1) WA — (2) 170H — (3) TR

(1) WA-H---EXPOSED High ESP duct type FCU	(3) CONTROLS TR =Fan terminal board (standard) SPS=3-speed switch TSC=thermostat switch PCW=Electronic PCB +wired wall pad
(2) 170---nominal air flow (1700m3/h)	

### accessories

TWO-WAY INTAKE PLENUM WITH DAMPER---02	AIR PURIFICATION MODULE----09-10
ELECTRIC HEATER MODULE---05	AUXILLIARY WATER COIL FOR HEATING MODULE---04
DISCHARGE (AND INTAKE) PLENUM--03/07	DISCHARGE PLENUM FOR ROUND DUCTING



## technical data

### TFP-WA-V(HIGH PRESSURE 2 PIPES)

			136H	170H	238H	270H	340H	460H
Total Cooling Capacity(1)	High	kW	7,50	9,30	12,80	14,60	17,70	22,60
	Medium		6,10	7,50	10,40	11,80	14,30	18,30
	Low		4,50	5,60	7,70	8,80	10,60	13,60
Heating Capacity(2)	High	kW	18,08	22,24	30,56	35,36	42,72	55,20
	Medium		14,24	17,60	24,16	28,00	33,76	43,68
	Low		10,08	12,32	16,96	19,52	23,68	30,56
Air volume	High	m <sup>3</sup> /h	1360	1700	2380	2720	3400	4590
	Medium		1020	1275	1785	2040	2550	3443
	Low		680	850	1190	1360	1700	2295
External Static Pressure	Pa	81	103	117	112	127	120	
Fan Motor Power	W	202	256	333	385	573	860	
Sound Pressure Level(3)	dB(A)	50	50	52	54	56	59	
Water inlet/outlet diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	
Weight	kg	26	56	70	90	98	112	

### TFP-WA-P(HIGH PRESSURE 4 PIPES)

			136H	170H	238H	270H	340H	460H
Total Cooling Capacity(1)	High	kW	7,50	9,30	12,80	14,60	17,70	22,60
	Medium		6,10	7,50	10,40	11,80	14,30	18,30
	Low		4,50	5,60	7,70	8,80	10,60	13,60
Heating Capacity(2)	High	kW	10,56	13,28	18,56	21,12	26,40	35,36
	Medium		8,16	10,24	14,40	16,32	20,48	27,36
	Low		5,76	7,04	9,92	11,36	14,24	19,04
Air volume	High	m <sup>3</sup> /h	1360	1700	2380	2720	3400	4590
	Medium		1020	1275	1785	2040	2550	3443
	Low		680	850	1190	1360	1700	2295
External Static Pressure	Pa	69	91	105	100	115	100	
Fan Motor Power	W	202	256	333	385	573	860	
Sound Pressure Level(3)	dB(A)	50	50	52	54	56	59	
Water inlet/outlet diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	
Weight	kg	36	58	73	93	102	117	

(1) Ambient air at 27°C, %50 RH water at inlet 7°C and outlet 12°C ,

(2) Ambient air at 20°C, %50 RH water at inlet 90°C and outlet 70°C ,

(3) The sound pressure is measured at 1m when the unit with full load in open field conditions.

(4) Power supply must be 230V/1Ph/50Hz

## dimensions and functional spaces



MODEL	136H	170H	238H	270H	340H	460H
L	1000		1200	1400		
W	550		620		670	
H	315			350	400	450

## High wall type FCU

### Water terminal units

Indoor installation

Capacity from 1.3 to 6.3 kW

TFP-FAN



The High wall type water terminals are designed to meet and exceed the demanding requirements for efficiency, quiet operation and good looks.

The sleek profiles and elegantly styled cabinet will comply any interior design theme.

The microprocessor assures accurate environmental control.

✘ available in 2 versions of returned air grill;

✘ 3 way (4 port) motorized valve can be easily mounted inside the cabinet. The valve function is controlled by microprocessor.

### functions and features

Cooling-heating	Indoor Inst.	Horizontal inst.	Refrig. Water	Group Control

### available configurations

TFP — (1) FAN — (2) 70 — (3) V

(1) FAN----High wall type FCU	(3) V----the unit with 3 way valve
(2) 70----- model size	---- the unit without 3 way valve

## accessories

- Wall pad for all type FCU
- Electric heater for FAN
- 3 way (4 ports) valve.

## technical data

### TFP-FAN(2 PIPES)

			70	90	180
Total Cooling Capacity(1)	High	kW	2,38	2,67	4,60
	Medium		2,15	2,43	4,19
	Low		1,94	2,20	3,80
Heating Capacity(2)	High	kW	5,00	6,20	8,90
	Medium		4,37	5,34	7,65
	Low		3,78	3,62	5,20
Air volume	High	m <sup>3</sup> /h	410	485	860
	Medium		330	390	750
	Low		270	320	590
Sound Pressure Level(3)		dB(A)	39/36/29	41/37/32	48/45/40
Water inlet/outlet diameter		inch	(1/2)		
Weight		kg	8,5	8,5	17,2

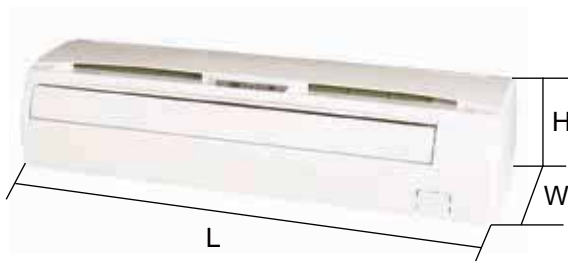
(1) Ambient air at 27°C, %47 RH water at inlet 7°C and outlet 12°C ,

(2) Ambient air at 20°C, %47 RH water at inlet 70°C and outlet 60°C ,

(3) The sound pressure is measured at 1m when the unit with full load in open field conditions.

(4) Power supply must be 230V/1Ph/50Hz

## dimensions and functional spaces



MODEL	70	90	180
L	795		1250
W	283		320
H	185		195



**TEKNOGEN**<sup>®</sup>  
Hvac Systems

"Simply The Best Solutions"

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