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Since 1998, Polar Air has been dedicated to developing and delivering **customer-oriented**, **effective**, **and sustainable indoor climate solutions** worldwide. With three strategically located offices in **Boston**, **Murcia**, **and Hong Kong**, we have a global reach to serve your needs.

As part of the Polar Global group, Polar Air aligns with Polar Global's **vision** of **making every indoor space ideal for the well-being of all, while contributing to environmental sustainability.** Our mission prioritizes energy savings and environmental responsibility, utilizing innovative and intelligent approaches to help our clients achieve the perfect indoor climate.

At Polar Air, we've cultivated vital partnerships and personal connections worldwide, providing us with specialized insights and market knowledge. This knowledge drives constant improvements in our product designs, manufacturing processes, and quality assurance procedures, ensuring that our solutions evolve with the market.

Our multicultural team of professionals is dedicated to delivering not only effective but also efficient, intelligent, and environmentally responsible products. We're proud to be part of the Polar Global group, sharing its values of integrity, innovation, sustainability, and an unwavering focus on our customers.

Committed to a sustainable future, we aim to reduce energy consumption and carbon emissions through our innovative and intelligent indoor climate solutions. Our most valuable resource is our people, including Polar Air team members and our industry partners, working together to deliver top-quality, sustainable indoor climate solutions tailored to your unique requirements from our vast selection of over 1800 configurations.



+25
YEARS
EXPERIENCE

100% CUSTOMER-ORIENTED APPROACH





+27
COUNTRIES
WORLDWIDE

+1800
PRODUCT
CONFIGURATIONS





IT'S NOT JUST ABOUT HVAC; IT'S ABOUT THE ULTIMATE INDOOR CLIMATE EXPERIENCE.

We redefine the HVAC experience by combining innovation, sustainability, and unparalleled customer service.

We are more than just an HVAC provider; we are your trusted partner in delivering the ultimate indoor climate experience. When you choose Polar Air, you choose an extraordinary customer experience. We offer services that are second to none, a team of dedicated professionals, unwavering professionalism, personalized attention, and an irresistible product offering.



ENERGY EFFICIENCY

We're obsessed with efficiency. Our wide product range enables precise load match efficiency. Our Delta T management ensures optimized water flow, leading to enhanced efficiency and reduced energy costs.

TOP-LEVEL CUSTOMER SERVICE

We're not just here to sell; we're here to support you. Our top-level customer service extends beyond the sale, offering technical training and access to the power of PG Modbus, ensuring you are empowered to make informed decisions.





COMPREHENSIVE PRODUCT RANGE

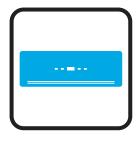
Our product portfolio is a testament to our dedication to meeting every HVAC need. From our diverse product offerings to the myriad options and accessories available, we ensure your unique requirements are met with precision.



WATER-BASED HVAC SYSTEMS

At Polar Air, we specialize in water-based HVAC systems, seamlessly integrating this renewable source to drive efficient climate control while reducing environmental impact.



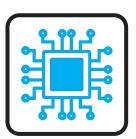


AESTHETIC EXCELLENCE

We understand the importance of aesthetics in your space. Our products boast a modern, plastic design that seamlessly integrates with your environment, ensuring that form complements function.

USER-FRIENDLY CONTROLS

Say goodbye to expensive in-field installations and programming. Our onboard controls eliminate the need for complex setups, ensuring ease of use and substantial cost savings.



As you browse through the catalogue, you will see that every product is a testament to our dedication to innovation, customer satisfaction, and environmental responsibility. At Polar Air, we believe that everyone deserves to experience elevated comfort while contributing to a sustainable world.

Thank you for considering Polar Air, and we look forward to partnering with you to create a world of exceptional comfort and sustainability.



IT IS ALL ABOUT SERVICING OUR CUSTOMERS

We pride ourselves on being more than just a provider; we're your partner in creating the ideal indoor climate for your well-being and sustainability goals. With a deep commitment to your satisfaction and comfort, we offer a range of services designed to make your experience seamless.

01. PRE-SALES

- **Product Consultation and Needs Assessment:** Collaborating closely with clients to comprehensively assess their unique requirements, ensuring a precise understanding of their needs.
- Product System Design and Engineering Consultancy: Crafting tailored product system designs that precisely match client specifications, coupled with expert technical support and responses to client inquiries about our product offerings.
- **Budget Estimation:** Furnishing clients with meticulous and transparent cost estimates for all necessary equipment, enabling them to make informed budgeting decisions.
- Logistics Consultation: Offering container loading and freight calculation to recommend the optimal logistics strategies to ensure efficient and timely delivery of the equipment to project locations.
- **Financing Options:** Empowering clients with financial guidance and assistance in exploring a range of payment options, facilitating project funding in alignment with their budgetary preferences.
- Technical Support: Providing ongoing technical expertise, guidance, and assistance to address client inquiries, troubleshoot issues, and optimize the performance of our systems, thus ensuring their continued satisfaction and success.

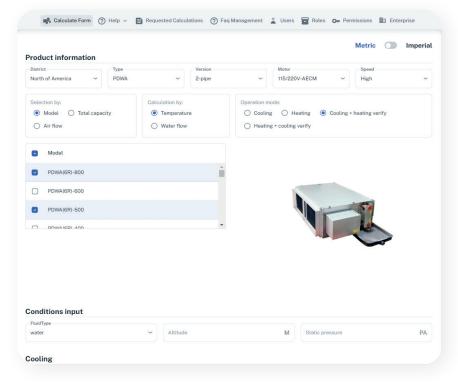
02. AFTER-SALES

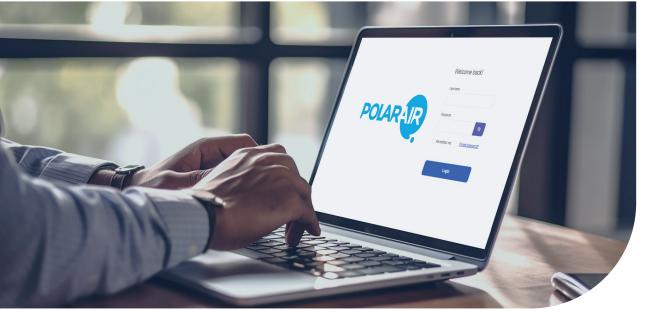
- **Spare Part Supply:** Offering a comprehensive inventory of replacement components and parts, ensuring the equipment's consistent performance and prolonged lifespan.
- Warranty Support: Going the extra mile in assisting clients with warranty claims, we ensure that they not only avail themselves of the full benefits of manufacturer warranties but also experience a seamless and hassle-free warranty process.
- **Extended Warranty Options:** Providing clients with the flexibility to choose extended warranty options, granting them added peace of mind and long-term protection for their Polar Air systems.
- **Training and Education:** Empowering client personnel with in-depth training programs, equipping them with the knowledge and skills to operate and maintain Polar Air systems efficiently. This investment in education enhances system performance, reduces operational downtime, and optimizes the overall experience with our products.



PASELECT SOFTWARE TO MAXIMIZE DESIGN EFFICIENCY

Our intuitive software is designed to empower HVAC professionals in the field. It provides precise calculations, efficiency data, and competitive project-specific offers, enabling you to optimize your HVAC system design for maximum efficiency. With the ability to filter and search units based on specific conditions and requirements for your space, our software streamlines the decision-making process, saving you time and effort.







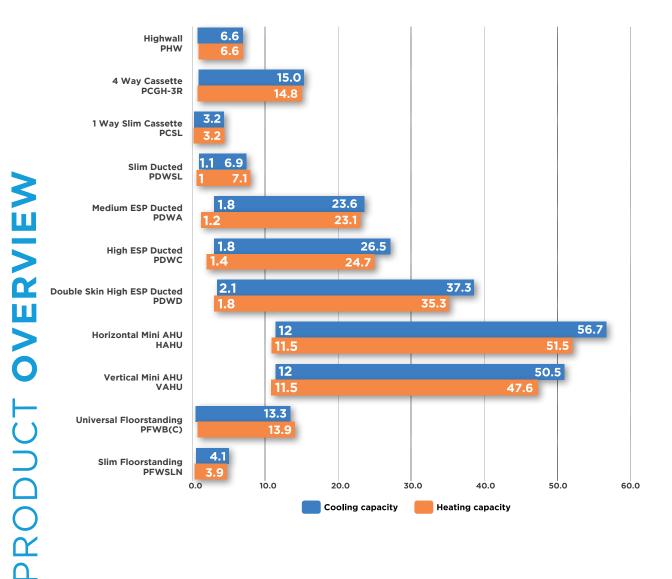




Polar Air offers the broadest range of fan coils in the world. Our fan coils are designed to meet specific market requirements and come with a wide range of accessories and options. You can choose from over 1800 models/sizes of EC and AC motor hydronic fan coils. Our products are CE and ETL certified, and most of them are also Eurovent certified.

To help you select the right product for your project, we have created a comprehensive table that provides a clear overview of the cooling and heating capacities (in KW) of our entire product range. We understand that projects often require customized solutions, and we strive to offer maximum flexibility in customizing our products based on unique project requirements.

Total Capacity (kW)*



^{*}Data above calculated under Eurovent Conditions.

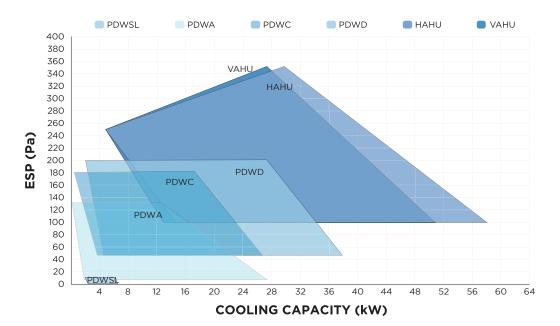
^{*}Ducted at 50Pa ESP (PDWSL at 12Pa ESP)

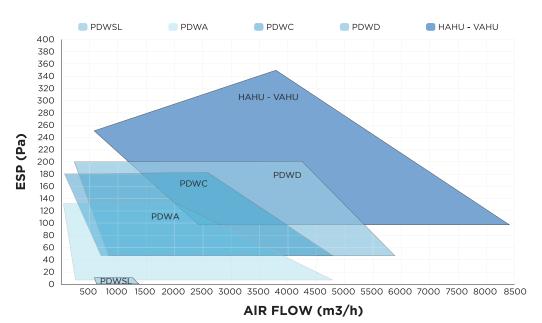


WHICH DUCTED SHOULD I CHOOSE?

These tables assist customers in finding the most suitable model for their needs, providing indicative performance values under Eurovent standard conditions. For a more detailed view, refer to the specifications tables or utilize our Selection Software for customized project conditions.

Ducted units are commonly selected based on Airflow or Cooling Capacity with consideration for external static pressure (ESP). The first table compares Cooling Capacity based on ESP, while the second table compares airflow based on ESP. These tables guide users in choosing the appropriate ducted unit type (PDWC, PDWA, HAHU, etc.). However, for precise unit size and configuration details, use one of the methods mentioned above.*





^{*}Data above calculated under Eurovent Conditions and High fan speed.



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] 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).



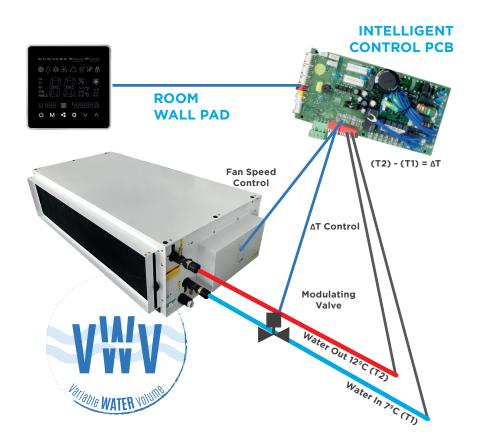
WHAT DO WE CALL INTELLIGENT FUNCTIONALITY? EXPLAINING THE AUTODYNAMIC BALANCING FUNCTION

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.











FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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.



INTEGRATED VALVES

Optional 2 or 3-way both On/Off and modulating thermoelectric integrated valves located in a new position for easier maintenance. Synthetic elastomer tubes with stainless steel outer braiding and brass connectors, to enable quick and low-cost connections with no brazing.



ENERGY EFFICIENT MOTORS

EC motors allow the tangential blower wheel 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.



CASING



New stylish design built of durable flame-resistant ABS white color plastic, with rounded corners to give modern aesthetics and integrated LED display. Housed in only two casing sizes, to allow consistency and uniformity on projects where multiple units are required.



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 PHW range is offered as a complete package including standard items such as internal drain pan, NBR insulation, and MERV 4 filter.

Furthermore, we offer multiple optional accessories.

KEY POINTS

- High latent performance- dehumidification
- Auto Dynamic Balancing with I-Control
- Easy maintenance accessibility
- 4 Pipe design





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
- Integrated Sauermann Condensate Pump
- Electric heater up to 1.5kW

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





Hydronic Highwall, 2 Pipe with EC Motor

	PHW-[Size]-V	-ECM		200	300	400	500	600	750		
UNIT	Configurat	ion				2-p	ipe				
GENERAL SPECS	Number of Fan	Blowe	rs	Single							
	Power Supply (V	/Ph/H	lz)		220 - 240/1/50 - 60						
		Н		380	550	680	788	1050	1250		
AIR	Total Air Flow	М	m3/h	270	380	550	600	850	1020		
		L		200	270	340	380	510	600		
		Н		1.85	2.51	3.3	4.37	5.03	6.57		
	Total Cooling Capacity	М		1.43	1.92	2.84	3.58	4.25	5.6		
COOLING		L	kW	1.12	1.46	1.94	2.52	2.89	3.72		
COOLING		Н	, KW	1.33	1.84	2.39	3.12	3.62	4.73		
	Sensible Cooling Capacity	М		1.01	1.37	2.04	2.52	3.02	3.97		
		L		0.78	1.03	1.36	1.73	2.01	2.58		
		Н		1.9	2.62	3.4	4.39	5.1	6.64		
HEATING	Heating Capacity	М	kW	1.48	1.99	2.91	3.57	4.35	5.7		
HEATING	L	KVV	1.16	1.52	2	2.51	2.94	3.77			
	Max. Electric Heate Capacity	r			1		1.	5			
SOUND	Pressure Level (H/M,	Pressure Level (H/M/L)			42/33/27	47/42/30	50/45/33	51/46/32	53/48/36		
SOUND	Power Level (H/M/L)			42/36/34	51/42/36	56/51/39	59/54/42	60/55/41	62/57/45		
		Н		13	20	30	38	50	65		
ELECTRICAL	Power Input	М	w	9	13	20	25	31	40		
ELECTRICAL		L		7	9	11	13	12	16		
	Running Current (H)	Α	0.11	0.17	0.26	0.33	0.43	0.57		
		Н		316	431	565	749	863	1126		
	Cooling Water Flow Rate	М	L/h	244	329	487	614	729	960		
		L		193	251	333	432	496	638		
		Н		10	9.6	14.8	20	32.5	56.1		
	Cooling Pressure Drop	М	kPa	6.3	5.9	11.3	14	24	42.1		
HYDRONIC		L		4.1	3.6	5.7	7.4	12	20.2		
HIDKONIC		н		326	449	583	753	874	1138		
	Heating Water Flow Rate	М	L/h	253	342	498	612	745	977		
		L		199	261	343	431	504	647		
		Н		8.6	8.5	9.2	20.1	30.7	57.3		
	Heating Pressure Drop	М	kPa	5.5	5.2	7	13.9	23.1	43.5		
		L		3.6	3.2	3.6	7.4	11.4	20.7		

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/40C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



Hydronic Highwall, 4 Pipe with EC Motor

	PHW-[Size]-F	P-ECM		500	750
UNIT	Configurat	ion		4-p	ipe
GENERAL SPECS	Number of Fan	Blowe	rs	Sin	gle
	Power Supply (\	//Ph/H	łz)	220 - 240,	/1/50 - 60
		Н		788	1250
AIR	Total Air Flow	М	m3/h	600	1020
	7 7	L		380	600
		Н		3.15	4.91
	Total Cooling Capacity	М		2.58	4.18
	Capacity,	L		1.81	2.78
COOLING	Sensible Cooling Capacity	Н	kW	2.21	3.45
		М		1.79	2.9
		L		1.23	1.88
	HEATING Heating Capacity	Н		2.3	3.3
HEATING		М	kW	1.87	2.8
		L		1.32	1.87
COLIND	Pressure Level (H/M/L)		-ID(A)	50/45/33	53/48/36
SOUND	Power Level (H/M/	L)	dB(A)	59/54/42	62/57/45
		н	w	38	65
ELECTRICAL	Power Input	М		25	40
ELECTRICAL		L		13	16
	Running Current (F)	Α	0.33	0.57
		н		539	841
	Cooling Water Flow Rate	М	L/h	442	717
		L		311	477
		н		21.1	53.2
	Cooling Pressure Drop	М	kPa	14.8	39.9
HYDRONIC		L		7.8	19.1
HIDRONIC		Н		197	283
	Heating Water Flow Rate	М	L/h	161	240
		L		113	161
		Н		6.5	12.4
	Heating Pressure Drop	М	kPa	4.5	9.2
		L		2.4	4.5

EUROVENT TESTING CONDITIONS:

a. Cooling mode (4-pipe):

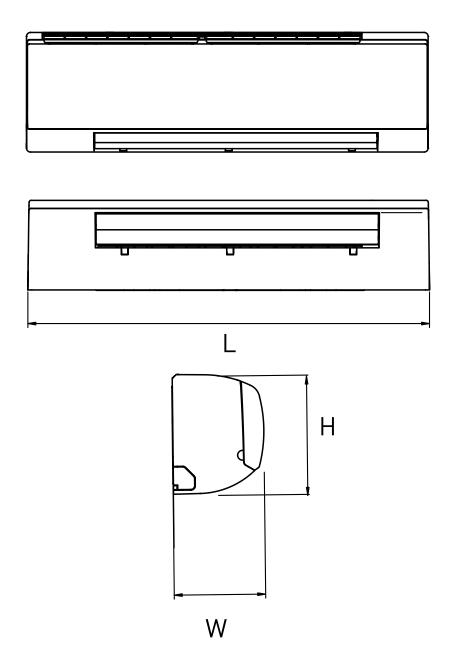
- Return air temperature: 27°C DB/19°C WB.
- Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (4-pipe):

- Return air temperature: 20°C
- Inlet water temperature: 65°C/55°C



DIMENSIONAL DRAWINGS, DATA & WEIGHTS



	PHW					400	500	600	750
Water Connections	Water	T	ype		nose)				
	In Out	mm	12.7 [1/2]						
AND PACKING	Diamage	е	[inch]	16 [5/8]					
DATA	Dimensions	L		1010 1175					75
		w	mm	230					
		Н				30	0		
WEIGHT	Net		kg	12	14	15	17	18	19







PCGH-3R - 4 WAY CASSETTE



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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. A 5-Speed motor with 3 speeds fixed also available.

Please refer to page 26 for further information about configurations.



FAN BLOWER

Backward-curved centrifugal fan, statically and dynamically balanced to operate at optimum 4 way airflow performance, energy efficiency and quiet operation. Fire-retardant plastic fan impellers for lightweight and corrosion-resistant operation.





CASING

Enclosure constructed from galvanized steel, integral fan mounting rails, and internal fire resistant insulation. Front panel is made from high impact polystyrene RAL 9010 ensuring durability and a sleek appearance.



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 PCGH-3R range is offered as a complete package including as standard items such as an integrated condensate pump, Internal drain pan, NBR insulation and G2 (MERV 4) filter. Furthermore, we offer multiple optional accessories.

KEY POINTS

- Plug and play control box
- Auto Dynamic Balancing with I-Control
- High Cooling capacity up to 15kW
- Integrated Sauermann condensate pump





ACCESSORIES

- IR Handset or Wired Wall Pad (Only with I-Control)
- Thermostat Controller
- Electric heater up to 3kW
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit
- Plastic Fresh Air Intake Flange
- G4 (MERV 8) filter

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





Hydronic 4 way Cassette, 3R, 2 Pipe with EC Motor

	PCG(H)-3R-[Size]-V-E	СМ	04	08	12	20	24				
UNIT	Configurat	ion				2-pipe						
GENERAL SPECS	Number of Fan	Blowe	rs	Single								
	Power Supply (\	//Ph/ŀ	łz)		220	0 - 240/1/50 -	60	2750 2540 1020 15 14.23 6.93 10.68 10.1 4.73 14.84 13.9 6.89				
		Н		575	810	1300	2040	2750				
AIR	Total Air Flow	М	m3/h	380	722	1050	1600	2540				
		L		200	200	360	820	1020				
		Н		3.61	4.91	7.22	11.12	15				
	Total Cooling Capacity			2.64	4.56	6.21	9.28	14.23				
COOLING		L	kW	1.61	1.65	2.65	5.54	6.93				
COOLING		Н	KVV	2.53	3.45	5.13	7.89	10.68				
	Sensible Cooling Capacity	М		1.81	3.2	4.38	6.51	10.1				
oupacity	L		1.08	1.13	1.82	3.79	4.73					
		Н		3.47	4.74	7.06	11.1	14.84				
	Heating Capacity	М		2.56	4.36	6.03	9.28	13.9				
Max. Electric F		L	kw	1.53	1.59	2.63	5.54	6.89				
	Max. Electric Heate Capacity	r		1	2	3	4	4				
SOUND	Pressure Level (H/M	/L)	dB(A)	43/39/27	50/40/26	56/53/32	58/54/35	64/61/41				
SOUND	Power Level (H/M/	Power Level (H/M/L)			59/49/35	65/62/41	67/63/44	73/70/50				
		н		21	47	82	140	220				
ELECTRICAL	Power Input	М	w	15	18	67	100	178				
ELECTRICAL		L		11	11	16	27	50				
	Running Current (F	l)	Α	0.18	0.41	0.71	1.22	1.91				
		Н		619	841	1238	1907	2571				
	Cooling Water Flow Rate	М	L/h	452	782	1057	1591	2440				
		L		276	284	453	950	1188				
		н		47.37	52.57	63.97	47.24	61.67				
	Cooling Pressure Drop	М	kPa	26.9	46.1	48.1	34.1	56.12				
HYDRONIC		L		11.1	7.42	10.49	13.49	15.36				
HIDRONIC		н		596	813	1210	1902	2545				
	Heating Water Flow Rate		L/h	438	747	1033	1860	2384				
		L		262	273	452	951	1182				
		Н		29.08	32.69	40.57	31.32	40.1				
	Heating Pressure Drop	М	kPa	16.74	28.05	30.5	22.7	35.64				
		L		6.64	4.58	6.88	8.98	10.08				

EUROVENT TESTING CONDITIONS:

a. Cooling conditions

- Return air temperature: 27°C DB/19°C WB.
- Inlet/ outlet water temperature: 7°C/12°C

b. Heating conditions

- Return air temperature: 20°C
- Inlet/Outlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



Hydronic 4 way Cassette, 3R, 4 Pipe with EC Motor

	PCG(H)-3R-[Size	:]-P-E	СМ	04	08	12	20	24			
UNIT	Configurat	ion				4-pipe					
GENERAL SPECS	Number of Fan	Blowe	rs		Single						
	Power Supply (\	//Ph/H	lz)		220	0 - 240/1/50 -	60				
		Н		575	810	1300	2040	2750			
AIR	Total Air Flow	М	m3/h	380	722	1050	1600	2540			
		L		200	200	360	820	1020			
		Н		2.85	3.82	5.51	8.4	11.31			
	Total Cooling Capacity	М		2.08	3.55	4.74	7.01	10.73			
COOLING		L	kW	1.27	1.29	2.02	4.19	5.22			
COOLING		Н	K VV	2.03	2.74	4.01	6.09	8.25			
	Sensible Cooling Capacity	М		1.45	2.54	3.42	5.02	7.8			
		L		0.87	0.9	1.42	2.93	3.65			
	Н		2.97	4	5.79	8.9	11.95				
HEATING	HEATING Heating Capacity	М	kW	2.18	3.68	4.94	7.44	11.19			
		L		1.31	1.34	2.16	4.44	5.55			
SOUND	Pressure Level (H/M	/L)	dB(A)	43/39/27	50/40/26	56/53/32	58/54/35	64/61/41			
	Power Level (H/M/L)		UD(A)	52/48/36	59/49/35	65/62/41	67/63/44	73/70/50			
		н		21	47	82	140	220			
ELECTRICAL	Power Input	М	w	15	18	67	100	178			
LLLOTRICAL		L		11	11	16	27	50			
	Running Current (F	D)	Α	0.18	0.41	0.71	1.22	1.91			
		н		488	655	945	1440	1939			
	Cooling Water Flow Rate	М	L/h	357	609	813	1201	1840			
		L		218	221	346	718	896			
		н		45.9	41.77	43.83	35.65	41.49			
	Cooling Pressure Drop	М	kPa	26.09	36.63	33.42	25.73	37.75			
HYDRONIC		L		10.72	5.9	7.19	10.18	10.33			
		н		254	343	496	762	1024			
	Heating Water Flow Rate	М	L/h	187	315	423	638	960			
		L		112	115	185	381	476			
		н		17.68	36.38	71.94	72.5	69.85			
	Heating Pressure Drop	М	kPa	10.18	31.21	54.09	52.55	62.09			
		L		4.03	5.09	12.2	20.79	17.57			

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

AC MOTOR CONFIGURATIONS



All of the above configurations are also available with a 5-speed PSC Motor, where you can pre-configure 3 fixed speeds for H/M/L.

The AC motor configurations are available with two types of control systems to adapt to the project needs:

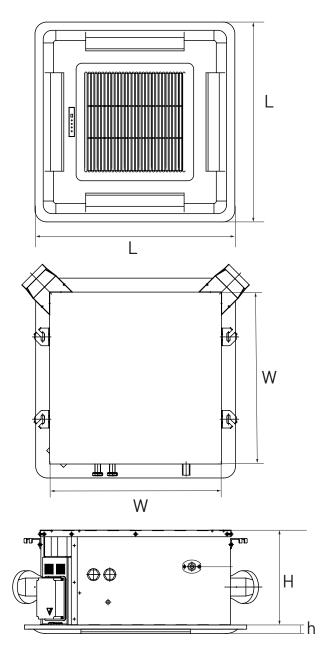
- Intelligent Control (I-control) offers complete control with integral Modbus RTU protocol or local control via IR handset or Wired Wall Pad
- Flexible Control (W-Control) offers a control for external thermostat applications, including control of drain pump, louvers, zone control product operations and limited LED diagnosis.



* AC Motor Configurations are Eurovent Certified.



DIMENSIONAL DRAWINGS, DATA & WEIGHTS



	PCGH			04	08	12	20	24	
CONSTRUCTION Conde	Water	Т	уре		PT	(Threaded Fem	nale)		
	Connections	In Out	mm			19.05 [3/4]			
	Condensat Drainage	е	[in]	25.4 (1)					
DATA	Unit Dimensions	w		58	32	730	830	960	
		Н		260	290	260	29	90	
	Panel	L	mm	68	30	830	980	1140	
	Dimensions	h		28		28	28	28	
WEIGHT	Net		kg	28	30	36	50	54	



PCSL - 1 WAY SLIM CASSETTE





FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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 tangential blower wheel 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.



QUIET OPERATION

Tangential fans mounted on anti-vibration supports provide smoother and consistent airflows, resulting in optimal acoustic comfort. This setup reduces noise and vibration, creating a quieter and more pleasant environment.





SLIM DESIGN CASING

With only 152mm high, it is especially recommended for residential and hospitality applications with lower fake ceilings to maximize the spaces. The front panel is made from high impact polystyrene RAL 9010 ensuring durability and a sleek appearance.



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 one way cassette is offered as a complete package including as standard items such as an integrated condensate pump, Internal drain pan, NBR insulation and G2 (MERV 4) filter. Furthermore, we offer multiple optional accessories.

KEY POINTS

- Auto Dynamic Balancing with I-Control
- Integrated Sauermann Condensate Pump
- Low energy consumption
- Compact design 152mm height



ACCESSORIES

- IR Handset or Wired Wall Pad (Only with I-Control)
- Thermostat Controller
- Electric heater up to 1kW
- 2 or 3 Way On/Off & Modulating Valves

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





Hydronic 1 way Slim Cassette, 2 Pipe with EC Motor

	PCSL-[Size]-	V-ECM	1	01	02
UNIT	Configurat	ion		2-p	ipe
GENERAL SPECS	Number of Fan	Blowe	ers	Sin	gle
	Power Supply (//Ph/I	Hz)	220 - 240,	/1/50 - 60
		Н		450	600
AIR	Total Air Flow	М	m3/h	350	450
		L		150	250
		Н		2.56	3.19
	Total Cooling Capacity	М		2.12	2.56
COOLING		L	kW	1.05	1.62
COOLING		Н	KVV	1.79	2.27
	Sensible Cooling Capacity	М		1.47	1.79
	L		0.73	1.11	
		Н		2.6	3.21
LIFATING	Heating Capacity	М	lou	2.15	2.6
HEATING	Max. Electric Heate	L	kw	1.08	1.65
		r		0.5	1
SOUND	Pressure Level (H/M/		dD(A)	35/31/26	38/35/29
SOUND	Power Level (H/M/	L)	dB(A)	44/40/35	47/44/38
		н		13	22
ELECTRICAL	Power Input	М	w	8	13
ELECTRICAL		L		4	5
	Running Current (F)	Α	0.11	0.19
		н		439	547
	Cooling Water Flow Rate	М	L/h	363	439
		L		180	278
		н		30.9	61.1
	Cooling Pressure Drop	М	kPa	29.3	41.2
HYDRONIC		L		8.3	18.1
HIDKONIC		н		445	551
	Heating Water Flow Rate		L/h	368	445
		L		185	283
		Н		26.7	39.2
P	Heating Pressure Drop	М	kPa	19	26.7
		L		6.4	11.8

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

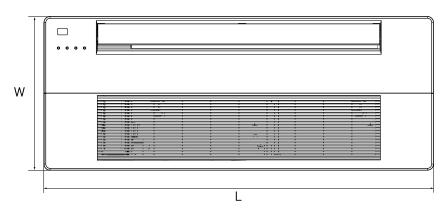
b. Heating mode (2-pipe):

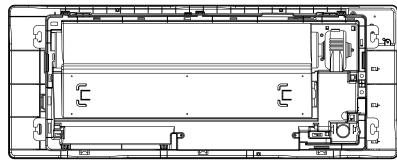
- Return air temperature: 20°C
- \bullet Inlet water temperature: 45°C/40°C

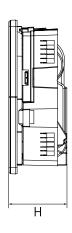
^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



DIMENSIONAL DRAWINGS, DATA & WEIGHTS







	PCSL		01 02
	Water	Туре	PT (Threaded Female)
	Connections	In Out mm	12.7 [1/2]
CONSTRUCTION AND PACKING	Condensat Drainage	e [in]	25.4 (1)
DATA		L	1182
	Dimensions	W mm	427
		н	152
WEIGHT	Net	kg	13.5



PDWSL - SLIM DUCTED



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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.





SLIM DESIGN

200mm low height design, perfect for reduced space concealed installations, Made from heavy-gauge galvanized steel panels with couplings for the connection of ducting and gravity drain pan with insulation for condensation.



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 PDWSL range is offered as a complete package including standard items such as an integrated Condensate Pump, 5 mm NBR Insulation, and G2 (MERV 4) filter. Furthermore, we offer multiple optional accessories.



 ϵ

- Slim design with 200mm height
- Integrated Sauermann condensate pump
- Auto Dynamic Balancing with I-Control
- Bottom or downwards air return



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 3kW
- Additional NBR Insulation up to 25mm
- Stainless Steel drain pan
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit

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



Hydronic Slim Ducted Unit, 3R, 2 Pipe with EC Motor

	PDWSL-3R-[Size]-V-E	СМ	01	02	03			
UNIT	Configurat	ion			2-pipe				
GENERAL SPECS	Number of Fan	Blowe	ers	2	3	4			
	Power Supply (\	//Ph/l	Hz)	220 - 240/1/50 - 60					
		Н		668	1018	1369			
AIR	Total Air Flow	М	m3/h	1044	778	516			
		L		552	389	253			
		Н		3.24	5.13	6.87			
	Total Cooling Capacity	М		5.58	4.16	2.66			
COOLING		L	kW	3.33	2.39	1.49			
COOLING		Н	KVV	2.32	3.67	4.92			
	Sensible Cooling Capacity	М		3.95	2.94	1.89			
	Sooning Suparity	L		2.31	1.66	1.05			
		Н		3.36	5.27	7.07			
HEATING	Heating Capacity	М	kW	5.80	4.27	2.76			
Max. Electric Heate	L	KVV	3.42	2.45	1.55				
	er		1	2	3				
	Pressure Level (Outl	et)		43/37/22	45/40/25	46/41/26			
COLIND	Pressure Level (Inlet + Radiated) Power Level (Outlet))	-ID(A)	46/40/25	48/43/28	49/44/29			
SOUND			dB(A)	52/46/31	54/49/34	55/50/35			
	Power Level (Inlet + Radiated)			55/49/34	57/52/37	58/53/38			
		н	w	42	70	84			
ELECTRICAL	Power Input	М		23	40	43			
ELECTRICAL		L		11	15	17			
	Running Current (F	I)	Α	0.37	0.61	0.73			
		Н		555	879	1178			
	Cooling Water Flow Rate	М	L/h	457	712	957			
		L		256	409	570			
		Н		41.3	44.3	41.6			
	Cooling Pressure Drop	М	kPa	29.1	30.3	28.6			
HYDRONIC		L		10.3	11.2	11.3			
HYDRONIC		н		576	903	1211			
	Heating Water Flow Rate		L/h	474	732	995			
		L		266	420	586			
		н		33.5	35.3	33.3			
	Heating Pressure Drop	М	kPa	23.6	24.2	23.3			
	Pressure Drop	L		8.3	8.9	9.0			

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
- \bullet Inlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



Hydronic Slim Ducted Unit, 3R+1 (Auxiliary Heating Coil), 4 Pipe with EC Motor

	PDWSL-3R+1-	[Size]-P	-ЕСМ	01	02	03	
UNIT	Configu	ıration			4-pipe		
GENERAL SPECS	Number of F	an Blow	rers	2	3	4	
	Power Suppl	y (V/Ph	/Hz)		220 - 240/1/50 - 60		
		Н		680	1026	1370	
AIR	Total Air Flow	М	m3/h	523	783	1044	
		L		273	412	551	
		Н		3.29	5.13	6.87	
	Total Cooling Capacity	М		2.69	4.20	5.58	
COOLING		L	kW	1.60	2.50	3.33	
COOLING	OCLING	Н	NVV	2.36	3.67	4.92	
	Sensible Cooling Capacity	М		1.92	2.97	3.95	
	L		1.12	1.74	2.31		
	EATING Heating Capacity	Н		2.70	4.18	5.66	
HEATING		М	kW	2.24	3.46	4.65	
	L		1.32	2.04	2.74		
Pressure Level (C	utlet)		43/37/22	45/40/25	46/41/26		
	Pressure Lev (Inlet + Radiat			46/40/25	48/43/28	49/44/29	
SOUND	Power Level (Ou		dB(A)	52/46/31	54/49/34	55/50/35	
	Power Leve (Inlet + Radiate			55/49/34	57/52/37	58/53/38	
	(Н		42	70	84	
	Power input	М	w	23	40	43	
ELECTRICAL		L		11	15	17	
	Running Current	: (H)	Α	0.37	0.61	0.73	
		н		564	879	1178	
	Cooling Water Flow Rate	М	L/h	462	720	957	
		L		275	429	570	
		н		42.6	44.3	41.6	
	Cooling Pressure Drop	М	kPa	29.7	30.9	28.6	
HVDDOME		L		11.7	12.2	11.3	
HYDRONIC		Н		232	359	485	
	Heating Water Flow Rate	М	L/h	192	297	399	
		L		113	175	235	
		н		14.6	6.8	14.6	
	Heating Pressure Drop	М	kPa	10.4	4.8	10.2	
		L		4.0	1.9	3.9	

EUROVENT TESTING CONDITIONS:

a. Cooling mode (4-pipe):

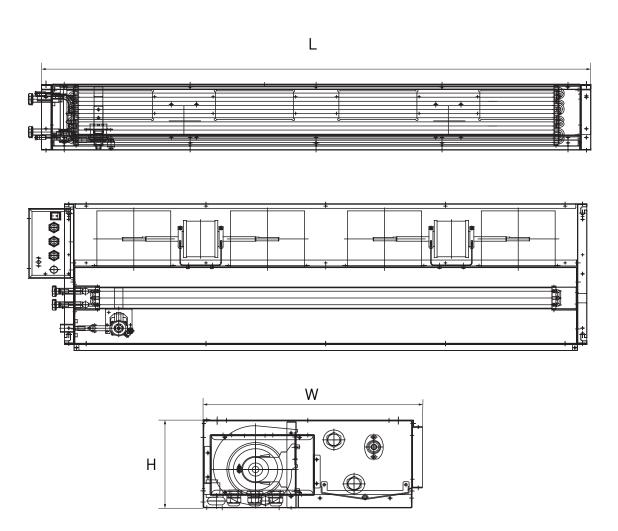
- Return air temperature: 27°C DB/19°C WB.
- Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (4-pipe):

- Return air temperature: 20°C
- Inlet water temperature: 65°C/55°C



DIMENSIONAL DRAWINGS, DATA & WEIGHTS



	PDWSL			01	02	03		
	Cooling Water	Ту	/pe	PT (Threaded Female)				
CONSTRUCTION	ConnectionsT	In Out n	nm[in]	19.05 [3/4]				
AND PACKING				25.4 (1)				
DATA	Dimensions	L		800	1235	1570		
		w	mm		470			
		н			200			
WEIGHT	Net	k	g	20	28	35		







PDWA - MEDIUM ESP DUCTED



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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 42 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 PDWA 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 130 Pa
- · Coil interchangeable on field
- 3, 4 and 6 Row 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 6kW
- 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.





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

	PDWA-3R-[S	Size]-V	-ECM	200	300	400B	500	600	800B	1000	1200	1400	1600
UNIT	Configu	uration						2-р	ipe				
GENERAL SPECS	Number of F	an Blo	wers	Sin	igle		Twin		Th	ree	Four	Three	Four
	Power Suppl	y (V/P	h/Hz)				22	20 - 240,	/1/50 - 6	50			
		Н		433	607	795	937	1074	1572	1829	1974	2850	3867
	Total Air Flow	М	m3/h	376	561	729	763	1010	1262	1608	1974	2839	3785
AID		L		382	504	654	779	950	1352	1497	1814	2203	3042
AIR		Н		58	54	59	55	62	56	52	60	60	57
	External Static Pressure	М	Pa					5	0				
		L		35	35	30	32	39	31	35	40	43	39
	Total	Н		2.47	3.36	4.18	4.95	5.51	8.63	9.16	9.93	13.99	16.98
	Cooling	М		2.23	3.17	3.92	4.25	5.27	7.30	8.30	9.93	13.99	16.79
COOLING	Capacity	L	kW	2.25	2.91	3.60	4.33	5.03	7.73	7.90	9.33	11.47	14.22
COOLING	Sensible	Н	N.VV	1.77	2.40	3.04	3.56	3.92	6.18	6.67	7.19	10.12	12.27
	Cooling	М		1.58	2.26	2.84	3.02	3.74	5.16	6.00	7.19	10.12	12.11
	Capacity	L		1.60	2.06	2.58	3.08	3.56	5.49	5.68	6.72	8.19	10.17
		Н		2.32	3.16	4.01	4.75	5.48	7.96	9.01	9.75	13.59	17.62
HEATING	Heating Capacity	М	L-VA/	2.10	2.97	3.76	4.08	5.23	6.74	8.23	9.75	13.50	17.32
HEATING		L	kW	2.12	2.75	3.48	4.12	4.98	7.14	7.80	9.20	11.15	14.70
	Max. Electric H Capacity	leater		2	3	4	í	5			6		
	Pressure Le (outlet)	vel		48/47/43	50/49/46	52/50/44	52/51/46	54/52/49	53/52/47	56/54/50	58/55/52	58/54/50	59/57/55
	Pressure Le			50/49/45	52/51/48	54/52/46	54/53/48	56/54/51	55/54/49	58/56/52	60/57/54	60/56/52	61/59/57
SOUND	Power Lev		dB(A)	57/56/52	59/58/55	61/59/53	61/60/55	63/61/58	62/61/56	65/63/59	67/64/61	67/63/59	68/66/64
	(outlet) Power Lev			59/58/54	61/60/57	63/61/55	63/62/57	65/63/60	64/63/58	67/65/61	69/66/63	69/65/61	70/68/66
	(Inlet + Radia	ted) H		53	63	83	96	102	150	180	224	363	380
	Power Input	M	w	43	52	58	68	84	128	147	190	286	310
ELECTRICAL	1 ower mput	L	•	26	31	35	49	62	84	94	113	170	190
	Running Curre		Α	0.46	0.55	0.72	0.83	0.89	1.30	1.57	1.95	3.16	3.30
		Н		424	576	717	849	944	1480	1570	1702	2398	2911
	Cooling Water Flow	М	L/h	382	544	672	729	903	1252	1423	1702	2398	2878
	Rate	L		385	499	617	742	862	1325	1354	1600	1967	2437
		н		25.8	49.5	26.5	38.7	50.4	66.8	26.0	31.4	67.8	103.3
	Cooling	М	kPa	21.4	44.6	23.6	29.4	46.6	49.4	21.8	31.4	67.8	101.2
	Pressure Drop	L	kPa	21.7	38.3	20.2	30.4	42.9	54.7	19.9	28.1	47.4	75.0
HYDRONIC		н		397	542	687	814	939	1364	1544	1672	2330	3021
	Heating Water Flow	М	L/h	359	509	645	699	897	1155	1412	1672	2314	2970
	Rate	L		363	471	596	706	853	1223	1337	1577	1912	2520
		н		17.5	33.9	18.6	27.5	38.4	44.5	19.3	23.4	49.8	85.8
	Heating Pressure Drop	М	kPa	14.6	30.3	16.6	20.9	35.4	33.0	16.4	23.4	49.2	83.2
	1 1 C33tal C D10p			14.8	26.3	14.4	21.3	32.3	36.6	14.9	21.1	34.9	61.9

EUROVENT TESTING CONDITIONS:

a. Cooling mode (2-pipe):

- Return air temperature: 27°C DB/19°C WB
- \bullet Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (2-pipe):

- Return air temperature: 20°C
- \bullet Inlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



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

	PDWA-3R+1-[Size]	-P-ECM	200	300	400	500	600	800	1000	1200	1400	1600
UNIT	Configu	ıratioı	n					4-p	oipe				
GENERAL SPECS	Number of F	an Bl	owers	Sin	gle		Twin		Th	ree	Four	Three	Four
	Power Supply	/ (V/F	Ph/Hz)				22	20 - 240	/1/50 - (60			
		Н		440	594	815	924	1125	1563	1774	2020	2907	3877
	Total Air Flow	М	m3/h	349	535	685	713	963	1176	1546	1907	2756	3675
AIR		L		263	393	385	541	795	928	1247	1595	2009	2679
	External Static Pressure	M L	Pa					5	50				
		Н		2.51	3.31	4.27	4.91	5.69	8.63	8.96	10.15	14.26	17.08
	Total Cooling	М		2.09	3.05	3.74	4.02	5.08	6.92	8.04	9.70	13.62	16.39
	Capacity	L		1.67	2.41	2.40	3.24	4.38	5.78	6.84	8.49	10.69	12.90
COOLING	Sensible	Н	kW	1.80	2.37	3.10	3.53	4.06	6.18	6.52	7.36	10.33	12.34
	Cooling	М		1.48	2.17	2.70	2.84	3.59	4.87	5.79	7.02	9.84	11.80
	Capacity	L		1.17	1.69	1.68	2.27	3.08	4.05	4.88	6.07	7.59	9.14
		Н		1.91	2.52	3.35	3.78	4.47	6.37	7.13	7.98	10.64	13.57
HEATING	Heating Capacity	М	kW	1.61	2.34	2.93	3.11	3.95	5.13	6.42	7.65	10.26	13.10
		L		1.29	1.83	1.87	2.52	3.43	4.28	5.42	6.61	8.03	10.25
	Pressure Lev (outlet)	/el		48/47/43	48/47/43	50/49/46	52/50/44	52/51/46	54/52/49	53/52/47	56/54/50	58/55/52	58/54/50
	Pressure Lev (Inlet + Radia)			50/49/45	50/49/45	52/51/48	54/52/46	54/53/48	56/54/51	55/54/49	58/56/52	60/57/54	60/56/52
SOUND	Power Leve (outlet)		dB(A)	57/56/52	59/58/55	61/59/53	61/60/55	63/61/58	62/61/56	65/63/59	67/64/61	67/63/59	68/66/64
	Power Leve			59/58/54	61/60/57	63/61/55	63/62/57	65/63/60	64/63/58	67/65/61	69/66/63	69/65/61	70/68/66
	(Inlet + Radiat	ea) H		53	63	83	96	102	150	180	224	363	380
	Power Input	м	w	43	52	58	68	84	128	147	190	286	310
ELECTRICAL		L		26	31	35	49	62	84	94	113	170	190
	Running Currer	ı <u>. </u>	Α	0.46	0.55	0.72	0.83	0.89	1.30	1.57	1.95	3.16	3.30
		н		430	568	732	842	975	1480	1536	1740	2444	2927
	Cooling Water Flow	М	L/h	359	524	642	689	871	1186	1378	1663	2334	2809
	Rate	L		287	413	411	555	750	992	1172	1456	1833	2211
		н		26.5	48.2	27.5	38.2	53.4	66.8	25.0	32.7	70.2	104.3
	Cooling Pressure Drop	М	kPa	19.1	41.7	21.7	26.6	43.6	44.9	20.5	30.2	64.6	96.9
HADDOVIIC		L		12.8	27.2	9.7	18.0	33.3	32.5	15.3	23.7	41.8	63.0
HYDRONIC	Heating	Н		164	216	287	324	383	546	611	684	912	1163
	Water Flow	М	L/h	138	200	251	266	339	440	551	656	879	1123
	Rate	L		111	157	160	216	294	367	464	566	688	878
		н		7.8	14.5	26.9	36.6	7.8	19.6	25.5	33.1	5.1	8.5
	Heating Pressure Drop	М	kPa	5.7	12.6	21.1	25.7	6.2	13.3	21.1	30.7	4.8	7.9
		L		3.9	8.2	9.4	17.6	4.8	9.6	15.6	23.6	3.1	5.1

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



3 Rows Cooling +1R Heating or or 4 Rows Cooling + 2R Heating Coils 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:

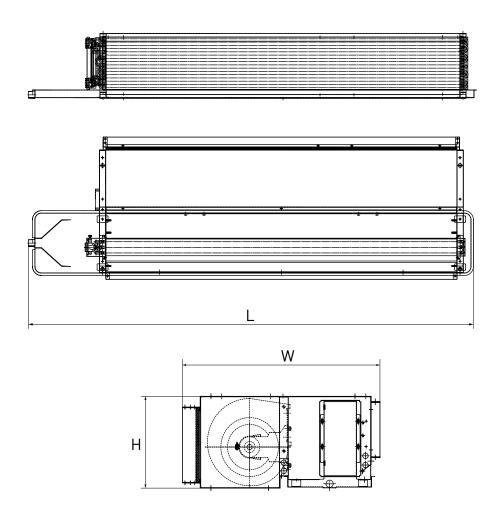
- Intelligent Control (I-control) offers complete control with integral Modbus RTU protocol or local control via IR handset or Wired Wall Pad.
- Flexible Control (W-Control) offers a control for external thermostat applications, including control of drain pump, louvers, zone control product operations and limited LED diagnosis.



* AC Motor Configurations are Eurovent Certified.



DIMENSIONAL DRAWINGS, DATA & WEIGHTS



	PDWA			200	300	400	500	600	800	1000	1200	1400	1600
	Water	T	ype				PT (Thread	ed Fem	nale)			
	Connections	In Out	mm					19.05	Γ 3/4 1				
	Condensat Drainage	е	[in]					.0.00	[0, .]				
CONSTRUCTION AND PACKING	Dimensions	L		755	855	955	1055	1155	1555	1655	1795	1655	2015
DATA	(3R, 4R and	w	mm				55	50				62	20
	3+1R)	Н					25	50				30	00
	Dimensions	L		755	855	955	1055	1155	1555	1655	1795	1655	2015
	(6R, 3+2R	w	mm				59	90				66	50
	and 4+2R)	Н					25	50				30	00
NET WEIGHTS	3R, 4R and 3+1R		. C	17	23	24	28	31	36	43	45	51	60
NET WEIGHTS	6R, 3+2R and 4+2R		kg	21	29	30	35	42	49	62	64	69	79

Note: For I-control models only, dimension "L" adds 100 mm.



PDWC - HIGH ESP DUCTED



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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





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.





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

	PDWC-3R-[S	ize]-\	/-ECM	400	500	600	800	1000	1400	1600	2000
UNIT	Configu	ratio	n				2-pip	е			
GENERAL SPECS	Number of F	an Bl	owers	Sin	gle			Twin			Four
	Power Supply	/ (V/F	Ph/Hz)			2.	20 - 240/1	/50 - 60			
		Н		604	835	1660	1918	2261	2677	2996	4422
	Total Air Flow	М	m3/h	584	716	1540	1955	2107	2487	2717	4143
AIR		L		635	556	993	1063	1203	1788	2036	3059
AIR		Н		89	68	65	67	72	69	63	69
	External Static Pressure	М	Pa	50	50	50	50	50	50	50	50
		L		22	15	9	7	7	12	18	14
	Total	Н		3.21	4.34	7.90	9.29	10.84	13.00	14.43	19.51
	Cooling	М		3.13	3.85	7.47	9.40	10.28	12.33	13.38	18.53
COOLING	Capacity	L	kW	3.32	3.16	5.37	5.93	6.63	9.49	10.70	14.75
COOLING	Sensible	Н	KVV	2.27	3.06	5.72	6.69	7.76	9.28	10.37	14.40
	Cooling	М		2.21	2.70	5.39	6.77	7.32	8.77	9.56	13.65
	Capacity	L		2.36	2.20	3.79	4.15	4.60	6.64	7.54	10.71
		Н		3.30	4.43	8.03	9.42	12.16	13.29	14.87	20.45
HEATING	Heating Capacity	М	kW	3.21	3.93	7.59	9.54	11.57	12.61	13.84	19.42
HEATING		L		3.41	3.23	5.47	6.01	7.50	9.82	11.09	15.46
	Max. Electric He Capacity	eater	kW		3				6		
	Pressure Lev (outlet)	rel		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 Lev (Inlet + Radiat		ĺ	57/53/48	59/56/46	59/57/50	61/59/50	59/55/48	62/60/50	63/61/53	67/65/55
SOUND	Power Leve		dB(A)	63/59/54	65/62/52	65/63/56	67/65/56	65/61/54	68/66/56	69/67/59	73/71/61
	(outlet) Power Leve			66/62/57	68/65/55	68/66/59	70/68/59	68/64/57	71/69/59	72/70/62	76/74/64
	(Inlet + Radiat	ed) H		152	202	195	281	310	413	477	637
	Power Input	M	w	84	121	137	208	151	246	304	461
ELECTRICAL	i olici iliput	L	"	32	34	62	65	70	72	108	142
	Running Curren		Α	1.32	1.76	1.70	2.44	2.70	3.59	4.15	5.54
		Н		550	744	1355	1593	1859	2229	2474	3344
	Cooling Water	M	L/h	536	659	1280	1611	1762	2114	2294	3176
	Flow Rate	L		569	542	920	1016	1136	1627	1834	2529
		н		17.1	31.8	54.9	48.6	39.8	61.2	41.0	43.2
	PRONIC Cooling Pressure Drop L Heating Water Flow Rate	М	kPa	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
HYDRONIC		н		566	759	1377	1616	2084	2278	2549	3505
		М	L/h	551	673	1301	1635	1984	2161	2372	3329
		L		584	553	937	1031	1285	1683	1902	2651
		н		14.9	27.7	37.5	32.1	40.7	53.9	33.4	28.3
	Heating	М	kPa	14.2	22.3	33.8	32.8	37.2	49.0	29.3	25.8
Р	Pressure Drop	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
- \bullet Inlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



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

	PDWC-3R+1-[Size]	-P-ECM	400	500	600	800	1000	1400	1600	2000
UNIT GENERAL	Configu	ratio	n				4-p	ipe			
SPECS	Number of F	an Bl	owers	Sin	gle			Twin			Four
	Power Supply	/ (V/F	Ph/Hz)				220 - 240	/1/50 - 60			
		Н		702	854	1693	1967	2350	2727	3005	4534
	Total Air Flow	М	m3/h	536	674	1440	1846	1983	2383	2616	3964
AIR		L		301	349	566	650	707	1078	1506	1935
	External Static Pressure	H M L	Pa				5	0			
	Total	Н		3.58	4.41	8.03	9.46	11.17	13.19	14.43	19.84
	Cooling	М		2.93	3.69	7.13	9.03	9.79	11.95	12.96	18.01
COOLING	Capacity	L	kW	1.85	2.20	3.47	4.03	4.33	6.43	8.51	10.27
COOLING	Sensible	Н	I KVV	2.56	3.12	5.81	6.81	8.00	9.42	10.37	14.65
	Cooling	М		2.06	2.58	5.13	6.49	6.93	8.46	9.22	13.23
	Capacity	L		1.27	1.51	2.39	2.76	3.02	4.40	5.91	7.32
		Н		3.05	3.67	6.69	7.84	9.27	10.68	11.94	16.86
HEATING	Heating Capacity	М	kW	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
	Pressure Lev (outlet)			55/50/45	56/53/43	56/54/47	58/56/47	56/52/45	59/57/47	60/58/50	64/62/52
SOUND	Pressure Lev (Inlet + Radia)	ed)	dB(A)	57/53/48	59/56/46	59/57/50	61/59/50	59/55/48	62/60/50	63/61/53	67/65/55
300115	Power Leve (outlet)	el	ub(A)	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 Leve (Inlet + Radiat			66/62/57	68/65/55	68/66/59	70/68/59	68/64/57	71/69/59	72/70/62	76/74/64
		Н		152	202	195	281	310	413	477	637
ELECTRICAL	Power Input	М	w	84	121	137	208	151	246	304	461
LLLCTRICAL		L		32	34	62	65	70	72	108	142
	Running Currer	it (H)	A	1.32	1.76	1.70	2.44	2.70	3.59	4.15	5.54
	Cooling	Н		614	756	1376	1621	1914	2262	2474	3401
	Water Flow Rate	М	L/h	502	633	1223	1548	1678	2049	2222	3087
	Rute	L		317	377	595	690	742	1101	1459	1761
	O CONTRACT	Н		20.9	32.8	56.5	50.1	41.9	62.8	41.0	44.5
	Cooling Pressure Drop	М	kPa	14.5	23.8	45.6	46.2	33.1	52.6	33.8	37.4
HYDRONIC		L		6.4	9.4	12.5	10.8	7.6	17.2	15.8	13.6
	Heating	Н		261	315	574	672	794	915	1023	1445
	Water Flow Rate	М	L/h	214	263	507	646	694	829	920	1298
	Rate	L		135	157	247	295	311	454	594	748
	11	Н		25.7	39.9	21.9	35.9	51.1	24.1	33.4	68.7
	Heating Pressure Drop	М	kPa	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:

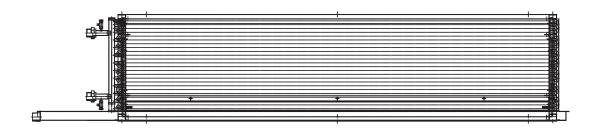
- Intelligent Control (I-control) offers complete control with integral Modbus RTU protocol or local control via IR handset or Wired Wall Pad.
- **Terminal Strip Control (T-Control)** provides a terminal block to allow operation of the fan from external thermostats or controllers provided by a third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

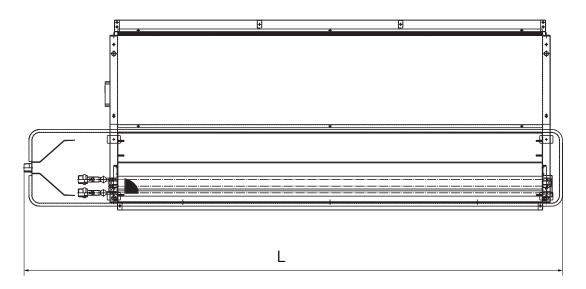


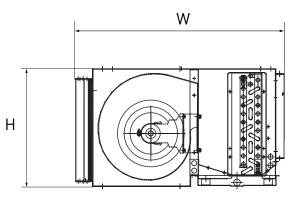
* AC Motor Configurations are Eurovent Certified.



DIMENSIONAL DRAWINGS, DATA & WEIGHTS







	PDWC			400	500	600	800	1000	1400	1600	2000
	Water	T	ype			PT	Γ (Thread	ed Femal	e)		
	Connections	In Out	mm				19.05	Γ 3 ///1			
CONSTRUCTION AND PACKING	Condensat Drainage						19.03	[3/4]			
DATA		L		1055	1155	1355	1355	1455	1655	1855	2215
	Dimensions	W	mm				62	20			
		Н			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: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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.



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

	PDWD-3R-[Size]-V-E(СМ	400	800	1200	1600	2000
UNIT GENERAL	Configurat	ion				2-pipe		
SPECS	Number of Fan	Blowe	ers	Single		Twin		Four
	Power Supply (V	/Ph/H	lz)		220) - 240/1/50 -	60	
		Н		892	2064	2799	3062	6125
	Total Air Flow	М	m3/h	727	1955	2487	2717	5434
AIR		L		402	741	1249	1650	3300
	External Static Pressure	H M L	Pa			50		
		Н		4.53	9.51	12.66	14.34	25.55
	Total Cooling Capacity	М		3.86	9.09	11.59	13.04	23.34
COOLING		L	kW	2.43	4.31	6.78	8.83	16.03
COOLING		Н		3.25	6.91	9.18	10.34	18.82
	Sensible Cooling Capacity	М		2.74	6.59	8.36	9.31	17.10
		L		1.68	2.98	4.74	6.18	11.46
		Н		4.59	9.77	13.05	14.91	26.58
LIFATING	Heating Capacity	М	LAM	3.91	9.33	11.95	13.56	24.26
HEATING		L	kW	2.46	4.43	6.99	9.19	16.66
	Max. Electric Heate Capacity			3	3	6	9	9
	Pressure Level (Outl	et)		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
SOUND	Power Level (Outle	t)	dB(A)	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
		Н		202	281	310	477	672
=1 = 0 = D1 0 A1	Power Input	М	w	121	208	151	304	546
ELECTRICAL		L		34	65	70	108	280
	Running Current (H)	A	1.76	2.44	2.70	4.15	5.84
		Н		777	1630	2170	2458	4379
	Cooling Water Flow Rate	М	L/h	661	1558	1986	2235	4002
		L		416	740	1162	1514	2748
		Н		38.6	49.4	56.6	38.4	70.5
	Cooling Pressure Drop HYDRONIC Heating Water Flow Rate	М	kPa	28.9	45.5	48.2	32.4	59.9
HYDRONIC		L		12.6	11.9	18.4	16.1	30.5
HIDRONIC		Н		787	1674	2238	2556	4556
		М	L/h	669	1600	2048	2325	4158
		L		422	760	1198	1575	2856
		Н		29.7	39.5	45.8	31.6	57.9
	Heating Pressure Drop	М	kPa	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



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

	PDWD-3R+1-[Siz	e]-P-E	СМ	400	800	1200	1600	2000
UNIT	Configurat	ion				4-pipe		
GENERAL SPECS	Number of Fan	Blowe	rs	Single		Twin		Four
	Power Supply (V	//Ph/H	łz)		220	0 - 240/1/50 -	60	
		Н		862	1967	2727	3005	6010
	Total Air Flow	М	m3/h	685	1846	2383	2616	5233
AIR		L		349	650	1078	1506	3012
	External Static Pressure	H M L	Pa			50		
	Total	Н		4.42	9.14	12.45	14.12	25.06
	Cooling	М		3.71	8.73	11.18	12.70	22.73
60011116	Capacity	L	1300	2.18	3.89	6.12	8.20	14.89
COOLING		Н	kW	3.16	6.63	9.01	10.17	18.53
	Sensible Cooling Capacity	М		2.62	6.32	8.06	9.05	16.62
		L		1.49	2.68	4.24	5.69	10.59
		Н		3.73	7.63	10.26	11.69	20.85
HEATING	Heating Capacity	М	kW	3.13	7.29	9.22	10.52	18.93
		L		1.84	3.25	5.04	6.79	12.40
	Pressure Level (Outl	et)		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
SOUND	Power Level (Outle	t)	dB(A)	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
	(н		202	281	310	477	672
	Power Input	М	w	121	208	151	304	546
ELECTRICAL		L		34	65	70	108	280
	Running Current (F)	Α	1.76	2.44	2.70	4.15	5.84
		Н		757	1567	2133	2421	4295
	Cooling Water Flow Rate	М	L/h	635	1497	1917	2177	3896
		L		374	667	1049	1406	2552
		Н		36.9	46.0	54.9	37.4	68.1
	Cooling Pressure Drop	М	kPa	26.9	42.4	45.3	30.9	57.1
HYDRONIC		L		10.3	9.9	15.3	14.1	26.7
HTDRONIC .		Н		320	654	879	1002	1787
	Heating Water Flow Rate	М	L/h	268	625	790	901	1622
		L		158	279	432	582	1063
		Н		41.3	30.8	61.7	30.2	103.6
	Heating Pressure Drop	М	kPa	30.1	28.4	50.9	25.0	87.0
	Pressure Drop	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



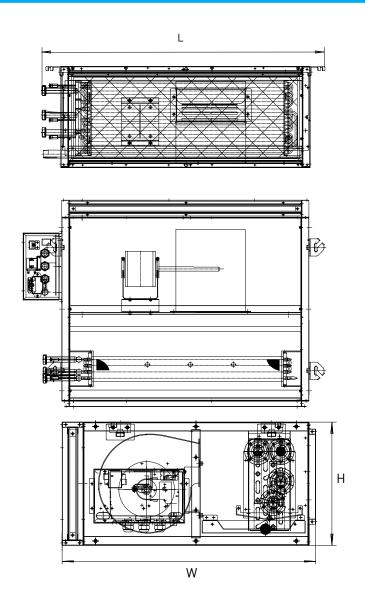
4 Rows Cooling +2 Row Heating Coil configurations are available for 4 pipe systems where more heating is required. Other advantages include:

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			
	Water	Ty	ype		PT (Threaded Fem	ale)				
	Connections	In Out	mm		19.05	[3/4]		25.4 (1)			
CONSTRUCTION AND PACKING	Condensate Drainage	е	[in]			19.05 [3/4]					
DATA		L		945	1145	1345	1645	2005			
	Dimensions	w	mm	720	780						
		н		350		40	00				
NET WEIGHTS	3R, 4R and 3+1R	ļ	kg	52	57	66	73	84			
	6R and 4+2R		57	63	73	81	91				



HAHU - HORIZONTAL MINI AIR HANDLING UNIT



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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

Galvanized steel housing center plate fixed impeller, with riveting compression on the end ring and galvanized steel sheet mounting feet to ensure adequate strength, All impellers and motors are fully balanced according to ANSI/AMCA-204 standard for smooth and quiet operation.







Made from frameless integrated folded steel structure, it uses a sandwich panel consisting of two walls with high-pressure PU foam inner insulation. 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 Horizontal Mini Air Handling unit range is offered as a complete package including standard items such as the internal drain pan, double sándwich panel insulation of 10mm + 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 350 Pa.
- Compact dimension with Cooling capacity more than 60 kW and 9000 m3/h of airflow available.
- Internal Drain Pan





ACCESSORIES

- IR Handset or Wired Wall Pad (Available with I-Control)
- Thermostat Controller (Available with W-Control)
- G4 (Merv 8) or F8 (MERV 14) Filters
- Electric heater up to 9kW
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit
- Integrated Condensate Pump
- Supply/Return air Plenum
- Stainless Steel Drain Pan

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



Hydronic Horizontal Mini Air Handling Unit, 5R, 2 Pipe with EC Motor

	HAHU-5R-[Size]	-V-EC	М	200	300	400	600	800
UNIT GENERAL	Configurat	ion				2-pipe		
SPECS	Number of Fan	Blowe	rs		1		2	2
	Power Supply (V	/Ph/H	łz)		220) - 240/1/50 -	60	
		Н		2222	3160	4093	6321	8186
	Total Air Flow	М	m3/h	1912	2703	3495	5407	6990
AIR		L		1361	1916	2475	3833	4950
	External Static Pressure	H M L	Pa			120		
	Total	Н		14.67	20.89	26.13	40.34	50.83
	Cooling	М		13.06	18.51	23.07	35.74	44.88
COOLING	Capacity	L	kW	10.09	14.13	17.62	27.28	34.27
COOLING		Н	KVV	10.27	14.50	18.40	28.29	35.80
	Sensible Cooling Capacity	М		9.09	12.72	16.06	24.81	31.25
		L		6.91	9.59	12.13	18.70	23.60
		Н		13.66	19.36	24.70	37.81	48.10
HEATING	Heating Capacity	М	kW	12.16	17.15	21.81	33.49	42.47
HEATING		L		9.40	13.09	16.65	25.57	32.43
	Max. Electric Heate Capacity		kW	4.5	6	7.5	(9
	Pressure Level (Outl	et)		73/68/64	78/73/69	80/75/71	81/76/72	83/78/73
201112	Pressure Level (Inlet + Radiated) Power Level (Outle		de (a)	70/65/61	75/70/66	77/72/68	78/73/69	80/75/70
SOUND		t)	dB(A)	82/77/73	87/82/78	89/84/80	90/85/81	92/87/82
	Power Level (Inlet + Radiated)			79/74/70	84/79/75	86/81/77	87/82/78	89/84/79
		н		412	850	1015	1700	2030
	Power Input	М	w	375	650	850	1,300	1,530
ELECTRICAL		L		320	350	500	700	1000
	Running Current (H)	A	3.58	7.39	8.83	14.78	17.65
		Н		2514	3582	4480	6916	8714
	Cooling Water Flow Rate	М	L/h	2239	3173	3955	6126	7694
		L		1730	2422	3020	4677	5874
		Н		29.9	64.2	30.1	48.5	43.5
	Cooling Pressure Drop HYDRONIC Heating Water Flow Rate	М	kPa	24.3	51.6	24.0	39.0	34.7
HYDRONIC		L		15.3	31.7	14.8	24.0	21.4
HIDRONIC		Н		2342	3318	4234	6482	8246
		М	L/h	2085	2939	3739	5741	7281
		L		1611	2244	2854	4383	5559
		Н		22.1	47.1	22.8	36.3	33.2
	Heating Pressure Drop	М	kPa	17.9	37.9	18.2	29.2	26.5
		L		11.3	23.3	11.2	17.9	16.3

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



Hydronic Horizontal Mini AHU, 5R+2 (Auxiliary Heating Coil), 4 Pipe with EC Motor

	HAHU-5R+2-[Size	e]-P-E	СМ	200	300	400	600	800
UNIT	Configurat	ion				4-pipe		
GENERAL SPECS	Number of Fan	Blowe	ers		1			2
	Power Supply (\	/Ph/H	łz)		220	0 - 240/1/50 -	60	
		Н		1999	3000	3942	6000	7884
	Total Air Flow	М	m3/h	1773	2603	3400	5206	6801
AIR		L		1286	1862	2424	3724	4847
	External Static Pressure	H M L	Pa			120		
	Total	Н		13.46	20.00	25.37	38.62	49.35
	Cooling	М		12.36	18.05	22.67	34.86	44.10
COOLING	Capacity	L	Lanz	9.63	13.78	17.40	26.61	33.84
COOLING		Н	kW	9.39	13.86	17.84	27.02	34.71
	Sensible Cooling Capacity	М		8.54	12.38	15.76	24.14	30.67
		L		6.58	9.35	11.97	18.23	23.29
		Н		13.28	19.15	24.65	37.25	47.26
HEATING	Heating Capacity	М	kW	12.19	17.28	22.03	33.62	42.23
		L		9.50	13.20	16.90	25.67	32.40
	Pressure Level (Outl	et)		73/68/64	78/73/69	80/75/71	81/76/72	83/78/73
	Pressure Level (Inlet + Radiated)			70/65/61	75/70/66	77/72/68	78/73/69	80/75/70
SOUND	(Inlet + Radiated) Power Level (Outlet	t)	dB(A)	82/77/73	87/82/78	89/84/80	90/85/81	92/87/82
	Power Level (Inlet + Radiated)			79/74/70	84/79/75	86/81/77	87/82/78	89/84/79
		н		412	850	1015	1700	2030
	Power Input	М	w	375	650	850	1,300	1,530
ELECTRICAL		L		320	350	500	700	1000
	Running Current (F)	Α	3.58	7.39	8.83	14.78	17.65
		Н		2308	3428	4349	6620	8460
	Cooling Water Flow Rate	М	L/h	2118	3095	3887	5976	7560
		L		1650	2363	2982	4562	5801
		Н		25.7	59.3	28.5	44.8	41.2
	Cooling Pressure Drop	М	kPa	22.0	49.3	23.3	37.3	33.7
HADDONIC		L		14.0	30.4	14.5	22.9	20.9
HYDRONIC		Н		1138	1641	2113	3193	4051
	Heating Water Flow Rate	М	L/h	1045	1481	1888	2882	3620
		L		814	1131	1448	2200	2778
		Н		15.0	34.4	16.6	48.8	26.7
	Heating Pressure Drop	М	kPa	12.9	28.6	13.6	40.6	21.8
	Pressure Drop	L		8.2	17.6	8.4	25.0	13.5

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



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



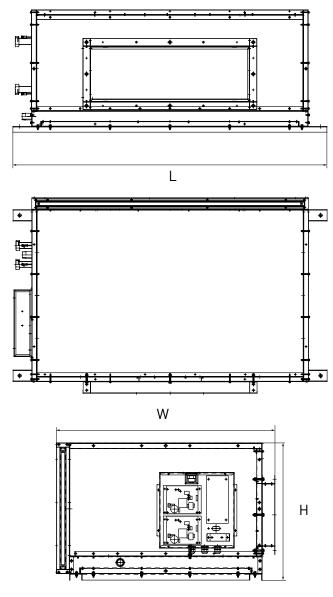
6 Rows Cooling +2 Row Heating Coil configurations are available for 4 pipe systems where more heating is required. Other advantages include:

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



	HAHU			200	300	400	600	800	
	Water	T	/pe		PT	(Threaded Fem	nale)		
	Connections	In Out	mm			31.75 (1 1/4)			
CONSTRUCTION	Condensate Drainage Connection		[in]			25.4 (1)			
AND PACKING DATA	Heating Water Connections (4P Only)	In Out	mm [in]			25.4 (1)			
		L		1280	1480	1680	1930	2130	
	Dimensions	W	mm		112	20		1190	
		Н			640		75	54	
WEIGHT	Net	ŀ	(g	From 150 to From 175 to From 186 to From 223 to From 225 165 185 210 250 283					



VAHU - VERTICAL MINI AIR HANDLING UNIT



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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

Galvanized steel housing center plate fixed impeller, with riveting compression on the end ring and galvanized steel sheet mounting feet to ensure adequate strength, All impellers and motors are fully balanced according to ANSI/AMCA-204 standard for smooth and quiet operation.



STRUCTURE



Made from frameless integrated folded steel structure, it uses a sandwich panel consisting of two walls with high-pressure PU foam inner insulation. 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 Vertical Mini Air Handling unit range is offered as a complete package including standard items such as the internal drain pan, double sándwich panel insulation of 10mm + 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 350 Pa
- Suitable for special applications with Cooling capacity up to 55 kW and 9000 m3/h of airflow available
- Upflow or downflow discharge
- Internal Drain Pan





ACCESSORIES

- IR Handset or Wired Wall Pad (Available with I-Control)
- Thermostat Controller (Available with W-Control)
- G4 (Merv 8) or F8 (MERV 14) Filters
- Electric heater up to 9kW
- 2 or 3 Way On/Off & Modulating Valves
- Belimo Valve Kit
- Stainless Steel Drain Pan

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



Hydronic Vertical Mini Air Handling Unit, 5R, 2 pipe with EC Motor

	VAHU-5R-[Size]	СМ	200	300	400	600	800		
UNIT GENERAL	Configuration								
SPECS	Number of Fan	Blowe	ers		1	2			
	Power Supply (V	lz)	220 - 240/1/50 - 60						
		Н		2222	3160	4093	6321	8186	
	Total Air Flow	М	m3/h	1912	2703	3495	5407	6990	
AIR		L		1361	1916	2475	3833	4950	
	External Static Pressure	I M				120			
	Total	н		14.62	20.68	26.34	38.46	50.52	
	Cooling	М		13.02	18.32	23.26	34.06	44.61	
COOLING	Capacity	L	kW	10.06	13.98	17.76	26.00	34.06	
COOLING	Sensible	Н	l KW	10.20	14.46	18.44	27.16	35.49	
	Cooling	М		9.02	12.68	16.10	23.82	30.98	
	Capacity	L		6.86	9.56	12.16	17.95	23.39	
		Н		13.55	19.20	24.70	36.64	47.64	
HEATING	Heating Capacity	М	Lagr	12.07	17.00	21.81	32.46	42.06	
		L	kW	9.32	12.98	16.65	24.78	32.11	
	Max. Electric Heater Capacity			4.5	6	7.5	Ç	9	
	Pressure Level (Outl	dB(A)	73/68/64	78/73/69	80/75/71	81/76/72	83/78/73		
201115	Pressure Level (Inlet + Radiated)		70/65/61	75/70/66	77/72/68	78/73/69	80/75/70		
SOUND	Power Level (Outle		82/77/73	87/82/78	89/84/80	90/85/81	92/87/82		
	Power Level (Inlet + Radiated)		79/74/70	84/79/75	86/81/77	87/82/78	89/84/79		
		Н		412	850	1015	1700	2030	
ELECTRICAL	Power Input	М	w	375	650	850	1300	1530	
ELECTRICAL		L		320	350	500	700	1000	
	Running Current (H	A	3.58	7.39	8.83	14.78	17.65		
		Н		2506	3545	4516	6592	8661	
	Cooling Water Flow Rate	М	L/h	2232	3140	3987	5840	7647	
		L		1725	2397	3044	4458	5838	
		Н		54.0	64.8	38.0	38.3	73.6	
	Cooling Pressure Drop	М	kPa	43.8	52.1	30.4	30.8	58.8	
HYDRONIC		L		27.5	32.1	18.7	18.9	36.2	
HYDRONIC		Н		2323	3291	4234	6282	8166	
	Heating Water Flow Rate	М	L/h	2068	2915	3739	5564	7210	
		L		1598	2225	2854	4247	5505	
		Н		39.8	47.9	28.5	29.5	56.1	
	Heating Pressure Drop	М	kPa	32.3	38.5	22.8	23.7	44.9	
		L		20.3	23.7	14.0	14.6	27.6	

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



Hydronic Vertical Air Handling Unit, 5R+2 (Auxiliary Heating Coil), 4 Pipe with EC Motor

	VAHU-5R+2-[Size	e]-P-E	СМ	200	300	400	600	800			
UNIT	Configuration			4 pipe							
GENERAL SPECS	Number of Fan	Blowe	rs		1	2	2				
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60							
AIR		Н		1999	3000	3942	6000	7884			
	Total Air Flow	М	m3/h	1773	2603	3400	5206	6801			
		L		1286	1862	2424	3724	4847			
	External Static Pressure L		Pa			120					
	Total	н		13.42	19.80	25.57	36.81	49.05			
	Cooling	М		12.32	17.87	22.85	33.23	43.83			
COOLING	Capacity	L	Lanz	9.60	13.64	17.53	25.37	33.63			
COOLING		Н	kW	9.32	13.82	17.88	25.95	34.41			
	Sensible Cooling Capacity	М		8.48	12.34	15.80	23.18	30.41			
		L		6.53	9.32	12.00	17.50	23.09			
	Heating Capacity	Н		12.87	21.38	24.78	35.47	46.45			
HEATING		М	kW	11.82	19.30	22.15	32.02	41.51			
		L		9.20	14.73	16.99	24.45	31.85			
	Pressure Level (Outl	dB(A)	73/68/64	78/73/69	80/75/71	81/76/72	83/78/73				
	Pressure Level (Inlet + Radiated)		70/65/61	75/70/66	77/72/68	78/73/69	80/75/70				
SOUND	Power Level (Outle		82/77/73	87/82/78	89/84/80	90/85/81	92/87/82				
	Power Level (Inlet + Radiated)		79/74/70	84/79/75	86/81/77	87/82/78	89/84/79				
		н		412	850	1015	1700	2030			
ELECTRICAL	Power Input	М	w	375	650	850	1300	1530			
ELECTRICAL		L		320	350	500	700	1000			
	Running Current (H) A			3.58	7.39	8.83	14.78	17.65			
		н		2301	3393	4384	6310	8408			
	Cooling Water Flow Rate	М	L/h	2112	3063	3918	5696	7514			
		L		1645	2339	3006	4349	5765			
		Н		46.3	59.9	36.1	35.4	69.7			
	Cooling Pressure Drop	М	kPa	39.7	49.8	29.5	29.4	57.0			
HYDRONIC		L		25.3	30.7	18.3	18.1	35.4			
HIDRONIC		Н		1103	1832	2124	3041	3981			
	Heating Water Flow Rate	М	L/h	1013	1654	1898	2745	3558			
		L		789	1263	1456	2095	2730			
		Н		8.6	21.3	39.1	38.6	74.8			
	Heating Pressure Drop	М	kPa	7.3	17.7	32.0	32.1	61.1			
		L		4.7	10.9	19.8	19.8	37.9			

EUROVENT TESTING CONDITIONS:

a. Cooling mode (4-pipe):

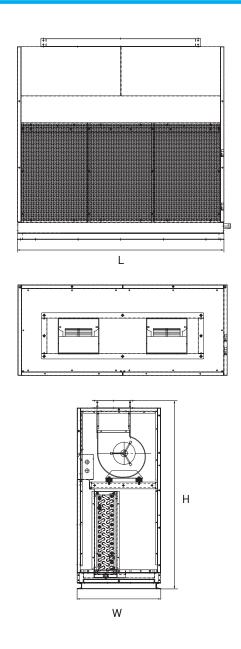
- Return air temperature: 27°C DB/19°C WB.
- Inlet/ outlet water temperature: 7°C/ 12°C

b. Heating mode (4-pipe):

- Return air temperature: 20°C
- Inlet water temperature: 65°C/55°C



DIMENSIONAL DRAWINGS, DATA & WEIGHTS



	VAHU			200	300	400	600	800				
	Cooling	Ty	/pe	PT (Threaded Female)								
	Water Connections	In Out	mm	31.75 1 [1/4]								
CONSTRUCTION	Condensate Drainage Connection		[in]	25.4 [1]								
AND PACKING DATA	Heating Water Connections (4P Only)	In Out	mm [in]			25.4 [1]						
	Dimensions	L		850	1050	1250	1550	1880				
		w	mm	670								
		Н				1510						







PFWBC - UNIVERSAL FLOORSTANDING



FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) controlled via Infra-red handset and/or Intelligent wired wall pad or <u>Flexible control</u> (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.





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

	PFWB(C)-3R-[Size]	-V-ECM	06	09	12	15	18	24	30	36	40	
UNIT GENERAL	Configu	ratio	1	2-pipe									
SPECS	Number of F	an Bl	owers	Single Twin Four									
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60									
	Total Air Flow	Н	m3/h	350	504	677	840	970	1350	1624	1988	2266	
AIR		М		280	432	540	697	827	1170	1440	1710	2034	
		L		210	342	380	434	492	676	740	890	950	
	Total	Н		1.83	2.56	3.32	4.22	4.90	6.74	8.04	9.33	10.67	
	Cooling Capacity	М		1.57	2.28	2.83	3.68	4.31	6.05	7.43	8.40	9.91	
COOLING	Capacity	L	kW	1.25	1.91	2.15	2.56	2.90	3.94	4.40	5.02	5.55	
COOLING	Sensible	Н	NVV	1.31	1.84	2.40	3.03	3.48	4.84	5.75	6.79	7.70	
	Cooling Capacity	М		1.11	1.62	2.02	2.62	3.04	4.30	5.26	6.05	7.12	
	Capacity	L		0.87	1.35	1.52	1.78	2.00	2.73	3.03	3.51	3.84	
		Н		2.02	2.82	3.73	4.66	5.37	7.45	8.79	10.47	11.84	
HEATING	Heating Capacity	М	kW	1.73	2.52	3.17	4.08	4.75	6.71	8.08	9.45	11.00	
HEATING		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				
COLIND	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	
SOUND	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	
	Power Input	Н	w	17	26	38	44	52	87	100	128	182	
ELECTRICAL		М		13	15	23	30	36	60	71	92	147	
ELECTRICAL		L		8	11	12	13	14	22	24	28	30	
	Running Current (H) A		Α	0.15	0.23	0.33	0.38	0.45	0.76	0.87	1.11	1.58	
	Cooling	Н		314	439	569	724	839	1156	1378	1599	1830	
	Water Flow	М	L/h	269	390	485	632	740	1038	1274	1440	1698	
	Rate	L		214	327	368	439	498	676	754	860	951	
		Н		11.8	22.2	13.5	23.8	31.7	32.3	47.8	22.6	30.7	
	Cooling Pressure Drop	М	kPa	8.9	18.0	10.1	18.6	25.3	26.6	41.5	18.7	26.9	
HYDRONIC		L		5.9	13.1	6.2	9.7	12.4	12.3	16.2	7.4	9.5	
TITORONIC	Heating	Н		347	484	640	799	920	1278	1507	1795	2029	
	Water Flow	М	L/h	296	432	544	700	814	1151	1385	1620	1886	
	Rate	L		238	360	410	481	546	760	821	985	1051	
		Н		13.2	25.0	15.9	27.0	36.0	36.4	54.4	26.0	35.4	
	Heating Pressure Drop	М	kPa	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
- \bullet Inlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



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

	PFWB(C)-3R+1-	[Size]	-P-ECM	06	09	12	15	18	24	30	36	40		
UNIT	Configu	ration		4-pipe										
GENERAL SPECS	Number of Fan Blowers			Single Twin Four										
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60										
	Total Air Flow	Н	m3/h	350	504	677	840	970	1350	1624	1988	2266		
AIR		М		280	432	540	697	827	1170	1440	1710	2034		
		L		210	342	380	434	492	676	740	890	950		
	Total	Н		1.83	2.56	3.32	4.22	4.90	6.74	8.04	9.33	10.67		
	Cooling	М		1.57	2.28	2.83	3.68	4.31	6.05	7.43	8.40	9.91		
COOLING	Capacity	L	kW	1.25	1.91	2.15	2.56	2.90	3.94	4.40	5.02	5.55		
COOLING	Sensible	Н	KVV	1.31	1.84	2.40	3.03	3.48	4.84	5.75	6.79	7.70		
	Cooling	М		1.11	1.62	2.02	2.62	3.04	4.30	5.26	6.05	7.12		
	Capacity	L		0.87	1.35	1.52	1.78	2.00	2.73	3.03	3.51	3.84		
	Heating Capacity	Н	kW	1.69	2.29	3.06	3.81	4.27	5.90	6.99	8.40	9.55		
HEATING		М		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/	H/M/L)		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/I	M/L)	UB(A)	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		
		Н		17	26	38	44	52	87	100	128	182		
ELECTRICAL	Power Input	М	w	13	15	23	30	36	60	71	92	147		
ELECTRICAL		L		8	11	12	13	14	22	24	28	30		
	Running Current (H)		Α	0.15	0.23	0.33	0.38	0.45	0.76	0.87	1.11	1.58		
	Cooling	н		314	439	569	724	839	1156	1378	1599	1830		
	Water Flow Rate	М	L/h	269	390	485	632	740	1038	1274	1440	1698		
	Rate	L		214	327	368	439	498	676	754	860	951		
		н		11.8	22.2	13.5	23.8	31.7	32.3	47.8	22.6	30.7		
	Cooling Pressure Drop	М	kPa	8.9	18.0	10.1	18.6	25.3	26.6	41.5	18.7	26.9		
HYDRONIC		L		5.9	13.1	6.2	9.7	12.4	12.3	16.2	7.4	9.5		
	Heating	н		145	196	262	326	366	506	599	720	819		
	Water Flow	М	L/h	122	173	223	285	329	458	549	645	752		
	Rate	L		98	147	169	196	221	300	328	392	424		
		н		6.0	11.0	21.8	37.5	48.2	15.8	23.6	35.9	49.0		
	Heating Pressure Drop	М	kPa	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

WITH CASING WITH CASING WITH CASING

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



PFWSLN - SLIM FLOORSTANDING





FEATURES



CONTROL FLEXIBILITY

Two types of control system: <u>Intelligent control board</u> (I-Control) with standard built-in control board or <u>Flexible control</u> (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.



QUIET OPERATION

Tangential fans mounted on anti-vibration supports provide smoother and more steady airflows, resulting in optimal acoustic comfort. This setup with the number of speeds of the fan creates a guieter and more pleasant environment.

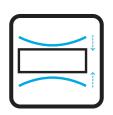


ENERGY EFFICIENT MOTORS

EC motors allow the tangential blower wheel 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.



SLIM DESIGN



The structure is made of galvanized sheet-steel with holes for attaching the structure to the wall/ceiling. Fire resistant insulation is fitted internally to provide both thermal and acoustic insulation. It has an elegant and modern design, with only 135 mm width especially recommended for residential and hospitality 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 25 bar, with recommended operating limits at 8 bar.



READY TO INSTALL

The slim floostanding range is offered as a complete package including standard items such as a steel casing with air grille distribution within an integated built-in control (if choosing I-Control), 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
- New slim design (135 mm width)
- Radiators replacement
- Highest latent performance in the market
- · Available with or without cabinet
- Horizontal or Vertical air return
- Squared or rounded corners design.





ACCESSORIES

- IR Handset or built in control (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 1.5kW
- Metal supporting feet

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



TECHNICAL SPECIFICATIONS



Hydronic Slim Floostanding, 2 Pipe with EC Motor

	PFWSLN-[Size]	-V-EC	M	01	02	03	04	05	
UNIT	Configurat	ion		2-pipe					
GENERAL SPECS	Number of Fan	Blowe	rs	1 2					
	Power Supply (V/Ph/Hz)			220	0 - 240/1/50 -	60			
AIR		Н		180	295	380	460	600	
	Total Air Flow	М	m3/h	140	245	330	370	500	
		L		100	170	230	260	350	
	Total	Н		1.21	1.98	2.65	3.20	4.08	
	Cooling	М		1.00	1.72	2.38	2.73	3.56	
COOLING	Capacity	L	kW	0.77	1.30	1.79	2.06	2.71	
COOLING	Sensible	Н	N.VV	0.83	1.37	1.82	2.20	2.83	
	Cooling	М		0.68	1.18	1.62	1.86	2.44	
	Capacity	L		0.52	0.88	1.20	1.39	1.83	
		Н		1.16	1.90	2.49	3.02	3.89	
LIFATING	Heating Capacity	М	kW	0.96	1.66	2.27	2.58	3.41	
HEATING		L		0.74	1.25	1.71	1.96	2.61	
	Max. Electric Heater Capacity			0	.5	1		1.5	
SOUND	SOUND Pressure Level (H/M/ Power Level (H/M/I	/L)	dB(A)	43/37/29	43/38/30	45/43/31	46/42/33	47/43/33	
SOUND		L)	UB(A)	52/46/38	52/47/39	54/52/40	55/51/42	56/52/42	
		н		16	19	22	24	26	
ELECTRICAL	Power Input	М	w	13	15	17	18	20	
LLLGTRICAL		L		10	11	12	12	12	
Running Current	Running Current (F	D)	A	0.14	0.17	0.19	0.21	0.23	
		Н		207	339	454	548	700	
	Cooling Water Flow Rate	М	L/h	171	295	408	469	611	
		L		131	223	306	354	464	
		н		26.3	27.9	57.7	44.1	20.8	
	Cooling Pressure Drop	М	kPa	18.6	21.6	47.6	33.3	16.3	
HYDRONIC -		L		11.7	13.0	28.4	20.1	10.0	
		н		199	326	426	518	666	
	Heating Water Flow Rate	М	L/h	165	285	388	443	584	
		L		127	214	294	336	448	
		Н		20.4	21.4	43.1	33.1	16.9	
	Heating Pressure Drop	М	kPa	14.5	16.8	36.4	24.9	13.4	
		L		9.1	10.1	22.0	15.1	8.3	

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
- \bullet Inlet water temperature: 45°C/40°C

^{*} Please refer to <u>www.eurovent-certification.com</u> for further information.



TECHNICAL SPECIFICATIONS

Hydronic Slim Floostanding, 4 Pipe with EC Motor

	PFWSLN-[Size]	-P-EC	:M	01	02	03	04	05	
UNIT	Configurat	ion		4-pipe					
GENERAL SPECS	Number of Fan Blowers			1 2					
	Power Supply (V/Ph/Hz)			220 - 240/1/50 - 60					
		Н	m3/h	180	295	380	460	600	
AIR	Total Air Flow	М		140	245	330	370	500	
		L		100	170	230	260	350	
	Total	Н		0.89	1.51	2	2.46	3.19	
	Cooling	М		0.74	1.31	1.8	2.06	2.78	
COOLING	Capacity	L	kW	0.56	0.98	1.35	1.59	2.11	
COOLING	Sensible	Н	KVV	0.63	1.06	1.4	1.72	2.24	
	Cooling	М		0.52	1.31	1.25	1.43	1.93	
	Capacity	L		0.39	0.98	0.93	1.08	1.45	
		н	kW	1.05	1.75	2.3	2.8	3.62	
HEATING	Heating Capacity	М		0.86	1.51	2.06	2.38	3.16	
		L		0.67	1.15	1.55	1.82	2.4	
Pressure Level (H/M/L		/L)	dB(A)	43/37/29	43/38/30	45/43/31	46/42/33	47/43/33	
SOUND	Power Level (H/M/	L)	GB(A)	52/46/38	52/47/39	54/52/40	55/51/42	56/52/42	
		н	w	16	19	22	24	26	
ELECTRICAL	Power Input	М		13	15	17	18	20	
ELECTRICAL		L		10	11	12	12	12	
Running Curren	Running Current (F	I)	Α	0.14	0.17	0.19	0.21	0.23	
		н		152	258	344	422	547	
	Cooling Water Flow Rate	М	L/h	126	224	309	354	477	
		L		97	168	232	273	362	
		Н		11.0	36.7	25.0	19.4	35.8	
	Cooling Pressure Drop	М	kPa	7.9	28.4	20.6	14.1	28.0	
HYDRONIC		L		4.9	16.9	12.3	8.9	17.0	
HIDRONIC		н		90	150	197	240	310	
	Heating Water Flow Rate	М	L/h	74	130	177	204	271	
		L		57	98	133	156	206	
		Н		10.4	35.2	72.7	17.9	33.2	
	Heating Pressure Drop	М	kPa	7.4	27.1	59.6	13.3	26.1	
		L		4.6	16.4	35.8	8.2	15.9	

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):

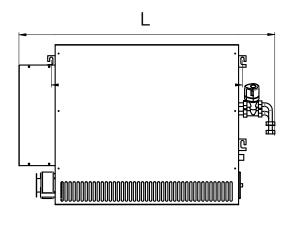
- Return air temperature: 20°C
- Inlet water temperature: 65°C/55°C

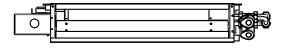


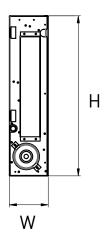
DIMENSIONAL DRAWINGS, DATA & WEIGHTS

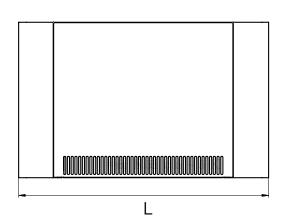
UNCASED UNIT

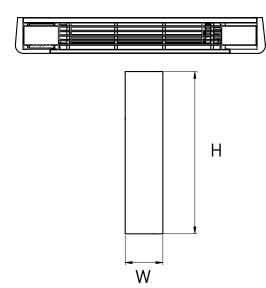
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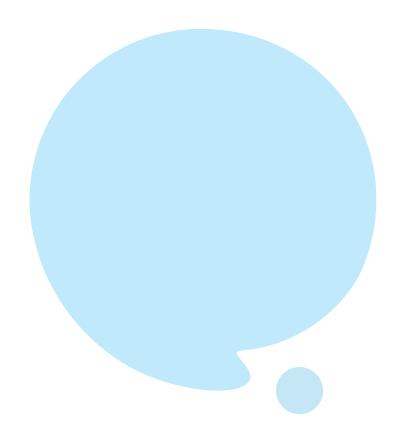






PFWSLN			01	02	03	04	05				
	Cooling Typ Water In Connections Out		/pe	PT (Threaded Female)							
			mm								
CONSTRUCTION	Condensate Drainage Connectior		[in]		19.05 [3/4]						
AND PACKING	Dimensions Cased Unit	L		858	908	1058	1208	1258			
DATA		w	mm	250							
		Н				494					
	Dimensions Uncased Unit	L		578	628	778	928	978			
		W	mm	230							
	Officased Offic					460					
NET WEIGHTS	3R and 4R		lea	22	24	26	30	32			
NET WEIGHTS	3+1R kg		23	26	28	32	34				







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				
Model	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 onsite 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.



EH KIT (kW) Model 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	-
		10
PDWSL	5	15
		25
PDWA		10
	5	15
		25
		10
PDWC	5	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



All over the WORLD!

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