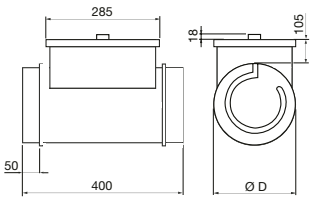
MBE R2 – electric heaters with regulation

top view of the heater



Technical parameters

MBE R2 – electric heater for circular pipes with power regulation

- cabinet made of galvanized sheet metal, contains a terminal board, internal installation and a heating power regulator, including a power element cooler
- heating rods are made of stainless steel
- is fitted with two thermostats, working (60 °C) and safety (switches off at 120 °C)
- the reset button of the safety thermostat is located on the housing, during assembly it is necessary to place the heater in view of the revision activity
- continuous regulation is carried out by applying a regulation voltage with a range of 0–10 V depending on the regulation deviation or by a built-in temperature regulator
- the heater is equipped with its own temperature regulator with inputs for TGBK sensors
- the controller enables connection with a Unireg® control unit, or with a complete Digireg® control

Technical parameters

- control voltage 0 to 10 V DC
- drawn current at a control voltage of 10 V to 10 mA
- control voltage range for 0–100 % heater power is approx. 1.9 to 9.6 V
- heat loss on coolers max. 0.6 % of heater output (more information on request)
- the operating temperature of the coolers (at an ambient temperature of 40 °C) is up to 85 °C
- maximum temperature on coolers with electronic limitation in case of insufficient cooling up to 100 °C
- heater switching period approx. 20 s
- the control circuit is galvanically separated from the mains voltage, it maintains the conditions for SELV circuits
- for control systems that cannot supply a control voltage with a current of 10 mA, a PS-21 converter is available
- IP43 protection
- they are mounted behind the fan in the direction of air flow, approx. 1 m of pipe must be inserted between the fan and the heater
- when turning off the fans, the flaps in the system may only be closed after the rods have cooled down, otherwise there is a risk of damage to the heater and other equipment.
- Attention! The electric heater must have a minimum speed of 1.5 m/s through the heating coils to maintain proper function. If this speed is not observed, the heating spirals overheat and the thermal protection of the heater switches off. This fundamentally reduces the service life of the heating coils.
- the following designs are available outside the standard performance range:

MBE-100 R2 – 0.8 kW
MBE-125 R2 – 0.4/0.8 kW
MBE-160 R2 – 0.7/1.4 kW
MBE-200 R2 – 2/3/4/6/9 kW
MBE-250 R2 – 1/2/3/4/9 kW
MBE-315 R2 – 12/15 kW
MBE-355 R2 – 6/12/15/18 kW
MBE-400 R2 – 6/12/15/18 kW
MBE-500 R2 – 6/12/15/18 kW

Instructions

recommended operating instructions (K 10)

Accessories

TGBR 430 room temperature sensor (K 8.3)

TGBR 530 room temperature sensor (K8.3)

TGBK 330 channel temperature sensor (K 8.3)

Example of order execution

M B E | 125 / 1.2 | R2

pipe connection diameter

electric heating output (kW)

Type	curve Δp	min. flow [m³/h]	input power [W]	voltage [V]	current [A]	piping [mm]	temperature sensors	differential pressure sensor	weight [kg]
MBE-100/0.4 R2	1	50	400	1/230	1.7	100	TGBK,TGBR	DTS PSA	2.5
MBE-125/1.2 R2	6	70	1,200	1/230	5.2	125	TGBK,TGBR	DTS PSA	3.5
MBE-160/2.1 R2	5	110	2,100	1/230	9.1	160	TGBK,TGBR	DTS PSA	5.0
MBE-200/3.0 R2	4	170	3,000	2/400	7.5	200	TGBK,TGBR	DTS PSA	6.1
MBE-200/5.0 R2	6	170	5,000	2/400	12.5	200	TGBK,TGBR	DTS PSA	6.4
MBE-250/5.0 R2	4	270	5,000	2/400	12.5	250	TGBK,TGBR	DTS PSA	7.4
MBE-250/6.0 R2	5	270	6,000	2/400	15.0	250	TGBK,TGBR	DTS PSA	7.6
MBE-315/3.0 R2	1	420	3,000	2/400	7.5	315	TGBK,TGBR	DTS PSA	7.8
MBE-315/6.0 R2	2	420	6,000	2/400	15.0	315	TGBK,TGBR	DTS PSA	8.8
MBE-315/9.0 R2	4	420	9,000	3/400	13.0	315	TGBK,TGBR	DTS PSA	9.0
MBE-355/9.0 R2	3	540	9,000	3/400	13.0	355	TGBK,TGBR	DTS PSA	10.0
MBE-400/9.0 R2	2	680	9,000	3/400	13.0	400	TGBK,TGBR	DTS PSA	11.3
MBE-450/15.0 R2	7	860	15,000	3/400	21.6	450	TGBK,TGBR	DTS PSA	12.3
MBE-500/9.0 R2	1	1,060	9,000	3/400	13.0	500	TGBK,TGBR	DTS PSA	13.2

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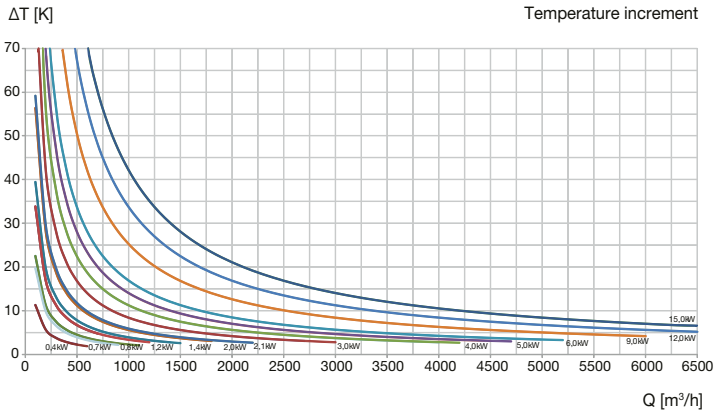
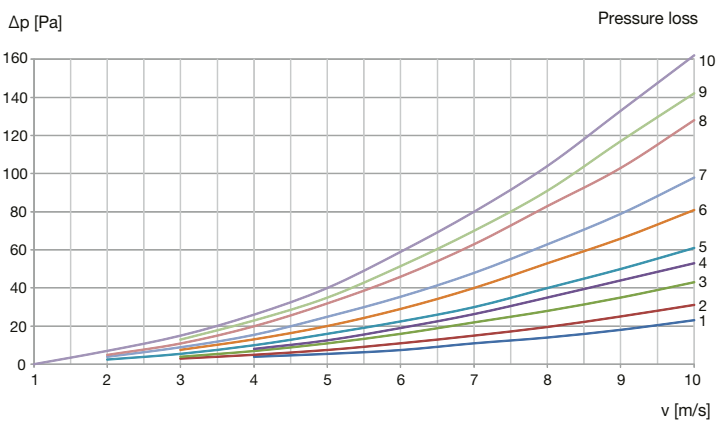
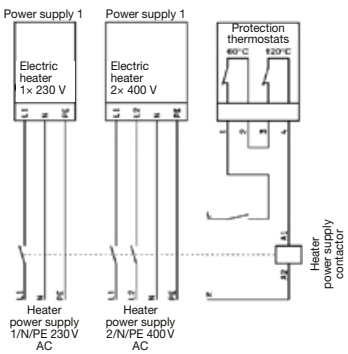
Characteristics

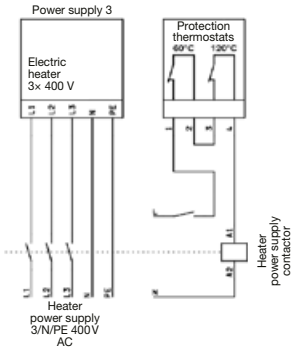




Supplementary image



wiring diagram



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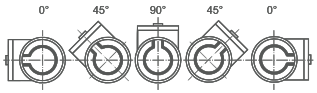
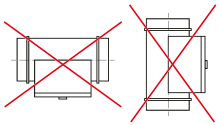


permitted mounting positions



prohibited mounting positions

Notice:
When the ventilation system is turned off, the fan must be allowed to run for cooling down the heating rods with a delay of min. 2 minutes Otherwise, there is a risk of damage to the heater and other equipment.

MBE R2 – pressure losses[Δp]										
diameter [mm]	100	125	160	200	250	315	355	400	450	500
min. flow rate [m³/h]	50	70	110	170	270	420	540	680	860	1060
Heater performance					**Curve type**					
400 W	1	1								
700 W			1							
800 W	7	5								
1,200 W		6								
1,400 W			4							
2,000 W				2	1					
2,100 W			5							
3,000 W				4	2	1				
4,000 W				5	2					
5,000 W				6	4					
6,000 W				7	5	2	2	1		1
9,000 W					7	4	3	2		1
12,000 W						5	4	3		3
15,000 W								8	7	