Winterwarm TRC and TR Rooftop

Winterwarm presents the TRC and TR Rooftop: unit air heaters with a centrifugal fan suitable for applications with ventilation and/or connection to ducting; the TRC heaters being installed inside the building, and the TR Rooftop outside.

Winterwarm
heating solutions

Characteristics of the Winterwarm TRC/R series:

- Robust tubular heat exchanger
- 2-stage fan
- Modulating burner (TR 24-100)
- Modular construction
- Available pressure up to 300 Pa
- Simple two wire connection

The TRC and TR Rooftop are the centrifugal models from the TR series, the industrial air heater from Winterwarm. The TR air heaters are equipped with an atmospheric gas burner. The efficient heat exchanger is positioned in a unique S shape to ensure maximum transfer of heat to air.

Efficient heating

Both series are equipped with a modulating burner (to 65%) and a 2-stage fan which ensures efficient heating of the room. The appliances are also equipped with a delta T control allowing the appliance to use any available warm air before the burner switches on. In addition the heaters can be adjusted to provide ventilation only.

Both models are modular in construction: the basic unit comprises the heater module with a centrifugal fan behind it which can supply different available pressures: 60 Pa, 120 Pa, 180 Pa, 240 Pa or 300 Pa. The necessary pressure is determined by the resistances of the modules which are placed in front or behind the heater, e.g. ducting on the front or the back. Optionally, one can choose for a stainless steel heatexchanger. This is highly recommended when outside air is taken in, and the temperature of this air can get below -5°C. Also in aggressive environments (f.i. carwashes) a stainless steel heatexchanger is essential for the durability of the heater.

TRC applications

The basic TRC is often used to connect to ducting with several discharge points in the room. With this kind of application the warm air can be distributed very evenly in a room (or even 2 rooms!) with only one heater.

Also the TRC is often used to bring in external fresh air, especially where there is extraction of polluted air from the factory floor (e.g. welding processes).

The heater can be connected to the outside wall by means of the flange on the fanbox. As an extra module 2 dampers with interlink can be installed to mix outside air with inside air. By means of a servo-motor + remote control the user of the heater can determine himself the ratio of the inside and outside air. A dust filter can be placed inside the fanbox in front of the damper section to keep the air in the room as clean as possible by filtering the return air and/or the fresh air taken in from outside. Also in this case a duct can still be placed on the front of the heater. Important is that the total needed supply pressure is calculated correctly (max. 300 Pa.) Of course the unit can also be used for ventilation only.

TR Rooftop applications

The Rooftop model is basically an insulated, weatherproof TRC provided with a roof frame (2 types available) which is placed on the roof. The heater is then easy accessible for service by a door and does not form an obstacle inside the building. In countries where no gaspipes are allowed inside the building, a gas-fired rooftop unit is a very good heating solution. Like the TRC model, a rooftop usually brings fresh air into the room. An air entry module takes in the fresh air and prevents the rain from entering the heater.

Winterwarm Rooftop

Winterwarm TRC

Winterwarm TR Rooftop

The front of the heater is provided with a flange on which any type of ducting can be connected. Through this duct connection the heated air is transported into the room, possibly by a downflow module discharging the air directly in the room, or by ducting with several air discharge points distributing the warm air more evenly in the room.
As standard the Winterwarm rooftop is provided with 2 dampers to mix the outside air and the return air. Optionally, a servomotor with switch can be ordered to change the position of the dampers from a distance (as standard manually by an interlink). 2 filters keep the air clean (both return and outside air). Insulation material inside the fan box, and around the heater module restricts the heatloss as much as possible. When outside temperatures get below -10°C it is recommended to provide the Rooftop with a frost protection to ensure cold start up.

Suspension and combustion flue

The TRC heaters are provided with M10 attachment points on the top and the back where threaded rods can be screwed in. As standard the Rooftop is provided with a roof frame which can be screwed to the roof surface. For the TRC-series Winterwarm has concentric roof terminals and wall terminals available. The CE-approval on the heaters is only valid when installed with the corresponding approved flue material.

As the TR heaters are provided with a combustion flue fan, no problems arise when there is a bend in the flue pipe or a horizontal flue is applied. The TR Rooftop is supplied with a small flue pipe which has to be mounted on the concentric exit/entrance of the combustion air.

Controls

The MultiTherm thermostat controls the heaters. Maximum comfort, with minimum energy consumption can be achieved by means of several adjustable functions. The MultiTherm is a digital room thermostat, available in 2 versions:

MultiTherm C
(art.nr. IX3912)

MultiTherm S
(art.nr. IX3911)

MultiTherm S (MTS)

- Permanent display of the room temperature
- Allows air heater to modulate to the room temperature
- Summer ventilation
- Compensation for wall influence
- Frost protection
- Failure diagnosis and reset per heater
- 2- wire connection
- Control of 1-8 heaters possible

MultiTherm C (MTC)

A clock thermostat with the same basic functions as the MTS and as extra:

- Clock function
- 10 programmable time frames
- Overwork timer
- Keyboard locking
- Remote sensor possible

The TRC heaters and the TR Rooftops can also be connected to a building management system (0-10V) with input/output signals. Winterwarm has an interface board available for this purpose.

Winterwarm TRC

Modules contributing to pressure loss:

Fan box	20 Pa
Dampers (2 pcs.)	10 Pa
Filter section, not polluted	40 Pa
Air entry module	10 Pa

Interface board IB5902 for connection to a building management system

- Controls up to 8 heaters
- 0-10 analogue input
- Entrance for low-stage (reacts between 2-10V)
- Reset function
- Entrance for high-stage
- Failure diagnosis
- Summer ventilation

Technical data

Type	Unit	TR24C	TR28C/R	TR40C/R	TR50C/R	TR60C/R	TR80C/R	TR100C/R	TR125C/R	TR150C/R
Nominal heat input max.	kW	26.0	30.0	43.5	54.0	65.6	83.0	110.0	134.5	159.0
Nominal heat input min.	kW	17.5	20.5	30.0	36.5	44.0	53.5	73.5	90.0	105.0
Efficiency max power	%	92.1	92.3	91.7	91.6	91.5	91.5	91.5	91.5	91.5
Efficiency min power	%	89.1	89.5	88.7	88.4	88.0	88.0	89.0	89.5	89.5
Maximum heat output	kW	23.9	27.7	39.9	49.5	59.9	75.9	100.7	123.1	145.5
Minimum heat output	kW	15.6	18.3	26.6	32.3	38.7	47.1	65.4	80.6	94.0
Maximum air output	m3/h	3000	3000	4000	5000	6000	7500	9000	12000	13500
Throw horizontal max.	m	16	16	22	26	28	30	30	30	30
Electrical connection (50Hz)*	Vac	400	400	400	400	400	400	400	400	400
Power consumption (60 Pa)	W	520	520	770	1000	850	1050	1285	2271	2604
Power consumption (120 Pa)	W	570	570	820	1050	1000	1320	1552	2327	2715
Power consumption (180 Pa)	W	620	620	1000	1100	1050	1700	1765	2604	2971
Power consumption (240 Pa)	W	780	780	1050	1330	1350	1750	2049	2859	3615
Power consumption (300 Pa)	W	920	920	1270	1450	1620	2230	2437	3615	4190
Power consumption nom. (60 Pa)	A	0.9	0.9	1.3	1.8	1.4	1.8	2.1	3.8	4.4
Power consumption nom. (120 Pa)	A	1.0	1.0	1.4	1.9	1.7	2.2	2.6	3.9	4.6
Power consumption nom. (180 Pa)	A	1.1	1.1	1.8	1.95	1.8	2.9	3.0	4.4	5.0
Power consumption nom. (240 Pa)	A	1.4	1.4	1.9	2.3	2.25	3.0	3.4	4.8	6.0
Power consumption nom. (300 Pa)	A	1.7	1.7	2.	2.55	2.75	3.75	4.1	6.0	7.0
Gas connection	G”	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Max. gas consumption G20	m3/h	2.8	3.2	4.6	5.7	6.9	8.8	11.6	14.2	16.8
Min. supply pressure	mbar	20	20	20	20	20	20	20	20	20
Max. gas consumption G31 (P)	kg/h	2.1	2.4	3.5	4.3	5.2	6.6	8.8	10.7	12.7
Min. supply pressure	mbar	30	30	30	30	30	30	30	30	30
Minimum suspension height (TRC)	m	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Dimensions flue terminal (TRC)	mm	80	80	100	100	130	130	130	130	130

** 1-phase/230 V. version (up to 100 kW) available upon request.*

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.

Famous Winterwarm quality

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

Winterwarm
heating solutions

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