PDWD - DOUBLE SKIN HIGH ESP DUCTED

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.

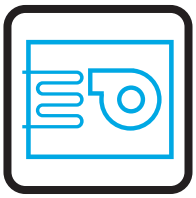
ENERGY EFFICIENT MOTORS

EC motors allow the centrifugal fans 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

FAN BLOWER

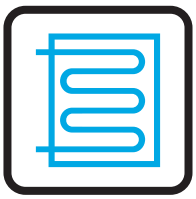
Optimized forward-curved metal centrifugal fans made from heavy-gauge galvanized steel with die-formed inlet cones housings, statically and dynamically balanced for smooth and quiet operation.

STRUCTURE



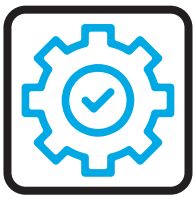
Casing is double skin with inner wall and outer wall coated steel panels in RAL 9010 colour with high pressure PU foam insulation sandwiched in between. It has couplings for the connection of ducting and gravity drain pan with insulation for condensation. The unit has an easy access to fans, motors and filters

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 PDWD double-skin range is offered as a complete package including standard items such as the internal drain pan, double sándwich panel insulation of 15 + 25mm, and a G2 (MERV 4) filter. Furthermore, we offer multiple optional accessories.

KEY POINTS

- Auto Dynamic Balancing with I-Control
- External Static Pressure up to 200 Pa
- Formidable insulation
- Internal drain pan
- 3, 4 and 6 Rows configurations available

ACCESSORIES

- IR Handset or Wired Wall Pad (Available with I-Control)
- Thermostat Controller (Available with W-Control)
- G4 (MERV 8) filter
- Electric heater up to 9kW
- Stainless Steel Drain Pan
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit
- Supply/Return air Plenum

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

TECHNICAL SPECIFICATIONS

Hydronic Double Skin High ESP Ducted, 3R, 2 Pipe with EC Motor **EC Motor**

UNIT GENERAL SPECS	PDWD-3R-[Size]-V-ECM			400	800	1200	1600	2000
	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	892	2064	2799	3062	6125
		M		727	1955	2487	2717	5434
		L		402	741	1249	1650	3300
	External Static Pressure	H M L	Pa	50				
COOLING	Total Cooling Capacity	H	kW	4.53	9.51	12.66	14.34	25.55
		M		3.86	9.09	11.59	13.04	23.34
		L		2.43	4.31	6.78	8.83	16.03
	Sensible Cooling Capacity	H		3.25	6.91	9.18	10.34	18.82
		M		2.74	6.59	8.36	9.31	17.10
		L		1.68	2.98	4.74	6.18	11.46
HEATING	Heating Capacity	H	kW	4.59	9.77	13.05	14.91	26.58
		M		3.91	9.33	11.95	13.56	24.26
		L		2.46	4.43	6.99	9.19	16.66
	Max. Electric Heater Capacity			3	3	6	9	9
SOUND	Pressure Level (Outlet)		dB(A)	56/53/43	58/56/47	56/52/45	60/58/50	65/63/60
	Pressure Level (Inlet + Radiated)			59/56/46	61/59/50	59/55/48	63/61/53	65/63/60
	Power Level (Outlet)			65/62/52	67/65/56	65/61/54	69/67/59	74/72/69
	Power Level (Inlet + Radiated)			68/65/55	70/68/59	68/64/57	72/70/62	74/72/69
ELECTRICAL	Power Input	H	W	202	281	310	477	672
		M		121	208	151	304	546
		L		34	65	70	108	280
	Running Current (H)		A	1.76	2.44	2.70	4.15	5.84
HYDRONIC	Cooling Water Flow Rate	H	L/h	777	1630	2170	2458	4379
		M		661	1558	1986	2235	4002
		L		416	740	1162	1514	2748
	Cooling Pressure Drop	H	kPa	38.6	49.4	56.6	38.4	70.5
		M		28.9	45.5	48.2	32.4	59.9
		L		12.6	11.9	18.4	16.1	30.5
	Heating Water Flow Rate	H	L/h	787	1674	2238	2556	4556
		M		669	1600	2048	2325	4158
		L		422	760	1198	1575	2856
	Heating Pressure Drop	H	kPa	29.7	39.5	45.8	31.6	57.9
		M		22.2	36.4	39.1	26.6	49.1
		L		9.7	9.5	14.9	13.2	25.0

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

TECHNICAL SPECIFICATIONS

Hydronic Double Skin High ESP Ducted, 3R+1 (Auxiliary Heating Coil), 4 Pipe with **EC Motor**

UNIT GENERAL SPECS	PDWD-3R+1-[Size]-P-ECM			400	800	1200	1600	2000
	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	862	1967	2727	3005	6010
		M		685	1846	2383	2616	5233
		L		349	650	1078	1506	3012
	External Static Pressure	H M L	Pa	50				
COOLING	Total Cooling Capacity	H	kW	4.42	9.14	12.45	14.12	25.06
		M		3.71	8.73	11.18	12.70	22.73
		L		2.18	3.89	6.12	8.20	14.89
	Sensible Cooling Capacity	H		3.16	6.63	9.01	10.17	18.53
		M		2.62	6.32	8.06	9.05	16.62
		L		1.49	2.68	4.24	5.69	10.59
HEATING	Heating Capacity	H	kW	3.73	7.63	10.26	11.69	20.85
		M		3.13	7.29	9.22	10.52	18.93
		L		1.84	3.25	5.04	6.79	12.40
SOUND	Pressure Level (Outlet)		dB(A)	56/53/43	58/56/47	56/52/45	60/58/50	65/63/60
	Pressure Level (Inlet + Radiated)			59/56/46	61/59/50	59/55/48	63/61/53	65/63/60
	Power Level (Outlet)			65/62/52	67/65/56	65/61/54	69/67/59	74/72/69
	Power Level (Inlet + Radiated)			68/65/55	70/68/59	68/64/57	72/70/62	74/72/69
ELECTRICAL	Power Input	H	W	202	281	310	477	672
		M		121	208	151	304	546
		L		34	65	70	108	280
	Running Current (H)		A	1.76	2.44	2.70	4.15	5.84
HYDRONIC	Cooling Water Flow Rate	H	L/h	757	1567	2133	2421	4295
		M		635	1497	1917	2177	3896
		L		374	667	1049	1406	2552
	Cooling Pressure Drop	H	kPa	36.9	46.0	54.9	37.4	68.1
		M		26.9	42.4	45.3	30.9	57.1
		L		10.3	9.9	15.3	14.1	26.7
	Heating Water Flow Rate	H	L/h	320	654	879	1002	1787
		M		268	625	790	901	1622
		L		158	279	432	582	1063
	Heating Pressure Drop	H	kPa	41.3	30.8	61.7	30.2	103.6
		M		30.1	28.4	50.9	25.0	87.0
		L		11.6	6.6	17.2	11.4	40.6

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 or 6 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.

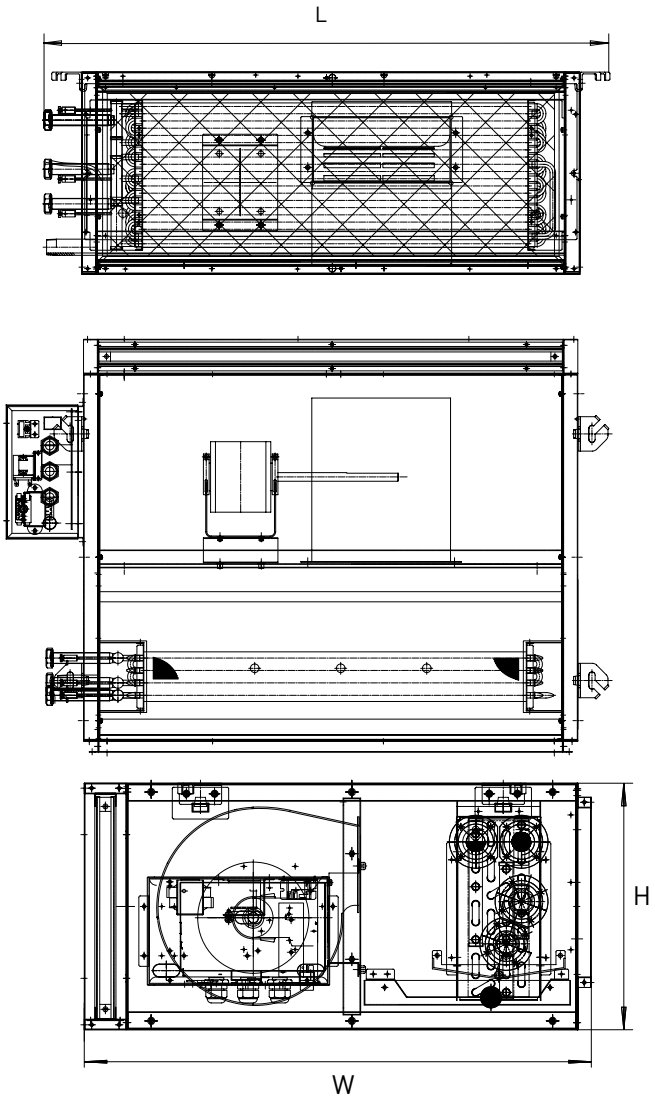
+4 PIPE CONFIGURATIONS AVAILABLE

4 Rows Cooling +2 Row Heating Coil configurations are available for 4 pipe systems where more heating is required. Other advantages include:

Enhanced Heat Transfer Efficiency: Larger surface area ensures better heat exchange and allows for operating with lower hot water temperatures typical with air to water heat pumps.

Active Humidity Control: The higher capacity 2-row heating coil provides more reheating of the air which allows the cooling coil to achieve lower dewpoint temperatures and lower space humidity without sacrificing comfort.

DIMENSIONAL DRAWINGS, DATA & WEIGHTS



PDWD				400	800	1200	1600	2000
CONSTRUCTION AND PACKING DATA	Water Connections	Type		PT (Threaded Female)				
		In	mm [in]	19.05 [3/4]				25.4 (1)
		Out						
	Condensate Drainage			19.05 [3/4]				
	Dimensions	L	mm	945	1145	1345	1645	2005
		W		720	780			
		H		350	400			
NET WEIGHTS	3R, 4R and 3+1R	kg		52	57	66	73	84
	6R and 4+2R			57	63	73	81	91