



# POWRMATIC®

Delivering complete climate control solutions worldwide

Efficient and versatile suspended water fed heater combining form, function and ErP compliance suitable for a wide range of applications.

**The PZN range from Powrmatic.**

## PZN/PZN-X

Hot Water Heat Emitter

Industrial and Commercial Low Temperature  
Hot Water Heating Systems



[www.powrmatic.co.uk](http://www.powrmatic.co.uk)

# PZN/PZN-X Hot Water Heat



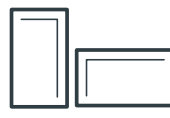
## PZN Product Benefits



WATER PRODUCTS



COMPACT SIZE



VERTICAL OR  
HORIZONTAL OPTION



LOW RUNNING  
NOISE LEVEL

# Compact Efficient Versatile

The PZN from Powrmatic

The Powrmatic PZN LTHW low temperature hot water air heat emitter is a water-supplied suspended air heater which can discharge air horizontally or vertically.

The unit has a powerful axial fan which means it is suitable for many applications. Powrmatic offers a range of accessories allowing it to satisfy a variety of applications.

For example, the unit can be made suitable for external air connection in combination with filtering and a mixing box for the dilution of fresh external air. The PZN is also compatible with various heat sources including easy connection to new and existing biomass boiler systems.

### Models Available

- PZN - Pre Painted Panels
- PZN- X - Stainless Steel Casing (Special Order)

## Product Features

### Heat Exchanger

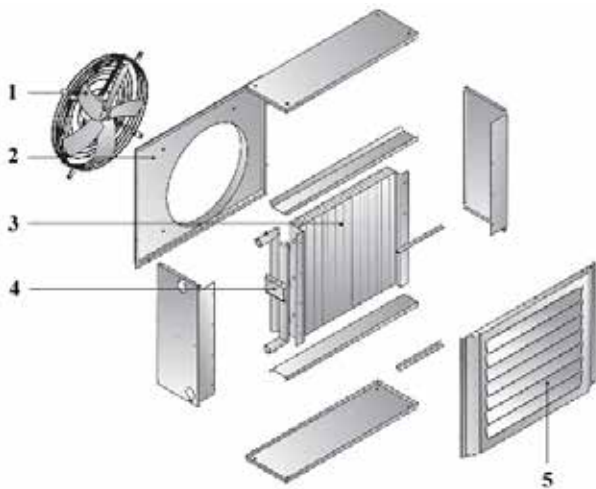
Constructed of a high efficiency copper tube battery with an aluminum finned exchange coil. Steel water couplings with air vent valves and both fixed on anti-break clamp brackets.

### Axial Fan

ErP compliant low noise, high performance axial fans mounted in a safety protection cage. Featuring a two or three speed motor (model dependent).

### Construction

The PZN unit comprises of high quality components as per the below;



- 1 - Axial fan with safety protection guard
- 2 - Fan mounting shroud
- 3 - Aluminium finned copper coil
- 4 - Main header complete with air vents
- 5 - Louvred outlet

### Casing

Constructed of a self supporting galvanized, pre-painted metal or stainless steel (PZN-X).

The casing features a modern and attractive aesthetic line. The geometry adopted gives the heater maximum compactness and versatility.



### Adjustable Louvres

Warm air is discharged through a series of adjustable louvres so as to optimise both throw and distribution.

### Biomass Compatibility

The PZN is compatible with various heat sources including easy connection to new and existing Biomass boiler systems ( not suitable for ground source heat pumps)

### Controls

The Powrmatic PZN has a range of controls which allow the end user to set a range of fan speeds for single phase and 3-phase units. The controls can be found on page 6.

# Technical Specification

PZN 13-73

Model			13	23	33	43	53	63	73	
Thermal Power <sup>1</sup>	kW		14.76	20.34	24.32	31.14	36.50	44.70	53.57	
	kcal/h		12691	17489	20911	26776	31384	38435	46062	
Rows	no.		3	3	3	3	3	3	3	
Axial Fan	Qty	no.	1							
	dia	mm	300	315	330	350	400	420	550	
	speed	rpm	1400 - 900 - 700 <sup>3</sup>						900 - 700 <sup>3</sup>	
Airflow Rate	m <sup>3</sup> /h		1550	2300	2550	3400	3900	4900	6200	
Air Delivery	m		17	19	25	25	24	26	37	
Air Supply Temperature <sup>1</sup>	°C		42.8	40.8	42.9	41.8	42.3	41.6	40.2	
deltaP Water Side	kPa		9	9	8.	9	6	8	5	
Water Flow Rate	l/h		648	894	1068	1368	1603	1964	2353	
Water Capacity	l		1.6	2.1	2.5	3.0	3.6	4.6	5.2	
Electrical Supply	V/ph/Hz		230V/1Pha/50Hz						400V/3Pha/50Hz	
Degree of Protection	IP		55	55	54	54	55	55	55	
Total Electrical Supply	W		74	86	120	130	200	220	305	
Max Electrical Current	A		0.34	0.38	0.55	0.60	0.90	0.95	0.70	
Sound Power Level <sup>2</sup>	Max	dB	50	51	52	53	53	53	52	
	Med	dB	47	47	50	49	49	49	-	
	Min	dB	41	45	43	43	43	47	46	

## Notes

(1) Data refers to following conditions:

- Water temperature 80-60°C
- Air temperature 15°C
- R.H. 50%
- Atmospheric pressure 1013 mbar
- Max fan speed

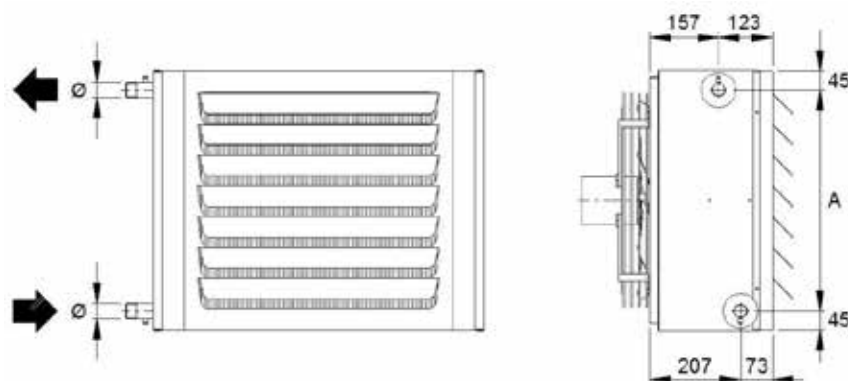
(2) Data refers to following conditions:

- Area unobstructed
- Max fan speed

Unit installed on wall 3 m above ground with sound pressure measured frontally.

(3) RPM variations attained via use of special accessories (available as optional). RPM figures are average values as RPM varies from model to model.

## Water Fitting Dimensions

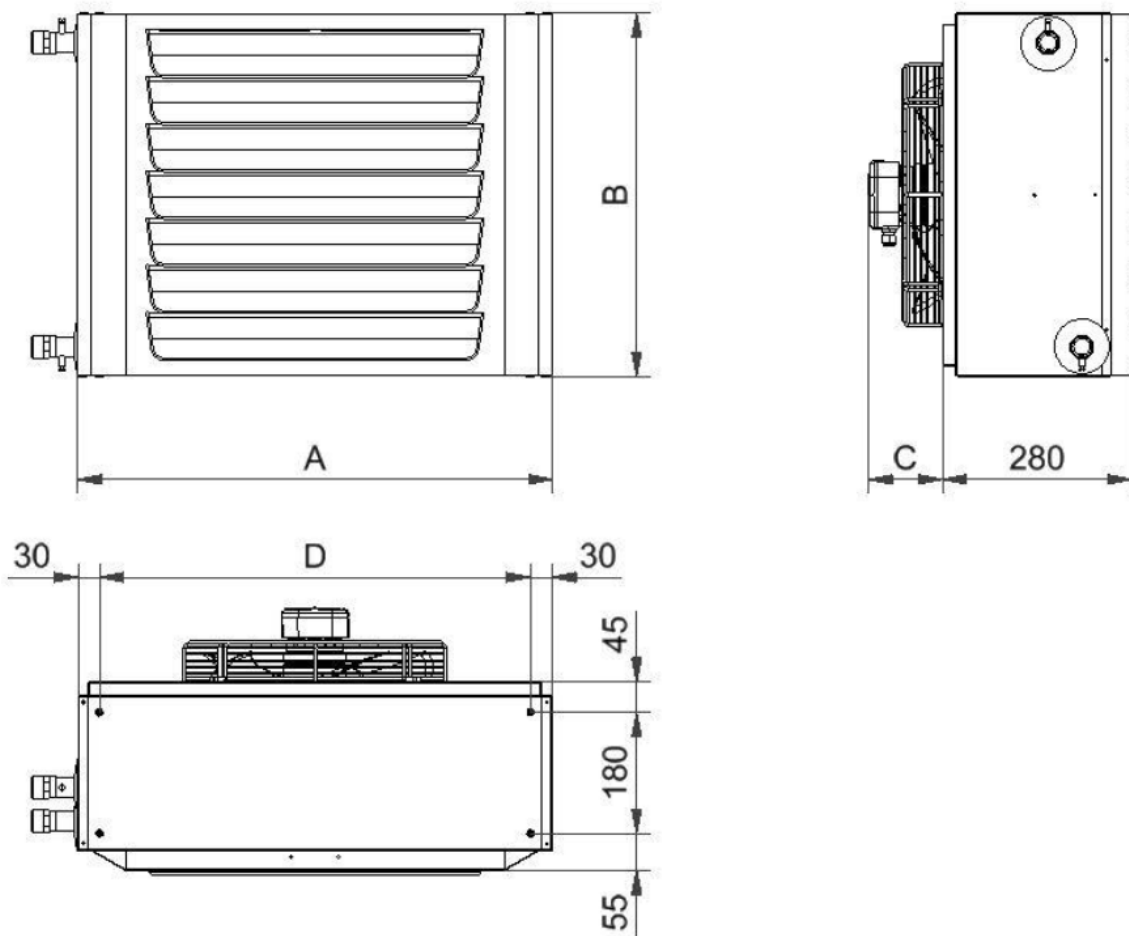


**Warning:**  
For optimum performance it is essential that water inlet-outlet directions always be observed as indicated by the adhesive label.

Model		13	23	33	43	53	63	73	
A	mm	300	350	400	450	500	550	600	
Ø male	in	1						1½	1½

# Dimensions

PZN 13-73



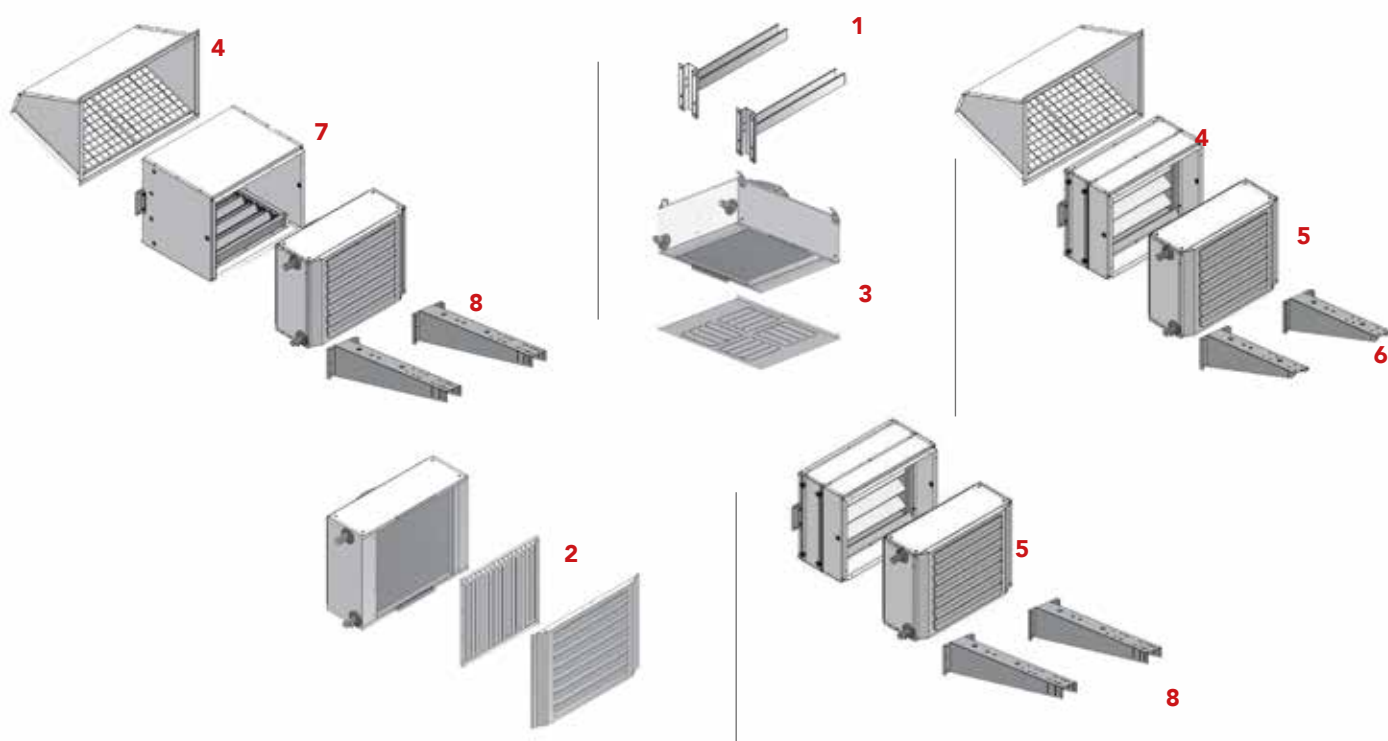
Model		13	23	33	43	53	63	73							
A	mm	555	605	655	705	755	805	855							
B	mm	390	440	490	540	590	640	690							
C	mm	90	116			122		172							
D	mm	489	539	589	639	689	739	789							
Weight	kg	14	15	16	18	19	21	23	24	25	28	29	32	40	43

**Notes:**

- Weights shown above are for standard options
- Please contact Powrmatic for PZN-X Weights

# Accessories & Controls

PZN



## Controls



Description	Ref No	Model Number						
		PZN 13	PZN 23	PZN 33	PZN 43	PZN 53	PZN 63	PZN 73
Support Brackets	1	PZN-SB						
Vertical Louvres	2	PZN-VL1	PZN-VL2	PZN-VL3	PZN-VL4	PZN-VL5	PZN-VL6	PZN-VL7
Ceiling Mounting Kit	3	PZN-CMK1	PZN-CMK2	PZN-CMK3	PZN-CMK4	PZN-CMK5	PZN-CMK6	PZN-CMK7
Inlet Hood	4	PZN-IH1			PZN-IH2			PZN-IH3
Air Filter	5	PZN-AF1	PZN-AF2	PZN-AF3	PZN-AF4	PZN-AF5	PZN-AF6	PZN-AF7
Support Brackets (Filter)	6	PZN-SBF						
Mixing Box	7	PZN-MB1	PZN-MB2	PZN-MB3	PZN-MB4	PZN-MB5	PZN-MB6	PZN-MB7
Support Brackets (F/MB)	8	PZN-SBMB						
3 Speed Control	9	PZN-SC12					PZN-SC13	n/a
Room Thermostat	10	PZN-RT						
Speed Changeover Switch	11	n/a	n/a	n/a	n/a	n/a	n/a	PZN-SCS
Speed Control Panel	12	n/a	n/a	n/a	n/a	n/a	n/a	PZN-SCP

- Support brackets - for support and anchorage made of galvanised steel.
- Vertical Louvres - made of galvanized steel (PZN version), stainless steel (PZN-X version)
- Ceiling mounting Kit - mounting onto ceiling
- Inlet Hood- for mounting on the fresh air intake in case of outside installation.
- Air filter- to treat and filter the intake fresh air or room inlet air with a plenum containing filtering cells, to be mounted inside the unit.
- Support brackets (filter) - for support of the unit with a filter kit in case of fresh air intake.
- Mixing Box - for the complete or partial renewal of the fresh air. The kit is composed of an air inlet plenum, two dampers connected by a connection device.
- Support brackets (F/MB) for support of the unit and the mixing chamber kit or the air filter kit
- 3-speed control - only for single phase models (STOP - I° - II° - III°).
- Room thermostat- single stage, with ON-OFF switch.
- Speed changeover switch - 2-modes speed control (STOP-MIN-MAX), only for three phase models.
- Speed Control Panel - with speed changeover switch, with 3-mode air speed switch settings, complete with fittings and connectors; only for three-phase models.

## General

The following notes are provided as a guide, however installers and operators should fully acquaint themselves with the more detailed guidance provided in the relevant installation manual. For copies of such manuals please consult our technical department or visit our website - [www.powrmatic.co.uk](http://www.powrmatic.co.uk)

## Standards

PZN Units must be installed, commissioned and operated with due regard to appropriate regulations, relevant Codes of Practice which may include but is not limited to BS6880 and any possible requirements of Local Authorities, Fire Officers and insurers as well as Powrmatic's installation manual.

## Position & Location

PZN heat emitters are specifically design to operate in conjunction with a pumped hot water supply.

PZN units can be mounted either horizontally using PZN support brackets or vertically on suitably sized drop rods. It is important that all supporting structures have due regard to the relevant weight loadings and provide stability so as to protect the integrity of flow and return water connections.

Units should be sited so as to provide heat into the relevant working zones and where a general pattern of effective air circulation can be achieved. For specific siting recommendations please consult our technical department.

PZN heat emitters are suitable for a wide variety of industrial, commercial, horticultural or poultry applications however if units are to be sited in areas of high humidity, where dust may be present or a corrosive atmosphere then please consult our technical department.

## Installation

Particular clearances may be necessary for the correct and safe function of the heat emitter as well as for maintenance purposes. Such clearances are confirmed in the relevant installation manual.

It is important that units are installed in such a way that they are level in both front to rear and side to side planes.

When connecting pipework installers should ensure that the direction of flow is correct. The installation of local isolating valves, service unions and strainers is recommended.

Where emitters are installed in the horizontal plane, that is for downward discharge then it is highly recommended that a valve and actuator be installed within the pipework so as to isolate the water flow when the fan is not operating, failure to do so will allow heat to rise and overheat the fan motor. For further advice please consult our technical department.

Electrical connections should comply with IEE regulations and include an isolator local to each emitter.

## Water Treatment

Water quality used with heat emitters can have a significant effect on both efficiency and reliability. It is recommended that installers consult and follow the advice within the Water Treatment and Conditioning of Commercial Heating System Guide available via the ICOM Energy website [www.icom.org.uk](http://www.icom.org.uk)

## Guarantee

Powrmatic PZN units are provided with a guarantee. For United Kingdom sales the heater has the benefit of a 12 month parts only guarantee. All guarantees are subject to terms and conditions.

# About Us

Powrmatic design, develop and deliver HVAC solutions worldwide across a wide range of commercial and industrial applications creating comfortable and safe environments, differentiated through innovation, integrity, compliance and service.

Our specialised HVAC divisions:

## Heating

Industrial and commercial warm air and radiant space heating solutions manufactured to achieve efficient performance, compliance and reliability for every application in partnership with the HVAC trade.

## Ventilation

Custom designed highly efficient, cost-effective smoke, natural and powered ventilators manufactured to meet project requirements of building operators, architects, specifiers and contractors.

## Air Conditioning

Worldwide distributors of innovative wall mounted heat pumps air conditioner technology providing efficient comfort cooling and heating all year round.

## Engineered Products

Bespoke heating and ventilation solutions designed to serve individual customers specific project requirements. In addition our OEM products provide partner AHU manufacturers with high quality energy efficient gas fired heat exchangers.

# Contact Us

Powrmatic Limited  
Hort Bridge, Ilminster  
Somerset  
TA19 9PS

tel: **+44 (0) 1460 53535**

fax: **+44 (0) 1460 52341**

e-mail: **info@powrmatic.co.uk**



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Powrmatic Ireland  
45 Broomhill Close  
Tallaght  
Dublin 24

tel: **+353 (0) 1452 1533**

fax: **+353 (0) 1452 1764**

e-mail: **info@powrmatic.ie**



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