

Medium available head duct units with BLDC motor

PWN i 2 - 6 kW



Brushless motor



2-pipe system



4-pipe system



Ducted



Centrifugal fan



ERGO Supervision

PLUS

- ✓ Inverter BLDC motors
- ✓ Reduced height across the entire range (240 mm)
- ✓ Available head up to 80 Pa
- ✓ Heat exchanger up to 6 rows
- ✓ Amply sized condensate drip tray
- ✓ Wide range of available accessories
- ✓ Can be connected to ERGO networks

Efficiency and versatility for recess ceiling mounted units

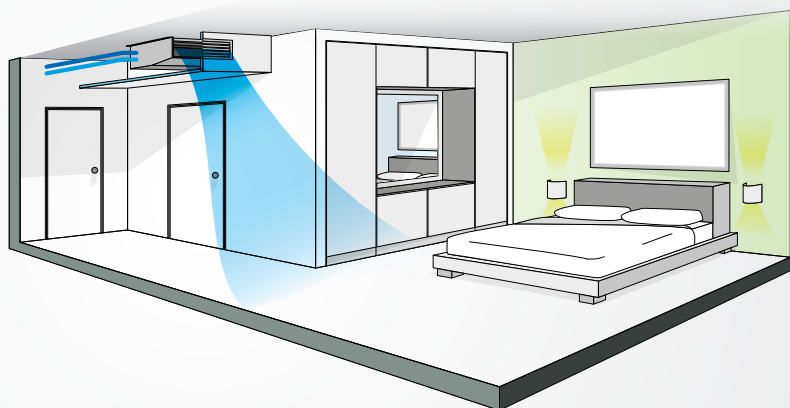
The range of PWNi duct units is designed for air conditioning systems in interiors requiring the installation of particularly versatile, low-noise, medium-head (up to 80Pa) units. Unlike the models equipped with traditional motors of the ON-OFF type, PWNi units feature fan assemblies with inverter-controlled permanent magnet BLDC motors. Adopting this type of motor makes it possible to obtain considerable reductions in electricity consumption and CO₂ emissions, as well as a considerable reduction in noise for enhanced comfort.

The DC Inverter technology allows to continuously adjust the air flow to the actual needs of the environment by considerably reducing the fluctuations in room temperature. By virtue of the continuous modulation of the air flow, once the right temperature and humidity conditions have been reached the fan speed is considerably reduced, resulting in decidedly low noise levels.

The heat exchanger is available in 3-, 4- or 6-row versions. The latter is particularly recommended for heat pump systems, in which the outlet water temperature is lower. The exchanger is normally mounted with connections on the left side (the wiring box is present on the same side), but it can be rotated by 180° on the installation site. By installing the accessory external module (additional MDF exchanger) it is possible to connect PWNi in 4-pipe systems.

PWNi units can find a place in commercial buildings, hotel rooms and meeting rooms. They have been conceived with a particular construction enabling the basic model to be expanded by installing a series of accessories so as to adapt PWNi to the needs of any horizontal recess ceiling-mount application.

The flexibility of the inverter control makes it possible to reduce the rotation speed to minimal values which almost completely eliminate the noise emissions of false-ceiling installations.





MAIN COMPONENTS

Structure

Built from galvanized sheet steel, designed for horizontal installation, insulated with class 1 self-extinguishing panels, complete with slots for rapid fixing.

Heat exchanger

High efficiency 3, 4 and 6 rows heat exchanger made with copper piping and aluminium fins blocked to pipings by mechanical expansion, provided with brass manifolds and air vent valve. The water connections are reversible.

Fans

Double suction centrifugal fans made with ABS or aluminium, with statically and dynamically balanced forward-curving blades, directly coupled to the electric motor.



BLDC electric motor

Permanent magnet motor. The unit is equipped with an inverter board to control the motor, that makes it possible to precisely set the maximum rotation speed (control signal 0-10 V).

Water drip tray

Extended beyond the dimensions of the unit, it can collect condensate both from the heat exchanger and any regulating valves.



Air filter

Washable air filter, made of acrylic fibre, mounted on a galvanized sheet frame protected by a net, easily removable for maintenance operations. Class G3 air filter available as an optional accessory.

ACCESSORIES

CONTROL PANELS

MCLE	MYCOMFORT LARGE electronic controller with display
DIST	MYCOMFORT controller spacer for wall mounting
EVODISP	EVO CLOCK Remote display
EVOBOARD	EVO 230V circuit board
MCSWE	Water sensor for EVO, MYCOMFORT BASE, MEDIUM, LARGE, and LED503 microprocessor controllers
MCSUE	Humidity sensor for EVO, MYCOMFORT MEDIUM and LARGE microprocessor controller
CSD	Recess mounted controller for opening and closing the SM motor-driven regulating louver

PLENUM AND AIR INLET AND OUTLET CONNECTORS

PMA	Uninsulated air outlet/intake plenum with Ø 200 mm collars
PMAC	Insulated air outlet/intake plenum with Ø 200 mm collars
PAF	Uninsulated front air intake plenum with Ø 200 mm collars
RD	Straight uninsulated air inlet/outlet connector
RDC	Straight insulated air inlet/outlet connector
R90	90° uninsulated air inlet/outlet connector
R90C	90° insulated air inlet/outlet connector

CONNECTION HOSES AND PLUGS

TFA	Uninsulated hose Ø 200 mm
TFM	Insulated hose Ø 200 mm
TP	Plastic plug Ø 200 mm

AIR OUTLET AND INTAKE DUCTS

CA	Air intake duct with honeycomb grille
CAF	Air intake duct with honeycomb grille and G2 filter
CM	Insulated air outlet duct, with 2-way grille

AIR INTAKE AND OUTLET SILENCERS

SIL	Plenum silencer for air intake/outlet
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AIR OUTLET AND INTAKE GRILLES

GM	Aluminium air outlet grille with 2-row fins, with frame
GA	Aluminium air intake grille, with frame

MOTOR DRIVEN ON/OFF AND MODULATING VALVES

VK	ON-OFF 3-way motor driven valve (230V and 24V actuator), with hydraulic kit for standard and DF heat exchanger
VKM	Modulating 3-way motor driven valve (24V actuator), with hydraulic kit for standard and DF heat exchanger
KV	ON-OFF 2-way motor driven valve (230V and 24V actuator), with hydraulic kit for standard and DF heat exchanger
KVM	Modulating 2-way motor driven valve (24V actuator), with hydraulic kit for standard and DF heat exchanger

ACCESSORIES

MDF	Additional heat exchanger module for hot water operation.
RE	Additional heating element for installation on board the unit, complete with safety devices
SM	Motor-driven external air intake louver
KSC	Condensate drainage pump
FG3	Air filter - class G3

Rated technical data

PWN i		13			14			16		
Fan speed		min	med	max	min	med	max	min	med	max
Control voltage	V	4,1	6,3	8,6	4,1	6,3	8,6	4,1	6,3	8,6
Air flow (E)	m ³ /h	184	297	371	184	297	371	184	297	371
Available static pressure (E)	Pa	19	50	78	19	50	70	19	50	70
Power input (E)	W	12	27	46	12	29	43	12	29	43
Total cooling capacity (1) (E)	kW	1,27	1,98	2,43	1,49	2,39	2,93	1,65	2,61	3,24
Sensible cooling capacity (1) (E)	kW	0,93	1,44	1,76	1,03	1,64	2,01	1,10	1,75	2,18
Water flow (1)	l/h	219	340	417	179	409	540	193	447	600
Water pressure drop (1) (E)	kPa	2	5	7	4	8	12	3	7	10
Heating capacity (2) (E)	kW	1,66	2,52	3,04	1,77	2,76	3,37	1,84	2,92	3,61
Water pressure drop (2) (E)	kPa	2	5	7	4	8	12	3	7	10
Additional coil heating capacity MDF (3) (E)	kW	1,97	2,64	2,98	1,95	2,64	2,98	1,95	2,64	2,98
Water flow (3)	l/h	173	231	261	172	231	261	172	231	261
Water pressure drop (3) (E)	kPa	2	3	3	1	3	3	1	3	3
Standard coil - number of rows	n°	3			4			6		
Additional coil MDF - number of rows	n°	1			1			1		
Total sound power level (4)	dB(A)	36	50	58	36	50	58	38	50	58
Inlet + radiated sound power level (4) (E)	dB(A)	33	46	55	33	46	55	36	46	55
Outlet sound power level (4) (E)	dB(A)	33	47	55	33	47	55	33	47	55

PWN i		23			24			26		
Fan speed		min	med	max	min	med	max	min	med	max
Control voltage	V	4,2	6,6	8,9	4,2	6,6	8,9	4,2	6,6	8,9
Air flow (E)	m ³ /h	283	576	722	331	576	722	331	576	722
Available static pressure (E)	Pa	16	50	79	16	50	79	16	50	79
Power input (E)	W	16	46	76	18	46	76	18	46	76
Total cooling capacity (1) (E)	kW	1,85	3,84	4,66	2,33	3,93	4,93	2,71	4,76	5,88
Sensible cooling capacity (1) (E)	kW	1,38	2,74	3,31	1,69	2,84	3,52	1,86	3,24	4,01
Water flow (1)	l/h	318	659	799	400	674	847	465	817	1009
Water pressure drop (1) (E)	kPa	3	9	13	2	5	8	3	8	12
Heating capacity (2) (E)	kW	2,53	4,71	5,65	3,07	5,07	6,18	3,24	5,47	6,71
Water pressure drop (2) (E)	kPa	3	9	13	2	5	8	3	8	12
Additional coil heating capacity MDF (3) (E)	kW	3,57	4,98	5,61	3,57	4,98	5,61	3,57	4,98	5,61
Water flow (3)	l/h	313	437	492	313	437	492	313	437	492
Water pressure drop (3) (E)	kPa	6	12	14	6	12	14	6	12	14
Standard coil - number of rows	n°	3			4			6		
Additional coil MDF - number of rows	n°	1			1			1		
Total sound power level (4)	dB(A)	39	52	60	39	52	60	39	52	60
Inlet + radiated sound power level (4) (E)	dB(A)	37	49	57	37	49	57	37	49	57
Outlet sound power level (4) (E)	dB(A)	34	49	57	34	49	57	34	49	57

(1) Water temperature 7 / 12°C, air temperature D.B. 27°C, W.B. 19°C (47% relative humidity)
 (2) Inlet water temperature 50°C, water flow rate same as in cooling mode, air temperature 20°C
 (3) Water temperature 70 / 60°C, air temperature 20°C
 (4) Sound power measured according to standards ISO 3741 and ISO 3742
 (E) EUROVENT certified data
 Power supply 230-1-50 (V-ph-Hz)



Dimensional drawings

PWN i

LEGEND

1	water outlet, \varnothing 3/4" female gas
2	water inlet, \varnothing 3/4" female gas
3	electric box
4	electric supply cable holder
5	drain outlet \varnothing 17 mm

PWN i	A	B	C	1	2	5
13 - 14 - 16	1039	814	709	3/4"	3/4"	17
23 - 24 - 26	1389	1164	1059	3/4"	3/4"	17