



## Winterwarm WWH Series

Winterwarm presents the WWH-series: a water heater which can heat up any area comfortably in combination with every kind of central heating system.



**Winterwarm**

### Characteristics WWH series:

- Good air circulation
- Comfortable temperature distribution
- Various air discharge possibilities
- Can be installed anywhere
- 9 capacities available
- Simple to control
- Long duration of life

**The Winterwarm WWH is a simple, effective water heater, offering excellent value for money. Due to a balanced design and an excellent combination of fan, heat exchanger and discharge possibilities, the Winterwarm WWH is an ideal appliance for heating a shop, workshop or even a warehouse.**

## Technical

Like all Winterwarm products, durability and quality are very important features. The WWH heat exchanger consists of a combination of copper pipes and aluminium fins. This tried and tested design produces an even heat transfer and with the fan situated within the casing the noise levels are very low. The fan blades are

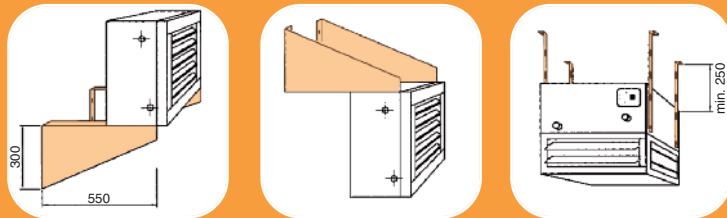
made of a high quality fibre-reinforced synthetic material, allowing the blades to be shaped in such a way that an optimum air circulation can be achieved. It is possible to control the revolutions per minute by changing the supply voltage on the motor. This can be regulated with a 5-stage switch (optional).

As an option a thermostat can be fitted preventing the fan from starting until the heat exchanger is up to temperature. A simple 230 volt room thermostat can also be used to control the WWH itself. The standard grill can be altered easily, allowing the air to be directed in any desired discharge direction.

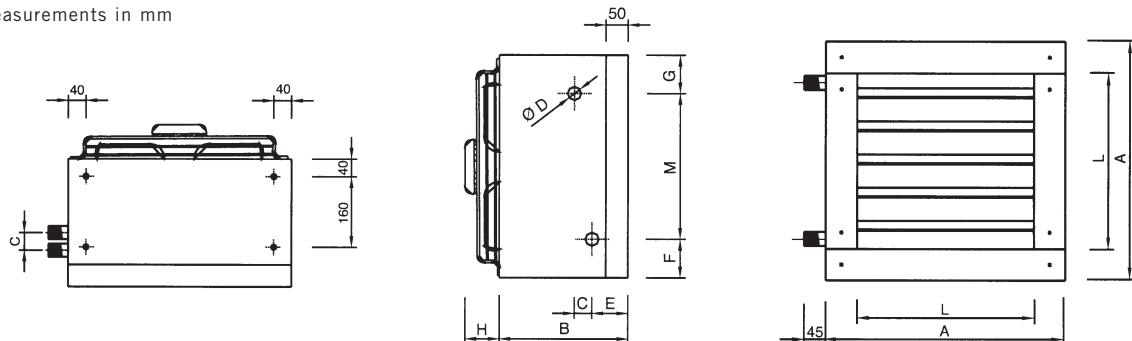
The WWH heaters are all provided with 8 x M10 suspension points, these are placed on two opposite sides of the heater. For fixing to the wall Winterwarm offers cantilever brackets; for fixing to the ceiling a set of 4 connection strips are available.

## Installation and suspension

The WWH heater is easy to install. The water connections can be mounted on either side of the heater.



measurements in mm



## Measurements

The range of 10-80 kW is subdivided in 3 models. The model of the heater is the first number of the type name (1,2 or 3).

Type	110	115	120	230	235	245	350	365	380
Model	1	1	1	2	2	2	3	3	3
A	505	505	505	679	679	679	834	834	834
B	290	290	290	290	290	290	340	340	340
C	40	40	43	40	40	43	40	40	43
D	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
E	81	81	79.5	81	81	79.5	81	81	79.5
F	87.5	87.5	75	87	87	74.5	89.5	89.5	77
G	87.5	87.5	87.5	87	87	87	89.5	89.5	89.5
H	90	90	90	135	135	135	190	190	190
L	375	375	375	535	535	535	690	690	690
M	330	330	342.5	505	505	517.5	655	655	667.5

## Discharge possibilities

- The standard grill is best suited for rooms no higher than 4m and with the heater mounted to the wall discharging horizontally. The grill can be rotated, depending on which side the water connections need to be located. Additional louvres can be supplied to spread the air more evenly; consequently the throw is reduced by about 30%.
- In rooms between 5 and 8 meters high, it is recommended to place the heater horizontally and let the warm air discharge vertically; additional louvres will improve the air distribution.
- For rooms with a ceiling height lower than 4m and for the use in false ceilings, a 4-way or 6-way down flow plenum is a good option. The plenum can optimally distribute the air in all directions without it being experienced as a draft. In a false ceiling the air heater unit itself is build in above the ceiling so it is not present in the room as a disturbing element anymore. This is especially important in showrooms, exhibition rooms, stores, etc.

## Controls

Winterwarm has several controls available to operate the WWH-heaters, often applied in combination with a 5-step switch to set the air volume.

The modulating clock thermostat controls the volume of the discharged air according to the roomtemperature. In all situations we advise to apply a connection thermostat (IH8500) to prevent the heater from discharging cold air.



Room thermostat  
(art.no. IW3960)

- Temperature range 10°-30°
- 230 V
- Switches max. 10 Amp.



Clockthermostat  
(art.no. IW3958)

- Temperature range 6°-35°
- 230 V
- Switches max. 6 Amp.
- Week program



Modulating clock  
thermostat (art.no. IW3962)

- IP40
- 230 V.
- max. 4.5 Amp.
- Week program



Connection thermostat  
(art.no. IH8500)

- Temperature range 20°-90°
- 230 V
- Max. 2.5 Amp.

To prevent cold air  
discharge



5-step switch

- IA8540 - 2.2 Amp.
- IA8542 - 3.5 Amp.
- IA8543 - 5.0 Amp.
- IA8544 - 8.0 Amp.

To reduce the revolutions  
per minute

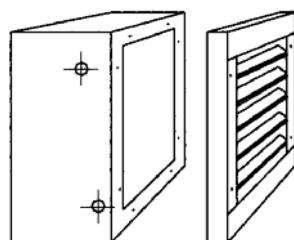


5-step switch

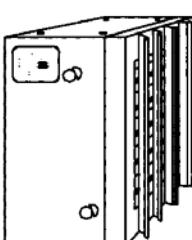
- IA8515 - 11 Amp.
- IA8516 - 15 Amp.

To reduce the revolutions  
per minute

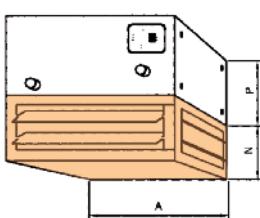
standard grill



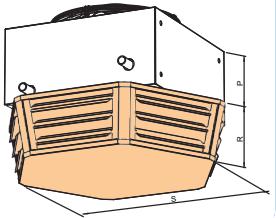
with extra louvres



4-way down flow plenum



6-way down flow plenum



## Discharge possibilities

Type	1	2	3
number of louvres	3	5	6
A	505	679	834
N	200	200	200
P	240	240	290
R	181	181	-
S	714	957	-

## Technical data

Valid at water temperatures 90/70°C (air temperature 15°C)

Type	unit	110	115	120	230	235	245	350	365	380
Heating capacity	kW	11.4	14.9	17.6	25.2	32.2	42.7	47.0	59.3	72.1
Air output	m <sup>3</sup> /hr	1200	1900	1500	2800	4300	3800	5400	8200	6300
Horizontal throw	m	10	14	12	19	22	19	20	25	21
Vertical throw	m	3.5	5	4	6	7	6	7	8	7
Electrical supply	W	230	230	230	230	230	230	230	230	230
Consumed current (max)	A	0.6	1.2	1.2	1.1	1.7	1.7	2.4	3.2	3.2
Power consumption	W	110	170	170	170	365	365	540	730	730
Weight incl. water	kg	20	20	21	31	31	32	44	61	65
Water connection (ext.)	G"	3/4	3/4	3/4	3/4	3/4	1	1	1	1
Waterside pressure loss	kPa	2	3	3	3	3	5	4	5	9
Recommended suspension height	m	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Sound level	dB(A)	50	59	58	52	57	56	58	61	62

## Capacities various water temperatures

In situations with other water temperatures, one has to multiply the standard capacity of the unit with the value in the table below.

Water temperature	Air temperature inlet					
	0°C	5°C	10°C	15°C	18°C	20°C
90/70°C	1.30	1.19	1.10	1.00	0.94	0.91
80/60°C	1.11	1.01	0.91	0.82	0.76	0.73
70/50°C	0.92	0.82	0.73	0.64	0.56	0.55
60/40°C	0.73	0.64	0.54	0.45	0.40	0.37
50/30°C	0.54	0.45	0.37	0.27	0.22	0.18

## Winterwarm: leading

Winterwarm has been engaged in the development, production and sales of industrial heating in Europe since 1936. The company not only specialises in indirect fired unit air heaters, but also sells radiant tubes, rooftops, water heaters and destratification fans.



**Winterwarm**   
heating solutions

### Winterwarm BV

Industrieweg 8 Winterswijk The Netherlands  
P.O.Box 36 NL-7100 AA Winterswijk The Netherlands  
Tel. +31 (0)543 54 63 00 Fax +31 (0)543 54 63 10  
www.winterwarm.com info@winterwarm.nl

### Winterwarm UK Ltd.

Unit H3, Taylor Business Park, Warrington Road,  
Risley, Warrington, Cheshire WA3 6BL  
Tel. +44 (0)192 57 65 799 Fax +44 (0)192 57 62 996  
www.winterwarmuk.com enquiries@winterwarmuk.com

### Famous Winterwarm quality

- 75 years of experience
- ISO 9001-2000 certified
- Quick delivery
- Reliable