



CATALOGUE

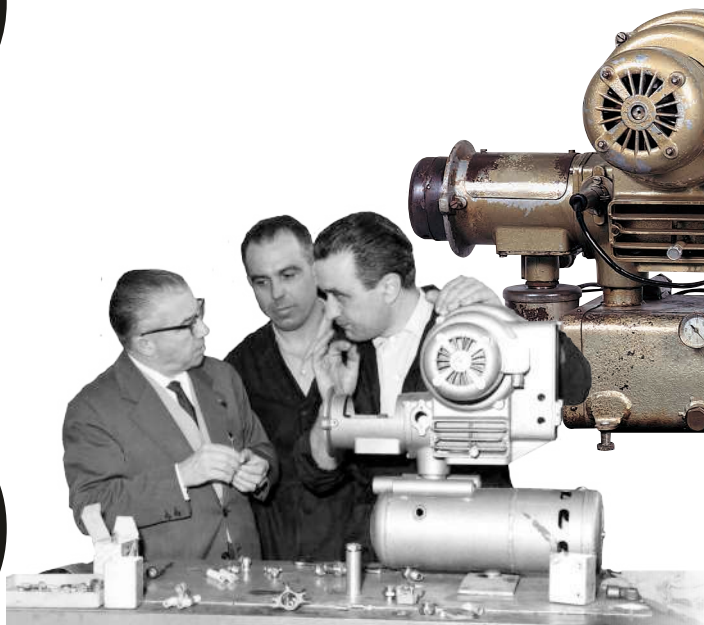
04 | **2025**

**baltur** **75**   
Energy for People 1950 - 2025





1950  
2005  
2025



**1950**

Ballanti and Tura establish Baltur S.r.l. The company produces oil burners for residential use

**1960**

The Fava family joins the company and builds the new factory



## 75 YEARS OF INNOVATION, THE E

**2007**

Initiating the conversion of business processes to the logic and techniques of Lean Management and Industry 4.0



**2004**

The new TB burner range built on an automated line is born



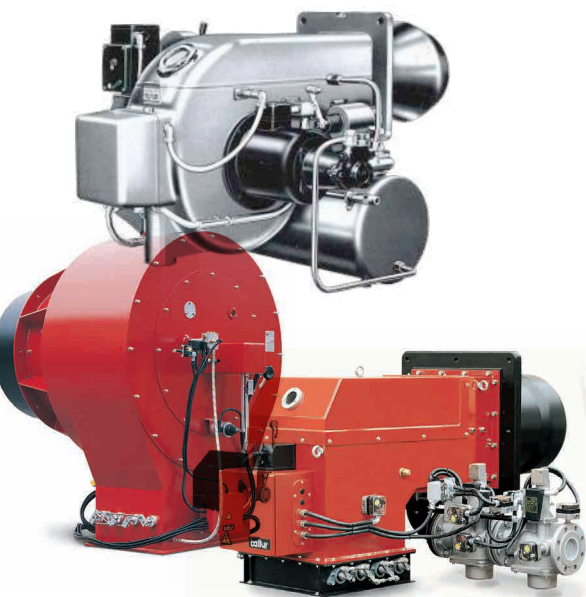
**2012**

8000 kW burner development

**2015**

R&D is equipped with an ISO 1800 (25 MW) tube, the largest in the world





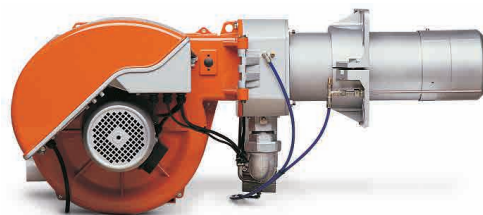
**1990**

Baltur launches  
the first split-head  
burners



**1994**

Baltur is among the  
first Italian companies  
to obtain ISO 9001  
certification



**1995**

Low NOx burner  
production



**2000**

Baltur inaugurates its  
office in Shanghai

**ENERGY TO ALWAYS LOOK AHEAD**



**2019**

Inauguration of the new  
R&D laboratory and  
automated production  
line for industrial burners

**2021**

New Super Low NOx  
burners



**2023**

New biogas/syngas  
multi-fuel burners



**2024**

New burners operating with  
a mixture of methane and  
hydrogen

**2025**

New burners with  
integrated motor  
inverter, class IE5



## BALTUR BURNERS

### HIGH PERFORMANCE AND EMISSIONS REDUCTION - A WINNING COMBINATION FOR BALTUR BURNERS

BALTUR BURNERS ARE GUARANTEED BY THE EXPERIENCE AND KNOW-HOW ACQUIRED DURING 75 YEARS OF PRODUCTION, RESEARCH AND CONTINUOUS INVESTMENT. THE LINE IS TESTED ACCORDING TO ESTABLISHED PROCESSES, WHICH ARE COMPLIANT WITH EU AND EXTRA-EU STANDARDS, AT THE RESEARCH AND TESTING ROOM - A STATE-OF-THE-ART FACILITY FOR THE DEVELOPMENT OF THE BEST TECHNOLOGIES IN THE FIELD OF ENERGY EFFICIENCY.



ENERGY  
SAVING



SAFETY



RESPECT FOR THE  
ENVIRONMENT

## FEATURES THAT MAKE A DIFFERENCE



### Electronic modulation burners

- Easy to regulate thanks to the user-friendly electronic cam software.
  - The regulation of the burner is more precise, reliable and repeatable.
  - Higher modulation ratio.
  - Highly flexible burner configuration according to customer requirements thanks to the modularity of the components that can be used provided by the electronic cam.
  - Possibility of using Combustion Control Systems CCS for combustion optimization and energy saving.
- 



### Low emissions gas burners

- The Baltur low emission burners have also been designed to be used in conjunction with combustion control systems.
  - The Baltur low NOx emissions burners can also be used in industrial processing plants.
- 



### Burners with INVERTER frequency converter

- During normal operation, these allow a significant reduction in primary electrical energy consumption to be achieved, within the burner's modulation range.
  - They guarantee a reduction in the amount of noise produced.
  - The Baltur electronic cam burners can also use the inverter to manage combustion optimization in CCS combustion control systems.
- 



### Burners with O<sub>2</sub> and CO control

- Extensive experience in the configuration, management and installation of active CCS combustion control systems.
  - High reliability and consistency in the measurement, control and processing of the monitored parameters.
  - Possibility of subsequent CCS system installation; its modular design means that the CCS system can be installed even after the burner has been installed and is operational.
- 



### Burners with external recirculation of combustion gases FGR (Flue Gas Recirculation)

- The monoblock and dual block burners can be configured to use exhaust gases from the flue, to reduce nitrogen oxide NOx emissions.
- This system makes it possible to obtain a reduction of between 20% and 50% of nitrogen oxide, according to the amount of flue gas recirculated.
- Baltur provides engineering analysis for the FGR systems by providing technical support for the design of the flue gas systems.





## BALTUR ACADEMY

EXCELLENCE IS ACHIEVED THROUGH CONTINUOUS TRAINING.

BALTUR ENSURES CUSTOMER'S SATISFACTION - CORRECT DIAGNOSIS, QUICK AND EFFECTIVE SERVICES - THROUGH THE TRAINING OF ITS TECHNICAL SUPPORT NETWORK TO PROMOTE NEW COMPETENCIES AND PROBLEM SOLVING SKILLS.

THE COURSES - FOCUSED ON THE OPERATING LOGIC OF THE PRODUCTS - ALLOW PERSONNEL TO QUALIFY AS SKILLED TECHNICIANS AND WORK ON BALTUR PRODUCTS - AN ADDITIONAL GUARANTEE OF EXCELLENCE AND THE ABILITY TO SOLVE PROBLEMS.



REMOTE  
TRAINING



SITE  
TRAINING



TECHNICAL  
TRAINING



## CONTINUOUS INNOVATION

THE FUTURE IS NOW

NEW COMBUSTION TECHNOLOGIES, NEW MATERIALS, REMOTE OPERATIONAL PARAMETER MONITORING AND TRANSMISSION.

Every year we invest new resources in our **R&D laboratories** so that we can conduct continuous testing and experiments on burners up to **50 MW of power**, working to meet our customers' expectations with increasingly efficient products and the lowest environmental impact.



Continuous  
research



Respect for the  
environment





## **TECHNICAL ASSISTANCE**

### **EXPERT ASSISTANCE THROUGHOUT THE COUNTRY**

TECHNICAL ASSISTANCE IS AN ESSENTIAL ELEMENT FOR BALTUR. THIS IS WHY THE COMPANY HAS AN EXTENSIVE NETWORK OF SERVICE CENTRES ACROSS THE COUNTRY; A WIDESPREAD ORGANISATION OF PEOPLE WHO DEAL EXCLUSIVELY WITH AFTER SALES SERVICES THAT RESOLVE PROBLEMS AS QUICKLY AS POSSIBLE AND PROVIDE TIMELY AND EFFECTIVE SOLUTIONS.



**REMOTE  
ASSISTANCE**



**DIRECT  
CONTACT**



**PRESENCE**





## APPLICATION ENGINEERING DEPARTMENT

CUSTOMISATION FOR SPECIFIED APPLICATIONS,  
ALWAYS ONE STEP AHEAD

**The Baltur Application Engineering Department supports customers by developing bespoke burners for specified applications, both for large industrial plants and for small thermal power generation systems.**

The Baltur Application Engineering Department is the first and most important technical reference point for the entire sales force, both internal and external, at all stages of the process: pre-sales, feasibility studies, commissioning and start-up, directly in the field.

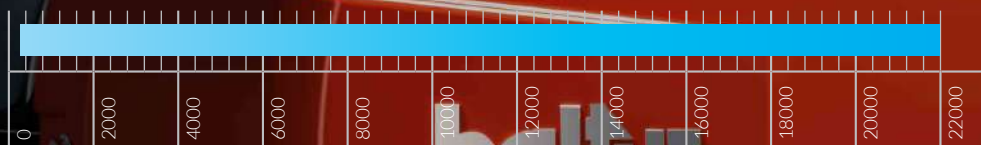
The Department proactively participates in the pre-sales stages of all burners, both standard and non-standard, irrespective of power output (from 30 to 40 kilowatts up to 70 megawatts) while also dealing with even the most complex requests.



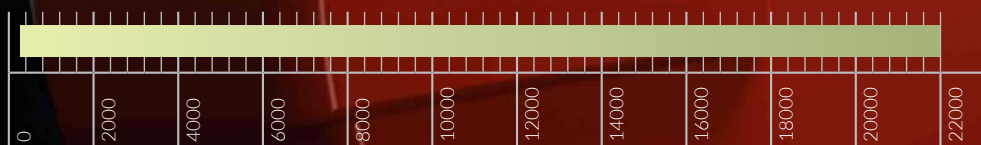


## BURNERS RANGE

**GAS** MONOBLOCK BURNERS from 16,6 to 22000 kW



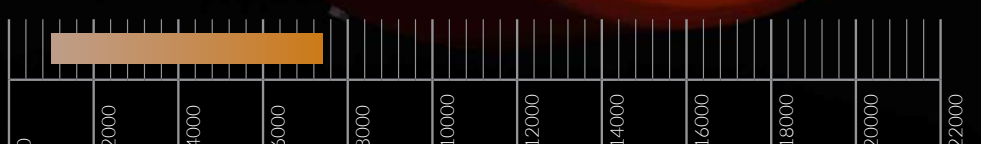
**DUAL FUEL** MONOBLOCK BURNERS from 800 to 20000 kW



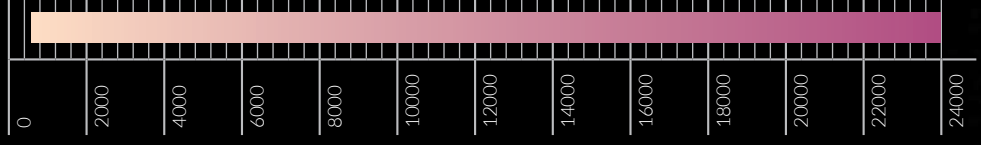
**LIGHT OIL** MONOBLOCK BURNERS from 16,6 to 12000 kW



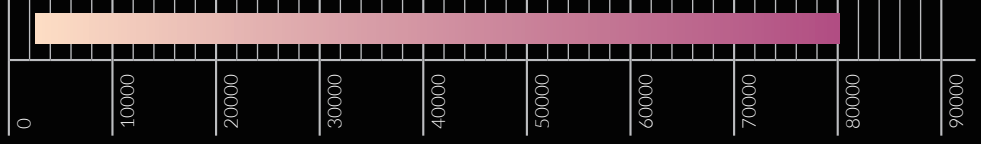
**HEAVY OIL** MONOBLOCK BURNERS from 1000 to 7500 kW



**INDUSTRIAL** DUAL-BLOCK BURNERS WITH SEPARATED FAN from 200 to 24000 kW



**INDUSTRIAL** DUAL-BLOCK BURNERS WITH ADJUSTABLE FLAME GEOMETRY from 500 to 80000 kW



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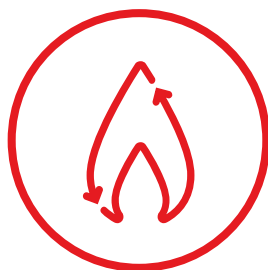
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GAS TRAIN



## WARNINGS

The following must be taken into account when choosing a burner:

### 1 COUPLING FLANGE

- 1.1 All burners up to 3600 kW capacity are equipped with a coupling sliding flange which allows the exact positioning of the combustion head inside the combustion chamber in compliance with the boiler manufacturer's rules.

This does not apply BTL 3, BTG 3 which can be supplied with a long head sliding on the coupling flange on request.

### 2 BLOWN AIR BURNERS

- 2.1 Blown air burners capacity is closely linked to the back-pressure in the combustion chamber as well as installation conditions like altitude. Please refer to the specific operating range reported for each model and to instruction on pages 18-19 to choose the correct machine for the intended application.

### 3 MODULATING BURNERS

- 3.1 In case modulating burner is required it's necessary to add the PID load controller and related probe modulating KIT to the two stage progressive burner. Please note that TBML ME models up to 3600 kW are provided with load regulator already Included.

### 4 GAS AND DUAL FUEL BURNERS

- 4.1 Gas and dual fuel burners comply with Directive 2009/142/EC and are manufactured according to EN676. This compliance is indicated by the CE mark on the burner itself.
- 4.2 Gas and dual fuel burners, must always be ordered with a gas train and an adapter (if required). These should be selected according to the gas pressure available. Please refer to instruction on page 17 for gas train selection.. **ORDERS FOR BURNERS WITHOUT A GAS TRAIN WILL NOT BE ACCEPTED.**
- 4.3 In the case of gas input pressures that exceed the application field of gas proposed trains, please contact our Sales Office for a dedicated solution.

### 5 DIESEL AND BIOFUEL BURNERS

- 5.1 Diesel burners are compatible with blends of diesel and biofuel.  
Biofuel must meet the requirements of EN14213.  
Diesel blends having a maximum biofuel content of 10%: all the components of the suction line of the system must be compatible with the type of fuel used.  
Diesel blends having a biofuel content higher than

10%: please contact our Sales Office for more information.

### 6 60Hz BURNERS

- 6.1 The operating range of the burners reported in this document has been obtained in compliance with EN267 (Light oil burners) and EN676 (Gas burners) with frequency 50Hz.

### 7 HEAVY OIL BURNERS

- 7.1 If you use heavy oil with a viscosity higher than 5° E at 50°C and up to 15°E the system must be equipped with a feed circuit employing an auxiliary pump as per our technical drawings.

### 8 IMPORTANT Note

- 8.1 Diagrams are indicative only and refer to test boilers as per the standards in force.  
The performance of the overall thermal unit strongly depend on correct matching between burner and boiler/combustion chamber.  
In case of specific and mandatory requirements are in place please contact our Sales Office for a validation of the solution.

### 9 Note

- 9.1 For technical data and special products offers please refer to the local Baltur dealer or contact directly Baltur Head Office at tel. +39 0516843711, e-mail [info@baltur.it](mailto:info@baltur.it)

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## SYMBOLOLOGY

### GAS

#### **BPM...**

Modulating gas premix burners.

#### **BTG... • TBG...**

Single-stage gas burners .

#### **BTG... Lxxx**

Long head single-stage gas burners.

#### **BTG...P • TBG...P • TBG...LX P**

Two-stage gas burners.

#### **BTG...P Lxxx**

Long head two-stage gas burners.

#### **TBG...MC • TBG... LX MC**

Two-stage progressive/modulating gas burners with mechanical cam.

#### **BTG...ME • TBG...ME • TBG...LX ME**

Two-stage progressive / modulating gas burners with electronic cam.

#### **TBG...ME V • TBG...LX ME V**

Modulating gas burners with electronic modulation and frequency converter (inverter).

#### **TBG SLX...ME**

Super Low NOx (FIR) gas burners with electronic modulation.

#### **TBG... LX ME FGR**

Modulating gas burners with electronic modulation and flue gas recirculation system (FGR).

### DUAL FUEL

#### **TBML...P**

Two-stage gas/light oil burners.  
Dual operating mode.

#### **TBML...MC**

Two-stage progressive/modulating gas/light oil burners with mechanical cam on gas, two-stage on light oil.  
Dual operating mode.

#### **TBML 50/80/120/160/200/260/360 ME**

Modulating gas/light oil burners with electronic modulation on gas, two-stage on light oil. Dual operating mode.

#### **TBML from 450 to 2000 ME**

Modulating gas/light oil burners with electronic modulation. Dual operating mode.

#### **TBMN...ME**

Modulating gas/heavy oil burners with electronic modulation. Dual operating mode.

### LIGHT OIL

#### **BTL... • TBL...**

Single-stage light oil burners.

#### **BTL... Lxxx**

Long head single-stage light oil burners.

#### **BTL...P • TBL... P • TBL...LX**

Two-stage light oil burners.

#### **BTL...P Lxxx**

Long head two-stage light oil burners.

#### **BT...DSPG**

Two-stage progressive/modulating light oil burners with mechanical cam.

#### **TBL... ME**

Two-stage progressive/modulating light oil burners with electronic cam.

### HEAVY OIL

#### **TBN...ME**

Two-stage progressive / modulating heavy oil burners with electronic cam.

**N.B.** The letters indicate the model; burner power is indicated in the spaces.

**...DACA** Burner equipped with automatic air closure device.

**...O2** Kit for O<sub>2</sub> control.

**...CO** Kit for CO and O<sub>2</sub> control.

**...H** Burner equipped with preheating.

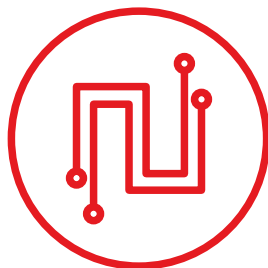
**GAS EMISSIONS:**  
Emissions  
classes defined according  
to EN676 directive.

Class	NOx Emissions [mg/kWh]	
	natural gas	LPG
1	≤ 170	≤ 230
2	≤ 120	≤ 180
3	≤ 80	≤ 140
4	≤ 60	≤ 110

**LIGHT OIL EMISSIONS:**  
Emissions  
classes defined according  
to EN267 directive.

Class	NOx Emissions [mg/kWh]		CO Emissions [mg/kWh]
1	≤ 250		≤ 110
2	≤ 185		≤ 110
3	≤ 120		≤ 60





## BURNERS WITH ELECTRONIC MODULATION (ME SERIES)

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 implies mechanical play and hysteresis in the combustion air/fuel calibration system, which results to 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 BTG, TBG series and standard series. The combustion air/

### BTGME e TBGME series



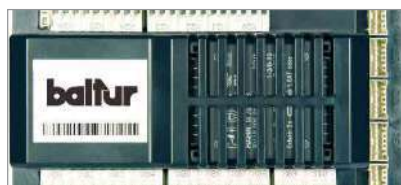
#### BURNER OPERATION DISPLAY WITH PROGRAMMING KEYBOARD

Allows to display the running sequence of the position of the air servomotor and the control of the servomotors.

Backlit display for an accurate reading even in difficult lighting conditions. Lamp block and reset button built into the programming keypad.

In case of shut down it is possible to immediately recognize the cause through an error code. Storage of the last 10 block reports.

Allows to display the fuel consumption through a pulse signal coming from the gas flow meter. Simple navigation menu with icons for easy programming.



#### ELECTRONIC CAM

Modular electronic programmer with microprocessor for control and monitoring of the burner functions.

Version for continuous running on demand.

Modulating operation through the use of a thermoregulator (optional).

Gas valves tightness control integrated in the control box. Electrical connection via encoded plug connections to prevent wiring errors. Remote reset.

On demand the following expansion modules are available: PID module for modulating operation, inverter module, O<sub>2</sub>/CO control for automatic fuel optimization, Interface Bus (PROFIBUS, MODBUS).



#### 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.





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, reliable technological and cost cuts for installation and maintenance.

The ME burners series has been designed to match also the most demanding installation requests thanks to several expansions module such as: PID module for modulating operation, inverter communication module, O<sub>2</sub> and CO controls for automatic fuel optimization and digital interface BUS modules (PROFIBUS and MODBUS) for remote system monitoring.

## TBML series

### 1 - BURNER OPERATING DISPLAY WITH KEYPAD

Enables the sequence of the servo motors' working position and the loading value to be viewed.

Burner operating time and number of successful start-ups.

Set point display.

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.

Log of last ten lock-outs with date and time indicated.

Keypad for burner calibration.

These functions are password-protected.

### 2 - ELECTRONIC CAM

Electronic programmer with double fail safe microprocessor to control and monitor burner functions.

Built-in gas valve seal control.

PID integrated load adjuster.

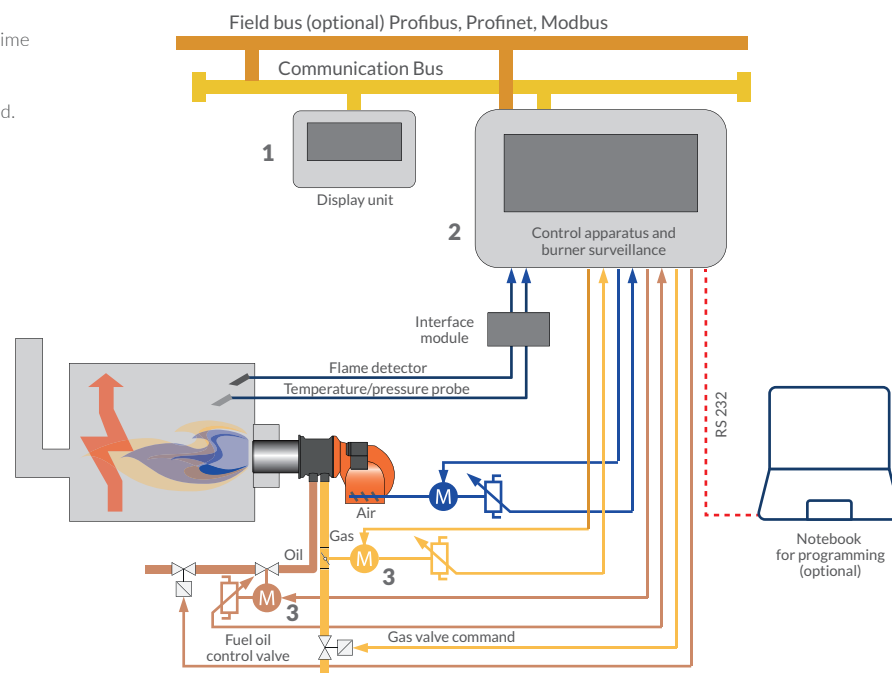
Continuous operating.

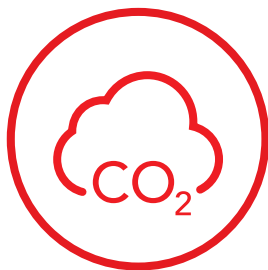
Available on request, connections to Modbus, Profibus and profinet.

### 3 - SERVOMOTORS FOR AIR AND FUEL ADJUSTMENT

The adjustment of air and gas flow is by means of servo motors with potentiometer feedback.

The considerable precision of the adjustments makes it possible to maintain the combustion at optimal values at all the load points.





## BURNERS WITH O<sub>2</sub> AND CO CONTROL

In thermal combustion processes it is best to make sure that all the fuel is completely burnt to prevent the appreciable quantities of unburnt fuel finding its way into the combustion products.

In theory, the complete combustion of fuel could also be obtained by using the stoichiometric amount of combustion air.

In practice, however, one has to use excess combustion air with respect to the minimum stoichiometric amount, to ensure the fuel is completely burnt.

If however, the excess air is higher than a certain amount, there is the risk of excessive flame cooling with a consequent increase in heat loss to the flue and an increase in pollution.

It is therefore evident that the air-fuel ratio has to be maintained within an appropriate range in order to ensure maximum combustion efficiency and minimum air pollution.

The amount of excess air is determined by measuring the percent of oxygen in the exhaust fumes.

The active oxygen control system consists of:

- a zirconium oxide probe, located at the outlet of the combustion chamber or in the flue
- monitoring and control equipment.

The regulator, via the probe, monitors and measures the amount of oxygen in the fumes and by controlling a servomotor, automatically modifies the amount of combustion air, thereby maintaining an optimum air / fuel ratio and ensuring increased performance with less pollution.

The advantage of this system can be better understood with an example:

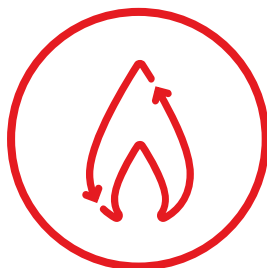
- 6MW methane fuelled power plant.
- use of 50 weeks/year, for 5 days/week, 16 h/day.
- the O<sub>2</sub> monitoring in the system, where the

oxygen percent can be reduced up to 2,5%, you can obtain energy savings of 52TOE (tonne of oil equivalent) and 142 tonnes/year of CO<sub>2</sub>, equal to 2%.

The performance that can be obtained using CO<sub>2</sub> monitoring in gas burners becomes even better.

In this case the combustion air is further reduced, (using an inverter, if fitted), by means of an air servomotor until a few dozen of CO<sub>2</sub> ppm are detected at the flue.

With CO monitoring, the minimum air excess on the entire work range can be ensured so as to increase energy efficiency of a further 0.5% with respect to O<sub>2</sub> monitoring.



## HOW TO CHOOSE THE RIGHT GAS TRAIN FOR THE BURNER

Using the specific diagrams, it is possible to select the gas train that is most suitable for the burner.

First of all it is necessary to identify:

- Burner's output  $Q_i$  [kW], to be identified along the x-coordinate.
- Gas pressure available at the regulator  $P_g$  [mbar], to be identified along the y-coordinate.

The available gas pressure is determined by the formula:  $P_g = P_a - P_c$  where:

$P_a$  = gas pressure provided by the mains supply;

$P_c$  = the pressure in the boiler combustion chamber.

The intersection point of the two lines defines the operational parameters of the gas train.

The gas train characterised by the first curve underneath the intersection point must be chosen.

### Note:

In the graphs the curves of the losses of load have different colors.

The BLUE curve shows ramp with valve block.  
The RED curve shows ramp dedicated to extra CE market.

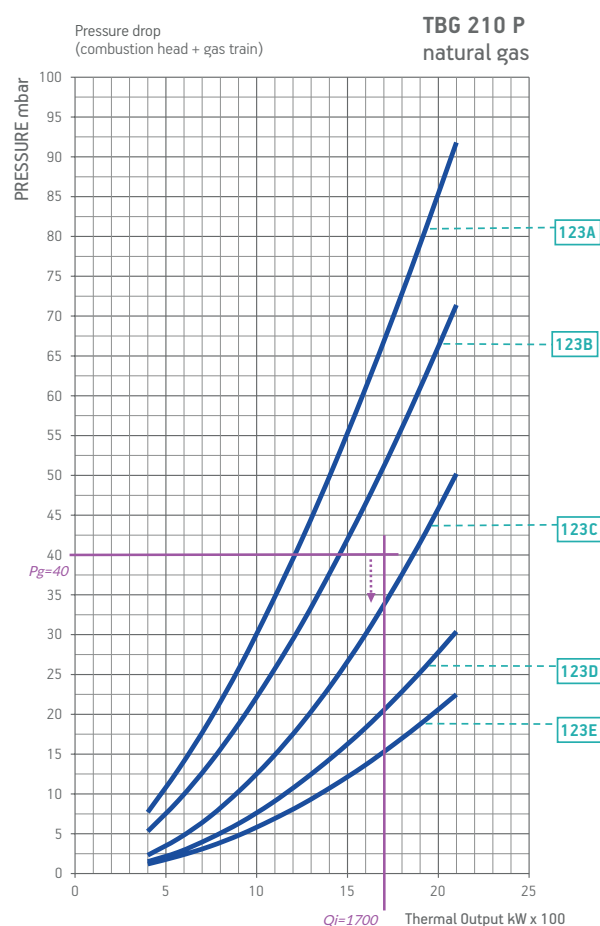
The pressure regulator is provided with springs in the different setting adjustment. These will replace, possibly, one already installed depending on the pressure of the gas that serves to ramp in that particular flow condition and pressure.

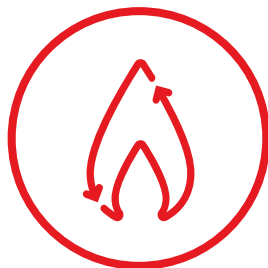
### EXAMPLE:

- Burner = TBG 210 P
- $Q_i = 1700$  kW
- $P_a = 45$  mbar
- $P_c = 5$  mbar
- $P_g = 45 - 5 = 40$  mbar

Choose the indicated curve 123C.

To identify the codes for the gas train, pressure regulator and adapter to be ordered refer to the BURNER/GAS train match-up table relative to burner TBG 210 P and curve reference 123C.





## COMBUSTION AIR FLOW CORRECTION FACTOR IN ACCORDANCE WITH THE TEMPERATURE AND ALTITUDE (ABOVE SEA LEVEL)

The burner operating ranges indicated in the various documentation refer to a temperature of 15°C and an altitude of 0 m above sea level. It may occur that the burner has to operate with air at different temperatures and/or altitudes. Therefore, its operating features must be modified.

Heating of the air and/or increasing of the altitude reduce the density of the air, with a resulting reduction in the oxygen content. Therefore, burning the same quantity of fuel requires the same quantity of oxygen contained in a greater volume of air.

Given that the burner fan is not set up to increase the volume of air, it is necessary to reduce the quantity of the fuel to be burned, with a resulting reduction in the maximum Thermal output.

This reduction leads to a reduction in the burner operating range obtained by multiplying the maximum Thermal output of the burner by a coefficient (see Table) which accounts for the temperature of the combustion air and the altitude.

It is necessary, therefore, to check if the working point is still within the new operating range. If it is, the burner is still suitable for that application. If it is not, you must select a bigger

burner.

### EXAMPLE:

Combining a gas boiler burner with a boiler for an application with following characteristics:

- thermal power 1100 kW
- counter pressure 4.5 mbar
- ambient temperature 50°C
- altitude 1000 m above sea level

Considering normal operating conditions TBG 120ME is the correct choice. However it's necessary to consider the correction of operating range due to different operating conditions.

### Using the formula

$$Q_r = Q_{\max} \times f$$

Where:

$Q_r$  = reduced burner output

$Q_{\max}$  = max Thermal

output of burner TBG 120ME = 1200 kW

$f$  = correction factor calculated using the table, by combining the 1000m column with the 50°C one.

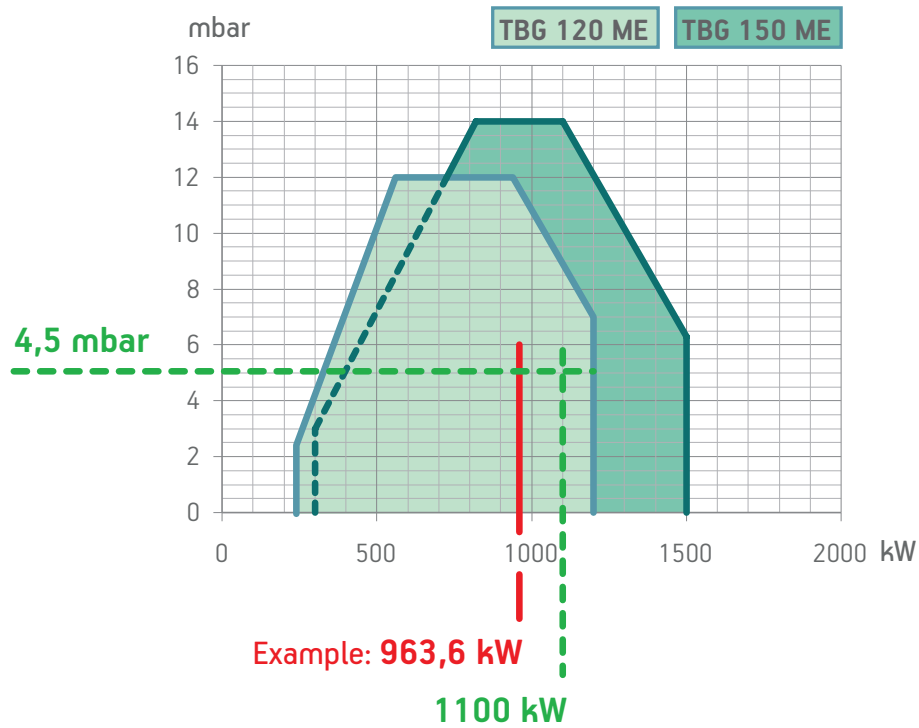
$f = 0.803$

$Q_r = 1200 \times 0.803 = 963.6 \text{ kW}$

Under these conditions TBG 120ME has a maximum output power of 963.6 kW which is insufficient for the application.

The correct choice is a TBG 150ME with maximum nominal power of 1500 kW, that after correction is reduced to  $1500 \times 0.803 = 1204 \text{ kW}$ .

Which is suitable for the application.



Air temperature in °C	Height in meters above sea level												
	0	250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000
0	1,071	1,040	1,009	0,978	0,950	0,920	0,895	0,867	0,841	0,813	0,791	0,765	0,741
5	1,052	1,021	0,991	0,960	0,933	0,904	0,879	0,851	0,826	0,798	0,776	0,751	0,728
10	1,033	1,033	0,973	0,943	0,916	0,888	0,863	0,836	0,812	0,784	0,763	0,738	0,715
15	1,015	0,986	0,956	0,927	0,900	0,872	0,848	0,822	0,797	0,771	0,749	0,725	0,703
20	0,998	0,969	0,940	0,911	0,885	0,857	0,834	0,807	0,784	0,758	0,737	0,713	0,691
25	0,981	0,953	0,924	0,896	0,870	0,843	0,820	0,794	0,771	0,745	0,724	0,701	0,679
30	0,965	0,937	0,909	0,881	0,856	0,829	0,806	0,781	0,758	0,733	0,712	0,689	0,668
40	0,934	0,907	0,880	0,853	0,828	0,803	0,781	0,756	0,734	0,709	0,690	0,667	0,647
50	0,905	0,879	0,853	0,827	0,803	0,778	0,756	0,733	0,711	0,687	0,668	0,647	0,627
60	0,878	0,853	0,827	0,802	0,779	0,754	0,734	0,711	0,690	0,667	0,648	0,627	0,608
80	0,828	0,804	0,780	0,756	0,735	0,712	0,692	0,670	0,651	0,629	0,611	0,592	0,573
100	0,784	0,761	0,739	0,716	0,695	0,674	0,655	0,634	0,616	0,595	0,579	0,560	0,543
150	0,691	0,671	0,651	0,631	0,613	0,594	0,578	0,559	0,543	0,525	0,510	0,494	0,478
200	0,618	0,600	0,582	0,565	0,548	0,531	0,517	0,500	0,486	0,469	0,456	0,442	0,428
250	0,559	0,543	0,527	0,511	0,496	0,480	0,467	0,452	0,439	0,425	0,413	0,400	0,387
300	0,510	0,496	0,481	0,466	0,453	0,439	0,426	0,413	0,401	0,387	0,377	0,365	0,353
f													



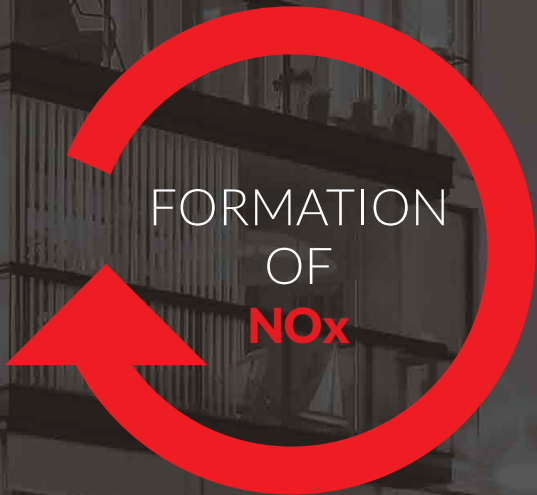
## **FGR** FLUE GAS RICIRCULATION FOR NO<sub>x</sub> REDUCTION

### **NITROGEN OXIDES**

During combustion, oxygen (O<sub>2</sub>) and nitrogen (N<sub>2</sub>) present in the air can combine with each other in a number of ways, generating nitrogen oxides (NO<sub>x</sub>). Among them, nitrogen monoxide (NO) and dioxide

(NO<sub>2</sub>) are the protagonists in many pollutant processes and have an impact on health. There are three main paths for the formation of NO<sub>x</sub>:

- 1 **Thermal NO<sub>x</sub>**  
Related to flame temperature.
- 2 **Quick NO<sub>x</sub>**  
Related to chemical reactions.
- 3 **NO<sub>x</sub> due to fuel**  
Related to the amount of nitrogen in the fuel.



FORMATION  
OF  
**NO<sub>x</sub>**

### **FLUE GAS RICIRCULATION (FGR)**

Recirculation of combustion products is a technique to reduce the flame temperature. It consists in withdrawing a part of combustion fumes from the chimney and dilute them with combustion air, in order

to reduce the concentration of oxygen and increase the concentration of inerts (N<sub>2</sub> and CO<sub>2</sub>), which in turn will absorb a part of the energy developed during combustion, thus reducing the flame temperature.

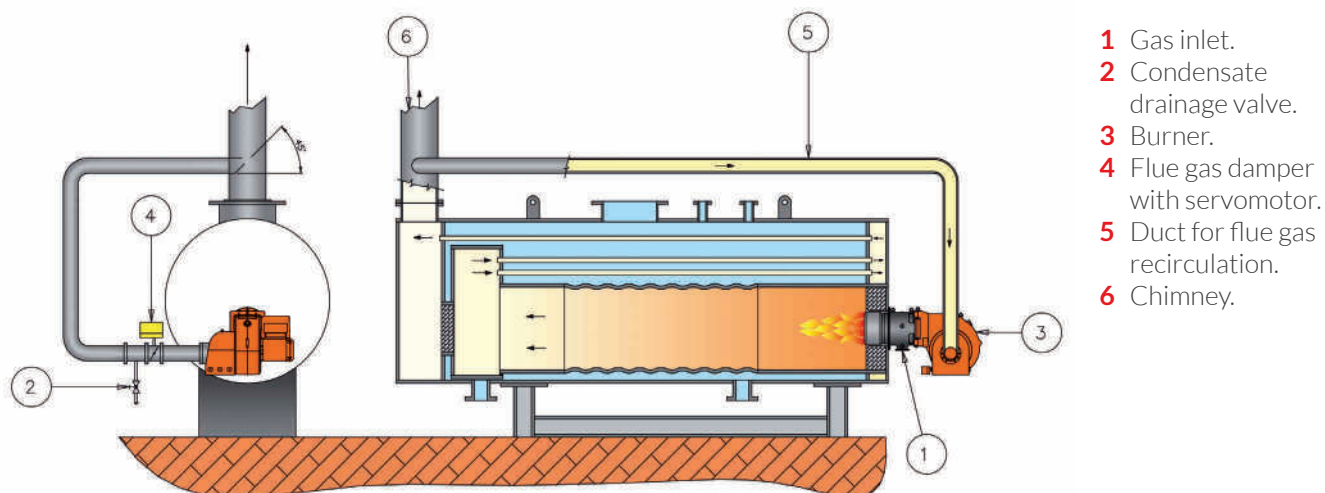


## FGR FOR MONOBLOCK BURNERS

FGR systems are generally demanding in terms of installation and maintenance. A solution which does not take into account the combination of mechanical, thermal and chemical stresses will lead to early failure of system. Baltur has engineered its FGR solution with the aim to provide the highest level of reliability and long standing performances. Our FGR systems are equipped with:

- double condensation drainage system,
- flue gas duct and ventilation made with special steel,
- full protection of UV sensor,
- additional UV sensor cleaning and cooling system for the most demanding application.

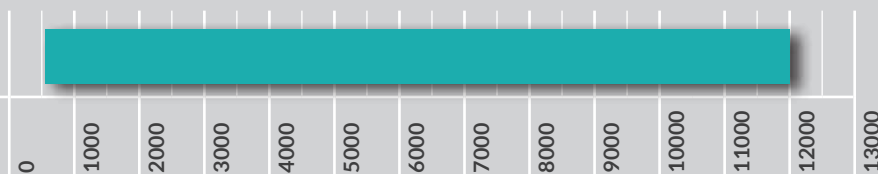
**Diagram 1** - External gas recirculation for monoblock burners.



## FGR RANGE

**12 MODELS AVAILABLE**  
**POWER FROM 600 TO 12000 KW**

kW





## ENERGY SAVING WITH $O_2$ & CO CONTROL SYSTEMS

### Do you know that combustion efficiency is not constant over time?

Combustion efficiency is a critically important element of any heating plant: higher efficiency means lower fuel consumption and hence lower operating costs.

However, combustion efficiency is not always constant over time. This depends on the ability of the plant to regulate the combustion optimally, despite the different variables to which it is continuously subject, such as:

- > The combustion air temperature and pressure (intake air used to generate combustion)
- > The back pressure in the generator furnace and the chimney draught
- > The variations in the heating power, flow rate or density of the fuel, whatever it is (methane, LPG or other)
- > The condition of the protection filters
- > The mechanical hysteresis of the regulators
- > The loss of efficiency of mechanical parts

These factors, however, cannot be controlled by the traditional combustion regulation systems currently available on the market.

Regular (annual or semi-annual) checks of the system settings, mandatory by law, help to limit such inefficiencies but are not always enough.

In fact, since a correct operation must be ensured in different ambient conditions, the combustion regulation performed during regular checks never guarantees maximum efficiency.

## BENEFITS OF CO CONTROL OVER O2 ALONE



### HIGHER ENERGY SAVING:

estimated up to +0.5% compared to O2 control



### INDEPENDENT OF EXTERNAL AIR:

the measurement and regulation of combustion is highly reliable as it is independent of external air (infiltration). The O2 control requires a perfect tightness of the connection between boiler, fume duct and chimney, precisely to prevent external air from entering and distorting the O2 probe reading and hence the combustion regulation.



### ABSOLUTE OPERATIONAL SAFETY:

with this system, absolute operational safety is also guaranteed, since unburned gases are directly measured by a CE-certified sensor.

## O2 / CO PROBE AND VFD:

### THE ULTIMATE BENEFIT FOR YOU AND THE ENVIRONMENT



**Attention to the environment and proper use of resources have become an obligation for all business activities.** In Baltur, we see this as an opportunity not only to contribute to the reduction of pollutant emissions, but also to offer significant economic benefits to our customers.



Baltur burners equipped with VFD (Variable Frequency Drive) technology are capable of significantly reducing power consumption, starting from a minimum of 35% savings up to over 45%, depending on the application.

**TBG... SLX ME**  
Electronic modulating  
super Low NOx gas  
burners - FIR

 SUPER Low NOx - FIR

## SUPER LOX NOx GAS burners - FIR



### Features

- New head design with double distribution system
- Independent gas regulation over two channels
- Hinged-opening for a facilitated maintenance
- Programmable electronic cam
- Available in combination with inverter and O2/CO sensor
- Suitable for 72 h continuous operation
- LPG operation



### Your benefits

- NOx emission < 50 mg/kWh
- Lower installation cost respect to FGR solution
- Lower maintenance cost respect to FGR solution
- Lower electrical consumption
- Higher combustion efficiency and fuel saving
- Allows you to adapt the thermal power plants without replacing the boiler



### Patented technology, how does it work

The **exclusive design of the combustion head** is the result of an optimization process of gas and air flow channels with the targets to **reduce NOx emissions and ensure stability over the complete working field of the machine.**

The natural gas supply is separated at gas train level in two different stream lines which serve respectively the central area of the flame and the lateral one.

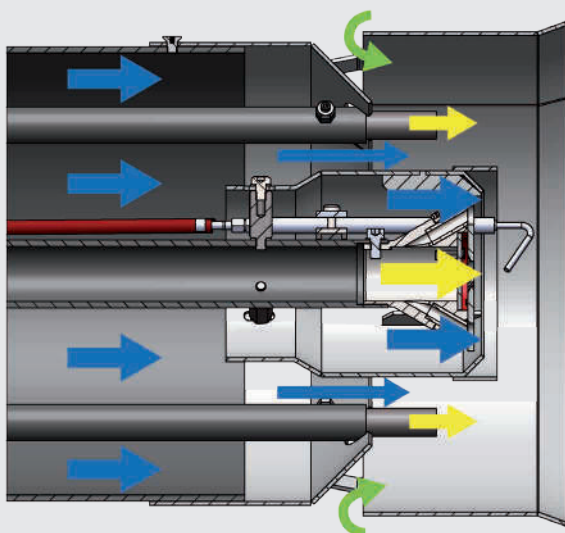
The independent management of gas flow over different combustion area allow to reach multiple benefits:

- **Great stability of root flame in any working conditions** reducing vibrations, noise and risk of shut down
- **Low thermal NOx** formation thanks to mixing with flue gas
- **Performance of the machine granted over the complete working field thanks to fine tuning capability.**

## TWO STAGE PROGRESSIVE



NOx emissions  
**<50** mg/kWh



The new concept of combustion head is designed to ensure the **maximum of stability** and performance with **ease of operation**.





TBG 80 - 160 SLX ME

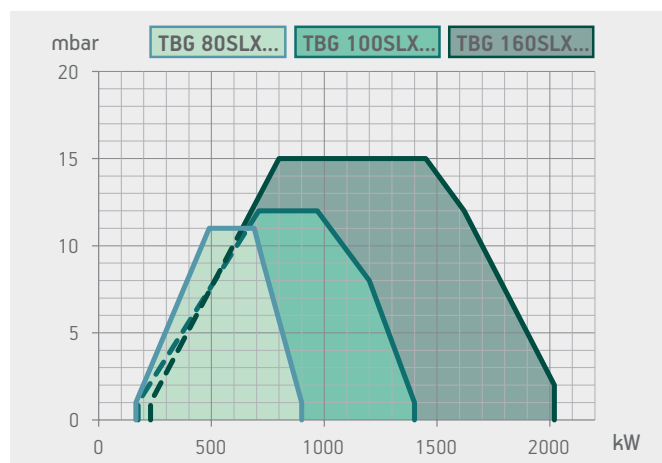
**Gas burner compliant with European standard EN676. Operation:**

	TBG 80 SLX ME	TBG 100 SLX ME	TBG 160 SLX ME
	electronic modulation	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	○
Modulation ratio	1 : 5	1 : 7	1 : 10
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 4	class 4	class 4
72 h continuous operation	○	○	○
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
CE version gas train is complete with operation and safety valve with electromagnetic drive, maximum and minimum pressure switch with gas leakage control, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up/down	up/down	up/down
Secondary gas train outlet:	right/left	right/left	right/left
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	●	●	●
Electric protection rating:	IP40	IP40	IP40
Noise level dB(A)	74	75	79
Residual oxygen (O <sub>2</sub> ) monitoring in the fumes in order to maintain an optimal air/fuel ratio and ensure increased performance	○	○	○
Residual oxygen (O <sub>2</sub> ) and carbon monoxide (CO) and monitoring of oxidizing components (H <sub>2</sub> ) in fumes to ensure increased performance and less atmospheric pollution	○	○	○
VDS fan motor to reduce overall electrical power consumption	○	○	○

**LEGEND:**

○ Optional; ● As standard

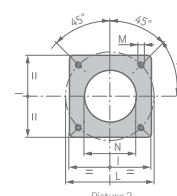
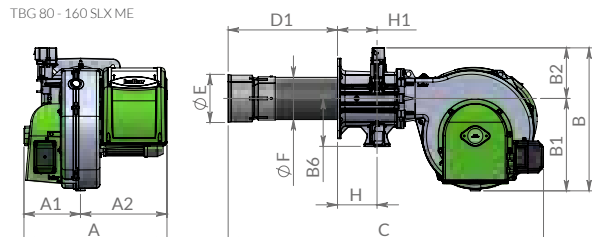




Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 80 SLX	1130	800	663	98,5
TBG 100 SLX	1130	800	663	103
TBG 160 SLX	1130	800	663	106

SUPER LOW NOX  
- FIR - BURNERS

TBG 80 - 160 SLX ME



Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	H mm	H1 mm	L mm	M mm	N mm	Pic.
TBG 80 SLX	597	237	360	594	386	211	200	1289	448	201	176	328	165	165	278-378	M12	216	2
TBG 100 SLX	597	237	360	594	386	211	200	1289	448	201	176	328	167	165	278-378	M12	216	2
TBG 160 SLX	597	237	360	594	386	211	200	1294	453	250	225	328	167	165	278-378	M12	254	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Notes
Frequency 50 Hz							
	class 4	165 ÷ 900	<b>TBG 80 SLX</b>	<b>18240010</b>	3N AC 50Hz 400V	1,5	3) 4)
	class 4	175 ÷ 1400	<b>TBG 100 SLX</b>	<b>18260010</b>	3N AC 50Hz 400V	2,2	3) 4)
	class 4	230 ÷ 2020	<b>TBG 160 SLX</b>	<b>18280010</b>	3N AC 50Hz 400V	3	3) 4)
Frequency 60 Hz							
	class 4	165 ÷ 900	<b>TBG 80 SLX</b>	<b>18245410</b>	3N AC 60Hz 380V	1,5	3) 4)
	class 4	175 ÷ 1400	<b>TBG 100 SLX</b>	<b>18265410</b>	3N AC 60Hz 380V	2,2	3) 4)
	class 4	230 ÷ 2020	<b>TBG 160 SLX</b>	<b>18285410</b>	3N AC 60Hz 380V	3	3) 4)

## TO COMPLETE THE BURNER

DESCRIPTION	PART NO.
Modulating kit	98000059
Modulating probe for LCM 100 (see page 332)	
TBG 80 SLX: LPG nozzle kit 2)	98000447
TBG 100 SLX: LPG nozzle kit 2)	98000448
TBG 160 SLX: LPG nozzle kit 2)	98000449

## NOTE

- Please contact your Sales Representative for the LPG application.
  - Sound proof lid on burner air intake.
  - Equipped with automatic air closure device.
- Net calorific value at reference conditions of 0°C, 1013mbar:  
Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
LPG:  $H_i = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .  
For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Soundproof burner cover (see page 337)	
<b>BURNER ACCESSORIES</b>	
Boiler coupling kit, plug for wiring	



TBG 320 SLX ME



TBG 480 SLX ME

## TBG 320 SLX ME

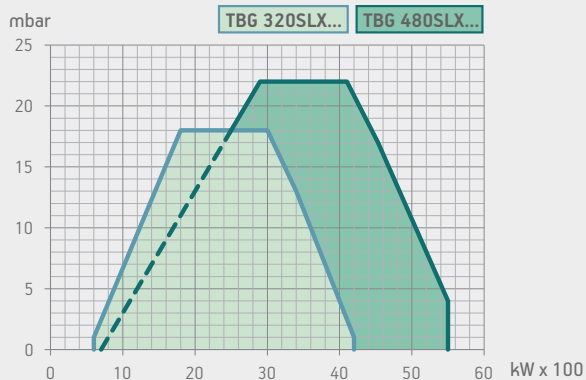
## TBG 480 SLX ME

**Gas burner compliant with European standard EN676. Operation:**

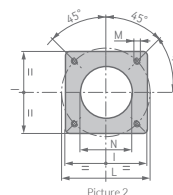
	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○
Modulation ratio	1 : 7	1 : 8
Low NOx and CO emissions gas burner according to European standard EN676:	class 4	class 4
72 h continuous operation	○	○
Adjusting the combustion head	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●
Fixed coupling flange	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●
Device made of sound-absorbing material to reduce fan noise	●	●
CE version gas train is complete with operation and safety valve with electromagnetic drive, maximum and minimum pressure switch with gas leakage control, pressure regulator and gas filter	●	●
Fail proof connectors for burner/gas train connection	●	●
Gas train outlet:	up/down	up/down
Secondary gas train outlet:	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	●	●
Electric protection rating:	IP54	IP54
Noise level dB(A)	81	88
Residual oxygen (O <sub>2</sub> ) monitoring in the fumes in order to maintain an optimal air/fuel ratio and ensure increased performance	○	○
Residual oxygen (O <sub>2</sub> ) and carbon monoxide (CO) and monitoring of oxidizing components (H <sub>2</sub> ) in fumes to ensure increased performance and less atmospheric pollution	○	○
VDS fan motor to reduce overall electrical power consumption	○	○

**LEGEND:**

○ Optional; ● As standard

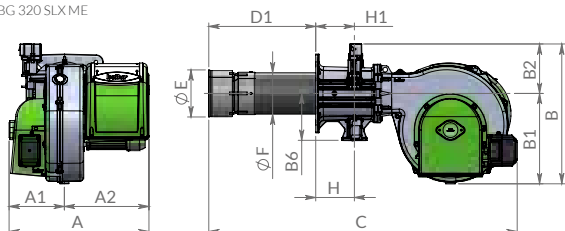


Model	Size of packaging			Weight kg
	L	P	H	
TBG 320 SLX	1500	1150	970	240
TBG 480 SLX	1500	1320	970	260

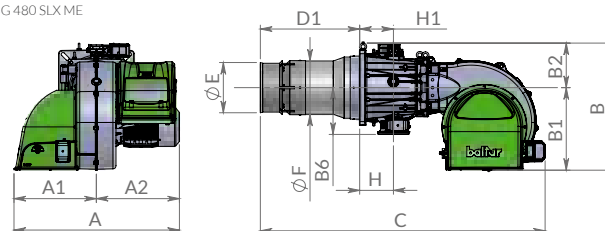


Flange dimensions  
and boiler drilling  
template.

TBG 320 SLX ME



TBG 480 SLX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	H mm	H1 mm	L mm	M mm	N mm	Pic.
TBG 320 SLX	1060	530	530	810	525	285	295	1820	630	344	410	480	223	223	520-600	M20	415	2
TBG 480 SLX	1110	530	580	810	525	285	295	1840	650	344	410	480	223	223	520-600	M20	415	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Notes
Frequency 50 Hz							
	class 4	600 ÷ 4200	<b>TBG 320 SLX</b>	<b>18440010</b>	3N AC 50Hz 400V	11	3) 4)
	class 4	700 ÷ 5500	<b>TBG 480 SLX</b>	<b>18460010</b>	3N AC 50Hz 400V	15	3) 4)
Frequency 60 Hz							
	class 4	600 ÷ 4200	<b>TBG 320 SLX</b>	<b>18445410</b>	3N AC 60Hz 380V	11	3) 4)
	class 4	700 ÷ 5500	<b>TBG 480 SLX</b>	<b>18465410</b>	3N AC 60Hz 380V	15	3) 4)

### TO COMPLETE THE BURNER

DESCRIPTION	PART NO.
Modulating kit	98000059
Modulating probe for LCM 100 (see page 332)	

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Soundproof burner cover (see page 337)	

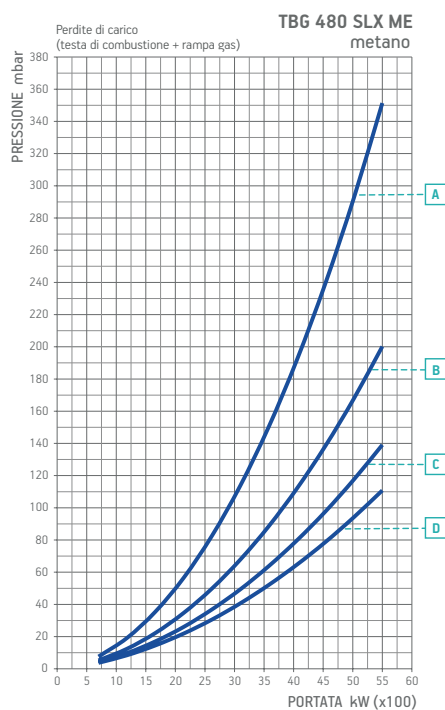
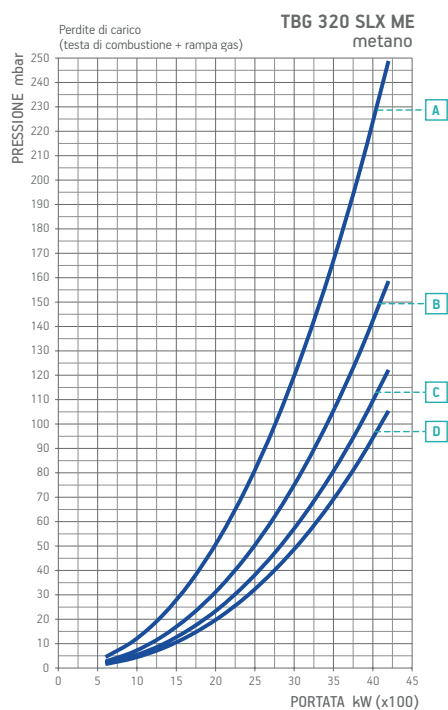
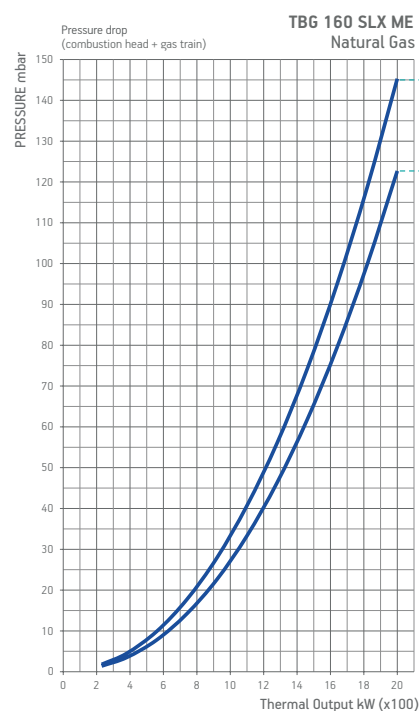
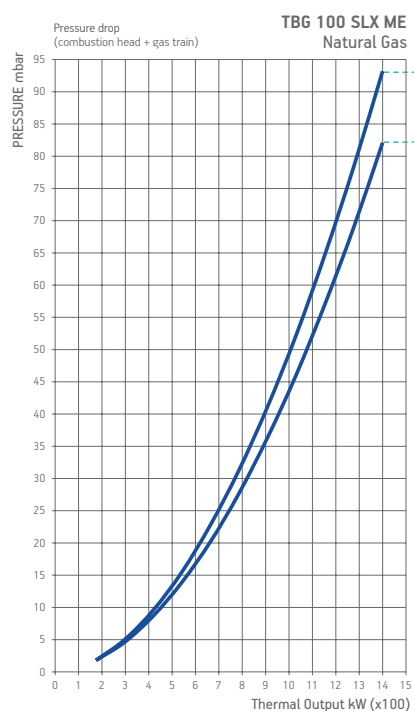
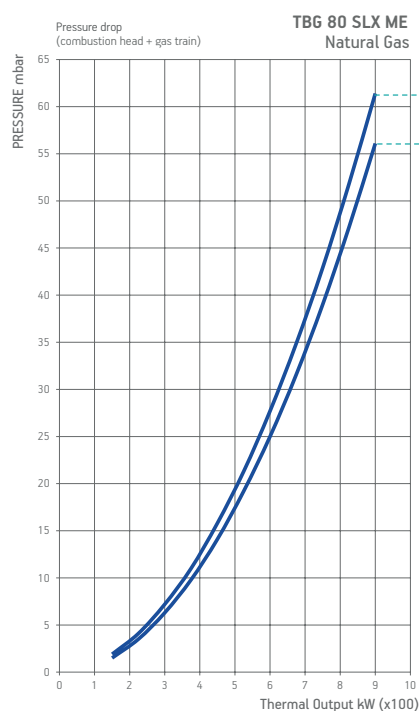
### BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

### NOTE

- Please contact your Sales Representative for the LPG application.
  - Sound proof lid on burner air intake.
  - Equipped with automatic air closure device.
- Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m<sup>3</sup> = 8550 kcal/m<sup>3</sup>,  
 LPG: Hi = 92 MJ/m<sup>3</sup> = 22000 kcal/m<sup>3</sup>.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## BURNER/GAS TRAIN MATCH

SUPER LOW NOX  
- FIR - BURNERS

CE GAS TRAIN VERSION COMPLIES WITH EN676, EXP GAS TRAIN VERSION IS FOR EXTRA-EUROPEAN MARKETS.

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Notes
						Part no.	Part no.	Part no.	Part no.		
TBG 80 SLX	Natural gas	A	CE/EXP	200	CTV	19990667	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990668	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990734	Included	-	Included	F1	
TBG 100 SLX	Natural gas	A	CE/EXP	200	CTV	19990667	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990668	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990734	Included	-	Included	F1	
TBG 160 SLX	Natural gas	A	CE/EXP	200	CTV	19990667	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990668	Included	-	Included	F1	
		B	CE/EXP	200	CTV	19990734	Included	-	Included	F1	
TBG 320 SLX	Natural gas	A	CE/EXP	500	CTV	19990675	Included	-	Included	F1	
		B	CE/EXP	500	CTV	19990676	Included	-	Included	F1	
		C	CE/EXP	500	CTV	19990677	Included	-	Included	F1	
		D	CE/EXP	500	CTV	19990678	Included	-	Included	F1	
		B	CE/EXP	500	CTV	19990762	Included	-	Included	F1	
		C	CE/EXP	500	CTV	19990763	Included	-	Included	F1	
		D	CE/EXP	500	CTV	19990764	Included	-	Included	F1	
TBG 480 SLX	Natural gas	A	CE/EXP	500	CTV	19990675	Included	-	Included	F1	
		B	CE/EXP	500	CTV	19990676	Included	-	Included	F1	
		C	CE/EXP	500	CTV	19990677	Included	-	Included	F1	
		D	CE/EXP	500	CTV	19990678	Included	-	Included	F1	
		B	CE/EXP	500	CTV	19990762	Included	-	Included	F1	
		C	CE/EXP	500	CTV	19990763	Included	-	Included	F1	
		D	CE/EXP	500	CTV	19990764	Included	-	Included	F1	

## NOTES

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.

**TBG... LX ME FGR**  
Modulating gas burners with electronic modulation and flue gas recirculation system (FGR).

Low NOx

## GAS BURNERS FGR FLUE GAS RECIRCULATION

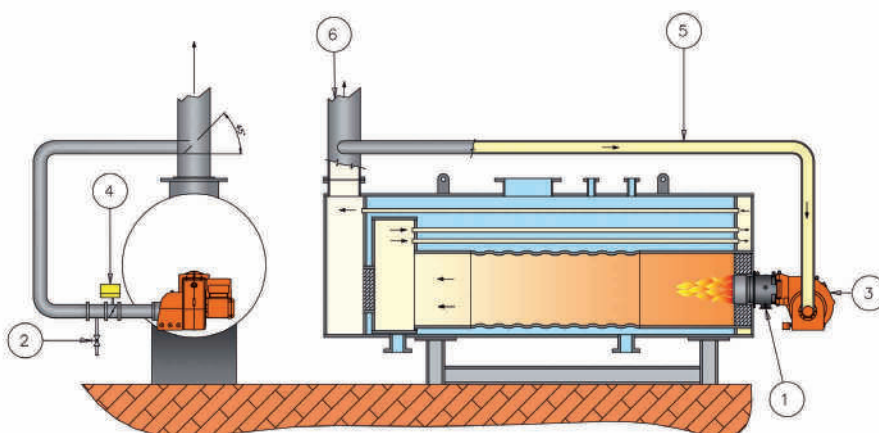
The flue gas recirculation system (FGR) is a technique to reduce NOx emissions which is increasingly spreading thanks to the growing attention to environmental issues.

Today it represents the best compromise between costs and benefits, with a performance in terms of NOx reduction that is hard to reach with traditional burners.

The cost of FGR system implementation is relatively low if compared with the other methods for NOx reduction, and such system can be installed on existing plants.

With regard to the above, it is always recommended to contact the burner manufacturer for sizing and for the choice of fume recirculation system components.

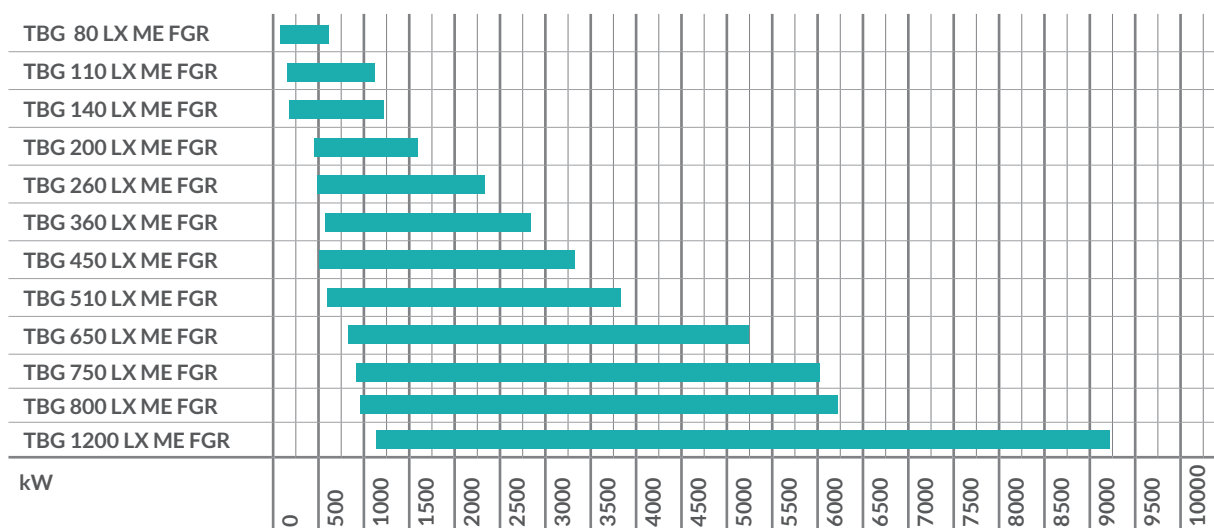
### FGR INSTALLATION SCHEME FOR MONOBLOCK BURNERS



MONOBLOCK FGR BURNER

- 1 Gas inlet.
- 2 Condensate drainage valve.
- 3 Burner.
- 4 Fume damper with servomotor.
- 5 Duct for fume recirculation.
- 6 Chimney.

## MODULATING ELECTRONIC



**NOx emissions**  
**<30 mg/Nm<sup>3</sup>** over the all working field

**Below recommended chamber dimensions table are based on below conditions:**

Steam boiler, features:

- P = 12 bar, T vap. = 198°C, T fumi = 230°C;
- Hot-water boiler;
- The combustion chamber is three-pass;
- The length is total, therefore sum between the combustion chamber and the inversion chamber.
- The fume extraction fitting on the chimney positioned before the heat exchanger;
- Suggested thermal load:  $0,9 < C.T. < 1,2$  [MW / m<sup>3</sup>];
- Based on above situations, NOx emission of Baltur FGR burner is less than 30mg/Nm<sup>3</sup>.

Baltur burner model	Boiler output (three-pass) kW	Chamber diameter [mm]	Chamber lenght [mm]	Chamber volume [m <sup>3</sup> ]	Burner output [kW]	Thermal load [MW/m <sup>3</sup> ]
TBG 80 LX ME FGR	350	550	1.400	0,33	383,50	1,15
TBG 110 LX ME FGR	690	680	1.950	0,71	767,00	1,08
TBG 140 LX ME FGR	1.040	740	2.350	1,01	1.150,50	1,14
TBG 260 LX ME FGR	1.380	800	2.650	1,33	1.534,00	1,15
TBG 360 LX ME FGR	2.070	950	2.950	2,09	2.301,00	1,10
TBG 450 LX ME FGR	2.760	1.000	3.400	2,67	3.068,00	1,15
TBG 510 LX ME FGR	3.450	1.100	3.600	3,42	3.835,00	1,12
TBG 650 LX ME FGR	4.140	1.190	3.950	4,39	4.602,00	1,05
TBG 750 LX ME FGR	4.830	1.230	4.400	5,23	5.369,00	1,03
TBG 800 LX ME FGR	5.520	1.270	4.700	5,95	6.136,00	1,03
TBG 1200 LX ME FGR	6.900	1.400	5.250	8,08	7.670,00	0,95

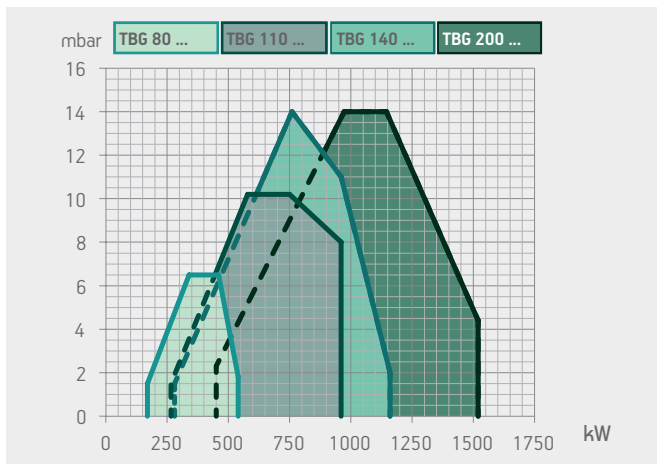




	TBG 80 LX ME FGR	TBG 110 LX ME FGR	TBG 140 LX ME FGR	TBG 200 LX ME FGR
<b>Gas burner operation:</b>	modulating electronic	modulating electronic	modulating electronic	modulating electronic
Modulation ratio:	1:3	1:3	1:4	1:3
NOx <30 mg/Nm <sup>3</sup> over the all working field	•	•	•	•
Adjusting the combustion head	•	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•	•
High ventilation efficiency, low electrical input, low noise	•	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•	•
Combustion air intake designed to achieve optimum linearity of the air gate opening	•	•	•	•
Device made of sound-absorbing material to reduce fan noise	•	•	•	•
Stainless steel exhaust smoke inlet joint with probe well, integrated with stainless steel butterfly damper for adjusting the flue gas door with electric servomotor	•	•	•	•
Protective case of UV photocell	•	•	•	•
Cleaning and cooling system of the UV photocell with air compressor	○	○	○	○
Condensate water drain through manual valves for schell and exhaust smoke inlet joint	•	•	•	•
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•	•	•
Fail proof connectors for burner/gas train connection	•	•	•	•
Gas train outlet:	up/down	up/down	up/down	up/down
Flame detection by UV photocell	•	•	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•	•	•
Electric protection rating:	IP40	IP40	IP40	IP40

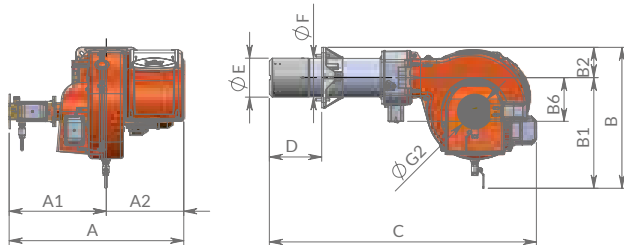
**LEGEND:**

○ Optional; • As standard

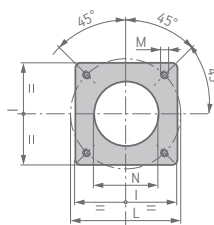


Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 80 LX ME FGR	1070	800	700	84,4
TBG 110 LX ME FGR	1070	800	700	95
TBG 140 LX ME FGR	1070	800	700	100
TBG 200 LX ME FGR	1530	760	700	103

TBG 80 - 200 LX ME FGR



Flange dimensions and boiler drilling template.



Model	I mm	L mm	M mm	N mm
TBG 80 LX ME FGR	280	250 ÷ 325	M12	190
TBG 110 LX ME FGR	320	280 ÷ 370	M12	250
TBG 140 LX ME FGR	320	280 ÷ 370	M12	250
TBG 200 LX ME FGR	320	280 ÷ 370	M12	255

Model	A mm	A2 mm	A5 mm	B mm	B1 mm	B2 mm	B6 mm	B8 mm	C mm	D mm	E mm	F mm	G2 ø	H2 mm
TBG 80 LX ME FGR	820	370	450	730	510	220	200	157	1265	175 ÷ 400	180	178	DN65	550 ÷ 775
TBG 110 LX ME FGR	820	370	450	730	510	220	200	157	1315	200 ÷ 450	240	219	DN65	540 ÷ 790
TBG 140 LX ME FGR	830	370	460	730	510	220	200	157	1315	200 ÷ 450	240	219	DN80	540 ÷ 790
TBG 200 LX ME FGR	830	370	460	730	510	220	200	157	1315	200 ÷ 450	250	219	DN80	540 ÷ 790

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	NOx < 30 mg/Nm <sup>3</sup>	170 ÷ 540	TBG 80 LX ME FGR	17530040	3N AC 50Hz 400V	1,1	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	265 ÷ 960	TBG 110 LX ME FGR	17600040	3N AC 50Hz 400V	1,5	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	280 ÷ 1160	TBG 140 LX ME FGR	17670040	3N AC 50Hz 400V	2,2	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	450 ÷ 1520	TBG 200 LX ME FGR	17740040	3N AC 50Hz 400V	3,0	3) 4)
Frequency 60 Hz							
	NOx < 30 mg/Nm <sup>3</sup>	170 ÷ 540	TBG 80 LX ME FGR	17535440	3N AC 60Hz 380V	1,1	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	265 ÷ 960	TBG 110 LX ME FGR	17605440	3N AC 60Hz 380V	1,5	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	280 ÷ 1160	TBG 140 LX ME FGR	17675440	3N AC 60Hz 380V	2,2	3) 4)
	NOx < 30 mg/Nm <sup>3</sup>	450 ÷ 1520	TBG 200 LX ME FGR	17745440	3N AC 60Hz 380V	3,0	3) 4)

### TO COMPLETE THE BURNER

DESCRIPTION	PART NO.
Modulating probe for LCM 100 (see page 332)	
Modulation kit (see page 332)	98000059
UV safe kit (see page 332)	

### NOTE

3 Sound proof lid on burner air intake.

4 Equipped with air closure device.

Net calorific value at reference conditions of 0°C, 1013mbar:

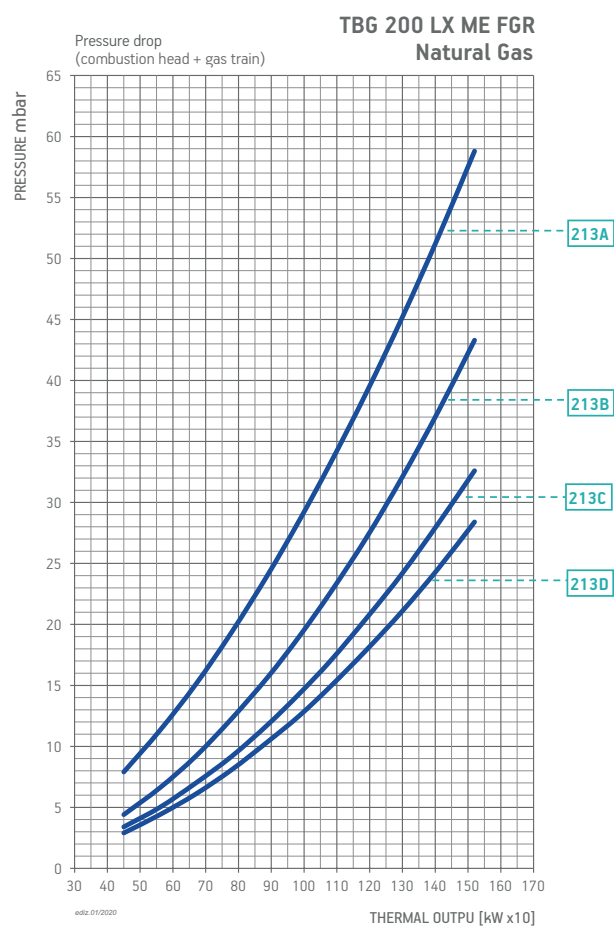
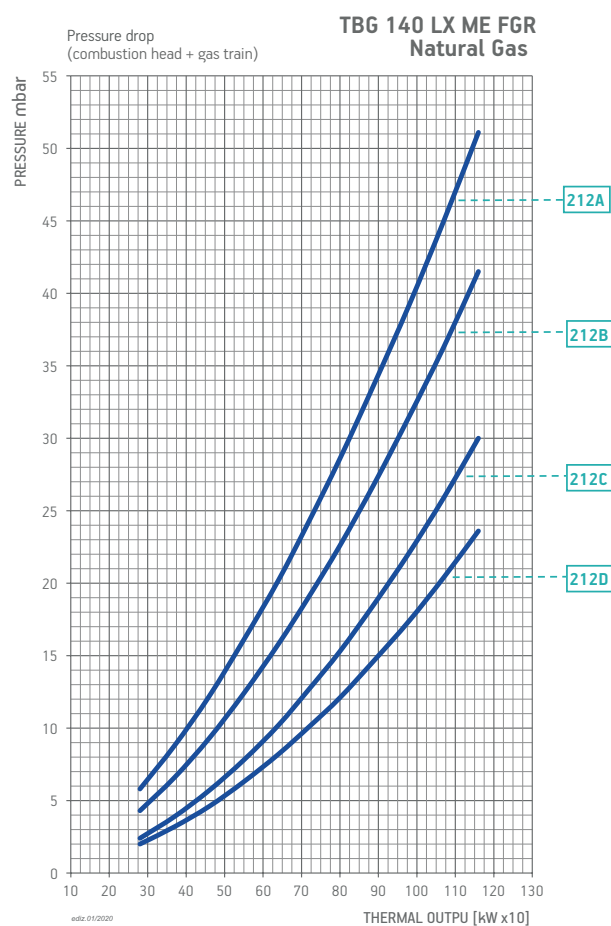
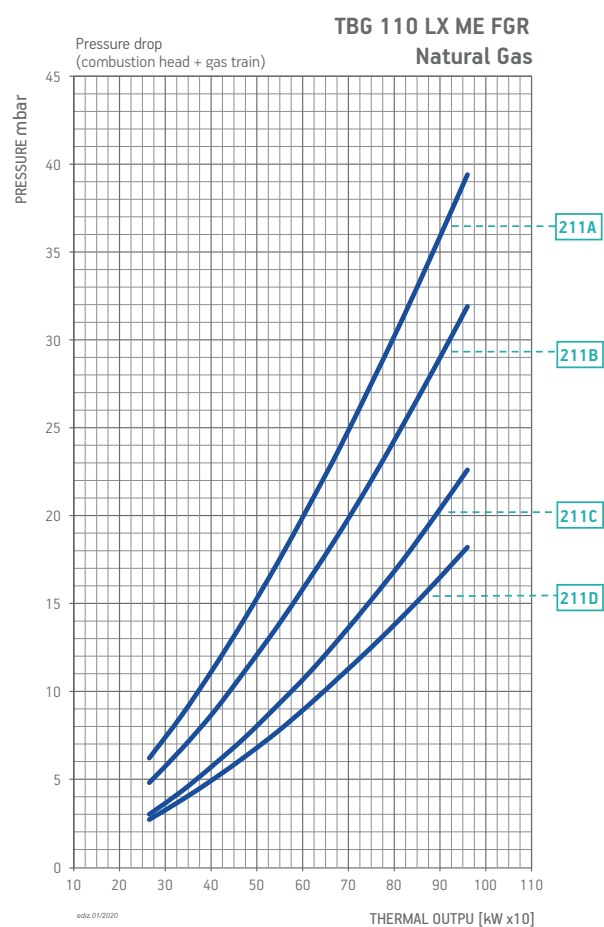
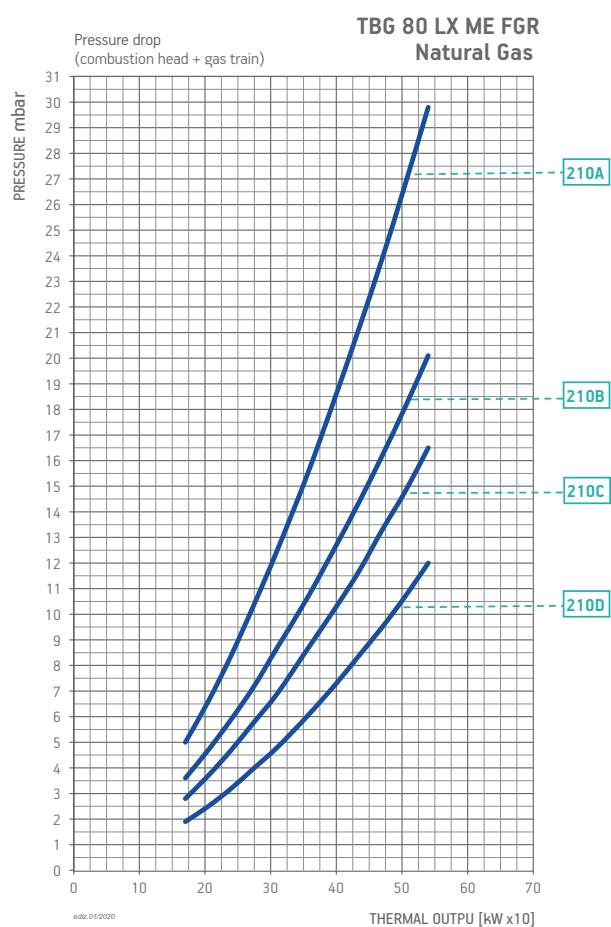
Natural gas: Hi = 35,80 MJ/m<sup>3</sup> = 8550 kcal/m<sup>3</sup>.

LPG: Hi = 92 MJ/m<sup>3</sup> = 22000 kcal/m<sup>3</sup>.

For different type of gas and pressure values, please get in contact with our commercial department.

### BURNERS ACCESSORIES

Boiler coupling kit, plug for wiring



## BURNER/GAS TRAIN MATCH

Burner Model	Gas type	Curve on graph	P <sub>Max</sub> **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.
					Part no.	Part no.	Part no.	Part no.	
<b>TBG 80 LX ME FGR</b>	Natural gas	210A	360	CTV	19990557	Included	96000032	Included	D2
		210B	360	CTV	19990558	Included	96000007	Included	D2
		210C	360	CTV	19990559	Included	-	Included	D2
		210D	500	CTV	19990524	Included	-	Included	D2
<b>TBG 110 LX ME FGR</b>	Natural gas	211A	360	CTV	19990561	Included	96000007	Included	D2
		211B	360	CTV	19990562	Included	-	Included	D2
		211C	500	CTV	19990524	Included	-	Included	D2
		211D	500	CTV	19990525	Included	-	Included	D2
<b>TBG 140 LX ME FGR</b>	Natural gas	212A	360	CTV	19990561	Included	96000007	Included	D2
		212B	360	CTV	19990562	Included	-	Included	D2
		212C	500	CTV	19990524	Included	-	Included	D2
		212D	500	CTV	19990525	Included	-	Included	D2
<b>TBG 200 LX ME FGR</b>	Natural gas	213A	360	CTV	19990562	Included	-	Included	D2
		213B	500	CTV	19990524	Included	-	Included	D2
		213C	500	CTV	19990525	Included	-	Included	D2
		213D	500	CTV	19990526	Included	-	Included	D2

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

**NOTES**

CTV) Gas train with Valve Tightness Control.

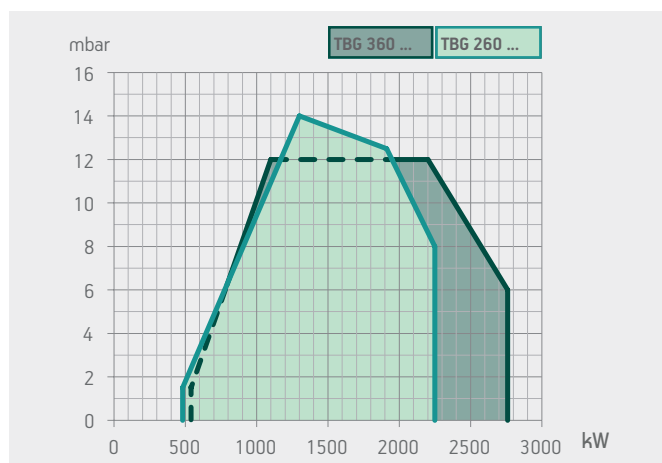
\*\* ) Maximum gas inlet pressure at pressure regulator.



Gas burner operation:	TBG 260 LX ME FGR	TBG 360 LX ME FGR
	modulating electronic	modulating electronic
Modulation ratio:	1:4	1:5
NOx <30 mg/Nm <sup>3</sup> over the all working field	•	•
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Device made of sound-absorbing material to reduce fan noise	•	•
Stainless steel exhaust smoke inlet joint with probe well, integrated with stainless steel butterfly damper for adjusting the flue gas door with electric servomotor	•	•
Protective case of UV photocell	•	•
Cleaning and cooling system of the UV photocell with air compressor	○	○
Condensate water drain through manual valves for schell and exhaust smoke inlet joint	•	•
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up/down	up/down
Flame detection by UV photocell	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•
Electric protection rating:	IP40	IP 40

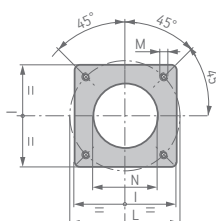
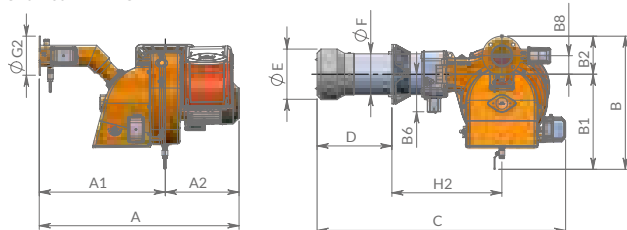
**LEGEND:**

○ Optional; • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 260 LX ME FGR	1070	870	810	132
TBG 360 LX ME FGR	1070	870	810	135

TBG 260 - 360 LX ME FGR



Flange dimensions and boiler drilling template.

Model	I mm	L mm	M mm	N mm
TBG 260 LX ME FGR	320	280 ÷ 370	M12	275
TBG 360 LX ME FGR	320	310 ÷ 370	M12	275

Model	A mm	A2 mm	A5 mm	B mm	B1 mm	B2 mm	B6 mm	B8 mm	C mm	D mm	E mm	F mm	G2 ø	H2 mm
TBG 260 LX ME FGR	1100	420	680	795	510	285	200	100	1350	200 ÷ 450	270	219	DN100	545 ÷ 795
TBG 360 LX ME FGR	1100	420	680	795	510	285	200	100	1350	200 ÷ 450	270	219	DN100	545 ÷ 795

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	NOx <30 mg/Nm <sup>3</sup>	480 ÷ 2250	<b>TBG 260 LX ME FGR</b>	<b>17780040</b>	3N AC 50Hz 400V	5,5	3) 4)
	NOx <30 mg/Nm <sup>3</sup>	540 ÷ 2760	<b>TBG 360 LX ME FGR</b>	<b>17950040</b>	3N AC 50Hz 400V	7,5	3) 4)
Frequency 60 Hz							
	NOx <30 mg/Nm <sup>3</sup>	480 ÷ 2250	<b>TBG 260 LX ME FGR</b>	<b>17785440</b>	3N AC 60Hz 380V	5,5	3) 4)
	NOx <30 mg/Nm <sup>3</sup>	540 ÷ 2760	<b>TBG 360 LX ME FGR</b>	<b>17955440</b>	3N AC 60Hz 380V	7,5	3) 4)

**TO COMPLETE THE BURNER**

DESCRIPTION	PART NO.
Modulating probe for LCM 100 (see page 332)	
Modulation kit (see page 332)	98000059
UV safe kit (see page 332)	

**NOTE**

3 Sound proof lid on burner air intake.

4 Equipped with air closure device.

Net calorific value at reference conditions of 0°C, 1013mbar:

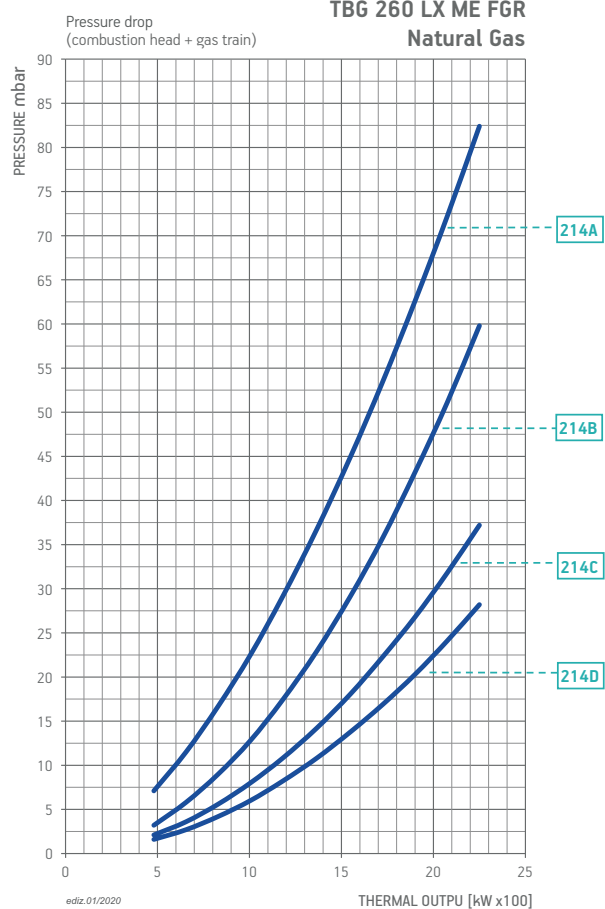
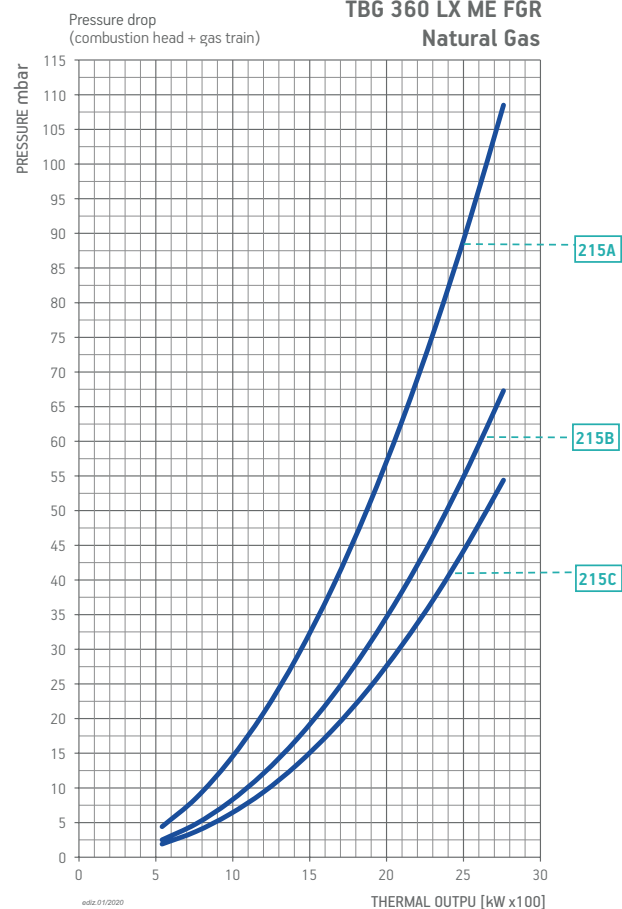
Natural gas: Hi = 35,80 MJ/m<sup>3</sup> = 8550 kcal/m<sup>3</sup>.LPG: Hi = 92 MJ/m<sup>3</sup> = 22000 kcal/m<sup>3</sup>.

For different type of gas and pressure values, please get in contact with our commercial department.

**BURNERS ACCESSORIES**

Boiler coupling kit, plug for wiring



TBG 260 LX ME FGR  
Natural GasTBG 360 LX ME FGR  
Natural Gas

## BURNER/GAS TRAIN MATCH

Burner Model	Gas type	Curve on graph	P.Max **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.		
TBG 260 LX ME FGR	Natural gas	214A	360	CTV	19990562	Included		Included		D2
		214B	500	CTV	19990524	Included	-	Included		D2
		214C	500	CTV	19990525	Included	-	Included		D2
		214D	500	CTV	19990526	Included	-	Included		D2
TBG 360 LX ME FGR	Natural gas	215A	500	CTV	19990524	Included	96000035	Included		D2
		215B	500	CTV	19990577	Included	-	Included		D2
		215C	500	CTV	19990578	Included	-	Included		D2

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

**NOTE**

CTV) Gas train with Valve Tightness Control.

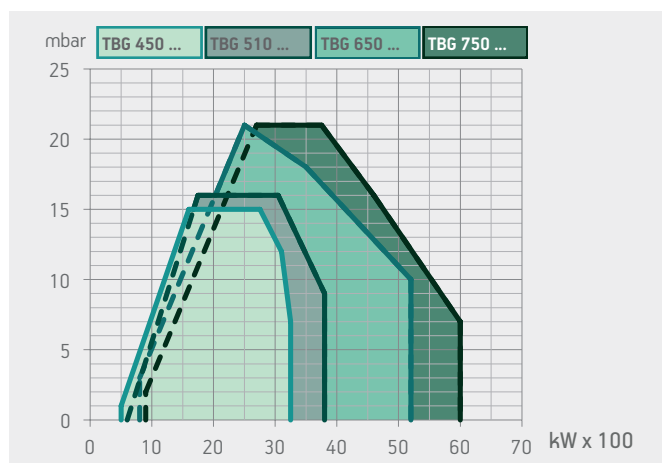
\*\* ) Maximum gas inlet pressure at pressure regulator.



	TBG 450 LX ME FGR	TBG 510 LX ME FGR	TBG 650 LX ME FGR	TBG 750 LX ME FGR
<b>Gas burner operation:</b>	modulating electronic	modulating electronic	modulating electronic	modulating electronic
Modulation ratio:	1:6	1:6	1:6	1:6
NOx <30 mg/Nm <sup>3</sup> over the all working field	•	•	•	•
Adjusting the combustion head	•	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•	•
Device made of sound-absorbing material to reduce fan noise	•	•	•	•
Stainless steel exhaust smoke inlet joint with probe well, integrated with stainless steel butterfly damper for adjusting the flue gas door with electric servomotor	•	•	•	•
Protective case of UV photocell	•	•	•	•
Cleaning and cooling system of the UV photocell with air compressor	○	○	○	○
Condensate water drain through manual valves for schell and exhaust smoke inlet joint	•	•	•	•
Gas train in Version CE composta da valvola farfalla, valvola di funzionamento e di sicurezza ad azionamento elettromagnetico, controllo tenuta valvole, pressostato di massima e di minima, regolatore di pressione e filtro gas.	•	•	•	•
Fail proof connectors for burner/gas train connection.	•	•	•	•
Gas train outlet:	up/down	up/down	up/down	up/down
Flame detection by UV photocell	•	•	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•	•	•
Electric protection rating:	IP40 *)	IP40 *)	IP40 *)	IP40 *)

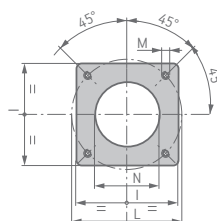
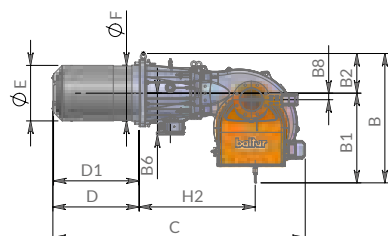
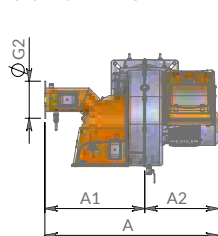
**LEGEND:**

\*) IP54 on request; ○ Optional; • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 450 LX ME FGR	1500	1320	970	250
TBG 510 LX ME FGR	1500	1320	970	260
TBG 650 LX ME FGR	1500	1320	970	270
TBG 750 LX ME FGR	1500	1320	970	320

TBG 450 - 750 LX ME FGR



Flange dimensions and boiler drilling template.

Model	I mm	L mm	M mm	N mm
TBG 450 LX ME FGR	480	520 ÷ 600	M20	415
TBG 510 LX ME FGR	480	520 ÷ 600	M20	415
TBG 650 LX ME FGR	480	520 ÷ 600	M20	415
TBG 750 LX ME FGR	480	520 ÷ 600	M20	415

Model	A mm	A2 mm	A5 mm	B mm	B1 mm	B2 mm	B6 mm	B8 mm	C mm	D mm	D1 mm	E mm	F mm	G2 ø	H2 mm
TBG 450 LX ME FGR	1245	530	715	930	645	285	295	45	1820	625	575 ÷ 625	397	410	DN150	800
TBG 510 LX ME FGR	1245	530	715	930	645	285	295	45	1820	625	575 ÷ 625	397	410	DN150	800
TBG 650 LX ME FGR	1295	580	715	930	645	285	295	45	1840	645	560 ÷ 610	397	410	DN150	800
TBG 750 LX ME FGR	1365	650	715	930	645	285	295	45	1840	645	560 ÷ 610	397	410	DN150	800

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	NOx <30 mg/Nm³	500 ÷ 3250	TBG 450 LX ME FGR	18110040	3N AC 50Hz 400V	9,2	4)
	NOx <30 mg/Nm³	600 ÷ 3800	TBG 510 LX ME FGR	18140040	3N AC 50Hz 400V	11,0	4)
	NOx <30 mg/Nm³	800 ÷ 5200	TBG 650 LX ME FGR	18170040	3N AC 50Hz 400V	15,0	4)
	NOx <30 mg/Nm³	900 ÷ 6000	TBG 750 LX ME FGR	18200040	3N AC 50Hz 400V	18,5	4)
Frequency 60 Hz							
	NOx <30 mg/Nm³	500 ÷ 3250	TBG 450 LX ME FGR	18115440	3N AC 60Hz 380V	9,2	4)
	NOx <30 mg/Nm³	600 ÷ 3800	TBG 510 LX ME FGR	18145440	3N AC 60Hz 380V	11,0	4)
	NOx <30 mg/Nm³	800 ÷ 5200	TBG 650 LX ME FGR	18175440	3N AC 60Hz 380V	15,0	4)
	NOx <30 mg/Nm³	900 ÷ 6000	TBG 750 LX ME FGR	18205440	3N AC 60Hz 380V	18,5	4)

## TO COMPLETE THE BURNER

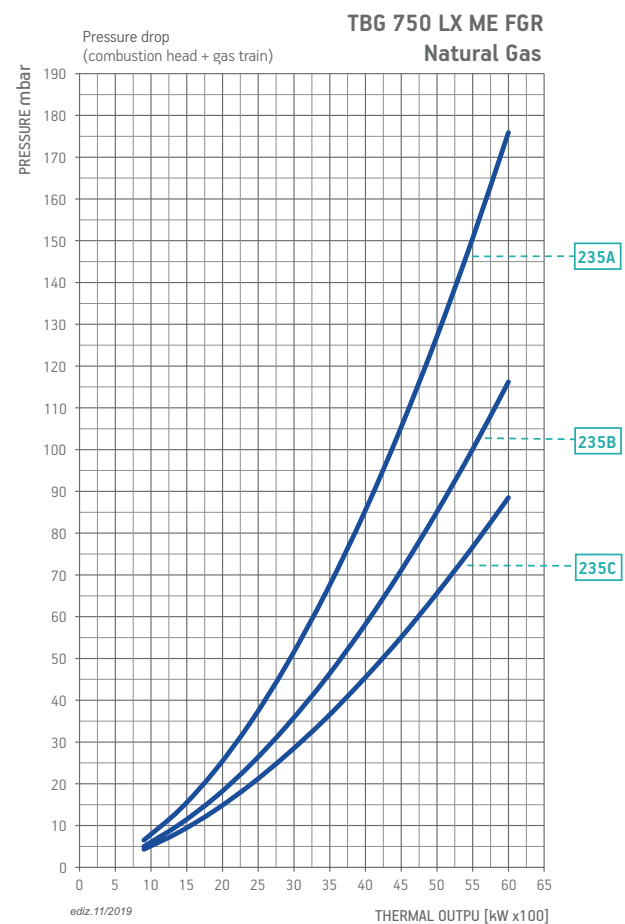
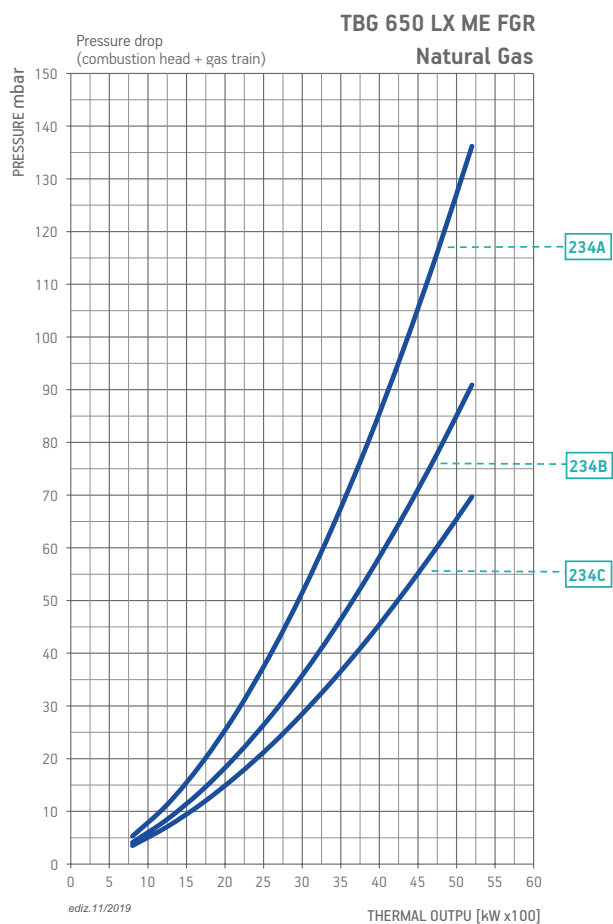
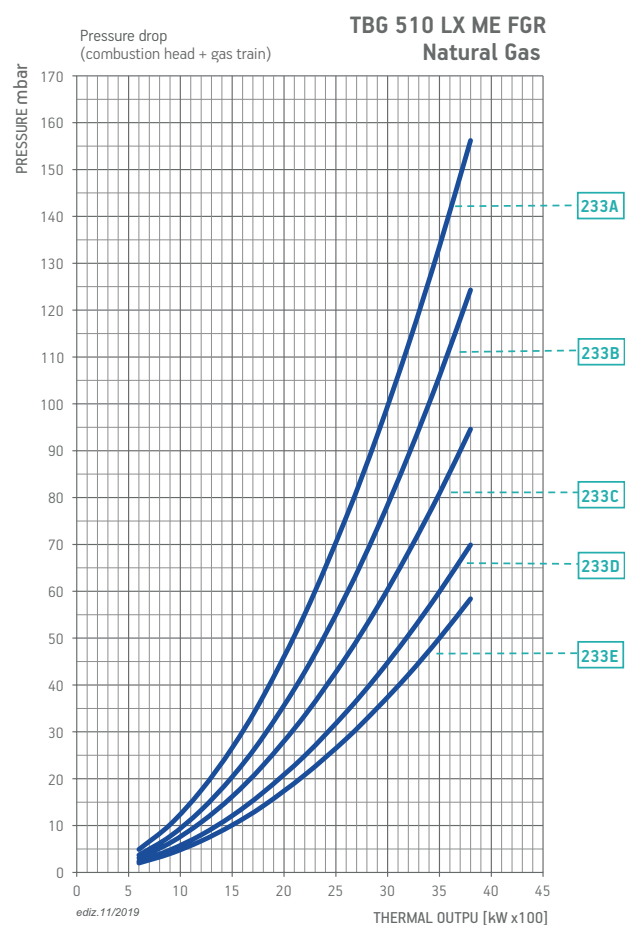
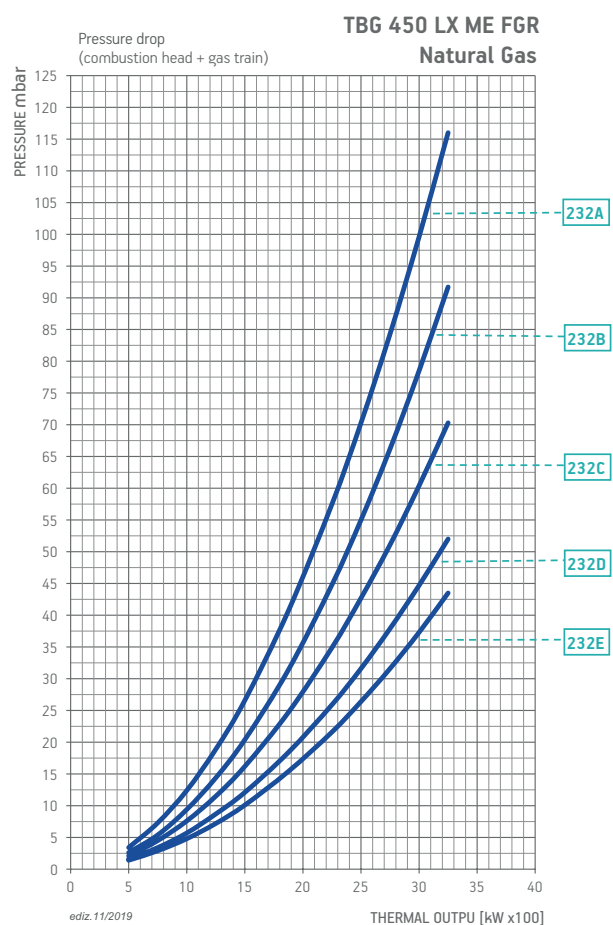
DESCRIPTION	PART NO.
Modulating probe for LCM 100 (see page 332)	
Modulation kit (see page 332)	98000059
UV safe kit (see page 332)	

## NOTE

4 Equipped with air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³.  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## BURNERS ACCESSORIES

Boiler coupling kit, plug for wiring



## BURNER/GAS TRAIN MATCH

Burner Model	Gas type	Curve on graph	P.Max **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.		
TBG 450 LX ME FGR	Natural gas	232A	500	CTV	19990541	Included	-	Included	D4	
		232B	500	CTV	19990666	Included	-	Included	D4	
		232C	500	CTV	19990542	Included	-	Included	D4	
		232D	500	CTV	19990543	Included	-	Included	D4	
		232E	500	CTV	19990544	Included	-	Included	D4	
TBG 510 LX ME FGR	Natural gas	233A	500	CTV	19990541	Included	-	Included	D4	
		233B	500	CTV	19990666	Included	-	Included	D4	
		233C	500	CTV	19990542	Included	-	Included	D4	
		233D	500	CTV	19990543	Included	-	Included	D4	
		233E	500	CTV	19990544	Included	-	Included	D4	
TBG 650 LX ME FGR	Natural gas	234A	500	CTV	19990542	Included	-	Included	D4	
		234B	500	CTV	19990543	Included	-	Included	D4	
		234C	500	CTV	19990544	Included	-	Included	D4	
TBG 750 LX ME FGR	Natural gas	235A	500	CTV	19990542	Included	-	Included	D4	
		235B	500	CTV	19990543	Included	-	Included	D4	
		235C	500	CTV	19990544	Included	-	Included	D4	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

**NOTE**

CTV) Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.

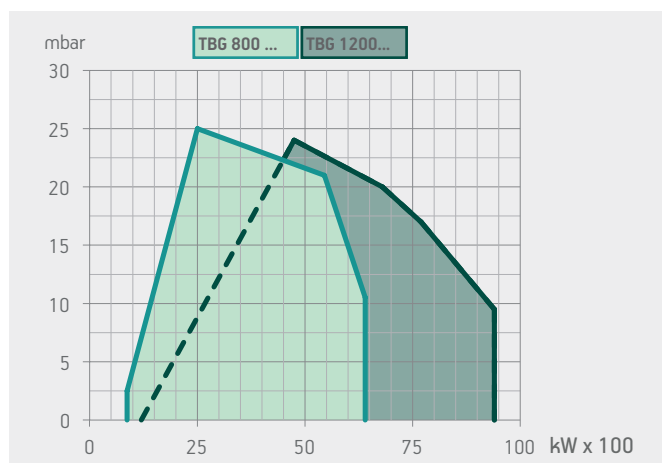




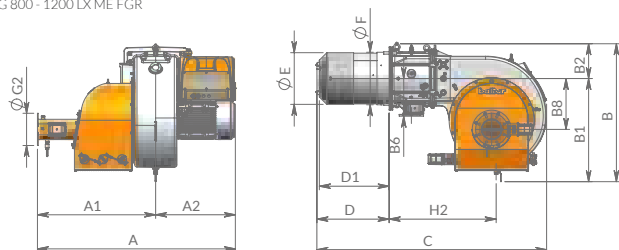
Gas burner operation:	TBG 800 LX ME FGR	TBG 1200 LX ME FGR
	modulating electronic	modulating electronic
Modulation ratio:	1:7	1:7
NOx <30 mg/Nm <sup>3</sup> over the all working field	•	•
Adjusting the combustion head		•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Fixed boiler coupling flange.	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Device made of sound-absorbing material to reduce fan noise	•	
Stainless steel exhaust smoke inlet joint with probe well, integrated with stainless steel butterfly damper for adjusting the flue gas door with electric servomotor	•	•
Protective case of UV photocell	•	•
Cleaning and cooling system of the UV photocell with air compressor	○	○
Condensate water drain through manual valves for schell and exhaust smoke inlet joint	•	•
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum and maximum pressure switch, pressure regulator and gas filter.	•	•
Fail proof connectors for burner/gas train connection.	•	•
Gas train outlet:	up/down	up/down
Flame detection by UV photocell	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•
Electric protection rating:	IP40 *)	IP40 *)

**LEGEND:**

\*) IP54 on request; ○ Optional; • As standard

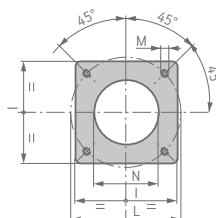


TBG 800 - 1200 LX ME FGR



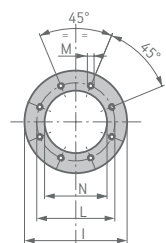
Model	A mm	A2 mm	A5 mm	B mm	B1 mm	B2 mm	B6 mm	B8 mm	C mm	D mm	D1 mm	E mm	F mm	G2 ø	H2 mm
TBG 800 LX ME FGR	1630	660	970	1160	870	290	310	420	1900	610	520 ÷ 580	425	432	DN150	835
TBG 1200 LX ME FGR	1785	770	1015	1250	900	350	360	430	2320	780	670	485	503	DN200	1035

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 800 LX ME FGR	1950	1510	1210	540
TBG 1200 LX ME FGR	1950	1680	1300	658



Flange dimensions and boiler drilling template.

Model	I mm	L mm	M mm	N mm
TBG 800 LX ME FGR	520	594	M20	440



Model	I mm	L mm	M mm	N mm
TBG 1200 LX ME FGR	685	630	M20	515

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	NOx <30 mg/Nm <sup>3</sup>	870 ÷ 6400	TBG 800 LX ME FGR	67220040	3N AC 50Hz 400V	18,5	4)
	NOx <30 mg/Nm <sup>3</sup>	1200 ÷ 9400	TBG 1200 LX ME FGR	67260040	3N AC 50Hz 400V	22,0	4)
Frequency 60 Hz							
	NOx <30 mg/Nm <sup>3</sup>	870 ÷ 6400	TBG 800 LX ME FGR	67225440	3N AC 60Hz 380V	18,5	4)
	NOx <30 mg/Nm <sup>3</sup>	1200 ÷ 9400	TBG 1200 LX ME FGR	67265440	3N AC 60Hz 380V	22,0	4)

### TO COMPLETE THE BURNER

DESCRIPTION	PART NO.
Modulating probe for LCM 100 (see page 332)	
Modulation kit (see page 332)	98000059
UV safe kit (see page 332)	

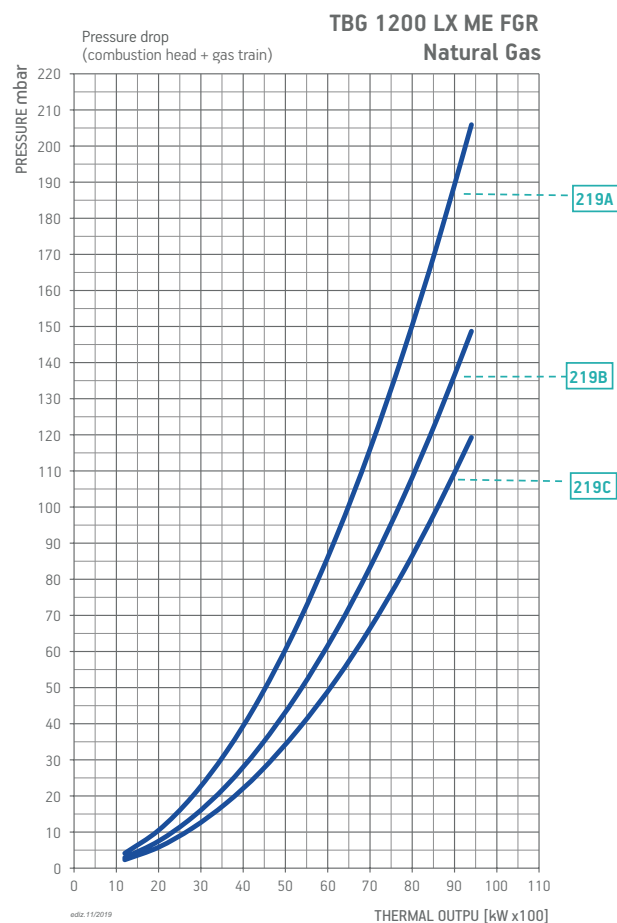
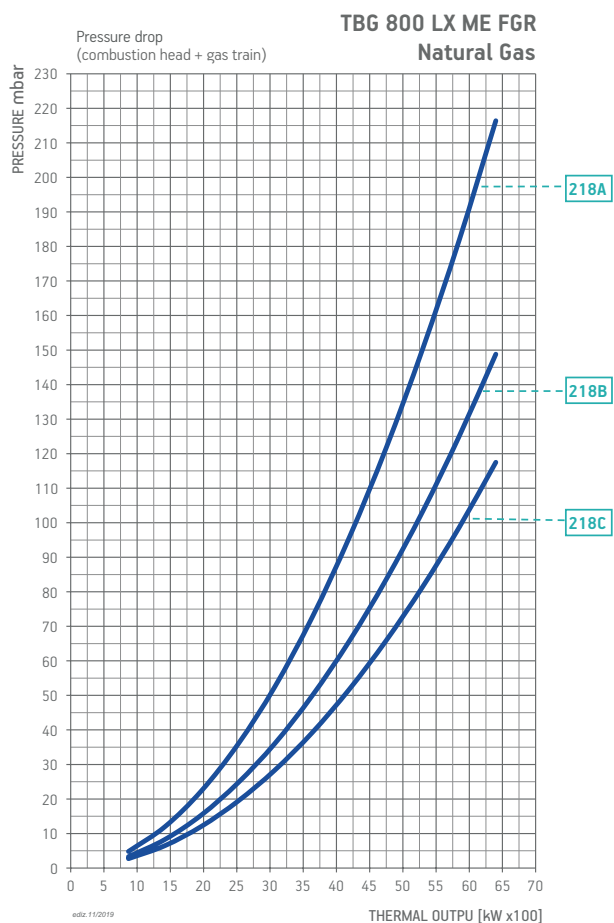
### NOTE

4 Equipped with air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m<sup>3</sup> = 8550 kcal/m<sup>3</sup>.  
 LPG: Hi = 92 MJ/m<sup>3</sup> = 22000 kcal/m<sup>3</sup>.  
 For different type of gas and pressure values, please get in contact with our commercial department.

### BURNERS ACCESSORIES

Boiler coupling kit, plug for wiring
--------------------------------------

## BURNER/GAS TRAIN MATCH



## BURNER/GAS TRAIN MATCH

Burner Model	Gas type	Curve on graph	P.Max **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.		
<b>TBG 800 LX ME FGR</b>	Natural gas	218A	500	CTV	19990542	Included	-	Included	D4	
		218B	500	CTV	19990543	Included	-	Included	D4	
		218C	500	CTV	19990544	Included	-	Included	D4	
<b>TBG 1200 LX ME FGR</b>	Natural gas	219A	500	CTV	19990606	Included	-	Included	D4	
		219B	500	CTV	19990607	Included	-	Included	D4	
		219C	500	CTV	19990608	Included	-	Included	D4	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

**NOTE**

CTV) Gas train with Valve Tightness Control.

\*\* ) Maximum gas inlet pressure at pressure regulator.

**BPM...**  
Premix gas burners.

**BTG... - TBG...**  
Single-stage gas burners.

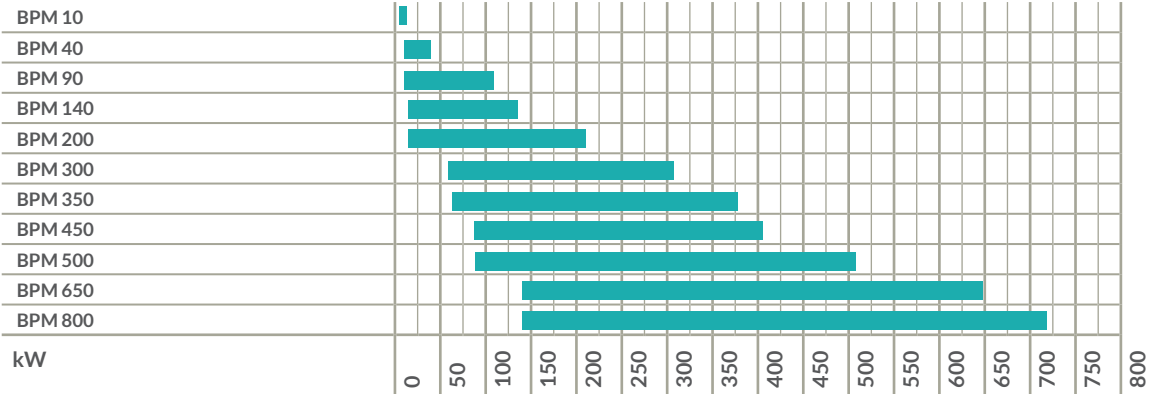
**BTG...P - TBG...P**  
**TBG...LX P**  
Two-stage gas burners.

**TBG...MC**  
**TBG...LX MC**  
Two-stage progressive/modulating gas burners with mechanical cam.

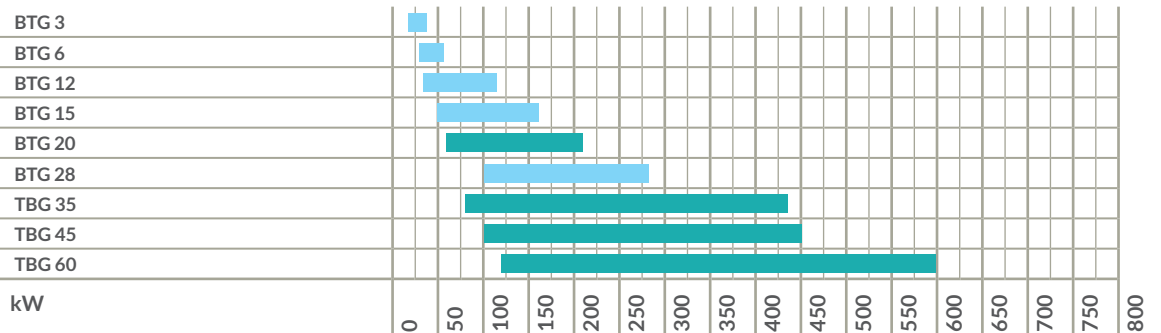


Low NOx  
Class 3 according to  
EN676 standard

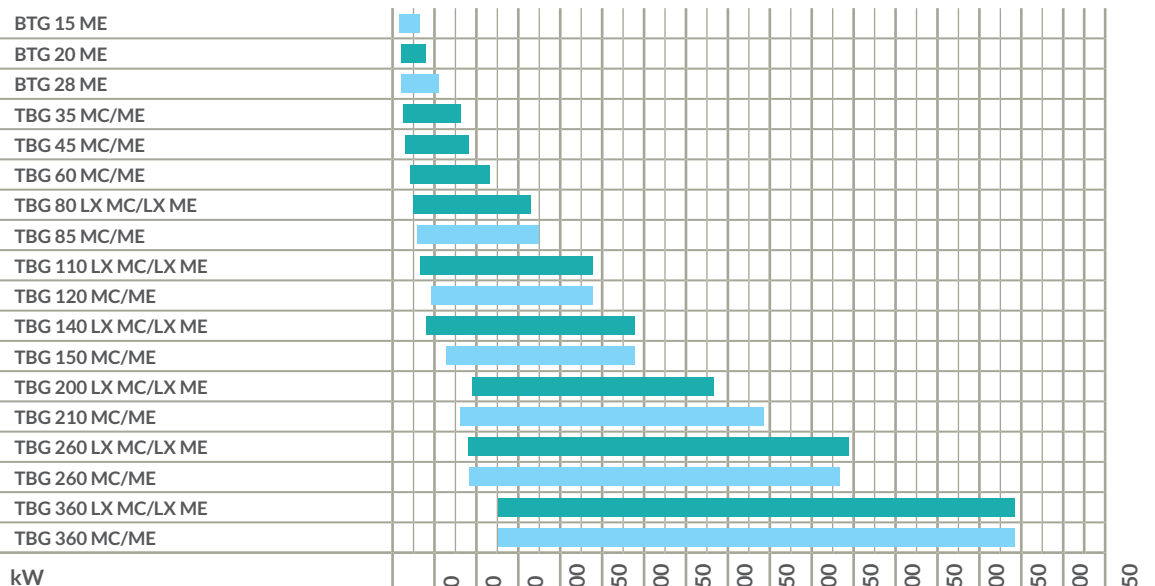
## MODULATING PREMIX BURNERS



## SINGLE - STAGE GAS BURNERS



## TWO - STAGE PROGRESSIVE GAS BURNERS





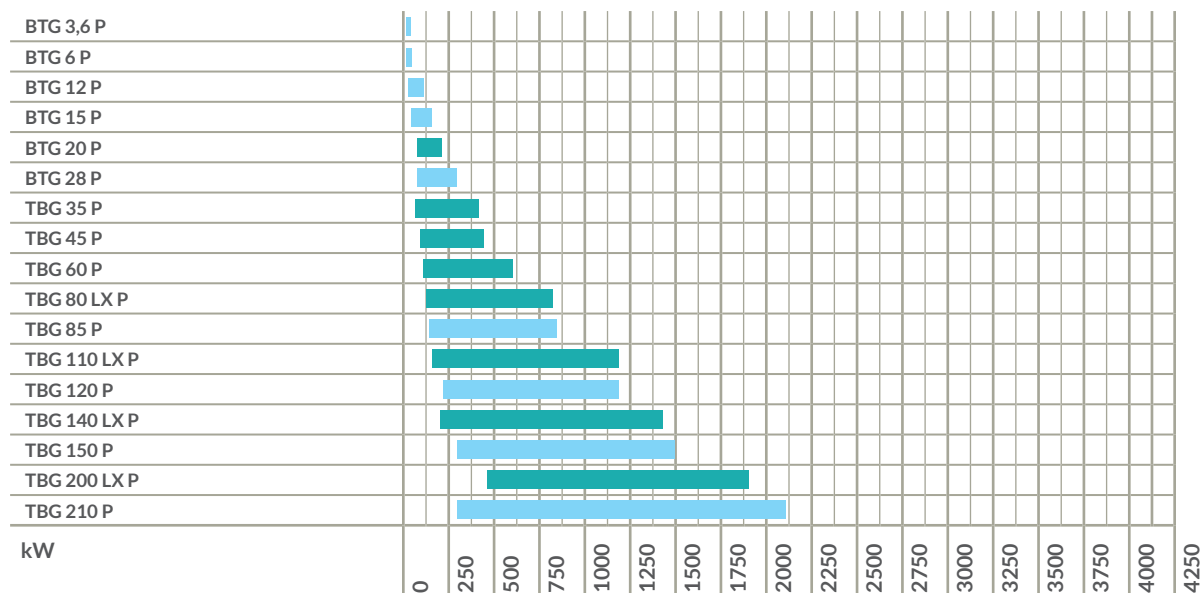
BTG...ME  
TBG...ME  
TBG...LX ME

Two-stage progressive/  
modulating gas  
burners with electronic  
cam.

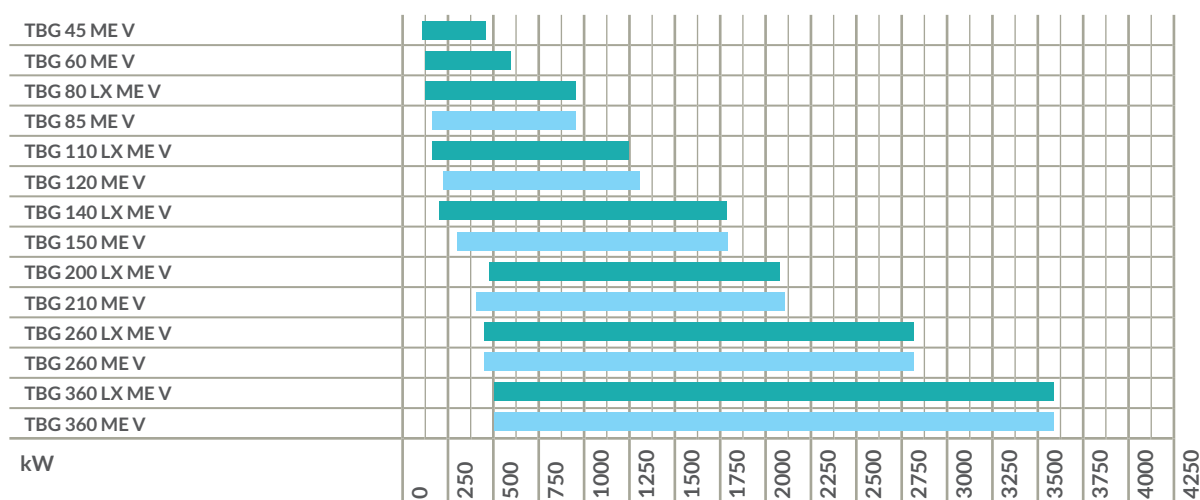
TBG...ME V  
TBG...LX ME V

Modulating gas  
burners with electronic  
modulation and with  
frequency converter  
(inverter).

## TWO-STAGE GAS BURNERS



## MODULATING GAS BURNERS



## INDUSTRIAL GAS BURNERS





### CUSTOMISED SOLUTIONS:

WE SUPPORT THE CUSTOMER WITH THE DEFINITION AND OPTIMISATION OF THE SYSTEM.

mean a better operating efficiency, since the capability to modulate the heat gain based on real current needs reduces cooling caused by switching on and off to the minimum.

### BENEFITS

- Flexible and adaptable to any type of application in various industrial sectors: heat generators, steam generators, ovens for food applications, spray booths, heat exchangers, special custom applications.
- Ideal for OEM applications: burners are designed in partnership with the customer in various forms and dimensions according to the exchanger and application.
- Compact flame with radial development and incandescence burner: reduction of contact between the flame and furnace walls.
- Low nitric oxide (NOx) and CO polluting emissions.
- Modulating operation.
- Extremely silent operation.
- Compact design.
- Wide range available: from 10 kW to 720 kW.
- Natural gas and LPG operation\* (\*on request).
- High modulation ratios (up to 1/6).
- Electrical consumption reduced by up to 40%.
- Easy adjustment and maintenance.

### ON REQUEST

Activation of analogue modulation signal 0 ÷ 10V/4 ÷ 20 mA.

### BALTUR PREMIXING KNOW HOW

The new BPM series burner range makes use of the combustion and premixing technology.

Combustion air and fuel gas are mixed in the right proportions before being introduced into the burner.

The main characteristics of these new compact burners are the energy savings deriving from the high modulating ratios, together with an extremely silent operation.

Thanks to the special metal fibre combustion head, it is possible to obtain low nitric oxide (NOx) and CO polluting emissions.

Baltur is proud to offer its Customers the benefits of its know-how on premixing technology gained in thirty years of experience, i.e. since, as early as 1986, a first premixed burner was an integral part of the historic wall-mounted Balturella boiler.

### GAS BURNERS WITH PREMIXED FLAME AND LOW EMISSIONS

The premixed burner is made up of a combustion head consisting of a special wire cloth on which a very compact flame (microflame) develops radially, thus allowing the application of BPM burners on furnaces with contained dimensions and reducing the boiler overall dimensions.

The premixed burner is supplied by a brushless modulating blower and an electro-pneumatic gas valve.

This technical solution makes it possible to obtain high modulating ratios (up to 1/6 depending on the model) which

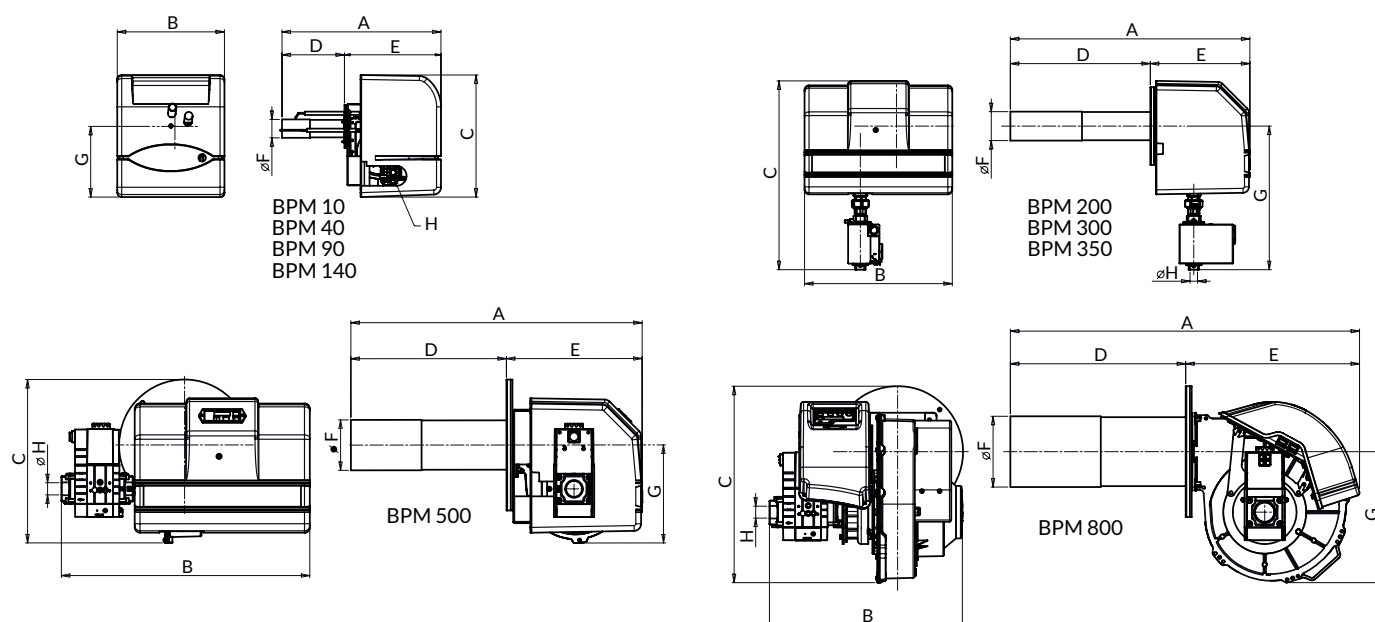
### HEAD AND COMBUSTION CHAMBER DIMENSIONS

Code	Model	Combustion head dimensions			Minimum generator combustion chamber dimensions	
		Total length (mm)	Diameter (mm)	Torch length (mm)	Diameter (mm)	Length (mm)
18000103	BPM 10	175	53	77	120 ÷ 150	225 ÷ 300
18000409	BPM 40	250	35	150	190 ÷ 230	350 ÷ 450
18000708	BPM 90	295	66	200	250 ÷ 290	325 ÷ 400
18000907	BPM 140	311	84	205	450 ÷ 490	500 ÷ 700
18001204	BPM 200	420	97	240	450 ÷ 500	700 ÷ 950
18001302	BPM 300	500	97	360	500 ÷ 590	700 ÷ 1200
18001402	BPM 350	595	143	440	600 ÷ 680	800 ÷ 1300
18001501	BPM 450	680	143	440	620 ÷ 670	900 ÷ 1400
18001603	BPM 500	680	143	440	650 ÷ 700	900 ÷ 1400
18001701	BPM 650	550	200	350	670 ÷ 750	1000 ÷ 1500
18001801	BPM 800	615	200	450	670 ÷ 500	1000 ÷ 1500

Part no.	Model	Thermal power (kW)	Emission class		Electric power supply	Fuel	Type of control	Operation
			Natural gas	LPG				
18000103	BPM 10	2 ÷ 10	3	3	1N AC 230V 50 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18000409	BPM 40	22 ÷ 43	3	3	1N AC 230V 50 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18000708	BPM 90	20 ÷ 103	3	3	1N AC 230V 50 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18000907	BPM 140	30 ÷ 142	3	3	1N AC 230V 50 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001204	BPM 200	30 ÷ 210	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001302	BPM 300	63 ÷ 310	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001402	BPM 350	70 ÷ 350	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001501	BPM 450	90 ÷ 410	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001603	BPM 500	90 ÷ 520	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001701	BPM 650	142 ÷ 650	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating
18001801	BPM 800	142 ÷ 720	3	3	1N AC 230V 50/60 Hz	Natural gas/LPG	Siemens LME 71	Modulating

For the correct burner-generator combination in particular applications, contact our sales office.  
NOx and CO emissions using G20 fuel and according to European standard EN 676.

## DIMENSIONS



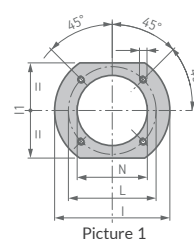
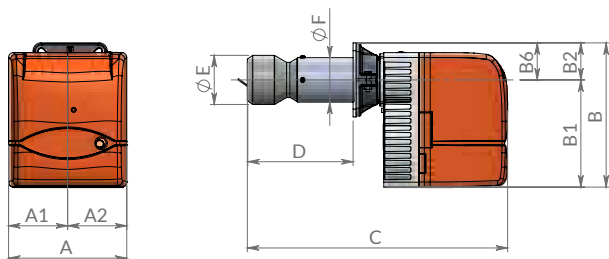
Model	A	B	C	D	E	F Ø	G	H
BPM 10	450	305	345	175	275	53	193,5	3/4" M
BPM 40	525	305	345	250	275	35	193,5	3/4" M
BPM 90	573	305	345	295	278	66	191	3/4" M
BPM 140	595	305	345	311	284	84	232	3/4" F
BPM 200	760	495	660	420	340	97	500	1" F
BPM 300	840	495	660	500	340	97	500	1" F
BPM 350	935	495	660	595	340	143	500	1" F
BPM 450	1070	700	463	680	390	143	277	1 1/2" F
BPM 500	1070	700	463	680	390	143	277	1 1/2" F
BPM 650	1025	560	555	550	475	200	370	1 1/2" F
BPM 800	1110	560	555	615	495	200	370	1 1/2" F

**Gas burner compliant with European standard EN676. Operation:**

	BTG 3	BTG 3,6 P
	single-stage	two-stage
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Fixed boiler coupling flange	•	
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers		•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control		•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•
Electric protection rating:	IP40	IP40
Sound-proof plastic protective cover	•	•

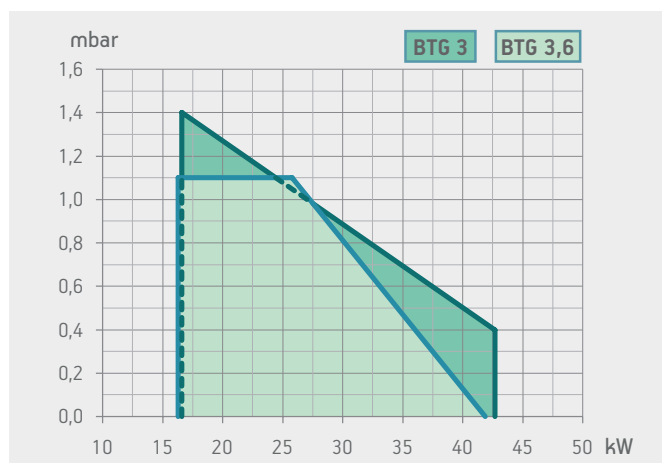
**LEGEND:**

- As standard



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M	N mm	Pic.
BTG 3	250	120	130	242	170	72	48	330	90	90	90	170	144	135 ÷ 161	M8	95	1
BTG 3 L200	250	120	130	242	170	72	48	460	50 ÷ 200	90	90	170	140	135 ÷ 161	M8	95	1
BTG 3,6	246	123	123	289	219	70	53	410	50 ÷ 105	90	90	170	140	130 ÷ 155	M8	95	1
BTG 3,6 P	246	123	123	289	219	70	53	410	50 ÷ 105	90	90	170	140	130 ÷ 155	M8	95	1



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 3	400	300	280	9
BTG 3 L200	560	310	350	10
BTG 3,6	560	310	350	12
BTG 3,6 P	560	310	350	12

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	16,6 ÷ 42,7	<b>BTG 3</b>	<b>17000010</b>	1N AC 50Hz 230V	0,09	1)
	class 2	16,6 ÷ 42,7	<b>BTG 3 L200</b>	<b>17000020</b>	1N AC 50Hz 230V	0,09	1)
	class 2	16,6 ÷ 42,0	<b>BTG 3,6</b>	<b>17020010</b>	1N AC 50Hz 230V	0,09	1)
	class 2	16,3 ÷ 41,9	<b>BTG 3,6 P</b>	<b>17030010</b>	1N AC 50Hz 230V	0,10	1)
Frequency 60 Hz							
	class 2	16,6 ÷ 42,7	<b>BTG 3</b>	<b>17000010</b>	1N AC 60Hz 220V	0,09	1)
	class 2	16,3 ÷ 41,9	<b>BTG 3,6 P</b>	<b>17030010</b>	1N AC 60Hz 220V	0,10	1)

**NOTE**

1 Equipped with air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural Gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ .  
 LPG:  $H_i = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .  
 For different type of gas and pressure values, please get in contact with our commercial department.

**ACCESSORIES AVAILABLE ON REQUEST**

DESCRIPTION	PART NO.
BTG 3,6 P: long combustion head L300 mm	
BTG 3,6 - 6: long combustion head L500 <b>NEW</b> 1)	98000495

**BURNER ACCESSORIES**

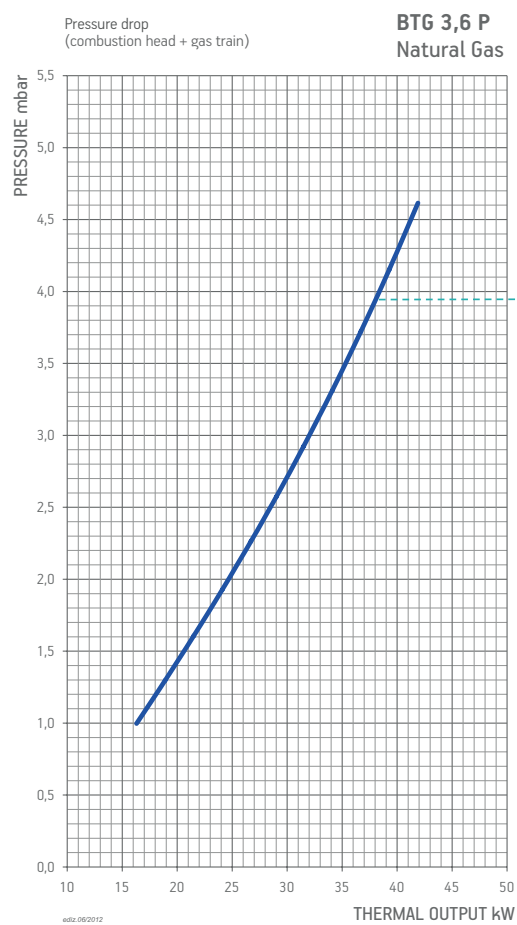
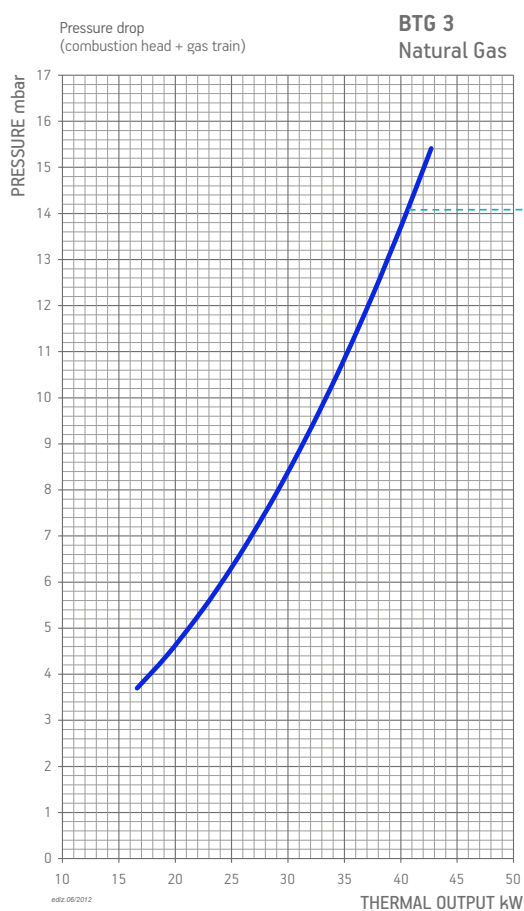
Boiler coupling kit, plug for wiring

**N.B.**

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
<b>BTG 3</b>	Natural gas	1A	CE/EXP	65		19990466	Included	-	-	M2	
<b>BTG 3,6 P</b>	Natural gas	9A	CE/EXP	360		19990016	Included	-	-	B2	
					CTV	19990016	Included	-	98000100	B2	12)

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
<b>BTG 3</b>	LPG	CE	65		19990466	Included	-	-	-	M2	
<b>BTG 3,6 P</b>	LPG	CE/EXP	360		19990016	Included	-	-	-	B2	
				CTV	19990016	Included	-	98000100	-	B2	12)

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

**NOTE**

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

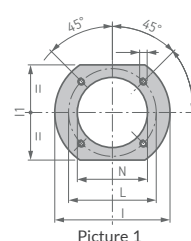
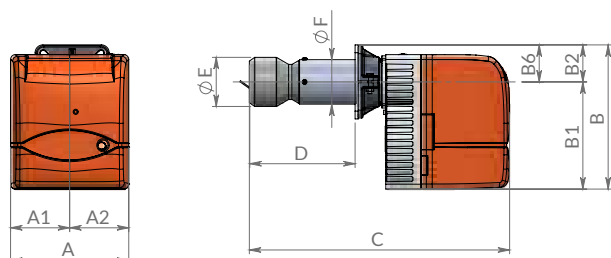
\*\*) Maximum gas inlet pressure at pressure regulator.

**Gas burner compliant with European standard EN676. Operation:**

	BTG 6	BTG 6 P
	single-stage	two-stage
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•
Electric protection rating:	IP40	IP40
Sound-proof plastic protective cover	•	•

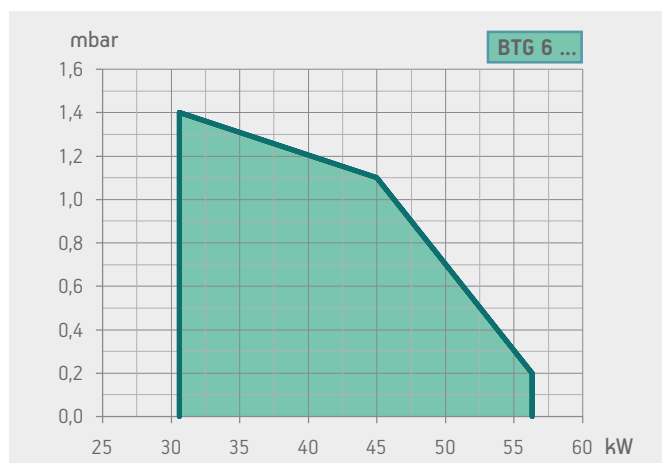
**LEGEND:**

- As standard



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M	N mm	Pic.
BTG 6	246	123	123	289	219	70	53	410	50 ÷ 105	90	90	170	140	130 ÷ 155	M8	95	1
BTG 6 L300	246	123	123	289	219	70	53	610	50 ÷ 300	90	90	170	140	130 ÷ 155	M8	95	1
BTG 6 P	246	123	123	289	219	70	53	410	50 ÷ 105	90	90	170	140	130 ÷ 155	M8	95	1
BTG 6 P L300	246	123	123	289	219	70	53	610	50 ÷ 300	90	90	170	140	130 ÷ 155	M8	95	1



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 6	560	310	350	12
BTG 6 L300	760	310	350	12
BTG 6 P	560	310	350	12
BTG 6 P L300	760	310	350	12

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	30,6 ÷ 56,3	<b>BTG 6</b>	<b>17040010</b>	1N AC 50Hz 230V	0,1	1)
	class 2	30,6 ÷ 56,3	<b>BTG 6 L300</b>	<b>17040020</b>	1N AC 50Hz 230V	0,1	1)
	class 2	30,6 ÷ 56,3	<b>BTG 6 P</b>	<b>17050010</b>	1N AC 50Hz 230V	0,1	1)
	class 2	30,6 ÷ 56,3	<b>BTG 6 P L300</b>	<b>17050020</b>	1N AC 50Hz 230V	0,1	1)
Frequency 60 Hz							
	class 2	30,6 ÷ 56,3	<b>BTG 6</b>	<b>17040010</b>	1N AC 60Hz 220V	0,1	1)
	class 2	30,6 ÷ 56,3	<b>BTG 6 P</b>	<b>17050010</b>	1N AC 60Hz 220V	0,1	1)

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
BTG 3,6 - 6: long combustion head L500 <b>NEW</b> 1)	98000495

## BURNER ACCESSORIES

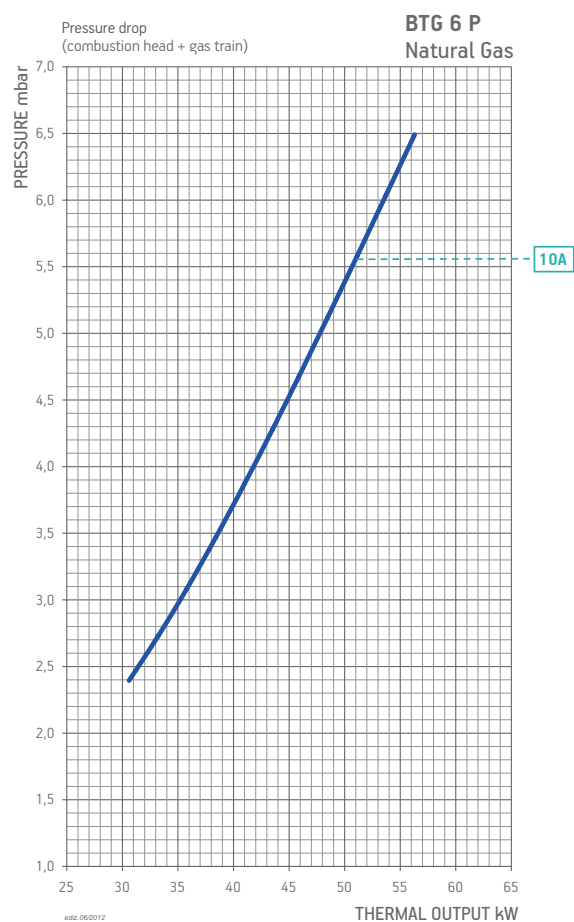
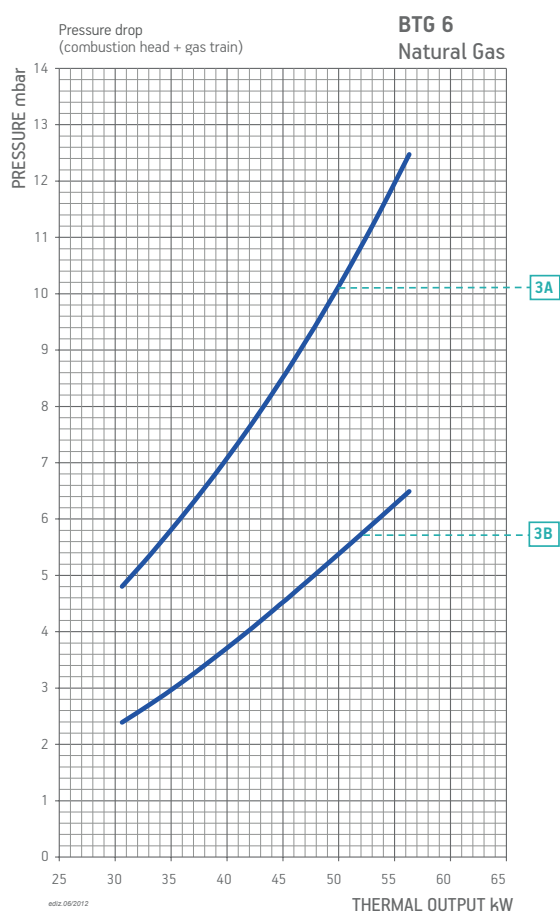
Boiler coupling kit, plug for wiring

## N.B.

1) Conversion kit, for standard burner, by installer.  
For supply of the product in long head version, please contact the sales department.

## NOTE

1 Equipped with air closure device.  
Net calorific value at reference conditions of 0°C, 1013mbar:  
Natural Gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ .  
LPG:  $H_i = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .  
For different type of gas and pressure values, please get in contact with our commercial department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
BTG 6	Natural gas	3A	CE/EXP	65		19990466	Included	96000001	-	M2	
		3B	CE/EXP	360		19990002	Included	-	-	M2	
					CTV	19990002	Included	-	98000100	M2	12)
BTG 6 P	Natural gas	10A	CE/EXP	360		19990016	Included	-	-	B2	
					CTV	19990016	Included	-	98000100	B2	12)

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
BTG 6	LPG	CE	65		19990466	Included	96000001	-	-	M2	
BTG 6 P	LPG	CE/EXP	360		19990016	Included	-	-	-	B2	
				CTV	19990016	Included	-	98000100	-	B2	12)

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.





## BTG 12

## BTG 12 P

## Gas burner compliant with European standard EN676. Operation:

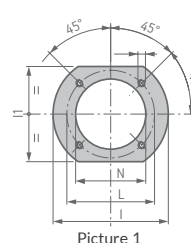
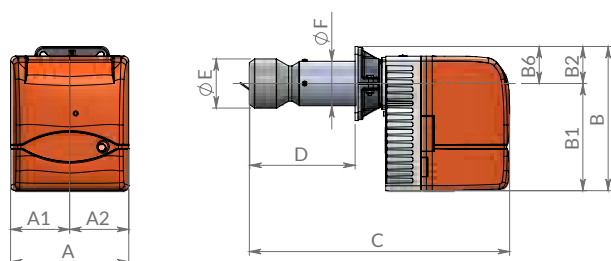
## single-stage

## two-stage

Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•
Electric protection rating:	IP40	IP40
Sound-proof plastic protective cover	•	•

## LEGEND:

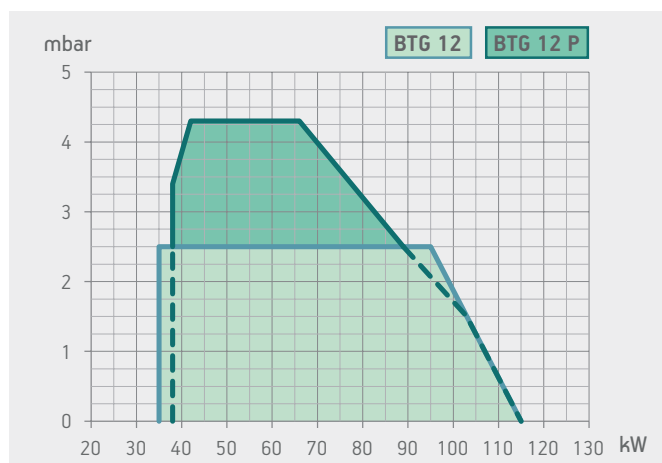
- As standard



Flange dimensions and boiler drilling template.

Picture 1

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	I1 mm	L mm	M	N mm	Pic.
BTG 12	246	123	123	289	219	70	53	450	70 ÷ 150	90	90	170	140	130 ÷ 155	M8	95	1
BTG 12 L300	246	123	123	289	219	70	53	600	70 ÷ 300	90	90	170	140	130 ÷ 155	M8	95	1
BTG 12 P	246	123	123	289	219	70	53	450	70 ÷ 150	90	90	170	140	130 ÷ 155	M8	95	1
BTG 12 P L300	246	123	123	289	219	70	53	600	70 ÷ 300	90	90	170	140	130 ÷ 155	M8	95	1



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 12	560	310	350	12
BTG 12 L300	760	310	350	14
BTG 12 P	560	310	350	12
BTG 12 PL300	760	310	350	14

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	35,0 ÷ 115,0	<b>BTG 12</b>	<b>17170010</b>	1N AC 50Hz 230V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 L300</b>	<b>17170020</b>	1N AC 50Hz 230V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 P</b>	<b>17180010</b>	1N AC 50Hz 230V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 P L300</b>	<b>17180020</b>	1N AC 50Hz 230V	0,1	1)
Frequency 60 Hz							
	class 2	35,0 ÷ 115,0	<b>BTG 12</b>	<b>17175410</b>	1N AC 60Hz 220V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 L300</b>	<b>17175420</b>	1N AC 60Hz 220V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 P</b>	<b>17185410</b>	1N AC 60Hz 220V	0,1	1)
	class 2	35,0 ÷ 115,0	<b>BTG 12 P L300</b>	<b>17185420</b>	1N AC 60Hz 220V	0,1	1)

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
BTG 12 long combustion head L500 <b>NEW</b> 1)	98000497

## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## NOTE

1) Equipped with air closure device.

Net calorific value at reference conditions of 0°C, 1013mbar:

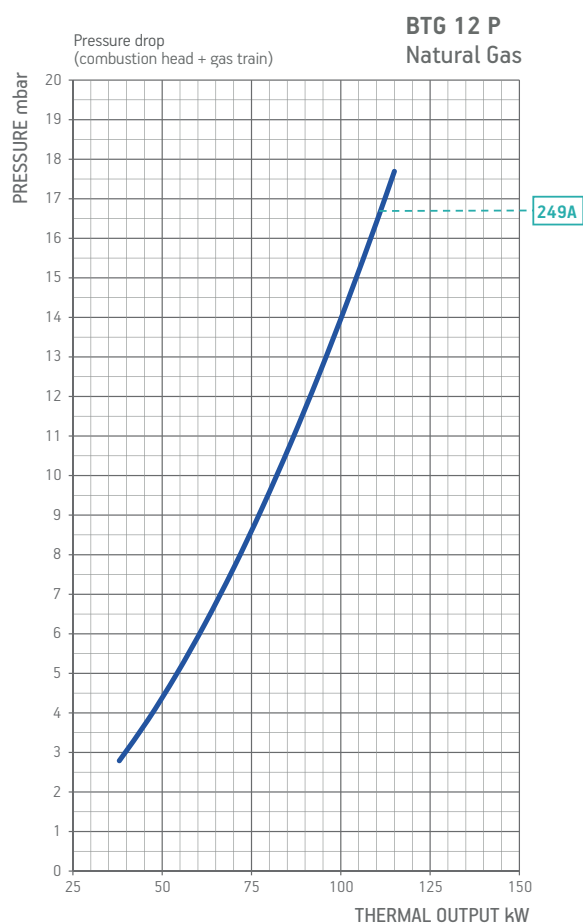
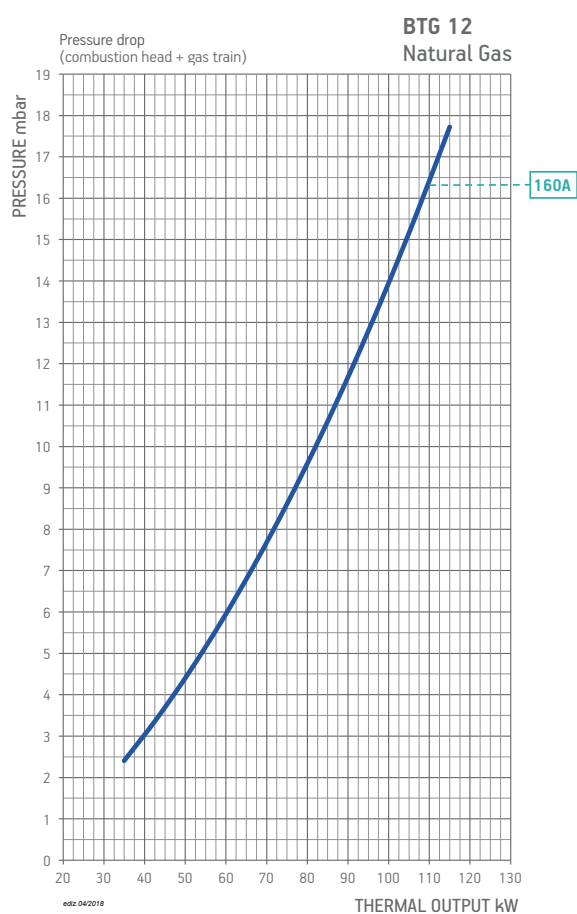
Natural Gas:  $Hi = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ .LPG:  $Hi = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .

For different type of gas and pressure values, please get in contact with our commercial department.

## N.B.

1) Conversion kit, for standard burner, by installer.

For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
BTG 12	Natural gas	160A	CE/EXP	360		19990002	Included	–	–	M2	
					CTV	19990002	Included	–	98000100	M2	12)
BTG 12 P	Natural gas	249A	CE/EXP	360		19990016	Included	–	–	B2	
					CTV	19990016	Included	–	98000100	B2	12)

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
BTG 12	LPG	CE	65		19990466	Included	96000001	–	–	M2	
BTG 12 P	LPG	CE/EXP	360		19990016	Included	–	–	–	B2	
				CTV	19990016	Included	–	98000100	–	B2	12)

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



BTG 15 - 15 P

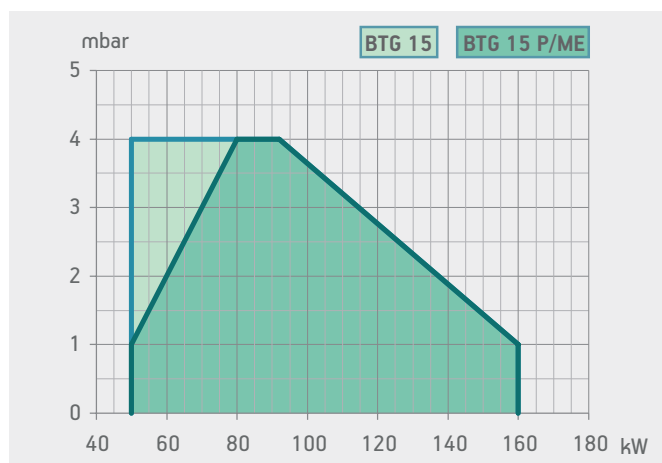


BTG 15 ME

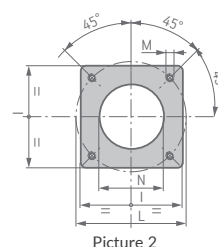
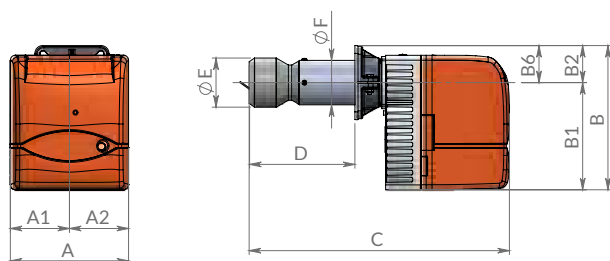
	BTG 15	BTG 15 P	BTG 15 ME
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>single-stage</b>	<b>two-stage</b>	<b>electronic modulation</b>
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel			•
Modulation ratio:			1:3
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•	
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter			•
Possibility to add gas train with valve tightness control	•	•	
Fail proof connectors for burner/gas train connection	•	•	•
Gas train outlet:	up	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment			•
Electric protection rating:	IP40	IP40	IP40
Sound-proof plastic protective cover	•	•	•

**LEGEND:**

- As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 15	780	370	410	20
BTG 15 P	780	370	410	20
BTG 15 ME	780	370	410	18



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
BTG 15	303	158	145	368	275	93	70	680	150 ÷ 280	126	114	185	170 ÷ 210	M10	135	2
BTG 15 P	303	158	145	368	275	93	70	680	150 ÷ 280	126	114	185	170 ÷ 210	M10	135	2
BTG 15 ME	303	158	145	368	275	93	70	680	150 ÷ 280	126	114	185	170 ÷ 210	M10	135	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	50 ÷ 160	<b>BTG 15</b>	<b>17080010</b>	1N AC 50Hz 230V	0,18	1)
	class 2	50 ÷ 160	<b>BTG 15 P</b>	<b>17090010</b>	1N AC 50Hz 230V	0,18	1)
	class 2	50 ÷ 160	<b>BTG 15 ME</b>	<b>17130020</b>	1N AC 50Hz 230V	0,18	4)
Frequency 60 Hz							
	class 2	50 ÷ 160	<b>BTG 15</b>	<b>17080010</b>	1N AC 60Hz 220V	0,18	1)
	class 2	50 ÷ 160	<b>BTG 15 P</b>	<b>17090010</b>	1N AC 60Hz 220V	0,18	1)
	class 2	50 ÷ 160	<b>BTG 15 ME</b>	<b>17130020</b>	1N AC 60Hz 220V	0,18	4)

## MODULATING MODE

DESCRIPTION	PART NO.
BTG 15 ME: modulation kit	98000059
BTG 15 ME: modulating probe (see page 332)	

## NOTE

1 Equipped with air closure device.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
BTG 15 long combustion head L500 <b>NEW</b> 1)	98000492

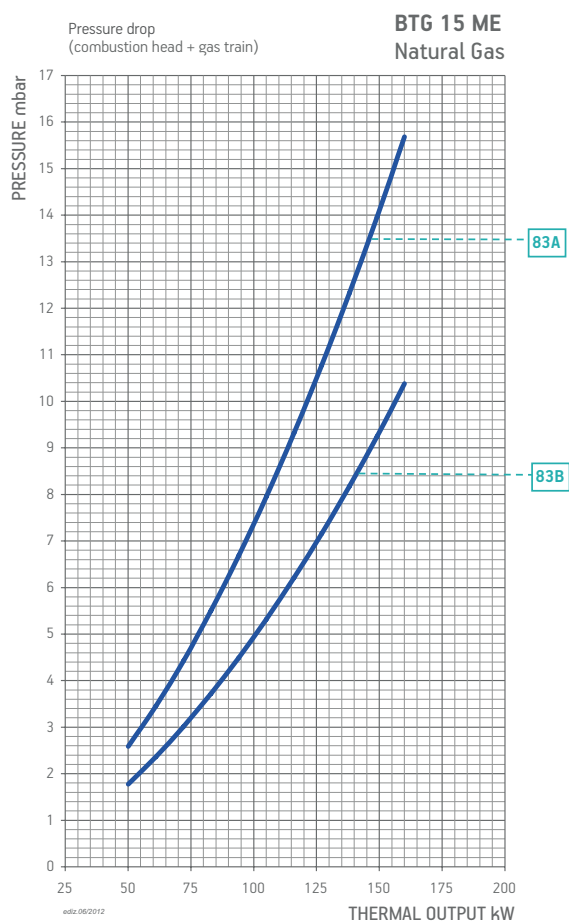
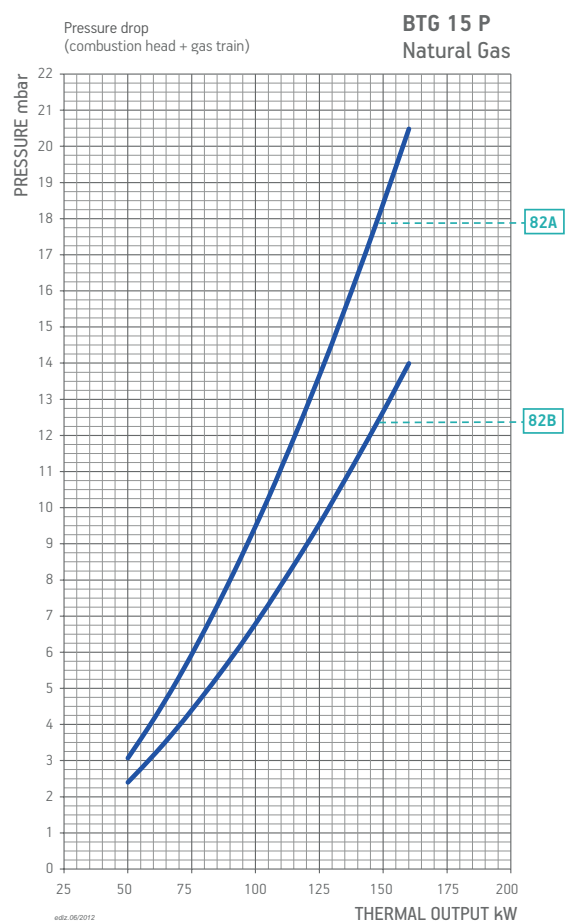
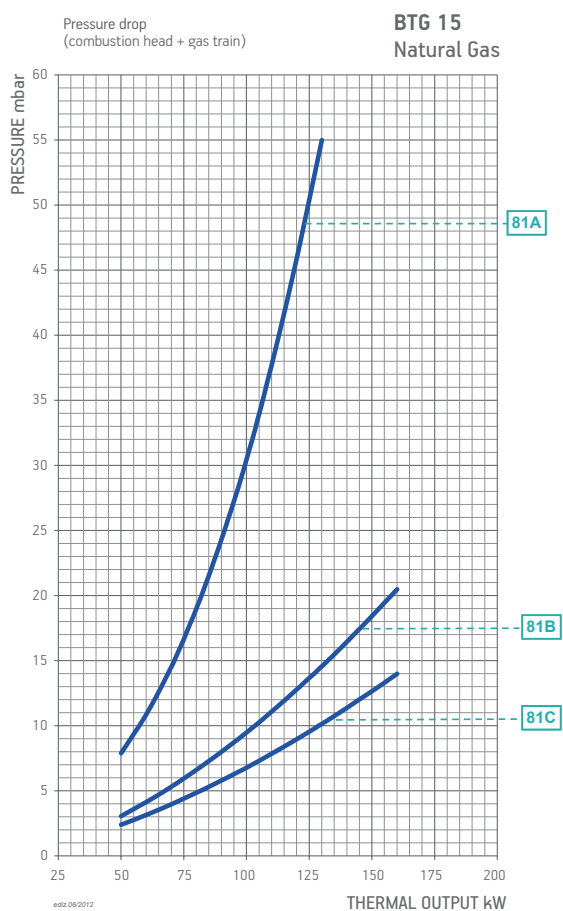
## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
BTG 15	Natural gas	81A	CE/EXP	65		19990466	Included	96000001	-	M2	
		81B	CE/EXP	360		19990002	Included	-	-	M2	
		81C	CE/EXP	360	CTV	19990002	Included	-	98000100	M2	12)
					CTV	19990005	Included	-	-	M2	
BTG 15 P	Natural gas	82A	CE/EXP	360	CTV	19990005	Included	-	98000100	M2	12)
						19990016	Included	-	-	B2	
		82B	CE/EXP	360	CTV	19990016	Included	-	98000100	B2	12)
						19990020	Included	-	-	B2	
BTG 15 ME	Natural gas	83A	CE/EXP	360	CTV	19990573	Included	-	Included	D2	
		83B	CE/EXP	360	CTV	19990574	Included	-	Included	D2	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
BTG 15	LPG	CE/EXP	65		19990466	Included	96000001	-	-	M2	
BTG 15 P	LPG	CE/EXP	360	CTV	19990016	Included	-	-	-	B2	
					19990016	Included	-	98000100	-	B2	12)
BTG 15 ME	LPG	CE/EXP	360	CTV	19990573	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



BTG 20 - 20 P

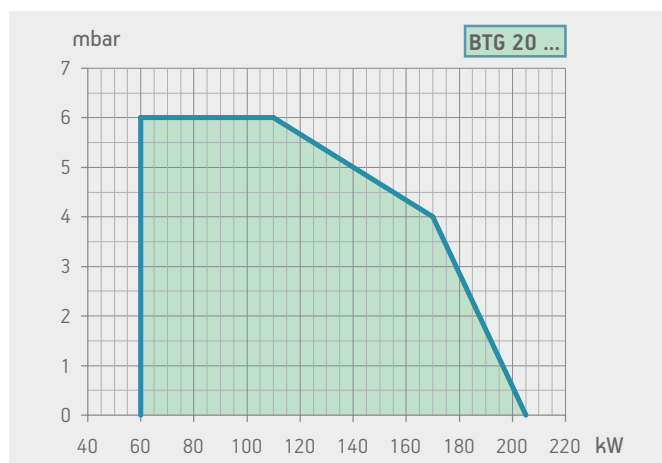


BTG 20 ME

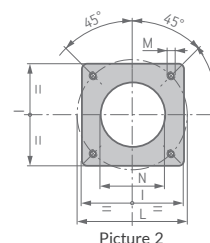
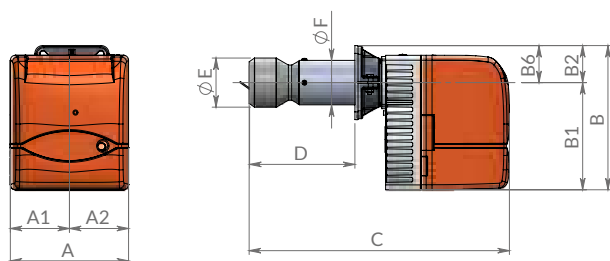
	BTG 20	BTG 20 P	BTG 20 ME
Gas burner compliant with European standard EN676. Operation:	single-stage	two-stage	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel			○
Modulation ratio:			1:3
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•	
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter			•
Possibility to add gas train with valve tightness control	•	•	
Fail proof connectors for burner/gas train connection	•	•	•
Gas train outlet:	up	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment			•
Electric protection rating:	IP40	IP40	IP40
Sound-proof plastic protective cover	•	•	•

**LEGEND:**

○ Optional, • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 20	780	370	410	19
BTG 20 P	780	370	410	20
BTG 20 ME	780	370	410	18



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
BTG 20	303	158	145	368	275	93	70	695	150 ÷ 300	127	114	185	170 ÷ 210	M10	135	2
BTG 20 P	303	158	145	368	275	93	70	695	150 ÷ 300	127	114	185	170 ÷ 210	M10	135	2
BTG 20 ME	303	158	145	368	275	93	70	695	150 ÷ 300	127	114	185	170 ÷ 210	M10	135	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 3	60 ÷ 205	BTG 20	17100010	1N AC 50Hz 230V	0,18	1)
	class 3	60 ÷ 205	BTG 20 P	17110010	1N AC 50Hz 230V	0,18	1)
	class 3	60 ÷ 205	BTG 20 ME	17120020	1N AC 50Hz 230V	0,18	4)
Frequency 60 Hz							
	class 3	60 ÷ 205	BTG 20	17100010	1N AC 60Hz 220V	0,18	1)
	class 3	60 ÷ 205	BTG 20 P	17110010	1N AC 60Hz 220V	0,18	1)
	class 3	60 ÷ 205	BTG 20 ME	17120020	1N AC 60Hz 220V	0,18	4)

## MODULATING MODE

DESCRIPTION	PART NO.
BTG 20 ME: modulation kit	98000059
BTG 20 ME: modulating probe (see page 332)	

## NOTE

1 Equipped with air closure device.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

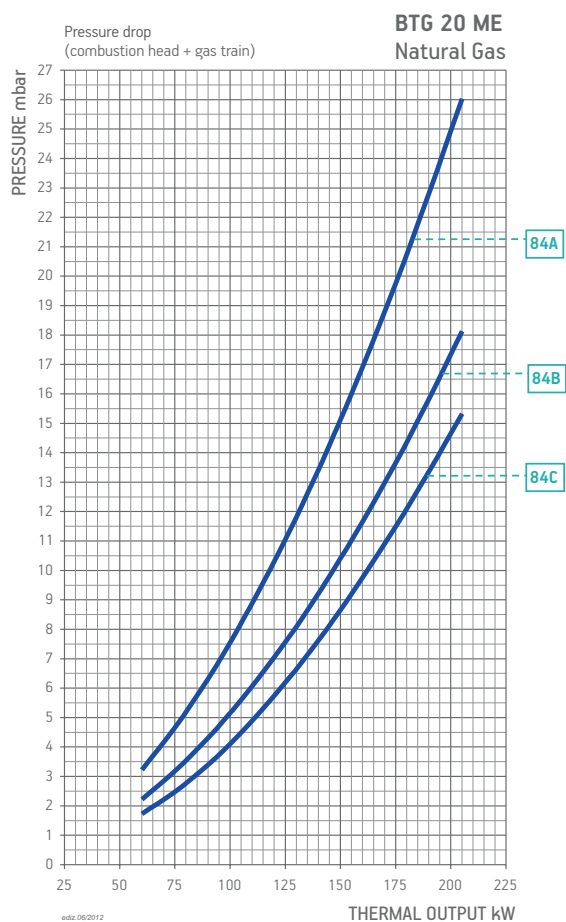
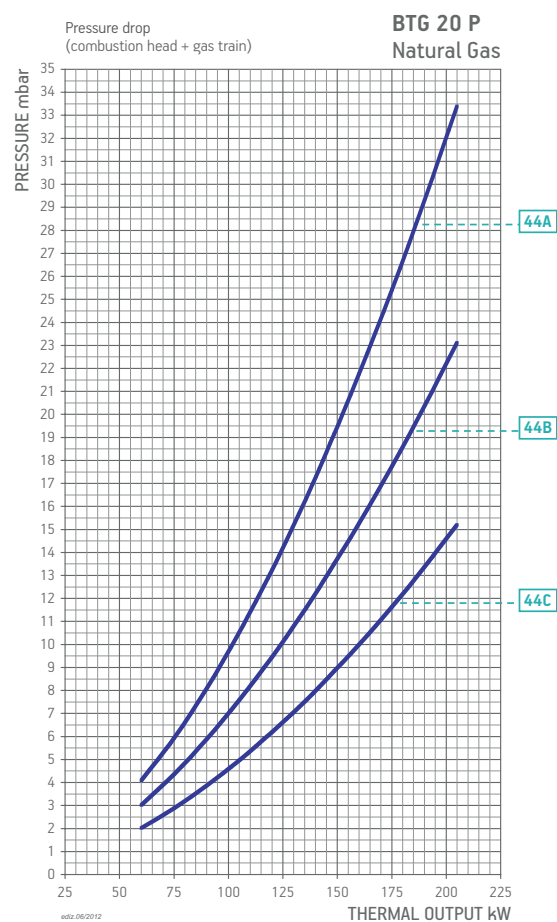
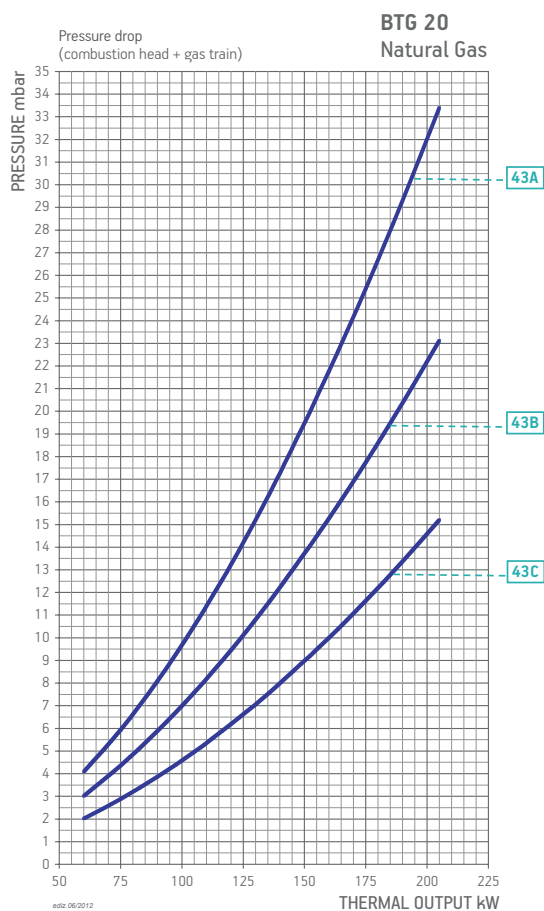
DESCRIPTION	PART NO.
BTG 20 long combustion head L500 <b>NEW</b> 1)	98000493

## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
BTG 20	Natural gas	43A	CE/EXP	360		19990002	Included	-	-	M2	
					CTV	19990002	Included	-	98000100	M2	12)
		43B	CE/EXP	360		19990005	Included	-	-	M2	
					CTV	19990005	Included	-	98000100	M2	12)
		43C	CE/EXP	360		19990008	Included	96000031	-	M2	
CTV	19990008				Included	96000031	98000100	M2	12)		
BTG 20 P	Natural gas	44A	CE/EXP	360		19990016	Included	-	-	B2	
					CTV	19990016	Included	-	98000100	B2	12)
		44B	CE/EXP	360		19990020	Included	-	-	B2	
					CTV	19990020	Included	-	98000100	B2	12)
		44C	CE/EXP	360		19990024	Included	96000031	-	B2	
CTV	19990024				Included	96000031	98000100	B2	12)		
BTG 20 ME	Natural gas	84A	CE/EXP	360	CTV	19990573	Included	-	Included	D2	
		84B	CE/EXP	360	CTV	19990574	Included	-	Included	D2	
		84C	CE/EXP	360	CTV	19990575	Included	-	Included	D2	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
BTG 20	LPG	CE/EXP	360		19990002	Included	-	-	-	M2	
				CTV	19990002	Included	-	98000100	-	M2	12)
BTG 20 P	LPG	CE/EXP	360		19990016	Included	-	-	-	B2	
				CTV	19990016	Included	-	98000100	-	B2	12)
BTG 20 ME	LPG	CE/EXP	360	CTV	19990573	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.





BTG 28 - 28 P

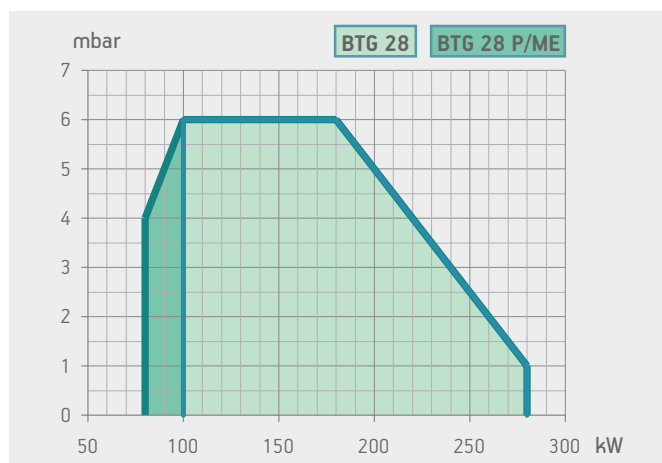


BTG 28 ME

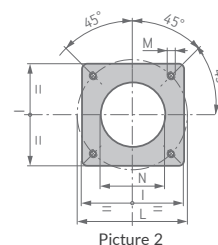
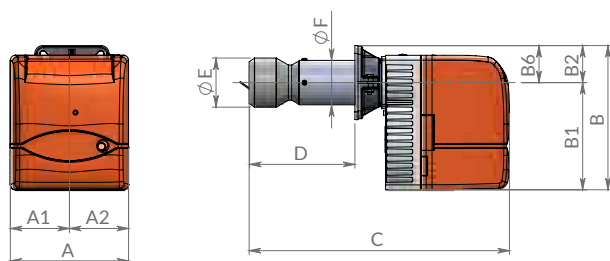
	BTG 28	BTG 28 P	BTG 28 ME
	single-stage	two-stage	electronic modulation
<b>Gas burner compliant with European standard EN676. Operation:</b>			
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel			•
Modulation ratio:			1:3
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•	
CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter			•
Possibility to add gas train with valve tightness control	•	•	
Fail proof connectors for burner/gas train connection	•	•	•
Gas train outlet:	up	up	up
Flame detection by ionisation electrode with connector for microamperometer	•	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment			•
Electric protection rating:	IP40	IP40	IP40
Sound-proof plastic protective cover	•	•	•

**LEGEND:**

- As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
BTG 28	780	370	410	19
BTG 28 P	780	370	410	20
BTG 28 ME	780	370	410	18



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
BTG 28	303	158	145	368	275	93	70	695	150 ÷ 300	135	114	185	170 ÷ 210	M10	145	2
BTG 28 P	303	158	145	368	275	93	70	695	150 ÷ 300	135	114	185	170 ÷ 210	M10	145	2
BTG 28 ME	303	158	145	368	275	93	70	695	150 ÷ 300	135	114	185	170 ÷ 210	M10	145	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	100 ÷ 280	BTG 28	17140010	1N AC 50Hz 230V	0,18	1)
	class 2	80 ÷ 280	BTG 28 P	17150010	1N AC 50Hz 230V	0,18	1)
	class 2	80 ÷ 280	BTG 28 ME	17160020	1N AC 50Hz 230V	0,18	4)
Frequency 60 Hz							
	class 2	100 ÷ 280	BTG 28	17145410	1N AC 60Hz 220V	0,25	1)
	class 2	80 ÷ 280	BTG 28 P	17155410	1N AC 60Hz 220V	0,25	1)
	class 2	80 ÷ 280	BTG 28 ME	17165420	1N AC 60Hz 220V	0,25	4)

## MODULATING MODE

DESCRIPTION	PART NO.
BTG 28 ME: modulation kit	98000059
BTG 28 ME: modulating probe (see page 332)	

## NOTE

1 Equipped with air closure device.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
BTG 28 long combustion head L500 <b>NEW</b> 1)	98000494

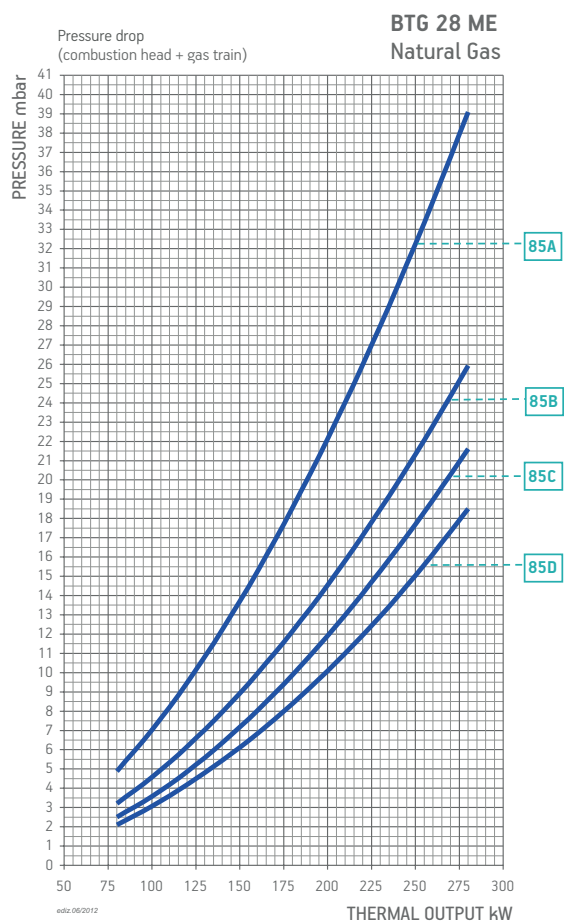
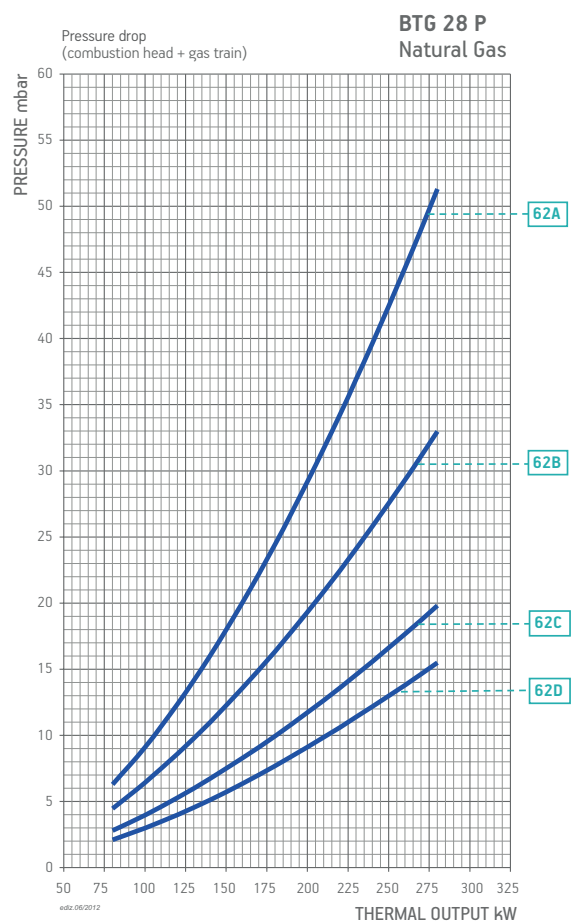
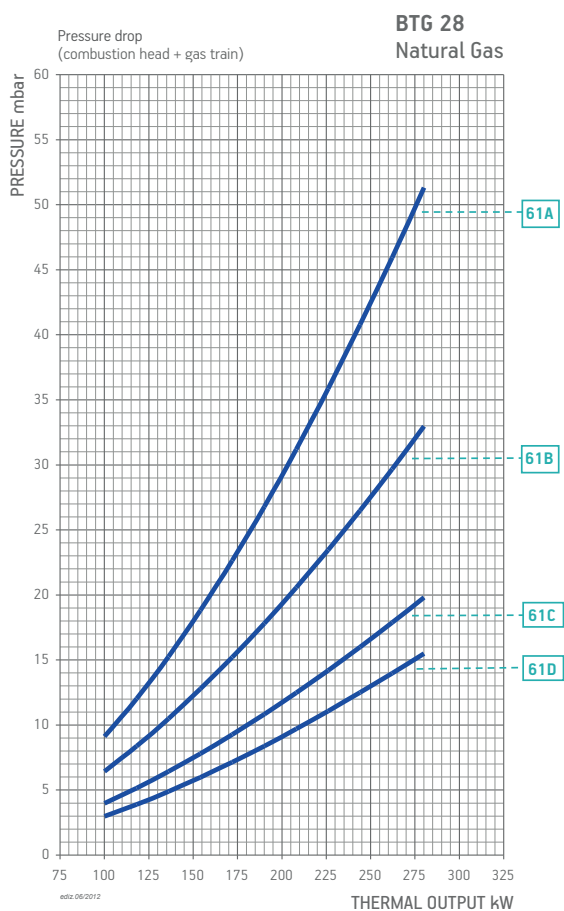
## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.

## BURNER/GAS TRAIN MATCH



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
BTG 28	Natural gas	61A	CE/EXP	360		19990002	Included	-	-	M2	
					CTV	19990002	Included	-	98000100	M2	12)
		61B	CE/EXP	360		19990005	Included	-	-	M2	
					CTV	19990005	Included	-	98000100	M2	12)
		61C	CE/EXP	360		19990008	Included	96000031	-	M2	
CTV	19990008				Included	96000031	98000100	M2	12)		
BTG 28 P	Natural gas	62A	CE/EXP	360		19990016	Included	-	-	B2	
					CTV	19990016	Included	-	98000100	B2	12)
		62B	CE/EXP	360		19990020	Included	-	-	B2	
					CTV	19990020	Included	-	98000100	B2	12)
		62C	CE/EXP	360		19990024	Included	96000031	-	B2	
CTV	19990024				Included	96000031	98000100	B2	12)		
BTG 28 ME	Natural gas	62D	CE/EXP	360		19990168	Included	96000031	-	B2	
					CTV	19990168	Included	96000031	98000100	B2	12)
		85A	CE/EXP	360	CTV	19990573	Included	-	Included	D2	
						19990574	Included	-	Included	D2	
						19990575	Included	-	Included	D2	
85D	CE/EXP	360	CTV	19990576	Included	-	Included	D2			

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
BTG 28	LPG	CE/EXP	360		19990002	Included	-	-	-	M2	
				CTV	19990002	Included	-	98000100	-	M2	12)
BTG 28 P	LPG	CE/EXP	360		19990016	Included	-	-	-	B2	
				CTV	19990016	Included	-	98000100	-	B2	12)
BTG 28 ME	LPG	CE/EXP	360	CTV	19990573	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.



TBG 35



TBG 35 P



TBG 35 MC

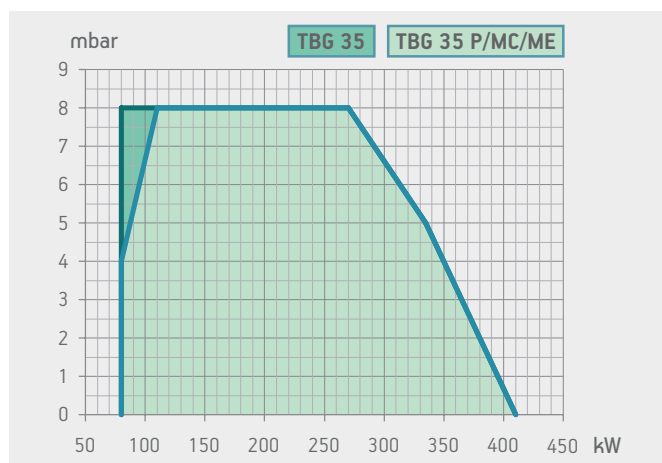


TBG 35 ME

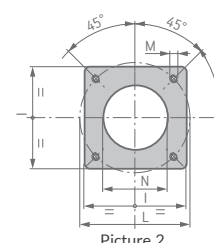
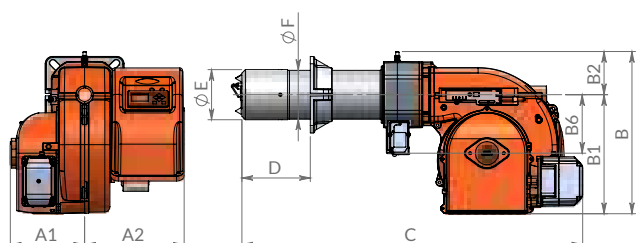
	TBG 35	TBG 35 P	TBG 35 MC	TBG 35 ME
<b>Gas burner compliant with European standard EN676. Operation:</b>	single-stage	two-stage	mechanical two-stage progressive	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel			○	○
Modulation ratio:			1:5	1:5
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3	class 3
Adjusting the combustion head	•	•	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor	mechanical cam	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney		•	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•	•	
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter				•
Possibility to add gas train with valve tightness control	•	•	•	
Fail proof connectors for burner/gas train connection	•	•	•	•
Gas train outlet:	up/down	down	down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•	•	•
Electric protection rating:	IP40	IP40	IP40	IP40

**LEGEND:**

○ Optional, • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 35	1000	600	510	30
TBG 35 P	1000	600	510	32
TBG 35 MC	1000	600	510	34
TBG 35 ME	1000	600	510	39



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 35	440	210	230	378	270	108	160	860	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 35 P	440	210	230	378	270	108	160	860	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 35 MC	520	290	230	420	270	150	160	860	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 35 ME	465	180	285	377	260	117	160	840	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 3	80 ÷ 410	TBG 35	17320010	1N AC 50Hz 230V	0,37	
	class 3	80 ÷ 410	TBG 35 P	17330010	1N AC 50Hz 230V	0,37	4)
	class 3	80 ÷ 410	TBG 35 MC	17360010	1N AC 50Hz 230V	0,37	4)
	class 3	80 ÷ 410	TBG 35 ME	17350010	1N AC 50Hz 230V	0,37	4)
Frequency 60 Hz							
	class 3	80 ÷ 410	TBG 35	17325410	1N AC 60Hz 220V	0,37	
	class 3	80 ÷ 410	TBG 35 P	17335410	1N AC 60Hz 220V	0,37	4)
	class 3	80 ÷ 410	TBG 35 MC	17365410	1N AC 60Hz 220V	0,37	4)
	class 3	80 ÷ 410	TBG 35 ME	17355410	1N AC 60Hz 220V	0,37	4)

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 35 MC: modulation kit	98000056
TBG 35 ME: modulation kit	98000059
TBG 35 MC/35 ME: modulating probe (see page 332)	
TBG 35 MC: converter kit 0 ÷ 10V / 4 ÷ 20 mA	98000063

## NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
Soundproof burner cover (see page 337)	97980054
TBG 35-45 long combustion head L500 <b>NEW</b> 1)	98000457

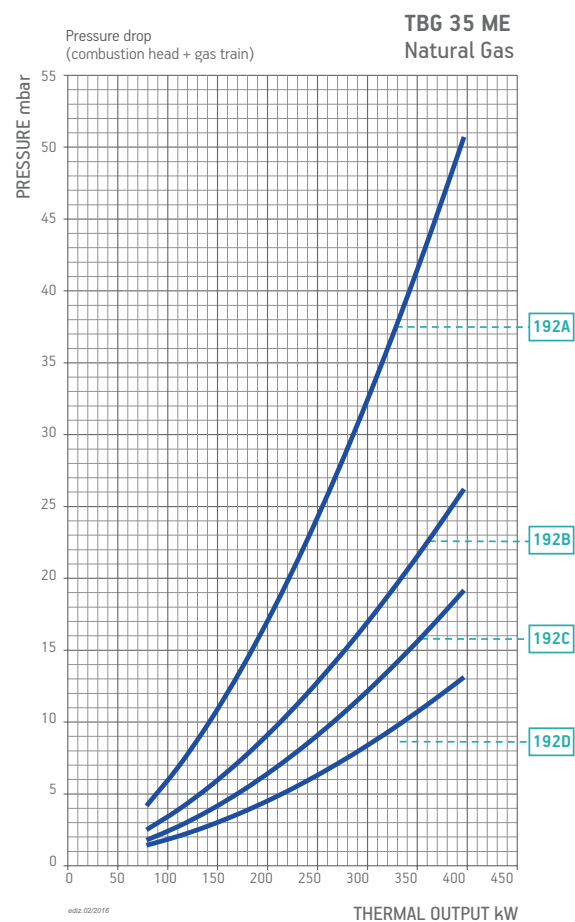
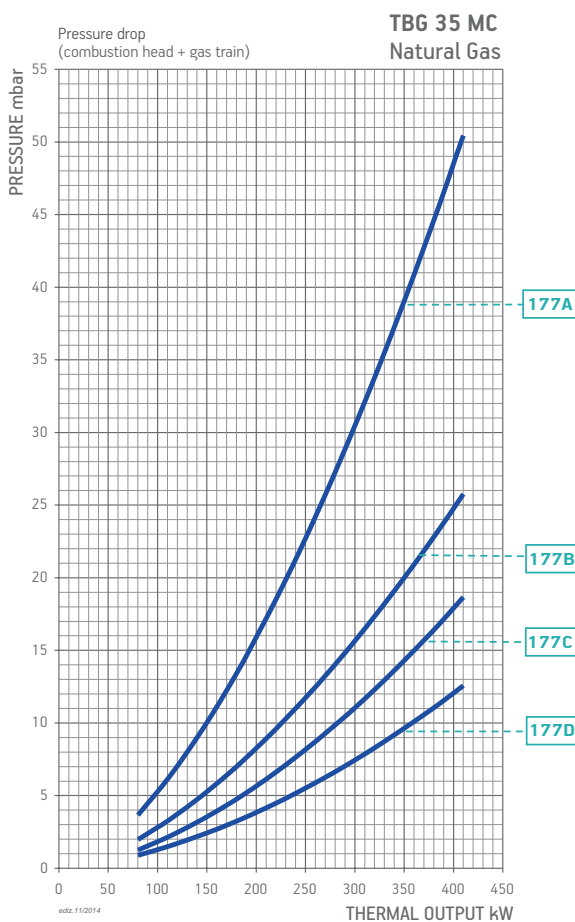
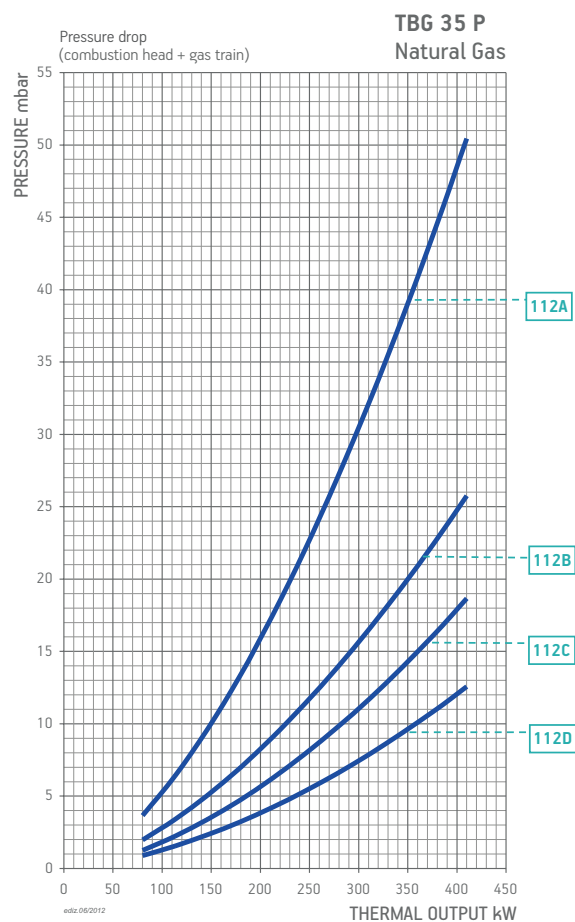
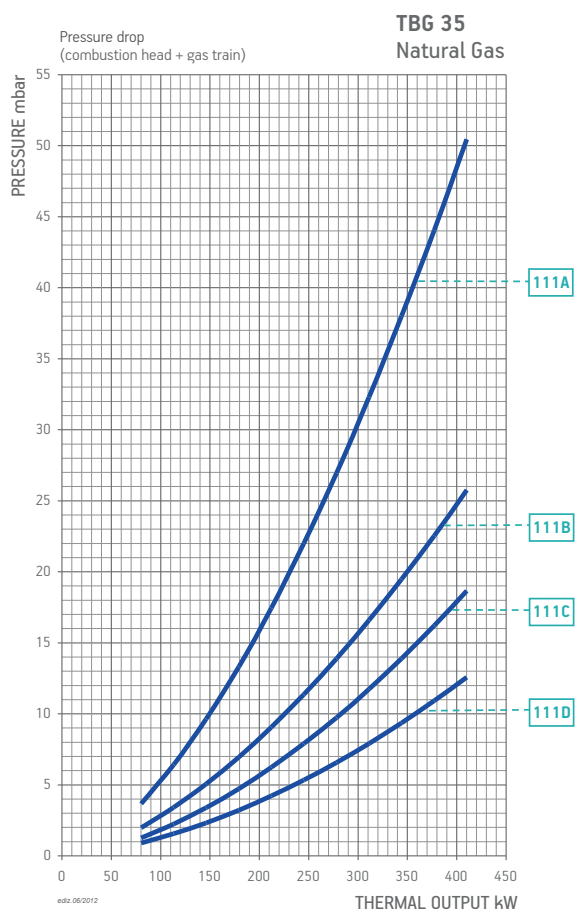
## BURNER ACCESSORIES

TBG 35/35 P/35 MC: boiler coupling kit, plug for wiring  
 TBG 35 ME: boiler coupling kit.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 35	Natural gas	111A	CE/EXP	360		19990545	Included	96000005	-	M2	
					CTV	19990545	Included	96000005	98000100	M2	12)
		111B	CE/EXP	360		19990546	Included	96000004	-	M2	
					CTV	19990546	Included	96000004	98000100	M2	12)
		111C	CE/EXP	360		19990547	Included	96000004	-	M2	
					CTV	19990547	Included	96000004	98000100	M2	12)
111D	CE/EXP	360		19990548	Included	-	-	M2			
					CTV	19990548	Included	-	98000100	M2	12)
TBG 35 P	Natural gas	112A	CE/EXP	360		19990545	Included	96000005	-	BE7	
					CTV	19990545	Included	96000005	98000100	BE7	12)
		112B	CE/EXP	360		19990546	Included	96000004	-	BE7	
					CTV	19990546	Included	96000004	98000100	BE7	12)
		112C	CE/EXP	360		19990547	Included	96000004	-	BE7	
					CTV	19990547	Included	96000004	98000100	BE7	12)
112D	CE/EXP	360		19990548	Included	-	-	BE7			
					CTV	19990548	Included	-	98000100	BE7	12)
TBG 35 MC	Natural gas	177A	CE/EXP	360		19990545	Included	96000005	-	BE7	
					CTV	19990545	Included	96000005	98000101	BE7	12)
		177B	CE/EXP	360		19990546	Included	96000004	-	BE7	
					CTV	19990546	Included	96000004	98000101	BE7	12)
		177C	CE/EXP	360		19990547	Included	96000004	-	BE7	
					CTV	19990547	Included	96000004	98000101	BE7	12)
177D	CE/EXP	360		19990548	Included	-	-	BE7			
					CTV	19990548	Included	-	98000101	BE7	12)
TBG 35 ME	Natural gas	192A	CE/EXP	360	CTV	19990555	Included	96000005	Included	D2	
		192B	CE/EXP	360	CTV	19990556	Included	96000004	Included	D2	
		192C	CE/EXP	360	CTV	19990557	Included	96000004	Included	D2	
		192D	CE/EXP	360	CTV	19990558	Included	-	Included	D2	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 35	LPG	CE/EXP	360	CTV	19990545	Included	96000005	-	-	M2	
					19990545	Included	96000005	98000100	-	M2	12)
TBG 35 P	LPG	CE/EXP	360	CTV	19990545	Included	96000005	-	-	B7	
					19990545	Included	96000005	98000100	-	B7	12)
TBG 35 MC	LPG	CE/EXP	360	CTV	19990545	Included	96000005	-	-	B7	
					19990545	Included	96000005	98000101	-	B7	12)
TBG 35 ME	LPG	CE/EXP	360	CTV	19990545	Included	96000005	-	-	B7	
					19990545	Included	96000005	98000101	-	B7	12)
TBG 35 ME	LPG	CE/EXP	360	CTV	19990545	Included	96000005	-	-	B7	
					19990545	Included	96000005	98000101	-	B7	12)

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.



TBG 45



TBG 45 P

## TBG 45

## TBG 45 P

## Gas burner compliant with European standard EN676. Operation:

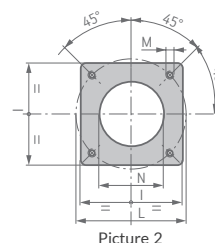
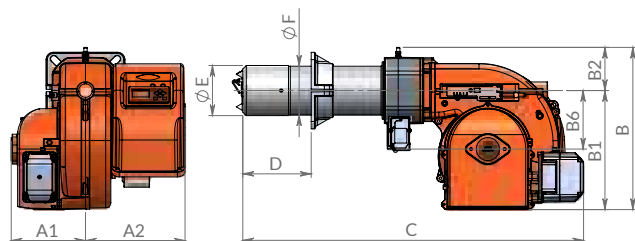
## single-stage

## two-stage

Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney		•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Electric protection rating:	IP40	IP40

## LEGEND:

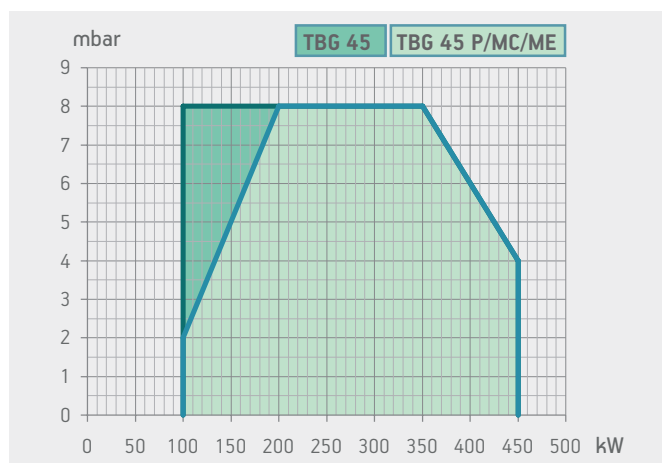
- As standard



Picture 2

 Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 45	480	200	280	433	325	108	160	880	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 45 P	550	270	280	433	325	108	160	920	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 45	1000	600	510	40
TBG 45 P	1000	600	510	37

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 3	100 ÷ 450	<b>TBG 45</b>	<b>17200010</b>	1N AC 50Hz 230V	0,5	
	class 3	100 ÷ 450	<b>TBG 45 P</b>	<b>17210010</b>	1N AC 50Hz 230V	0,5	4)
Frequency 60 Hz							
	class 3	100 ÷ 450	<b>TBG 45</b>	<b>17205410</b>	1N AC 60Hz 220V	0,5	
	class 3	100 ÷ 450	<b>TBG 45 P</b>	<b>17215410</b>	1N AC 60Hz 220V	0,5	4)
	class 3	100 ÷ 450	<b>TBG 45</b>	<b>17205415</b>	1N AC 60Hz 380V	0,5	

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
Soundproof burner cover (see page 337)	97980054
TBG 35-45 long combustion head L500 <b>NEW</b> 1)	98000457

## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 45 MC



TBG 45 ME

## TBG 45 MC

## TBG 45 ME

## TBG 45 ME V

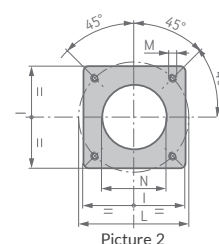
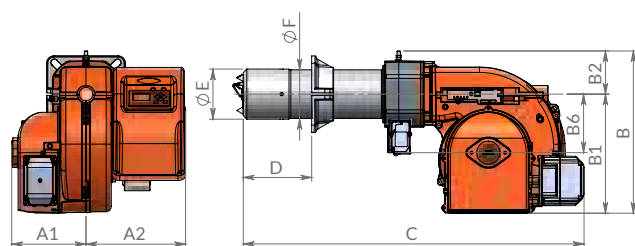
mechanical  
two-stage  
progressiveelectronic  
modulationelectronic  
modulation

## Gas burner compliant with European standard EN676. Operation:

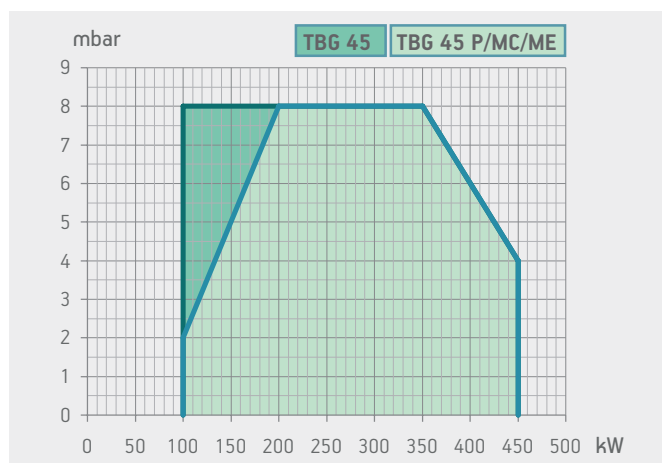
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:4	1:4	1:4
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise	●	●	●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	●		
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter		●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

○ Optional, ● As standard

Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 45 MC	610	330	280	455	325	130	160	880	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 45 ME	480	200	280	433	325	108	160	920	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2
TBG 45 ME V	480	200	280	433	325	108	160	920	140 ÷ 300	137	133	215	200 ÷ 245	M12	145	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 45 MC	1070	800	700	52
TBG 45 ME	1000	600	510	40
TBG 45 ME V	1050	750	480	43

	O <sub>2</sub> Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	100 ÷ 450	<b>TBG 45 MC</b>	<b>17240010</b>	1N AC 50Hz 230V	0,5	4)
			class 3	100 ÷ 450	<b>TBG 45 ME</b>	<b>17230020</b>	1N AC 50Hz 230V	0,5	4)
•	○	○	class 3	100 ÷ 450	<b>TBG 45 ME V</b>	<b>17230025</b>	1N AC 50Hz 230V	0,5	4)
Frequency 60 Hz									
			class 3	100 ÷ 450	<b>TBG 45 MC</b>	<b>17245410</b>	1N AC 60Hz 220V	0,5	4)
			class 3	100 ÷ 450	<b>TBG 45 ME</b>	<b>17235420</b>	1N AC 60Hz 220V	0,5	4)
•	○	○	class 3	100 ÷ 450	<b>TBG 45 ME V</b>	<b>on request</b>	1N AC 60Hz 220V	0,5	4)

○ Optional, • As standard

### MODULATING MODE

DESCRIPTION	PART NO.
TBG 45 MC: modulation kit	98000058
TBG 45 ME: modulation kit (Included in the ME V version)	98000059
TBG 45 MC/45 ME: modulating probe (see page 332)	
TBG 45 MC: converter kit 0÷10V / 4÷20 mA	98000063

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O <sub>2</sub> control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 35-45 long combustion head L500 <b>NEW</b> 1)	98000457
Soundproof burner cover (see page 337)	97980054

### BURNER ACCESSORIES

TBG 45 MC: boiler coupling kit, plug for wiring

TBG 45 ME/45 ME V: boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.

For supply of the product in long head version, please contact the sales department.

### NOTE

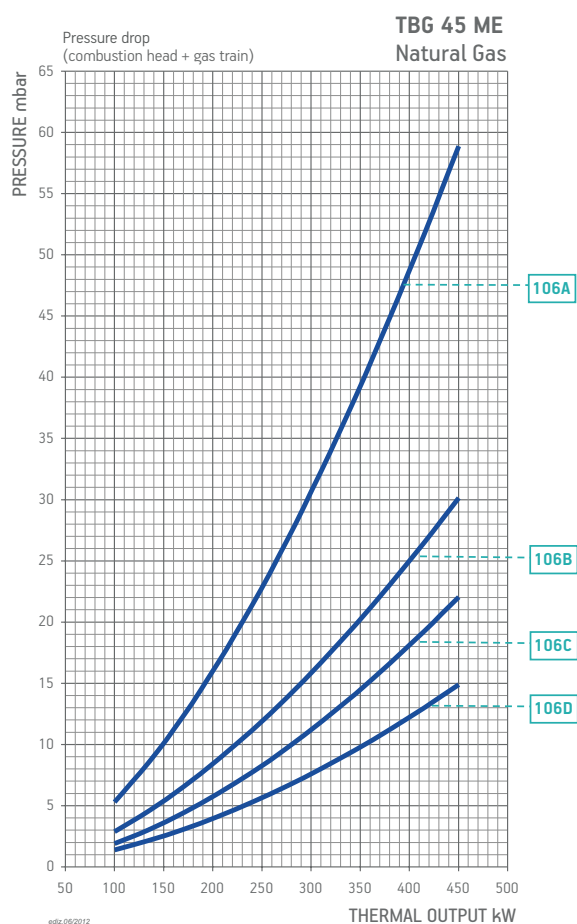
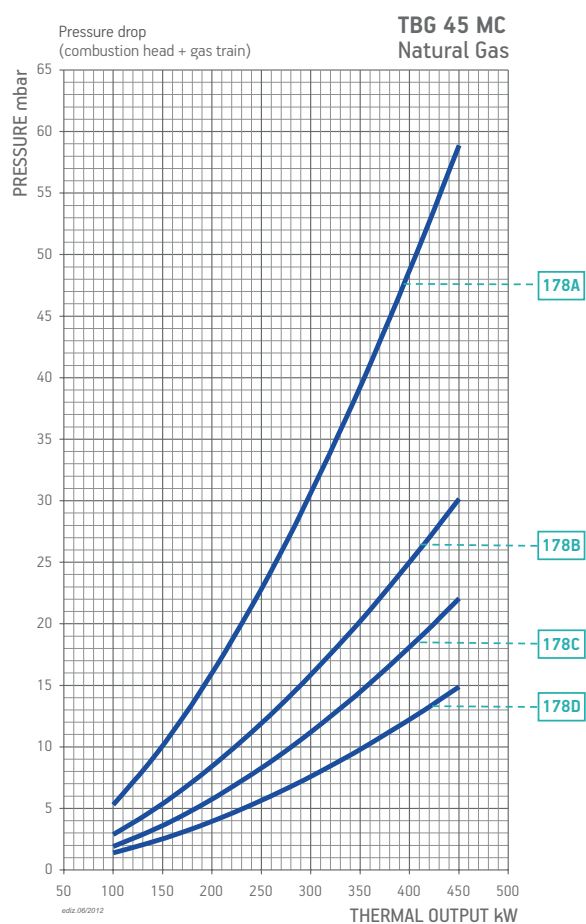
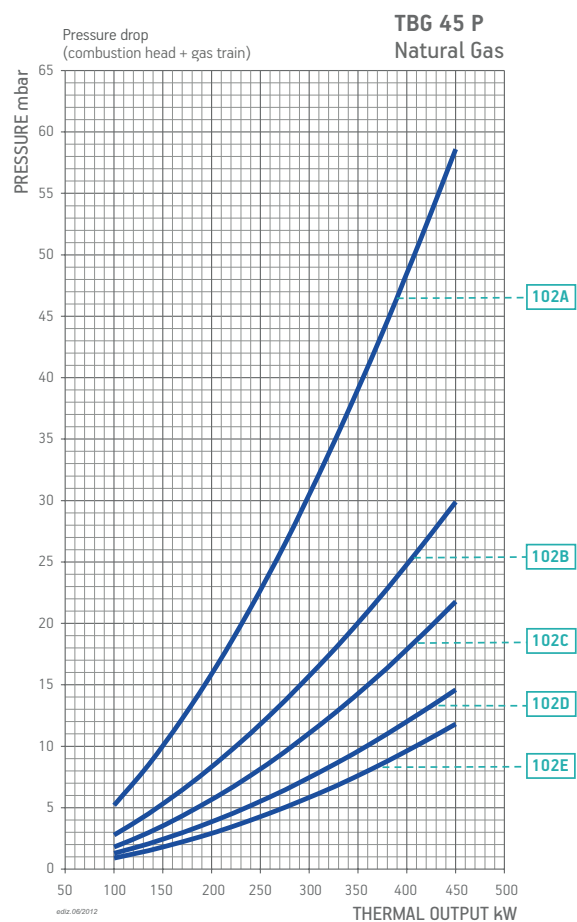
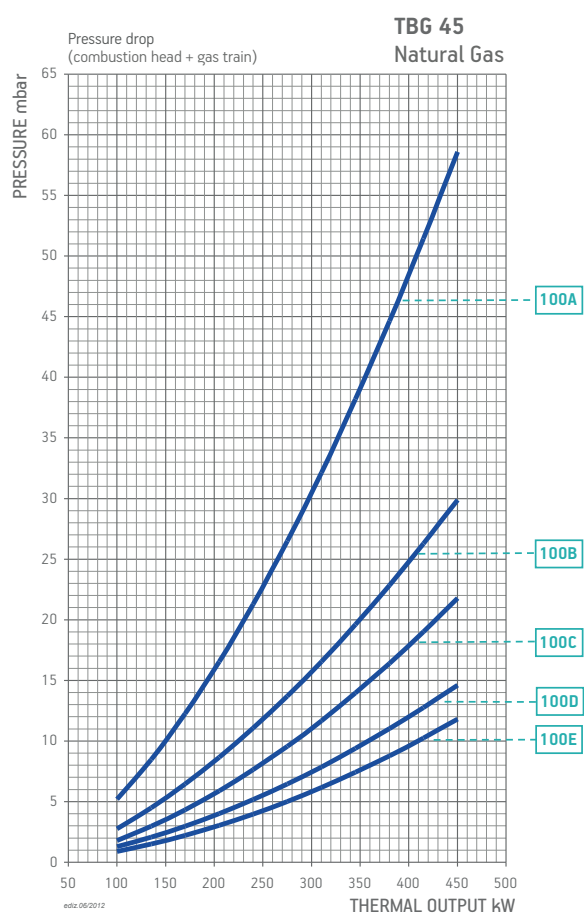
4 Equipped with automatic air closure device.

Net calorific value at reference conditions of 0°C, 1013mbar:

Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,

LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.

For different type of gas and pressure values, please get in contact with our commercial department.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 45	Natural gas	100A	CE/EXP	360		19990510	Included	96000005	-	B2	
					CTV	19990510	Included	96000005	98000101	B2	12)
			EXP	360		19990545	Included	96000005	-	M2	
					CTV	19990545	Included	96000005	98000101	M2	
		100B	CE/EXP	360		19990511	Included	96000004	-	B2	
					CTV	19990511	Included	96000004	98000101	B2	12)
			EXP	360		19990546	Included	96000004	-	M2	
					CTV	19990546	Included	96000004	98000101	M2	
		100C	CE/EXP	360		19990512	Included	96000004	-	B2	
					CTV	19990512	Included	96000004	98000101	B2	12)
			EXP	360		19990547	Included	96000004	-	M2	
					CTV	19990547	Included	96000004	98000101	M2	
		100D	CE/EXP	360		19990513	Included	-	-	B2	
					CTV	19990513	Included	-	98000101	B2	12)
			EXP	360		19990548	Included	-	-	M2	
					CTV	19990548	Included	-	98000101	M2	
		100E	CE/EXP	360		19990514	Included	96000013	-	B2	
					CTV	19990514	Included	96000013	98000101	B2	12)
			EXP	360		19990549	Included	96000013	-	M2	
					CTV	19990549	Included	96000013	98000101	M2	
TBG 45 P	Natural gas	102A	CE/EXP	360		19990510	Included	96000005	-	B2	
					CTV	19990510	Included	96000005	98000101	B2	12)
		102B	CE/EXP	360		19990511	Included	96000004	-	B2	
					CTV	19990511	Included	96000004	98000101	B2	12)
		102C	CE/EXP	360		19990512	Included	96000004	-	B2	
					CTV	19990512	Included	96000004	98000101	B2	12)
TBG 45 MC	Natural gas	102D	CE/EXP	360		19990513	Included	-	-	B2	
					CTV	19990513	Included	-	98000101	B2	12)
		102E	CE/EXP	360		19990514	Included	96000013	-	B2	
					CTV	19990514	Included	96000013	98000101	B2	12)
		178A	CE/EXP	360		19990545	Included	96000005	-	BE7	
					CTV	19990545	Included	96000005	98000101	BE7	12)
TBG 45 ME TBG 45 ME V	Natural gas	178B	CE/EXP	360		19990546	Included	96000004	-	BE7	
					CTV	19990546	Included	96000004	98000101	BE7	12)
		178C	CE/EXP	360		19990547	Included	96000004	-	BE7	
					CTV	19990547	Included	96000004	98000101	BE7	12)
		178D	CE/EXP	360		19990548	Included	-	-	BE7	
					CTV	19990548	Included	-	98000101	BE7	12)
TBG 45 ME TBG 45 ME V	Natural gas	106A	CE/EXP	360	CTV	19990555	Included	96000005	Included	D2	
		106B	CE/EXP	360	CTV	19990556	Included	96000004	Included	D2	
		106C	CE/EXP	360	CTV	19990557	Included	96000004	Included	D2	
		106D	CE/EXP	360	CTV	19990558	Included	-	Included	D2	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 45	LPG	CE/EXP	360		19990510	Included	96000005	-	-	B2	
				CTV	19990510	Included	96000005	98000101	-	B2	12)
		EXP	360		19990545	Included	96000005	-	-	M2	
				CTV	19990545	Included	96000005	98000101	-	M2	
TBG 45 P	LPG	CE/EXP	360		19990510	Included	96000005	-	-	B2	
				CTV	19990510	Included	96000005	98000101	-	B2	12)
TBG 45 MC	LPG	CE/EXP	360		19990545	Included	96000005	-	-	B7	
				CTV	19990545	Included	96000005	98000101	-	B7	12)
TBG 45 ME/ME V	LPG	CE/EXP	360	CTV	19990555	Included	96000005	Included	-	D2	

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



TBG 60



TBG 60 P

## TBG 60

## TBG 60 P

## Gas burner compliant with European standard EN676. Operation:

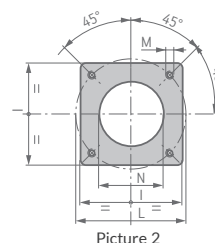
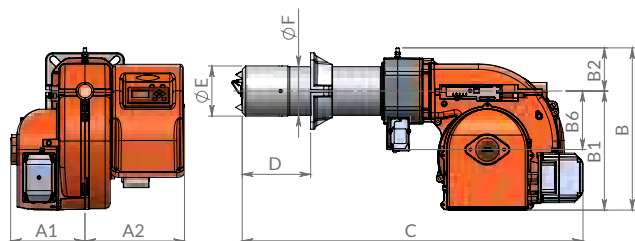
## single-stage

## two-stage

Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	manual	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney		•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Electric protection rating:	IP40	IP40

## LEGEND:

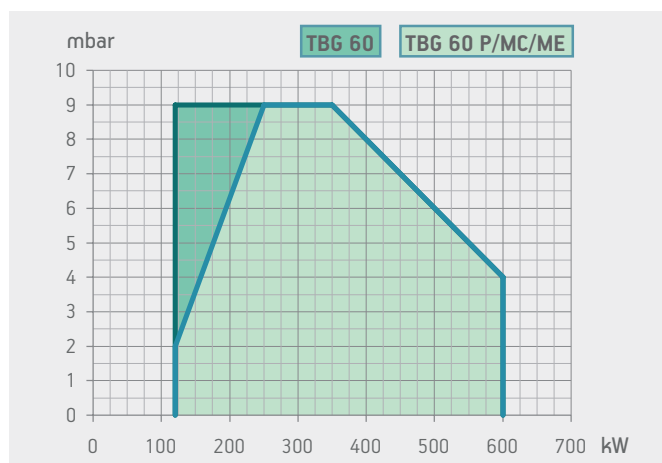
- As standard



Picture 2

Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 60	480	200	280	455	325	130	160	880	140 ÷ 300	156	152	260	225 ÷ 300	M12	160	2
TBG 60 P	550	270	280	455	325	130	160	920	140 ÷ 300	156	152	260	225 ÷ 300	M12	160	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 60	1000	600	510	42
TBG 60 P	1000	600	510	42

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 3	120 ÷ 600	<b>TBG 60</b>	<b>17270010</b>	3N AC 50Hz 400V	0,74	
	class 3	120 ÷ 600	<b>TBG 60 P</b>	<b>17280010</b>	3N AC 50Hz 400V	0,74	4)
Frequency 60 Hz							
	class 3	120 ÷ 600	<b>TBG 60</b>	<b>17275410</b>	3N AC 60Hz 380V	0,65	
	class 3	120 ÷ 600	<b>TBG 60 P</b>	<b>17285410</b>	3N AC 60Hz 380V	0,65	4)

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
Soundproof burner cover (see page 337)	97980054
TBG 60 long combustion head L500 <b>NEW</b> 1)	98000458

## BURNER ACCESSORIES

Boiler coupling kit, plug for wiring

## NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 60 MC



TBG 60 ME

## TBG 60 MC

mechanical  
two-stage  
progressive

## TBG 60 ME

electronic  
modulation

## TBG 60 ME V

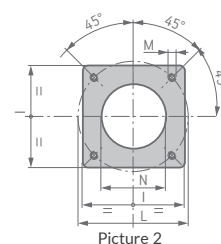
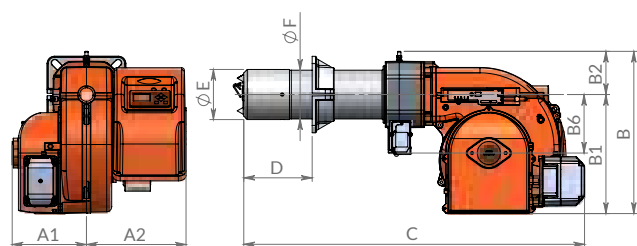
electronic  
modulation

## Gas burner compliant with European standard EN676. Operation:

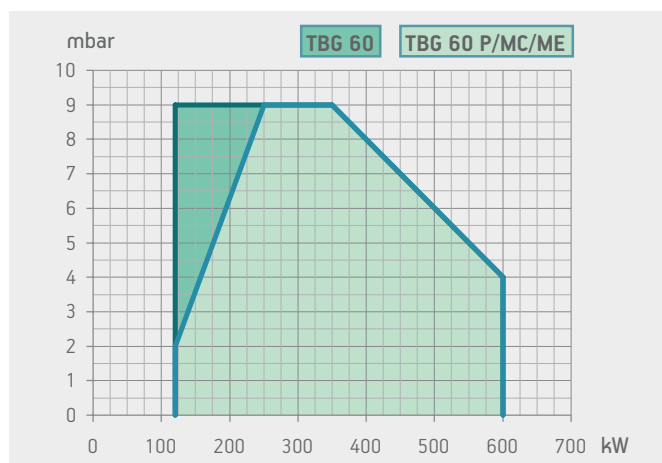
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:5	1:5	1:5
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise	●	●	●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
Rampa gas in Version CE composta da valvola di funzionamento e di sicurezza ad azionamento elettromagnetico, pressostato di minima, regolatore di pressione e filtro gas	●		
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter		●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

○ Optional, ● As standard

Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 60 MC	610	330	280	455	325	130	160	880	140 ÷ 300	156	152	260	225 ÷ 300	M12	160	2
TBG 60 ME	480	200	280	455	325	130	160	920	140 ÷ 300	156	152	260	225 ÷ 300	M12	160	2
TBG 60 ME V	480	200	280	455	325	130	160	920	140 ÷ 300	156	152	260	225 ÷ 300	M12	160	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 60 MC	1070	800	700	55
TBG 60 ME	1000	600	510	42
TBG 60 ME V	1050	750	480	44

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	120 ÷ 600	<b>TBG 60 MC</b>	<b>17310010</b>	3N AC 50Hz 400V	0,74	4)
			class 3	120 ÷ 600	<b>TBG 60 ME</b>	<b>17300020</b>	3N AC 50Hz 400V	0,74	4)
•	○	○	class 3	120 ÷ 600	<b>TBG 60 ME V</b>	<b>17300025</b>	1N AC 50Hz 230V	0,74	4)
Frequency 60 Hz									
			class 3	120 ÷ 600	<b>TBG 60 MC</b>	<b>17315410</b>	3N AC 60Hz 380V	0,65	4)
			class 3	120 ÷ 600	<b>TBG 60 ME</b>	<b>17305420</b>	3N AC 60Hz 380V	0,65	4)
•	○	○	class 3	120 ÷ 600	<b>TBG 60 ME V</b>	<b>17305425</b>	1N AC 60Hz 220V	0,65	4)

○ Optional, • As standard

### MODULATING MODE

DESCRIPTION	PART NO.
TBG 60 MC: modulation kit	98000058
TBG 60 ME: modulation kit (Included in the ME V version)	98000059
TBG 60 MC/ME/ME V: modulating probe (see page 332)	
TBG 60 MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 60 long combustion head L500 <b>NEW</b> 1)	98000458
Soundproof burner cover (see page 337)	97980054

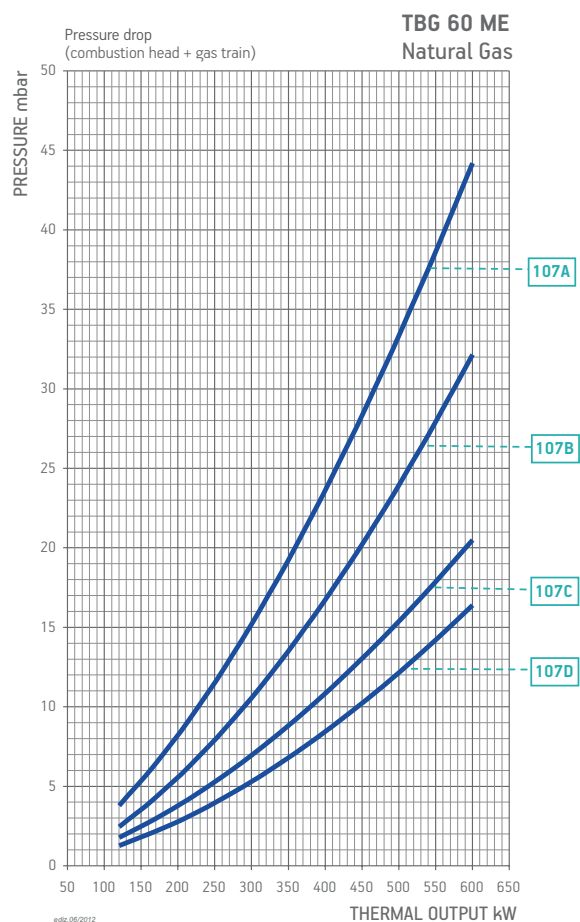
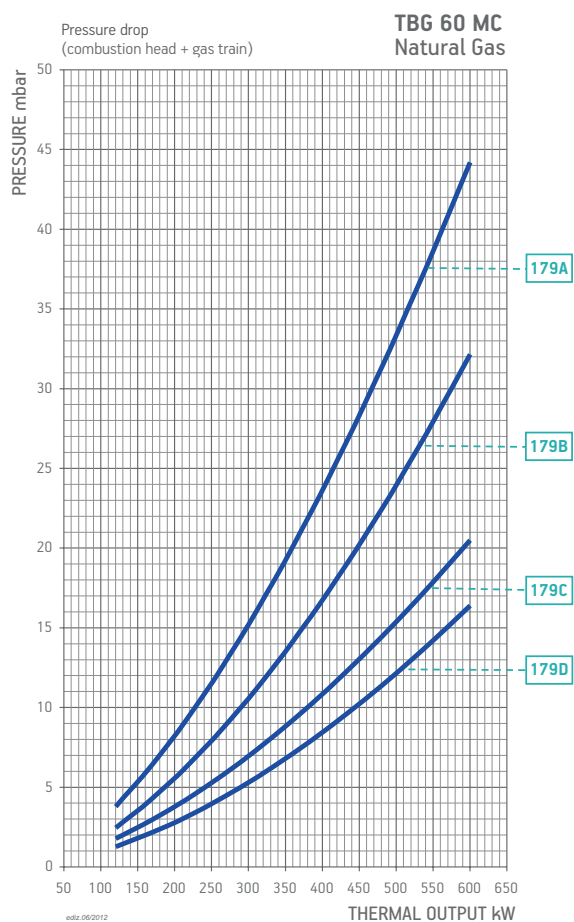
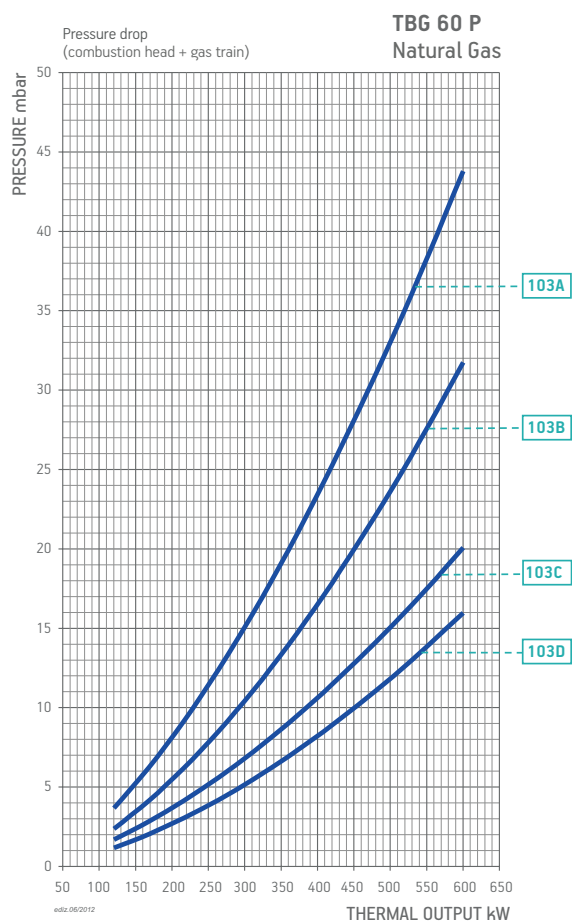
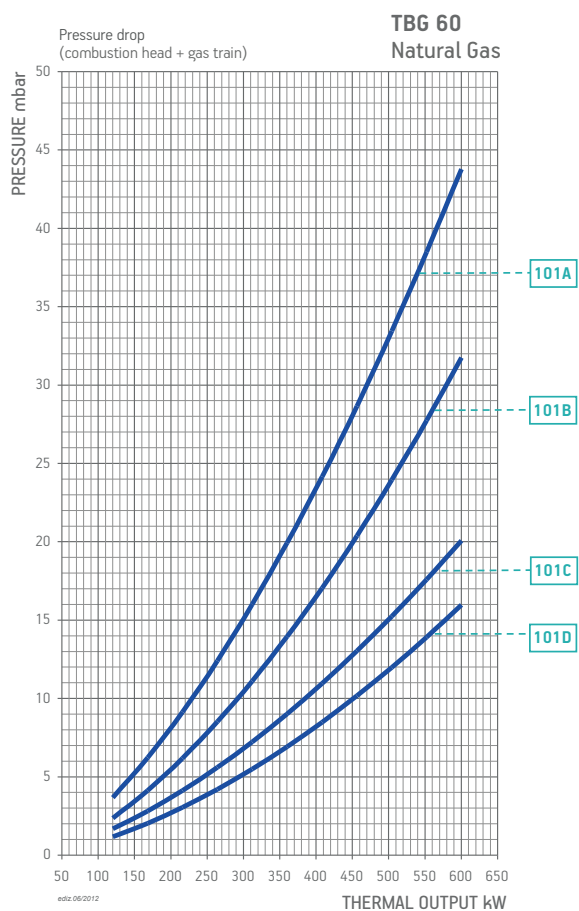
### BURNER ACCESSORIES

TBG 60 MC: boiler coupling kit, plug for wiring

TBG 60 ME/60 ME V: boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 60	Natural gas	101A	CE/EXP	360		19990511	Included	96000004	-	B2	
					CTV	19990511	Included	96000004	98000101	B2	12)
			EXP	360		19990546	Included	96000004	-	M2	
					CTV	19990546	Included	96000004	98000101	M2	
		101B	CE/EXP	360		19990512	Included	96000004	-	B2	
					CTV	19990512	Included	96000004	98000101	B2	12)
			EXP	360		19990547	Included	96000004	-	M2	
					CTV	19990547	Included	96000004	98000101	M2	
		101C	CE/EXP	360		19990513	Included	-	-	B2	
					CTV	19990513	Included	-	98000101	B2	12)
			EXP	360		19990548	Included	-	-	M2	
					CTV	19990548	Included	-	98000101	M2	
TBG 60 P	Natural gas	103A	CE/EXP	360		19990511	Included	96000004	-	B2	
					CTV	19990511	Included	96000004	98000101	B2	12)
			EXP	360		19990512	Included	96000004	-	B2	
					CTV	19990512	Included	96000004	98000101	B2	12)
		103B	CE/EXP	360		19990513	Included	-	-	B2	
					CTV	19990513	Included	-	98000101	B2	12)
			EXP	360		19990514	Included	96000013	-	B2	
					CTV	19990514	Included	96000013	98000101	B2	12)
TBG 60 MC	Natural gas	179A	CE/EXP	360		19990546	Included	96000004	-	BE7	
					CTV	19990546	Included	96000004	98000101	BE7	12)
			EXP	360		19990547	Included	96000004	-	BE7	
					CTV	19990547	Included	96000004	98000101	BE7	12)
		179B	CE/EXP	360		19990548	Included	-	-	BE7	
					CTV	19990548	Included	-	98000101	BE7	12)
			EXP	360		19990549	Included	96000013	-	BE7	
					CTV	19990549	Included	96000013	98000101	BE7	12)
TBG 60 ME TBG 60 ME V	Natural gas		CE/EXP	360		19990556	Included	96000004	Included	D2	
					CTV	19990557	Included	96000004	Included	D2	
					CTV	19990558	Included	-	Included	D2	
					CTV	19990559	Included	96000013	Included	D2	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 60	LPG	CE/EXP	360		19990511	Included	96000004	-	-	B2	
				CTV	19990511	Included	96000004	98000101	-	B2	12)
		EXP	360		19990546	Included	96000004	-	-	M2	
				CTV	19990546	Included	96000004	98000101	-	M2	
TBG 60 P	LPG	CE/EXP	360		19990511	Included	96000004	-	-	B2	
				CTV	19990511	Included	96000004	98000101	-	B2	12)
TBG 60 MC	LPG	CE/EXP	360		19990546	Included	96000004	-	-	M2	
				CTV	19990546	Included	96000004	98000101	-	M2	
TBG 60 ME/ME V	LPG	CE/EXP	360	CTV	19990556	Included	96000004	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



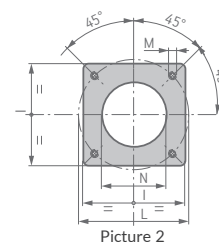
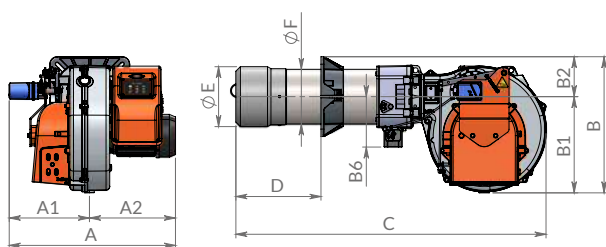


TBG 85 P - 80 LX P

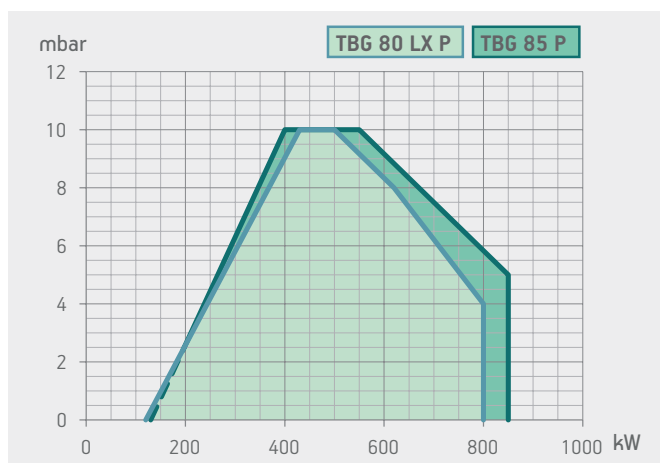
	TBG 80 LX P	TBG 85 P
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>two-stage</b>	<b>two-stage</b>
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	mechanical cam
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Combustion air intake designed to achieve optimum linearity of the air gate opening	•	•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	down	down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel with display diagram for working mode with indication lights	•	•
Electric protection rating:	IP40	IP40

**LEGEND:**

- As standard

Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 80 LX P	628	323	305	526	386	140	202	1200	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2
TBG 85 P	628	323	306	526	386	140	202	1194	200 ÷ 400	180	178	280	250 ÷ 325	M12	190	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 80 LX P	1070	800	700	75
TBG 85 P	1070	800	700	77

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 3	120 ÷ 800	<b>TBG 80 LX P</b>	<b>18490010</b>	3N AC 50Hz 400V	1,1	3) 4)
	class 2	130 ÷ 850	<b>TBG 85 P</b>	<b>18480010</b>	3N AC 50Hz 400V	1,1	3) 4)
Frequency 60 Hz							
	class 3	120 ÷ 800	<b>TBG 80 LX P</b>	<b>18495410</b>	3N AC 60Hz 380V	1,1	3) 4)
	class 2	130 ÷ 850	<b>TBG 85 P</b>	<b>18485410</b>	3N AC 60Hz 380V	1,1	3) 4)

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
Soundproof burner cover (see page 337)	97980053
TBG 80-85 long combustion head L600 <b>NEW</b> 1)	98000455

## BURNER ACCESSORIES

Boiler coupling kit.

## NOTE

- 3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

## N.B.

- 1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 80 LX MC

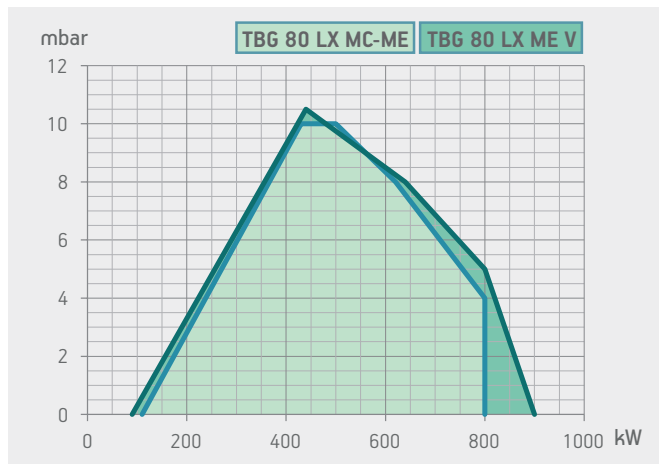


TBG 80 LX ME

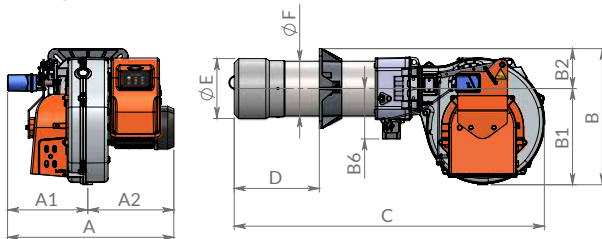
	TBG 80 LX MC	TBG 80 LX ME	TBG 80 LX ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:7	1:6	1:8
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

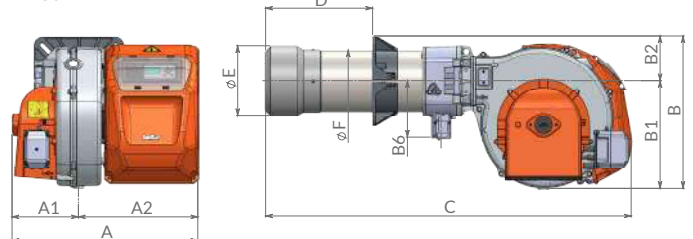
○ Optional, ● As standard



TBG 80 - 200 LX MC



TBG 80 - 200 LX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 80 LX MC	628	323	305	546	386	161	202	1200	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2
TBG 80 LX ME	665	238	427	526	386	140	202	1266	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2
TBG 80 LX ME V	665	238	427	526	386	140	202	1266	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	110 ÷ 800	TBG 80 LX MC	18510010	3N AC 50Hz 400V	1,1	3) 4)
			class 3	110 ÷ 800	TBG 80 LX ME	18530010	3N AC 50Hz 400V	1,1	3) 4)
•	○	○	class 3	90 ÷ 900	TBG 80 LX ME V	18530015	3N AC 50Hz 400V	1,5	3) 4)
Frequency 60 Hz									
			class 3	110 ÷ 800	TBG 80 LX MC	18515410	3N AC 60Hz 380V	1,1	3) 4)
			class 3	110 ÷ 800	TBG 80 LX ME	18535410	3N AC 60Hz 380V	1,1	3) 4)
•	○	○	class 3	90 ÷ 900	TBG 80 LX ME V	18530015	3N AC 60Hz 380V	1,5	3) 4)

○ Optional, • As standard

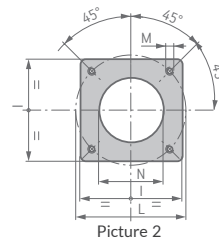
## MODULATING MODE

DESCRIPTION	PART NO.
TBG 80 LX MC: modulation kit (see page 332)	
TBG 80 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 80 LX MC/80 LX ME: modulating probe (see page 332)	
TBG 80 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

- 3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 80 LX MC	1070	800	700	78
TBG 80 LX ME	1070	800	700	83
TBG 80 LX ME V	1070	800	700	88



Flange dimensions and boiler drilling template.

Picture 2

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 80-85 long combustion head L600 <b>NEW</b> 1)	98000455
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

- 1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 85 MC



TBG 85 ME

## TBG 85 MC

## TBG 85 ME

## TBG 85 ME V

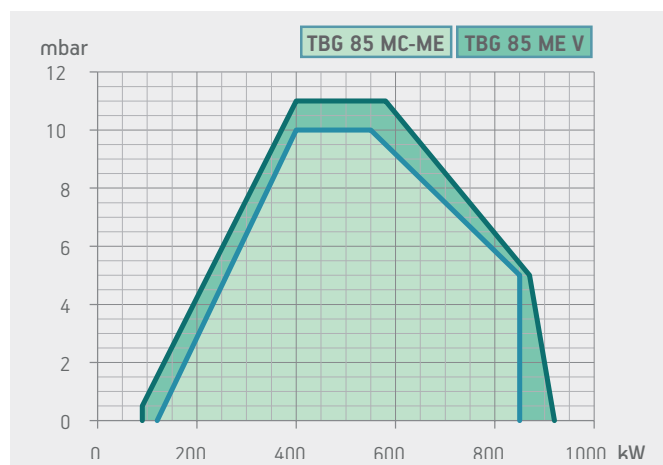
mechanical  
two-stage  
progressiveelectronic  
modulationelectronic  
modulation

## Gas burner compliant with European standard EN676. Operation:

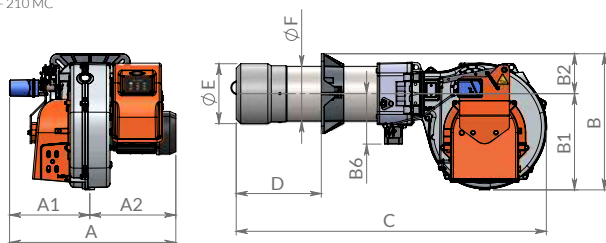
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:7	1:7	1:6
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

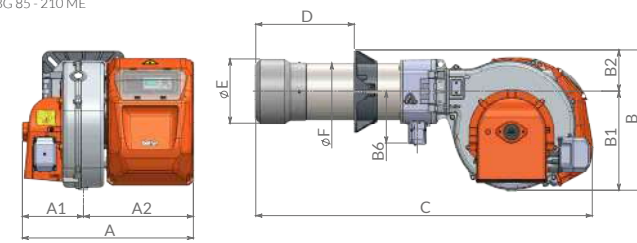
○ Optional, ● As standard



TBG 85 - 210 MC



TBG 85 - 210 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 85 MC	628	323	306	546	386	161	202	1194	200 ÷ 400	180	178	280	250 ÷ 325	M12	190	2
TBG 85 ME	665	238	427	526	386	140	202	1260	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2
TBG 85 ME V	665	238	427	526	386	140	202	1260	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	120 ÷ 850	TBG 85 MC	18500010	3N AC 50Hz 400V	1,1	3) 4)
			class 2	120 ÷ 850	TBG 85 ME	18520010	3N AC 50Hz 400V	1,1	3) 4)
•	○	○	class 2	90 ÷ 920	TBG 85 ME V	18520015	3N AC 50Hz 400V	1,5	3) 4)
Frequency 60 Hz									
			class 2	120 ÷ 850	TBG 85 MC	18505410	3N AC 60Hz 380V	1,1	3) 4)
			class 2	120 ÷ 850	TBG 85 ME	18525410	3N AC 60Hz 380V	1,1	3) 4)
•	○	○	class 2	90 ÷ 920	TBG 85 ME V	18520015	3N AC 60Hz 380V	1,5	3) 4)

○ Optional, • As standard

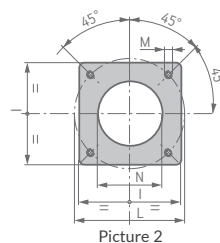
### MODULATING MODE

DESCRIPTION	PART NO.
TBG 85 MC: modulation kit (see page 332)	
TBG 85 ME: modulation kit (Included in the ME V version)	98000059
TBG 85 MC/85 ME: modulating probe (see page 332)	
TBG 85 MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 LPG:  $H_i = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 85 MC	1070	800	700	76
TBG 85 ME	1070	800	700	82
TBG 85 ME V	1070	800	700	88



Flange dimensions and boiler drilling template.

Picture 2

### ACCESSORIES AVAILABLE ON REQUEST

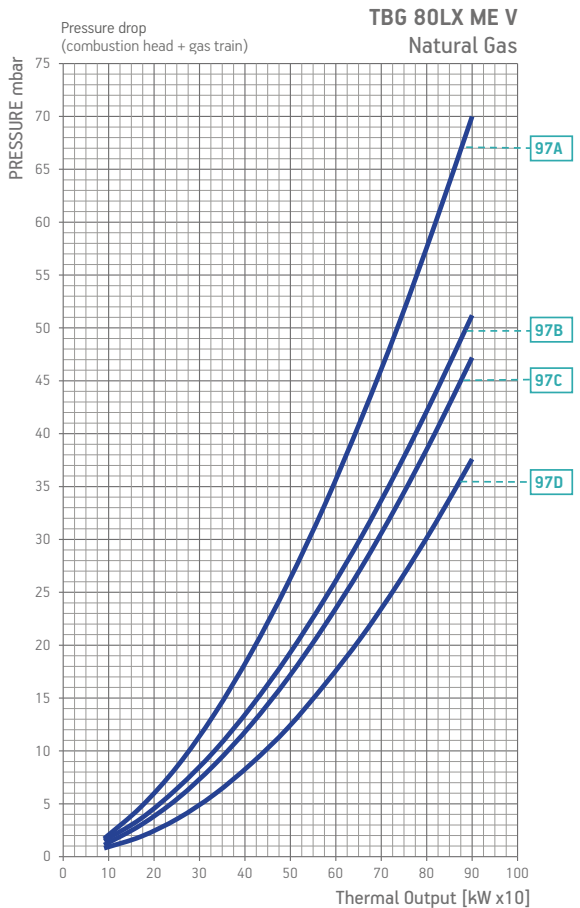
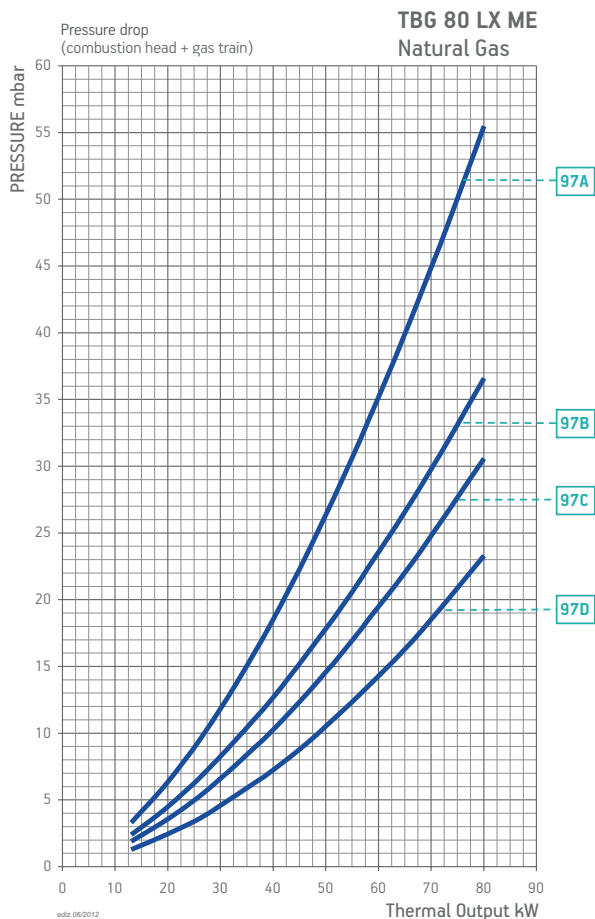
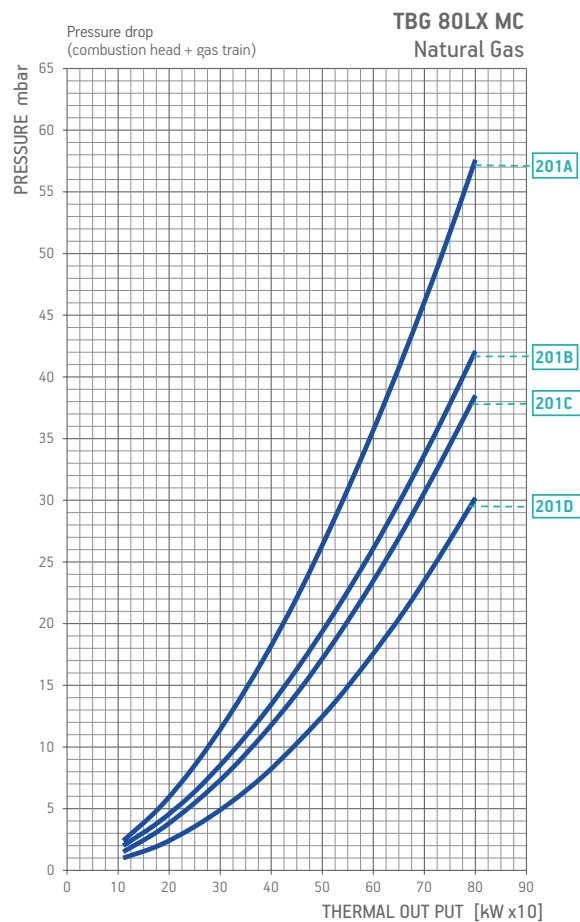
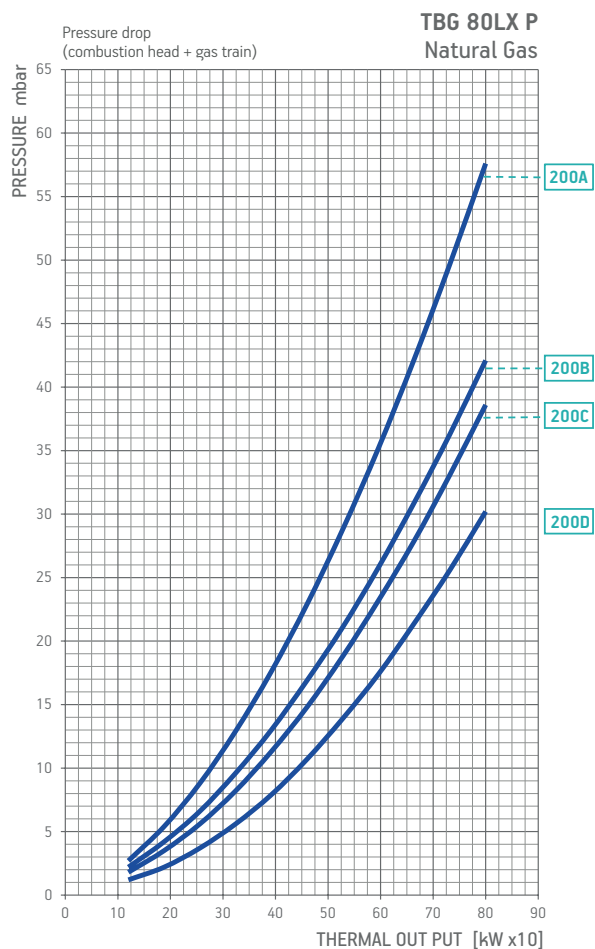
DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 80-85 long combustion head L600 <b>NEW</b> 1)	98000455
Soundproof burner cover (see page 337)	97980053

### BURNER ACCESSORIES

Boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 80 LX P	Natural gas	200A	CE/EXP	360		19990712	Included	96000032	-	B7	
					CTV	19990712	Included	96000032	98000101	B7	12)
		200B	CE/EXP	360		19990713	Included	96000007	-	B7	
					CTV	19990713	Included	96000007	98000101	B7	12)
		200C	CE/EXP	360		19990715	Included	-	-	B7	
					CTV	19990715	Included	-	98000101	B7	12)
		200D	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
			CE/EXP	500		19990720	Included	-	-	D5	
					CTV	19990720	Included	-	98000101	D5	12)
TBG 80 LX MC	Natural gas	201A	CE/EXP	360		19990712	Included	96000032	-	B7	
					CTV	19990712	Included	96000032	98000101	B7	12)
		201B	CE/EXP	360		19990713	Included	96000007	-	B7	
					CTV	19990713	Included	96000007	98000101	B7	12)
		201C	CE/EXP	360		19990715	Included	-	-	B7	
					CTV	19990715	Included	-	98000101	B7	12)
		201D	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
			CE/EXP	500		19990720	Included	-	-	D5	
					CTV	19990720	Included	-	98000101	D5	12)
TBG 80 LX ME TBG 80 LX ME V	Natural gas	97A	CE/EXP	360	CTV	19990748	Included	96000032	Included	D2	
		97B	CE/EXP	360	CTV	19990749	Included	96000007	Included	D2	
		97C	CE/EXP	360	CTV	19990750	Included	-	Included	D2	
		97D	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 80 LX P	LPG	CE/EXP	360		19990713	Included	96000007	-	98000462	B7	
			360	CTV	19990713	Included	96000007	98000101	98000462	B7	12)
TBG 80 LX MC	LPG	CE/EXP	360		19990713	Included	96000007	-	98000462	B7	
			360	CTV	19990713	Included	96000007	98000101	98000462	B7	12)
TBG 80 LX ME	LPG	CE/EXP	360	CTV	19990749	Included	96000007	Included	98000462	D2	

To choose the correct gas train please refer to the information on page 17.

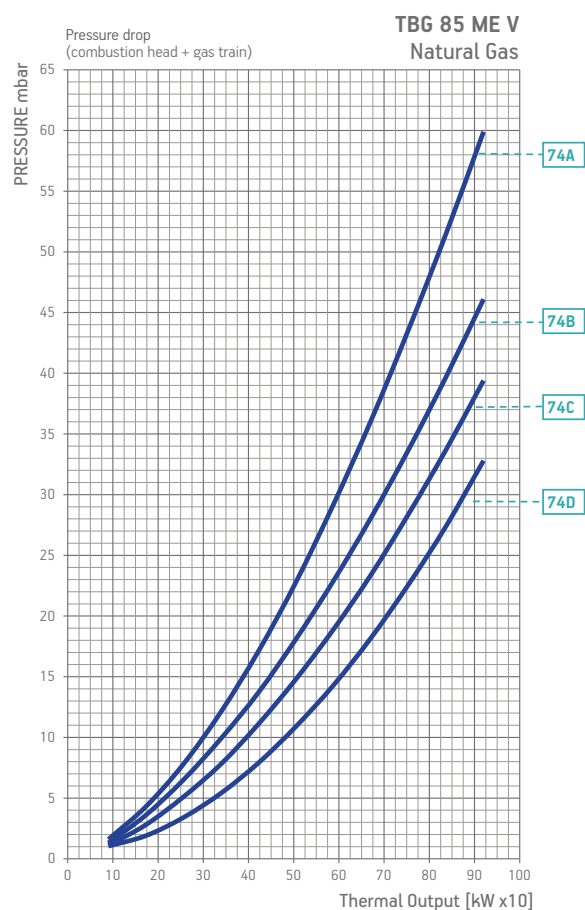
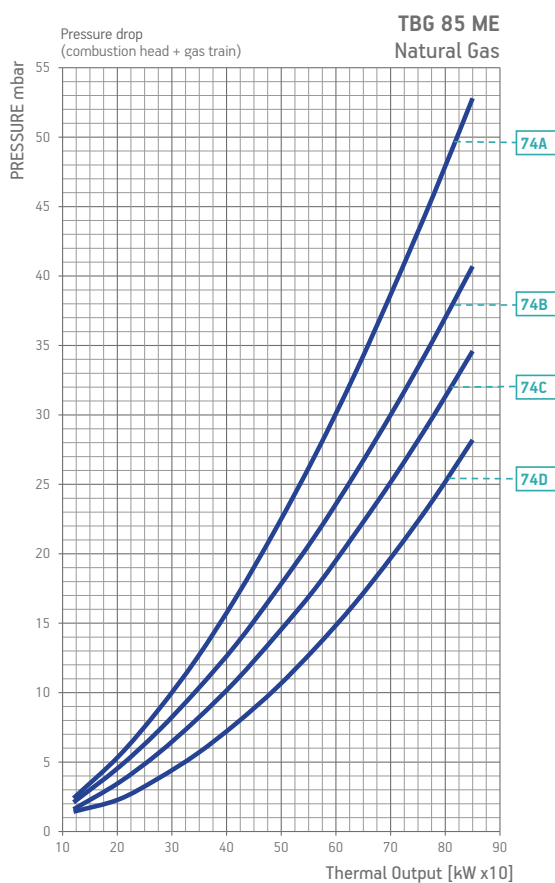
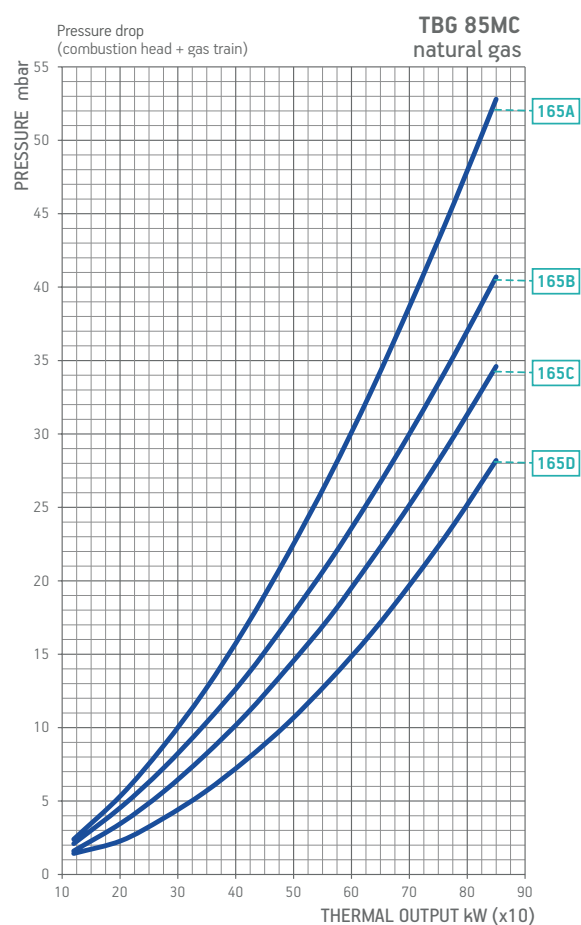
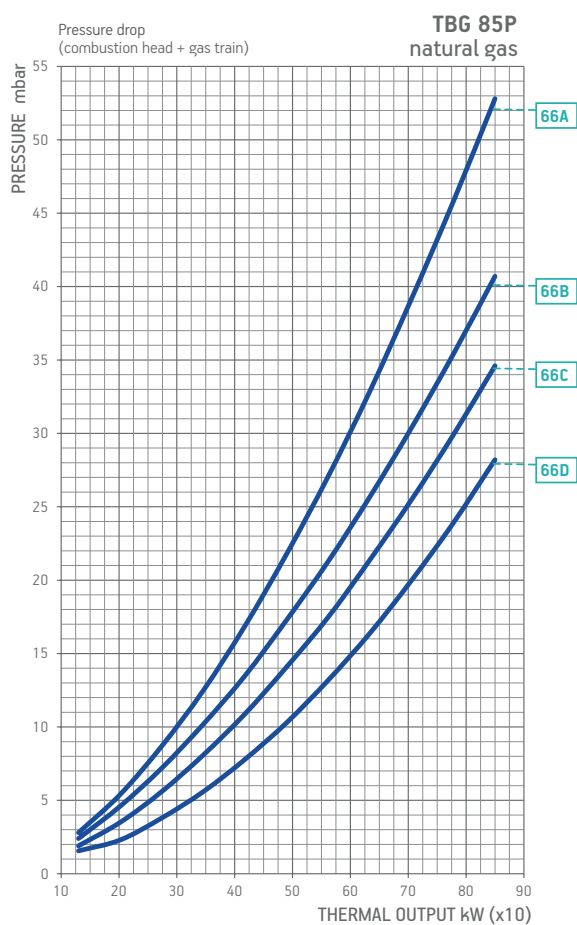
For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 85 P	Natural gas	66A	CE/EXP	360		19990712	Included	96000032	-	B7	
					CTV	19990712	Included	96000032	98000101	B7	12)
		66B	CE/EXP	360		19990713	Included	96000007	-	B7	
					CTV	19990713	Included	96000007	98000101	B7	12)
		66C	CE/EXP	360		19990715	Included	-	-	B7	
					CTV	19990715	Included	-	98000101	B7	12)
		66D	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
CE/EXP	500			19990720	Included	-	-	D5			
			CTV	19990720	Included	-	98000101	D5	12)		
TBG 85 MC	Natural gas	165A	CE/EXP	360		19990712	Included	96000032	-	B7	
					CTV	19990712	Included	96000032	98000101	B7	12)
		165B	CE/EXP	360		19990713	Included	96000007	-	B7	
					CTV	19990713	Included	96000007	98000101	B7	12)
		165C	CE/EXP	360		19990715	Included	-	-	B7	
					CTV	19990715	Included	-	98000101	B7	12)
		165D	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
CE/EXP	500			19990720	Included	-	-	D5			
			CTV	19990720	Included	-	98000101	D5	12)		
TBG 85 ME TBG 85 ME V	Natural gas	74A	CE/EXP	360	CTV	19990748	Included	96000032	Included	D2	
		74B	CE/EXP	360	CTV	19990749	Included	96000007	Included	D2	
		74C	CE/EXP	360	CTV	19990750	Included	-	Included	D2	
		74D	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
					CTV	19990725	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 85 P	LPG	CE/EXP	360		19990713	Included	96000007	-	98000357	B7	
				CTV	19990713	Included	96000007	98000101	98000357	B7	12)
TBG 85 MC	LPG	CE/EXP	360		19990713	Included	96000007	-	98000357	B7	
				CTV	19990713	Included	96000007	98000101	98000357	B7	12)
TBG 85 ME/ME V	LPG	CE/EXP	360	CTV	19990749	Included	96000007	Included	98000357	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.

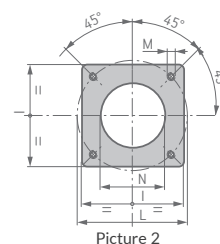
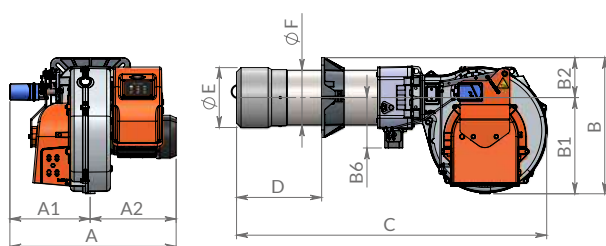


TBG 120 P - TBG 110 LX P

	TBG 120 P	TBG 110 LX P
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>two-stage</b>	<b>two-stage</b>
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 3
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	mechanical cam
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Combustion air intake designed to achieve optimum linearity of the air gate opening	•	•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	•	•
Possibility to add gas train with valve tightness control	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	down	down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel with display diagram for working mode with indication lights	•	•
Electric protection rating:	IP40	IP40

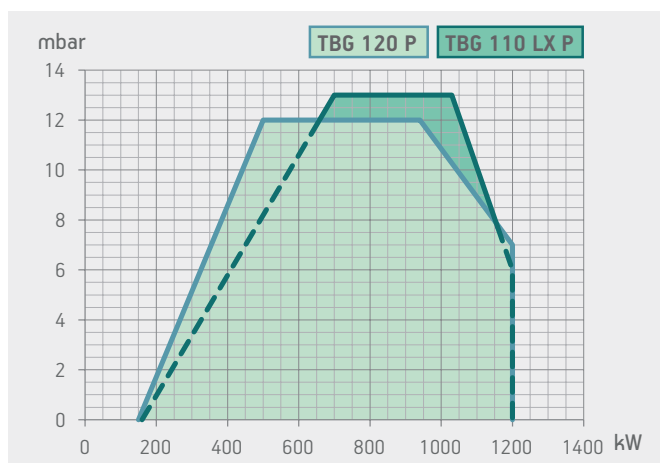
**LEGEND:**

- As standard



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 120 P	641	323	319	545	386	160	202	1244	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2
TBG 110 LX P	641	323	318	546	386	160	202	1245	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 120 P	1070	800	700	84
TBG 110 LX P	1070	800	700	85

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	150 ÷ 1200	<b>TBG 120 P</b>	<b>18570010</b>	3N AC 50Hz 400V	1,5	3) 4)
	class 3	160 ÷ 1200	<b>TBG 110 LX P</b>	<b>18580010</b>	3N AC 50Hz 400V	1,5	3) 4)
Frequency 60 Hz							
	class 2	150 ÷ 1200	<b>TBG 120 P</b>	<b>18575410</b>	3N AC 60Hz 380V	1,5	3) 4)
	class 3	160 ÷ 1200	<b>TBG 110 LX P</b>	<b>18585410</b>	3N AC 60Hz 380V	1,5	3) 4)

**ACCESSORIES AVAILABLE ON REQUEST**

DESCRIPTION	PART NO.
Soundproof burner cover (see page 337)	97980053
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456

**BURNER ACCESSORIES**

Boiler coupling kit.

**NOTE**

- 3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

**N.B.**

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 110 LX MC

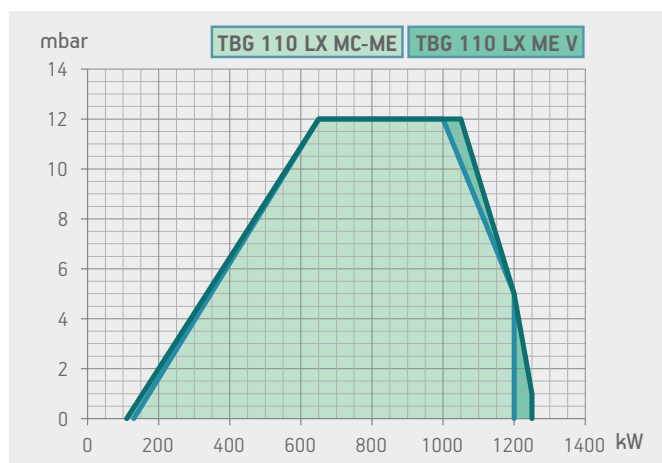


TBG 110 LX ME

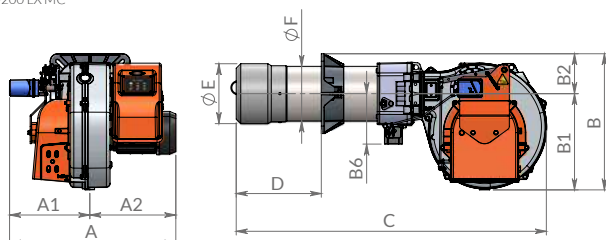
	TBG 110 LX MC	TBG 110 LX ME	TBG 110 LX ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:8	1:8	1:8
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

**LEGEND:**

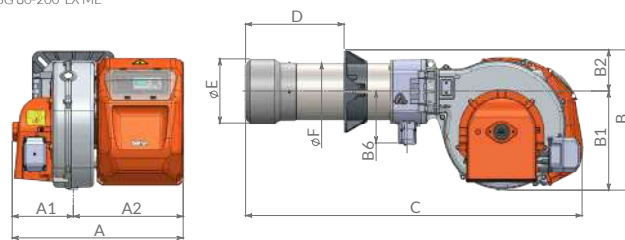
○ Optional, ● As standard



TBG 80-200 LX MC



TBG 80-200 LX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 110 LX MC	641	323	319	546	386	161	202	1244	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2
TBG 110 LX ME	665	238	427	546	386	160	202	1311	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2
TBG 110 LX ME V	665	238	427	546	386	160	202	1311	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	130 ÷ 1200	<b>TBG 110 LX MC</b>	<b>18600010</b>	3N AC 50Hz 400V	1,5	3) 4)
			class 3	130 ÷ 1200	<b>TBG 110 LX ME</b>	<b>18620010</b>	3N AC 50Hz 400V	1,5	3) 4)
•	○	○	class 3	110 ÷ 1250	<b>TBG 110 LX ME V</b>	<b>18620015</b>	3N AC 50Hz 400V	1,5	3) 4)
Frequency 60 Hz									
			class 3	130 ÷ 1200	<b>TBG 110 LX MC</b>	<b>18605410</b>	3N AC 60Hz 380V	1,5	3) 4)
			class 3	130 ÷ 1200	<b>TBG 110 LX ME</b>	<b>18625410</b>	3N AC 60Hz 380V	1,5	3) 4)
•	○	○	class 3	110 ÷ 1250	<b>TBG 110 LX ME V</b>	<b>18620015</b>	3N AC 60Hz 380V	1,5	3) 4)

○ Optional, • Di seri

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 110 LX MC: modulation kit (see page 332)	
TBG 110 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 110 LX MC/110 LX ME: modulating probe (see page 332)	
TBG 110 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$   
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.





TBG 120 MC



TBG 120 ME

TBG 120 MC	TBG 120 ME	TBG 120 ME V
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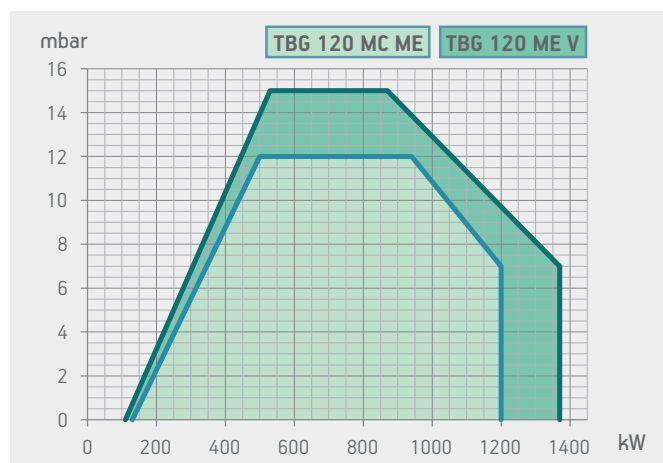
mechanical  
two-stage  
progressiveelectronic  
modulationelectronic  
modulation

## Gas burner compliant with European standard EN676. Operation:

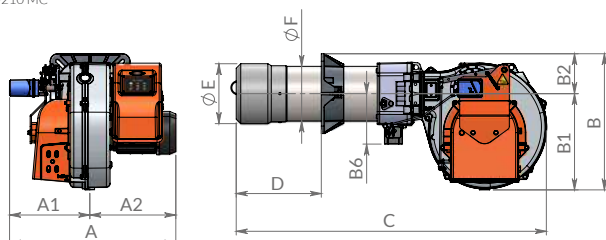
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:9	1:9	1:11
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Possibility to add gas train with valve tightness control	●		
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

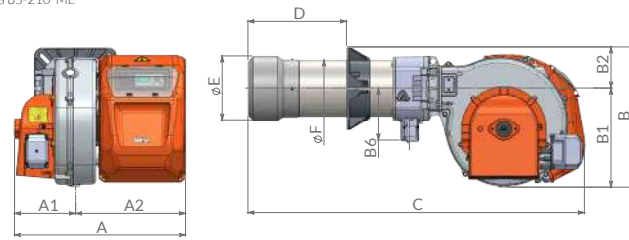
○ Optional, ● As standard



TBG 85-210 MC



TBG 85-210 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 120 MC	641	323	319	545	386	160	202	1244	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2
TBG 120 ME	665	238	427	545	386	160	202	1312	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2
TBG 120 ME V	665	238	427	545	386	160	202	1312	200 ÷ 450	224	219	320	280 ÷ 370	M12	235	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	130 ÷ 1200	TBG 120 MC	18590010	3N AC 50Hz 400V	1,5	3) 4)
			class 2	130 ÷ 1200	TBG 120 ME	18610010	3N AC 50Hz 400V	1,5	3) 4)
•	○	○	class 2	110 ÷ 1370	TBG 120 ME V	18610015	3N AC 50Hz 400V	1,5	3) 4)
Frequency 60 Hz									
			class 2	130 ÷ 1200	TBG 120 MC	18595410	3N AC 60Hz 380V	1,5	3) 4)
			class 2	130 ÷ 1200	TBG 120 ME	18615410	3N AC 60Hz 380V	1,5	3) 4)
•	○	○	class 2	110 ÷ 1370	TBG 120 ME V	18610015	3N AC 60Hz 380V	1,5	3) 4)

○ Optional, • As standard

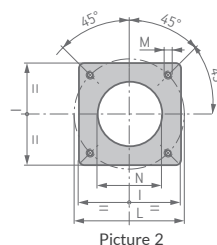
### MODULATING MODE

DESCRIPTION	PART NO.
TBG 120 MC: modulation kit (see page 332)	
TBG 120 ME: modulation kit (Included in the ME V version)	98000059
TBG 120 MC/120 ME: modulating probe (see page 332)	
TBG 120 MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 120 MC	1070	800	700	84
TBG 120 ME	1070	800	700	91.5
TBG 120 ME V	1070	800	700	95



Flange dimensions and boiler drilling template.

Picture 2

### ACCESSORIES AVAILABLE ON REQUEST

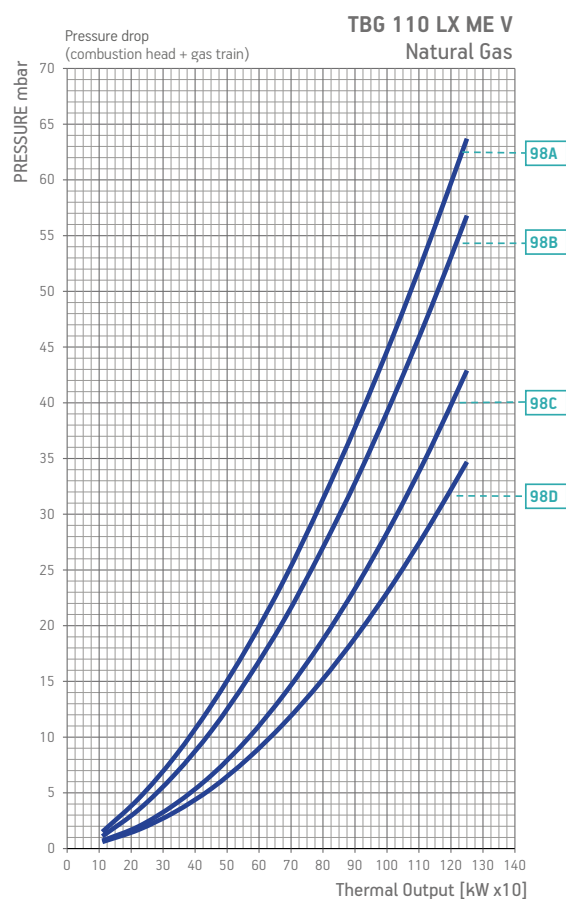
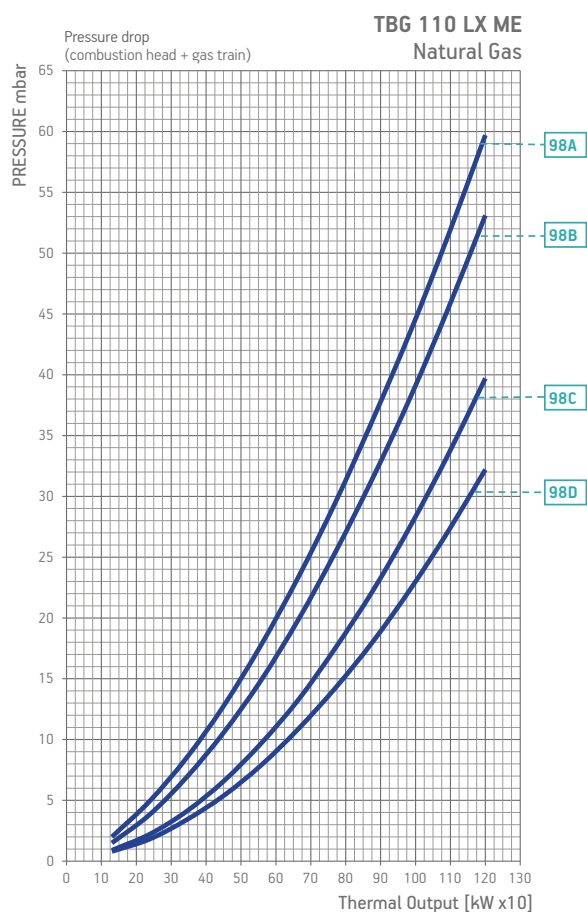
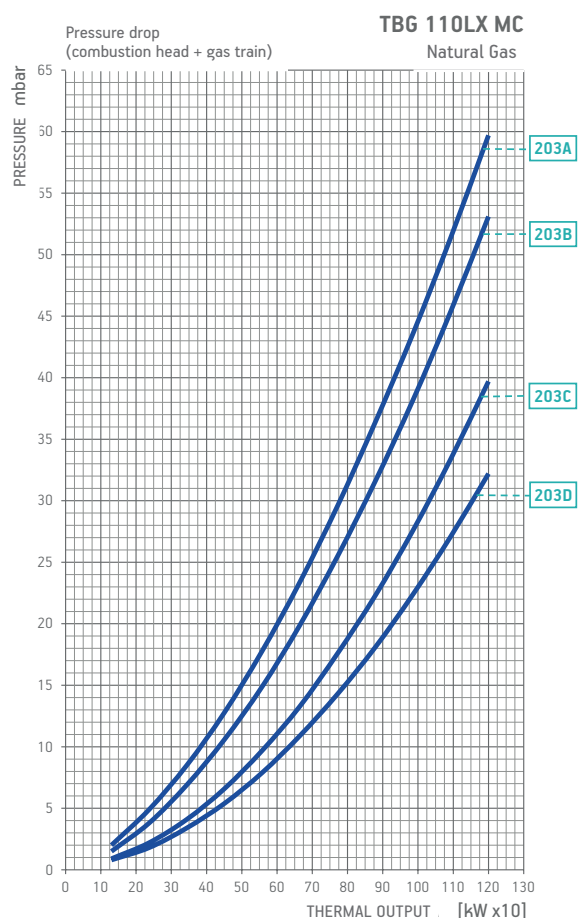
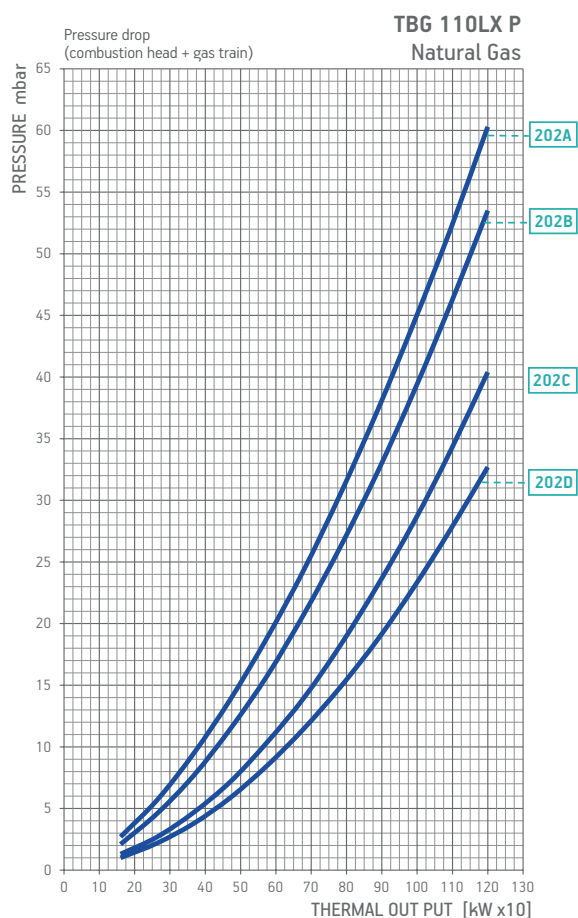
DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

### BURNER ACCESSORIES

Boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 110 LX P	Natural gas	202A	CE/EXP	360		19990714	Included	96000007	-	B7	
					CTV	19990714	Included	96000007	98000101	B7	12)
		202B	CE/EXP	360		19990716	Included	-	-	B7	
					CTV	19990716	Included	-	98000101	B7	12)
		202C	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
			CE/EXP	500		19990720	Included	-	-	D5	
					CTV	19990720	Included	-	98000101	D5	12)
		202D	CE/EXP	500		19990718	Included	-	-	B7	
					CTV	19990718	Included	-	98000101	B7	12)
			CE/EXP	500		19990721	Included	-	-	D5	
					CTV	19990721	Included	-	98000101	D5	12)
TBG 110 LX MC	Natural gas	203A	CE/EXP	360		19990714	Included	96000007	-	B7	
					CTV	19990714	Included	96000007	98000101	B7	12)
		203B	CE/EXP	360		19990716	Included	-	-	B7	
					CTV	19990716	Included	-	98000101	B7	12)
		203C	CE/EXP	500		19990717	Included	-	-	B7	
					CTV	19990717	Included	-	98000102	B7	12)
			CE/EXP	500		19990720	Included	-	-	D5	
					CTV	19990720	Included	-	98000101	D5	12)
		203D	CE/EXP	500		19990718	Included	-	-	B7	
					CTV	19990718	Included	-	98000101	B7	12)
			CE/EXP	500		19990721	Included	-	-	D5	
					CTV	19990721	Included	-	98000101	D5	12)
TBG 110 LX ME TBG 110 LX ME V	Natural gas	98A	CE/EXP	360	CTV	19990754	Included	96000007	Included	D2	
		98B	CE/EXP	360	CTV	19990755	Included	-	Included	D2	
		98C	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		98D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 110 LX P	LPG	CE/EXP	360		19990716	Included	96000007	-	-	B7	
			360	CTV	19990716	Included	96000007	98000101	-	B7	12)
TBG 110 LX MC	LPG	CE/EXP	360		19990716	Included	96000007	-	-	B7	
			360	CTV	19990716	Included	96000007	98000101	-	B7	12)
TBG 110 LX ME	LPG	CE/EXP	360	CTV	19990755	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

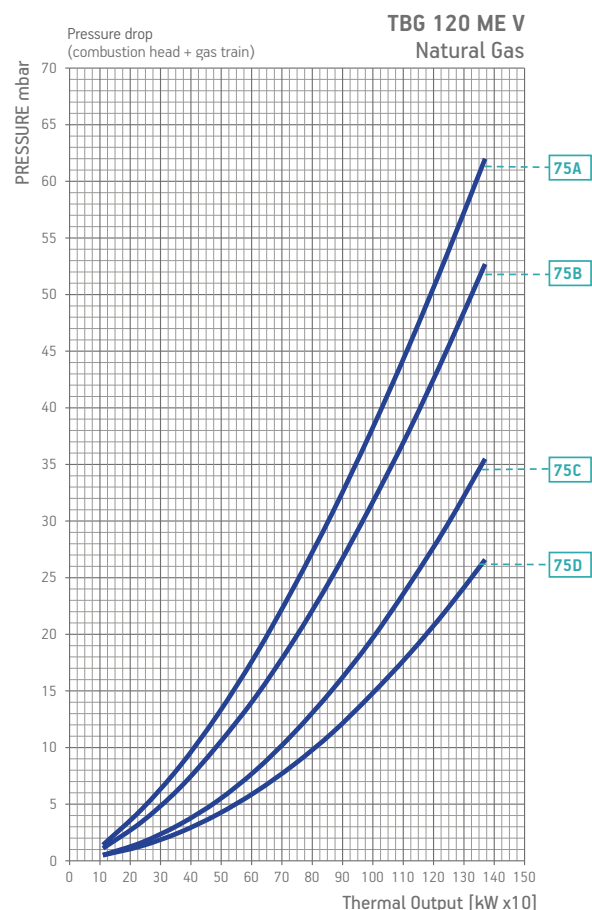
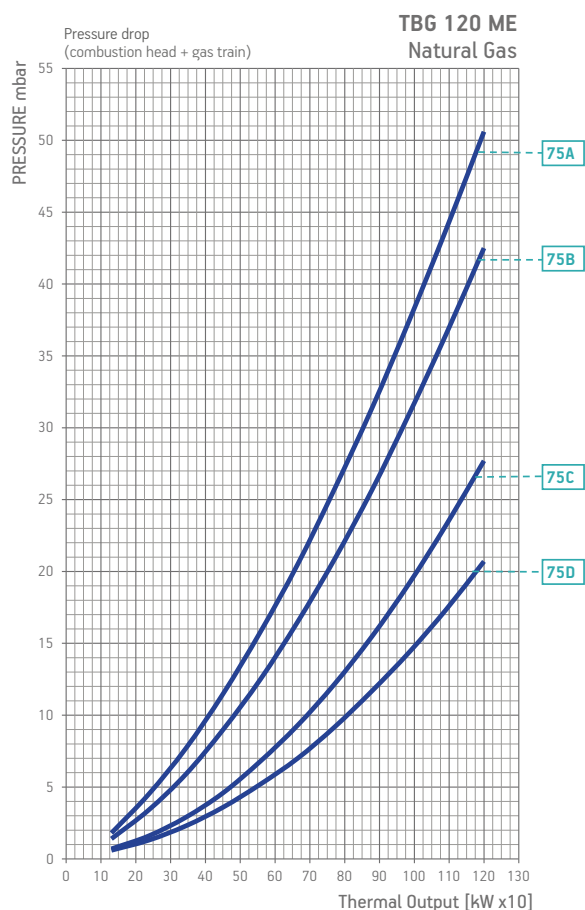
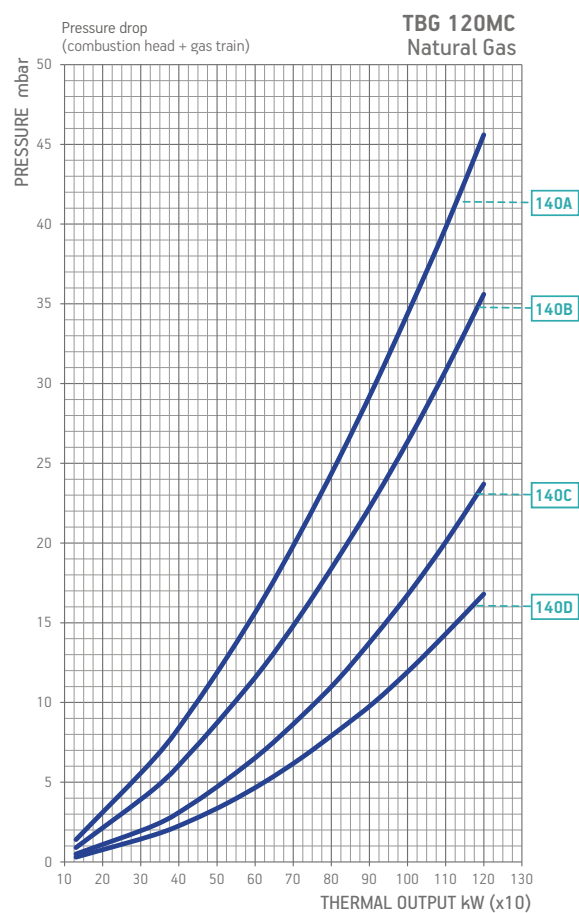
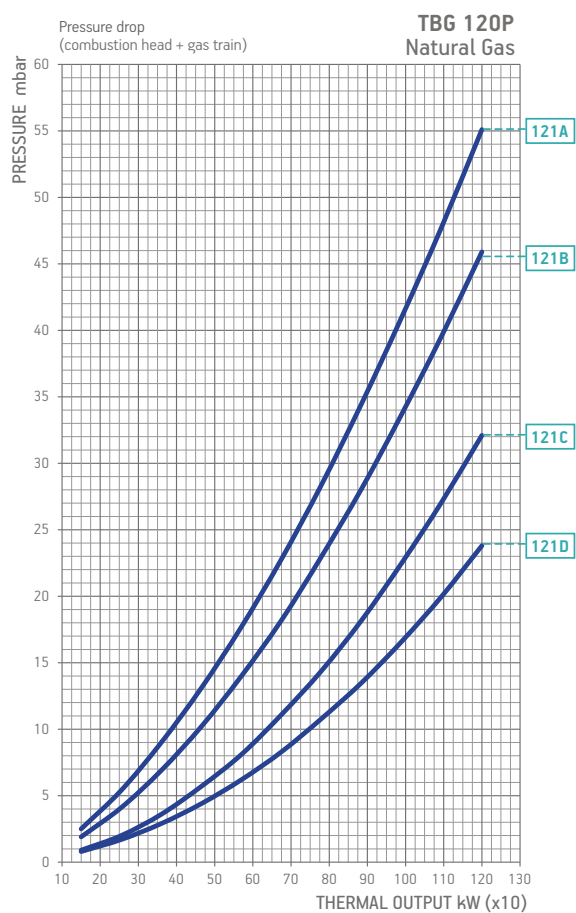
For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*\*) Maximum gas inlet pressure at pressure regulator.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 120 P	Natural gas	121A	CE/EXP	360	CTV	19990713	Included	96000007	-	B7	
						19990713	Included	96000007	98000101	B7	12)
		121B	CE/EXP	360	CTV	19990715	Included	-	-	B7	
						19990715	Included	-	98000101	B7	12)
		121C	CE/EXP	500	CTV	19990717	Included	-	-	B7	
						19990717	Included	-	98000102	B7	12)
			CE/EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	12)
		121D	CE/EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	12)
			CE/EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	12)
TBG 120 MC	Natural gas	140A	CE/EXP	360	CTV	19990713	Included	96000007	-	B7	
						19990713	Included	96000007	98000101	B7	12)
		140B	CE/EXP	360	CTV	19990715	Included	-	-	B7	
						19990715	Included	-	98000101	B7	12)
		140C	CE/EXP	500	CTV	19990717	Included	-	-	B7	
						19990717	Included	-	98000102	B7	12)
			CE/EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	12)
		140D	CE/EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	12)
			CE/EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	12)
TBG 120 ME TBG 120 ME V	Natural gas	75A	CE/EXP	360	CTV	19990749	Included	96000007	Included	D2	
		75B	CE/EXP	360	CTV	19990750	Included	-	Included	D2	
		75C	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		75D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 120 P	LPG	CE/EXP	360	CTV	19990713	Included	96000007	-	98000358	B7	
					19990713	Included	96000007	98000101	98000358	B7	12)
TBG 120 MC	LPG	CE/EXP	360	CTV	19990713	Included	96000007	-	98000358	B7	
					19990713	Included	96000007	98000101	98000358	B7	12)
TBG 120 ME/ME V	LPG	CE/EXP	360	CTV	19990749	Included	96000007	Included	98000358	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



TBG 140 LX P

## TBG 140 LX P

## TBG 150 P

**Gas burner compliant with European standard EN676. Operation:**

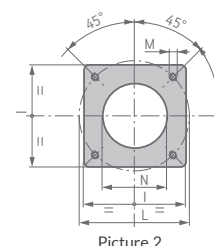
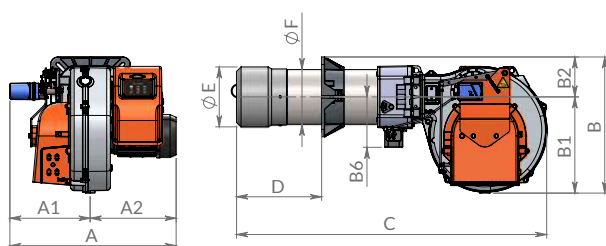
## two-stage

## two-stage

Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	mechanical cam
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Combustion air intake designed to achieve optimum linearity of the air gate opening	•	•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum and maximum pressure switch, pressure regulator and gas filter	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	down	down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel with display diagram for working mode with indication lights	•	•
Electric protection rating:	IP40	IP40

**LEGEND:**

- As standard

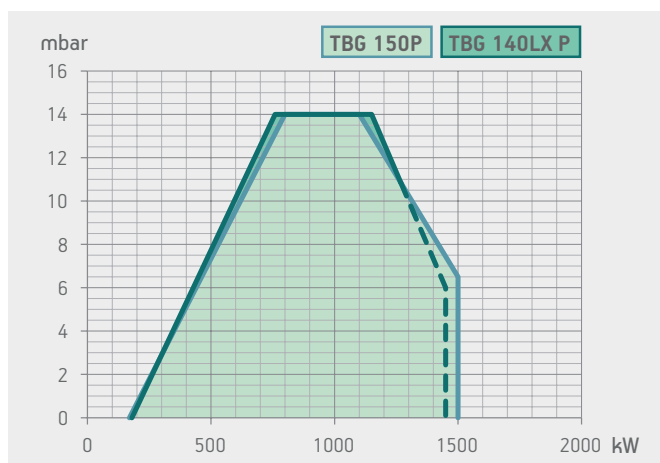


Picture 2

 Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 150 P	667	323	344	545	386	160	202	1244	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2
TBG 140 LX P	667	323	344	546	386	160	202	1240	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2





Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 150 P	1070	800	700	89
TBG 140 LX P	1070	800	700	89

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	170 ÷ 1500	<b>TBG 150 P</b>	<b>18660010</b>	3N AC 50Hz 400V	2,2	3) 4)
	class 3	180 ÷ 1450	<b>TBG 140 LX P</b>	<b>18670010</b>	3N AC 50Hz 400V	2,2	3) 4)
Frequency 60 Hz							
	class 2	170 ÷ 1500	<b>TBG 150 P</b>	<b>18665410</b>	3N AC 60Hz 380V	2,6	3) 4)
	class 3	180 ÷ 1450	<b>TBG 140 LX P</b>	<b>18675410</b>	3N AC 60Hz 380V	2,6	3) 4)

**ACCESSORIES AVAILABLE ON REQUEST**

DESCRIPTION	PART NO.
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

**BURNER ACCESSORIES**

Boiler coupling kit.

**NOTE**

- 3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

**N.B.**

- 1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 140 LX MC

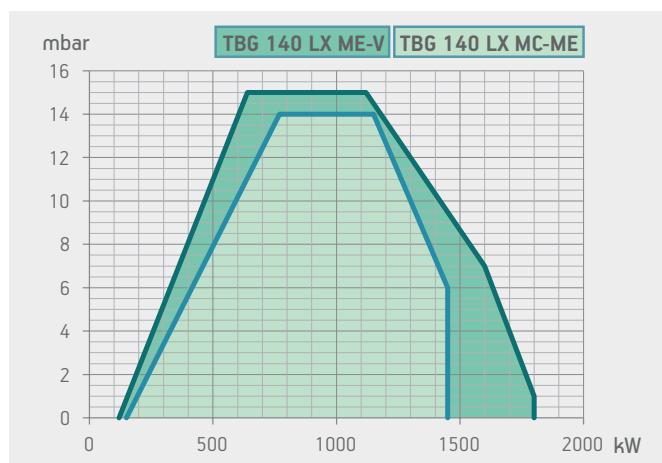


TBG 140 LX ME

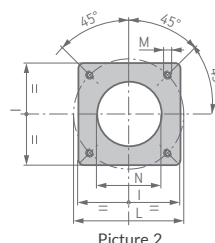
	TBG 140 LX MC	TBG 140 LX ME	TBG 140 LX ME V
	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:8	1:9	1:12
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

○ Optional, ● As standard



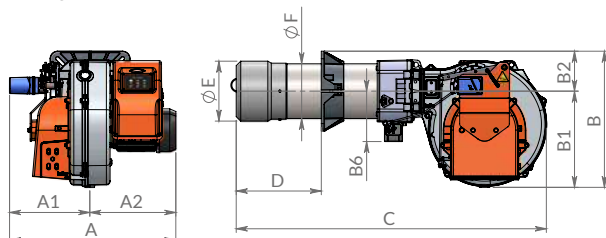
Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 140 LX MC	1070	800	700	89
TBG 140 LX ME	1070	800	700	92
TBG 140 LX ME V	1070	800	700	107



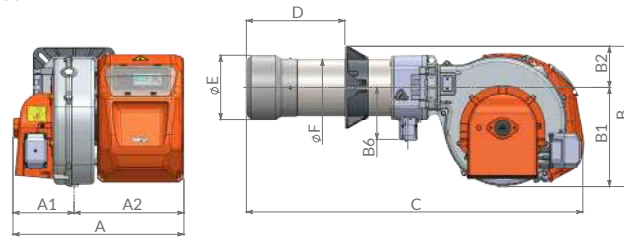
Flange dimensions  
and boiler drilling  
template.

Picture 2

TBG 80-200 LX MC



TBG 80-200 LX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 140 LX MC	667	323	344	546	386	161	202	1240	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2
TBG 140 LX ME	665	238	427	546	386	160	202	1311	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2
TBG 140 LX ME V	665	238	427	546	386	160	202	1307	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	150 ÷ 1450	TBG 140 LX MC	18690010	3N AC 50Hz 400V	2,2	3) 4)
			class 3	150 ÷ 1450	TBG 140 LX ME	18710010	3N AC 50Hz 400V	2,2	3) 4)
•	○	○	class 3	120 ÷ 1800	TBG 140 LX ME V	18710015	3N AC 50Hz 400V	2,2	3) 4)
Frequency 60 Hz									
			class 3	150 ÷ 1450	TBG 140 LX MC	18695410	3N AC 60Hz 380V	2,6	3) 4)
			class 3	150 ÷ 1450	TBG 140 LX ME	18715410	3N AC 60Hz 380V	2,6	3) 4)
•	○	○	class 3	120 ÷ 1800	TBG 140 LX ME V	18710015	3N AC 60Hz 380V	2,6	3) 4)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 140 LX MC: modulation kit (see page 332)	
TBG 140 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 140 LX MC/140 LX ME: modulating probe (see page 332)	
TBG 140 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

3 Sound proof lid on burner air intake.  
4 Equipped with automatic air closure device.  
Net calorific value at reference conditions of 0°C, 1013mbar:  
Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

1) Conversion kit, for standard burner, by installer.  
For supply of the product in long head version, please contact the sales department.



TBG 150 MC



TBG 150 ME

TBG 150 MC	TBG 150 ME	TBG 150 ME V
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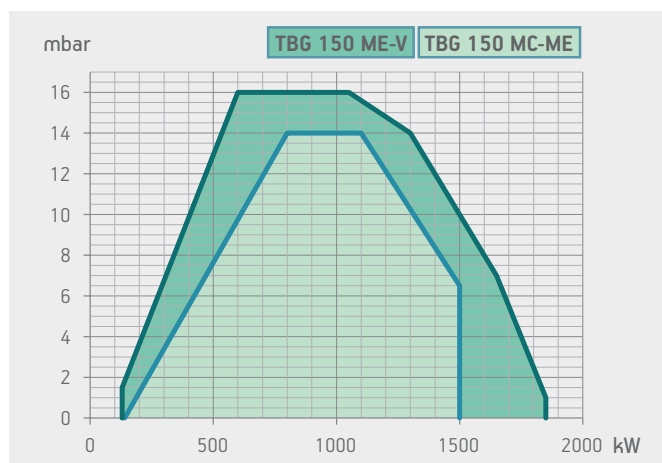
mechanical two-stage progressive	electronic modulation	electronic modulation
--	--------------------------	--------------------------

## Gas burner compliant with European standard EN676. Operation:

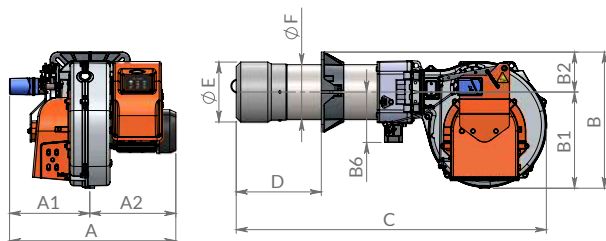
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:7	1:8	1:10
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

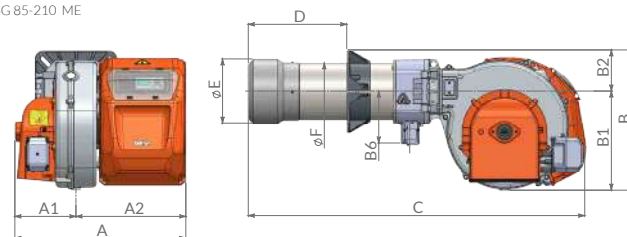
○ Optional, ● As standard



TBG 85-210 MC



TBG 85-210 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 150 MC	667	323	344	546	386	161	202	1244	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2
TBG 150 ME	665	238	427	546	386	160	202	1312	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2
TBG 150 ME V	665	238	427	546	386	160	202	1312	200 ÷ 450	240	219	320	280 ÷ 370	M12	250	2

Inverter	O <sub>2</sub> Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	140 ÷ 1500	TBG 150 MC	18680010	3N AC 50Hz 400V	2,2	3) 4)
			class 2	140 ÷ 1500	TBG 150 ME	18700010	3N AC 50Hz 400V	2,2	3) 4)
•	○	○	class 2	130 ÷ 1850	TBG 150 ME V	18700015	3N AC 50Hz 400V	2,2	3) 4)
Frequency 60 Hz									
			class 2	140 ÷ 1500	TBG 150 MC	18685410	3N AC 60Hz 380V	2,6	3) 4)
			class 2	140 ÷ 1500	TBG 150 ME	18705410	3N AC 60Hz 380V	2,6	3) 4)
•	○	○	class 2	130 ÷ 1850	TBG 150 ME V	18700015	3N AC 60Hz 380V	2,6	3) 4)

○ Optional, • As standard

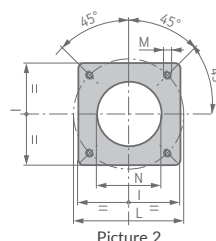
### MODULATING MODE

DESCRIPTION	PART NO.
TBG 150 MC: modulation kit (see page 332)	
TBG 150 ME: modulation kit (Included in the ME V version)	98000059
TBG 150 MC/150 ME: modulating probe (see page 332)	
TBG 150 MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight
	L	P	H	kg
	mm			
TBG 150 MC	1070	800	700	88
TBG 150 ME	1070	800	700	92
TBG 150 ME V	1070	800	700	107



Flange dimensions and boiler drilling template.

Picture 2

### ACCESSORIES AVAILABLE ON REQUEST

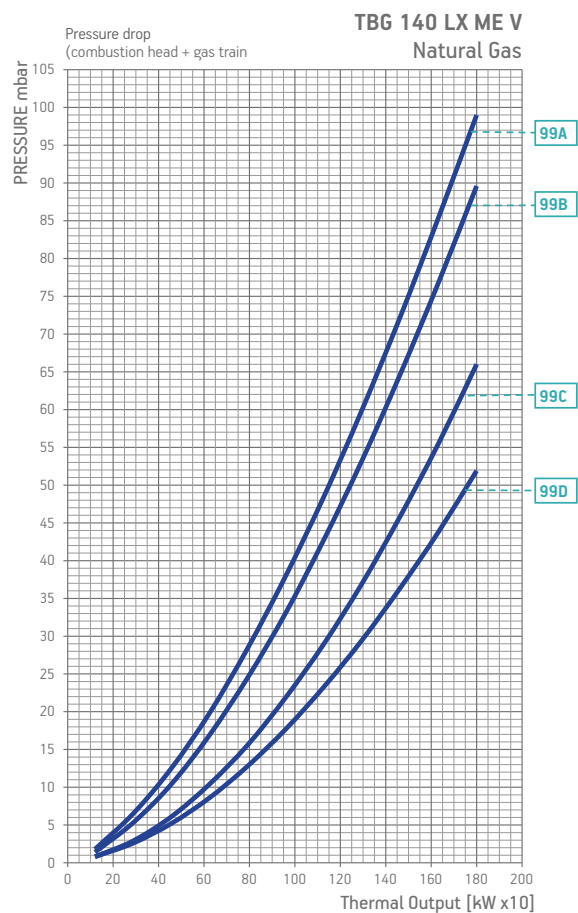
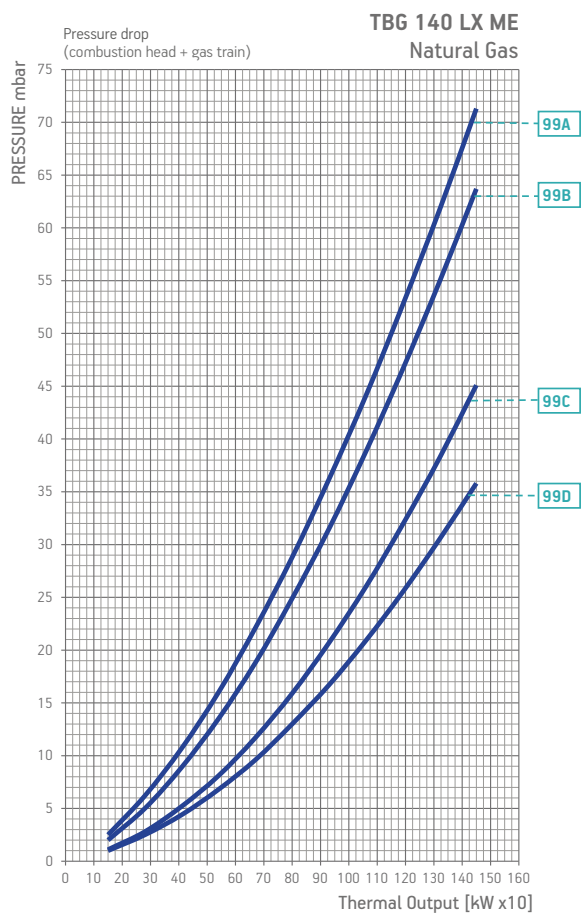
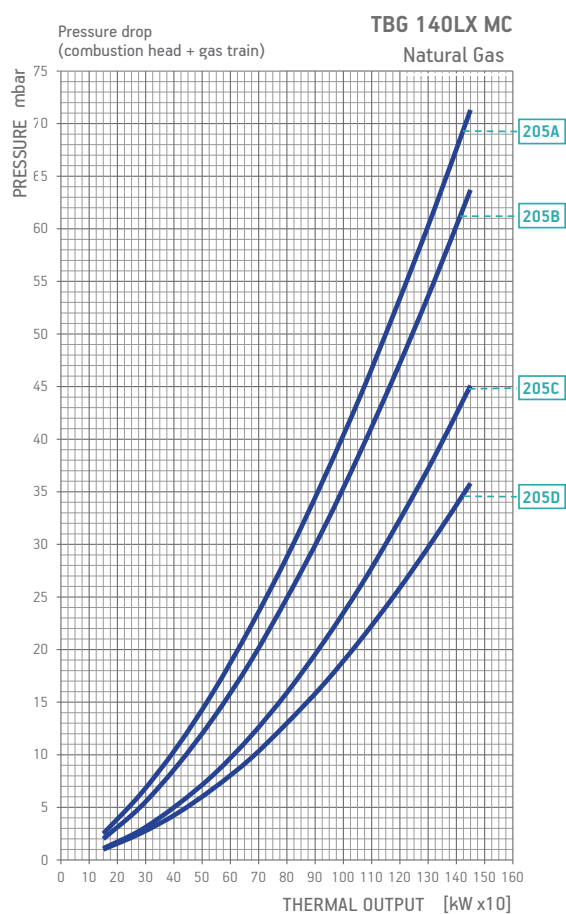
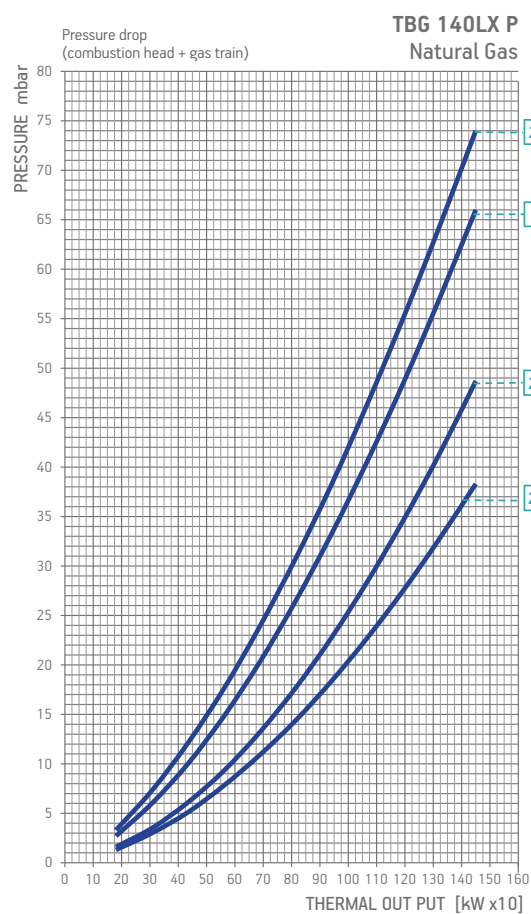
DESCRIPTION	PART NO.
O <sub>2</sub> control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

### BURNER ACCESSORIES

Boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P <sub>Max</sub> ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 140 LX P	Natural gas	204A	CE	360	CTV	19990714	Included	96000007	98000101	B7	11)
			EXP	360	CTV	19990714	Included	96000007	-	B7	
						19990714	Included	96000007	98000101	B7	
		204B	CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
						19990716	Included	-	98000101	B7	
		204C	CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
						19990717	Included	-	98000102	B7	
			EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
		204D	CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
TBG 140 LX MC	Natural gas	205A	CE	360	CTV	19990714	Included	96000007	98000101	B7	11)
			EXP	360	CTV	19990714	Included	96000007	-	B7	
						19990714	Included	96000007	98000101	B7	
		205B	CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
						19990716	Included	-	98000101	B7	
		205C	CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
						19990717	Included	-	98000102	B7	
			EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
		205D	CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
TBG 140 LX ME TBG 140 LX ME V	Natural gas	99A	CE/EXP	360	CTV	19990754	Included	96000007	Included	D2	
		99B	CE/EXP	360	CTV	19990755	Included	-	Included	D2	
		99C	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		99D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	

Burner model	Gas type	Version	P <sub>Max</sub> ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 140 LX P	LPG	CE/EXP	360	CTV	19990714	Included	96000007	98000101	-	B7	11)
TBG 140 LX MC	LPG	CE/EXP	360	CTV	19990714	Included	96000007	98000101	-	B7	11)
TBG 140 LX ME	LPG	CE/EXP	360	CTV	19990755	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

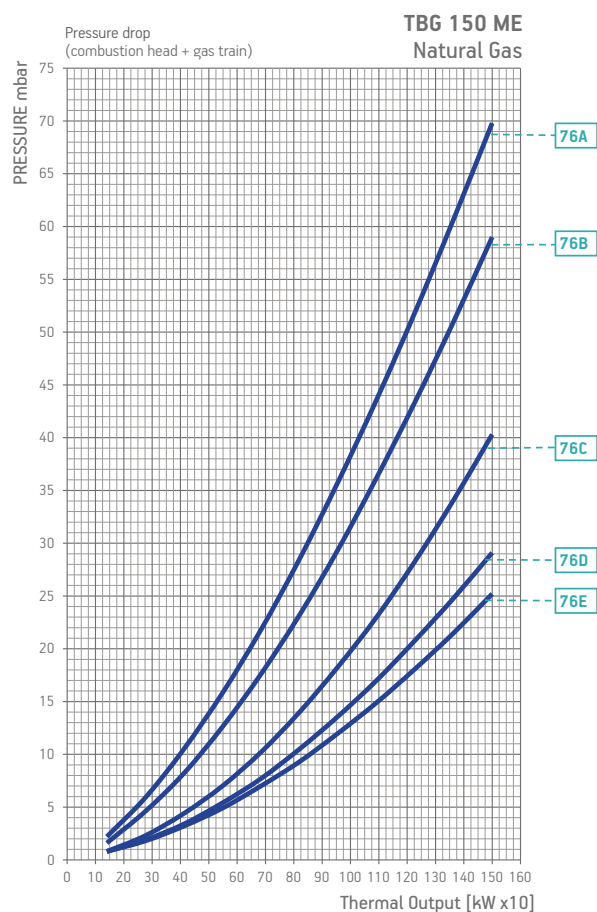
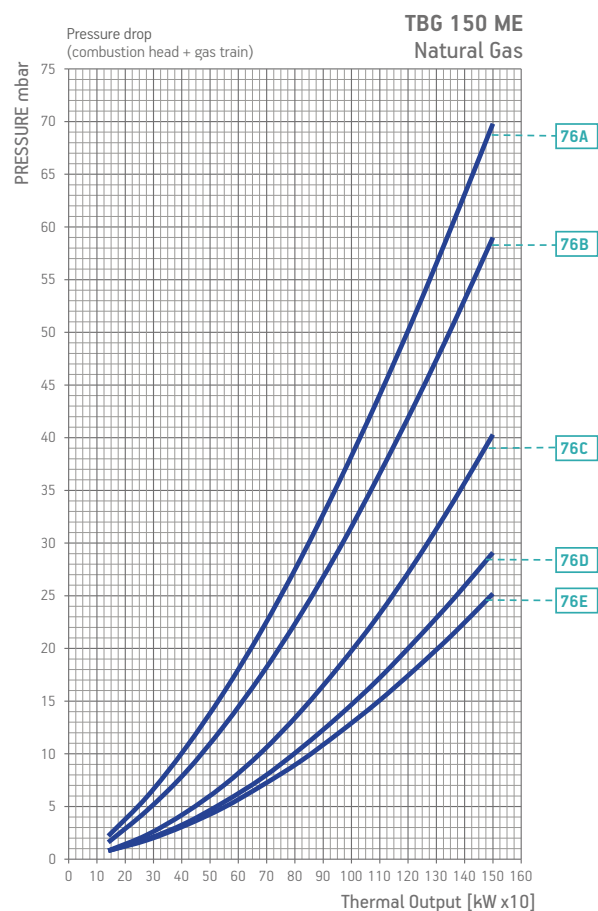
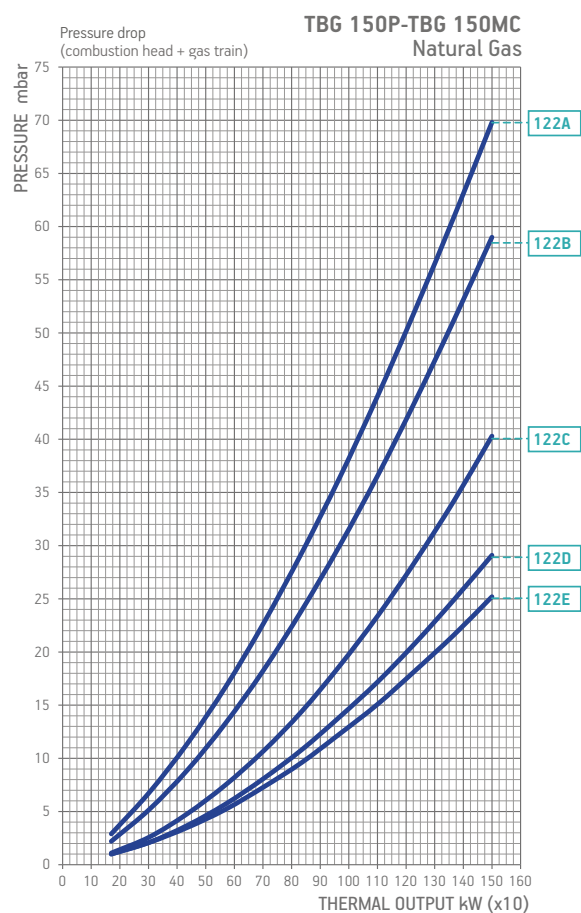
For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

11 The gas train must be always completed with the valve tightness control kit to comply with the EN676 regulations.

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 150 P TBG 150 MC	Natural gas	122A	CE	360	CTV	19990713	Included	96000007	98000101	B7	11)
			EXP	360	CTV	19990713	Included	96000007	-	B7	
						19990713	Included	96000007	98000101	B7	
		122B	CE	360	CTV	19990715	Included	-	98000101	B7	11)
			EXP	360	CTV	19990715	Included	-	-	B7	
						19990715	Included	-	98000101	B7	
		122C	CE	500	CTV	19990717	Included	-	98000102	B7	11)
						19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
						19990717	Included	-	98000102	B7	
			EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
		122D	CE	500	CTV	19990718	Included	-	98000101	B7	11)
						19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
		122E	CE	500	CTV	19990719	Included	-	98000101	B7	11)
						19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
						19990719	Included	-	98000101	B7	
			EXP	500	CTV	19990722	Included	-	-	D5	
						19990722	Included	-	98000101	D5	
TBG 150 ME TBG 150 ME V	Natural gas	76A	CE/EXP	360	CTV	19990749	Included	96000007	Included	D2	
		76B	CE/EXP	360	CTV	19990750	Included	-	Included	D2	
		76C	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		76D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	
		76E	CE/EXP	500	CTV	19990753	Included	-	Included	D4	
			CE/EXP	500	CTV	19990727	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Rampa gas	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 150 P TBG 150 MC	LPG	CE	360	CTV	19990713	Included	96000007	98000101	-	B7	11)
		EXP	360	CTV	19990713	Included	96000007	-	-	B7	
					19990713	Included	96000007	98000101	-	B7	
TBG 150 ME/ME V	LPG	CE/EXP	360	CTV	19990749	Included	96000007	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

11 The gas train must be always completed with the valve tightness control kit to comply with the EN676 regulations.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.



TBG 200 LX P - 210 P

## TBG 200 LX P

## TBG 210 P

## Gas burner compliant with European standard EN676. Operation:

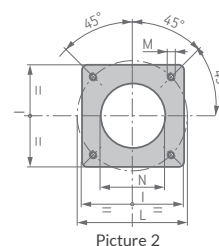
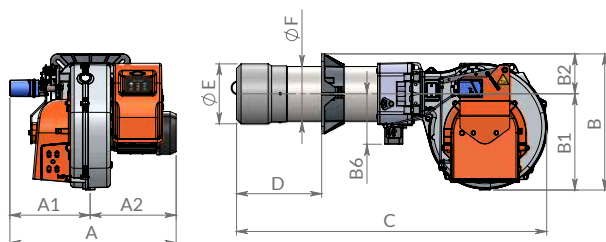
## two-stage

## two-stage

Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
High ventilation efficiency, low electrical input, low noise	•	•
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	mechanical cam
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Combustion air intake designed to achieve optimum linearity of the air gate opening	•	•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	down	down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel with display diagram for working mode with indication lights	•	•
Electric protection rating:	IP40	IP40

## LEGEND:

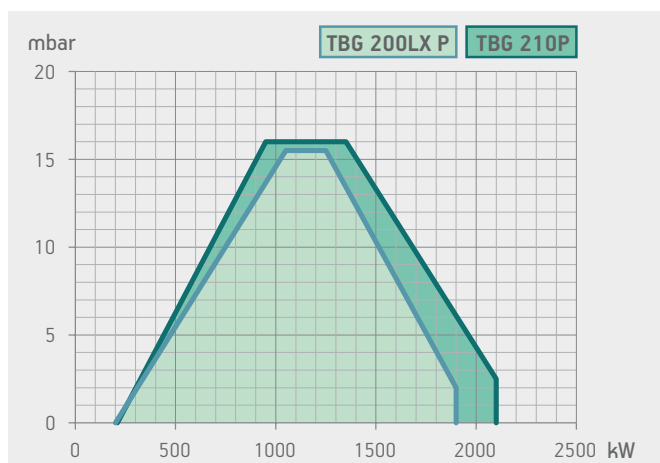
- As standard



Picture 2

 Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 200 LX P	679	323	356	546	386	160	202	1242	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 210 P	679	323	357	545	386	160	202	1241	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 200 LX P	1070	800	700	92
TBG 210 P	1070	800	700	92

	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz							
	class 2	210 ÷ 2100	<b>TBG 210 P</b>	<b>18750010</b>	3N AC 50Hz 400V	3,0	3) 4)
	class 3	200 ÷ 1900	<b>TBG 200 LX P</b>	<b>18760010</b>	3N AC 50Hz 400V	3,0	3) 4)
Frequency 60 Hz							
	class 2	210 ÷ 2100	<b>TBG 210 P</b>	<b>18755410</b>	3N AC 60Hz 380V	3,5	3) 4)
	class 3	200 ÷ 1900	<b>TBG 200 LX P</b>	<b>18765410</b>	3N AC 60Hz 380V	3,5	3) 4)

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## NOTE

3 Sound proof lid on burner air intake.

4 Equipped with automatic air closure device.

Net calorific value at reference conditions of 0°C, 1013mbar:

Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,

For different type of gas and pressure values, please get in contact with our commercial department.

## N.B.

1) Conversion kit, for standard burner, by installer.

For supply of the product in long head version, please contact the sales department.



TBG 200 LX MC

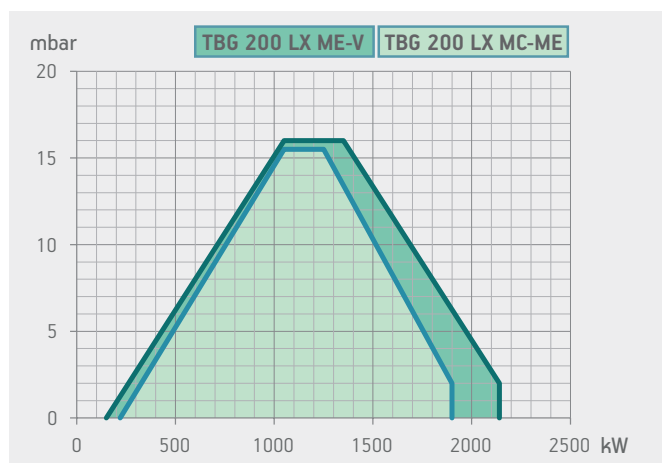


TBG 200 LX ME

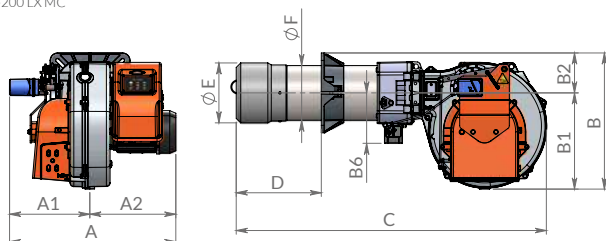
	TBG 200 LX MC	TBG 200 LX ME	TBG 200 LX ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:8	1:8	1:14
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum and maximum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

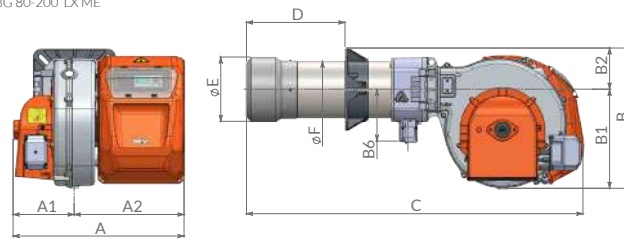
○ Optional, ● As standard



TBG 80-200 LX MC



TBG 80-200 LX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 200 LX MC	679	323	357	546	386	161	202	1242	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 200 LX ME	665	238	427	546	386	160	202	1309	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 200 LX ME V	665	238	427	546	386	160	202	1310	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	220 ÷ 1900	TBG 200 LX MC	18780010	3N AC 50Hz 400V	3,0	3) 4)
			class 3	220 ÷ 1900	TBG 200 LX ME	18800010	3N AC 50Hz 400V	3,0	3) 4)
•	○	○	class 3	150 ÷ 2140	TBG 200 LX ME V	18800015	3N AC 50Hz 400V	3,0	3) 4)
Frequency 60 Hz									
			class 3	220 ÷ 1900	TBG 200 LX MC	18785410	3N AC 60Hz 380V	3,5	3) 4)
			class 3	220 ÷ 1900	TBG 200 LX ME	18805410	3N AC 60Hz 380V	3,5	3) 4)
•	○	○	class 3	150 ÷ 2140	TBG 200 LX ME V	18800015	3N AC 60Hz 380V	3,5	3) 4)

○ Optional, • As standard

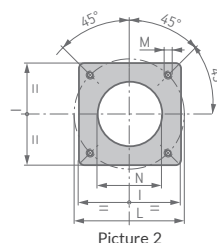
### MODULATING MODE

DESCRIPTION	PART NO.
TBG 200 LX MC: modulation kit (see page 332)	
TBG 200 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 200 LX MC/200 LX ME: modulating probe (see page 332)	
TBG 200 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 200 LX MC	1070	800	700	93
TBG 200 LX ME	1070	800	700	98
TBG 200 LX ME V	1070	800	700	95



Flange dimensions  
and boiler drilling  
template.

Picture 2

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

### BURNER ACCESSORIES

Boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 210 MC

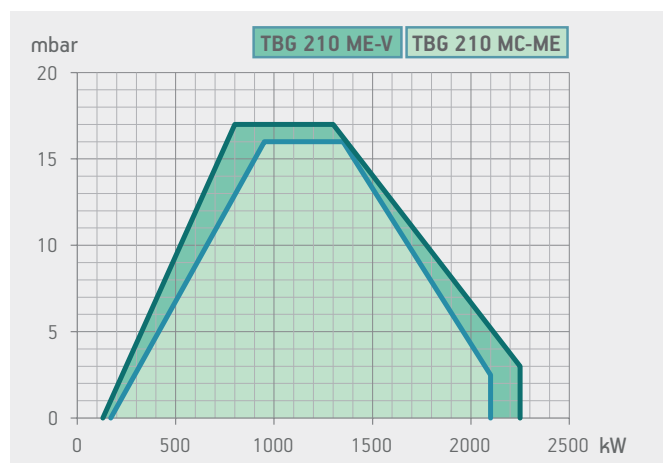


TBG 210 ME

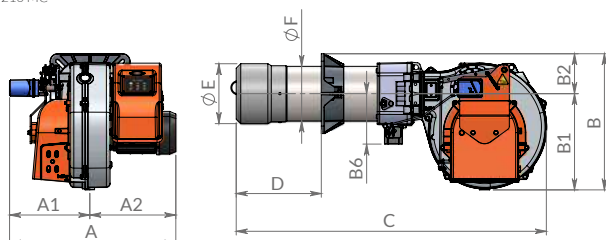
	TBG 210 MC	TBG 210 ME	TBG 210 ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:12	1:12	1:13
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Combustion air intake designed to achieve optimum linearity of the air gate opening	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

**LEGEND:**

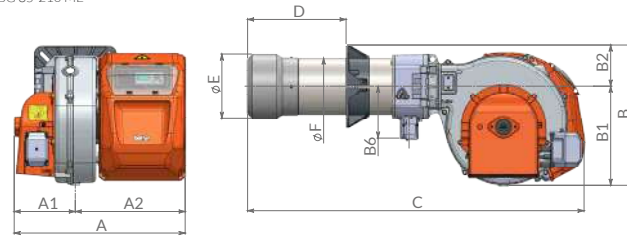
○ Optional, ● As standard



TBG 85-210 MC



TBG 85-210 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 210 MC	679	323	357	546	386	161	202	1241	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 210 ME	665	238	427	546	386	160	202	1310	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 210 ME V	665	238	427	546	386	160	202	1310	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	170 ÷ 2100	TBG 210 MC	18770010	3N AC 50Hz 400V	3,0	3) 4)
			class 2	170 ÷ 2100	TBG 210 ME	18790010	3N AC 50Hz 400V	3,0	3) 4)
•	○	○	class 2	130 ÷ 2250	TBG 210 ME V	18790015	3N AC 50Hz 400V	3,0	3) 4)
Frequency 60 Hz									
			class 2	170 ÷ 2100	TBG 210 MC	18775410	3N AC 60Hz 380V	3,5	3) 4)
			class 2	170 ÷ 2100	TBG 210 ME	18795410	3N AC 60Hz 380V	3,5	3) 4)
•	○	○	class 2	130 ÷ 2250	TBG 210 ME V	18790015	3N AC 60Hz 380V	3,5	3) 4)

○ Optional, • As standard

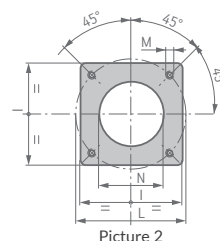
### MODULATING MODE

DESCRIPTION	PART NO.
TBG 210 MC: modulation kit (see page 332)	
TBG 210 ME: modulation kit (Included in the ME V version)	98000059
TBG 210 MC/210 ME: modulating probe (see page 332)	
TBG 210 MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 210 MC	1070	800	700	92
TBG 210 ME	1070	800	700	97.5
TBG 210 ME V	1070	800	700	94



Picture 2

Flange dimensions and boiler drilling template.

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

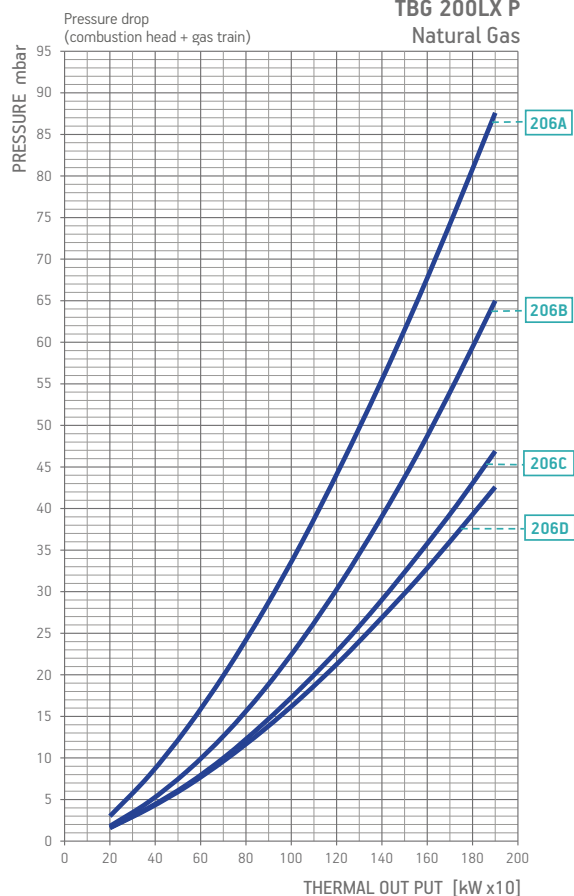
### BURNER ACCESSORIES

Boiler coupling kit.

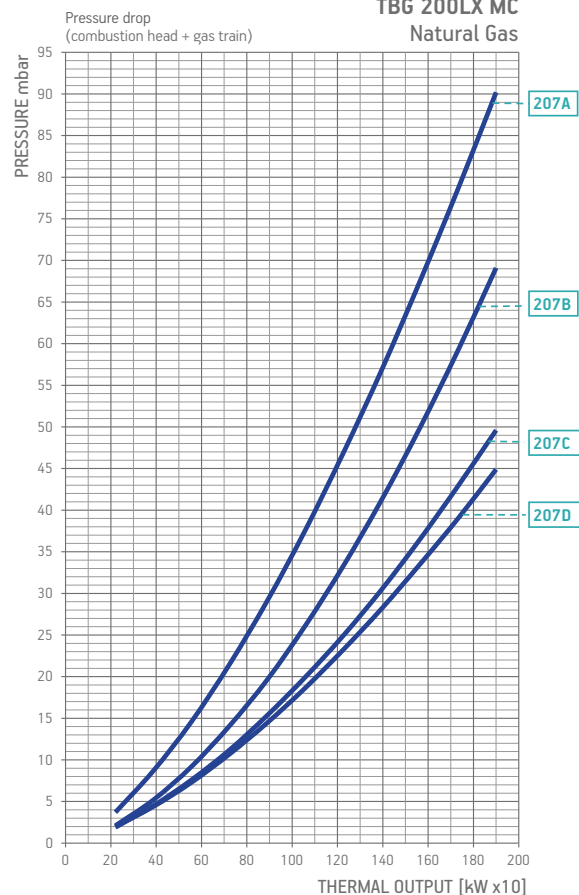
### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.

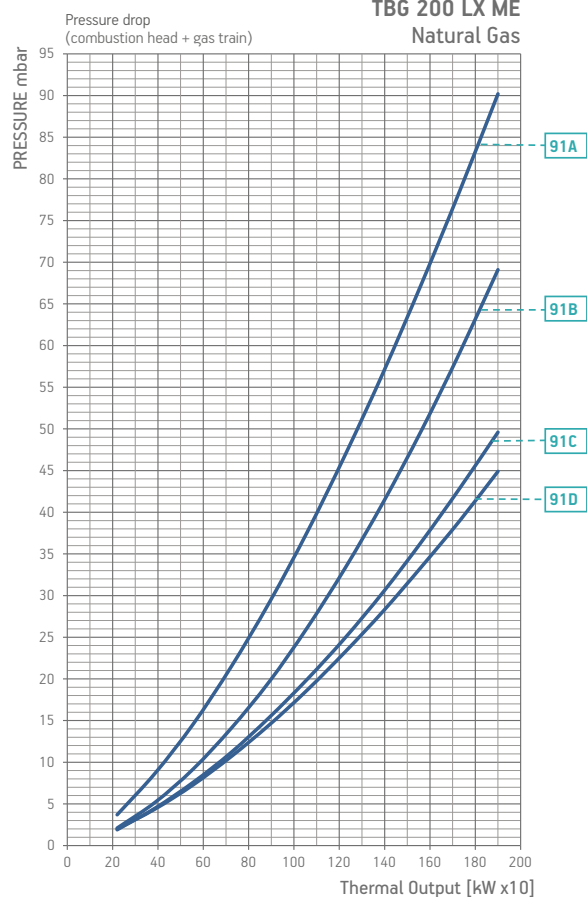
**TBG 200LX P**  
Natural Gas



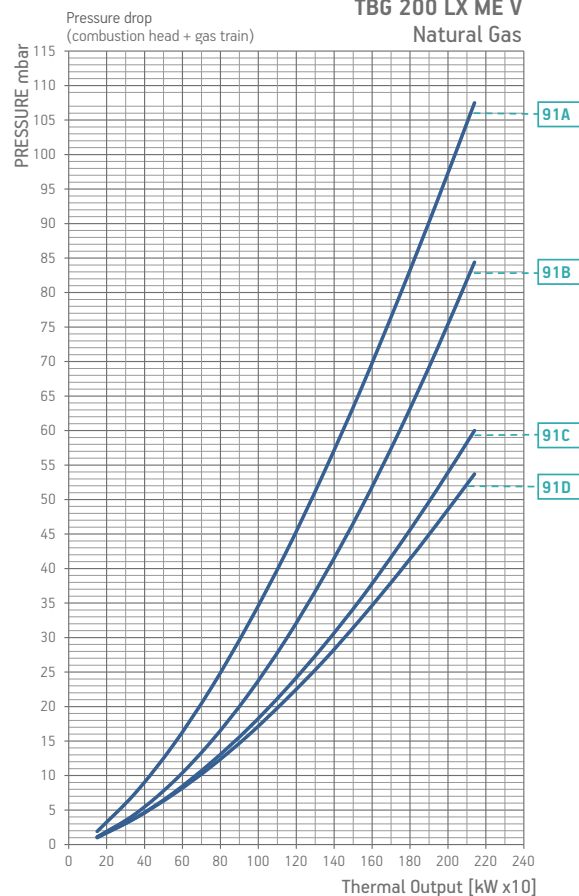
**TBG 200LX MC**  
Natural Gas



**TBG 200 LX ME**  
Natural Gas



**TBG 200 LX ME V**  
Natural Gas





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 200 LX P	Natural gas	206A	CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
						19990716	Included	-	98000101	B7	
			CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000102	D5	11)
						19990717	Included	-	-	B7	
		206B	EXP	500	CTV	19990717	Included	-	98000101	B7	
						19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
		206C				19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
			CE	500	CTV	19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
		206D				19990719	Included	-	98000101	B7	
						19990722	Included	-	-	D5	
			EXP	500	CTV	19990722	Included	-	98000101	D5	
TBG 200 LX MC	Natural gas	207A	CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
						19990716	Included	-	98000101	B7	
			CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
						19990717	Included	-	-	B7	
		207B	EXP	500	CTV	19990717	Included	-	98000102	B7	
						19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
		207C				19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
			CE	500	CTV	19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
		207D				19990719	Included	-	98000101	B7	
						19990722	Included	-	-	D5	
			EXP	500	CTV	19990722	Included	-	98000101	D5	
TBG 200 LX ME TBG 200 LX ME V	Natural gas	91A	CE/EXP	360	CTV	19990755	Included	-	Included	D2	
			CE/EXP	500	CTV	19990751	Included	-	Included	D4	
		91B	CE/EXP	500	CTV	19990725	Included	-	Included	D4	
			CE/EXP	500	CTV	19990752	Included	-	Included	D4	
		91C	CE/EXP	500	CTV	19990726	Included	-	Included	D4	
			CE/EXP	500	CTV	19990753	Included	-	Included	D4	
		91D	CE/EXP	500	CTV	19990727	Included	-	Included	D4	
			CE/EXP	500	CTV	19990727	Included	-	Included	D4	
Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 200 LX P	LPG	CE/EXP	360	CTV	19990716	Included	-	98000101	-	B7	11)
TBG 200 LX MC	LPG	CE/EXP	360	CTV	19990716	Included	-	98000101	-	B7	11)
TBG 200 LX ME	LPG	CE/EXP	360	CTV	19990755	Included	-	Included	-	D2	

To choose the correct gas train please refer to the information on page 17.

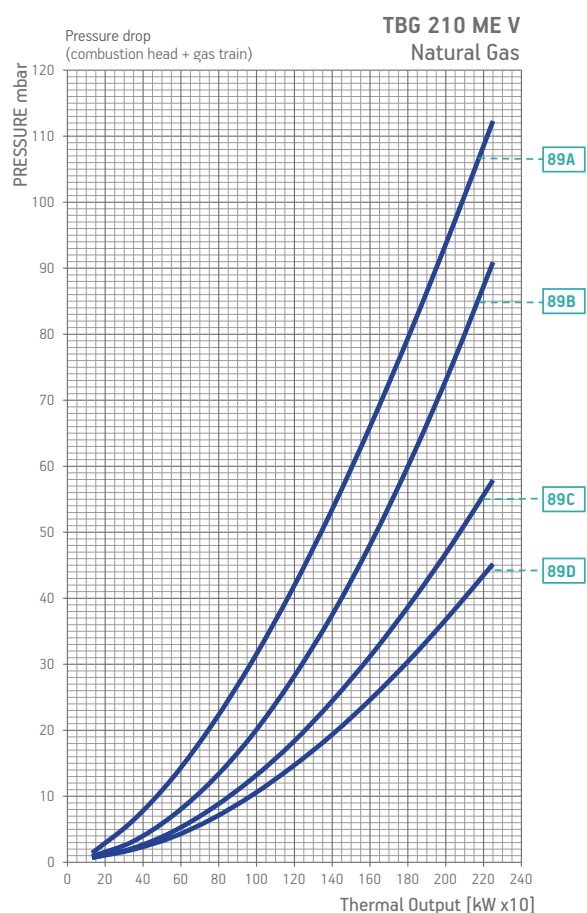
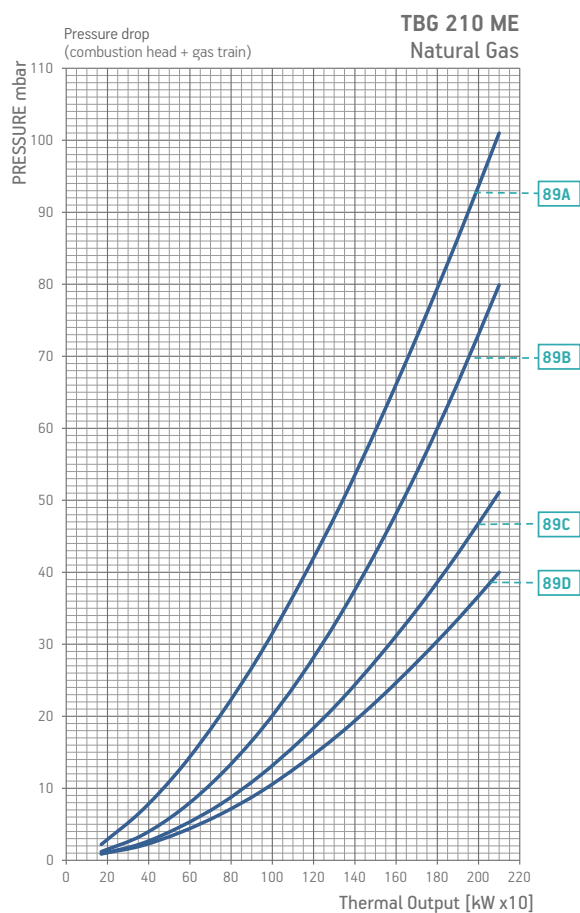
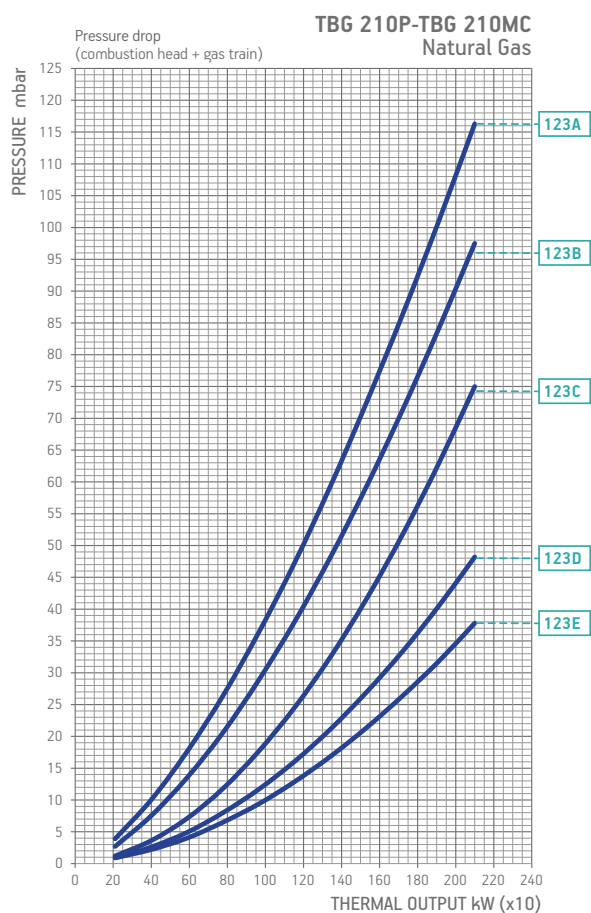
For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

11 The gas train must be always completed with the valve tightness control kit to comply with the EN676 regulations.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 210 P TBG 210 MC	Natural gas	123A	CE	360	CTV	19990713	Included	96000007	98000101	B7	11)
			EXP	360	CTV	19990713	Included	96000007	-	B7	
		123B	CE	360	CTV	19990715	Included	-	98000101	B7	11)
			EXP	360	CTV	19990715	Included	-	-	B7	
		123C	CE	500	CTV	19990717	Included	-	98000102	B7	11)
						19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
						19990720	Included	-	98000102	B7	
			EXP	500	CTV	19990720	Included	-	-	D5	
						19990720	Included	-	98000101	D5	
		123D	CE	500	CTV	19990718	Included	-	98000101	B7	11)
						19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
						19990718	Included	-	98000101	B7	
		123E	EXP	500	CTV	19990721	Included	-	-	D5	
						19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
						19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
						19990719	Included	-	98000101	B7	
TBG 210 ME TBG 210 ME V	Natural gas	89A	CE/EXP	360	CTV	19990750	Included	-	Included	D2	
			CE/EXP	500	CTV	19990751	Included	-	Included	D4	
		89B	CE/EXP	500	CTV	19990725	Included	-	Included	D4	
			CE/EXP	500	CTV	19990752	Included	-	Included	D4	
		89C	CE/EXP	500	CTV	19990726	Included	-	Included	D4	
			CE/EXP	500	CTV	19990753	Included	-	Included	D4	
		89D	CE/EXP	500	CTV	19990727	Included	-	Included	D4	
			CE/EXP	500	CTV	19990727	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 210 P TBG 210 MC	LPG	CE	360	CTV	19990715	Included	-	98000101	98000359	B7	11)
		EXP	360	CTV	19990715	Included	-	-	98000359	B7	
TBG 210 ME/ME V	LPG	CE/EXP	360	CTV	19990715	Included	-	98000101	98000359	B7	
		CE/EXP	360	CTV	19990750	Included	-	Included	98000359	D2	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

11 The gas train must be always completed with the valve tightness control kit to comply with the EN676 regulations.

CTV Gas train with Valve Tightness Control.

\*\* Maximum gas inlet pressure at pressure regulator.



TBG 260 LX MC

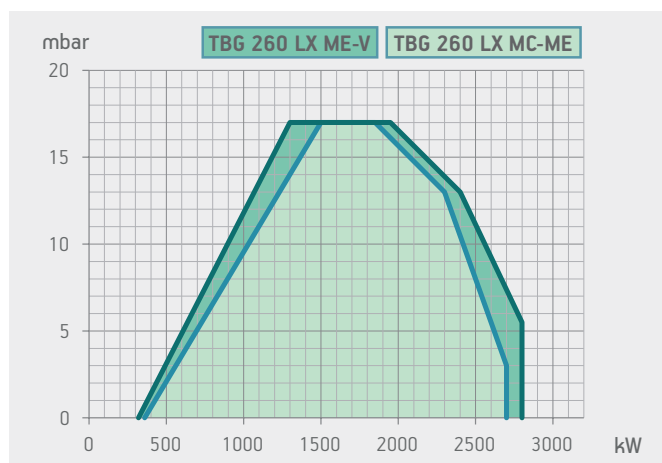


TBG 260 LX ME

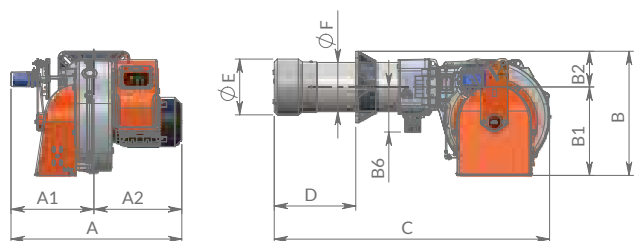
	TBG 260 LX MC	TBG 260 LX ME	TBG 260 LX ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:9	1:8	1:8
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

**LEGEND:**

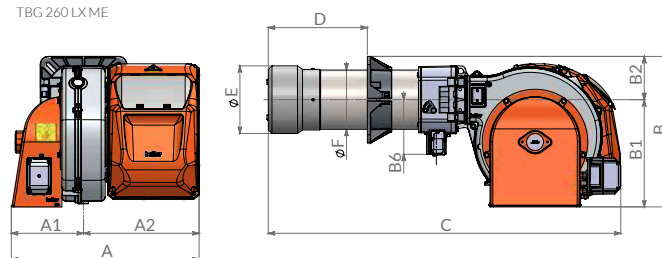
○ Optional, ● As standard



TBG 260 LX MC



TBG 260 LX ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 260 LX MC	766	372	394	557	397	160	202	1235	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 260 LX ME	694	267	427	557	397	160	202	1304	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 260 LX ME V	713	267	446	557	397	160	202	1304	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	360 ÷ 2700	TBG 260 LX MC	18830010	3N AC 50Hz 400V	5,5	4)
			class 3	360 ÷ 2700	TBG 260 LX ME	18850010	3N AC 50Hz 400V	5,5	4)
•	○	○	class 3	320 ÷ 2800	TBG 260 LX ME V	18850015	3N AC 50Hz 400V	5,5	4)
Frequency 60 Hz									
			class 3	360 ÷ 2700	TBG 260 LX MC	18835410	3N AC 60Hz 380V	7,5	4)
			class 3	360 ÷ 2700	TBG 260 LX ME	18855410	3N AC 60Hz 380V	7,5	4)
•	○	○	class 3	320 ÷ 2800	TBG 260 LX ME V	18850015	3N AC 60Hz 380V	7,5	4)

○ Optional, • As standard

### MODULATING MODE

DESCRIPTION	PART NO.
TBG 260 LX MC: modulation kit (see page 332)	
TBG 260 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 260 LX MC/260 LX ME: modulating probe (see page 332)	
TBG 260 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

### NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

### BURNER ACCESSORIES

Boiler coupling kit.

### N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 260 MC



TBG 260 ME

TBG 260 MC	TBG 260 ME	TBG 260 ME V
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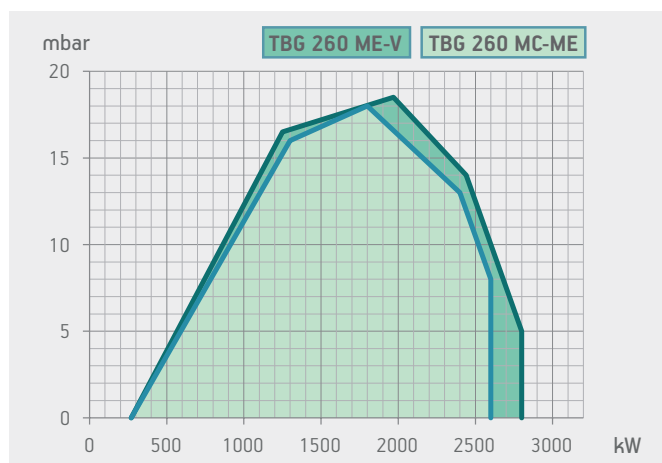
mechanical two-stage progressive	electronic modulation	electronic modulation
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## Gas burner compliant with European standard EN676. Operation:

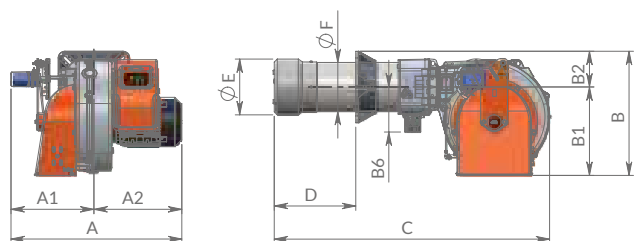
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:8	1:8	1:8
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

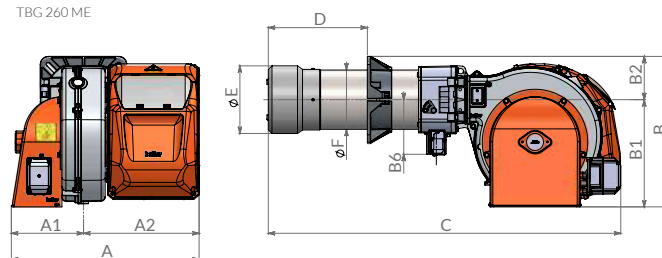
○ Optional, ● As standard



TBG 260 MC



TBG 260 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 260 MC	766	372	394	557	397	160	202	1234	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 260 ME	694	267	427	557	397	160	202	1305	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2
TBG 260 ME V	713	267	446	557	397	160	202	1304	200 ÷ 450	250	219	320	280 ÷ 370	M12	255	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	270 ÷ 2600	<b>TBG 260 MC</b>	<b>18820010</b>	3N AC 50Hz 400V	5,5	4)
			class 2	270 ÷ 2600	<b>TBG 260 ME</b>	<b>18840010</b>	3N AC 50Hz 400V	5,5	4)
•	○	○	class 2	270 ÷ 2800	<b>TBG 260 ME V</b>	<b>18840015</b>	3N AC 50Hz 400V	5,5	4)
Frequency 60 Hz									
			class 2	270 ÷ 2600	<b>TBG 260 MC</b>	<b>18825410</b>	3N AC 60Hz 380V	7,5	4)
			class 2	270 ÷ 2600	<b>TBG 260 ME</b>	<b>18845410</b>	3N AC 60Hz 380V	7,5	4)
•	○	○	class 2	270 ÷ 2800	<b>TBG 260 ME V</b>	<b>18840015</b>	3N AC 60Hz 380V	7,5	4)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 260 MC: modulation kit (see page 332)	
TBG 260 ME: modulation kit (Included in the ME V version)	98000059
TBG 260 MC/260 ME: modulating probe (see page 332)	
TBG 260 MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi i = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

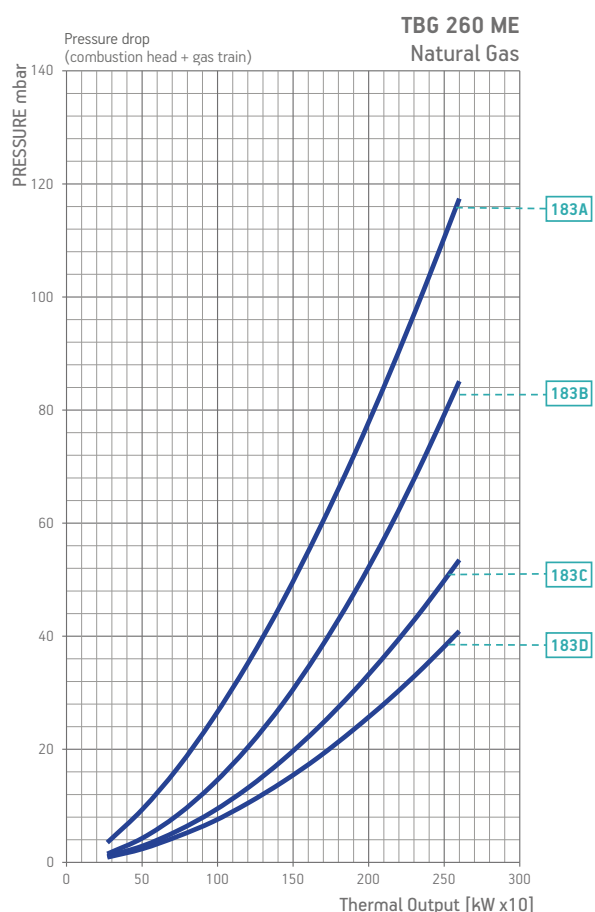
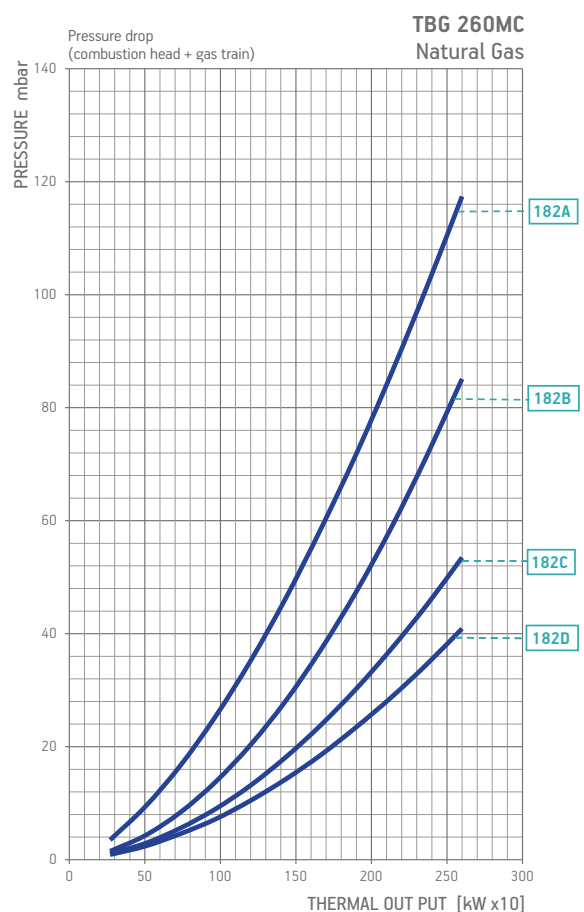
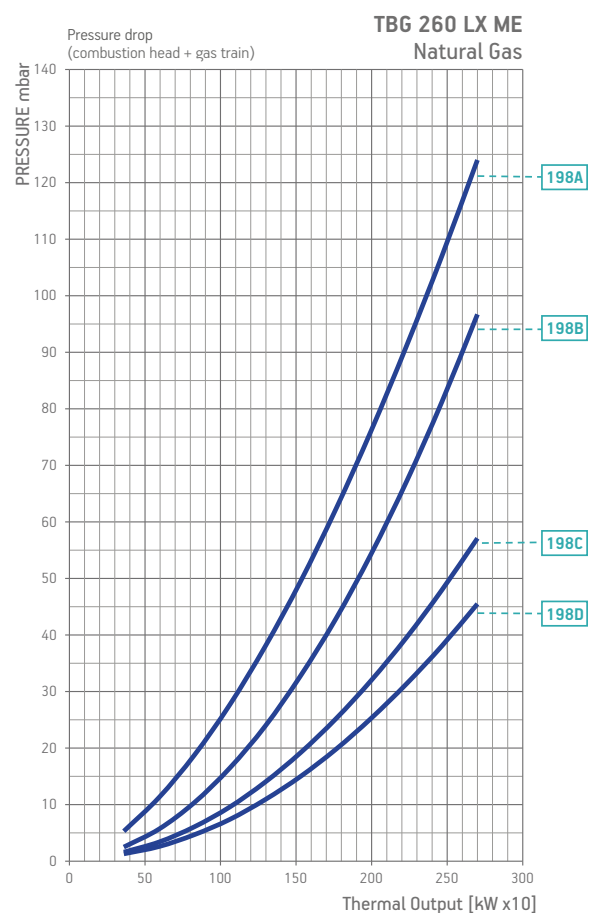
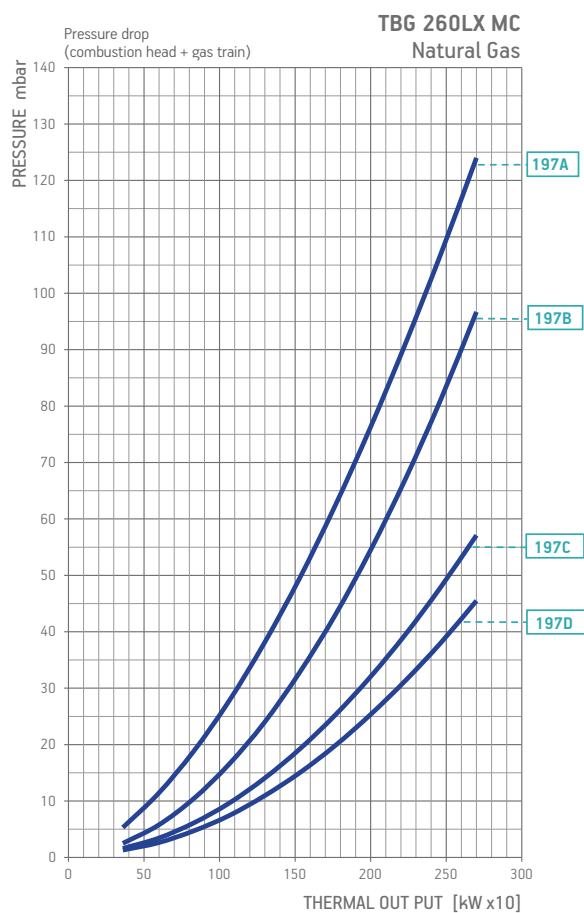
DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 260 LX MC	Natural gas	197A	CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
		197B	CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
			EXP	500	CTV	19990717	Included	-	98000102	B7	
		197C	EXP	500	CTV	19990720	Included	-	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
			EXP	500	CTV	19990721	Included	-	98000101	B7	
			EXP	500	CTV	19990721	Included	-	-	D5	
		197D	EXP	500	CTV	19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
			CE	500	CTV	19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
		EXP	EXP	500	CTV	19990719	Included	-	98000101	B7	
			EXP	500	CTV	19990722	Included	-	-	D5	
TBG 260 LX ME TBG 260 LX ME V	Natural gas	198A	CE/EXP	360	CTV	19990722	Included	-	98000101	D5	
		198B	CE/EXP	500	CTV	19990722	Included	-	98000101	D5	
		198B	CE/EXP	500	CTV	19990755	Included	-	Included	D2	
		198C	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
		198C	CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		198D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
TBG 260 MC	Natural gas	182A	CE/EXP	500	CTV	19990726	Included	-	Included	D4	
			CE/EXP	500	CTV	19990753	Included	-	Included	D4	
		182B	CE	360	CTV	19990727	Included	-	Included	D4	
			CE	360	CTV	19990716	Included	-	98000101	B7	11)
			EXP	360	CTV	19990716	Included	-	-	B7	
			EXP	360	CTV	19990716	Included	-	98000101	B7	
		182C	CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
			EXP	500	CTV	19990717	Included	-	98000102	B7	
		182D	EXP	500	CTV	19990720	Included	-	-	D5	
			EXP	500	CTV	19990720	Included	-	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
TBG 260 ME TBG 260 ME V	Natural gas	182C	EXP	500	CTV	19990718	Included	-	-	B7	
			EXP	500	CTV	19990718	Included	-	98000101	B7	
		182D	EXP	500	CTV	19990721	Included	-	-	D5	
			EXP	500	CTV	19990721	Included	-	98000101	D5	
		182D	CE	500	CTV	19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
		182D	CE	500	CTV	19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
		182D	EXP	500	CTV	19990719	Included	-	98000101	B7	
			EXP	500	CTV	19990722	Included	-	-	D5	
TBG 260 ME TBG 260 ME V	Natural gas	183A	EXP	500	CTV	19990722	Included	-	98000101	D5	
			EXP	500	CTV	19990722	Included	-	98000101	D5	
		183B	CE/EXP	360	CTV	19990751	Included	-	Included	D2	
			CE/EXP	500	CTV	19990751	Included	-	Included	D4	
		183C	CE/EXP	500	CTV	19990725	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		183D	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	
		183D	CE/EXP	500	CTV	19990753	Included	-	Included	D4	
			CE/EXP	500	CTV	19990727	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 260 LX MC	LPG	CE	500	CTV	19990717	Included	-	98000102	98000380	B7	11)
				CTV	19990720	Included	-	98000101	98000380	D5	11)
		EXP	500	CTV	19990717	Included	-	-	98000380	B7	
				CTV	19990720	Included	-	98000102	98000380	B7	
		EXP	500	CTV	19990717	Included	-	-	98000380	D5	
				CTV	19990720	Included	-	98000101	98000380	D5	
TBG 260 LX ME/ME V	LPG	CE/EXP	500	CTV	19990751	Included	-	Included	98000380	D4	
				CTV	19990725	Included	-	Included	98000380	D4	
TBG 260 MC	LPG	CE	500	CTV	19990717	Included	-	98000102	98000366	B7	11)
				CTV	19990720	Included	-	98000101	98000366	B5	
		EXP	500	CTV	19990717	Included	-	-	98000366	B7	
				CTV	19990720	Included	-	98000102	98000366	B7	
		EXP	500	CTV	19990717	Included	-	-	98000366	D5	
				CTV	19990720	Included	-	98000101	98000366	D5	
TBG 260 ME/ME V	LPG	CE/EXP	500	CTV	19990751	Included	-	Included	98000366	D4	
				CTV	19990725	Included	-	Included	98000366	D4	



TBG 360 LX MC

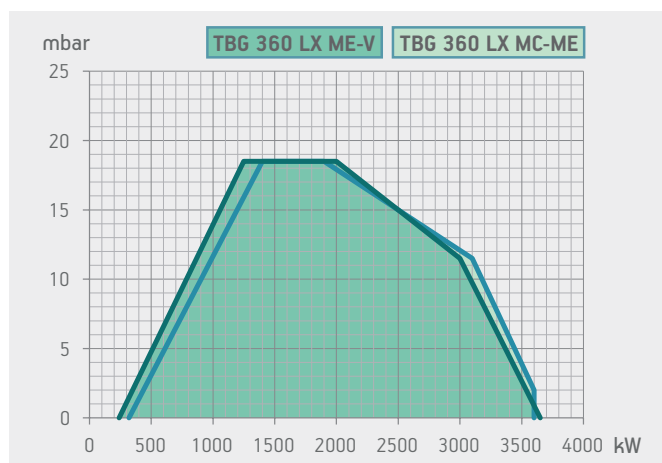


TBG 360 LX ME

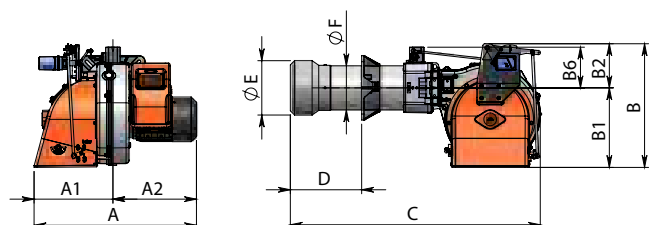
	TBG 360 LX MC	TBG 360 LX ME	TBG 360 LX ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:10	1:10	1:10
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

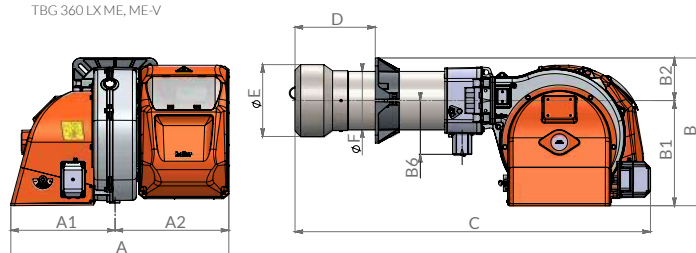
○ Optional, ● As standard



TBG 360 LX MC



TBG 360 LX ME, ME-V



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 360 LX MC	808	392	416	614	395	219	202	1243	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2
TBG 360 LX ME	819	392	427	555	395	160	202	1337	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2
TBG 360 LX ME V	838	392	446	555	395	160	202	1337	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	320 ÷ 3600	<b>TBG 360 LX MC</b>	<b>18880010</b>	3N AC 50Hz 400V	7,5	3) 4)
			class 3	320 ÷ 3600	<b>TBG 360 LX ME</b>	<b>18900010</b>	3N AC 50Hz 400V	7,5	3) 4)
•	○	○	class 3	240 ÷ 3650	<b>TBG 360 LX ME V</b>	<b>18900015</b>	3N AC 50Hz 400V	7,5	3) 4)
Frequency 60 Hz									
			class 3	320 ÷ 3600	<b>TBG 360 LX MC</b>	<b>18885410</b>	3N AC 60Hz 380V	9,0	3) 4)
			class 3	320 ÷ 3600	<b>TBG 360 LX ME</b>	<b>18905410</b>	3N AC 60Hz 380V	9,0	3) 4)
•	○	○	class 3	240 ÷ 3650	<b>TBG 360 LX ME V</b>	<b>18900015</b>	3N AC 60Hz 380V	9,0	3) 4)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 360 LX MC: modulation kit (see page 332)	
TBG 360 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 360 LX MC/360 LX ME: modulating probe (see page 332)	
TBG 360 LX MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 LPG: Hi = 92 MJ/m³ = 22000 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



TBG 360 MC



TBG 360 ME

TBG 360 MC	TBG 360 ME	TBG 360 ME V
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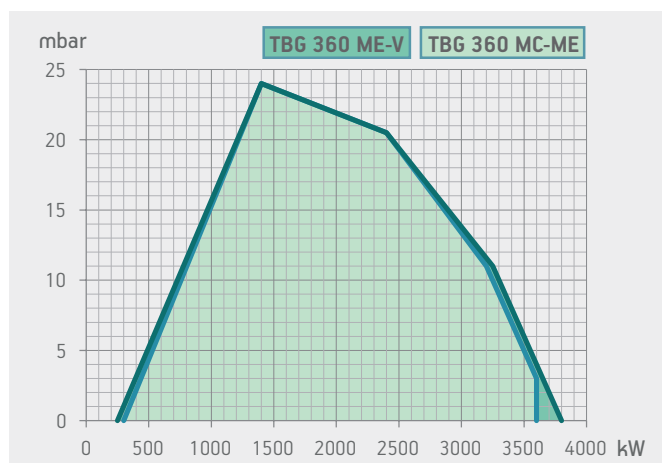
mechanical two-stage progressive	electronic modulation	electronic modulation
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## Gas burner compliant with European standard EN676. Operation:

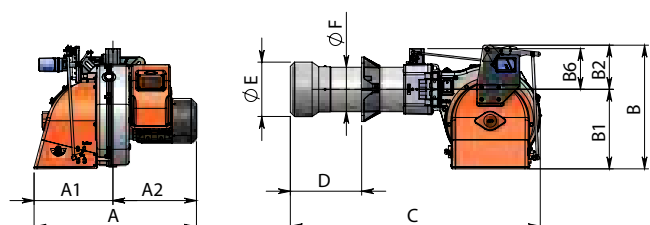
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:9	1:10	1:12
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
High ventilation efficiency, low electrical input, low noise (IE3)	●	●	
Drive system with permanent magnet motor (IE5 efficiency class) that allows further reductions in noise levels and electrical consumption.			●
Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP40	IP40	IP40

## LEGEND:

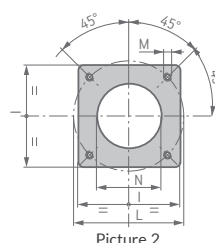
○ Optional, ● As standard



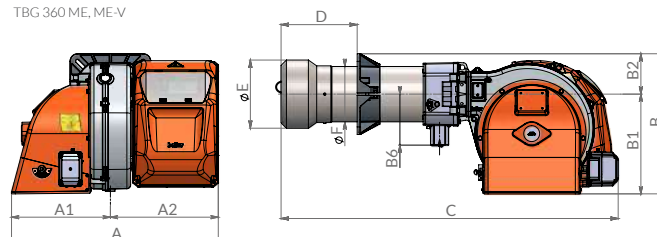
TBG 360 MC



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 360 MC	1070	870	810	124
TBG 360 ME	1070	870	720	128
TBG 360 ME V	1070	870	720	122

Flange dimensions  
and boiler drilling  
template.

TBG 360 ME, ME-V



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 360 MC	808	392	416	614	395	219	202	1242	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2
TBG 360 ME	819	392	427	555	395	160	202	1337	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2
TBG 360 ME V	838	392	446	555	395	160	202	1337	200 ÷ 450	270	219	320	310 ÷ 370	M12	275	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	300 ÷ 3600	<b>TBG 360 MC</b>	<b>18870010</b>	3N AC 50Hz 400V	7,5	3) 4)
			class 2	300 ÷ 3600	<b>TBG 360 ME</b>	<b>18890010</b>	3N AC 50Hz 400V	7,5	3) 4)
•	○	○	class 2	250 ÷ 3800	<b>TBG 360 ME V</b>	<b>18890015</b>	3N AC 50Hz 400V	7,5	3) 4)
Frequency 60 Hz									
			class 2	300 ÷ 3600	<b>TBG 360 MC</b>	<b>18875410</b>	3N AC 60Hz 380V	9,0	3) 4)
			class 2	300 ÷ 3600	<b>TBG 360 ME</b>	<b>18895410</b>	3N AC 60Hz 380V	9,0	3) 4)
•	○	○	class 2	250 ÷ 3800	<b>TBG 360 ME V</b>	<b>18890015</b>	3N AC 60Hz 380V	9,0	3) 4)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 360 MC: modulation kit (see page 332)	
TBG 360 ME: modulation kit (Included in the ME V version)	98000059
TBG 360 MC/360 ME: modulating probe (see page 332)	
TBG 360 MC: converter kit 0÷10V / 4÷20 mA	98000063

## NOTE

- 3 Sound proof lid on burner air intake.  
 4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 LPG:  $H_i = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$ .  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

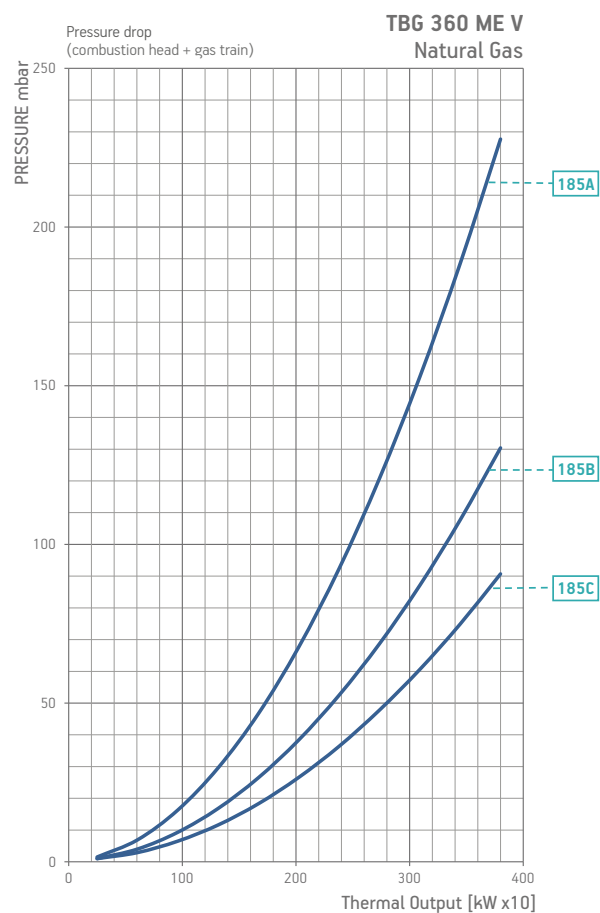
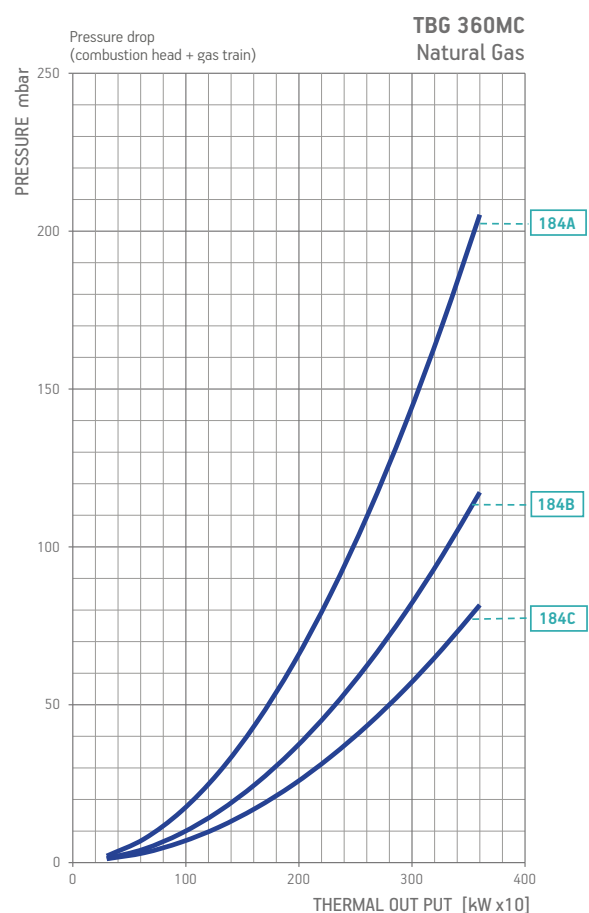
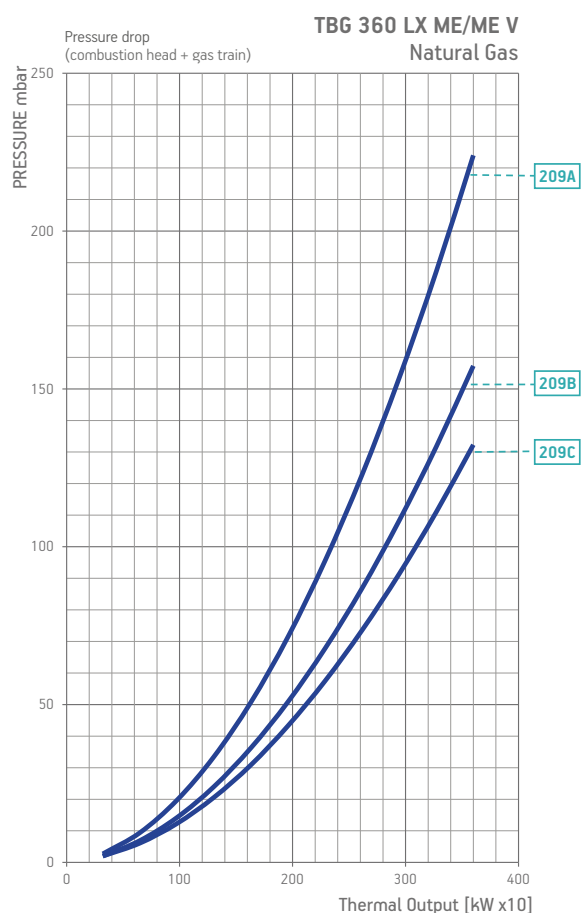
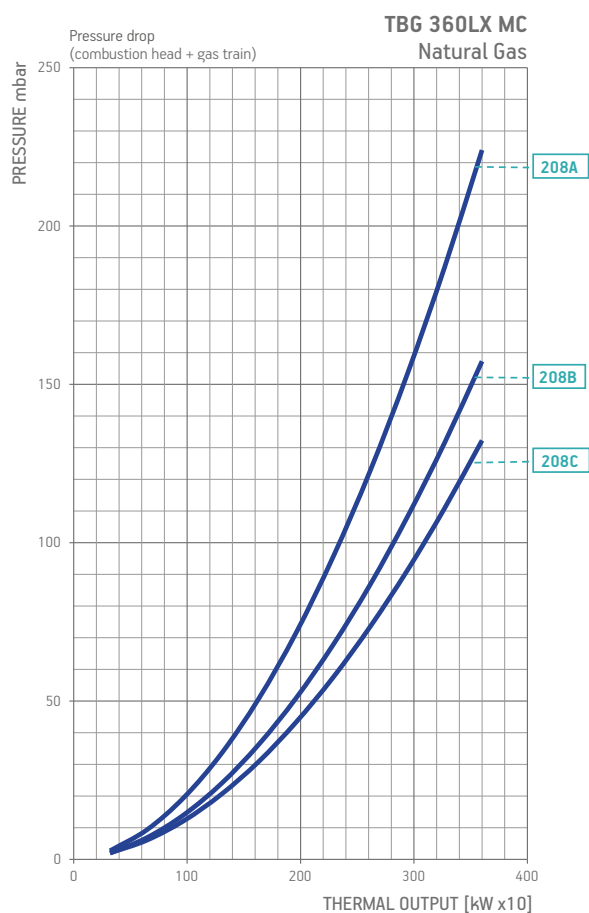
DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
TBG 110 - 360 L600 long head kit <b>NEW</b> 1)	98000456
Soundproof burner cover (see page 337)	97980053

## BURNER ACCESSORIES

Boiler coupling kit.

## N.B.

- 1) Conversion kit, for standard burner, by installer.  
 For supply of the product in long head version, please contact the sales department.



Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 360 LX MC	Natural gas	208A	CE	500	CTV	19990717	Included	96000035	98000102	B7	11)
			CE	500	CTV	19990773	Included	96000035	98000101	D5	11)
			EXP	500	CTV	19990717	Included	96000035	-	B7	
			EXP	500	CTV	19990773	Included	96000035	98000102	B7	
			EXP	500	CTV	19990773	Included	96000035	-	D5	
			EXP	500	CTV	19990773	Included	96000035	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990774	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
			EXP	500	CTV	19990718	Included	-	98000101	B7	
			EXP	500	CTV	19990774	Included	-	-	D5	
			EXP	500	CTV	19990774	Included	-	98000101	D5	
		208B	CE	500	CTV	19990719	Included	-	98000101	B7	11)
			CE	500	CTV	19990775	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
			EXP	500	CTV	19990719	Included	-	98000101	B7	
			EXP	500	CTV	19990775	Included	-	-	D5	
			EXP	500	CTV	19990775	Included	-	98000101	D5	
TBG 360 LX ME/ME V	Natural gas	209A	CE/EXP	500	CTV	19990751	Included	96000035	Included	D4	
			CE/EXP	500	CTV	19990786	Included	96000035	Included	D5	
		209B	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990787	Included	-	Included	D5	
		209C	CE/EXP	500	CTV	19990753	Included	-	Included	D4	
			CE/EXP	500	CTV	19990788	Included	-	Included	D5	
TBG 360 MC	Natural gas	184A	CE	500	CTV	19990717	Included	-	98000102	B7	11)
			CE	500	CTV	19990720	Included	-	98000101	D5	11)
			EXP	500	CTV	19990717	Included	-	-	B7	
			EXP	500	CTV	19990717	Included	-	98000102	B7	
			EXP	500	CTV	19990720	Included	-	-	D5	
		184B	EXP	500	CTV	19990720	Included	-	98000101	D5	
			CE	500	CTV	19990718	Included	-	98000101	B7	11)
			CE	500	CTV	19990721	Included	-	98000101	D5	11)
			EXP	500	CTV	19990718	Included	-	-	B7	
			EXP	500	CTV	19990718	Included	-	98000101	B7	
		184C	EXP	500	CTV	19990721	Included	-	-	D5	
			EXP	500	CTV	19990721	Included	-	98000101	D5	
			CE	500	CTV	19990719	Included	-	98000101	B7	11)
			CE	500	CTV	19990722	Included	-	98000101	D5	11)
			EXP	500	CTV	19990719	Included	-	-	B7	
			EXP	500	CTV	19990719	Included	-	98000101	B7	
TBG 360 ME/ME V	Natural gas	185A	EXP	500	CTV	19990722	Included	-	-	D5	
			EXP	500	CTV	19990722	Included	-	98000101	D5	
		185B	CE/EXP	500	CTV	19990751	Included	-	Included	D4	
			CE/EXP	500	CTV	19990725	Included	-	Included	D4	
		185C	CE/EXP	500	CTV	19990752	Included	-	Included	D4	
			CE/EXP	500	CTV	19990726	Included	-	Included	D4	
TBG 360 ME/ME V	Natural gas	185C	CE/EXP	500	CTV	19990753	Included	-	Included	D4	
			CE/EXP	500	CTV	19990727	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 360 LX MC	LPG	CE	500	CTV	19990717	Included	96000035	98000102	-	B7	11)
				CTV	19990720	Included	96000035	98000101	-	D5	11)
		EXP	500	CTV	19990717	Included	96000035	-	-	B7	
				CTV	19990717	Included	96000035	98000102	-	B7	
		EXP	500	CTV	19990720	Included	96000035	-	-	D5	
				CTV	19990720	Included	96000035	98000101	-	D5	
TBG 360 LX ME/ME V	LPG	CE/EXP	500	CTV	19990751	Included	96000035	Included	-	D4	
				CTV	19990786	Included	96000035	Included	-	D4	
TBG 360 MC	LPG	CE	500	CTV	19990717	Included	-	98000102	98000366	B7	11)
				CTV	19990720	Included	-	98000101	98000366	D5	11)
		EXP	500	CTV	19990717	Included	-	-	98000366	B7	
				CTV	19990717	Included	-	98000102	98000366	B7	
		EXP	500	CTV	19990720	Included	-	-	98000366	D5	
				CTV	19990720	Included	-	98000101	98000366	D5	
TBG 360 ME/ME V	LPG	CE/EXP	500	CTV	19990751	Included	-	Included	98000366	D4	
				CTV	19990725	Included	-	Included	98000366	D4	



TBG 450 LX MC



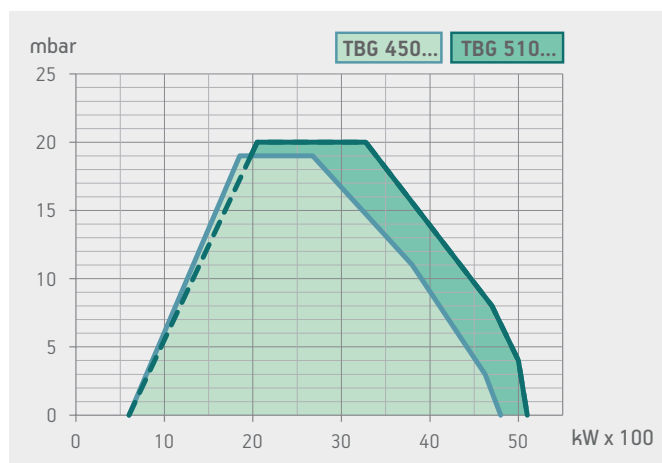
TBG 450 LX ME

	TBG 450 LX MC	TBG 450 LX ME	TBG 450 LX ME V
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>mechanical two-stage progressive</b>	<b>electronic modulation</b>	<b>electronic modulation</b>
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:8	1:8	1:8
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up/down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

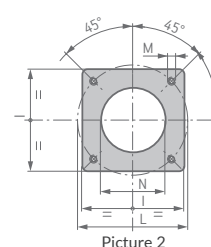
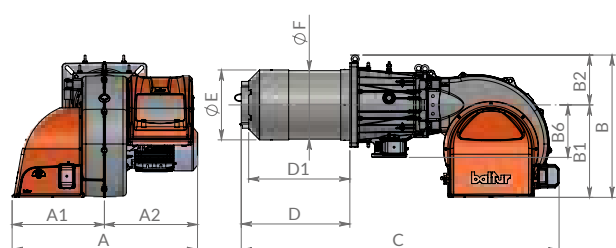
**LEGEND:**

○ Optional, ● As standard





Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 450 LX MC	1500	1150	970	260
TBG 450 LX ME	1500	1150	970	260
TBG 450 LX ME V	1950	1510	1210	355



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	D1 mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 450 LX MC	1060	530	530	810	525	285	295	1800	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 450 LX ME	1060	530	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 450 LX ME V	1060	530	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	600 ÷ 4800	TBG 450 LX MC	18100010	3N AC 50Hz 400V	9,2	4)
			class 3	600 ÷ 4800	TBG 450 LX ME	18110010	3N AC 50Hz 400V	9,2	4)
•	○	○	class 3	600 ÷ 4800	TBG 450 LX ME V	18110015	3N AC 50Hz 400V	9,2	4) 10)
Frequency 60 Hz									
			class 3	600 ÷ 4800	TBG 450 LX MC	18105410	3N AC 60Hz 380V	9,2	4)
			class 3	600 ÷ 4800	TBG 450 LX ME	18115410	3N AC 60Hz 380V	9,2	4)
•	○	○	class 3	600 ÷ 4800	TBG 450 LX ME V	18115415	3N AC 60Hz 380V	9,2	4) 10)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 450 LX MC: modulation kit	98000055
TBG 450 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 450 LX MC/450 LX ME: modulating probe (see page 332)	

## NOTE

- 4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 19 For applications on flame-reversing boilers, please get in contact with our commercial department.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Reversing nozzle kit 19)	98000437
Soundproof burner cover (see page 337)	97980058

## BURNER ACCESSORIES

Boiler coupling kit.



TBG 510 LX MC

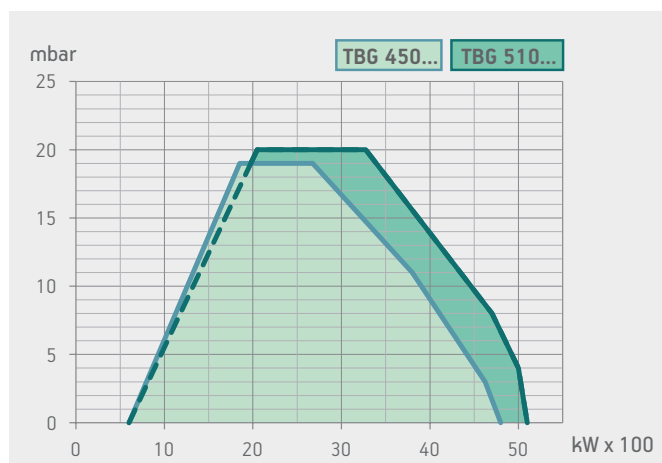


TBG 510 LX ME

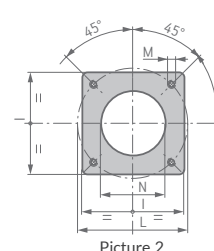
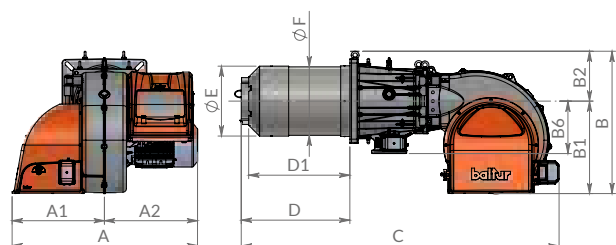
	TBG 510 LX MC	TBG 510 LX ME	TBG 510 LX ME V
	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:9	1:9	1:9
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up/down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

**LEGEND:**

○ Optional, ● As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 510 LX MC	1500	1150	970	265
TBG 510 LX ME	1500	1150	970	265
TBG 510 LX ME V	1950	1510	1210	370



Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	D1 mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 510 LX MC	1060	530	530	810	525	285	295	1800	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 510 LX ME	1060	530	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 510 LX ME V	1060	530	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	600 ÷ 5100	TBG 510 LX MC	18130010	3N AC 50Hz 400V	11	4)
			class 3	600 ÷ 5100	TBG 510 LX ME	18140010	3N AC 50Hz 400V	11	4)
•	○	○	class 3	600 ÷ 5100	TBG 510 LX ME V	18140015	3N AC 50Hz 400V	11	4) 10)
Frequency 60 Hz									
			class 3	600 ÷ 5100	TBG 510 LX MC	18135410	3N AC 60Hz 380V	11	4)
			class 3	600 ÷ 5100	TBG 510 LX ME	18145410	3N AC 60Hz 380V	11	4)
•	○	○	class 3	600 ÷ 5100	TBG 510 LX ME V	18145415	3N AC 60Hz 380V	11	4) 10)

○ Optional, • As standard

### MODULATING MODE

DESCRIPTION	PART NO.
TBG 510 LX MC: modulation kit	98000055
TBG 510 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 510 LX MC/510 LX ME: modulating probe (see page 332)	

### NOTE

- 4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 19 For applications on flame-reversing boilers, please get in contact with our commercial department.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Reversing nozzle kit 19)	98000437
Soundproof burner cover (see page 337)	97980058

### BURNER ACCESSORIES

Boiler coupling kit.



TBG 650 LX MC



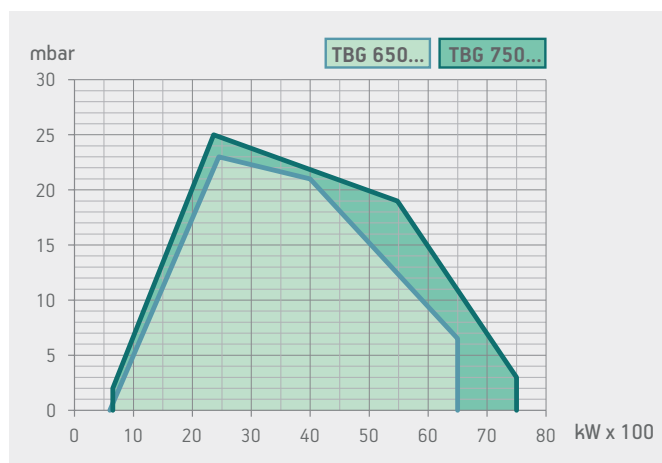
TBG 650 LX ME

**Gas burner compliant with European standard EN676. Operation:**

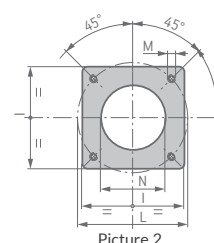
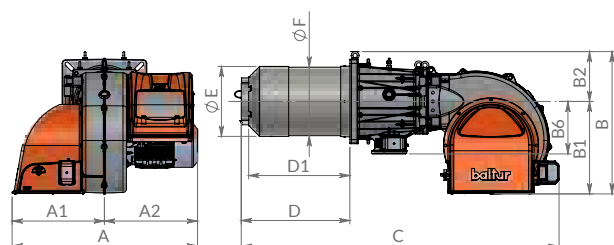
	TBG 650 LX MC	TBG 650 LX ME	TBG 650 LX ME V
	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:11	1:11	1:11
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up/down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

**LEGEND:**

○ Optional, ● As standard




Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 650 LX MC	1500	1320	970	272
TBG 650 LX ME	1500	1320	970	265
TBG 650 LX ME V	1950	1510	1210	295



Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	D1 mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 650 LX MC	1110	580	530	810	525	285	295	1800	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 650 LX ME	1110	580	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 650 LX ME V	1110	580	530	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	600 ÷ 6500	TBG 650 LX MC	18160010	3N AC 50Hz 400V	15	4)
			class 3	600 ÷ 6500	TBG 650 LX ME	18170010	3N AC 50Hz 400V	15	4)
•	○	○	class 3	600 ÷ 6500	TBG 650 LX ME V	18170015	3N AC 50Hz 400V	15	4) 10)
Frequency 60 Hz									
			class 3	600 ÷ 6500	TBG 650 LX MC	18165410	3N AC 60Hz 380V	15	4)
			class 3	600 ÷ 6500	TBG 650 LX ME	18175410	3N AC 60Hz 380V	15	4)
•	○	○	class 3	600 ÷ 6500	TBG 650 LX ME V	18175415	3N AC 60Hz 380V	15	4) 10)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 650 LX MC: modulation kit	98000055
TBG 650 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 650 LX MC/650 LX ME: modulating probe (see page 332)	

## NOTE

- 4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 19 For applications on flame-reversing boilers, please get in contact with our commercial department.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ .  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Reversing nozzle kit 19)	98000436
Soundproof burner cover (see page 337)	97980058

## BURNER ACCESSORIES

Boiler coupling kit.



TBG 750 LX MC



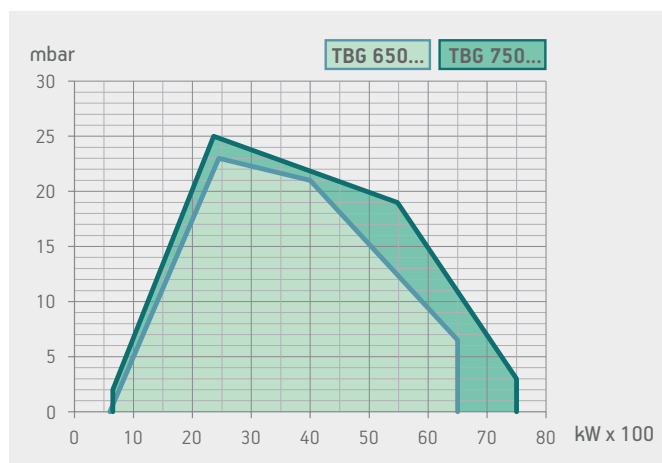
TBG 750 LX ME

**Gas burner compliant with European standard EN676. Operation:**

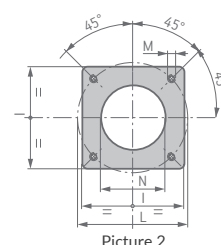
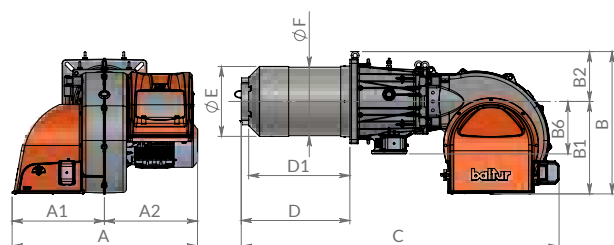
	TBG 750 LX MC	TBG 750 LX ME	TBG 750 LX ME V
	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:12	1:12	1:12
Low NO <sub>x</sub> and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Adjusting the combustion head	●	●	●
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	up/down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

**LEGEND:**

○ Optional, ● As standard




Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 750 LX MC	1500	1320	970	310
TBG 750 LX ME	1500	1320	970	310
TBG 750 LX ME V	1950	1510	1210	330



Flange dimensions  
and boiler drilling  
template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	D1 mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 750 LX MC	1180	530	650	810	525	285	295	1800	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 750 LX ME	1180	530	650	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2
TBG 750 LX ME V	1180	530	650	810	525	285	295	1850	650	547 ÷ 597	397	410	480	520 ÷ 600	M20	415	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	650 ÷ 7500	TBG 750 LX MC	18190010	3N AC 50Hz 400V	18,5	4)
			class 3	650 ÷ 7500	TBG 750 LX ME	18200010	3N AC 50Hz 400V	18,5	4)
•	○	○	class 3	650 ÷ 7500	TBG 750 LX ME V	18200015	3N AC 50Hz 400V	18,5	4) 10)
Frequency 60 Hz									
			class 3	650 ÷ 7500	TBG 750 LX MC	18195410	3N AC 60Hz 380V	18,5	4)
			class 3	650 ÷ 7500	TBG 750 LX ME	18205410	3N AC 60Hz 380V	18,5	4)
•	○	○	class 3	650 ÷ 7500	TBG 750 LX ME V	18205415	3N AC 60Hz 380V	18,5	4) 10)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 750 LX MC: modulation kit	98000055
TBG 750 LX ME: modulation kit (Included in the ME V version)	98000059
TBG 750 LX MC/750 LX ME: modulating probe (see page 332)	

## ACCESSORIES AVAILABLE ON REQUEST

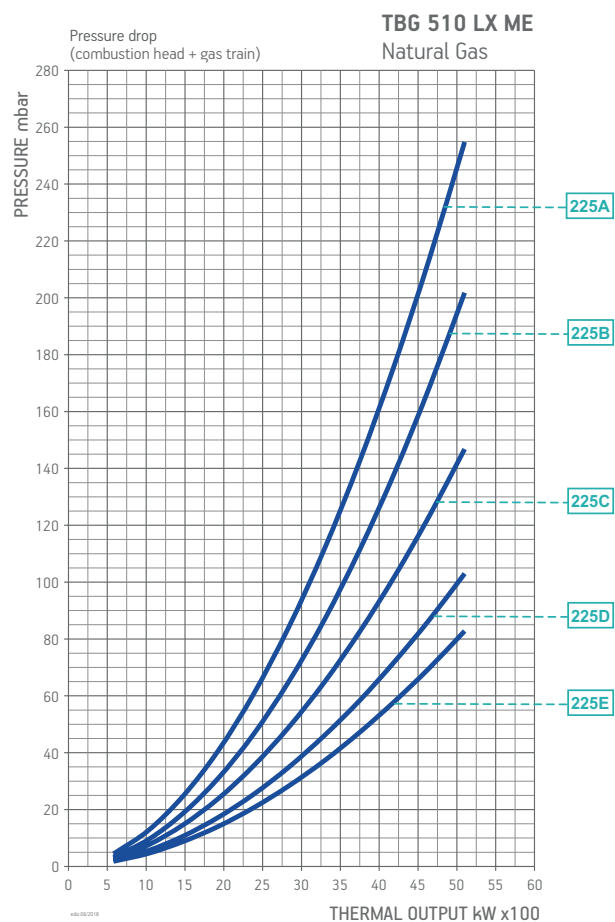
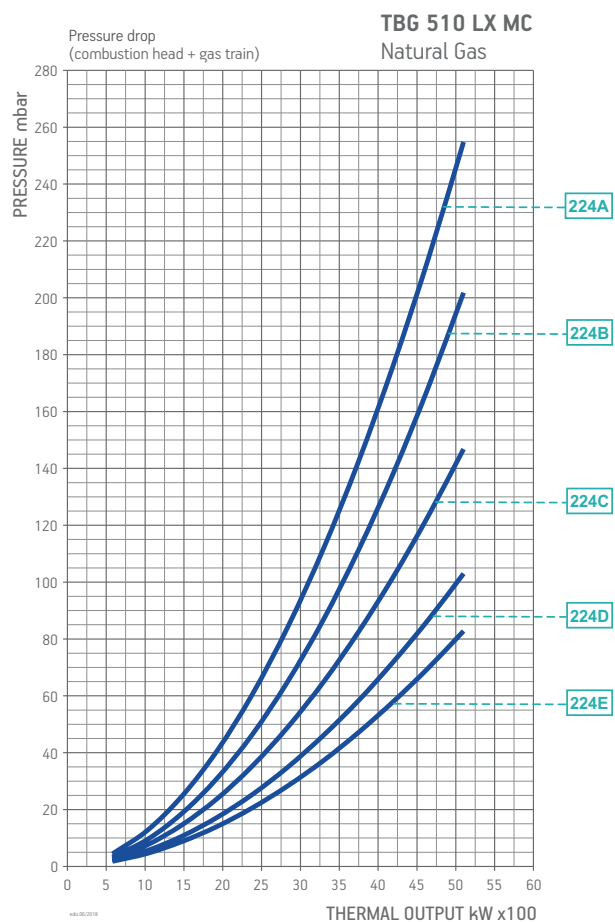
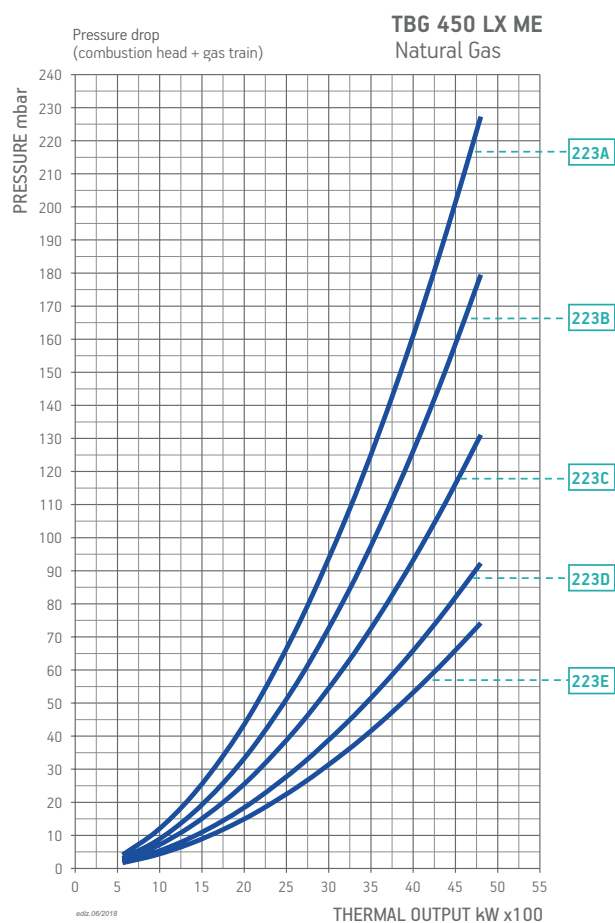
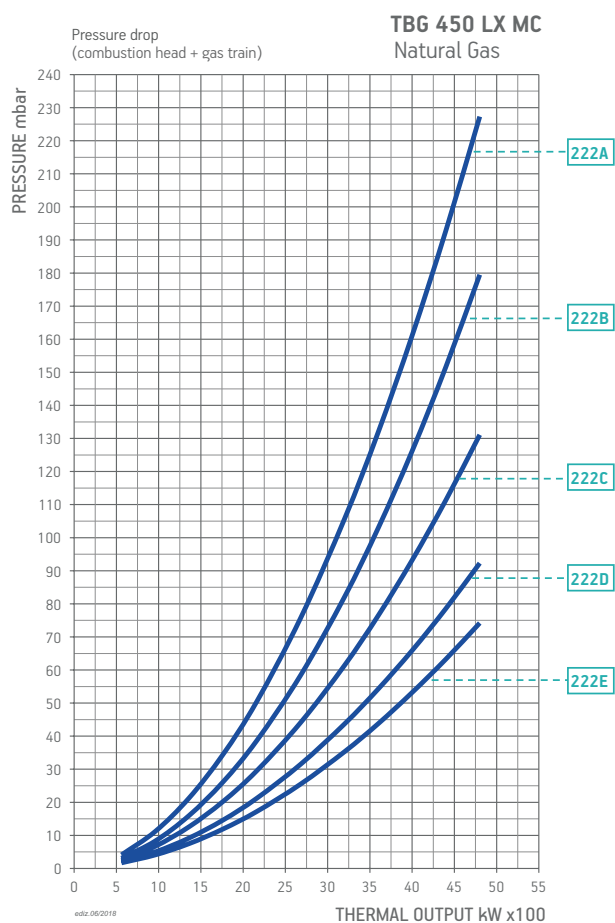
DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Reversing nozzle kit 19)	98000436
Soundproof burner cover (see page 337)	97980058

## BURNER ACCESSORIES

Boiler coupling kit.

## NOTE

- 4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 19 For applications on flame-reversing boilers, please get in contact with our commercial department.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.





## BURNER/GAS TRAIN MATCH

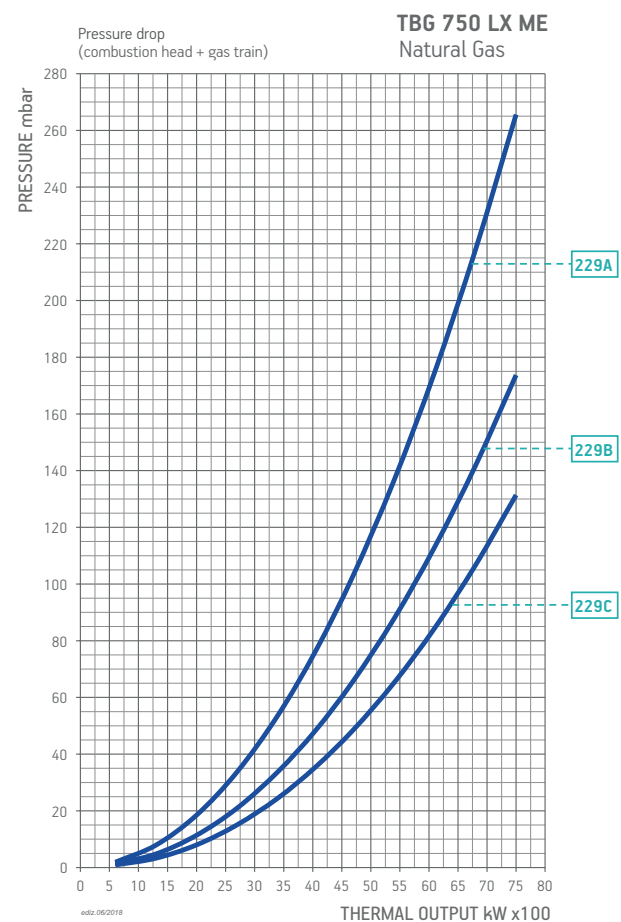
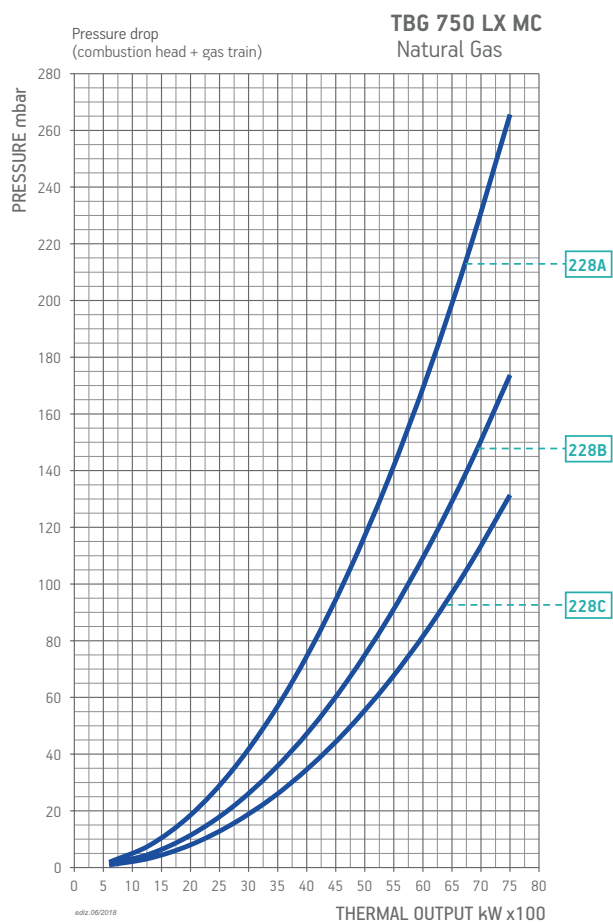
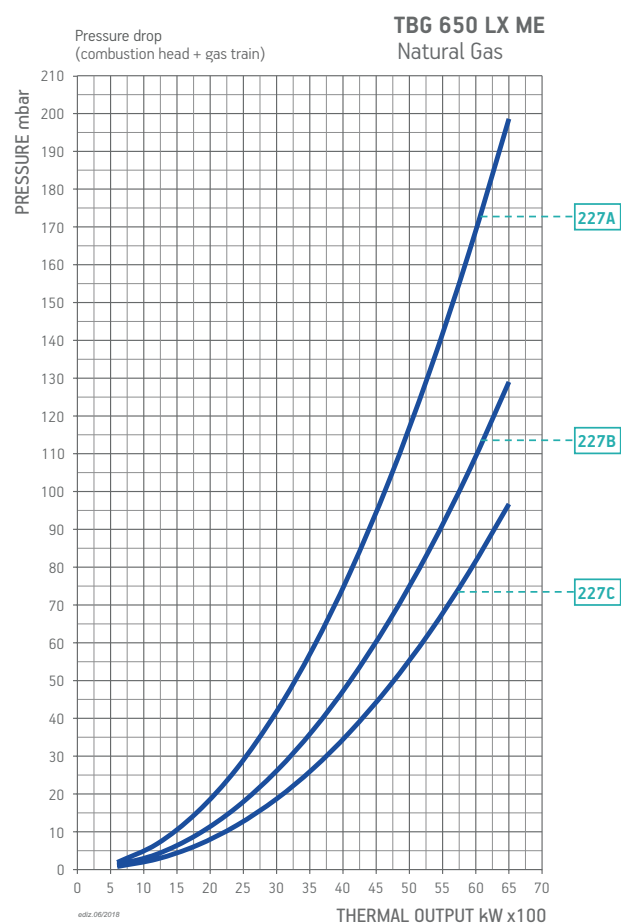
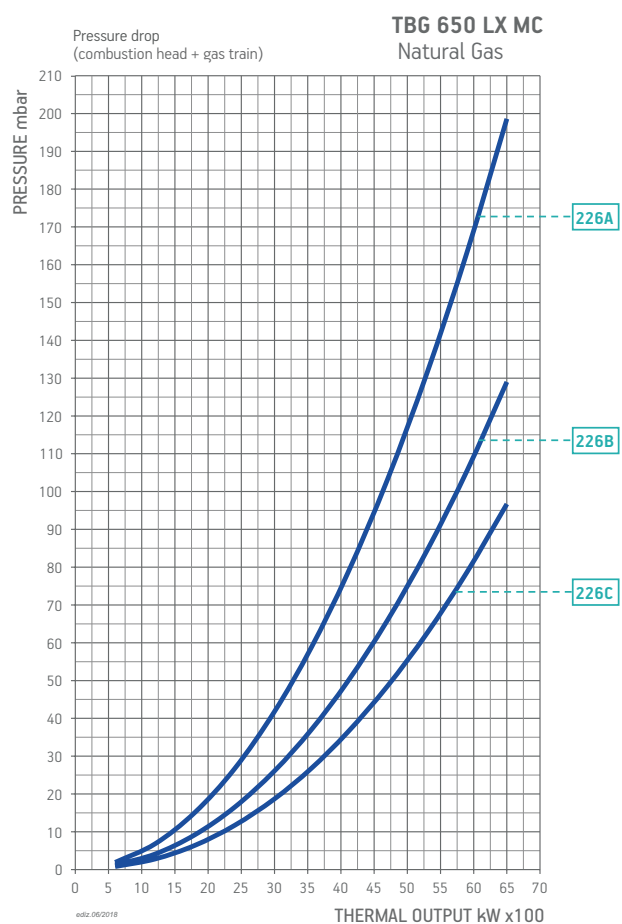
Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 450 LX MC	Natural gas	222A	CE/EXP	500	CTV	19990599	Included	-	Included	D8	
			CE/EXP	500	CTV	19990758	Included	-	Included	D8	
		222B	CE/EXP	500	CTV	19990665	Included	-	Included	D8	
			CE/EXP	500	CTV	19990600	Included	-	Included	D8	
		222C	CE/EXP	500	CTV	19990759	Included	-	Included	D8	
			CE/EXP	500	CTV	19990601	Included	-	Included	D8	
		222D	CE/EXP	500	CTV	19990760	Included	-	Included	D8	
			CE/EXP	500	CTV	19990602	Included	-	Included	D8	
		222E	CE/EXP	500	CTV	19990761	Included	-	Included	D8	
			CE/EXP	500	CTV	19990758	Included	-	Included	D8	
		222C	CE/EXP	500	CTV	19990759	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
TBG 450 LX ME TBG 450 LX ME V	Natural gas	223A	CE/EXP	500	CTV	19990541	Included	-	Included	D4	
			CE/EXP	500	CTV	19990679	Included	-	Included	D4	
		223B	CE/EXP	500	CTV	19990666	Included	-	Included	D4	
			CE/EXP	500	CTV	19990542	Included	-	Included	D4	
		223C	CE/EXP	500	CTV	19990680	Included	-	Included	D4	
			CE/EXP	500	CTV	19990543	Included	-	Included	D4	
		223D	CE/EXP	500	CTV	19990681	Included	-	Included	D4	
			CE/EXP	500	CTV	19990544	Included	-	Included	D4	
		223E	CE/EXP	500	CTV	19990682	Included	-	Included	D4	
			CE/EXP	500	CTV	19990679	Included	-	Included	D4	
		223C	CE/EXP	500	CTV	19990680	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
TBG 510 LX MC	Natural gas	224A	CE/EXP	500	CTV	19990599	Included	-	Included	D8	
			CE/EXP	500	CTV	19990758	Included	-	Included	D8	
		224B	CE/EXP	500	CTV	19990665	Included	-	Included	D8	
			CE/EXP	500	CTV	19990600	Included	-	Included	D8	
		224C	CE/EXP	500	CTV	19990759	Included	-	Included	D8	
			CE/EXP	500	CTV	19990601	Included	-	Included	D8	
		224D	CE/EXP	500	CTV	19990760	Included	-	Included	D8	
			CE/EXP	500	CTV	19990602	Included	-	Included	D8	
		224E	CE/EXP	500	CTV	19990761	Included	-	Included	D8	
			CE/EXP	500	CTV	19990758	Included	-	Included	D8	
		224C	CE/EXP	500	CTV	19990759	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
TBG 510 LX ME TBG 510 LX ME V	Natural gas	225A	CE/EXP	500	CTV	19990541	Included	-	Included	D4	
			CE/EXP	500	CTV	19990679	Included	-	Included	D4	
		225B	CE/EXP	500	CTV	19990666	Included	-	Included	D4	
			CE/EXP	500	CTV	19990542	Included	-	Included	D4	
		225C	CE/EXP	500	CTV	19990680	Included	-	Included	D4	
			CE/EXP	500	CTV	19990543	Included	-	Included	D4	
		225D	CE/EXP	500	CTV	19990681	Included	-	Included	D4	
			CE/EXP	500	CTV	19990544	Included	-	Included	D4	
		225E	CE/EXP	500	CTV	19990682	Included	-	Included	D4	
			CE/EXP	500	CTV	19990679	Included	-	Included	D4	
		225C	CE/EXP	500	CTV	19990680	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
TBG 510 LX ME V	Natural gas	225E	CE/EXP	500	CTV	19990682	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 450 LX MC	LPG	CE/EXP	500	CTV	19990599	Included	-	Included	-	D8	
TBG 450 LX ME TBG 450 LX ME V	LPG	CE/EXP	500	CTV	19990541	Included	-	Included	-	D4	
TBG 510 LX MC	LPG	CE/EXP	500	CTV	19990599	Included	-	Included	-	D8	
TBG 510 LX ME TBG 510 LX ME V	LPG	CE/EXP	500	CTV	19990541	Included	-	Included	-	D4	

## NOTE

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 650 LX MC	Natural gas	226A	CE/EXP	500	CTV	19990600	Included	-	Included	D8	
			CE/EXP	500	CTV	19990759	Included	-	Included	D8	
		226B	CE/EXP	500	CTV	19990601	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
		226C	CE/EXP	500	CTV	19990602	Included	-	Included	D8	
			CE/EXP	500	CTV	19990761	Included	-	Included	D8	
TBG 650 LX ME/ME V	Natural gas	227A	CE/EXP	500	CTV	19990542	Included	-	Included	D4	
			CE/EXP	500	CTV	19990680	Included	-	Included	D4	
		227B	CE/EXP	500	CTV	19990543	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
		227C	CE/EXP	500	CTV	19990544	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	
TBG 750 LX MC	Natural gas	228A	CE/EXP	500	CTV	19990600	Included	-	Included	D8	
			CE/EXP	500	CTV	19990759	Included	-	Included	D8	
		228B	CE/EXP	500	CTV	19990601	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
		228C	CE/EXP	500	CTV	19990602	Included	-	Included	D8	
			CE/EXP	500	CTV	19990761	Included	-	Included	D8	
TBG 750 LX ME/ME V	Natural gas	229A	CE/EXP	500	CTV	19990542	Included	-	Included	D4	
			CE/EXP	500	CTV	19990680	Included	-	Included	D4	
		229B	CE/EXP	500	CTV	19990543	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
		229C	CE/EXP	500	CTV	19990544	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max **	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 650 LX MC	LPG	CE/EXP	500	CTV	19990600	Included	-	Included	98000487	D8	
TBG 650 LX ME/ME V	LPG	CE/EXP	500	CTV	19990542	Included	-	Included	98000487	D4	
TBG 750 LX MC	LPG	CE/EXP	500	CTV	19990600	Included	-	Included	98000487	D8	
TBG 750 LX ME/ME V	LPG	CE/EXP	500	CTV	19990542	Included	-	Included	98000487	D4	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

CTV Gas train with Valve Tightness Control.

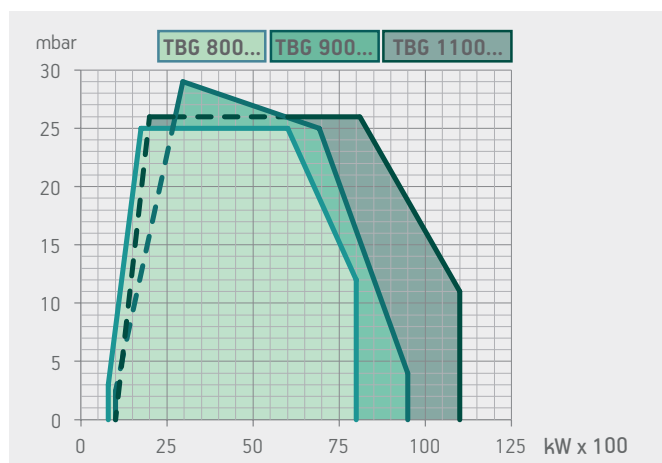
\*\* ) Maximum gas inlet pressure at pressure regulator.



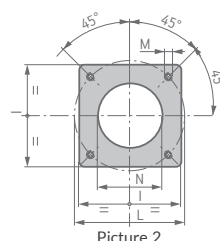
	TBG 800 MC	TBG 800 ME	TBG 800 ME V
Gas burner compliant with European standard EN676. Operation:	mechanical two-stage progressive	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:10	1:10	1:10
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3	class 3
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Controllo della presenza di fiamma tramite elettrodo ionizzatore con predisposizione al collegamento microamperometro	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

**LEGEND:**

○ Optional, ● As standard



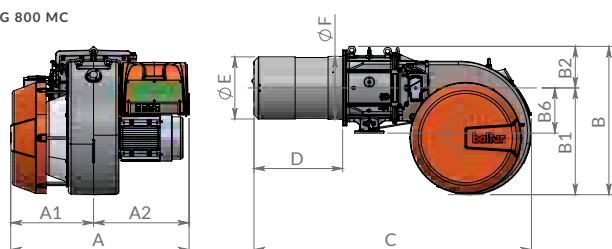
Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 800 MC	1950	1510	1210	460
TBG 800 ME	1950	1510	1210	460
TBG 800 ME V	1950	1510	1210	480



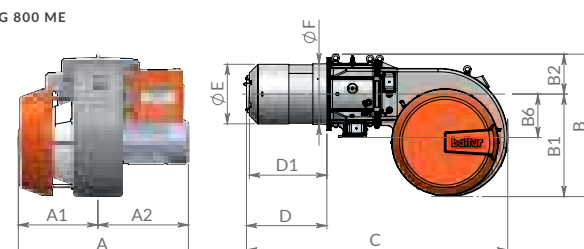
Flange dimensions and boiler drilling template.

Picture 2

TBG 800 MC



TBG 800 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	D1 mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 800 MC	1230	570	660	1030	740	290	310	2020	720	570	418	432	520	594	M20	440	2
TBG 800 ME	1230	570	660	1030	740	290	310	2020	720	570	418	432	520	594	M20	440	2
TBG 800 ME V	1230	570	660	1030	740	290	310	2020	720	570	418	432	520	594	M20	440	2

Inverter	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	800 ÷ 8000	TBG 800 MC	67230020	3N AC 50Hz 400V	15,0	4) 19)
			class 3	800 ÷ 8000	TBG 800 ME	67220010	3N AC 50Hz 400V	15,0	4) 19)
•	○	○	class 3	800 ÷ 8000	TBG 800 ME V	67220015	3N AC 50Hz 400V	15,0	4) 10) 19)
Frequency 60 Hz									
			class 3	800 ÷ 8000	TBG 800 MC	67235420	3N AC 60Hz 380V	18,5	4) 19)
			class 3	800 ÷ 8000	TBG 800 ME	67225410	3N AC 60Hz 380V	18,5	4) 19)
•	○	○	class 3	800 ÷ 8000	TBG 800 ME V	on request	3N AC 60Hz 380V	18,5	4) 10) 19)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 800 MC: modulation kit	98000055
TBG 800 ME: modulation kit (Included in the ME V version)	98000059
TBG 800 MC/800 ME: modulating probe (see page 332)	

## NOTE

- 4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 19 For applications on flame-reversing boilers, please get in contact with our commercial department.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ .  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Reversing nozzle kit 19)	98000361
Soundproof burner cover (see page 337)	97980058

## BURNER ACCESSORIES

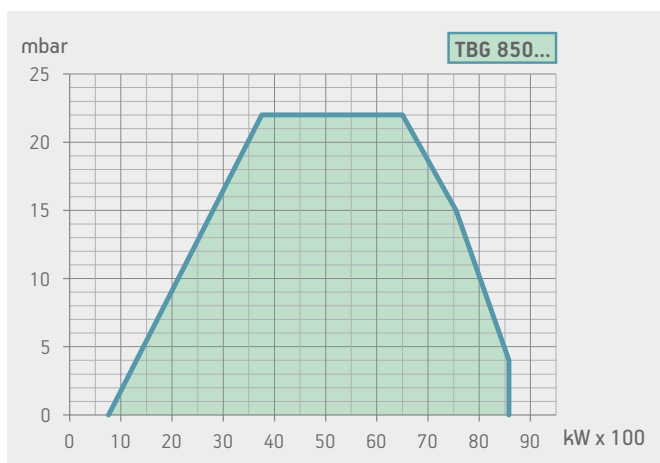
Boiler coupling kit.



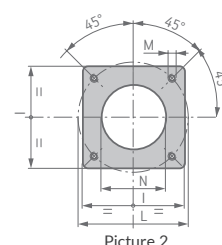
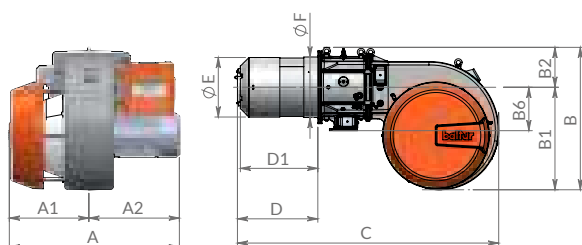
	TBG 850 LX ME	TBG 850 LX ME V
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>electronic modulation</b>	<b>electronic modulation</b>
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○
Modulation ratio:	1:10	1:10
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Fixed boiler coupling flange	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption		•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•
Electric protection rating:	IP54	IP54

**LEGEND:**

○ Optional, • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 850 LX ME	1950	1510	1240	474
TBG 850 LX ME V	1950	1510	1240	484



Flange dimensions  
and boiler drilling  
template.

Picture 2

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 850 LX ME	1214	568	646	1009	277	732	310	1865	574	425	432	520	594	M20	440	
TBG 850 LX ME V	1214	568	646	1009	277	732	310	1865	574	425	432	520	594	M20	440	

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	760 ÷ 8580	<b>TBG 850 LX ME</b>	<b>18400010</b>	3N AC 50Hz 400V	18,5	4)
•	○	○	class 3	760 ÷ 8580	<b>TBG 850 LX ME V</b>	<b>18400015</b>	3N AC 50Hz 400V	18,5	4) 10)
Frequency 60 Hz									
			class 3	760 ÷ 8580	<b>TBG 850 LX ME</b>	<b>18405410</b>	3N AC 60Hz 380V	18,5	4)
•	○	○	class 3	760 ÷ 8580	<b>TBG 850 LX ME V</b>	<b>18405415</b>	3N AC 60Hz 380V	18,5	4) 10)

○ Optional, • As standard

## ACCESSORI AGGIUNTIVI

DESCRIPTION	PART NO.
Soundproof burner cover: contact your sales representative.	
Modulation kit	98000059
Modulating probe for LCM 100 (see page 332)	

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461

## NOTE

4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

## BURNER ACCESSORIES

Boiler coupling kit.

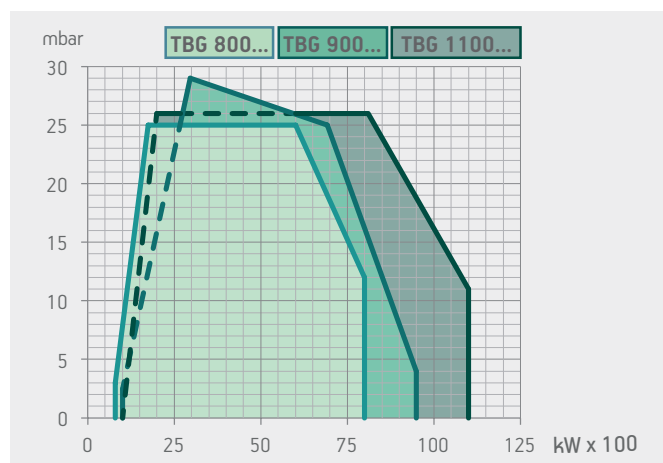


	TBG 900 MC	TBG 900 ME	TBG 900 ME V
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>mechanical two-stage progressive</b>	<b>electronic modulation</b>	<b>electronic modulation</b>
Modulation ratio:	1:10	1:10	1:10
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•	•
Fixed boiler coupling flange	•	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	•	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•	•
Device made of sound-absorbing material to reduce fan noise	•	•	•
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			•
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•	•
Fail proof connectors for burner/gas train connection	•	•	•
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•	•
Control panel with display diagram for working mode with indication lights	•		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		•	•
Electric protection rating:	IP54	IP54	IP54

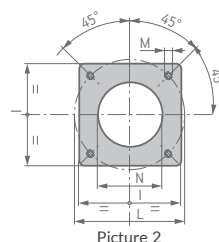
**LEGEND:**

○ Optional, • As standard



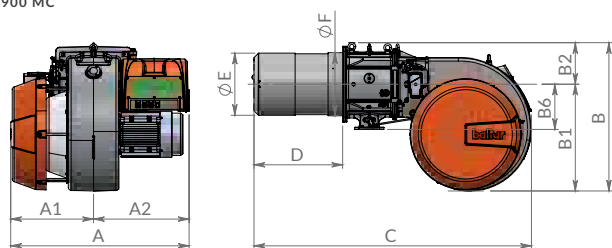


Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 900 MC	1950	1510	1210	489
TBG 900 ME	1950	1510	1210	485
TBG 900 ME V	1950	1510	1210	500

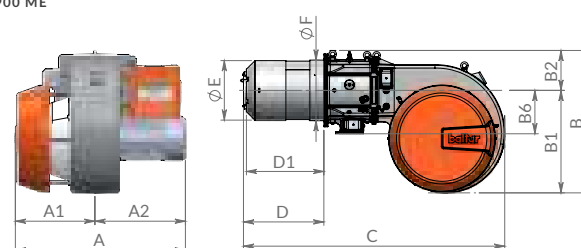


Flange dimensions and boiler drilling template.

TBG 900 MC



TBG 900 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M mm	N mm	Pic.
TBG 900 MC	1230	570	660	1030	740	290	310	1950	640	426	432	520	594	M20	462	2
TBG 900 ME	1230	570	660	1030	740	290	310	1950	640	426	432	520	594	M20	462	2
TBG 900 ME V	1230	570	660	1030	740	290	310	1950	640	426	432	520	594	M20	462	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	1000 ÷ 9500	<b>TBG 900 MC</b>	<b>67430010</b>	3N AC 50Hz 400V	15,0	4)
			class 2	1000 ÷ 9500	<b>TBG 900 ME</b>	<b>67420010</b>	3N AC 50Hz 400V	15,0	4)
•	○	○	class 2	1000 ÷ 9500	<b>TBG 900 ME V</b>	<b>67420015</b>	3N AC 50Hz 400V	15,0	4)
Frequency 60 Hz									
			class 2	1000 ÷ 9500	<b>TBG 900 MC</b>	<b>67435410</b>	3N AC 60Hz 380V	18,5	4)
			class 2	1000 ÷ 9500	<b>TBG 900 ME</b>	<b>67425410</b>	3N AC 60Hz 380V	18,5	4)
•	○	○	class 2	1000 ÷ 9500	<b>TBG 900 ME V</b>	<b>67425415</b>	3N AC 60Hz 380V	18,5	4)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 900 MC: modulation kit	98000055
TBG 900 ME: modulation kit (Included in the ME V version)	98000059
Modulating probe (see page 332)	

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461

## BURNER ACCESSORIES

Boiler coupling kit.

## NOTE

4 Equipped with automatic air closure device.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³,  
 For different type of gas and pressure values, please get in contact with our commercial department.



## TBG 1000 LX ME

## TBG 1000 LX ME V

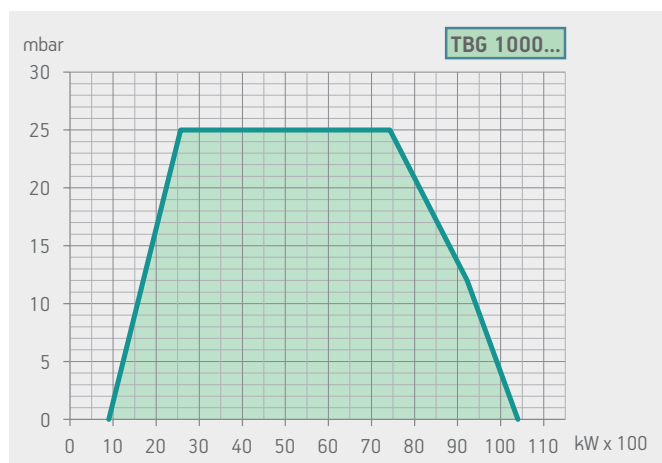
electronic  
modulationelectronic  
modulation

## Gas burner compliant with European standard EN676. Operation:

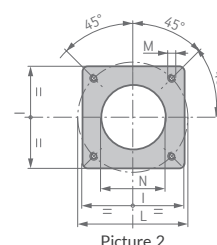
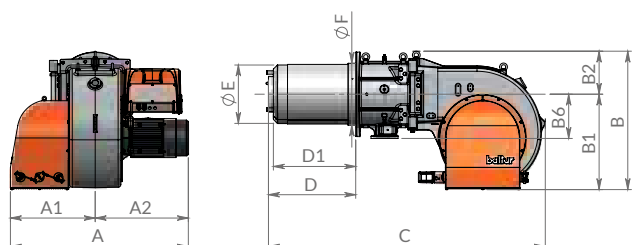
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○
Modulation ratio:	1:9	1:9
Low NOx and CO emissions gas burner according to European standard EN676:	class 3	class 3
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Fixed boiler coupling flange	•	•
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption		•
Device made of sound-absorbing material to reduce fan noise	•	•
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	•	•
Fail proof connectors for burner/gas train connection	•	•
Gas train outlet:	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•
Electric protection rating:	IP54	IP54

## LEGEND:

○ Optional, • As standard



Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 1000 LX ME	1950	1510	1240	521
TBG 1000 LX ME V	1950	1510	1240	540



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 1000 LX ME	1314	668	646	1049	764	285	310	1865	574	425	432	520	594	M20	462	2
TBG 1000 LX ME V	1314	668	646	1049	764	285	310	1865	574	425	432	520	594	M20	462	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 3	900 ÷ 10400	<b>TBG 1000 LX ME</b>	<b>18420010</b>	3N AC 50Hz 400V	22	4)
•	○	○	class 3	900 ÷ 10400	<b>TBG 1000 LX ME V</b>	<b>18420015</b>	3N AC 50Hz 400V	22	4) 10)
Frequency 60 Hz									
			class 3	900 ÷ 10400	<b>TBG 1000 LX ME</b>	<b>18425410</b>	3N AC 60Hz 380V	22	4)
•	○	○	class 3	900 ÷ 10400	<b>TBG 1000 LX ME V</b>	<b>18425415</b>	3N AC 60Hz 380V	22	4) 10)

○ Optional, • As standard

## TO COMPLETE THE BURNER

## DESCRIPTION

Modulating probe for LCM 100 (see page 332)

## MODULATING MODE

DESCRIPTION	PART NO.
Modulation kit	98000059

## NOTE

4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas:  $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$ ,  
 For different type of gas and pressure values, please get in contact with our commercial department.

## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Soundproof burner cover: contact your sales representative.	

## BURNER ACCESSORIES

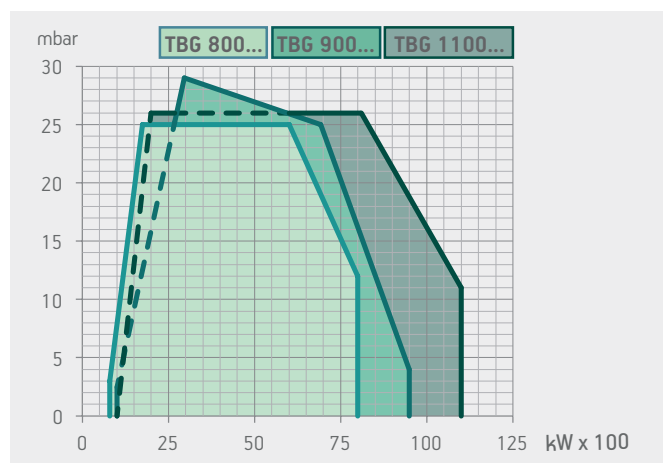
Boiler coupling kit.



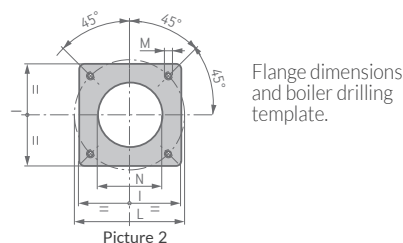
	TBG 1100 MC	TBG 1100 ME	TBG 1100 ME V
<b>Gas burner compliant with European standard EN676. Operation:</b>	<b>mechanical two-stage progressive</b>	<b>electronic modulation</b>	<b>electronic modulation</b>
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○	●
Modulation ratio:	1:11	1:11	1:11
Low NOx and CO emissions gas burner according to European standard EN676:	class 2	class 2	class 2
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	●	●	●
Fixed boiler coupling flange	●	●	●
Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler	●	●	●
Combustion air intake with butterfly valve. Air flow adjustment:	mechanical cam	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	●	●	●
Device made of sound-absorbing material to reduce fan noise	●	●	●
Adjustment of fan revolutions according to working stage by means of a frequency converter in order to reduce noise and electric consumption			●
CE version gas train is complete with operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter	●	●	●
Fail proof connectors for burner/gas train connection	●	●	●
Gas train outlet:	down	up/down	up/down
Flame detection by ionisation electrode with connector for microamperometer	●	●	●
Control panel with display diagram for working mode with indication lights	●		
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment		●	●
Electric protection rating:	IP54	IP54	IP54

**LEGEND:**

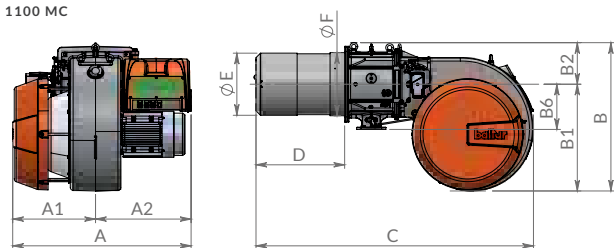
○ Optional, ● As standard



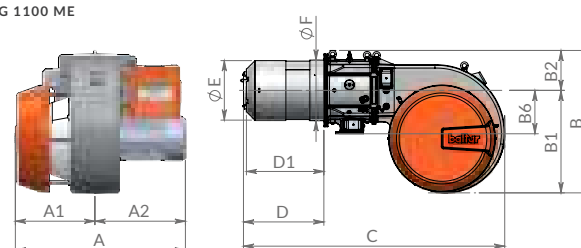
Model	Size of packaging			Weight kg
	L	P mm	H	
TBG 1100 MC	1950	1510	1210	480
TBG 1100 ME	1950	1510	1210	480
TBG 1100 ME V	1950	1510	1210	500



TBG 1100 MC



TBG 1100 ME



Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBG 1100 MC	1230	570	660	1030	740	290	310	2030	720	451	418	520	594	M20	460	2
TBG 1100 ME	1230	570	660	1030	740	290	310	2030	720	451	418	520	594	M20	460	2
TBG 1100 ME V	1230	570	660	1030	740	290	310	2030	720	451	418	520	594	M20	460	2

	O2 Kit	CO Kit	Emissions class	Thermal output kW	Model	Part no.	Electrical supply	Motor kW	Note
Frequency 50 Hz									
			class 2	1000 ÷ 11000	TBG 1100 MC	67450020	3N AC 50Hz 400V	22	4)
			class 2	1000 ÷ 11000	TBG 1100 ME	67440010	3N AC 50Hz 400V	22	4)
•	○	○	class 2	1000 ÷ 11000	TBG 1100 ME V	67440015	3N AC 50Hz 400V	22	4) 10)
Frequency 60 Hz									
			class 2	1000 ÷ 11000	TBG 1100 MC	67455420	3N AC 60Hz 380V	30	4)
			class 2	1000 ÷ 11000	TBG 1100 ME	67445410	3N AC 60Hz 380V	30	4)
•	○	○	class 2	1000 ÷ 11000	TBG 1100 ME V	67445415	3N AC 60Hz 380V	30	4) 10)

○ Optional, • As standard

## MODULATING MODE

DESCRIPTION	PART NO.
TBG 1100 MC: modulation kit	98000055
TBG 1100 ME: modulation kit (Included in the ME V version)	98000059
TBG 1100 MC/1100 ME: modulating probe (see page 332)	

## NOTE

4 Equipped with automatic air closure device.  
 10 Inverter supplied separately, not included on the machine.  
 Net calorific value at reference conditions of 0°C, 1013mbar:  
 Natural gas: Hi = 35,80 MJ/m³ = 8550 kcal/m³.  
 For different type of gas and pressure values, please get in contact with our commercial department.

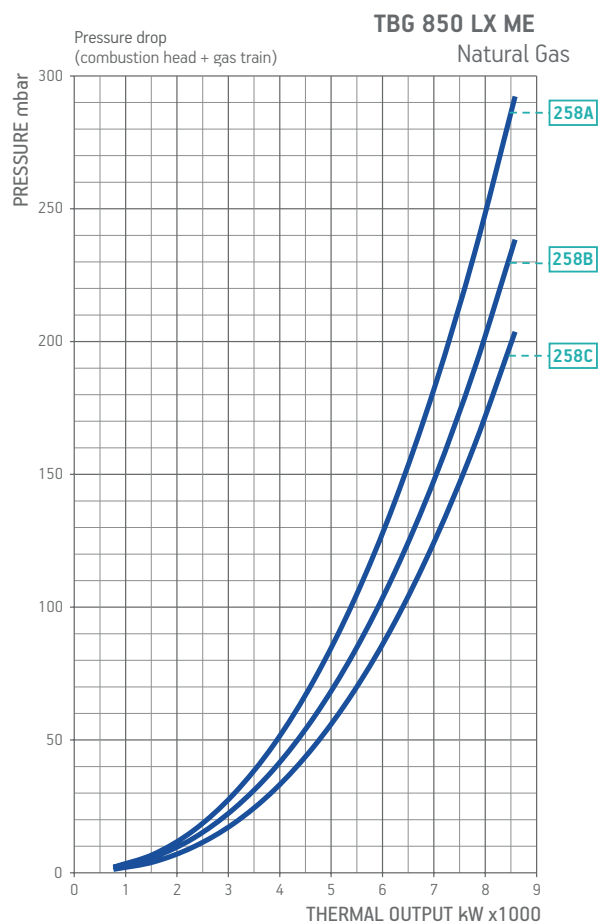
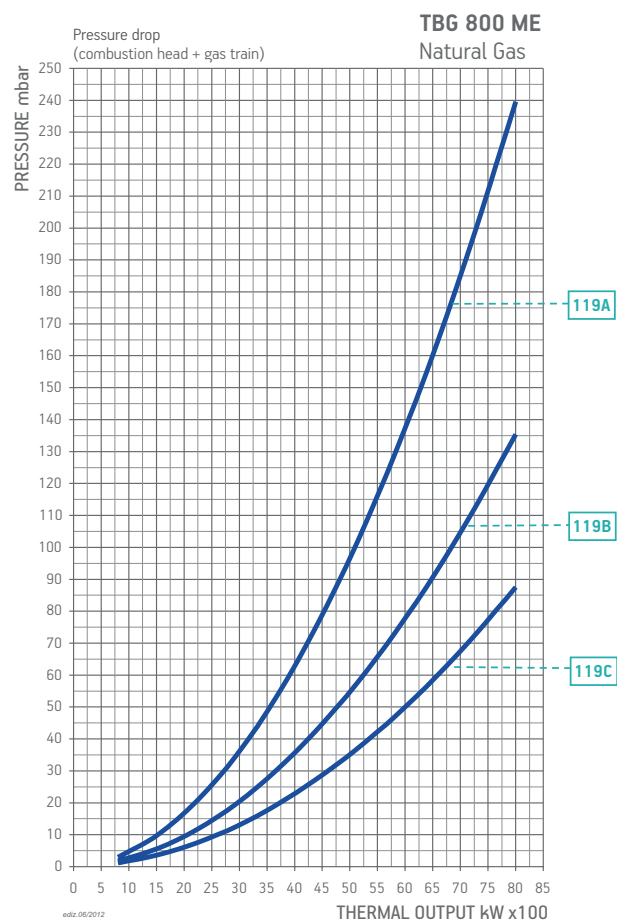
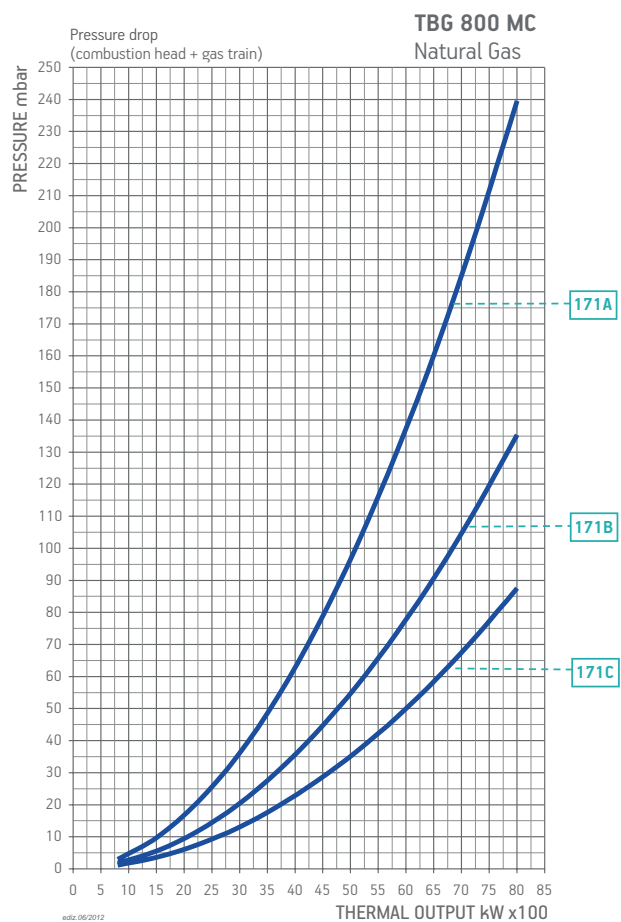
## ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
O2 control kit <b>NEW</b>	98000460
CO control kit <b>NEW</b>	98000461
Soundproof burner cover (see page 337)	97980058

## BURNER ACCESSORIES

Boiler coupling kit.

## BURNER/GAS TRAIN MATCH



## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 800 MC	Natural gas	171A	CE/EXP	500	CTV	19990600	Included	-	Included	D8	
			CE/EXP	500	CTV	19990759	Included	-	Included	D8	
		171B	CE/EXP	500	CTV	19990601	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
		171C	CE/EXP	500	CTV	19990602	Included	-	Included	D8	
			CE/EXP	500	CTV	19990761	Included	-	Included	D8	
TBG 800 ME TBG 800 ME V	Natural gas	119A	CE/EXP	500	CTV	19990542	Included	-	Included	D4	
			CE/EXP	500	CTV	19990680	Included	-	Included	D4	
		119B	CE/EXP	500	CTV	19990543	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
		119C	CE/EXP	500	CTV	19990544	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	
TBG 850 LX ME	Natural gas	258A	CE/EXP	500	CTV	19990633	Included	-	Included	D8	
			CE/EXP	500	CTV	19990683	Included	-	Included	D8	
		258B	CE/EXP	500	CTV	19990634	Included	-	Included	D8	
			CE/EXP	500	CTV	19990684	Included	-	Included	D8	
		258C	CE/EXP	500	CTV	19990674	Included	-	Included	D8	
			CE/EXP	500	CTV	19990685	Included	-	Included	D8	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 800 MC	LPG	CE/EXP	500	CTV	19990600	Included	-	Included	98000381	D8	
TBG 800 ME	LPG	CE/EXP	500	CTV	19990542	Included	-	Included	98000381	D4	

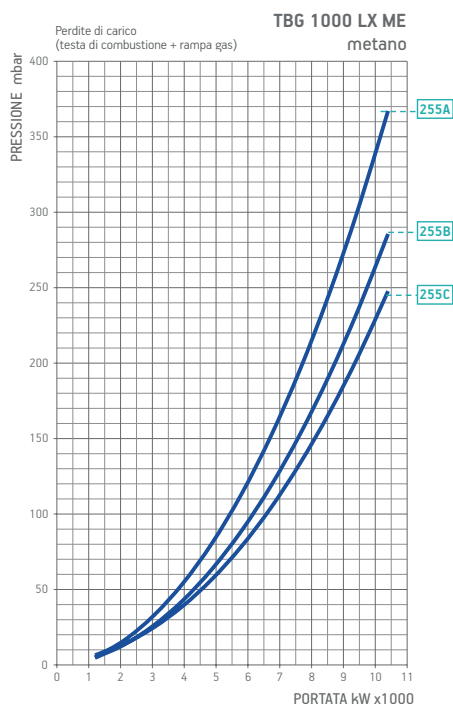
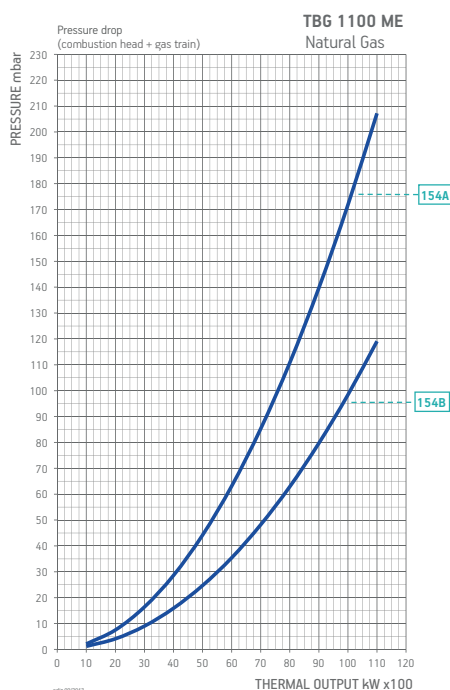
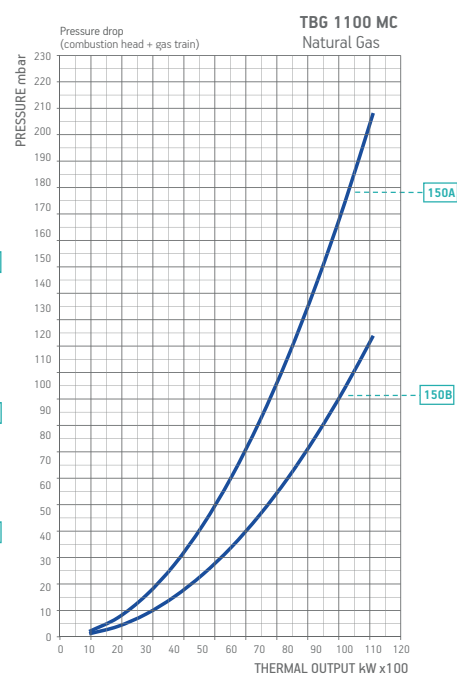
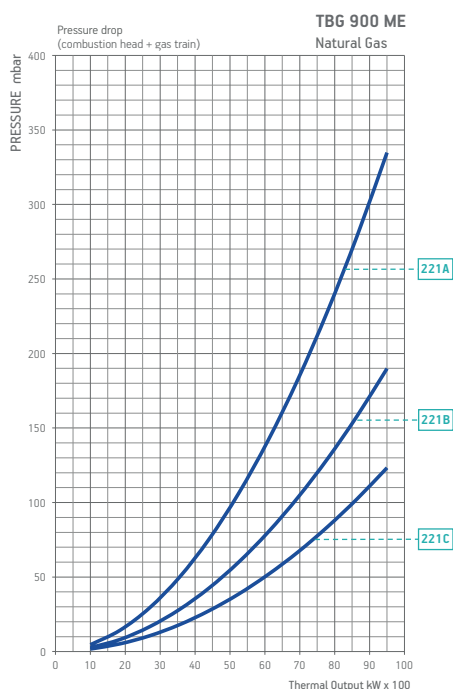
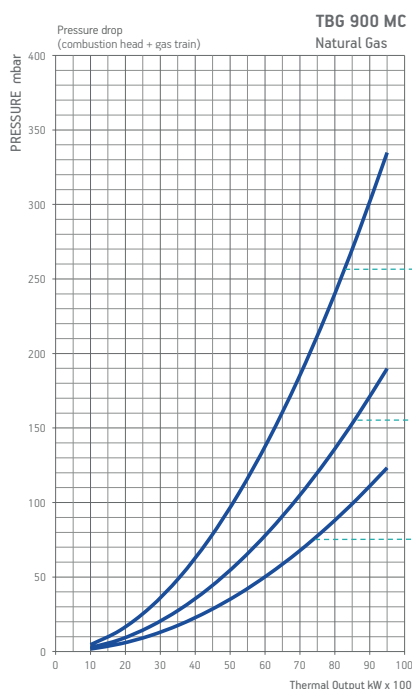
To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

CTV Gas train with Valve Tightness Control.

\*\* ) Maximum gas inlet pressure at pressure regulator.





## BURNER/GAS TRAIN MATCH

Burner model	Gas type	Curve on graph	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Note
						Part no.	Part no.	Part no.	Part no.		
TBG 900 MC	Natural gas	220A	CE/EXP	500	CTV	19990600	Included	-	Included	D8	
			CE/EXP	500	CTV	19990759	Included	-	Included	D8	
		220B	CE/EXP	500	CTV	19990601	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
		220C	CE/EXP	500	CTV	19990602	Included	-	Included	D8	
			CE/EXP	500	CTV	19990761	Included	-	Included	D8	
TBG 900 ME/ME V	Natural gas	221A	CE/EXP	500	CTV	19990542	Included	-	Included	D4	
			CE/EXP	500	CTV	19990680	Included	-	Included	D4	
		221B	CE/EXP	500	CTV	19990543	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
		221C	CE/EXP	500	CTV	19990544	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	
TBG 1100 MC	Natural gas	150A	CE/EXP	500	CTV	19990601	Included	-	Included	D8	
			CE/EXP	500	CTV	19990760	Included	-	Included	D8	
		150B	CE/EXP	500	CTV	19990602	Included	-	Included	D8	
			CE/EXP	500	CTV	19990761	Included	-	Included	D8	
TBG 1100 ME TBG 1100 ME V	Natural gas	154A	CE/EXP	500	CTV	19990543	Included	-	Included	D4	
			CE/EXP	500	CTV	19990681	Included	-	Included	D4	
		154B	CE/EXP	500	CTV	19990544	Included	-	Included	D4	
			CE/EXP	500	CTV	19990682	Included	-	Included	D4	
TBG 1000 LX ME TBG 1000 LX ME V	Natural gas	255A	CE/EXP	500	CTV	19990633	Included	-	Included	D4	
			CE/EXP	500	CTV	19990683	Included	-	Included	D4	
		255B	CE/EXP	500	CTV	19990634	Included	-	Included	D4	
			CE/EXP	500	CTV	19990684	Included	-	Included	D4	
		255C	CE/EXP	500	CTV	19990674	Included	-	Included	D4	
			CE/EXP	500	CTV	19990685	Included	-	Included	D4	

Burner model	Gas type	Version	P.Max ** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	LPG kit	Pic.	Note
					Part no.	Part no.	Part no.	Part no.	Part no.		
TBG 900 MC	LPG	CE/EXP	500	CTV	19990600	Included	-	Included	98000399	D8	
TBG 900 ME	LPG	CE/EXP	500	CTV	19990542	Included	-	Included	98000399	D4	
TBG 1100 MC	LPG	CE/EXP	500	CTV	19990601	Included	-	Included	98000382	D8	
TBG 1100 ME	LPG	CE/EXP	500	CTV	19990543	Included	-	Included	98000382	D4	

To choose the correct gas train please refer to the information on page 17.

For information on the structure, composition, and size of the gas train please refer to the diagrams on page 338.

## NOTE

CTV Gas train with Valve Tightness Control.

\*\*) Maximum gas inlet pressure at pressure regulator.