GAS BURNERS from 50 to 5900 kW
SERIES

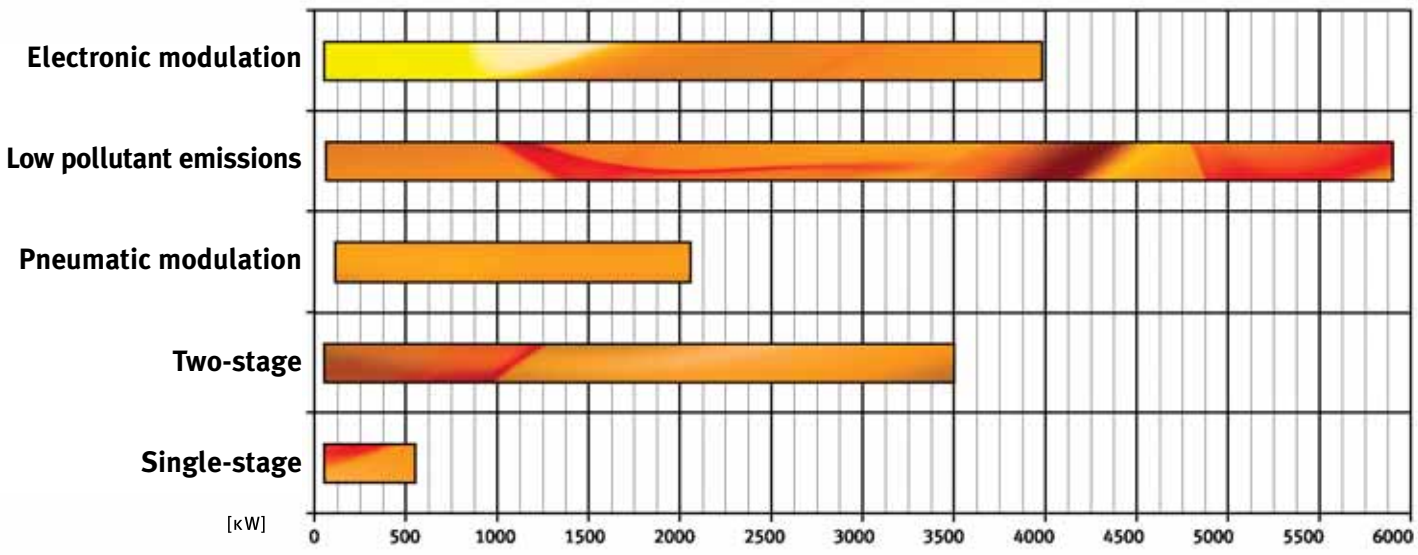
Gas burners

baltur

GAS BURNERS from 50 to 5900 kW
SERIES

Product range

The wide range of models available is able to satisfy the needs of an ever more demanding and diverse market. The range of gas burners includes single-stage burners, two-stage ...P, pneumatic modulating ...PN, pneumatic modulating low NOx emissions (class III) ...LX, pneumatic modulating low emissions with inverter ...LX V, electronic modulating ...ME, electronic modulating with low pollution emissions with proportional gas valve ...LX PN ME , available with inverter in the V version.



... PN EXECUTION
Pneumatic modulation

FLAME MODULATION

It was decided to combine a new type of pneumatic modulation using “GARC” (constant gas-air ratio) valves with the particular type of combustion head offering emissions well below the most restrictive limits of current regulations.

This new system is much more efficient and easier to use than the mechanical modulation widely used in burners and whose best use requires great experience.

Adjustment is limited to selecting the required air/gas ratio (that determines the percentage of excess oxygen), and adjusting this ratio only to burner maximum and minimum capacity; the innumerable intermediate stages are self-regulating thanks to the particular characteristics of these valves.

The burner becomes much “leaner” in no longer requiring the servomotor system, the lever mechanisms or the shutter valves usually used with normal modulators, and the quantity of gas introduced in the combustion chamber depends only on the amount of air that will increase and decreased thanks to a simple air shutter.

The system is also defined as “dynamic”, i.e. self-regulating if the conditions (gas and air flowrates and pressures) change for any reason, and is thus safer while requiring less maintenance.

ADVANTAGES OF THE GARC SYSTEM:

VERY HIGH MODULATION RATIOS

High modulation ratios ensure very small fluctuations in the controlled value (T° of the water or steam pressure), optimizing running economy, comfort, and burner and heat generator life.

Dynamic modulation control: ensures constant performance and absolutely safe operation even if foreign objects block all or part of the air intake.

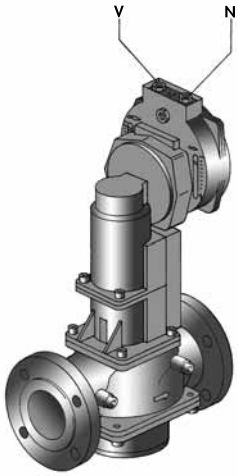
O_2 IN FUMES CONSTANT

The constant gas-air ratio assures constant residual oxygen levels in the fumes, always offering high boiler efficiencies for boilers, and above all condensing boilers.

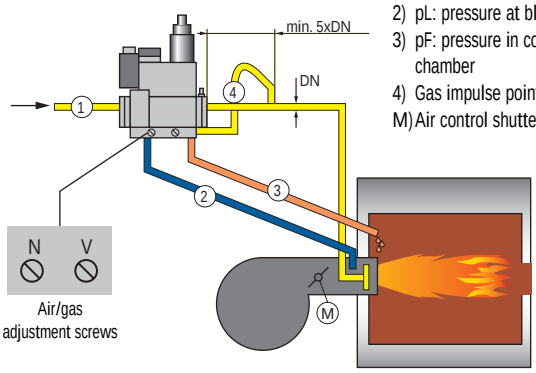
EASY USE AND MAINTENANCE

The GARC system makes intervention on the burner quick and easy, adjusting two screws and reducing adjustment times by 75% compared with a conventional mechanically-adjusted modulating burner.

...PN Execution

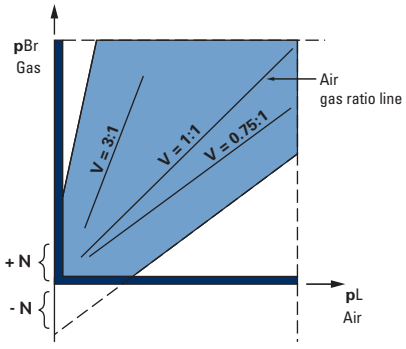


PRESSURE LINE INSTALLATION



LEGEND
1) gas inlet pressure
2) pL: pressure at blower
3) pF: pressure in combustion chamber
4) Gas impulse point pBL
M) Air control shutter

ADJUSTMENT RANGE



N = Regulates air-gas ratio at minimum capacity (origin of ratio line).
V = Regulates air-gas ratio at maximum capacity (ratio line slope).
By using the regulating screws N and V and the gas valve we can alter the air-gas ratio through a wide field to obtain the desired combustion parameters.

... ME EXECUTION
Electronic modulation

...ME Execution

Traditional modulation systems (mechanical modulation) used in standard burners have a mechanical connection between the servomotors and the adjustment parts which use rods, drive levers and joints.
This creates mechanical play and hysteresis in the combustion air/fuel calibration system, which creates imprecision for the combustion adjustment, especially at the minimum loads.
This combustion adjustment imprecision translates as loss of efficiency in terms of energy yield.
With electronic modulation, there is absolutely no mechanical play and hysteresis as the servomotors are connected directly to the adjustment devices, without drive levers or rods.
This guarantees optimal combustion values at all the load points.
The correct position of the servomotors (stepping mode, with precision to one tenth of a degree) is guaranteed by the electronic cam, the new microprocessor "flame control", which is used to command and monitor all the burner functions.
The electronic cam has a built-in gas seal control. The PID temperature/pressure load adjuster is an optional for the BGN series and standard for GI series industrial burners. The combustion air/fuel ratio adjustment curve (with configurable working points) is programmed using a programming keypad with display.
This curve is password-protected.
The display can be used to display a whole series of information.
For example, if the burner is blocked, an error code will be displayed for immediate recognition of the cause of the block and rapid solving of the problem.
The Me series burners comply with the ever increasingly demanding requirements of a market which requires combustion systems with high energy efficiency, considerable technological content and cost cuts for installation and maintenance.
The creation of these ME series burners is confirmation that the technology used is continuously being developed, with increasing precision, reliability and duration over time. At the same time, costs are continuously being reduced, making use of these burners more convenient.

BURNER OPERATING DISPLAY WITH PROGRAMMING KEYPAD

Used to display the operating sequence of the position of the air servomotor and servomotor command.
Burner operating time and number of successful start-ups.
Also indicates the quality of the flame detected. If the burner is blocked, an error code will be displayed for immediate recognition of the cause of the block. You can display the fuel consumption using a pulse signal coming from the gas flow measurer.
Simple programming keypad for burner calibration.
These functions are password-protected.

ELECTRONIC CAM

Electronic programmer with microprocessor for commanding and monitoring the burner functions.
Modulating functioning using a heat-regulator (on request).
Built-in gas valve seal control.
Set up for remote release.
Electrical connection using coded click-in pins to prevent cabling errors.
Fitted with eBUS connection.

SERVOMOTORS FOR AIR AND FUEL ADJUSTMENT

The air and gas flows are adjusted using stepping mode servomotors with precision to one tenth of a degree.
The considerable precision of the adjustments makes it possible to maintain the combustion at optimal values at all the load points.

... LX EXECUTION
Low pollutant emissions

To reduce noxious NOx emissions into the atmosphere, combustion with greatly restricted excess air is required, as well as, and especially, flame temperatures that are as low as possible. Baltur has designed and developed special combustion heads that recycle an exact quantity of exhaust gases according to the flow of gas/air that the burner must supply, while ensuring stable and "clean" combustion with excess air that is much below normal levels. With this type of combustion head, very low polluting NOx and CO emissions are obtained, in accordance with "class III" of EU regulation EN676. The "LX" series of burners have thus come into being, a real contribution to improving the environment we live in.

APPLICATIONS

LX range burners offer very high performance with low emissions, a wide operating range, high levels of applied technology and, above all, flexible use.
In fact, in addition to producing very low harmful emissions, LX range burners are also outstanding modulating burners and can therefore be used for any application requiring a multi-stage gas-fired burner.
To obtain the low NOx emissions declared, the burner must be combined with suitable boilers: three-pass, condensing and any direct exhaust generator with thermal load not higher than 1.8 MW/m^3.

OPERATION

LX range burners are manufactured exclusively in two-stage progressive and modulating versions.
With two-stage progressive output use, the burner goes from min. to max. (and vice versa) without stopping in intermediate stages, controlled by a thermostat or pressure switch according to the type of system.
In this way the burner goes smoothly from one power level to another.
However, the burner is mainly used in the modulating version, which means it can be used as a true multi-stage burner.
With the use of the RWF 40 electronic control, already foreseeable as standard, or with an external PLC type control system, LX range burners no longer work on just two single power "steps" but with countless flame stages, punctually adjusting to the system's precise heat requirements.

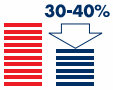
MODULATION

For this type of burner, electronic modulation ME is used in combination with a pneumatic gas train, thus bringing together the advantages of the ME version and those of the PN version.

...LX
...V
Execution

... V EXECUTION
Frequency converter (inverter)

Energy costs and the pollution associated with its production require increasing attention to consumption. It therefore becomes necessary to produce systems that are increasingly more efficient. Today, non-dissipating control systems that reduce losses to minimum, are preferred.
In fact, the fan of a burner in conventional configuration always absorbs the same electrical power (with negligible variations) with the variations in burner operating power. The air flow is regulated exclusively by the air shutters which close as the power is reduced, limiting the air inlet section and therefore inducing a higher loss of load that in fact dissipates a part of the electrical power supplied by the fan motor.
Moreover, in such a configuration the fan always runs at top speed, thus generating maximum noise at every operating power. These limits can be exceeded by installing a static frequency converter inside the control panel, and which varies the fan rpm with the change in burner power.
The frequency converter receives the signal that regulates the rpm directly from the combustion air actuator, regulating the flowrate according to actual requirements, for better energy management.
The air shutters remain on the burner and carry out an air flow and dynamic air pressure fine adjustment function at the combustion head, above all during transients.
Use of the frequency converter offers considerable savings in electrical power costs for feeding the fan, with peaks of 70 % at min. burner power and a weighted annual reduction in the order of



The second big advantage offered by inverter for regulating fan speed (rpm) is the very high reduction in the sound pressure level at partial burner loads, with peaks that can reach

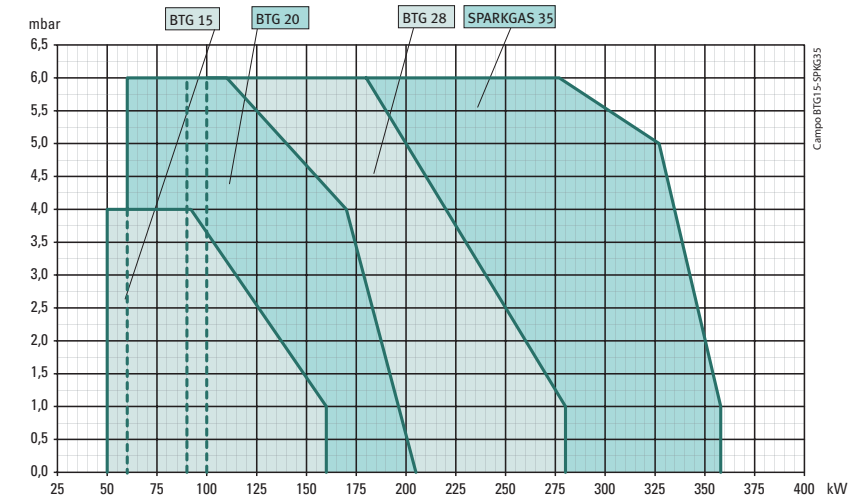
at min. burner power with respect to the standard solution with air flow control exclusively entrusted to the shutters and fan at nominal motor rpm.
Other advantages regarding the use of the frequency converter are:

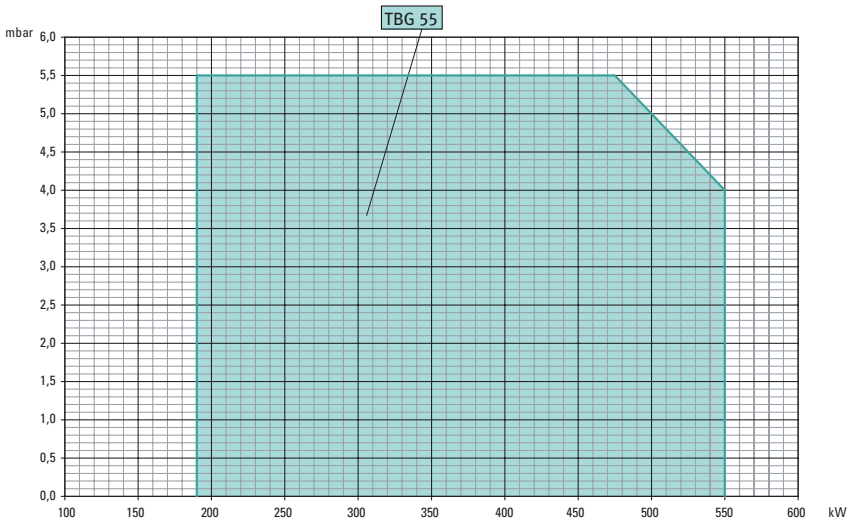
- **Power factor close to 1** at any speed.Therefore possible power factor improvements are not necessary.
- **Reduction in starting currents:** the frequency converter enables gradual starting of the motor. Y/Δ starts or soft starters become unnecessary.
- **Lower mechanical stress:** the absence of sudden starts considerably reduces stress to the system, with benefits in terms of maintenance on the mechanical parts.

The excellent performance for cost obtained using the frequency converter is self-evident.

SINGLE-STAGE
GAS BURNERS

Product range





The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.
In reality, variations may occur, due to the following factors:

a) the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m^3) which may prevent the burner fan from exploiting the entire operating range.

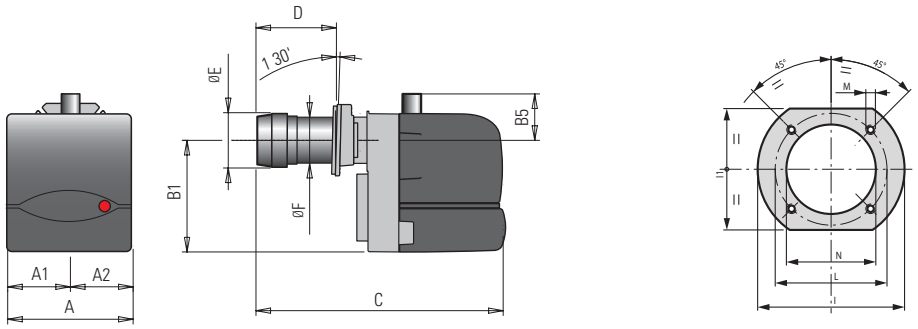
Model	Part no.	Thermal output		Capacity		Pressure natural gas **)		Electric supply	Motor kW	Notes
		min. kW	max. kW	min. m_n^3/h	max. m_n^3/h	CE mbar	EXP mbar			
Frequency 50 Hz										
BTG 15	17080010	50	160	5	16,1	360	360	1N AC 50Hz 230V	0,18	1)
BTG 20	17100010	60	205	6	20,5	360	360	1N AC 50Hz 230V	0,18	1)
BTG 28	17140010	100	280	10	28,2	360	360	1N AC 50Hz 230V	0,18	1)
SPARKGAS 35 W	15740010	90	358	9	36,0	360	360	1N AC 50Hz 230V	0,37	3)
SPARKGAS 35	15760010	90	358	9	36,0	360	360	1N AC 50Hz 230V	0,37	3)
TBG 55	17400010	190	550	19	55,0	360	360	3N AC 50Hz 400V	0,55	
Frequency 60 Hz										
BTG 15	17080010	50	160	5	16,1	360	360	1N AC 60Hz 230V	0,18	1)
BTG 20	17100010	60	205	6	20,5	360	360	1N AC 60Hz 230V	0,18	1)
BTG 28	17145410	100	280	10	28,2	360	360	1N AC 60Hz 230V	0,25	1)
SPARKGAS 35 W	15745410	90	358	9	36,0	360	360	1N AC 60Hz 230V	0,37	3)
SPARKGAS 35	15765410	90	358	9	36,0	360	360	1N AC 60Hz 230V	0,37	3)
TBG 55	17405410	190	550	19	55,0	360	360	3N AC 60Hz 400V	0,55	

NOTES:

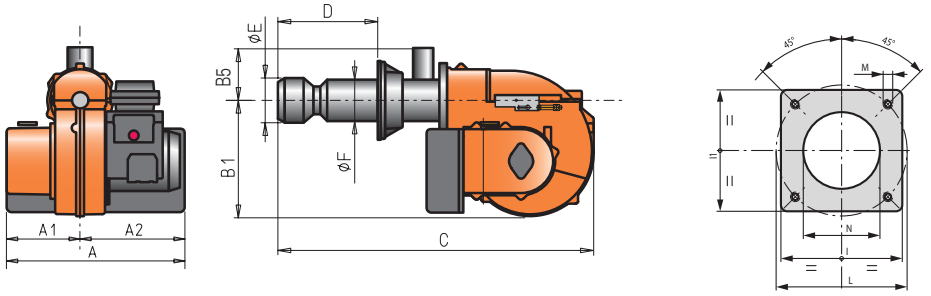
1) Equipped with air shutoff device.
3) Soundproof lid on burner are intake.
*) Net calorific value of natural gas: Hi = 35,80 MJ/m^3 = 8550 kcal/m^3, at reference conditions of 0°C, 1013 mbar.
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Dimensions

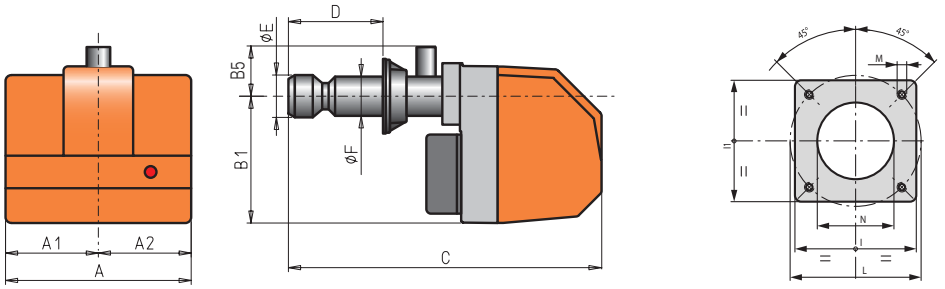
BTG ...



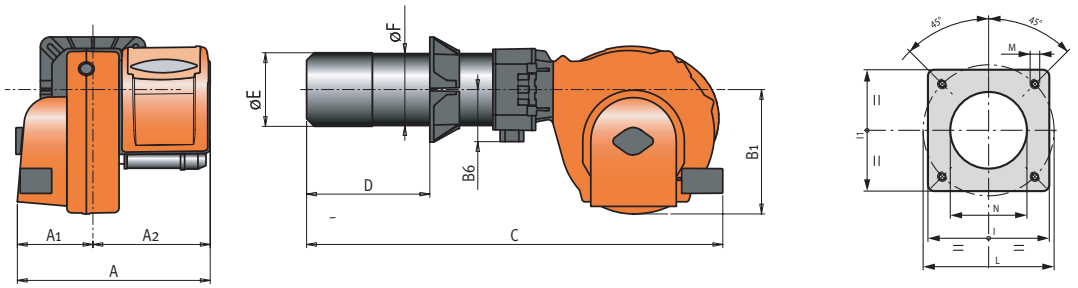
SPARKGAS 35W



SPARKGAS 35

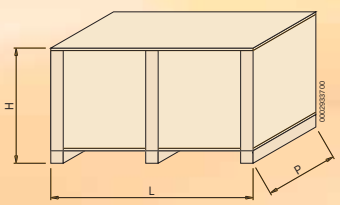


TBG 55



Model	A mm	A 1 mm	A 2 mm	B1 mm	B 5 mm	B 6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M mm	N mm
BTG 15	303	158	145	275	70	–	680	150 ÷ 280	126	114	185	185	170 ÷ 210	M10	135
BTG 20	303	158	145	275	70	–	695	150 ÷ 300	127	114	185	185	170 ÷ 210	M10	135
BTG 28	303	158	145	275	70	–	695	150 ÷ 300	135	114	185	185	170 ÷ 210	M10	145
SPARKGAS 35 W	475	230	245	263	102	–	925	130 ÷ 350	155	135	215	215	200 ÷ 245	M12	150
SPARKGAS 35	490	245	245	275	102	–	965	130 ÷ 350	155	135	215	215	200 ÷ 245	M12	150
TBG 55	645	275	370	380	–	160	1230	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170

Model	Package dimensions mm L	P	H	Weights kg
BTG 15	780	370	410	18
BTG 20	780	370	410	18
BTG 28	780	370	410	18
SPARKGAS 35 W	1010	490	390	32
SPARKGAS 35	1100	540	480	36
TBG 55	1080	770	700	75



Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

BTG... Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas-fired burner.
- Single stage operation (on/off).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Exhaust gas recycling blast-pipe able to achieve very low pollutant emissions, particularly with regard to nitrous oxides (NOx) (class II for BTG 15 and class III for BTG 20 according to EN 676 norm).
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Manual air flow adjustment.
- Possibility to chose gas train with valve tightness control.
- Equipped with one 7-pole connector, one flange and one insulating seal for boiler fastening.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air inlet with device to adjust the air flow; automatically closing air gate.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast–pipe with stainless steel nozzle and deflector disk in steel.
- Monophase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- 7-pole outlet for burner electrical and thermostat connections.
- Prepared for microamperometer connection with ionisation cable.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover.

SPARKGAS 35

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Single stage operation (on/off).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Manual air flow adjustment.
- Possibility to chose gas train with valve tightness control.
- Equipped with one 7-pole connector, one flange and one insulating seal for boiler fastening.
- On request: longer blast tube, device for air gate closure during pause to avoid loss of heat up flue.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast–pipe with stainless steel nozzle and deflector disk in steel.
- Monophase electric motor to run fan.
- Device made from sound–absorbing material to reduce fan noise.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch,

pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- Start/stop switch (except the W version).
- 7-pole outlet for burner electrical and thermostat connections.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover (except the W version).

TBG 55

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas-fired burner CE certified according to standard EN676.
- Single stage operation (on/off).
- Gas ignition/regulation by means of two-stage operation valve for the CE execution or one-stage valve for the non-CE execution.
- Suitable for operation with any type of combustion chamber, according to standard EN 303.
- Partial combustion gas recirculation blast-pipe with low NOx emissions (class II).
- High ventilation efficiency, low electrical input, low noise.
- Hinge opening on both sides for easy access to the combustion head when burner is installed.
- Air capacity adjustment with manually regulated damper.
- Electrical panel that connects by 4 and 7 pole plugs/sockets (standard accessories).
- Electrical panel with protection rating of IP 55.
- Sliding boiler coupling flange to adapt to head protrusion of the various types of boilers.

CONSTRUCTION CHARACTERISTICS

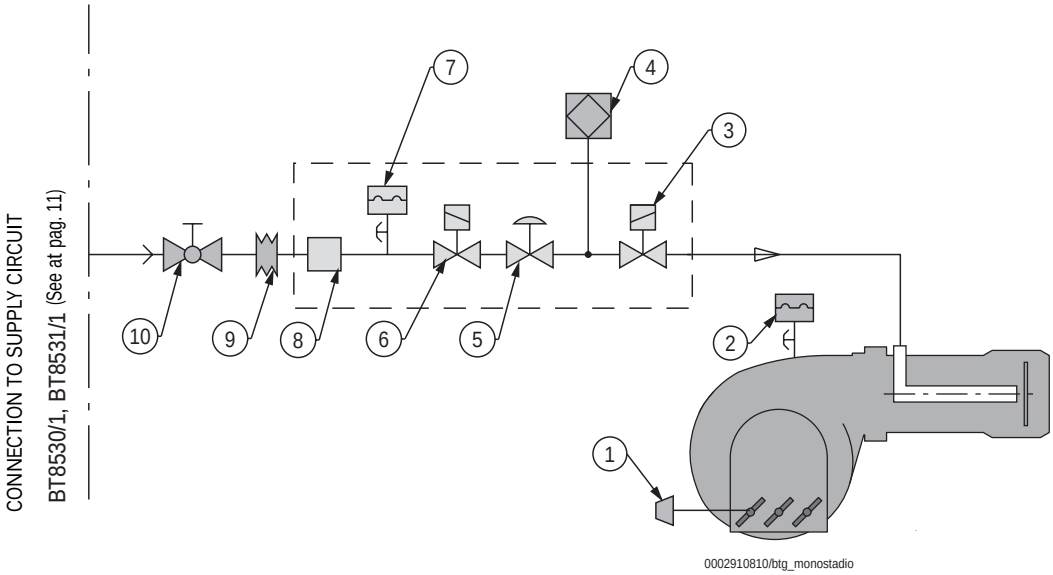
- Light die–cast aluminium alloy casing.
- Centrifugal fan with backward curving vanes in light aluminium alloy.
- Fan driven by light alloy three-phase electric motor.
- Combustion air input with sound insulation and designed for optimal air damper opening linearity.
- Light die-cast aluminium alloy electrical panel.
- Printed circuit electrical connections.
- Control panel with display diagram for working mode with indication lights, start/stop switch and burner unblocking button.
- Electronic control box compliant with standard EN298, with running faults detection.
- Ionizer electrode flame detection.
- Gas train with safety valve and two-stage working valve, minimum pressure switch, pressure regulator and filter.
- Intelligent connectors for burner/train (error proof).

Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

Functional diagram

BTG... - SPARKGAS...



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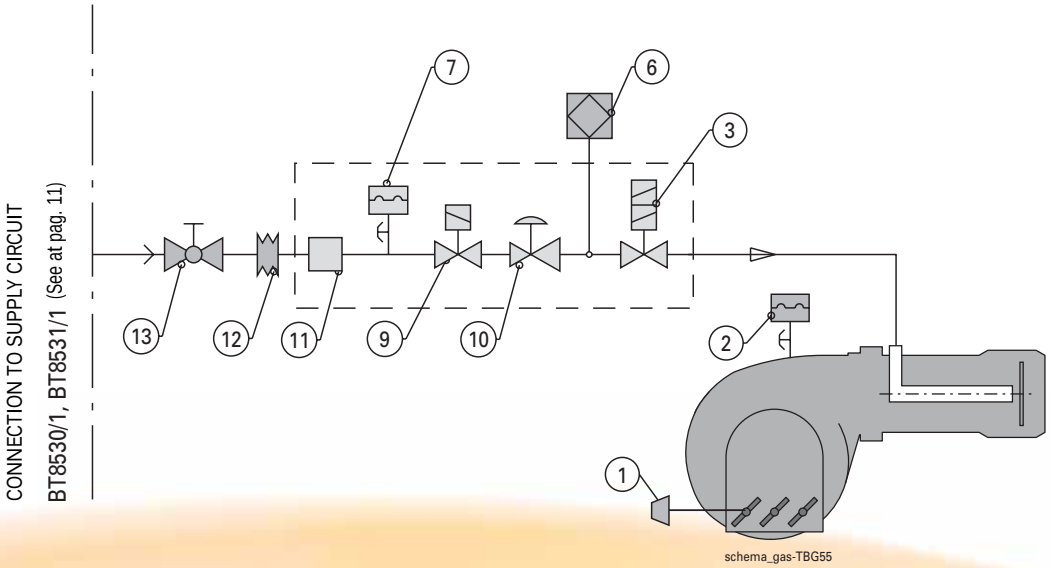
BTG - SPARKGAS
Legend

1 Manual air adjustment switch.
2 Air pressure switch.
3 Operating valve.
4 On request valve tightness control.
5 Gas pressure regulator.
6 Safety valve.
7 Minimum pressure switch.
8 Gas filter.

Carried out by the installing tachnician:
9 Ani-vibration joint.
10 Ball valve.

TBG 55



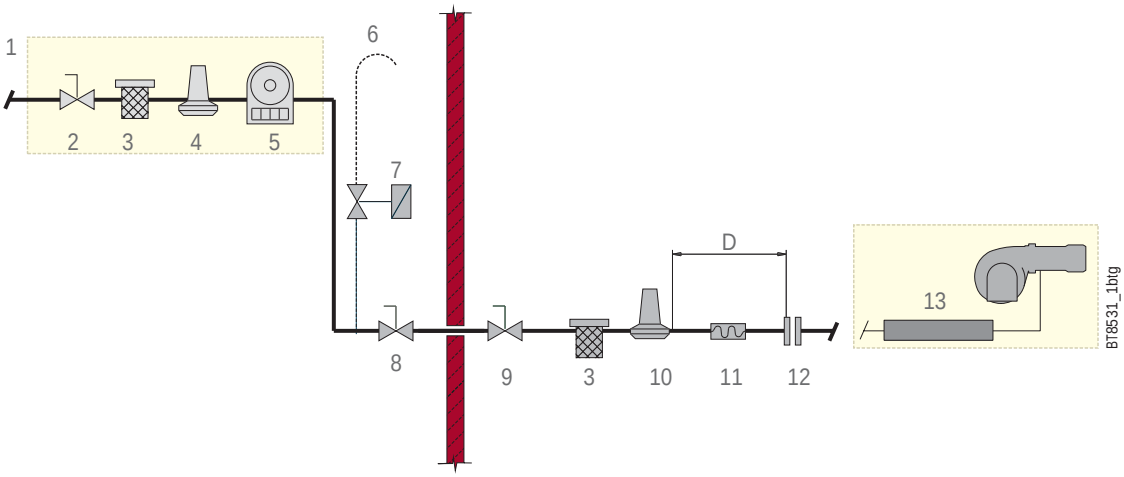
schema_gas-TBG55

TBG 55
Legend

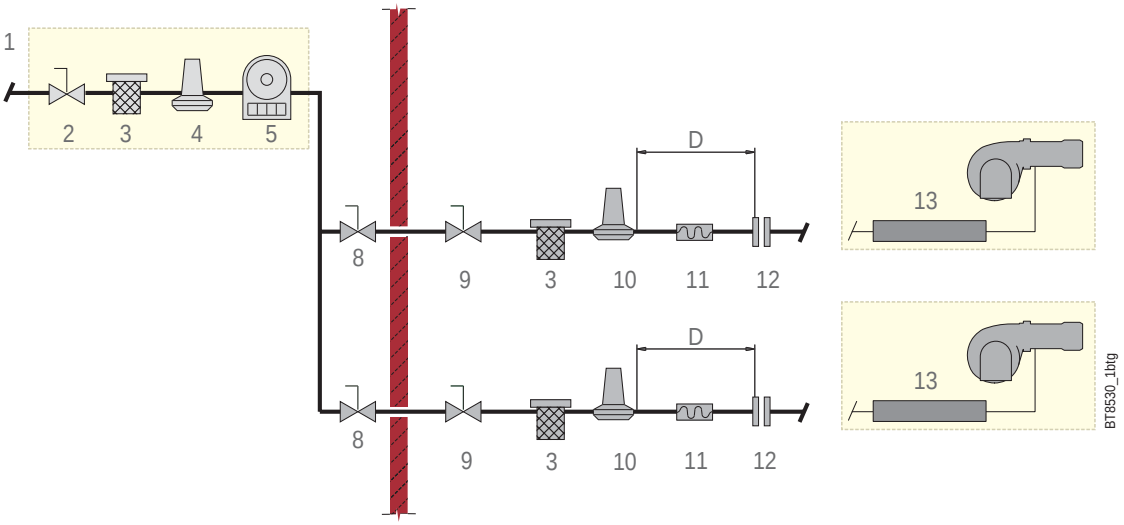
1 Air adjustment servomotor.
2 Air pressure switch.
3 Two-stage operating valve.
6 On request valve tightness control.
7 Minimum pressure switch.
9 Safety valve.
10 Gas pressure regulator.
11 Gas filter.

Carried out by the installing tachnician:
12 Ani-vibration joint.
13 Ball valve.

DIAGRAM FOR THE CONNECTION OF A BURNER TO THE GAS MAINS AT AVERAGE PRESSURE (BT 8531/1)



GENERAL DIAGRAM FOR THE CONNECTION OF MORE BURNERS TO THE GAS MAINS AT AVERAGE PRESSURE (BT 8530/1)



Gas supply
Connection circuit

Legend

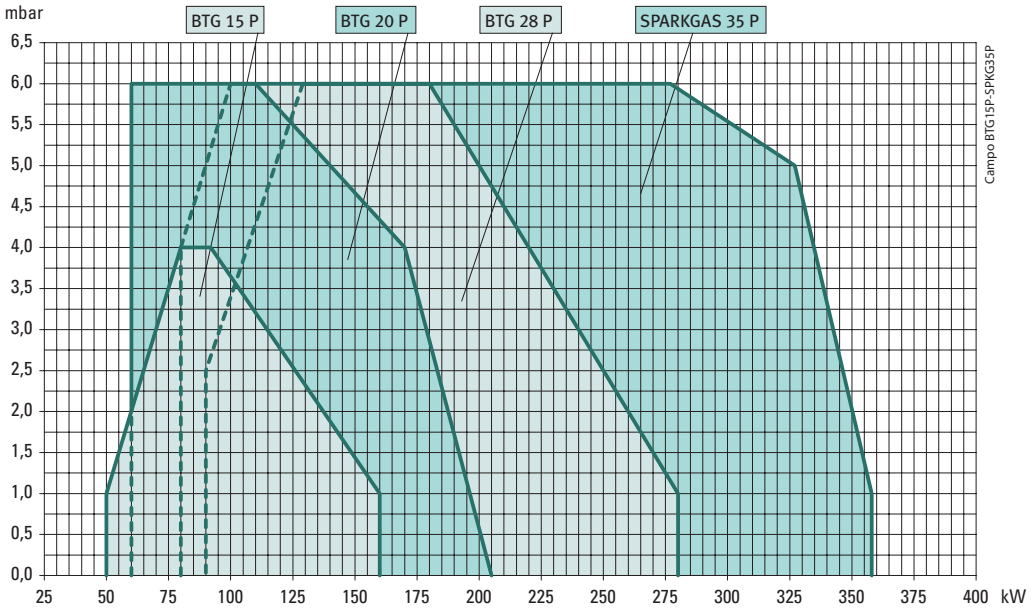
1 Central reduction and measurement unit.
2 Stop-cock.
3 Gas filter.
4 Pressure reducer.
5 Flow meter.
6 Discharge into the atmosphere with flame trap net.
7 Possible automatic bleed valve (must discharge externally in suitable place).
8 Emergency valve.
9 Ball valve.
10 Reduction unit or pressure regulator/stabiliser (suited to the specific case).
11 Anti-vibration joint.
12 Flange coupling.
13 Gas train.
D Distance between stabiliser (or regulator/stabiliser) and gas valve at least 1,5 - 2 m).

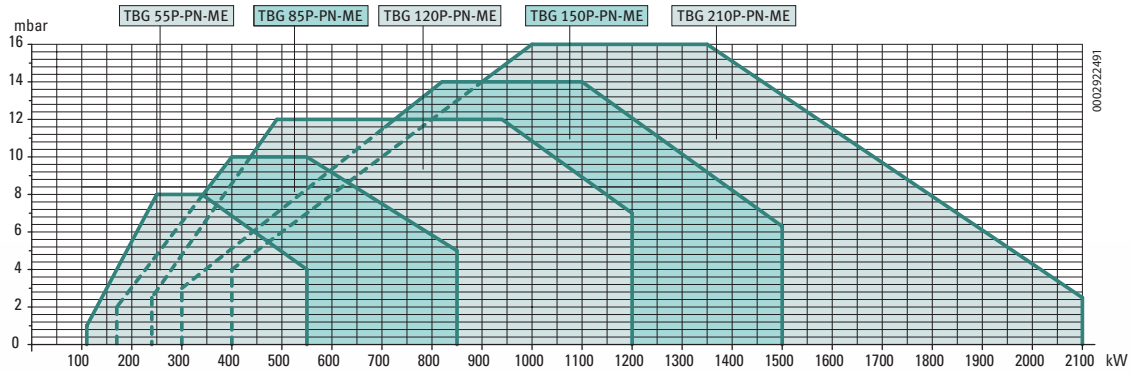
TWO-STAGE
GAS BURNERS

Product range

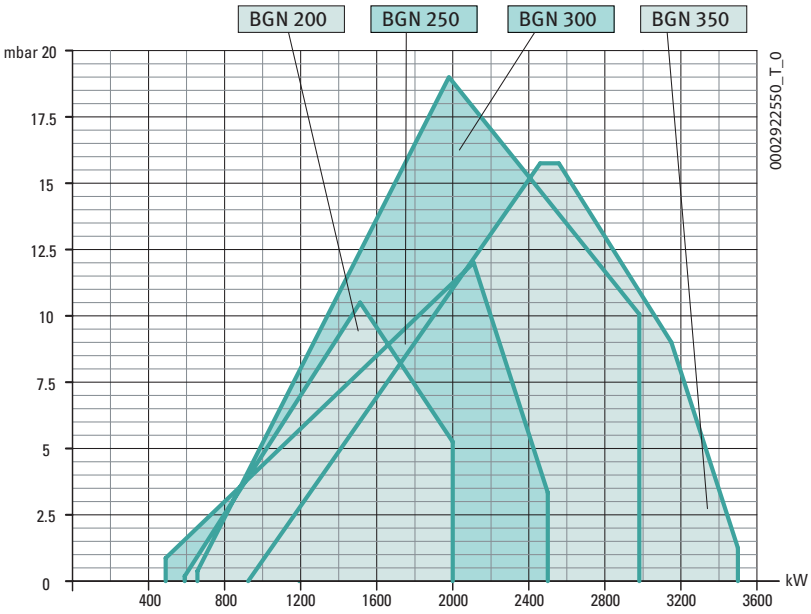
The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.
In reality, variations may occur, due to the following factors:

a) the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m^3) which may prevent the burner fan from exploiting the entire operating range.





Product range



Model	Part no.	Thermal output		Capacity *)		Pressure natural gas		Power supply electric	Motor kW	Notes
		min. kW	max. kW	min. m_n^3/h	max. m_n^3/h	CE mbar	EXP mbar			
Frequency 50 Hz										
BTG 15 P	17090010	50	160	5	16,1	360	360	1N AC 50Hz 230V	0,18	1)
BTG 20 P	17110010	60	205	6	20,5	360	360	1N AC 50Hz 230V	0,18	1)
BTG 28 P	17150010	80	280	8	28,2	360	360	1N AC 50Hz 230V	0,18	1)
SPARKGAS 35 PW	15750010	90	358	9	36,0	360	360	1N AC 50Hz 230V	0,37	3) 4)
SPARKGAS 35 P	15770010	90	358	9	36,0	360	360	1N AC 50Hz 230V	0,37	3) 4)
TBG 55 P	17410010	110	550	11	55,0	360	360	3N AC 50Hz 400V	0,55	4)
TBG 85 P	17480010	170	850	17	86,0	360	360	3N AC 50Hz 400V	1,10	4)
TBG 120 P	17550010	240	1200	24	121,0	360	360	3N AC 50Hz 400V	1,50	4)
TBG 150 P	17620010	300	1500	30	151,0	360	360	3N AC 50Hz 400V	2,20	4)
TBG 210 P	17690010	400	2100	40	211,0	360	360	3N AC 50Hz 400V	3,00	4)
BGN 200 P	16730010	590	2000	60	202,0	360	360	3N AC 50Hz 400V	3,00	4)
BGN 250 P	16780010	490	2500	50	252,0	500	360	3N AC 50Hz 400V	7,50	4)
BGN 300 P	16830010	657	2982	66	300,0	500	140	3N AC 50Hz 400V	7,50	4)
BGN 350 P	16880010	924	3500	93	353,0	500	140	3N AC 50Hz 400V	7,50	4)
Frequency 60 Hz										
BTG 15 P	17090010	50	160	5	16,1	360	360	1N AC 60Hz 230V	0,18	1)
BTG 20 P	17110010	60	205	6	20,5	360	360	1N AC 60Hz 230V	0,18	1)
BTG 28 P	17155410	80	280	8	28,2	360	360	1N AC 60Hz 230V	0,18	1)
SPARKGAS 35 PW	15755410	90	358	9	36,0	360	360	1N AC 60Hz 230V	0,37	3) 4)
SPARKGAS 35 P	15775410	90	358	9	36,0	360	360	1N AC 60Hz 230V	0,37	3) 4)
TBG 55 P	17415410	110	550	11	55,0	360	360	3N AC 60Hz 400V	0,55	4)
TBG 85 P	17485410	170	850	17	86,0	360	360	3N AC 60Hz 400V	1,10	4)
TBG 120 P	17555410	240	1200	24	121,0	360	360	3N AC 60Hz 400V	1,50	4)
TBG 150 P	17625410	300	1500	30	151,0	360	360	3N AC 60Hz 400V	2,20	4)
TBG 210 P	17695410	400	2100	40	211,0	360	360	3N AC 60Hz 400V	3,50	4)
BGN 200 P	16735410	590	2000	60	202,0	360	360	3N AC 60Hz 400V	3,00	4)
BGN 250 P	16785410	490	2500	50	252,0	500	360	3N AC 60Hz 400V	7,50	4)
BGN 300 P	16835410	657	2982	66	300,0	500	140	3N AC 60Hz 400V	7,50	4)
BGN 350 P	16885410	924	3500	93	353,0	500	140	3N AC 60Hz 400V	7,50	4)

NOTES:

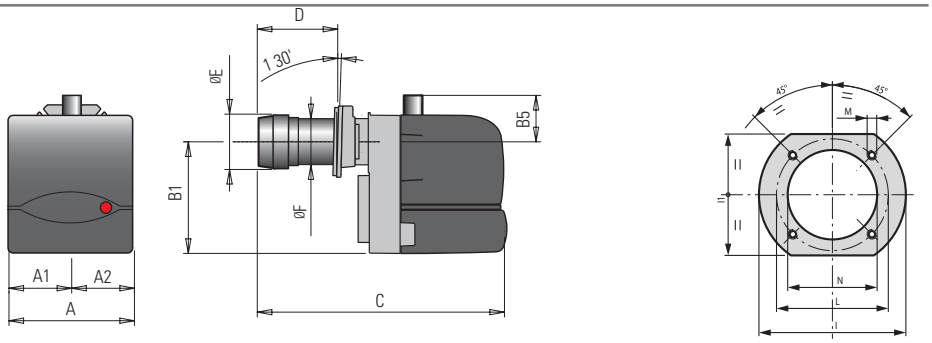
1) Equipped with air shutoff device.
3) Soundproof lid on burner are intake.
4) Equipped with automatic air shutoff device.

*) Net calorific value of natural gas: Hi = 35,80 MJ/m^3 = 8550 kcal/m^3, at reference conditions of 0°C, 1013 mbar.

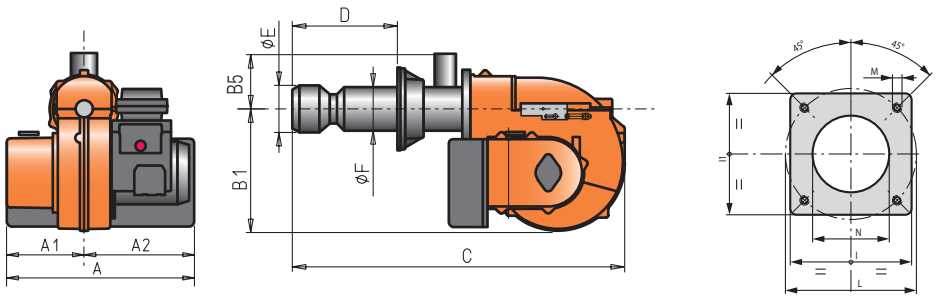
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Dimensions

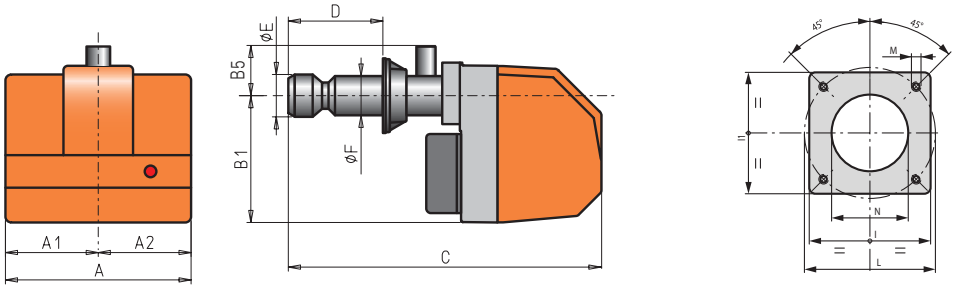
BTG ...P



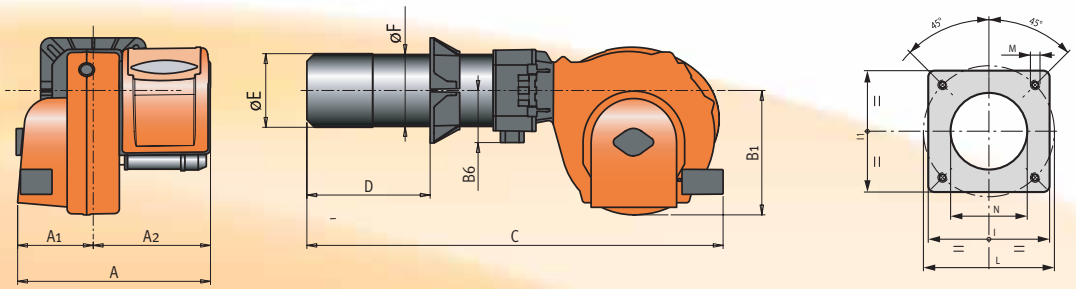
SPARKGAS 35 PW



SPARKGAS 35 P

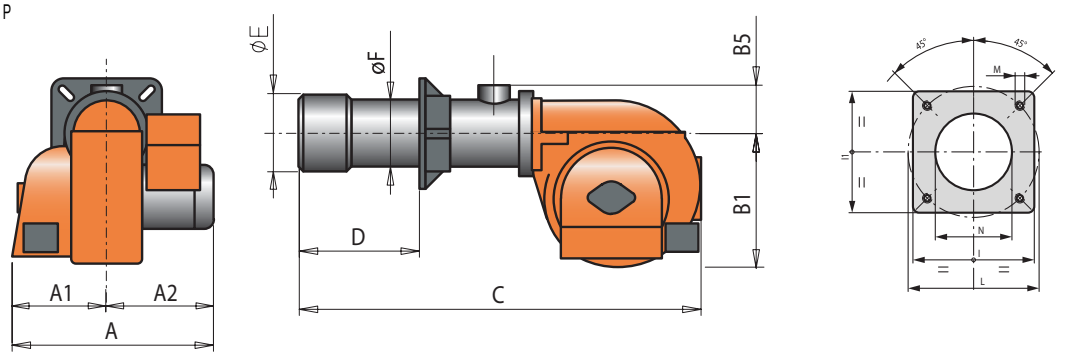


TBG ...P



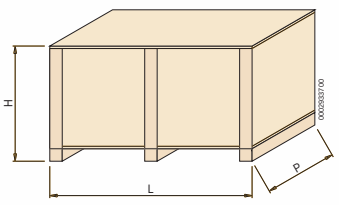
Dimensions

BGN... P



Model	A mm	A 1 mm	A 2 mm	B1 mm	B 5 mm	B 6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M mm	N mm
BTG 15 P	303	158	145	275	70	–	680	150 ÷ 280	126	114	185	185	170 ÷ 210	M10	135
BTG 20 P	303	158	145	275	70	–	695	150 ÷ 300	127	114	185	185	170 ÷ 210	M10	135
BTG 28 P	303	158	145	275	70	–	695	150 ÷ 300	135	114	185	185	170 ÷ 210	M10	145
SPARKGAS 35 PW	475	230	245	263	102	–	925	130 ÷ 350	155	135	215	215	200 ÷ 245	M12	150
SPARKGAS 35 P	490	245	245	275	102	–	965	130 ÷ 350	155	135	215	215	200 ÷ 245	M12	150
TBG 55 P	645	275	370	380	–	160	1230	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170
TBG 85 P	645	275	370	380	–	160	1230	175 ÷ 400	180	178	280	280	250 ÷ 325	M12	190
TBG 120 P	645	275	370	380	–	160	1280	200 ÷ 450	224	219	320	320	280 ÷ 370	M12	235
TBG 150 P	645	275	370	380	–	160	1280	200 ÷ 450	240	219	320	320	280 ÷ 370	M12	250
TBG 210 P	645	275	370	380	–	160	1280	200 ÷ 450	250	219	320	320	280 ÷ 370	M12	255
BGN 200 P	830	395	435	580	150	–	1685	300 ÷ 600	320	220	320	320	280 ÷ 370	M12	230
BGN 250 P	875	395	480	580	150	–	1685	300 ÷ 600	320	220	320	320	280 ÷ 370	M12	230
BGN 300 P	875	395	480	580	177	–	1685	275 ÷ 465	320	275	440	440	400 ÷ 540	M20	330
BGN 350 P	875	395	480	580	177	–	1685	275 ÷ 465	356	275	440	440	400 ÷ 540	M20	365

Model	Package dimensions mm			Weights
	L	P	H	kg
BTG 15 P	780	370	410	18
BTG 20 P	780	370	410	18
BTG 28 P	780	370	410	18
SPARKGAS 35 PW	1010	540	390	32
SPARKGAS 35 P	1100	540	480	36
TBG 55 P	1080	770	700	76
TBG 85 P	1080	770	700	78
TBG 120 P	1080	770	700	87
TBG 150 P	1080	770	700	91
TBG 210 P	1080	770	700	94
BGN 200 P	2030	1210	990	220
BGN 250 P	2030	1210	990	249
BGN 300 P	2030	1210	990	286
BGN 350 P	2030	1210	990	290



Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

BTG...P Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Exhaust gas recycling blast-pipe able to achieve very low pollutant emissions, particularly with regard to nitrous oxides (NOx) (class III for BTG 20P and class II for BTG 28P according to EN 676 norm).
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Possibility to chose gas train with valve tightness control.
- Equipped with one 4 and 7-pole connector, one flange and one insulating seal for boiler fastening.
- On request: longer blast tube.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air inlet with device to adjust the air flow; automatically closing air gate
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Monophase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- 7-pole outlet for burner electrical and thermostat connections, and 4-pole outlet for second stage control.
- Prepared for microamperometer connection with ionisation cable.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover.

SPARKGAS 35P

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Possibility to chose gas train with valve tightness control.
- Equipped with one 4 and 7-pole connector, one flange and one insulating seal for boiler fastening.
- On request: longer blast tube.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with

air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Monophase electric motor to run fan.
- Device made from sound-absorbing material to reduce fan noise.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- Start/stop switch, 1st /2nd stage selector (except the W version).
- 7-pole outlet for burner electrical and thermostat connections, and 4-pole outlet for second stage control.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover (except the W version).

TBG...P Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas-fired burner CE certified according to standard EN676.
- Two-stage operation (high/low flame).
- Gas adjustment by two-stage operation valve.
- Suitable for operation with any type of combustion chamber, according to standard EN 303.
- Partial combustion gas recirculation blast-pipe with low NOx emissions (class II).
- High ventilation efficiency, low electrical input, low noise.
- Hinge opening on both sides for easy access to the combustion head when burner is installed.
- Air capacity adjustment with linear opening controlled by electric servo motor.

- Air damper closing when burner does not work.
- Electrical panel that connects by 4 and 7 pole plugs/sockets (standard accessories).
- Electrical panel with protection rating of IP 55.
- Sliding boiler coupling flange to adapt to head protrusion of the various types of boilers.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light die-cast aluminium alloy casing.
- Centrifugal fan with backward curving vanes in light aluminium alloy.
- Fan driven by light alloy three-phase electric motor.
- Combustion air input with sound insulation and designed for optimal air damper opening linearity.
- Light die-cast aluminium alloy electrical panel.
- Printed circuit electrical connections.
- Control panel with display diagram for working mode with indication lights, start/stop switch, 1st and 2nd stage selector and burner unblocking button.
- Electronic control box compliant with standard EN298, with running faults detection.
- Ionizer electrode flame detection.
- Gas train with safety and 1st and 2nd stage operation valve, minimum pressure switch, pressure regulator and filter.
- Intelligent connectors for burner/train (error proof).

Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

Functional diagram

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

BGN...P Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

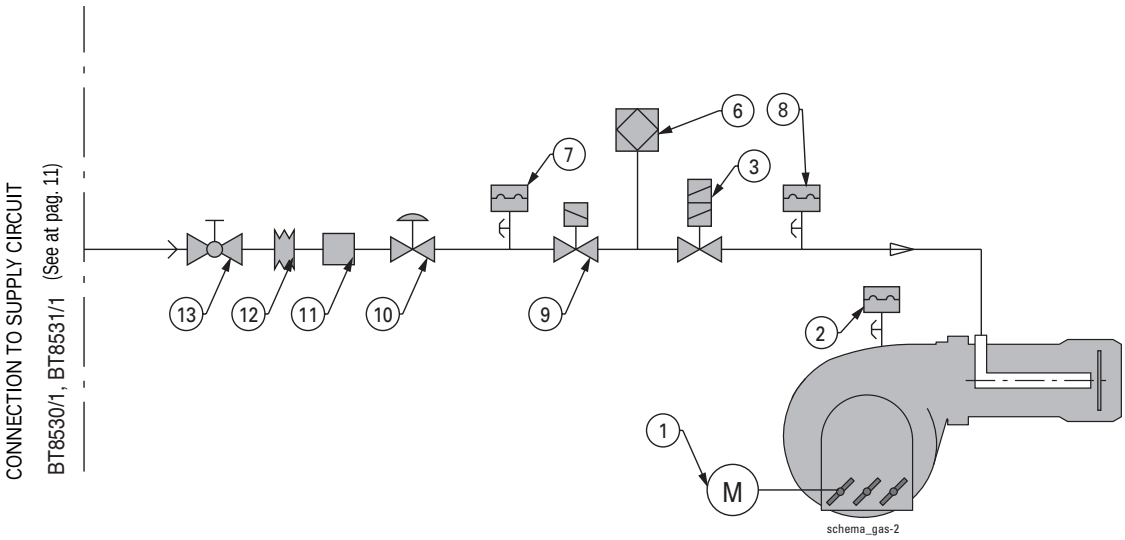
- Gas burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Valves tightness control device compliant with European standard EN676.
- Equipped with one flange and one insulating seal for boiler fastening.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Three-phase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, valves tightness control, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- Synoptic control panel with led of operation and block, unlocking switch, 1st/2nd stage selector, operation and block indicator.
- 7 poles plug for the auxiliary feeding and for the thermostatic connection, 4 poles plug to control the second stage operation.
- Electrical protection rating IP40.

GENERAL BURNER DIAGRAM



Functional diagram

Legend

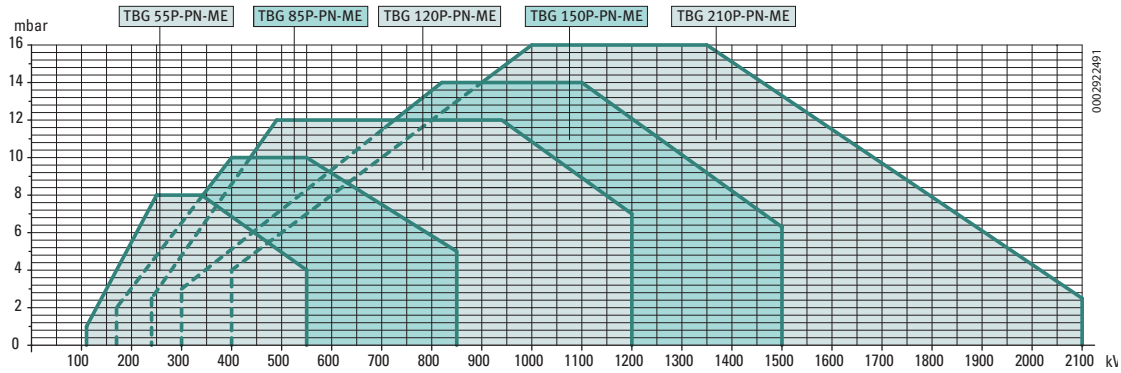
1 Air adjustment servomotor.
2 Air pressure switch.
3 Two-stage operating valve.
6 Valve seal control device on request for burners with lower than 1200 kW power output over 1200 kW.
7 Minimum pressure switch.
8 Maximum pressure switch.
9 Safety valve.
10 Gas pressure regulator.
11 Gas filter.

Carried out by the installing tachnician:
12 Ani-vibration joint.
13 Ball valve.

NOTE
The type of train depends on the burner model and the gas pressure available. Refer to the current technical list.

TWO-STAGE PROGRESSIVE/MODULATING
GAS BURNERS
WITH PNEUMATIC REGULATION

Product range



The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.
In reality, variations may occur, due to the following factors:

a) the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m^3) which may prevent the burner fan from exploiting the entire operating range.

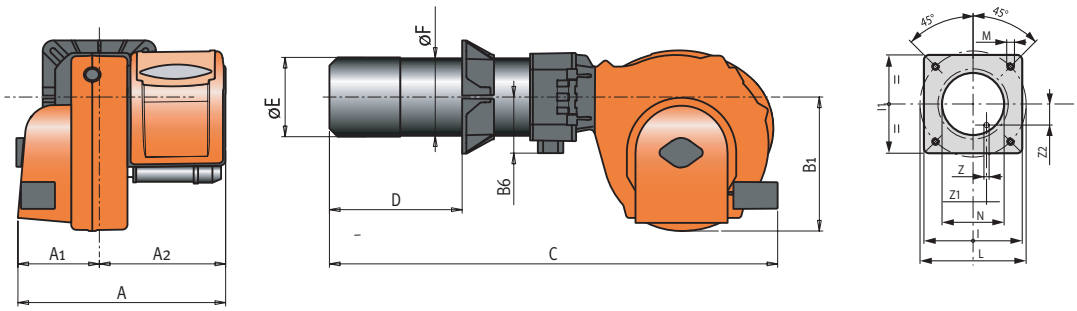
Model	Part no.	Thermal output		Capacity *)		Pressure natural gas **)		Power supply electric	Motor kW	Notes
		min. kW	max. kW	min. m_n^3/h	max. m_n^3/h	CE mbar	EXP mbar			
Frequency 50 Hz										
TBG 55 PN	17420010	110	550	11	55	360	360	3N AC 50Hz 400V	0,55	4)
TBG 85 PN	17490010	170	850	17	86	600	600	3N AC 50Hz 400V	1,1	4)
TBG 120 PN	17560010	240	1200	24	121	600	600	3N AC 50Hz 400V	1,5	4)
TBG 150 PN	17630010	300	1500	30	151	700	700	3N AC 50Hz 400V	2,2	4)
TBG 210 PN	17700010	400	2100	40	211	700	700	3N AC 50Hz 400V	3,0	4)
Frequency 60 Hz										
TBG 55 PN	17425410	110	550	11	55	360	360	3N AC 60Hz 400V	0,55	4)
TBG 85 PN	17495410	170	850	17	86	600	600	3N AC 60Hz 400V	1,1	4)
TBG 120 PN	17565410	240	1200	24	121	600	600	3N AC 60Hz 400V	1,5	4)
TBG 150 PN	17635410	300	1500	30	151	700	700	3N AC 60Hz 400V	2,2	4)
TBG 210 PN	17705410	400	2100	40	211	700	700	3N AC 60Hz 400V	3,5	4)

NOTES:

4) Equipped with automatic air shut-off device.
*) Net calorific value of natural gas: Hi = 35,80 MJ/m^3 = 8550 kcal/m^3, at reference conditions of 0°C, 1013 mbar.
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

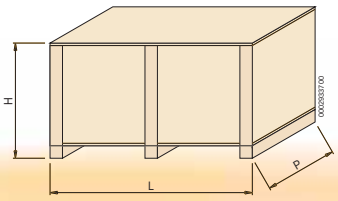
Dimensions

TBG... PN



Model	A mm	A 1 mm	A 2 mm	B 1 mm	B 6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M mm	N mm	Z mm	Z1 mm	Z2 mm
TBG 55 PN	645	275	370	380	160	1230	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170	12	83,5	45
TBG 85 PN	645	275	370	380	160	1230	175 ÷ 400	180	178	280	280	250 ÷ 325	M12	190	12	92,0	50
TBG 120 PN	645	275	370	380	160	1280	200 ÷ 450	224	219	320	320	280 ÷ 370	M12	235	12	112,5	54
TBG 150 PN	645	275	370	380	160	1280	200 ÷ 450	240	219	320	320	280 ÷ 370	M12	250	12	112,5	54
TBG 210 PN	645	275	370	380	160	1280	200 ÷ 450	250	219	320	320	280 ÷ 370	M12	255	12	113,0	54

Model	Package dimensions mm			Weights
	L	P	H	kg
TBG 55 PN	1080	770	700	76
TBG 85 PN	1080	770	700	78
TBG 120 PN	1080	770	700	87
TBG 150 PN	1080	770	700	91
TBG 210 PN	1080	770	700	94



Characteristics

TBG...PN Series

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas-fired burner CE certified according to standard EN676.
- Two-stage progressive/modulating operation.
- Gas adjustment by pneumatic air/gas ratio operation valve.
- Suitable for operation with any type of combustion chamber, according to standard EN 303.
- Partial combustion gas recirculation blast-pipe with low NOx emissions (class II).
- High ventilation efficiency, low electrical input, low noise.
- Hinge opening on both sides for easy access to the combustion head when burner is installed.
- Air capacity adjustment with linear opening controlled by electric servo motor.
- Air damper closing when burner does not work.
- Electrical panel that connects by 4 and 7 pole plugs/sockets (standard accessories).
- Electrical panel with protection rating of IP 55.
- Sliding boiler coupling flange to adapt to head protrusion of the various types of boilers.
- Modulation ratio 1:3.

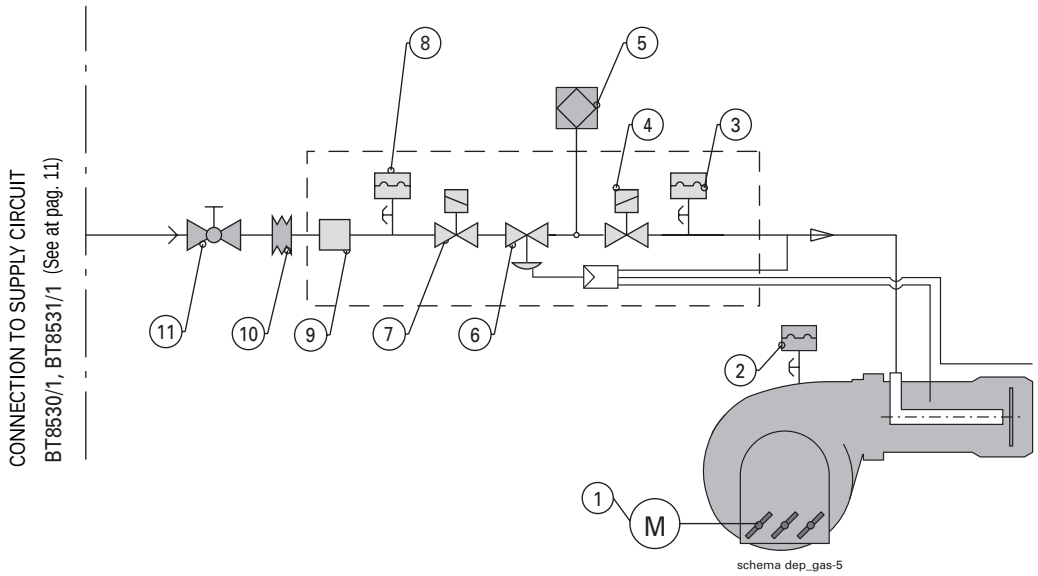
CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light die-cast aluminium alloy casing.
- Centrifugal fan with backward curving vanes in light aluminium alloy (TBG 150 PN with forward curving vanes).
- Fan driven by light alloy three-phase electric motor.
- Combustion air input with sound insulation and designed for optimal air damper opening linearity.
- Light die-cast aluminium alloy electrical panel.
- Printed circuit electrical connections.
- Control panel with display diagram for working mode with indication lights, start/stop switch, automatic/manual mode selector, minimum/maximum selector and burner unblocking button; possibility to install RWF 40 electronic modulator.
- Electronic control box compliant with standard EN298, with running faults detection.
- Ionizer electrode flame detection.
- Gas train with safety valve and pneumatic air/gas ratio valve, minimum pressure switch, pressure regulator and gas filter.
- Intelligent connectors for burner/train (error proof).

AMBIDEXTROUS HINGE
for easy combustion head access with burner installed.

Functional diagram



Legend

1 Air adjustment servomotor.
2 Air pressure switch.
3 Maximum pressure switch.
4 Operating valve.
5 Valve tightness control.
6 Pneumatically adjusted pressure regulator.
7 Safety valve.
8 Minimum pressure switch.
11 Gas filter.

Carried out by the installing tachnician:
10 Ani-vibration joint.
11 Ball valve.

TWO-STAGE PROGRESSIVE/MODULATING
GAS BURNERS
WITH LOW POLLUTANT EMISSIONS

Low NOx

Product range

CLASSES DEFINED ACCORDING TO STANDARD EN 676: 2000

Class	NOx emissions in mg/kWh
1	170
2	120
3	80

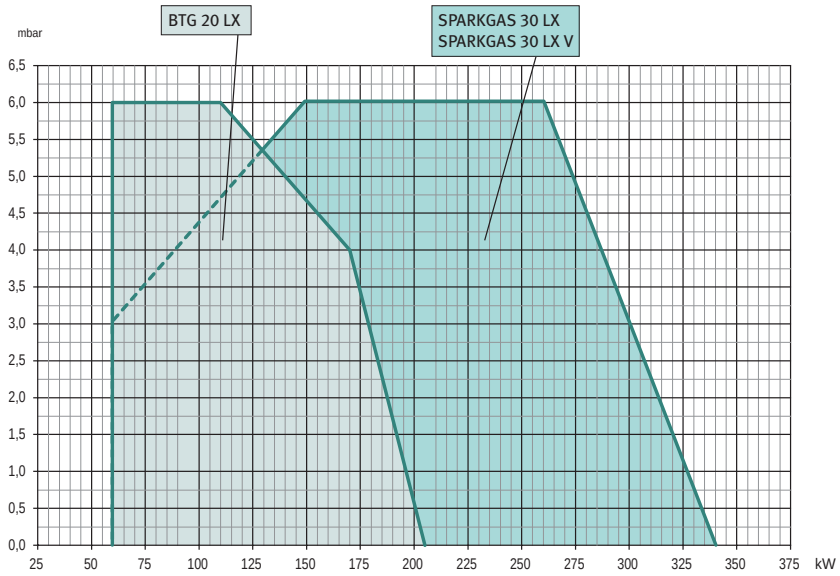
OTHER REFERENCE STANDARDS AND REGULATIONS:

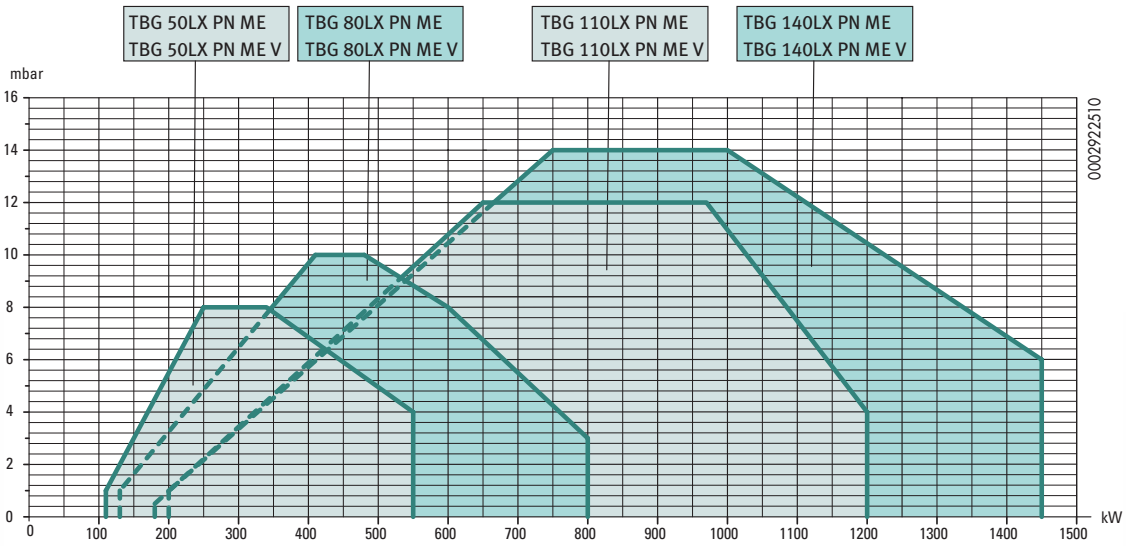
AUSTRIA:
- FAV, for burners > 50 kW, NOx emissions limit: 120 mg/kWh
- 15 AB, for domestic burners, NOx emissions limit: 108 mg/kWh

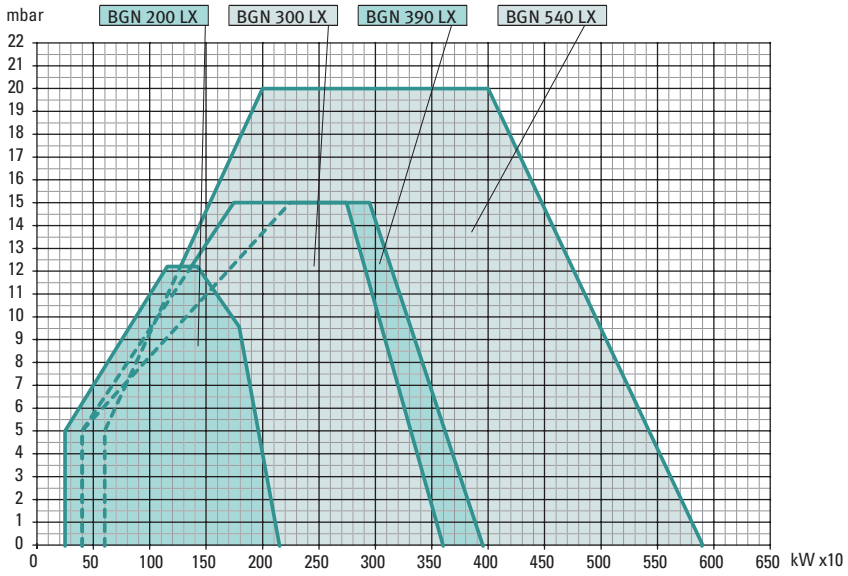
BELGIUM:
- Vlarem II, NOx emissions limit: 100 mg/kWh

GERMANY:
- TA Luft 1/2, NOx emissions limit: 120 mg/kWh

SWITZERLAND:
- LRV 92, NOx emissions limit: 80 mg/kWh







Product range

Model	Part no.	Thermal output		Capacity *)		Pressure natural gas **)		Power supply electric	Motor kW	Notes
		min. kW	max. kW	min. m_n^3/h	max. m_n^3/h	CE mbar	EXP mbar			
Frequency 50 Hz										
BTG 20 LX	15100010	60	205	6	20,5	360	360	1N AC 50Hz 230V	0,18	1) 5)
SPARKGAS 30 LX	15140010	60	340	6	34,0	360	360	1N AC 50Hz 230V	0,37	3) 4) 5)
SPARKGAS 30 LX V	15140015	60	340	6	34,0	360	360	1N AC 50Hz 230V	0,37	3) 4) 5) 6)
TBG 50 LX PN ME	17440010	110	550	11	55,0	360	360	3N AC 50Hz 400V	0,55	4) 5)
TBG 50 LX PN ME V	17440015	110	550	11	55,0	360	360	3N AC 50Hz 400V	0,55	4) 5) 6)
TBG 80 LX PN ME	17510010	130	800	13	80,0	600	600	3N AC 50Hz 400V	1,10	4) 5)
TBG 80 LX PN ME V	17510015	130	800	11	55,0	600	600	3N AC 50Hz 400V	1,10	4) 5) 6)
TBG 110 LX PN ME	17580010	180	1200	18	121,0	600	600	3N AC 50Hz 400V	1,50	4) 5)
TBG 110 LX PN ME V	17580015	180	1200	18	121,0	600	600	3N AC 50Hz 400V	1,50	4) 5) 6)
TBG 140 LX PN ME	17650010	200	1450	20	146,0	700	700	3N AC 50Hz 400V	2,20	4) 5)
TBG 140 LX PN ME V	17650015	200	1450	20	146,0	700	700	3N AC 50Hz 400V	2,20	4) 5) 6)
BGN 200 LX	15250010	250	2150	25	216,0	360	360	3N AC 50Hz 400V	3,00	4) 5)
BGN 200 LX V	15250015	250	2150	25	216,0	360	360	3N AC 50Hz 400V	3,00	4) 5) 6)
BGN 300 LX	15270010	400	3600	40	362,0	360	360	3N AC 50Hz 400V	7,50	4) 5)
BGN 300 LX V	15270015	400	3600	40	362,0	360	360	3N AC 50Hz 400V	7,50	4) 5) 6)
BGN 390 LX	15290010	400	3950	40	397,0	360	360	3N AC 50Hz 400V	7,50	4) 5)
BGN 390 LX V	15290015	400	3950	40	397,0	360	360	3N AC 50Hz 400V	7,50	4) 5) 6)
BGN 540 LX	15320010	600	5900	60	593,0	360	360	3N AC 50Hz 400V	15,00	4) 5)
BGN 540 LX V	15320015	600	5900	60	593,0	360	360	3N AC 50Hz 400V	15,00	4) 5) 6)
Frequency 60 Hz										
BTG 20 LX	15100010	60	205	6	20,5	360	360	1N AC 60Hz 230V	0,18	1) 5)
SPARKGAS 30 LX	15145410	60	340	6	34,0	360	360	1N AC 60Hz 230V	0,37	3) 4) 5)
SPARKGAS 30 LX V	15145415	60	340	6	34,0	360	360	1N AC 60Hz 230V	0,37	3) 4) 5) 6)
TBG 50 LX PN ME	17445410	110	550	11	55,0	360	360	3N AC 60Hz 400V	0,55	4) 5)
TBG 50 LX PN ME V	17445415	110	550	11	55,0	360	360	3N AC 60Hz 400V	0,55	4) 5) 6)
TBG 80 LX PN ME	17515410	130	800	13	80,0	600	600	3N AC 60Hz 400V	1,10	4) 5)
TBG 80 LX PN ME V	17515415	130	800	11	55,0	600	600	3N AC 60Hz 400V	1,10	4) 5) 6)
TBG 110 LX PN ME	17585410	180	1200	18	121,0	600	600	3N AC 60Hz 400V	1,50	4) 5)
TBG 110 LX PN ME V	17585415	180	1200	18	121,0	600	600	3N AC 60Hz 400V	1,50	4) 5) 6)
TBG 140 LX PN ME	17655410	200	1450	20	146,0	700	700	3N AC 60Hz 400V	2,20	4) 5)
TBG 140 LX PN ME V	17655415	200	1450	20	146,0	700	700	3N AC 60Hz 400V	2,20	4) 5) 6)
BGN 200 LX	15255410	250	2150	25	216,0	360	360	3N AC 60Hz 400V	3,50	4) 5)
BGN 200 LX V	15255415	250	2150	25	216,0	360	360	3N AC 60Hz 400V	3,00	4) 5) 6)
BGN 300 LX	15275410	400	3600	40	362,0	360	360	3N AC 60Hz 400V	9,00	4) 5)
BGN 300 LX V	15275415	400	3600	40	362,0	360	360	3N AC 60Hz 400V	7,50	4) 5) 6)
BGN 390 LX	15295410	400	3950	40	397,0	360	360	3N AC 60Hz 400V	9,00	4) 5)
BGN 390 LX V	15295415	400	3950	40	397,0	360	360	3N AC 60Hz 400V	7,50	4) 5) 6)
BGN 540 LX	15325410	600	5900	60	593,0	360	360	3N AC 60Hz 400V	22,00	4) 5)
BGN 540 LX V	15325415	600	5900	60	593,0	360	360	3N AC 60Hz 400V	15,00	4) 5) 6)

The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.
In reality, variations may occur, due to the following factors:

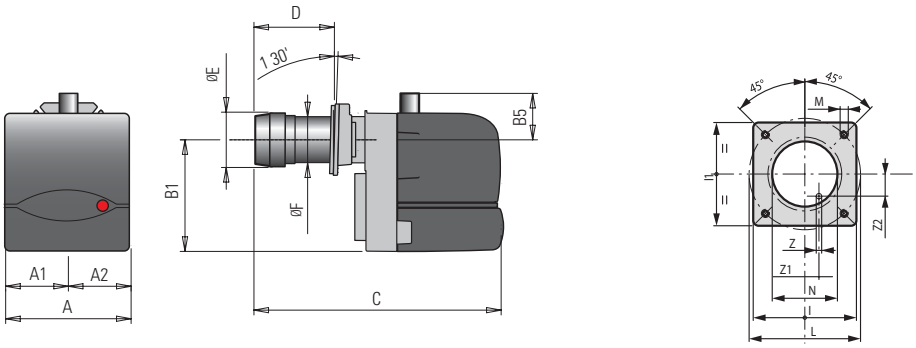
a) the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m^3) which may prevent the burner fan from exploiting the entire operating range.

NOTES:

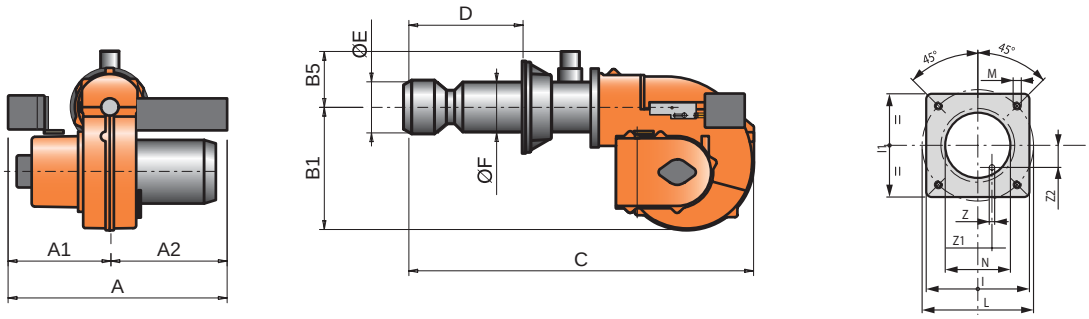
1) Equipped with air shutoff device.
3) Soundproof lid on burner are intake.
4) Equipped with automatic air shutoff device.
5) For the modulating mode, complete the burner with the automatic RWF 40 regulator and the modulation kit.
*) Net calorific value of natural gas: Hi = 35,80 MJ/m^3 = 8550 kcal/m^3, at reference conditions of 0°C, 1013 mbar.
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Dimensions

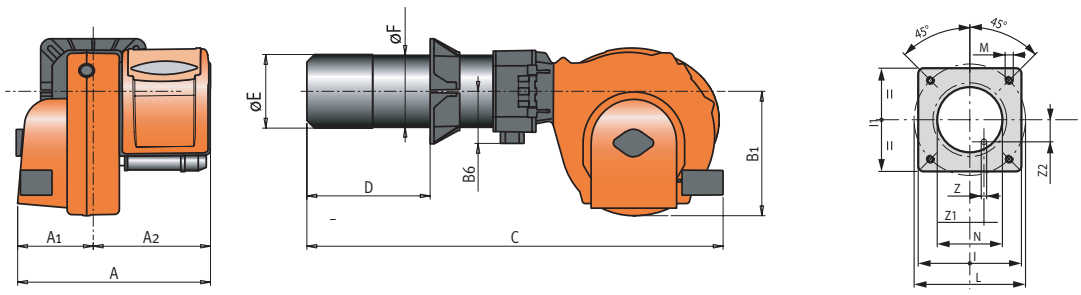
BTG 20LX



SPARKGAS 30LX

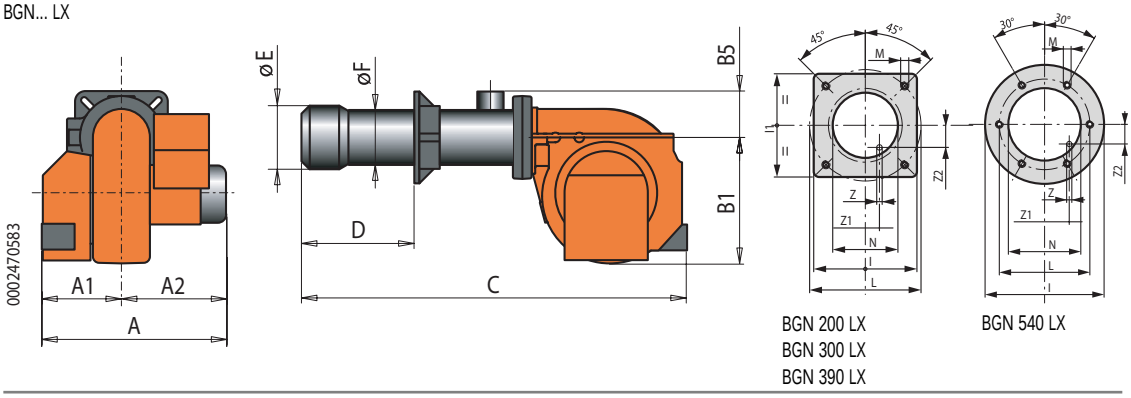


TBG ...LX PN ME



Dimensions

BGN... LX

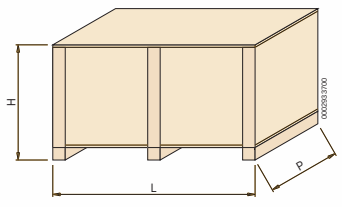


BGN 200 LX
BGN 300 LX
BGN 390 LX

BGN 540 LX

Model	A mm	A 1 mm	A 2 mm	B1 mm	B 5 mm	B 6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M mm	N mm	Z mm	Z1 mm	Z2 mm
BTG 20 LX	303	158	145	275	70	–	695	150 ÷ 300	127	114	185	185	170 ÷ 210	M10	135	12	30,2	68,4
SPARKGAS 30 LX	560	260	300	275	102	–	900	140 ÷ 310	149	135	215	215	200 ÷ 245	M12	180	12	42,5	73,6
SPARKGAS 30 LX V	670	260	410	275	102	–	900	140 ÷ 310	149	135	215	215	200 ÷ 245	M12	180	12	42,5	73,6
TBG 50 LX PN ME	645	275	370	380	–	160	1230	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170	12	83,5	45,0
TBG 50 LX PN ME V	645	275	370	380	–	160	1230	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170	12	83,5	45,0
TBG 80 LX PN ME	645	275	370	380	–	160	1230	175 ÷ 400	180	178	280	280	250 ÷ 325	M12	190	12	92,0	50,0
TBG 80 LX PN ME V	645	275	370	380	–	160	1230	175 ÷ 400	180	178	280	280	250 ÷ 325	M12	190	12	92,0	50,0
TBG 110 LX PN ME	645	275	370	380	–	160	1280	200 ÷ 450	224	219	320	320	280 ÷ 370	M12	235	12	112,5	54,0
TBG 110 LX PN ME V	645	275	370	380	–	160	1280	200 ÷ 450	224	219	320	320	280 ÷ 370	M12	235	12	112,5	54,0
TBG 140 LX PN ME	645	275	370	380	–	160	1280	200 ÷ 450	240	240	320	320	280 ÷ 370	M12	250	12	112,5	54,0
TBG 140 LX PN ME V	645	275	370	380	–	160	1280	200 ÷ 450	240	240	320	320	280 ÷ 370	M12	250	12	112,5	54,0
BGN 200 LX	835	400	435	580	150	–	1630	280 ÷ 480	300	220	320	320	280 ÷ 370	M12	260	12	113,0	54,0
BGN 200 LX V	835	400	435	580	150	–	1630	280 ÷ 480	300	220	320	320	280 ÷ 370	M12	260	12	113,0	54,0
BGN 300 LX	880	400	480	580	177	–	1630	280 ÷ 480	316	275	440	440	400 ÷ 540	M12	360	12	150,0	87,0
BGN 300 LX V	880	400	480	580	177	–	1870	280 ÷ 480	316	275	440	440	400 ÷ 540	M20	360	12	150,0	87,0
BGN 390 LX	880	400	480	580	177	–	1630	280 ÷ 480	316	275	440	440	400 ÷ 540	M20	360	12	150,0	87,0
BGN 390 LX V	880	400	480	580	177	–	1870	280 ÷ 480	316	275	440	440	400 ÷ 540	M20	360	12	150,0	87,0
BGN 540 LX	1155	470	685	695	283	–	2110	330 ÷ 600	400	355	580	580	520	M20	430	12	131,0	156,0
BGN 540 LX V	1155	470	685	695	283	–	2165	330 ÷ 600	400	355	580	580	520	M20	430	12	131,0	156,0

Model	Package dimensions mm			Weights kg
	L	P	H	
BTG 20 LX	780	370	410	18
SPARKGAS 30 LX	1010	640	390	45
SPARKGAS 30 LX V	1050	770	680	45
TBG 50 LX PN ME	1080	770	700	76
TBG 50 LX PN ME V	1080	770	700	79
TBG 80 LX PN ME	1080	770	700	78
TBG 80 LX PN ME V	1080	770	700	81
TBG 110 LX PN ME	1080	770	700	87
TBG 110 LX PN ME V	1080	770	700	90
TBG 140 LX PN ME	1080	770	700	91
TBG 140 LX PN ME V	1080	770	700	94
BGN 200 LX	2030	1210	990	240
BGN 200 LX V	2030	1210	990	248
BGN 300 LX	2030	1210	990	305
BGN 300 LX V	2030	1210	990	317
BGN 390 LX	2030	1210	990	310
BGN 390 LX V	2030	1210	990	322
BGN 540 LX	2260	1520	1200	518
BGN 540 LX V	2260	1520	1200	541



Low NOx

Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

BTG 20 LX

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Exhaust gas recycling blast-pipe able to achieve very low pollutant emissions, particularly with regard to nitrous oxides (NOx).
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- A valve tightness control can be fitted on the burner.
- Equipped with one flange and one insulating seal for boiler fastening, one 4-pole connector and one 7-pole connector.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with automatic closure air flow regulation butterfly gate.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Flame viewer.
- Monophase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Monoblock modulating gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- 7-pole outlet for burner electrical and thermostat connections, and 4-pole outlet for second stage control or for the connection of the capacity electronic regulator.
- Prepared for microamperometer connection with ionisation cable.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover.

SPARKGAS 30 LX

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Low NOx and CO emissions gas burner compliant with European standard EN676 "Classe III".
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Exhaust gas recycling blast-pipe able to achieve very low pollutant emissions, particularly with regard to nitrous oxides (NOx).
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Fan speed adjustment in relation to changes in burner demand provided by means of inverter, to obtain a significant reduction in noise levels and electricity consumption (version V only).
- Possibility to chose gas train with valve tightness control.
- Equipped with one flange and one insulating seal for boiler fastening.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.

Low NOx

Characteristics

- Adjustable blast–pipe with stainless steel nozzle and deflector disk in steel.
- Monophase electric motor to run fan (controlled electronically by means of a motor speed controller in “V” execution).
- Device made from sound–absorbing material to reduce fan noise.
- Air pressure switch to ensure the presence of combustion air.
- Monoblock modulating gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- On-board terminal box and separate control panel comprising stop/go switch, automatic/manual and minimum/maximum selector, operation and block indicator.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working or for the connection of the electronic output regolator.
- Prepared for microamperometer connection with ionisation cable.
- Electrical protection rating IP40.

TBG...LX PN ME Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Low NOx and CO emissions gas burner compliant with “Class III” of European standard EN676.
- Two-stage progressive/modulating operation.
- Possibility of power modulation operation by installing the automatic RWF 40 regulator (to be ordered separately with the suitable modulation kit) on the control panel.
- Suitable for operation with any type of combustion chamber, according to standard EN 303.
- Gas adjustment by means of pneumatic air/gas ratio operation valve.
- Partial combustion gas recirculation blast-pipe with low NOx emissions (class III).
- High ventilation efficiency, low electrical input, low noise.
- Hinge opening on both sides for easy access to the combustion head when burner is installed.
- Air flow adjustment by means of linear opening damper, which is controlled by an electronical steppy servomotor.
- Adjustment of fan speed (rpm) with change in burner demand by means of motor speed controller, to obtain a considerable reduction in noise and electricity consumption (V version only).
- Air damper closing when burner does not work.
- Electrical panel that connects by 4 and 7 pole plugs/sockets (standard accessories).
- Electrical panel with protection rating of IP 55.
- Sliding boiler coupling flange to adapt to head protrusion of the various types of boilers.
- 1:4 High turndown ratio.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light die–cast aluminium alloy casing.
- Centrifugal fan with backward curving vanes in light aluminium alloy.
- Fan driven by light alloy three-phase electric motor.
- Air inlet equipped with sound-proofing material and designed for optimal air damper opening linearity.
- Light die-cast aluminium alloy electrical panel.
- "V" execution: the fan electrical motor is controlled electronically by the motor speed controller.
- Control panel with display diagram for working mode with indication lights, start/stop switch, burner shut-off selector, possibility to install RWF 40 electronic modulator.
- Electronic control box compliant with standard EN298, with microprocessor, integrated valves' seal control; suitable for eBus connection.
- Working sequence and fault code display.
- Flame sensor with ionization electrode.
- Gas train with air/gas ratio safety valve, minimum pressure switch, pressure regulator and gas filter.
- Intelligent connectors for burner/train (error proof).

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

Low NOx

Characteristics

BGN... LX Series

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

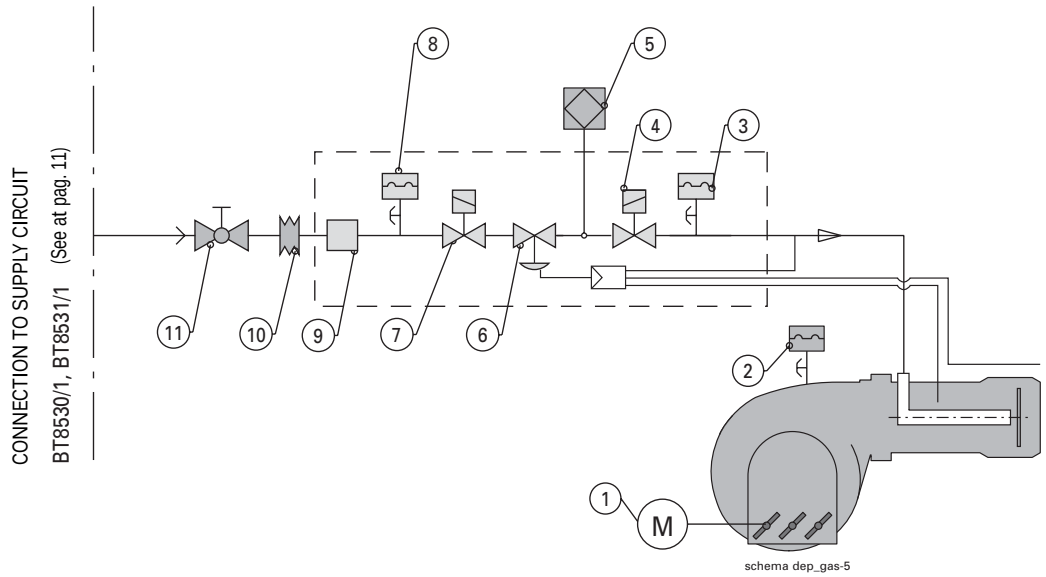
- Low NOx and CO emissions gas burner compliant with European standard EN676 "Classe III".
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Exhaust gas recycling blast-pipe able to achieve very low pollutant emissions, particularly with regard to nitrous oxides (NOx).
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Fan speed adjustment in relation to changes in burner demand provided by means of inverter, to obtain a significant reduction in noise levels and electricity consumption (version V only).
- Valves tightness control device compliant with European standard EN676.
- Equipped with one flange and one insulating seal for boiler fastening.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Three-phase electric motor to run fan (controlled electronically by means of a motor speed controller in “V” execution).
- Air pressure switch to ensure the presence of combustion air.
- Monoblock modulating gas train complete with operation and safety valve, valve tightness control, minimum pressure switch, pressure regulator and gas filter.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by ionisation electrode.
- On-board terminal box and separate control panel comprising stop/go switch, automatic/manual and minimum/maximum selector, operation and block indicator.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working or for the connection of the electronic output regolator.
- Electrical protection rating IP40.

Functional diagram



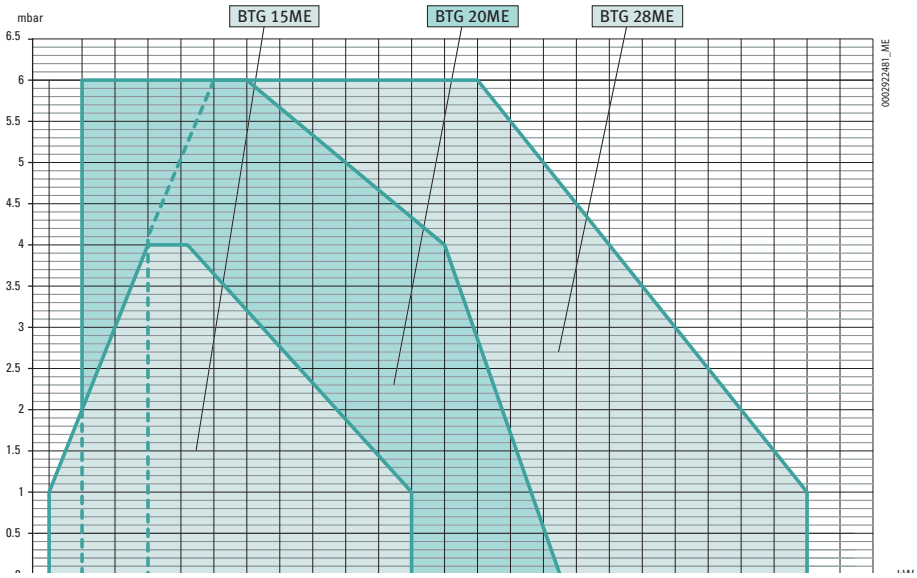
Legend

1 Air adjustment servomotor.
2 Air pressure switch.
3 Pneumatically adjusted pressure regulator.
4 Operating gas valve.
5 Valve tightness control.
6 Pneumatically adjusted pressure regulator.
7 Safety valve.
8 Minimum pressure switch.
9 Gas filter.

Carried out by the installing tachnician:
10 Ani-vibration joint.
11 Ball valve.

TWO-STAGE PROGRESSIVE/MODULATING
GAS BURNERS
WITH ELECTRONIC CAM

Product range



The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.
In reality, variations may occur, due to the following factors:

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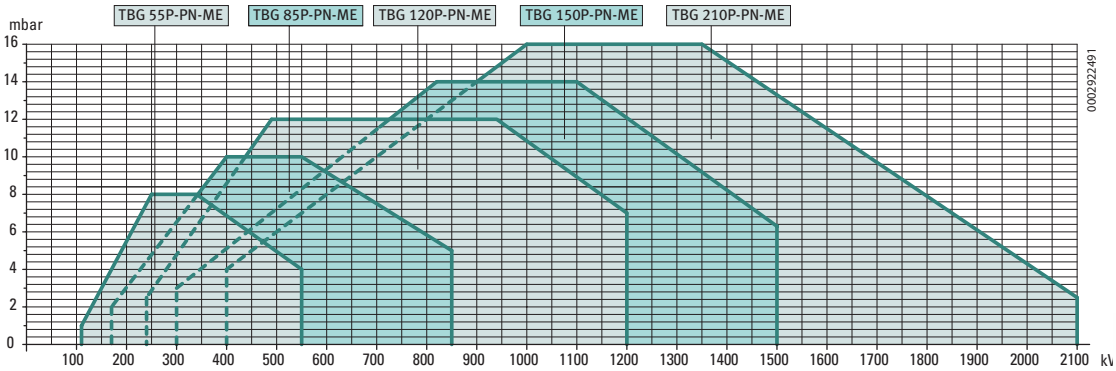
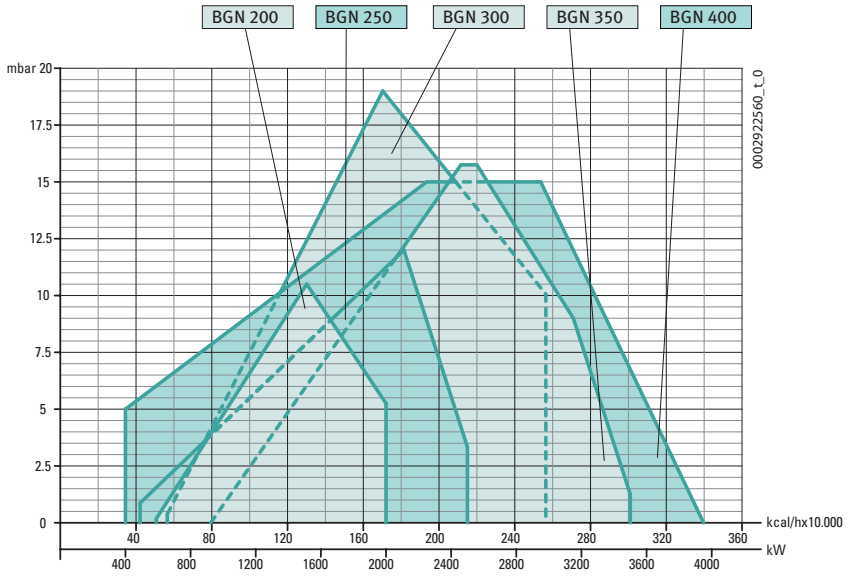
b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m^3) which may prevent the burner fan from exploiting the entire operating range.



Product range



Model	Part no.	Thermal output		Capacity *)		Pressure natural gas **)		Power supply electric	Motor kW	Notes
		min. kW	max. kW	min. m_n^3/h	max. m_n^3/h	CE mbar	EXP mbar			
Frequency 50 Hz										
BTG 15 ME	17130010	50	160	5	16,1	500	500	1N AC 50Hz 230V	0,18	4) 5)
BTG 20 ME	17120010	60	205	6	20,5	500	500	1N AC 50Hz 230V	0,18	4) 5)
BTG 28 ME	17160010	80	280	8	28,2	500	500	1N AC 50Hz 230V	0,18	4) 5)
TBG 55 ME	17430010	110	550	11	55,0	360	360	3N AC 50Hz 400V	0,55	4) 5)
TBG 85 ME	17500010	170	850	17	86,0	360	360	3N AC 50Hz 400V	1,10	4) 5)
TBG 120 ME	17570010	240	1200	24	121,0	360	360	3N AC 50Hz 400V	1,50	4) 5)
TBG 150 ME	17640010	300	1500	30	151,0	360	360	3N AC 50Hz 400V	2,20	4) 5)
TBG 210 ME	17710010	400	2100	40	211,0	500	500	3N AC 50Hz 400V	3,00	4)
BGN 200 DSPGN ME	16740010	590	2000	60	202,0	500	500	3N AC 50Hz 400V	3,00	4) 5)
BGN 250 DSPGN ME	16790010	490	2500	50	252,0	500	500	3N AC 50Hz 400V	7,50	4) 5)
BGN 300 DSPGN ME	16840010	657	2982	66	300,0	500	500	3N AC 50Hz 400V	7,50	4) 5)
BGN 350 DSPGN ME	16890010	924	3500	93	353,0	500	500	3N AC 50Hz 400V	7,50	4) 5)
BGN 400 DSPGN ME	16920010	400	3950	40	397,0	500	500	3N AC 50Hz 400V	7,50	4)
Frequency 60 Hz										
BTG 15 ME	17130010	50	160	5	16,1	500	500	1N AC 60Hz 230V	0,18	4) 5)
BTG 20 ME	17120010	60	205	6	20,5	500	500	1N AC 60Hz 230V	0,18	4) 5)
BTG 28 ME	17165410	80	280	8	28,2	500	500	1N AC 60Hz 230V	0,25	4) 5)
TBG 55 ME	17435410	110	550	11	55,0	360	360	3N AC 60Hz 400V	0,55	4) 5)
TBG 85 ME	17505410	170	850	17	86,0	360	360	3N AC 60Hz 400V	1,10	4) 5)
TBG 120 ME	17575410	240	1200	24	121,0	360	360	3N AC 60Hz 400V	1,50	4) 5)
TBG 150 ME	17645410	300	1500	30	151,0	360	360	3N AC 60Hz 400V	2,20	4) 5)
TBG 210 ME	17715410	400	2100	40	211,0	500	500	3N AC 60Hz 400V	3,50	4)
BGN 200 DSPGN ME	16745410	590	2000	60	202,0	500	500	3N AC 60Hz 400V	3,50	4) 5)
BGN 250 DSPGN ME	16795410	490	2500	50	252,0	500	500	3N AC 60Hz 400V	9,00	4) 5)
BGN 300 DSPGN ME	16845410	657	2982	66	300,0	500	500	3N AC 60Hz 400V	9,00	4) 5)
BGN 350 DSPGN ME	16895410	924	3500	93	353,0	500	500	3N AC 60Hz 400V	9,00	4) 5)
BGN 400 DSPGN ME	16925410	400	3950	40	397,0	500	500	3N AC 60Hz 400V	9,00	4)

NOTES:

4) Equipped with automatic air shu-toff device.

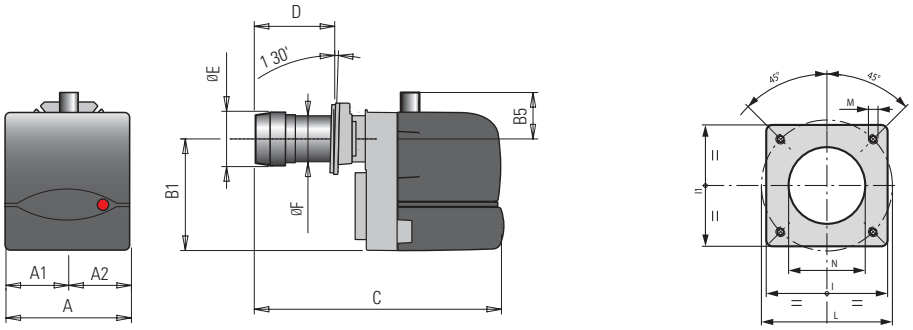
5) For the modulating mode, complete the burner with the automatic RWF 40 regulator and the modulation kit.

*) Net calorific value of natural gas: Hi = 35,80 MJ/m^3 = 8550 kcal/m^3, at reference conditions of 0°C, 1013 mbar.

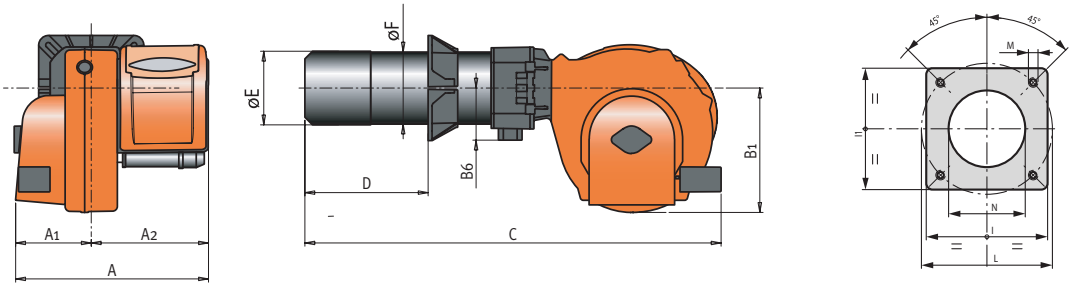
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Dimensions

BTG ...ME

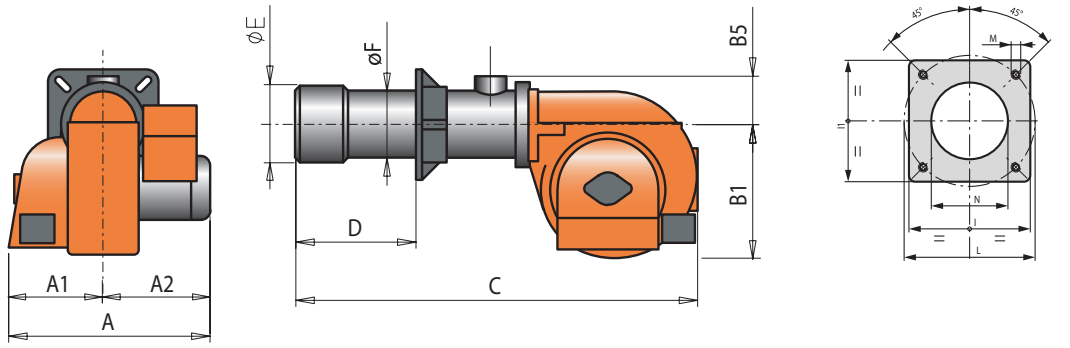


TBG ...ME



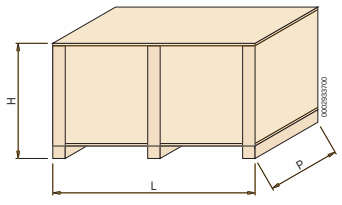
Dimensions

BGN... DSPGN ME



Model	A mm	A 1 mm	A 2 mm	B1 mm	B 5 mm	B 6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M mm	N mm
BTG 15 ME	303	158	145	275	70	–	680	150 ÷ 280	126	114	185	185	170 ÷ 210	M10	135
BTG 20 ME	303	158	145	275	70	–	695	150 ÷ 300	127	114	185	185	170 ÷ 210	M10	135
BTG 28 ME	303	158	145	275	70	–	695	150 ÷ 300	135	114	185	185	170 ÷ 210	M10	145
TBG 55 ME	610	240	370	380	–	200	1265	175 ÷ 400	161	159	260	260	225 ÷ 300	M12	170
TBG 85 ME	610	240	370	380	–	200	1265	175 ÷ 400	180	178	280	280	250 ÷ 325	M12	190
TBG 120 ME	610	240	370	380	–	200	1315	200 ÷ 450	224	219	320	320	280 ÷ 370	M12	235
TBG 150 ME	610	240	370	380	–	200	1315	200 ÷ 450	240	219	320	320	280 ÷ 370	M12	250
TBG 210 ME	610	240	370	380	–	200	1315	200 ÷ 450	250	219	320	320	280 ÷ 370	M12	255
BGN 200 DSPGN ME	830	395	435	580	160	–	1685	300 ÷ 600	320	220	320	320	280 ÷ 370	M12	230
BGN 250 DSPGN ME	875	395	480	580	160	–	1685	300 ÷ 600	320	220	320	320	280 ÷ 370	M12	230
BGN 300 DSPGN ME	875	395	480	580	220	–	1685	275 ÷ 465	320	275	440	440	400 ÷ 540	M20	330
BGN 350 DSPGN ME	880	400	480	580	220	–	1685	275 ÷ 465	356	275	440	440	400 ÷ 540	M20	365
BGN 400 DSPGN ME	880	400	480	580	177	–	1685	280 ÷ 480	316	275	440	440	400 ÷ 540	M20	360

Model	Package dimensions mm			Weights
	L	P	H	kg
BTG 15 ME	780	370	410	18
BTG 20 ME	780	370	410	18
BTG 28 ME	780	370	410	18
TBG 55 ME	1080	770	700	76
TBG 85 ME	1080	770	700	78
TBG 120 ME	1080	770	700	97
TBG 150 ME	1080	770	700	91
TBG 210 ME	1080	770	700	94
BGN 200 DSPGN ME	2030	1210	990	220
BGN 250 DSPGN ME	2030	1210	990	249
BGN 300 DSPGN ME	2030	1210	990	286
BGN 350 DSPGN ME	2030	1210	990	290
BGN 400 DSPGN ME	2030	1210	990	310



Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

BTG...ME Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Combustion head at partial recycle of combusting gas which allow to achieve low Nox emissions (Class II for BTG 15 ME and class III forBTG 20 ME of the european norm EN267).
- Capacity regulation of the combusting air with automatic closing gate during pause to avoid heat losses at the chimney.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- With valve tightness control.
- Equipped with one flange and one insulating seal for boiler fastening, one 4-pole connector and one 7-pole connector.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Air intake with butterfly gate for the regulation of the air combusting flow rate.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Flame viewer.
- Monophase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Regulation of the air combusting flow rate by means of an electric pitch-pitch servomotor.
- Gas train made up of a butterfly valve controlled by an electric pitch-pitch servomotor, by a monoblock valve which include an operating and safety valve, min.pressure switch, valve tightness control, pressure regulator and gas filter.
- Electronic control box compliant with standard EN298, with microprocessor (electronic cam), integrated valves' tightness control; suitable for eBus connection. Display for operating sequence, modulation percentage, and error code in the event of a lockout.
- Flame presence check by ionisation electrode with connector for milliammeter.
- 7-pole outlet for burner electrical and thermostat connections, and 4-pole outlet for second stage control. or of the capacity electronic regulator.
- Electrical protection rating IP40.
- Sound-proof plastic protective cover.

TBG...ME Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas-fired burner CE certified according to standard EN676.
- Two-stage progressive/modulating operation.
- Gas adjustment by throttle valve controlled by electronically controlled step servo motor.
- Suitable for operation with any type of combustion chamber, according to standard EN 303.
- Partial combustion gas recirculation blast-pipe with low NOx emissions (class II).
- High ventilation efficiency, low electrical input, low noise.
- Hinge opening on both sides for easy access to the combustion head when burner is installed.
- Air capacity adjustment by means of

linear opening damper using electronically controlled step servo motor.
- Air damper closing when burner does not work.
- Electrical panel that connects by 4 and 7 pole plugs/sockets (standard accessories).
- Electrical panel with protection rating of IP 55.
- Sliding boiler coupling flange to adapt to head protrusion of the various types of boilers.
- 1:5 High turndown ratio.

CONSTRUCTION CHARACTERISTICS

- Light die-cast aluminium alloy casing.
- Centrifugal fan with backward curving vanes in light aluminium alloy.
- Fan driven by light alloy three-phase electric motor.
- Combustion air input with sound insulation and designed for optimal air damper opening linearity.
- Light die-cast aluminium alloy electrical panel.
- Control panel with display diagram for working mode with indication lights, start/stop switch, burner shut-off selector and burner unblocking button; possibility to install RWF 40 electronic modulator.
- Electronic control box compliant with standard EN298, with microprocessor, integrated valves' seal control; suitable for eBus connection.
- Working sequence and fault code display.
- Ionizer electrode flame detection.
- Gas train with safety and operation valve, minimum pressure switch, pressure regulator and gas filter.
- Intelligent connectors for burner/train (error proof).

BGN...DSPGN ME Series

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Gas burner.
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Valves tightness control device compliant with European standard EN676.
- Equipped with one flange and one insulating seal for boiler fastening.

CONSTRUCTION CHARACTERISTICS

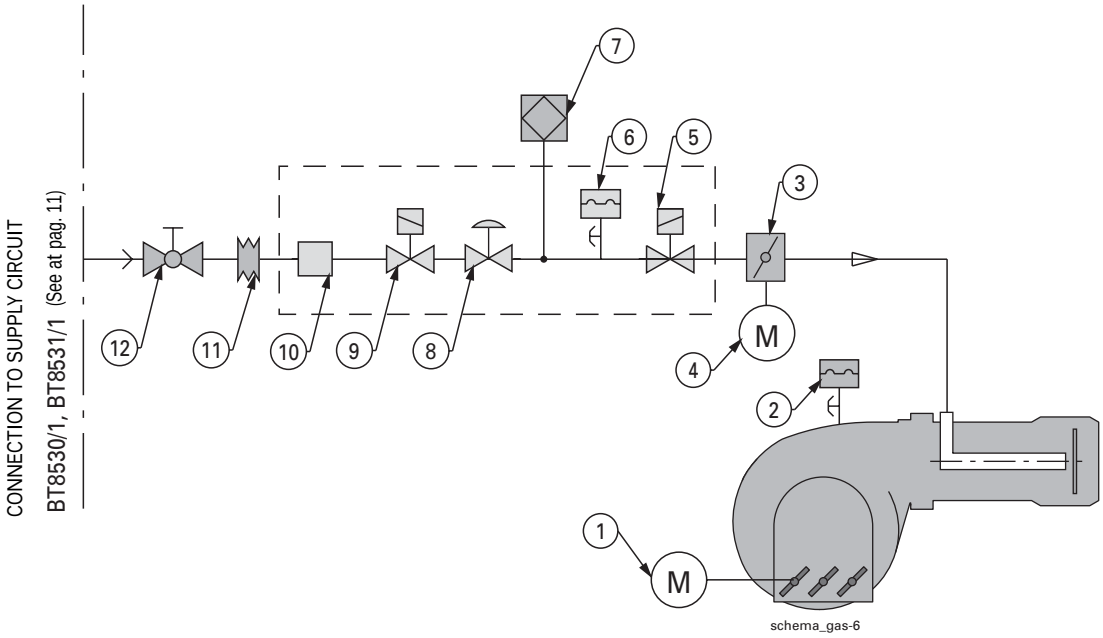
The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Air intake with butterfly gate for the regulation of the air combusting flow rate.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Flame viewer.
- Three-phase electric motor to run fan.
- Air pressure switch to ensure the presence of combustion air.
- Electric servo step motors for simultaneus control of combustion air and fuel.
- Gas train complete with control, operating and safety valve, valve tightness control, minimum pressure switch, pressure regulator and gas filter.
- Burner automatic command and control equipment with microprocessor (electronic cam) in compliance with European standard EN298, with valve tightness control and eBus connection. Display for operating sequence, modulation percentage, and error code in the event of a lockout.
- Flame detection by ionisation electrode.
- Synoptic control panel with led of operation and block and burner off, block indicators, keyboard for electronic cam pianification.
- 7 poles plug for the auxiliary feeding and for the thermostatic connection, presa a 4 poli per il collegamento del regolatore elettronico di potenza.
- Electrical protection rating IP40.

Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard: EN676

Functional diagram



Legend

1 Air adjustment servomotor.
2 Air pressure switch.
3 Butterfly gas valve.
4 Air adjustment servomotor.
5 Operating gas valve.
6 Minimum pressure switch.
7 Valve seal control device integrated in the control equipment.
8 Gas pressure regulator.
9 Safety valve.
10 Gas filter.

Carried out by the installing tachnician:
11 Ani-vibration joint.
12 Ball valve.

Certifications

In 1994 Baltur was one of the first companies in Italy to obtain System Quality certification according to the standard UNI EN ISO 9001. The adoption of total quality programmes formalised and gave concrete form to its philosophy of seeking value for the Customer through process and product quality management systems.

PROCESS QUALITY

All processes are codified according to procedures that ensure the quality of performance of the following: planning and design, purchases, production,checks and inspections, sales and after-sales services. In 2003 the ISO 9001:2000 management system (Vision 2000) was implemented, focussing attention still further on all the company processes.

PRODUCT QUALITY

Product quality is attested for individual products, in accordance with international regulations.

ICIM

CERTIFICATO n. 0202/4
CERTIFICATE No.

BALTUR S.p.A.

Via Ferrarese, 10 - 44042 Cento (FE)
Italia

UNI EN ISO 9001:2000

EA: 18

Progettazione, produzione e assistenza di bruciatori e caldaie. Commercializzazione di gruppi termici, generatori di aria calda, climatizzatori, refrigeratori e unità di rinnovo aria, ventilconvettori, scaldabagno e bollitori.

Design, production and service of burners and boilers. Trade of heating systems, hot air generators, air-conditioners, chillers and air renewal units, fan coil units, water heaters and boilers.

Data emissione First issue	Emissione corrente Current issue	Data di scadenza Expiry date
20/07/1994	16/07/2006	15/07/2009

ICIM S.p.A.

SINCERT

CISQ

IQNet

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner
CISQ/ICIM
hereby certify that the organization

BALTUR S.p.A.
Via Ferrarese, 10 - I-44042 Cento (FE)

for the following field of activities

Design, production and service of burners and boilers. Trade of heating systems, hot air generators, air-conditioners, chillers and air renewal units, fan coil units, water heaters and boilers.

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2000

Issued on: **2006-07-16**
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IQNet — *Fabio Roversi*
President of IQNet

CISQ — *Giannenzo Prati*
President of CISQ

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Data reported in this brochure shall be considered as indicative;
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