



Winterwarm TR Series

Winterwarm presents the TR series: an indirect gas-fired unit air heater that is ideal for industrial applications.



Winterwarm
heating solutions 

Characteristics Winterwarm TR series:

- Robust tubular heat exchanger
- Variable air distribution
- Modulating burner control
- Modulating fan
- Gradient control
- Low-maintenance
- Simple 2-wire control

General

For those searching for a “reliable cost effective” unit air heater, the Winterwarm TR is certainly the best choice. This modern air heater has all the features which are usually associated to heaters with high technical specifications, for example variable air distribution, modulating burner and fan and a very clever gradient control, all being completely maintenance friendly. The TR-range consist of 12 capacities from 10 to 150 kW.

Horizontal and vertical air distribution

Characteristically for these types of air heaters are the S-shaped tubes forming the heat exchanger with an atmospheric gas burner. The design of the tubular heat exchanger makes it possible to tilt the air heater, so that the heater can direct the air both horizontally and vertically downwards (TR 10-60; max. 6m.). Both the burner and fan modulate (100% to 60%), which promotes the efficient heating of the room. The room thermostat determines whether the burner is used

at full or partial capacity on the basis of the difference between the actual temperature and the desired (set) temperature. In practice, this means that the heater will only operate at full capacity during the start-up period (e.g. in the morning) and will use partial capacity to maintain the room temperature for the rest of the time.

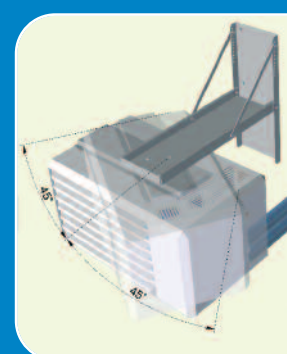
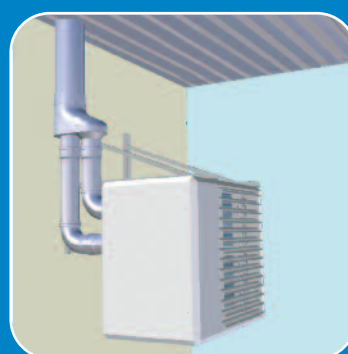
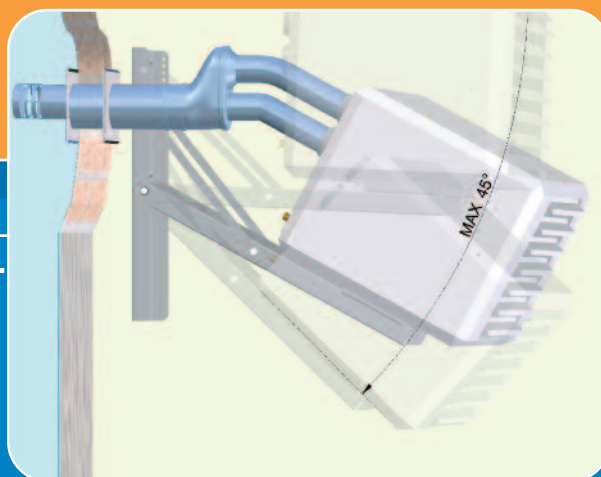
Gradient control

The heaters are also provided with a vertical gradient control (or delta T-Control). When the burner is not in use, the air heater can function as a circulation unit. A sensor in the air heater and a sensor in the room thermostat constantly measure the difference between the temperature differences between the two. Should the temperature gradient increase beyond the set value, the unit will switch on the fan and circulate the warm air. Naturally, the TR also has a summer ventilation setting.

Suspension

The TR has 3 suspension options:

- Swivelling console (*art.no. GA8670*) for mounting on walls, consisting of 2 plates and 2 lateral supports. The air heater can be placed on top of the console or suspended from it. In the first position it is possible to tilt the heater forwards from 0° to 45° to distribute air at an angle. In the second position, the device can be swivelled horizontally through 180° for placement in corners. Suitable for TR 10, TR 15, TR 20, TR 24 and TR 28.
- Brackets (*art.no. GA8580*) for wall mounting, consisting of 2 x 3 steel U-profiles. The heater can be placed on top of both supports and can also be suspended from them. Suitable for all types (GA8675 for TR150).
- threaded rods for suspension from the ceiling. The top of the TR-heater is provided with M10 fastening points in which threaded



rods can be inserted. Suitable for all types. In order to make it possible to suspend the types TR10 to TR40 vertically, these heaters are also provided with M10 fastening points on the back.

With regard to flue terminals we have 3 different types available in 3 different sizes: concentric roof terminal, concentric wall terminal and 2-pipe wall terminal (only types 10-28). The flue sizes are 80mm, 100mm and 130mm depending on the type of heater.

Control

There are 3 controlling options for the TR series. The MultiTherm is an intelligent thermostat which gets the best from the TR heater. Thanks to a number of functions which are simple to operate, a maximum comfort level can be achieved at a minimum energy consumption.

MultiTherm S

The Multitherm S is a thermostat, which the user can set at the desired room temperature incorporating the

following additional features;

- Permanent display of the room temperature
- Modulates on roomtemperature
- Summer ventilation
- Controls 1-8 heaters
- Failure diagnosis and reset per unit air heater
- Wired in twisted pair screened cable

MultiTherm C

The MultiTherm C is a 7-day programmable thermostat, incorporating an optimising program, and provided with the following functions:

- 7 day program
- 10 different on / off programs
- Modulates the heater according to the room temperature
- Frost protection
- Keyboard locking
- Summer / winter time
- Compensation wall influence
- Manual override
- Summer ventilation
- Controls 1-8 heaters
- Failure diagnosis and reset per unit air heater
- Wired in twisted pair screened cable



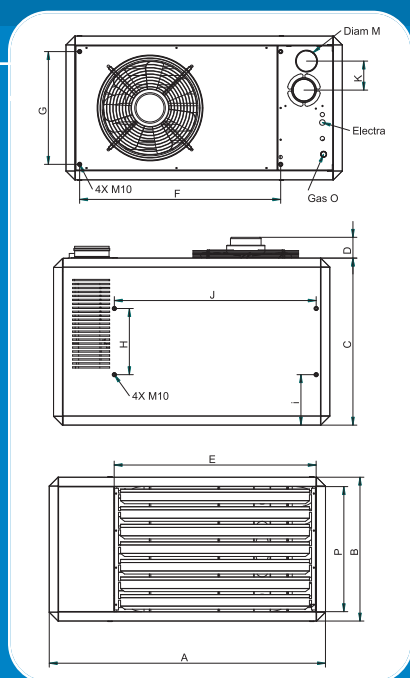
MultiTherm C
(art.no. IX3912)



MultiTherm S
(art.no. IX3911)

Multi Control Unit

This is an interface board for building management systems (0-10 V) with various input and output signals.



Measurements mm

| | TR 10-15-20 | TR 24 | TR 28 | TR 40 | TR 50 | TR 60 | TR 80 | TR 100 | TR 125 | TR150 |
|---|-------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|
| A | 1105 | 1040 | 1040 | 1130 | 1130 | 1735 | 1735 | 1735 | 1735 | 1735 |
| B | 290 | 540 | 540 | 540 | 670 | 630 | 630 | 800 | 970 | 1130 |
| C | 630 | 630 | 630 | 700 | 700 | 845 | 845 | 845 | 845 | 845 |
| D | - | 80 | 80 | 120 | 120 | 80 | 120 | 120 | 140 | 140 |
| E | 760 | 760 | 760 | 760 | 760 | 1335 | 1335 | 1335 | 1335 | 1335 |
| F | 763 | 763 | 763 | 763 | 763 | 1050 | 1050 | 1050 | 1050 | 1050 |
| G | 250 | 426 | 426 | 426 | 550 | - | - | - | - | - |
| H | 250 | 250 | 250 | 250 | 250 | 580 | 580 | 580 | 580 | 580 |
| I | 190 | 190 | 190 | 225 | 225 | 123 | 123 | 123 | 123 | 123 |
| K | 110 | 110 | 110 | 140 | 140 | 225 | 225 | 225 | 225 | 225 |
| M | ∅80 | ∅80 | ∅80 | ∅100 | ∅100 | ∅130 | ∅130 | ∅130 | ∅130 | ∅130 |
| O | 1/2" | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| P | 250 | 470 | 470 | 470 | 600 | 570 | 570 | 740 | 910 | 1070 |
| R | 235 | 145 | 145 | 195 | 195 | 220 | 220 | 220 | 220 | 220 |
| S | 80 | 95 | 95 | 95 | 95 | 143 | 143 | 143 | 143 | 143 |
| T | 175 | 75 | 75 | 165 | 165 | 127 | 127 | 127 | 127 | 127 |
| U | 50 | 80 | 80 | 70 | 80 | 88 | 88 | 88 | 88 | 88 |

Technical data TR-series

| Type | Unit | TR10 | TR15 | TR 20 | TR 24 | TR 28 | TR 40 | TR 50 | TR 60 | TR 80 | TR100 | TR125 | TR150 |
|---------------------------------------|-------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Nominal heat input (max.) | kW | 10.8 | 16.2 | 21.5 | 26.0 | 30.0 | 43.5 | 54.0 | 65.5 | 83.0 | 110.0 | 134.5 | 159.0 |
| Nominal heat input (min.) | kW | 6.5 | 9.7 | 14.5 | 17.5 | 20.5 | 30.0 | 36.5 | 44.0 | 53.5 | 73.5 | 90.0 | 105.0 |
| Efficiency max. power | % | 91.9 | 91.6 | 91.8 | 92.1 | 92.3 | 91.7 | 91.6 | 91.5 | 91.5 | 91.5 | 91.5 | 91.5 |
| Efficiency min. power | % | 87.9 | 87.4 | 88.6 | 89.1 | 89.5 | 88.7 | 88.4 | 88.0 | 88.0 | 89.0 | 89.5 | 89.5 |
| Maximum heat output | kW | 9.9 | 14.8 | 19.7 | 23.9 | 27.7 | 39.9 | 49.5 | 59.9 | 75.9 | 100.7 | 123.1 | 145.5 |
| Minimum heat output | kW | 5.7 | 8.5 | 12.9 | 15.6 | 18.3 | 26.6 | 32.3 | 38.7 | 47.1 | 65.4 | 80.6 | 94.0 |
| Maximum air output (+ temp. increase) | m ³ /h | 2000 | 2000 | 2000 | 3000 | 3000 | 4000 | 5000 | 6000 | 8000 | 10000 | 12500 | 15000 |
| Throw horizontal (max.) | m | 12 | 12 | 12 | 16 | 16 | 22 | 26 | 28 | 30 | 30 | 33 | 35 |
| Throw vertical (max. warm) | m | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Sound level (5m. from unit) | dB(A) | 42 | 42 | 42 | 45 | 45 | 48 | 50 | 50 | 52 | 54 | 60 | 60 |
| Electric connection | Vac | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| Power consumption | W | 200 | 200 | 200 | 190 | 200 | 300 | 425 | 350 | 600 | 750 | 1100 | 1200 |
| Power consumption Amps | A | 0.9 | 0.9 | 0.9 | 0.8 | 0.9 | 1.3 | 1.8 | 1.5 | 2.6 | 3.3 | 4.8 | 5.2 |
| Gas connection | G" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| Dimensions flue terminal (diam.) | mm | 80 | 80 | 80 | 80 | 80 | 100 | 100 | 130 | 130 | 130 | 130 | 130 |
| Min. suspension height hor. throw | m | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Min. suspension height vert. throw | m | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Weight | kg | 50 | 50 | 55 | 67 | 70 | 85 | 100 | 135 | 150 | 200 | 230 | 260 |
| Min. supply pressure G20 (E) | mbar | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Max. gas consumption G20 (E) | m ³ /h | 1.1 | 1.7 | 2.3 | 2.8 | 3.2 | 4.6 | 5.7 | 6.9 | 8.8 | 11.6 | 14.2 | 16.8 |
| Burnerpressure gas valve high (E) | mbar | 10.1 | 10.2 | 10.0 | 9.5 | 9.0 | 7.3 | 7.3 | 6.5 | 7.4 | 8.0 | 6.9 | 6.7 |
| Min. supply pressure G31 (P) | mbar | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Max. gas consumption G31 (P) | kg/h | 0.9 | 1.3 | 1.7 | 2.1 | 2.4 | 3.5 | 4.3 | 5.2 | 6.6 | 8.8 | 10.7 | 12.7 |
| Burnerpressure gas valve high (P) | mbar | 23.8 | 24.2 | 22.7 | 20.0 | 27.5 | 23.0 | 22.4 | 17.5 | 19.5 | 19.5 | 20.0 | 19.0 |

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, destratification fans and direct fired heaters for the agricultural and horticultural industry.



Winterwarm 
heating solutions

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Famous Winterwarm quality

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