

# BAS-TR

Gas Air Heater



**Biddle**

# RELIABLE AND COST-EFFECTIVE AIR HEATER

This modern air heater has all the features which are usually associated to heaters with high technical specifications. The BAS-TR range consist of 12 capacities from 10 to 150kW.

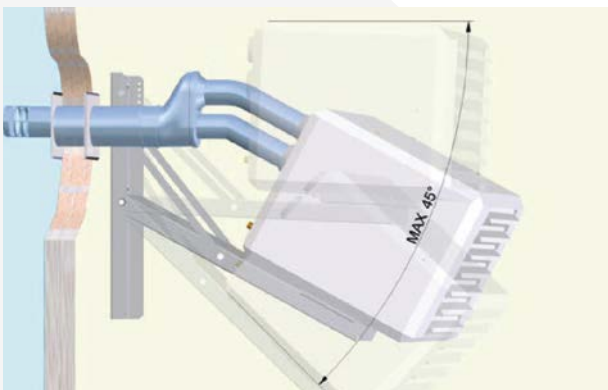
## EFFECTIVE HEATING THROUGH HORIZONTAL AND VERTICAL AIR DISTRIBUTION

Typically these types of air heaters have S-shaped tubes connecting 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 (BASTR 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.

## FEATURES AND BENEFITS:

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



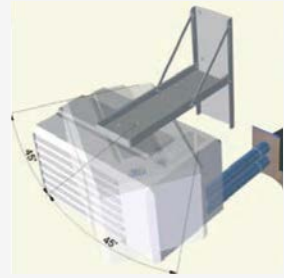
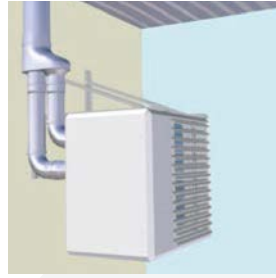
## GRADIENT CONTROL

The BAS-TR series uses an advanced control system which increases the comfort even further. Two temperature sensors, one within the heater and one in the room, measure continuously the temperature gradient. Should the temperature gradient increase beyond the set value, the unit will switch on the fan and circulate the warm air. The gradient control in combination with the modulating burner and fan can realize energy savings up to 15% in comparison with conventional unit air heaters. Of course the BAS-TR is also provided with a summer ventilation possibility for continuous air circulation.

## SUSPENSION

### THE BAS-TR HAS 3 SUSPENSION OPTIONS:

- 1. 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 BAS-TR 10-28.
- 2. Brackets (art.no. GA8580): for wall mounting, consisting of steel U-profiles.** The heater can be placed on top of both supports and can also be suspended from them. Suitable for all types (art. no. GA8675 for BAS-TR150).
- 3. Threaded rods: for suspension from the ceiling.** The top of the BAS-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 BAS-TR 10 to BAS-TR 40 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.



## CONTROLS

There are 3 controlling options for the BAS-TR series.

### 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 room temperature
- Summer ventilation
- Controls 1-8 heaters
- Failure diagnosis and reset per unit heater
- Wired in twisted pair screened cable



MultiTherm S



MultiTherm C

### MULTITHERM C

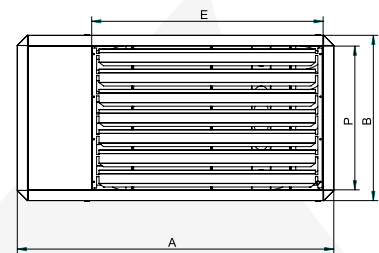
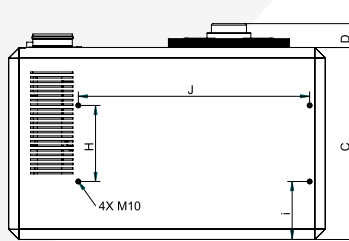
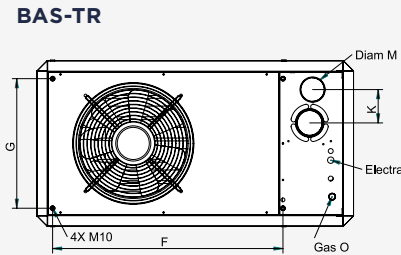
The MultiTherm C is a 7-day programmable thermostat, incorporating an optimising program, and provided with the following functions:

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

### MULTI-CONTROL UNIT

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

## BAS-TR



	BAS-TR 10-15-20	BAS-TR 24	BAS-TR 28	BAS-TR 40	BAS-TR 50	BAS-TR 60	BAS-TR 80	BAS-TR 100	BAS-TR 125	BAS-TR 150
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	ø80	ø80	ø80	ø100	ø100	ø130	ø130	ø130	ø130	ø130
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

Measurements mm

# TECHNICAL DATA

Description	Unit	BAS-TR 10	BAS-TR 15	BAS-TR 20	BAS-TR 24	BAS-TR 28	BAS-TR 40	BAS-TR 50	BAS-TR 60	BAS-TR 80	BAS-TR 100	BAS-TR 125	BAS-TR 150
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
Max. 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
Min. 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
Max. air output (+ temp. increase)	m <sup>3</sup> /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 <sup>3</sup> /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
Burner pressure 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
Burner pressure 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

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