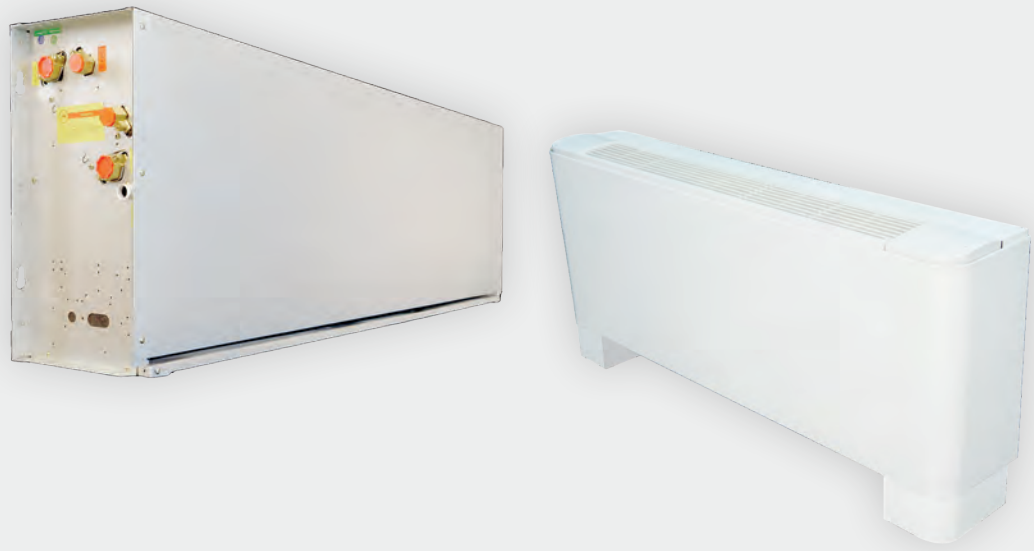
PFWBC - UNIVERSAL FLOORSTANDING



FEATURES

CONTROL FLEXIBILITY

Two types of control system: Intelligent control board (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or Flexible control (W-Control) permitting operation with external thermostat applications both controls allows configuration for 2 or 4-pipe settings.

Please refer to page 14 for further information on controls.

ENERGY EFFICIENT MOTORS

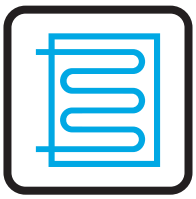
EC motors allow the centrifugal fan to operate at optimum airflow performance, energy efficiency and quiet operation. EC motors include driven control PCB, constant torque, permanent magnet and 3 speeds pre-set or modulating with a 0-10 VDC signal for precise air balancing control. AC motors with 3 speed fixed also available. Please refer to page 72 for further information about configurations.

FAN BLOWER

Centrifugal type with double air inlet blades made of forward-curving metal fins, and with large diameters to create high airflow and high static pressure with fewer revolutions offering lower noise levels.

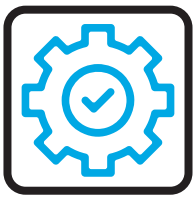
STRUCTURE

Made of galvanized sheet steel designed to be attached to the wall or the ceiling, with fire-resistant thermo-acoustic insulation internally fitted. Installation can be vertical or horizontal, thanks to the “V” type drain pan accessory.



WATER COILS

Built with seamless copper tubes and headers, mechanically expanded into corrugated aluminium fin material for a permanent primary to secondary surface bond. Tested at 35 bar, with maximum operating limits at 20 bar.



READY TO INSTALL

The PFWB(C) range is offered as a complete package including standard items such as a cabinet with air grille distributions, a Galvanized Steel internal drain pan, 5mm NBR Insulation and G2 (MERV 4) filter.
Furthermore, we offer multiple optional accessories.

KEY POINTS

- Auto Dynamic Balancing with I-Control
- Coil interchangeable on field
- 3 and 4 Rows configurations available
- With or without cabinet
- Horizontal or Vertical air return

ACCESSORIES

- IR Handset or Wired Wall Pad (Available with I-Control)
- Thermostat Controller (Available with W-Control)
- 2 or 3 Way On/Off & Modulating Valves
- Stainless Steel Drain Pan
- Electric heater up to 3kW
- ABS Plastic Supporting Feet

*Please refer to page 80 for further information and accesories.

POLARAIR

TECHNICAL SPECIFICATIONS

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Hydronic Universal Floostanding, 3R, 2 Pipe with **EC Motor**

UNIT GENERAL SPECS	PFWB(C)-3R-[Size]-V-ECM			06	09	12	15	18	24	30	36	40
	Configuration			2-pipe								
	Number of Fan Blowers			Single	Twin				Four			
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60								
AIR	Total Air Flow	H	m3/h	350	504	677	840	970	1350	1624	1988	2266
		M		280	432	540	697	827	1170	1440	1710	2034
		L		210	342	380	434	492	676	740	890	950
COOLING	Total Cooling Capacity	H	kW	1.83	2.56	3.32	4.22	4.90	6.74	8.04	9.33	10.67
		M		1.57	2.28	2.83	3.68	4.31	6.05	7.43	8.40	9.91
		L		1.25	1.91	2.15	2.56	2.90	3.94	4.40	5.02	5.55
	Sensible Cooling Capacity	H		1.31	1.84	2.40	3.03	3.48	4.84	5.75	6.79	7.70
		M		1.11	1.62	2.02	2.62	3.04	4.30	5.26	6.05	7.12
		L		0.87	1.35	1.52	1.78	2.00	2.73	3.03	3.51	3.84
HEATING	Heating Capacity	H	kW	2.02	2.82	3.73	4.66	5.37	7.45	8.79	10.47	11.84
		M		1.73	2.52	3.17	4.08	4.75	6.71	8.08	9.45	11.00
		L		1.39	2.10	2.39	2.81	3.19	4.43	4.79	5.75	6.13
	Max. Electric Heater Capacity			1	1.5	2			3			
SOUND	Pressure Level (H/M/L)		W	41/35/29	43/38/33	47/40/33	49/44/33	51/46/33	52/48/33	54/50/33	57/54/35	60/58/35
	Power Level (H/M/L)			50/44/38	52/47/42	56/49/42	58/53/42	60/55/42	61/57/42	63/59/42	66/63/44	69/67/44
ELECTRICAL	Power Input	H	W	17	26	38	44	52	87	100	128	182
		M		13	15	23	30	36	60	71	92	147
		L		8	11	12	13	14	22	24	28	30
	Running Current (H)		A	0.15	0.23	0.33	0.38	0.45	0.76	0.87	1.11	1.58
HYDRONIC	Cooling Water Flow Rate	H	L/h	314	439	569	724	839	1156	1378	1599	1830
		M		269	390	485	632	740	1038	1274	1440	1698
		L		214	327	368	439	498	676	754	860	951
	Cooling Pressure Drop	H	kPa	11.8	22.2	13.5	23.8	31.7	32.3	47.8	22.6	30.7
		M		8.9	18.0	10.1	18.6	25.3	26.6	41.5	18.7	26.9
		L		5.9	13.1	6.2	9.7	12.4	12.3	16.2	7.4	9.5
	Heating Water Flow Rate	H	L/h	347	484	640	799	920	1278	1507	1795	2029
		M		296	432	544	700	814	1151	1385	1620	1886
		L		238	360	410	481	546	760	821	985	1051
	Heating Pressure Drop	H	kPa	13.2	25.0	15.9	27.0	36.0	36.4	54.4	26.0	35.4
		M		9.9	20.4	11.8	21.3	28.9	30.2	46.7	21.7	31.0
		L		6.7	14.7	7.1	10.8	14.1	14.3	18.2	8.8	10.8

EUROVENT TESTING CONDITIONS:

a. Cooling mode (2-pipe):
- Return air temperature: 27°C DB/19°C WB
- Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (2-pipe):
- Return air temperature: 20°C
- Inlet water temperature: 45°C/40°C

* Please refer to www.eurovent-certification.com for further information.

TECHNICAL SPECIFICATIONS

Hydronic Universal Floostanding, 3R+1 (Auxiliary Heating Coil), 4 Pipe with **EC Motor**

UNIT GENERAL SPECS	PFWB(C)-3R+1-[Size]-P-ECM			06	09	12	15	18	24	30	36	40
	Configuration			4-pipe								
	Number of Fan Blowers			Single	Twin				Four			
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60								
AIR	Total Air Flow	H	m3/h	350	504	677	840	970	1350	1624	1988	2266
		M		280	432	540	697	827	1170	1440	1710	2034
		L		210	342	380	434	492	676	740	890	950
COOLING	Total Cooling Capacity	H	kW	1.83	2.56	3.32	4.22	4.90	6.74	8.04	9.33	10.67
		M		1.57	2.28	2.83	3.68	4.31	6.05	7.43	8.40	9.91
		L		1.25	1.91	2.15	2.56	2.90	3.94	4.40	5.02	5.55
	Sensible Cooling Capacity	H		1.31	1.84	2.40	3.03	3.48	4.84	5.75	6.79	7.70
		M		1.11	1.62	2.02	2.62	3.04	4.30	5.26	6.05	7.12
		L		0.87	1.35	1.52	1.78	2.00	2.73	3.03	3.51	3.84
HEATING	Heating Capacity	H	kW	1.69	2.29	3.06	3.81	4.27	5.90	6.99	8.40	9.55
		M		1.43	2.02	2.60	3.32	3.83	5.35	6.41	7.52	8.77
		L		1.14	1.71	1.98	2.28	2.58	3.50	3.83	4.58	4.94
SOUND	Pressure Level (H/M/L)		dB(A)	41/35/29	43/38/33	47/40/33	49/44/33	51/46/33	52/48/33	54/50/33	57/54/35	60/58/35
	Power Level (H/M/L)			50/44/38	52/47/42	56/49/42	58/53/42	60/55/42	61/57/42	63/59/42	66/63/44	69/67/44
ELECTRICAL	Power Input	H	W	17	26	38	44	52	87	100	128	182
		M		13	15	23	30	36	60	71	92	147
		L		8	11	12	13	14	22	24	28	30
	Running Current (H)		A	0.15	0.23	0.33	0.38	0.45	0.76	0.87	1.11	1.58
HYDRONIC	Cooling Water Flow Rate	H	L/h	314	439	569	724	839	1156	1378	1599	1830
		M		269	390	485	632	740	1038	1274	1440	1698
		L		214	327	368	439	498	676	754	860	951
	Cooling Pressure Drop	H	kPa	11.8	22.2	13.5	23.8	31.7	32.3	47.8	22.6	30.7
		M		8.9	18.0	10.1	18.6	25.3	26.6	41.5	18.7	26.9
		L		5.9	13.1	6.2	9.7	12.4	12.3	16.2	7.4	9.5
	Heating Water Flow Rate	H	L/h	145	196	262	326	366	506	599	720	819
		M		122	173	223	285	329	458	549	645	752
		L		98	147	169	196	221	300	328	392	424
	Heating Pressure Drop	H	kPa	6.0	11.0	21.8	37.5	48.2	15.8	23.6	35.9	49.0
		M		4.4	8.8	16.3	29.3	39.7	13.2	20.2	29.5	42.0
		L		3.0	6.5	9.9	14.9	19.4	6.2	8.0	12.1	15.0

EUROVENT TESTING CONDITIONS:

a. Cooling mode (4-pipe):
- Return air temperature: 27°C DB/19°C WB.
- Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (4-pipe):
- Return air temperature: 20°C
- Inlet water temperature: 65°C/55°C

LOOKING FOR DIFFERENT CONFIGURATIONS?

While the most common configurations are specified in the previous sections, we have many more available with over +2,500 product configurations in our portfolio. **Here is a sneak peak of different configurations available for this range.** Further information can be accessed through:

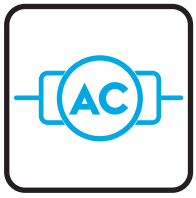
PASelect Selection software
Polar Air CS website
By **contacting your sales representative**

+2 PIPE CONFIGURATIONS AVAILABLE

4 Row Coil configurations are available for applications requiring higher capacity. Other advantages include:

Enhanced Heat Transfer Efficiency: Larger surface area ensures better heat exchange and allows for operating with warmer chilled water temperatures typical with air to water heat pumps.
Improved Latent Capacity: Increasing the coil surface area allows the air to flow across the coil longer and increase the amount of moisture removed from the air.

AC MOTOR AVAILABLE



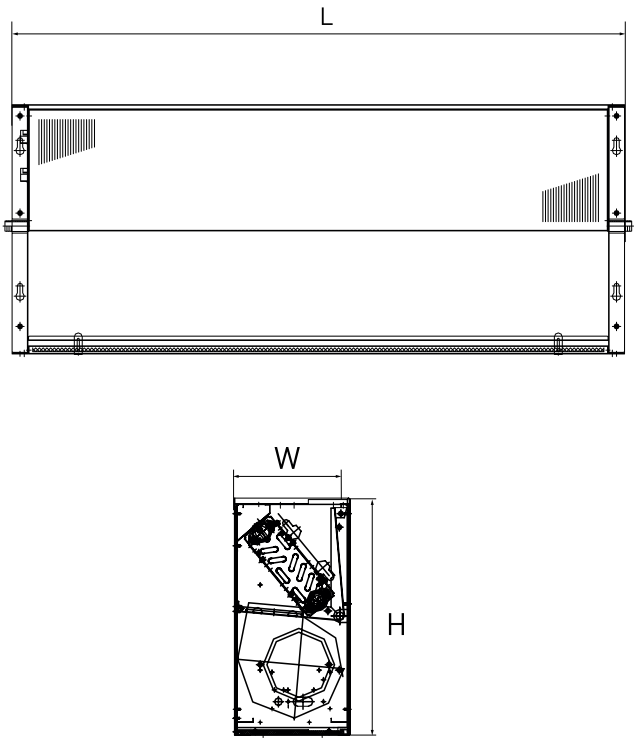
All of the above configurations are also available with a 3-speed PSC motor. The AC motor configurations are available with two types of control systems to adapt to the project needs:

- **Intelligent Control (I-control)** offers complete control with integral Modbus RTU protocol or local control via IR handset or Wired Wall Pad.
- **Terminal Strip Control (T-Control)** provides a terminal block to allow operation of the fan from external thermostats or controllers provided by a third party.

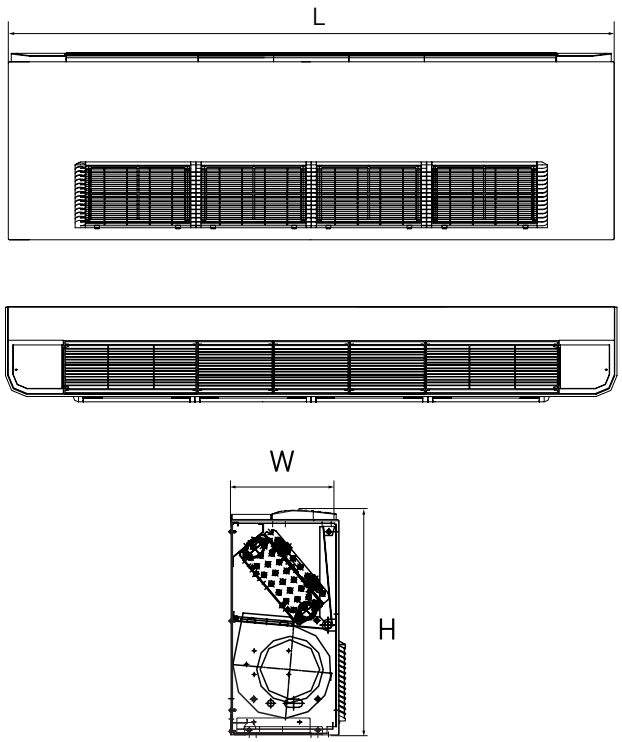
* AC Motor Configurations are Eurovent Certified.

DIMENSIONAL DRAWINGS, DATA & WEIGHTS

WITHOUT CASING



WITH CASING



PFWB(C)				06	09	12	15	18	24	30	36	40
CONSTRUCTION AND PACKING DATA	Cooling Water Connections	Type		PT (Threaded Female)								
		In	mm [in]	19.05 [3/4]								
		Out										
	Condensate Drainage Connection											
	Heating Water Connections (4P Only)	In	mm [in]	12.7 [1/2]								
		Out										
	Dimensions Cased Unit	L	mm	858	908	1058	1208	1258	1758	1758	1908	2058
		W		250								
		H		494								
	Dimensions Uncased Unit	L	mm	578	628	778	928	978	1478	1478	1628	1778
		W		230								
		H		460								
NET WEIGHTS	3R and 4R		kg	22	24	26	30	32	47	47	49	54
	3R+1			23	26	28	32	34	45	49	52	57