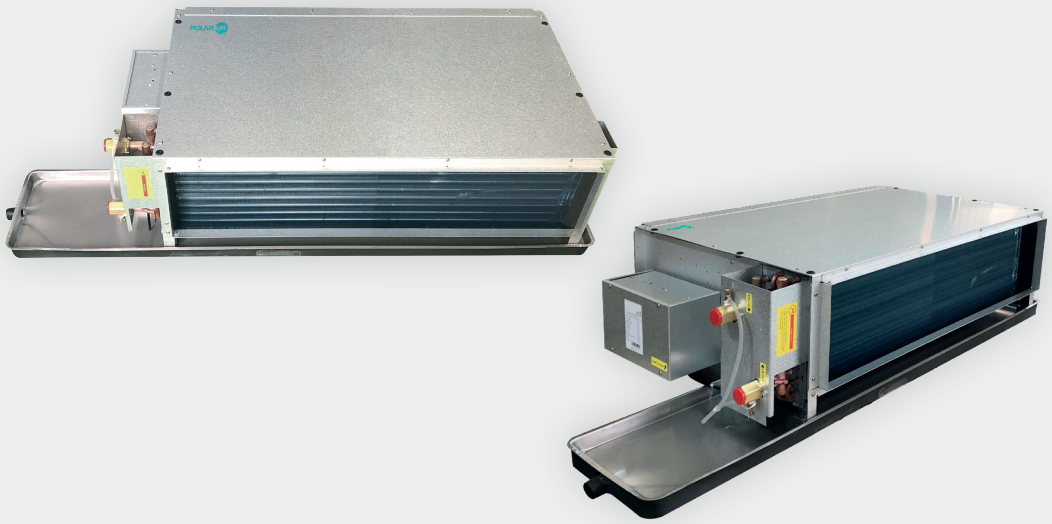
MEDIUM/HIGH ESP DOUBLE SKIN DUCTED	PDWD-EC [EC MOTOR]
MEDIUM/HIGH ESP DUCTED	PDWC-EC [EC MOTOR]

MEDIUM/ HIGH STATIC DUCTED **FAN COILS**

Cooke Industries - Phone: +64 9 579 2185 Email: sales@cookeindustries.co.nz Web: www.cookeindustries.co.nz

PDWC - 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.

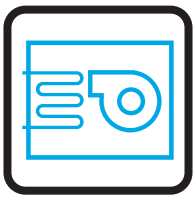
ENERGY EFFICIENT MOTORS

EC motors allow the centrifugal 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 48 for further information about configurations.

FAN BLOWER

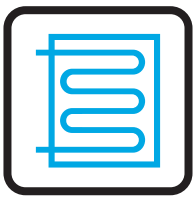
Optimized forward-curved metal centrifugal fans made from heavy-gauge galvanized steel with die-formed inlet cones housings, statically and dynamically balanced for smooth and quiet operation

STRUCTURE



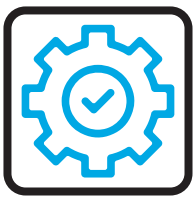
Made from heavy-gauge galvanized steel panels with couplings for the connection of ducting and gravity drain pan with insulation for condensation. Compact dimensions with optimum thermal and electrical efficiency for all types of applications.

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 PDWC range is offered as a complete package including standard items such as the Galvanized Steel external drain pan, NBR insulation of 5mm, and G2 (MERV 4) filter. Furthermore, we offer multiple optional accessories.

KEY POINTS

- Auto Dynamic Balancing with I-Control
- External Static Pressure up to 180 Pa
- Coil interchangeable on field
- 3 and 4 Row configurations available

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

AHRI CERTIFIED® www.ahridirectory.org

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
- Additional NBR Insulation up to 25mm.
- Stainless Steel Drain Pan
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit
- Integrated Sauermann Condensate Pump
- Supply/Return air Plenum

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

POLARAIR

TECHNICAL SPECIFICATIONS

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

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

UNIT GENERAL SPECS	PDWC-3R-[Size]-V-ECM			400	500	600	800	1000	1400	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	604	835	1660	1918	2261	2677	2996	4422
		M		584	716	1540	1955	2107	2487	2717	4143
		L		635	556	993	1063	1203	1788	2036	3059
	External Static Pressure	H	Pa	89	68	65	67	72	69	63	69
		M		50	50	50	50	50	50	50	50
		L		22	15	9	7	7	12	18	14
COOLING	Total Cooling Capacity	H	kW	3.21	4.34	7.90	9.29	10.84	13.00	14.43	19.51
		M		3.13	3.85	7.47	9.40	10.28	12.33	13.38	18.53
		L		3.32	3.16	5.37	5.93	6.63	9.49	10.70	14.75
	Sensible Cooling Capacity	H		2.27	3.06	5.72	6.69	7.76	9.28	10.37	14.40
		M		2.21	2.70	5.39	6.77	7.32	8.77	9.56	13.65
		L		2.36	2.20	3.79	4.15	4.60	6.64	7.54	10.71
HEATING	Heating Capacity	H	kW	3.30	4.43	8.03	9.42	12.16	13.29	14.87	20.45
		M		3.21	3.93	7.59	9.54	11.57	12.61	13.84	19.42
		L		3.41	3.23	5.47	6.01	7.50	9.82	11.09	15.46
	Max. Electric Heater Capacity		kW	3			6				
SOUND	Pressure Level (outlet)		dB(A)	55/50/45	56/53/43	56/54/47	58/56/47	56/52/45	59/57/47	60/58/50	64/62/52
	Pressure Level (Inlet + Radiated)			57/53/48	59/56/46	59/57/50	61/59/50	59/55/48	62/60/50	63/61/53	67/65/55
	Power Level (outlet)			63/59/54	65/62/52	65/63/56	67/65/56	65/61/54	68/66/56	69/67/59	73/71/61
	Power Level (Inlet + Radiated)			66/62/57	68/65/55	68/66/59	70/68/59	68/64/57	71/69/59	72/70/62	76/74/64
ELECTRICAL	Power Input	H	W	152	202	195	281	310	413	477	637
		M		84	121	137	208	151	246	304	461
		L		32	34	62	65	70	72	108	142
	Running Current (H)		A	1.32	1.76	1.70	2.44	2.70	3.59	4.15	5.54
HYDRONIC	Cooling Water Flow Rate	H	L/h	550	744	1355	1593	1859	2229	2474	3344
		M		536	659	1280	1611	1762	2114	2294	3176
		L		569	542	920	1016	1136	1627	1834	2529
	Cooling Pressure Drop	H	kPa	17.1	31.8	54.9	48.6	39.8	61.2	41.0	43.2
		M		16.3	25.6	49.5	49.6	36.1	55.6	35.8	39.4
		L		18.2	18.0	27.3	21.6	16.4	34.7	23.9	26.1
	Heating Water Flow Rate	H	L/h	566	759	1377	1616	2084	2278	2549	3505
		M		551	673	1301	1635	1984	2161	2372	3329
		L		584	553	937	1031	1285	1683	1902	2651
	Heating Pressure Drop	H	kPa	14.9	27.7	37.5	32.1	40.7	53.9	33.4	28.3
		M		14.2	22.3	33.8	32.8	37.2	49.0	29.3	25.8
		L		15.9	15.7	18.7	14.3	17.0	31.2	19.7	17.1

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

UNIT GENERAL SPECS	PDWC-3R+1-[Size]-P-ECM			400	500	600	800	1000	1400	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	702	854	1693	1967	2350	2727	3005	4534
		M		536	674	1440	1846	1983	2383	2616	3964
		L		301	349	566	650	707	1078	1506	1935
	External Static Pressure	H M L	Pa	50							
COOLING	Total Cooling Capacity	H	kW	3.58	4.41	8.03	9.46	11.17	13.19	14.43	19.84
		M		2.93	3.69	7.13	9.03	9.79	11.95	12.96	18.01
		L		1.85	2.20	3.47	4.03	4.33	6.43	8.51	10.27
	Sensible Cooling Capacity	H		2.56	3.12	5.81	6.81	8.00	9.42	10.37	14.65
		M		2.06	2.58	5.13	6.49	6.93	8.46	9.22	13.23
		L		1.27	1.51	2.39	2.76	3.02	4.40	5.91	7.32
HEATING	Heating Capacity	H	kW	3.05	3.67	6.69	7.84	9.27	10.68	11.94	16.86
		M		2.49	3.07	5.91	7.53	8.10	9.67	10.74	15.14
		L		1.58	1.83	2.88	3.44	3.63	5.30	6.93	8.72
SOUND	Pressure Level (outlet)		dB(A)	55/50/45	56/53/43	56/54/47	58/56/47	56/52/45	59/57/47	60/58/50	64/62/52
	Pressure Level (Inlet + Radiated)			57/53/48	59/56/46	59/57/50	61/59/50	59/55/48	62/60/50	63/61/53	67/65/55
	Power Level (outlet)			63/59/54	65/62/52	65/63/56	67/65/56	65/61/54	68/66/56	69/67/59	73/71/61
	Power Level (Inlet + Radiated)			66/62/57	68/65/55	68/66/59	70/68/59	68/64/57	71/69/59	72/70/62	76/74/64
ELECTRICAL	Power Input	H	W	152	202	195	281	310	413	477	637
		M		84	121	137	208	151	246	304	461
		L		32	34	62	65	70	72	108	142
	Running Current (H)		A	1.32	1.76	1.70	2.44	2.70	3.59	4.15	5.54
HYDRONIC	Cooling Water Flow Rate	H	L/h	614	756	1376	1621	1914	2262	2474	3401
		M		502	633	1223	1548	1678	2049	2222	3087
		L		317	377	595	690	742	1101	1459	1761
	Cooling Pressure Drop	H	kPa	20.9	32.8	56.5	50.1	41.9	62.8	41.0	44.5
		M		14.5	23.8	45.6	46.2	33.1	52.6	33.8	37.4
		L		6.4	9.4	12.5	10.8	7.6	17.2	15.8	13.6
	Heating Water Flow Rate	H	L/h	261	315	574	672	794	915	1023	1445
		M		214	263	507	646	694	829	920	1298
		L		135	157	247	295	311	454	594	748
	Heating Pressure Drop	H	kPa	25.7	39.9	21.9	35.9	51.1	24.1	33.4	68.7
		M		17.9	29.0	17.5	33.4	40.1	20.2	27.6	56.6
		L		7.8	11.4	4.8	8.1	9.4	6.8	12.5	21.0

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:

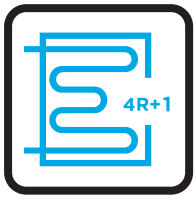
PASelect Selection software
Polar Air CS website
By **contacting your sales representative**

+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.

+4 PIPE CONFIGURATIONS AVAILABLE

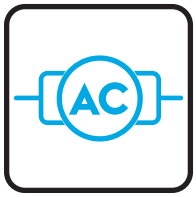


4 Rows Cooling +1 Row Heating Coil configurations are available for 4 pipe systems where more heating is required. Other advantages include:

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.

AC MOTOR AVAILABLE

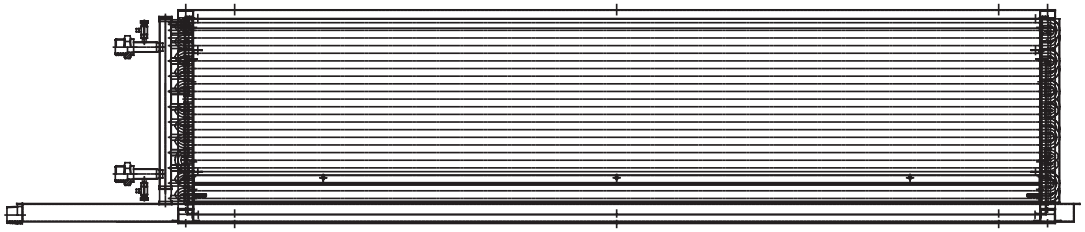


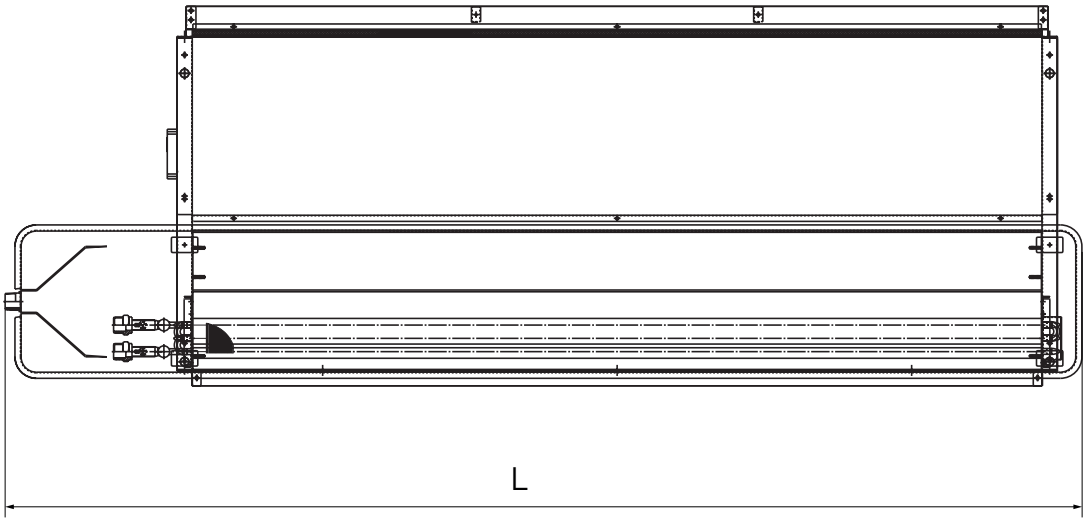
All of the above configurations are also available with a 3-speed PSC motor. The AC motor configurations are available with two types of control systems to adapt to the project needs:

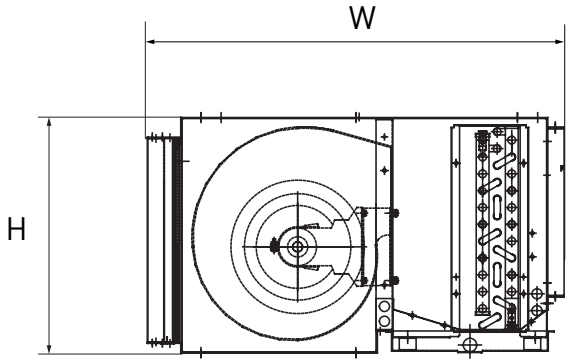
- **Intelligent Control (I-control)** offers complete control with integral Modbus RTU protocol or local control via IR handset or Wired Wall Pad.
- **Terminal Strip Control (T-Control)** provides a terminal block to allow operation of the fan from external thermostats or controllers provided by a third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

* AC Motor Configurations are Eurovent Certified.

DIMENSIONAL DRAWINGS, DATA & WEIGHTS







PDWC				400	500	600	800	1000	1400	1600	2000
CONSTRUCTION AND PACKING DATA	Water Connections	Type		PT (Threaded Female)							
		In	mm [in]	19.05 [3/4]							
		Out									
	Condensate Drainage										
	Dimensions	L	mm	1055	1155	1355	1355	1455	1655	1855	2215
		W		620							
		H		300			350				
WEIGHT	Net	kg		28	37	44	46	48	55	63	83

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.

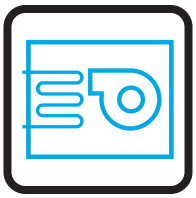
ENERGY EFFICIENT MOTORS

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

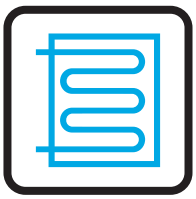
Optimized forward-curved metal centrifugal fans made from heavy-gauge galvanized steel with die-formed inlet cones housings, statically and dynamically balanced for smooth and quiet operation.

STRUCTURE



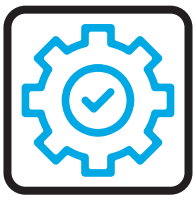
Casing is double skin with inner wall and outer wall coated steel panels in RAL 9010 colour with high pressure PU foam insulation sandwiched in between. It has couplings for the connection of ducting and gravity drain pan with insulation for condensation. The unit has an easy access to fans, motors and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

CE

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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.

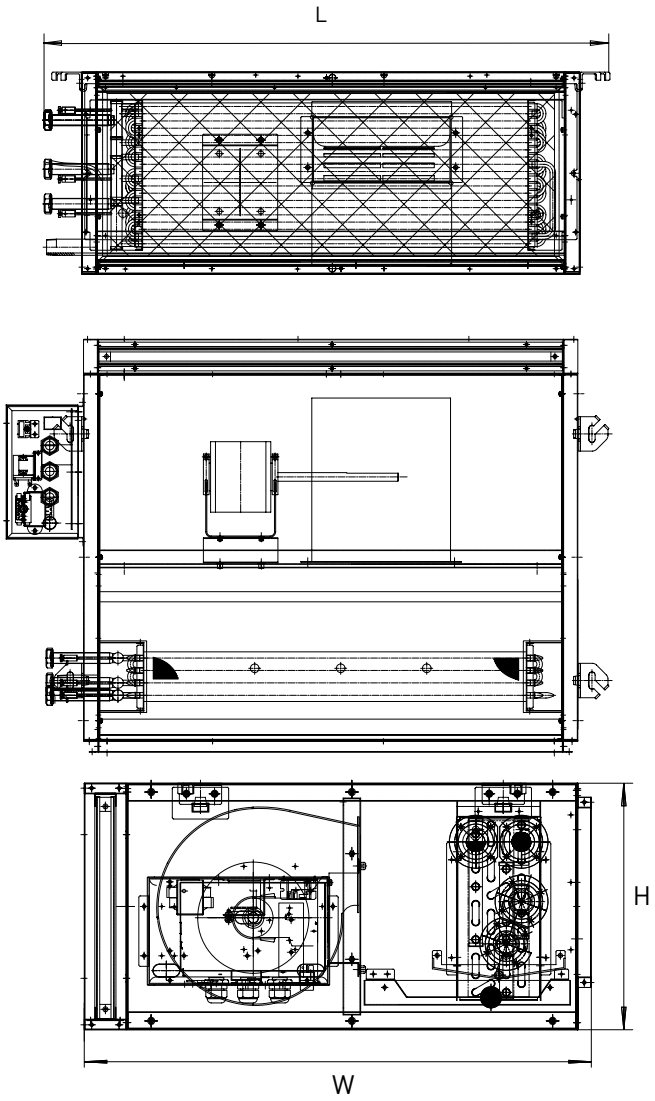
+4 PIPE CONFIGURATIONS AVAILABLE

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

OUR FAN COILS

All Polar Air fan coil units offer maximum levels of control flexibility, by selecting from two types of controllers depending on application needs.

[I-CONTROL]

CONTROLLED WITH BMS OR POLAR AIR WALL PAD AND IR HANDSET

[W-CONTROL]

CONTROLLED WITH EXTERNAL THERMOSTAT APPLICATIONS OR EXTERNAL CONTROLLER

[I-CONTROL] PCB WITH INTELLIGENT FUNCTIONALITY

The PCB microprocessor intelligent control board controls the operation of the indoor fan motor, ON/OFF or modulating water valves, and electric heaters (if fitted) to maintain room conditions at a user-defined set point.

- Full control logic connectivity via Modbus RTU or using a gateway with other communication protocols.
- Auto Fan Speed control for EC.
- Modulating Valve Control to adjust the water flow 100% according to the room temperature and set temperature.
- Auto Restart function.
- Drain Pump control (If installed)
- Autodynamic balancing function for Variable Water Flow system installations.

[W-CONTROL] FLEXIBLE CONTROL PCB

This control option features flexible functionality for external thermostat applications, allowing the independent control of drain pumps and limited LED diagnostics.

- Independent control of drain pumps (if installed)
- Zone control operations
- Limited LED Diagnostics
- Louver control (when applicable).

CONTROL OPTIONS

WHAT DO WE CALL INTELLIGENT FUNCTIONALITY?

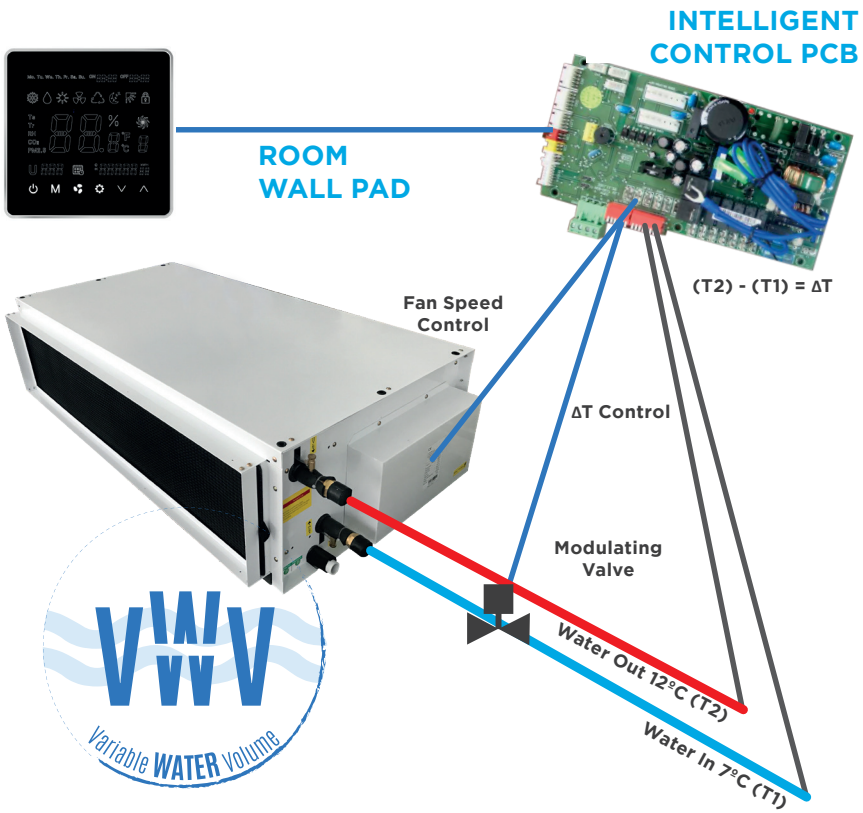
EXPLAINING THE AUTODYNAMIC BALANCING FUNCTION

The I-Control, also known as the Intelligent control, goes a step further than your typical control PCB.

There is a certain calculated load for every space that a fan coil will serve, but this of course, is not constant. Occupancy, lighting, even an open window, can affect the required load for a space. The typical solution for this is a PICV (pressure independent control valve), but that comes at quite a cost premium.

With our Intelligent control, we do away with the PICV and simply install temperature sensors within the water inlet and outlet, air inlet, and in the space from our own Wired Wall Pad, to monitor those points.

With that data, the “intelligence” of the unit is able to modulate the valve and fan speed to maintain the delta T setpoint this is what we call “Auto Dynamic Balancing” providing optimal cooling to the space at all times. All of this coming in one package at a much lower cost than going with a 3rd party PICV.



OUR ACCESSORIES

01. CONTROLLERS

[WWP-V3] WIRED WALL PAD CONTROL (AVAILABLE WITH I-CONTROL)

Features: 7 days ON/OFF timer program | Addressable Main and Secondary units allowing control of up to 32 Secondary units via a single Main Unit with set or check of each unit parameters individually | Error display with addressable error diagnostic (Main unit Wall Pad displays Secondary unit address and error type) | One-Touch Global Control (Global Control Main Unit Wall Pad controls all units in the group) | Onboard Room Air Temperature Sensor.

[IRHS-V1] REMOTE INFRARED HANDSET (AVAILABLE WITH I-CONTROL)

With Global Control functionality for Main and Secondary Unit groups.

02. CONTROL OPTIONS

ABS LED RECEIVER

IR receiver in ABS housing with up to 180cm (70in) length prewiring, which can be connected with TOTAL controls only. LED lights show working mode or error mode.

DIFERENTIAL PRESSURE TRANSDUCER

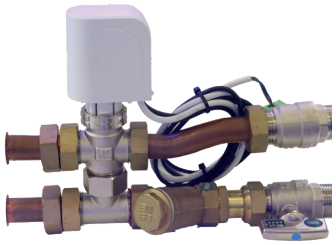
This device converts the air pressure difference to a proportional electrical output (0-10 VDC/0-5 VDC/4-20 mA). It is suitable for detecting abnormal airflow at the fan coil unit for safety (cutting off electric heater) or maintenance (air filter cleaning) purposes.

03. VALVE KITS

2 OR 3 WAY BYPASS THERMOELECTRIC VALVES

2-way or 3-way valve bodies with ON/OFF or modulating actuators integrated with copper piping connection kits.

* Piping connection kits vary among the different ranges.



2 OR 3 WAY BYPASS BALL VALVES

2-way or 3-way bypass ball valve bodies with motorized or 24VAC modulating actuators integrated with Copper Piping Connection Kits.

* Piping connection kits vary among the different ranges.

04. UPGRADED FILTERS

All our fan coils come with a nylon filter installed as standard. If you want an upgrade on those filters, you can choose between:

- **G4 (MERV 8)**
Available with 3M HAF grade.
- **F8 (MERV 14)**

Model	Standard	Optional	
	G2- MERV 4	G4-MERV8	F8-MERV14
PHW	1/8"	-	-
PCGH-3R	1/8"	3/8"	-
PDWSL	1/4"	1/4"	-
PDWA	1/4"	1"	-
PDWC	1/4"	1"	-
PDWD	1"	1"	-
HAHU	1"	1"	2"
VAHU	1"	1"	2"
PFWBC-VAR	1/8"	-	-
PFWBC-HAR	1/4"	1/4"	-
PFWB	1/4"	-	-
PFWSLN	1/8"	-	-

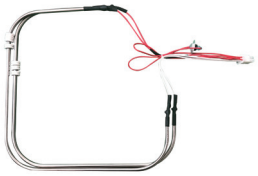
05. ELECTRIC HEATERS

PTC ELECTRIC HEATER KIT

With 2-stage safety cut-out and can be configured as booster heaters or primary heaters.

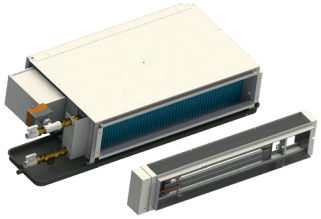
TUBE ELECTRIC HEATER KIT

With 2-stage safety, cut-outs can be configured as booster heaters or primary heaters. It can be easily installed on-site or in stock via plug-and-play wiring and brackets.



MODULE ELECTRIC HEATER KIT

The electric heater module is supplied for winter heating as an alternative to the auxiliary hot water coil. We offer a complete range of electric heaters kits, easy to connect to control box, with mounting fixture. The electric heater configuration is selectable by the DIP switch on the internal control board.



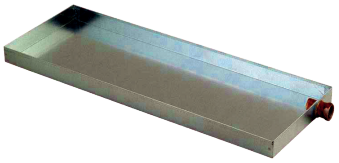
Model	EH KIT (kW)		
	Module	PTC	Tube
PHW	-	05 to 1.5	-
PCGH-3R	-	-	0.5 to 4
PCSL	-	0.5 to 1	-
PDWSL	0.75 to 3	-	-
PDWA	1 to 6		-
PDWC	1.5 to 9		-
PDWD	3 to 9		-
HAHU	4.5 to 9		-
VAHU	4.5 to 9		-
PFWB(C)	-	0.5 to 3	-
PFWSLN	-	0.5 to 1.5	-

* Non-standard electric heater sizes available under request. Contact us for further information.

06. DRAIN PANS

STAINLESS STEEL DRAIN PAN

To choose between left or right side coil connections.



PAINTED STEEL DRAIN PAN

For Horizontal installations: Painted steel drain pans for built-in horizontal floor standing fixed wall installations with right or left-sided coil connections.

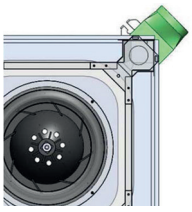
For Vertical installations: Painted steel drain pans for suspended ceiling installations with right or left-sided coil connections.

Model	ABS Plastic	Powder-coated Steel	Stainless Steel
PHW	Standard - Integrated	-	-
PCGH-3R	Standard - Integrated	-	-
PCSL	Standard - Integrated		
PDWSL	-	Standard - Integrated	Optional
PDWA	-	Standard - External	Optional
PDWC	-	Standard - External	Optional
PDWD	-	Standard - Integrated	Optional
HAHU	-	Standard - Integrated	Optional
VAHU	-	Standard - Integrated	Optional
PFWB(C)	-	Standard - Integrated	Optional
PFWSLN	-	Standard - Integrated	Optional

07. FLANGES

FOR FRESH AIR

Allows up to 15% of unit airflow up to a maximum of 100m3/h as fresh air intake (per connection).
The PCGH-3R Cassette comes with knock out fresh air connection holes. ABS plastic flanges use only two screws for fixture to unit.



FOR BRANCH DUCT

For delivery of treated air to adjacent spaces with 2 connectors per single fan model. Available for PCGH-3R Cassette ranges.

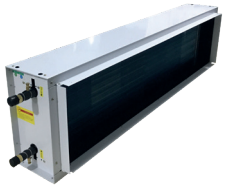
08. NBR INSULATION

All of our fan coils are equipped with NBR plastic foam standard insulation. We do offer an optional upgrade for projects that require higher levels of insulation , which contributes to maintaining thermal performance and improves sound attenuation.

Model	Standard (mm)	Optional (mm)
PHW	5	-
PCGH-3R	5	-
PCSL	5	-
PDWSL	5	10
		15
		25
PDWA	5	10
		15
		25
PDWC	5	10
		15
		25
PDWD	15+25	-
HAHU	10+25	-
VAHU	10+25	-
PFWB(C)	5	-
PFWSLN	5	-

09. AUXILIARY HEATING COILS

To choose for either one or two rows, depending on your specific heating project requirements.



Model	+ 1 Row	+ 2 Row
PDWSL	✓	-
PDWA	✓	✓
PDWC	✓	-
PDWD	✓	✓
HAHU	-	✓
VAHU	-	✓

NOTES

POLARAIR

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