

Medium available head duct units with BLDC motor

PWN i 2-6 kW



	2	4				
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

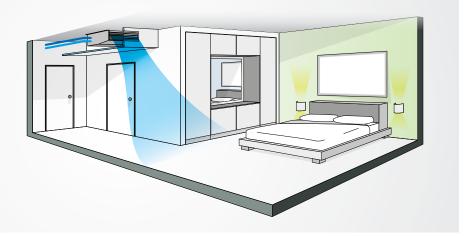
The range of PWNi duct units is designed for air conditioning systems in interiors requiring the installation of particularly versatile, low-noise, medium-head (up to 80Pa) units. Unlike the models equipped with traditional motors of the ON-OFF type, PWNi units feature fan assemblies with inverter-controlled 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 galvanised sheet frame protected by a net, easily removable for maintenance operations. Class G3 air filter available as an optional accessory.

ACCESSORIES

CONTROL PA	NELS
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 AN	D 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 \emptyset 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
CONNECTIO	N HOSES AND PLUGS
TFA	Uninsulated hose Ø 200 mm
TFM	Insulated hose Ø 200 mm
ТР	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
СМ	Insulated air outlet duct, with 2-way grille
AIR INTAI	KE AND OUTLET SILENCERS
SIL	Plenum silencer for air intake/outlet
AIR OUTL	ET AND INTAKE GRILLES
GM	Aluminium air outlet grille with 2-row fins, with frame
GA	Aluminium air intake grille, with frame
MOTOR D	DRIVEN ON/OFF AND MODULATING VALVES
νк	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
кv	ON-OFF 2-way motor driven valve (230V and 24V actuator), with hydraulic kit for standard and DF heat exchanger
кум	Modulating 2-way motor driven valve (24V actuator), with hydraulic kit for standard and DF heat exchanger
ACCESSO	RIES
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
кѕс	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	٧	4,1	6,3	8,6	4,1	6,3	8,6	4,1	6,3	8,6
Air flow (E)	m³/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
	dB(A)	33	46	55	33	46	55	36	46	55
Inlet + radiated sound power level (4) (E)	UD(A)	22								
Inlet + radiated sound power level (4) (E) Outlet sound power level (4) (E)	dB(A)	33	47	55	33	47	55	33	47	55
Outlet sound power level (4) (E)			47		33		55	33		55
Outlet sound power level (4) (E) PWN i		33	47 23	55		24			26	
Outlet sound power level (4) (E) PWN i Fan speed	dB(A)	33 min	47 23 med	55 max	min	24 med	max	min	26 med	max
Outlet sound power level (4) (E) PWN i Fan speed Control voltage	dB(A)	33 min 4,2	47 23 med 6,6	55 max 8,9	min 4,2	24 med 6,6	max 8,9	min 4,2	26 med 6,6	max 8,9
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E)	dB(A) V m³/h	33 min 4,2 283	47 23 med 6,6 576	55 max 8,9 722	min 4,2 331	24 med 6,6 576	max 8,9 722	min 4,2 331	26 med 6,6 576	max 8,9 722
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E)	dB(A) V m ³ /h Pa	33 min 4,2 283 16	47 23 med 6,6 576 50	55 max 8,9 722 79	min 4,2 331 16	24 med 6,6 576 50	max 8,9 722 79	min 4,2 331 16	26 med 6,6 576 50	max 8,9 722 79
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E)	dB(A) V m ³ /h Pa W	33 min 4,2 283 16 16	47 23 med 6,6 576 50 46	55 max 8,9 722 79 76	min 4,2 331 16 18	24 med 6,6 576 50 46	max 8,9 722 79 76	min 4,2 331 16 18	26 med 6,6 576 50 46	max 8,9 722 79 76
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E)	dB(A) V m ³ /h Pa W kW	33 min 4,2 283 16 16 16 1,85	47 23 med 6,6 576 50 46 3,84	55 max 8,9 722 79 76 4,66	min 4,2 331 16 18 2,33	24 med 6,6 576 50 46 3,93	max 8,9 722 79 76 4,93	min 4,2 331 16 18 2,71	26 med 6,6 576 50 46 4,76	max 8,9 722 79 76 5,88
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E)	dB(A) V m³/h Pa W kW kW	33 min 4,2 283 16 16 1,85 1,38	47 23 med 6,6 576 50 46 3,84 2,74	55 max 8,9 722 79 76 4,66 3,31	min 4,2 331 16 18 2,33 1,69	24 med 6,6 576 50 46 3,93 2,84	max 8,9 722 79 76 4,93 3,52	min 4,2 331 16 18 2,71 1,86	26 med 6,6 576 50 46 4,76 3,24	max 8,9 722 79 76 5,88 4,01
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1)	dB(A) V m³/h Pa W kW kW I/h	33 min 4,2 283 16 16 1,85 1,38 318	47 23 med 6,6 576 50 46 3,84 2,74 659	55 max 8,9 722 79 76 4,66 3,31 799	min 4,2 331 16 18 2,33 1,69 400	24 med 6,6 576 50 46 3,93 2,84 674	max 8,9 722 79 76 4,93 3,52 847	min 4,2 331 16 18 2,71 1,86 465	26 med 6,6 576 50 46 4,76 3,24 817	max 8,9 722 79 76 5,88 4,01 1009
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1) Water pressure drop (1) (E)	dB(A) V m³/h Pa W kW I/h kPa	33 min 4,2 283 16 16 1,85 1,38 318 318 3	47 23 med 6,6 576 50 46 3,84 2,74 659 9	55 max 8,9 722 79 76 4,66 3,31 799 13	min 4,2 331 16 18 2,33 1,69 400 2	24 med 6,6 576 50 46 3,93 2,84 674 5	max 8,9 722 79 76 4,93 3,52 847 8	min 4,2 331 16 18 2,71 1,86 465 3	26 med 6,6 576 50 46 4,76 3,24 817 8	max 8,9 722 79 76 5,88 4,01 1009 12
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water pressure drop (1) (E) Water pressure drop (1) (E) Heating capacity (2) (E)	dB(A) V m³/h Pa W kW I/h kPa kW	33 min 4,2 283 16 16 1,85 1,38 318 3 18 3 2,53	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65	min 4,2 331 16 18 2,33 1,69 400 2 3,07	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07	max 8,9 722 79 76 4,93 3,52 847 8 6,18	min 4,2 331 16 18 2,71 1,86 465 3 3,24	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47	max 8,9 722 79 76 5,88 4,01 1009 12 6,71
Outlet sound power level (4) (E) PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E)	dB(A) V m³/h Pa W kW kW kPa kW kPa	33 min 4,2 283 16 16 1,85 1,38 318 318 3 3 2,53 3	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Additional coil heating capacity MDF (3) (E)	dB(A) V m³/h Pa W kW kW kW kPa kW kPa kW kW kW kW kW kW	33 min 4,2 283 16 16 1,85 1,38 318 3 18 3 2,53 3 3,57	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,61	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,57	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,24 3 3,57	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 4,98	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Water flow (3)	dB(A) dB(A) V m³/h Pa W kW I/h kPa kW kW kW i/h	33 min 4,2 283 16 1,85 1,38 318 3 1,38 318 3 2,53 3 3,57 313	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98 437	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,61 492	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,57 313	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98 437	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61 492	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,57 313	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 5,47 8 4,98 437	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61 492
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Additional coil heating capacity MDF (3) (E) Water flow (3) Water pressure drop (3) (E)	dB(A) dB(A) V m³/h Pa W kW I/h kPa kW I/h kPa kW I/h kPa kW kPa kW kPa kW kPa	33 min 4,2 283 16 16 1,85 1,38 318 3 18 3 2,53 3 3,57	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98 437 12	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,61	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,57	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98 437 12	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,24 3 3,57	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 5,47 8 4,98 437 12	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Additional coil heating capacity MDF (3) (E) Water pressure drop (3) (E) Standard coil - number of rows	dB(A) dB(A) V m³/h Pa W kW I/h kPa kW I/h kPa kW kPa kW kPa kW i kW kPa i kW kPa	33 min 4,2 283 16 1,85 1,38 318 3 1,38 318 3 2,53 3 3,57 313	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98 437 12 3	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,61 492	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,57 313	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98 437 12 4	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61 492	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,57 313	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 4,98 4,98 437 12 6	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61 492
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water flow (1) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Water flow (3) Water pressure drop (3) (E) Standard coil - number of rows Additional coil MDF - number of rows	dB(A) dB(A) v m³/h Pa W kW l/h kPa kW l/h kPa kW kPa kW kPa kW kPa kW n° n°	33 min 4,2 283 16 16 1,85 1,38 318 3 2,53 3 2,53 3 3,57 313 6	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98 437 12 3 1	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,65 13 5,61 492 14	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,07 2 3,57 313 6	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98 437 12 4 1	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61 492 14	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,57 313 6	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 5,47 8 4,98 437 12 6 1	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61 492 14
PWN i Fan speed Control voltage Air flow (E) Available static pressure (E) Power input (E) Total cooling capacity (1) (E) Sensible cooling capacity (1) (E) Water pressure drop (1) (E) Heating capacity (2) (E) Water pressure drop (2) (E) Additional coil heating capacity MDF (3) (E) Water pressure drop (3) (E) Standard coil - number of rows	dB(A) dB(A) V m³/h Pa W kW I/h kPa kW I/h kPa kW kPa kW kPa kW i kW kPa i kW kPa	33 min 4,2 283 16 1,85 1,38 318 3 1,38 318 3 2,53 3 3,57 313	47 23 med 6,6 576 50 46 3,84 2,74 659 9 4,71 9 4,98 437 12 3	55 max 8,9 722 79 76 4,66 3,31 799 13 5,65 13 5,61 492	min 4,2 331 16 18 2,33 1,69 400 2 3,07 2 3,57 313	24 med 6,6 576 50 46 3,93 2,84 674 5 5,07 5 4,98 437 12 4	max 8,9 722 79 76 4,93 3,52 847 8 6,18 8 6,18 8 5,61 492	min 4,2 331 16 18 2,71 1,86 465 3 3,24 3 3,57 313	26 med 6,6 576 50 46 4,76 3,24 817 8 5,47 8 5,47 8 4,98 437 12 6	max 8,9 722 79 76 5,88 4,01 1009 12 6,71 12 5,61 492

(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

