



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



TBG 85 MC



TBG 85 ME

|  | TBG 85 MC | TBG 85 ME | TBG 85 ME V |
|--|-----------|-----------|-------------|
|--|-----------|-----------|-------------|

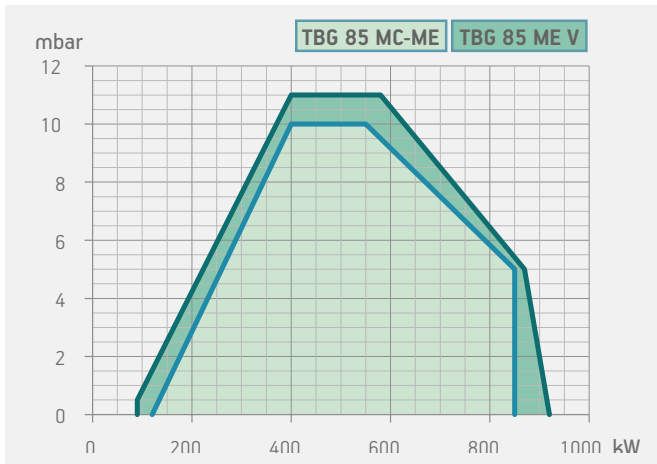
|  | mechanical two-stage progressive | electronic modulation | electronic modulation |
|--|----------------------------------|-----------------------|-----------------------|
|--|----------------------------------|-----------------------|-----------------------|

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

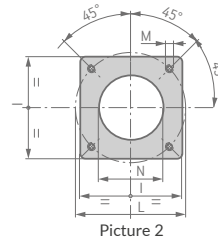
|   |                |                     |                     |
|---|----------------|---------------------|---------------------|
| P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel  | ○              | ○                   | ●                   |
| Modulation ratio:   | 1:7            | 1:7                 | 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

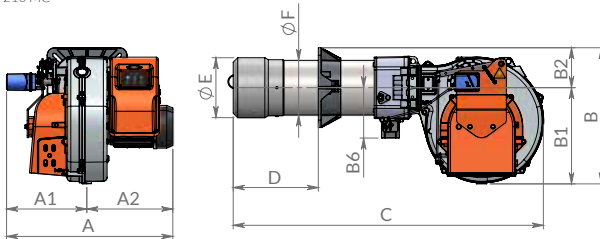


| Model       | Size of packaging |     |     | Weight<br>kg |
|-------------|-------------------|-----|-----|--------------|
|             | L                 | P   | H   |              |
| TBG 85 MC   | 1070              | 800 | 700 | 76           |
| TBG 85 ME   | 1070              | 800 | 700 | 82           |
| TBG 85 ME V | 1070              | 800 | 700 | 88           |

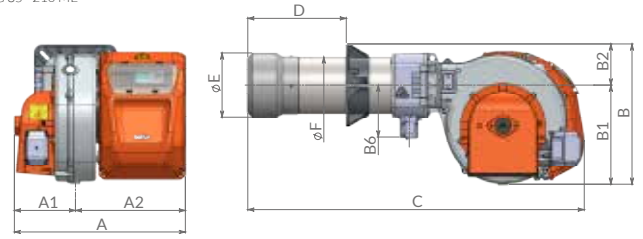


Flange dimensions and boiler drilling template.

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    |

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

○ Optional, • As standard

### MODULATING MODE

| DESCRIPTION  | PART NO. |
|--|----------|
| TBG 85 MC: modulation kit (see page 6)                   |          |
| TBG 85 ME: modulation kit (Included in the ME V version) | 98000059 |
| TBG 85 MC/85 ME: modulating probe (see page 6)           |          |
| 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: 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.

### ACCESSORIES AVAILABLE ON REQUEST

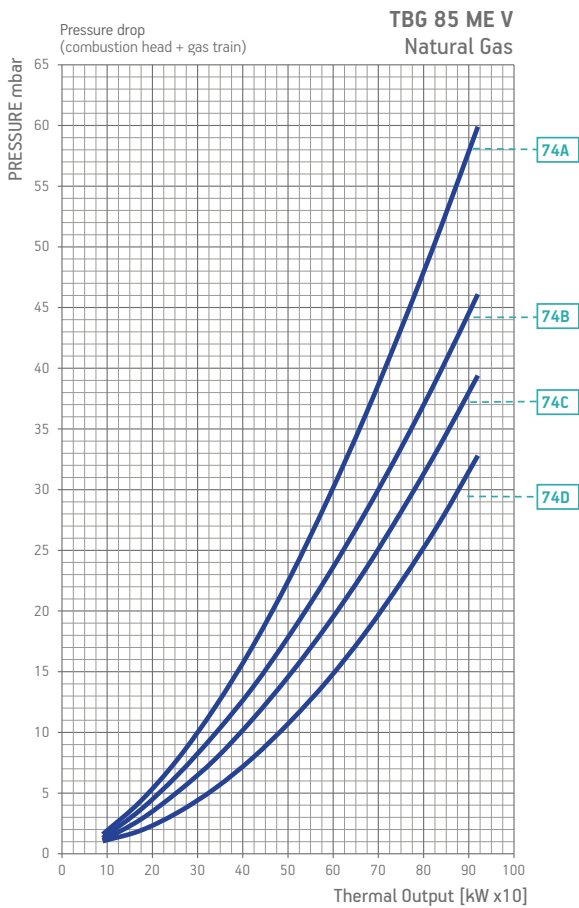
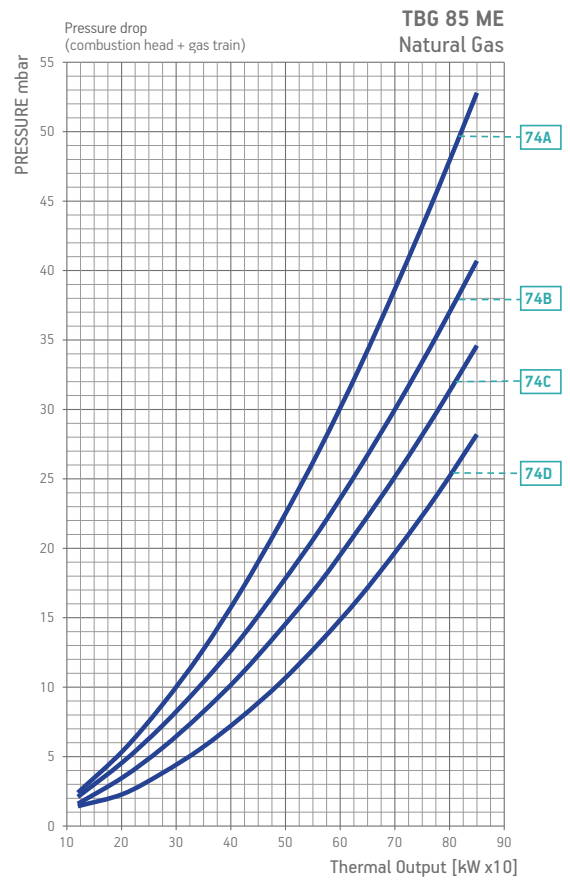
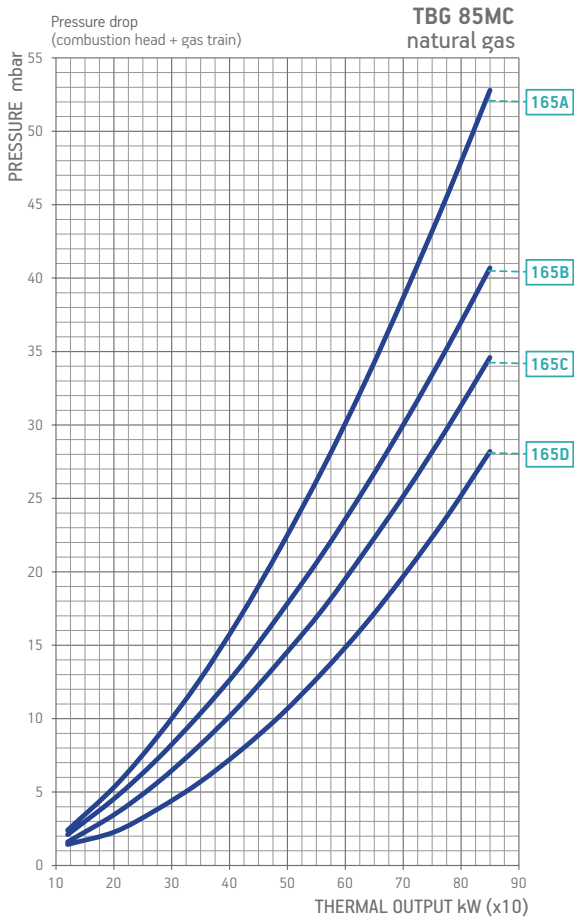
| DESCRIPTION                                       | PART NO. |
|---|----------|
| O2 control kit <b>NEW</b>                         | 98000460 |
| CO control kit <b>NEW</b>                         | 98000461 |
| TBG 80-85 long combustion head L600 <b>NEW</b> 1) | 98000455 |
| Soundproof burner cover (see page 10)             | 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> **<br>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 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<br>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 <sub>Max</sub> **<br>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 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 of the Burners Catalogue.  
For information on the structure, composition, and size of the gas train please refer to the diagrams on page 11

### NOTE

- 12 Valve tightness control not required by EN676.
- CTV Gas train with Valve Tightness Control.
- \*\* Maximum gas inlet pressure at pressure regulator.

## MODULATION

The two stage progressive burners, by installing the PID load controller and related modulating kit, can operate as modulating burners with the ability to adjust the thermic load according to boiler needs. The load adjustment is possible between the minimum and maximum burner's operating point.

### How to choose the modulating kit components:

According to the parameter that it's necessary to control: temperature (°C) or pressure (bar) it's necessary to choose the range kit according to boiler operating range.

In case the value is included in two ranges it's necessary to select the lower range.

### Example:

In case the required hot water boiler set point is 100°C it's necessary to select the temperature probe kit with operating range between 0 ÷ 130°C.

In case the steam boiler must operate with 8bar outlet steam pressure it's necessary to select the pressure probe kit with operating range between 0 ÷ 10 bar.



### Automatic proportional modulation regulator PID

| Part no. | Kit                    | Burners           |
|----------|------------------------|-------------------|
| 98000055 | Modulation kit LC3     | TBG 450 ÷ 2000 MC |
| 98000056 | Modulation kit LC3     | TBG 35 MC         |
| 98000057 | Modulation kit LC3     | TBML 80 ÷ 360 MC  |
| 98000058 | Modulation kit LC3     | TBG 45 ÷ 60 MC    |
| 98000059 | Modulation kit LCM 100 | ME models         |
| 98000065 | Modulation kit LC4     | TBG 80 ÷ 360 MC   |

### Temperature probe for LC3 modulation

| Part no. | Temperature    | Type robe    | Probe length      | Male coupling |
|----------|----------------|--------------|-------------------|---------------|
| 98000023 | 0 °C ÷ 130 °C  | PT 1000      | 85 <sup>1)</sup>  | R 1/2"        |
| 98000021 | 0 °C ÷ 500 °C  | PT 1000      | 200 <sup>1)</sup> | G 1/2"        |
| 98000022 | 0 °C ÷ 1100 °C | Thermocouple | 425 <sup>1)</sup> | R 1/2"        |



### Temperature probe for LCM 100 modulation

| Part no. | Temperature   | Type robe | Probe length      | Male coupling |
|----------|---------------|-----------|-------------------|---------------|
| 98000023 | 0 °C ÷ 130 °C | PT 1000   | 85 <sup>1)</sup>  | R 1/2"        |
| 98000021 | 0 °C ÷ 500 °C | PT 1000   | 200 <sup>1)</sup> | G 1/2"        |

### Temperature probe for ETAMATIC OEM control box

| Part no. | Temperature   | Type robe | Probe length      | Male coupling |
|----------|---------------|-----------|-------------------|---------------|
| 98000035 | 0 °C ÷ 500 °C | PT 100    | 100 <sup>1)</sup> | G 1/2"        |



### Steam pressure probe (for all types of automatic regulator)\*

| Part no. | Pressure steam | Signal output | Male coupling |
|----------|----------------|---------------|---------------|
| 98000045 | 0 ÷ 1 bar      | 4 ÷ 20 mA     | G 1/2"        |
| 98000046 | 0 ÷ 10 bar     | 4 ÷ 20 mA     | G 1/2"        |
| 98000047 | 0 ÷ 16 bar     | 4 ÷ 20 mA     | G 1/2"        |
| 98000048 | 0 ÷ 25 bar     | 4 ÷ 20 mA     | G 1/2"        |
| 98000049 | 0 ÷ 40 bar     | 4 ÷ 20 mA     | G 1/2"        |

\*) In the case of using applications where temperatures exceed 90°C you need to match the kit codes: 98000062

**NOTE: In combination with the LC4 modulation kit for MC models, a 12V power supply kit is mandatory.**

|          |                      |
|----------|----------------------|
| 98000482 | 12V power supply kit |
|----------|----------------------|

### External climate regulation

| Part no. | Description              | Temperature    |
|----------|--------------------------|----------------|
| 85060070 | Temperature probe PT100  | -50 °C ÷ 90 °C |
| 98000061 | Interface module for LC3 |                |

### Power signal converter (TBG 45÷360 MC / LX MC)

| Part no. | Description                        |
|----------|------------------------------------|
| 98000063 | Converter kit 0 ÷ 10 V / 4 ÷ 20 mA |

### UV safe kit

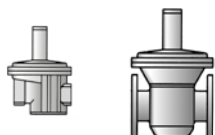
| Part no. | Description                 |
|----------|-----------------------------|
| 98000443 | UV SAFE KIT TBG 80-360 FGR  |
| 98000444 | UV SAFE KIT TBG 450-750 FGR |
| 98000445 | UV SAFE KIT TBG 800 FGR     |
| 98000446 | UV SAFE KIT TBG 1200 FGR    |

Note: For different modulation values please contact our Technical Assistance Service.

1) Different lengths on request.

## Gas pressure regulator with incorporated filter approved CE\*

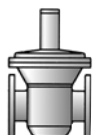
Control closing, pressure taps upstream side - the side valley, safety diaphragm.  
Max inlet pressure : 1 bar.



| Part no. | Model  | Outlet pressure mbar | Gas connection |
|----------|--------|----------------------|----------------|
| 97392010 | BTFR/1 | 40 ÷ 110             | 1/2"           |
| 97392020 | BTFR/1 | 40 ÷ 110             | 3/4"           |
| 97392030 | BTFR/1 | 40 ÷ 110             | 1"             |
| 97392040 | BTFR/1 | 90 ÷ 190             | 1"1/4          |
| 97392050 | BTFR/1 | 90 ÷ 190             | 1"1/2          |
| 97392060 | BTFR/1 | 90 ÷ 190             | 2"             |
| 97392070 | BTFR/1 | 110 ÷ 200            | DN65 - PN16    |
| 97392080 | BTFR/1 | 110 ÷ 200            | DN80 - PN16    |
| 97392090 | BTFR/1 | 130 ÷ 200            | DN100 - PN16   |

## CE gas pressure regulator CE\*

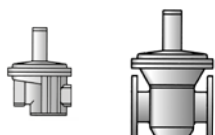
Control closing, pressure taps upstream side - the side valley, safety diaphragm.  
Max inlet pressure : 1 bar.



| Part no. | Model | Outlet pressure mbar | Gas connection |
|----------|-------|----------------------|----------------|
| 97392100 | BTR/1 | 100 ÷ 250            | DN125 - PN16   |
| 97392110 | BTR/1 | 100 ÷ 250            | DN150 - PN16   |

## Gas pressure regulator with incorporated filter approved CE\*

Control closing, pressure taps upstream side - the side valley, safety diaphragm.  
Max inlet pressure : 2 bar.



| Part no. | Model  | Outlet pressure mbar | Gas connection |
|----------|--------|----------------------|----------------|
| 97392210 | BTFR/2 | 40 ÷ 110             | 1/2"           |
| 97392220 | BTFR/2 | 40 ÷ 110             | 3/4"           |
| 97392230 | BTFR/2 | 40 ÷ 110             | 1"             |
| 97392240 | BTFR/2 | 90 ÷ 190             | 1"1/4          |
| 97392250 | BTFR/2 | 90 ÷ 190             | 1"1/2          |
| 97392260 | BTFR/2 | 90 ÷ 190             | 2"             |
| 97392270 | BTFR/2 | 110 ÷ 200            | DN65 - PN16    |
| 97392280 | BTFR/2 | 110 ÷ 200            | DN80 - PN16    |
| 97392290 | BTFR/2 | 130 ÷ 200            | DN100 - PN16   |

## Gas pressure regulator with incorporated filter approved CE\*

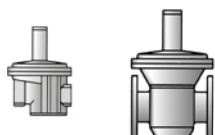
Control closing, pressure taps upstream side - the side valley, safety diaphragm.  
Max inlet pressure : 6 bar.



| Part no. | Model  | Outlet pressure mbar | Gas connection |
|----------|--------|----------------------|----------------|
| 97392310 | BTFR/6 | 30 ÷ 90              | 1/2"           |
| 97392320 | BTFR/6 | 30 ÷ 90              | 3/4"           |
| 97392330 | BTFR/6 | 30 ÷ 90              | 1"             |

## CE gas pressure regulator CE\*

Control closing, pressure taps upstream side - the side valley, safety diaphragm.  
Max inlet pressure : 6 bar.



| Part no. | Model | Outlet pressure mbar | Gas connection |
|----------|-------|----------------------|----------------|
| 97392340 | BTR/6 | 85 ÷ 180             | 1"1/4          |
| 97392350 | BTR/6 | 85 ÷ 180             | 1"1/2          |
| 97392360 | BTR/6 | 85 ÷ 180             | 2"             |
| 97392370 | BTR/6 | 110 ÷ 200            | DN65 - PN16    |
| 97392380 | BTR/6 | 110 ÷ 200            | DN80 - PN16    |
| 97392390 | BTR/6 | 110 ÷ 200            | DN100 - PN16   |

\*) All the pressure regulators in these pages have a standard spring with its own adjustment field. For different delivery pressures, the table below shows the regulation field that must be used, as well as the corresponding spring to replace the standard one with.

# ACCESSORIES FOR CONNECTION OF BURNERS TO GAS MAINS

## PRESSURE REGULATOR SPRINGS

|                      |                | 1/2"             | 3/4"             | 1"               | 1"1/4            | 1"1/2            | 2"                | DN 65             | DN 80             | DN 100   | DN 125            | DN 150            |          |          |          |          |          |          |          |
|----------------------|----------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|----------|-------------------|-------------------|----------|----------|----------|----------|----------|----------|----------|
| PRESSURE INPUT 1bar  | regulator code | 97392010         | 97392020         | 97392030         | 97392040         | 97392050         | 97392060          | 97392070          | 97392080          | 97392090 | 97392100          | 97392110          |          |          |          |          |          |          |          |
|                      | code spring    | 97399002         | 97399005         | 97399007         | 97399008         | 97399009         | 97399010          | 97399011          | 97399012          | 97399013 | 97399014          | 97399015          | 97399016 | 97399017 | 97399018 | 97399019 | 97399020 | 97399021 | 97399022 |
|                      |                | 9 ÷ 28           | 9 ÷ 28           | 9 ÷ 28           |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 18 ÷ 40          | 18 ÷ 40          | 18 ÷ 40          |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 13 ÷ 23          | 13 ÷ 23          | 13 ÷ 23           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | <b>40 ÷ 110*</b> | <b>40 ÷ 110*</b> | <b>40 ÷ 110*</b> |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 20 ÷ 36          | 20 ÷ 36          | 20 ÷ 36           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 110 ÷ 150        | 110 ÷ 150        | 110 ÷ 150        |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 150 ÷ 200        | 150 ÷ 200        | 150 ÷ 200        | 33 ÷ 58          | 33 ÷ 58          | 33 ÷ 58           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 55 ÷ 100         | 55 ÷ 100         | 55 ÷ 100          |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 13 ÷ 27           | 13 ÷ 27           | 15 ÷ 27  |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 22 ÷ 50           | 22 ÷ 50           | 22 ÷ 55  |                   |                   |          |          |          |          |          |          |          |
|                      |                | 200 ÷ 600        | 200 ÷ 600        | 200 ÷ 600        |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | <b>90 ÷ 190*</b> | <b>90 ÷ 190*</b> | <b>90 ÷ 190*</b>  |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 50 ÷ 130          | 50 ÷ 130          | 55 ÷ 130 |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  | <b>110 ÷ 200*</b> | <b>110 ÷ 200*</b> | <b>130 ÷ 200*</b> |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   |                   |                   |          | 20 ÷ 150          | 20 ÷ 150          |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   |                   |                   |          | <b>100 ÷ 250*</b> | <b>100 ÷ 250*</b> |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   |                   |                   |          | 230 ÷ 350         | 230 ÷ 350         |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   |                   |                   |          | 300 ÷ 450         | 300 ÷ 450         |          |          |          |          |          |          |          |
| PRESSURE INPUT 2 bar | regulator code | 97392210         | 97392220         | 97392230         | 97392240         | 97392250         | 97392260          | 97392270          | 97392280          | 97392290 |                   |                   |          |          |          |          |          |          |          |
|                      | code spring    | 97399001         | 97399005         | 97399008         | 97399010         | 97399011         | 97399012          | 97399013          | 97399014          | 97399015 | 97399016          | 97399017          | 97399018 |          |          |          |          |          |          |
|                      |                | 9 ÷ 22           | 9 ÷ 22           | 9 ÷ 22           |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 20 ÷ 40          | 20 ÷ 40          | 20 ÷ 40          |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | <b>40 ÷ 110*</b> | <b>40 ÷ 110*</b> | <b>40 ÷ 110*</b> | 12 ÷ 35          | 12 ÷ 35          | 12 ÷ 35           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 110 ÷ 150        | 110 ÷ 150        | 110 ÷ 150        | 30 ÷ 50          | 30 ÷ 50          | 30 ÷ 50           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 150 ÷ 200        | 150 ÷ 200        | 150 ÷ 200        | 40 ÷ 60          | 40 ÷ 60          | 40 ÷ 60           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 60 ÷ 95          | 60 ÷ 95          | 60 ÷ 95           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 13 ÷ 27           | 13 ÷ 27           | 15 ÷ 27  |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 22 ÷ 50           | 22 ÷ 50           | 27 ÷ 55  |                   |                   |          |          |          |          |          |          |          |
|                      | 200 ÷ 600      | 200 ÷ 600        | 200 ÷ 600        |                  |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  | <b>90 ÷ 190*</b> | <b>90 ÷ 190*</b> | <b>90 ÷ 190*</b> |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  | 50 ÷ 130          | 50 ÷ 130          | 55 ÷ 130          |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  | <b>110 ÷ 200*</b> | <b>110 ÷ 200*</b> | <b>130 ÷ 200*</b> |          |                   |                   |          |          |          |          |          |          |          |
| PRESSURE INPUT 6 bar | regulator code | 97392310         | 97392320         | 97392330         | 97392340         | 97382350         | 97392360          | 97392370          | 97392380          | 97392390 |                   |                   |          |          |          |          |          |          |          |
|                      | code spring    | 97399003         | 97399004         | 97399006         | 97399009         | 97399011         | 97399012          | 97399013          | 97399014          | 97399016 | 97399017          | 97399018          |          |          |          |          |          |          |          |
|                      |                | 20 ÷ 30          | 20 ÷ 30          | 20 ÷ 30          |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | <b>30 ÷ 90*</b>  | <b>30 ÷ 90*</b>  | <b>30 ÷ 90*</b>  |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                | 90 ÷ 170         | 90 ÷ 170         | 90 ÷ 170         |                  |                  |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 15 ÷ 33          | 15 ÷ 33          | 15 ÷ 33           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 32 ÷ 60          | 32 ÷ 60          | 32 ÷ 60           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  | 50 ÷ 95          | 50 ÷ 95          | 50 ÷ 95           |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 13 ÷ 27           | 13 ÷ 27           | 13 ÷ 22  |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  |                   | 22 ÷ 58           | 22 ÷ 58           | 18 ÷ 40  |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  | <b>85 ÷ 180*</b> | <b>85 ÷ 180*</b> | <b>85 ÷ 180*</b> |                   |                   |                   |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  | 50 ÷ 130          | 50 ÷ 130          | 25 ÷ 120          |          |                   |                   |          |          |          |          |          |          |          |
|                      |                |                  |                  |                  |                  |                  | <b>110 ÷ 200*</b> | <b>110 ÷ 200*</b> | <b>110 ÷ 200*</b> |          |                   |                   |          |          |          |          |          |          |          |

\*) of series.

## ACCESSORIES FOR CONNECTION OF BURNERS TO GAS MAINS

### Gas filters approved CE

With pressure.

Max inlet pressure: 2 bar.



| Part no. | Model | Gas connection |
|----------|-------|----------------|
| 97410001 | BTF   | 1/2" FF        |
| 97410002 | BTF   | 3/4" FF        |
| 97410003 | BTF   | 1" FF          |
| 97410004 | BTF   | 1"1/4 FF       |
| 97410005 | BTF   | 1"1/2 FF       |
| 97410006 | BTF   | 2" FF          |
| 97419999 | BTF   | DN65 - PN16    |
| 97429999 | BTF   | DN80 - PN16    |
| 97439999 | BTF   | DN100 - PN16   |
| 97459999 | BTF   | DN125 - PN16   |
| 97449999 | BTF   | DN150 - PN16   |

### Gas filters approved CE

With pressure.

Max inlet pressure: 6 bar.



| Part no. | Model | Gas connection |
|----------|-------|----------------|
| 97410010 | BTF/6 | 1" 1/4" FF     |
| 97410011 | BTF/6 | 1" 1/2" FF     |
| 97410012 | BTF/6 | 2" FF          |
| 97410013 | BTF/6 | DN65 - PN16    |
| 97410014 | BTF/6 | DN80 - PN16    |
| 97410015 | BTF/6 | DN100 - PN16   |

### Anti-vibration and compensation joints approved CE

DIN 30681 stainless steel.



| Part no. | Model | Gas connection |
|----------|-------|----------------|
| 97029999 | BTGA  | 1/2" MM        |
| 97039999 | BTGA  | 3/4" MM        |
| 97049999 | BTGA  | 1" MM          |
| 97059999 | BTGA  | 1" 1/4" MM     |
| 97069999 | BTGA  | 1" 1/2" MM     |
| 97079999 | BTGA  | 2" MM          |
| 97089999 | BTGA  | DN65 - PN16    |
| 97099999 | BTGA  | DN80 - PN16    |
| 97109999 | BTGA  | DN100 - PN16   |
| 97119999 | BTGA  | DN125 - PN16   |
| 97129999 | BTGA  | DN150 - PN16   |

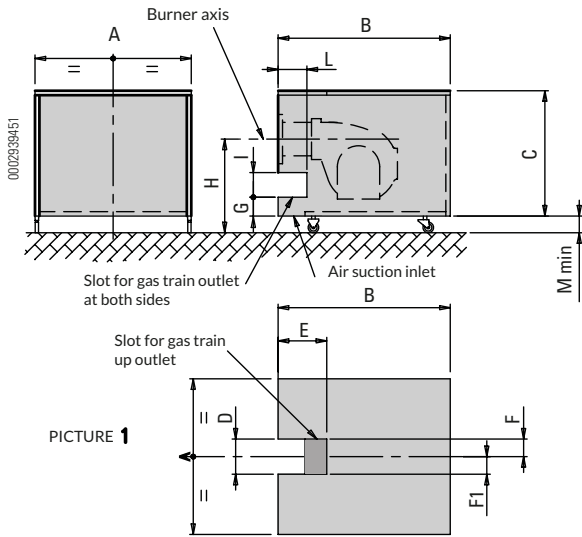
### Ball valves approved CE



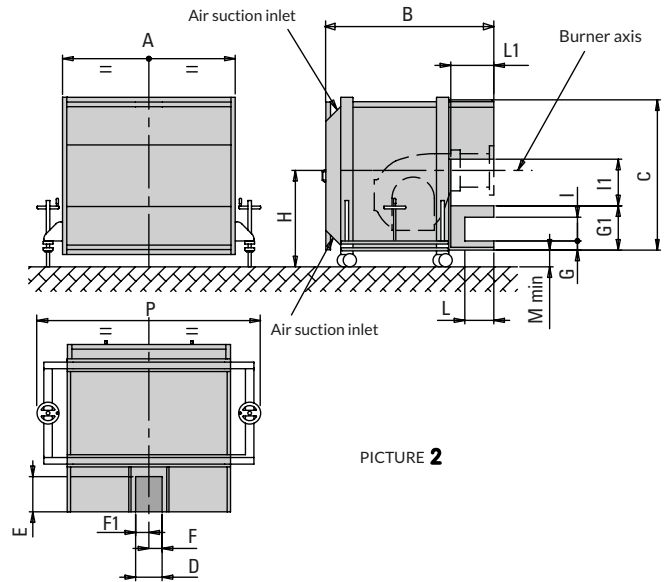
| Part no. | Model | Gas connection |
|----------|-------|----------------|
| 97679999 | BTVS  | 3/8" FF        |
| 97689999 | BTVS  | 1/2" FF        |
| 97699999 | BTVS  | 3/4" FF        |
| 97709999 | BTVS  | 1" FF          |
| 97719999 | BTVS  | 1" 1/4" FF     |
| 97729999 | BTVS  | 1" 1/2" FF     |
| 97739999 | BTVS  | 2" FF          |
| 97749999 | BTVS  | DN65 - PN16    |
| 97759999 | BTVS  | DN80 - PN16    |
| 97769999 | BTVS  | DN100 - PN16   |
| 97179999 | BTVS  | DN125 - PN16   |
| 97189999 | BTVS  | DN150 - PN16   |

# SOUNDPROOF BURNER

Average sound pressure reduction of about 10 dB(A) measured in a laboratory with 1 meter microphone from the burner.



PICTURE 1



PICTURE 2

| Model     | Sound pressure | Pic. | A    | B    | C    | D   | E   | F    | F1    | G    | G1  | H mm |      | I   | I1  | L   | L1  | M min | P    |
|-----------|----------------|------|------|------|------|-----|-----|------|-------|------|-----|------|------|-----|-----|-----|-----|-------|------|
|           |                |      | mm   | mm   | mm   | mm  | mm  | mm   | mm    | mm   | mm  | mm   | mm   | min | max | mm  | mm  | mm    | mm   |
| 97980053* | -10 dB(A)      | 1    | 1100 | 1340 | 860  | 85  | 500 | 42,5 | 42,5  | 207  | -   | 660  | 1350 | 85  | -   | 500 | -   | 190   | -    |
| 97980054  | -10 dB(A)      | 1    | 750  | 1080 | 650  | 85  | 380 | 42,5 | 42,5  | 157  | -   | 560  | 1060 | 85  | -   | 355 | -   | 190   | -    |
| 97980055  | -10 dB(A)      | 1    | 1100 | 1340 | 860  | 85  | 440 | 42,5 | 42,5  | -    | -   | 650  | 1300 | -   | -   | -   | -   | 190   | -    |
| 97980057  | -10 dB(A)      | 1    | 1335 | 1655 | 1130 | 210 | 495 | 47,5 | 162,5 | -    | -   | 900  | 1700 | -   | -   | -   | -   | 190   | -    |
| 97980058* | -10 dB(A)      | 1    | 1610 | 1740 | 1190 | 500 | 380 | 37,5 | 462,5 | 24,5 | -   | 950  | 1700 | 210 | -   | 380 | -   | 190   | -    |
| 97980059  | -20 dB(A)      | 1    | 1560 | 1645 | 1190 | 500 | 380 | 37,5 | 462,5 | 245  | -   | 950  | 1700 | 210 | -   | 380 | -   | 190   | -    |
| 97980061  | -20 dB(A)      | 2    | 1956 | 1945 | 1740 | 300 | 400 | 150  | 150   | 104  | 504 | 1450 | 1700 | 270 | 530 | 330 | 490 | 180   | 2540 |
| 97980063  | -20 dB(A)      | 2    | 2180 | 1950 | 1830 | 350 | 410 | 175  | 175   | 85   | 480 | 1400 | 1200 | 310 | 580 | 345 | 505 | 195   | 2765 |

Note:

For gas burners in case of gas train up outlet it is necessary to install a 200 mm long cilindric extension.

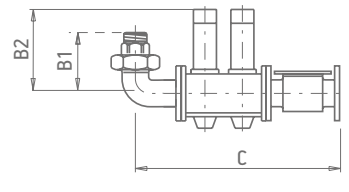
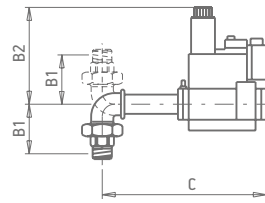
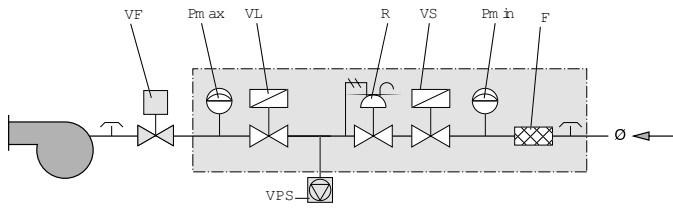
\*) To decrease the sound pressure by 20 dB(A) please contact our sales office.

### ATTENTION:

It's customer responsibility to check the correct matching of soundproof according to the height of the boiler.

# GAS TRAIN STRUCTURE AND COMPOSITION

## B7

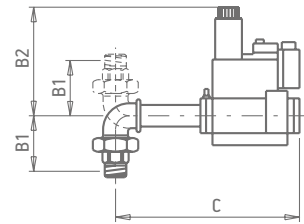
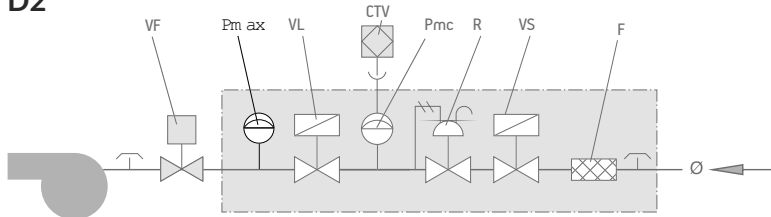


Pic. 1

Pic. 2

| Gas train Part no.   | Position |      |      |   |    |    |     |    | Gas train dimensions mm |     |     | Size of packaging mm | Weight       | Pic.. |    |
|----------------------|----------|------|------|---|----|----|-----|----|-------------------------|-----|-----|----------------------|--------------|-------|----|
|                      | F        | Pmax | Pmin | R | VF | VL | VPS | VS | Ø                       | B1  | B2  | C                    | L x P x H    |       | kg |
| 19990712 (MB...412)  | ●        | ●    | ●    | ● | ◆  | ●  | ▲   | ●  | 1 1/4"                  | 107 | 160 | 490                  | 400x300x280  | 8     | 1  |
| 19990713 (MB...415)  | ●        | ●    | ●    | ● | ◆  | ●  | ▲   | ●  | 1 1/2"                  | 115 | 170 | 595                  | 460x250x460  | 11    | 1  |
| 19990714 (MB...415)  | ●        | ●    | ●    | ● | ◆  | ●  | ▲   | ●  | 1 1/2"                  | 115 | 170 | 595                  | 460x250x460  | 11    | 1  |
| 19990715 (MB...420)  | ●        | ●    | ●    | ● | ◆  | ●  | ▲   | ●  | 2"                      | 128 | 217 | 600                  | 460x250x460  | 13    | 1  |
| 19990716 (MB...420)  | ●        | ●    | ●    | ● | ◆  | ●  | ●   | ●  | 2"                      | 128 | 217 | 600                  | 460x250x460  | 13    | 1  |
| 19990717 (VGD20.503) | ●        | ●    | ●    | ● | ◆  | ●  | ●   | ●  | 2"                      | 100 | 280 | 880                  | 990x300x500  | 15    | 2  |
| 19990718 (VGD40.065) | ●        | ●    | ●    | ● | ◆  | ●  | ●   | ●  | DN65                    | 100 | 305 | 1120                 | 1380x430x700 | 26    | 2  |
| 19990719 (VGD40.080) | ●        | ●    | ●    | ● | ◆  | ●  | ●   | ●  | DN80                    | 100 | 315 | 1190                 | 1380x430x700 | 28    | 2  |

## D2



| Gas train Part no.   | Position |   |      |     |   |      |    |    | Gas train dimensions mm |     |     | Size of packaging mm | Weight           |    |
|----------------------|----------|---|------|-----|---|------|----|----|-------------------------|-----|-----|----------------------|------------------|----|
|                      | CTV      | F | Pmax | Pmc | R | VF   | VL | VS | Ø                       | B1  | B2  | C                    | L x P x H        | kg |
| 19990573 (MB... 407) | ●        | ● | ●    | ●   | ● | 3/4" | ●  | ●  | 3/4"                    | 72  | 160 | 305                  | 400 x 300 x 280  | 12 |
| 19990574 (MB... 410) | ●        | ● | ●    | ●   | ● | 3/4" | ●  | ●  | 1 1/4"                  | 95  | 160 | 355                  | 400 x 300 x 280  | 15 |
| 19990575 (MB... 412) | ●        | ● | ●    | ●   | ● | 3/4" | ●  | ●  | 1 1/4"                  | 95  | 160 | 355                  | 400 x 300 x 280  | 15 |
| 19990576 (MB... 415) | ●        | ● | ●    | ●   | ● | 3/4" | ●  | ●  | 1 1/2"                  | 103 | 170 | 445                  | 520 x 410 x 410  | 18 |
| 19990577 (VGD40.065) | ●        | ● | ●    | ●   | ◆ | ●    | ●  | ●  | DN65                    | 125 | 320 | 760                  | 1030 x 430 x 650 | 50 |
| 19990578 (VGD40.080) | ●        | ● | ●    | ●   | ◆ | ●    | ●  | ●  | DN80                    | 175 | 325 | 860                  | 1030 x 430 x 650 | 57 |
| 19990748 (MB... 412) | ●        | ● | ●    | ●   | ● | ◆    | ●  | ●  | 1 1/4"                  | 95  | 160 | 410                  | 520 x 410 x 410  | 8  |
| 19990749 (MB... 415) | ●        | ● | ●    | ●   | ● | ◆    | ●  | ●  | 1 1/2"                  | 103 | 170 | 500                  | 520 x 410 x 410  | 11 |
| 19990750 (MB... 420) | ●        | ● | ●    | ●   | ● | ◆    | ●  | ●  | 2"                      | 114 | 220 | 500                  | 520 x 410 x 410  | 13 |
| 19990754 (MB... 415) | ●        | ● | ●    | ●   | ● | ◆    | ●  | ●  | 1 1/2"                  | 103 | 170 | 500                  | 520 x 410 x 410  | 11 |
| 19990755 (MB... 420) | ●        | ● | ●    | ●   | ● | ◆    | ●  | ●  | 2"                      | 114 | 220 | 500                  | 520 x 410 x 410  | 13 |

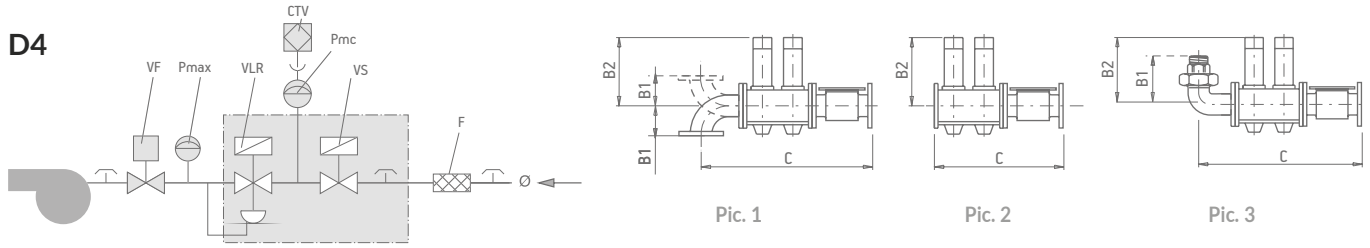
**CTV** Valve tightness control.  
**F** Filter.  
**LDU** LDU valve tightness control.  
**Pct** Pressure switch for gas control.  
**Pmax** Maximum pressure switch.  
**Pmc** Minimum and control pressure switch gas leaks.  
**Pmin** Minimum pressure switch.  
**R** Pressure regulator.  
**RF** Pressure regulator with filter.

**RFP** Pressure regulator with filter for pilot gas train.  
**RM** Manual flow rate regulator.  
**RP** Pneumatic regulator.  
**VF** Regulator throttle valve.  
**VL** Operating valve.  
**VL2** Two-stage operating valve.  
**VLP** Operating pilot valve.  
**VLR** Operating valve with pressure regulator.

**VP** Pilot valve.  
**VPS** VPS valve tightness control.  
**VS** Safety valve.  
**VSP** Safety pilot valve.  
**Ø** Gas train diameter.  
**Ø1** Main gas train diameter.  
**Ø2** Pilot gas train diameter.

● As Standard.  
 ▲ As standard for burners with an output of more than 1200 kW, on request for burners with an output of less than 1200 kW.  
 ■ On request.  
 ◆ Mounted on burner.

# GAS TRAIN STRUCTURE AND COMPOSITION



| Gas train Part no.           | Position |       |      |     |    |     |    |       | Gas train dimensions mm |     |      | Size of packaging mm | Weight | Pic. |
|------------------------------|----------|-------|------|-----|----|-----|----|-------|-------------------------|-----|------|----------------------|--------|------|
|                              | CTV      | F     | Pmax | Pmc | VF | VLR | VS | Ø     | B1                      | B2  | C    | L x P x H            | kg     |      |
| 19990541 (VGD20.503 - 2")    | ●        | 2"    | ●    | ●   | ◆  | ●   | ●  | 2"    | 145                     | 285 | 890  | 990 x 300 x 500      | 23     | 1    |
| 19990542 (VGD40.065 - 2"1/2) | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 135                     | 320 | 970  | 1380 x 430 x 700     | 36     | 1    |
| 19990543 (VGD40.080 - 3")    | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 135                     | 325 | 1010 | 1380 x 430 x 700     | 38     | 1    |
| 19990544 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 175                     | 330 | 1100 | 1380 x 430 x 700     | 44     | 1    |
| 19990588 (VGD40.065 - 2"1/2) | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | -                       | 320 | 580  | 830 x 430 x 640      | 26     | 2    |
| 19990589 (VGD40.080 - 3")    | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | -                       | 325 | 630  | 830 x 430 x 640      | 29     | 2    |
| 19990590 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | -                       | 330 | 730  | 830 x 430 x 640      | 40     | 2    |
| 19990606 (VGD40.080 - 3")    | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 165                     | 325 | 1015 | 1380 x 430 x 700     | 38     | 1    |
| 19990607 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 175                     | 330 | 1100 | 1380 x 430 x 700     | 44     | 1    |
| 19990608 (VGD40.125 - 5")    | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 170                     | 350 | 1275 | 1580 x 430 x 720     | 60     | 1    |
| 19990618 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 200                     | 330 | 1260 | 1380 x 430 x 710     | 45     | 1    |
| 19990619 (VGD40.125 - 5")    | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 209                     | 350 | 1410 | 1580 x 430 x 740     | 83     | 1    |
| 19990620 (VGD40.150 - 6")    | ●        | DN150 | ●    | ●   | ◆  | ●   | ●  | DN150 | 200                     | 370 | 1490 | 1580 x 430 x 740     | 95     | 1    |
| 19990626 (VGD40.150 - 6")    | ●        | DN150 | ●    | ●   | ◆  | ●   | ●  | DN150 | 170                     | 370 | 1280 | 1580 x 430 x 720     | 95     | 1    |
| 19990633 (VGD40.080)         | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 132                     | 314 | 1006 | 1380 x 430 x 600     | 17     | 1    |
| 19990634 (VGD40.100)         | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 163                     | 331 | 1096 | 1380 x 430 x 610     | 30     | 1    |
| 19990640 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 175                     | 330 | 1100 | 1380 x 430 x 700     | 44     | 1    |
| 19990641 (VGD40.125 - 5")    | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 170                     | 350 | 1275 | 1580 x 430 x 720     | 60     | 1    |
| 19990648 (VGD40.100 - 4")    | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 200                     | 330 | 1260 | 1380 x 430 x 710     | 45     | 1    |
| 19990649 (VGD40.125 - 5")    | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 207                     | 350 | 1312 | 1580 x 430 x 740     | 83     | 1    |
| 19990650 (VGD40.150 - 6")    | ●        | DN150 | ●    | ●   | ◆  | ●   | ●  | DN150 | 200                     | 370 | 1485 | 1580 x 430 x 740     | 95     | 1    |
| 19990666 (VGD20.065 - 2"1/2) | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 135                     | 285 | 1120 | 1380 x 430 x 700     | 45     | 1    |
| 19990674 (VGD40.125)         | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 163                     | 349 | 1173 | 1580 x 430 x 630     | 42     | 1    |
| 19990679 (MBE 050)           | ●        | 2"    | ●    | ●   | ◆  | ●   | ●  | 2"    | 135                     | 311 | 880  | 990 x 300 x 500      | 22     | 1    |
| 19990680 (MBE 065)           | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 105                     | 380 | 970  | 1380 x 430 x 700     | 38     | 1    |
| 19990681 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 1005 | 1380 x 430 x 700     | 40     | 1    |
| 19990682 (MBE 100)           | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 110                     | 380 | 1100 | 1380 x 430 x 700     | 45     | 1    |
| 19990683 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 1005 | 1380 x 430 x 700     | 40     | 1    |
| 19990684 (MBE 100)           | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 110                     | 380 | 1100 | 1380 x 430 x 700     | 45     | 1    |
| 19990685 (MBE 125)           | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 130                     | 380 | 1175 | 1580 x 430 x 720     | 58     | 1    |
| 19990686 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 1015 | 1370 x 420 x 710     | 47     | 1    |
| 19990687 (MBE 100)           | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 110                     | 380 | 1100 | 1380 x 430 x 700     | 55     | 1    |
| 19990688 (MBE 125)           | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 128                     | 380 | 1280 | 1580 x 430 x 720     | 58     | 1    |
| 19990689 (MBE 100)           | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 110                     | 380 | 1135 | 1380 x 430 x 710     | 46     | 1    |
| 19990690 (MBE 125)           | ●        | DN125 | ●    | ●   | ◆  | ●   | ●  | DN125 | 128                     | 380 | 1285 | 1580 x 430 x 740     | 81     | 1    |
| 19990691 (MBE 150)           | ●        | DN150 | ●    | ●   | ◆  | ●   | ●  | DN150 | 142                     | 380 | 1355 | 1580 x 430 x 740     | 93     | 1    |
| 19990725 (MBE 050)           | ●        | 2"    | ●    | ●   | ◆  | ●   | ●  | 2"    | 99                      | 311 | 878  | 990 x 300 x 500      | 13     | 3    |
| 19990726 (MBE 065)           | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 105                     | 380 | 1118 | 1380 x 430 x 700     | 28     | 3    |
| 19990727 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 1190 | 1380 x 430 x 700     | 30     | 3    |
| 19990728 (MBE 065)           | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 125                     | 380 | 760  | 1030 x 430 x 650     | 52     | 1    |
| 19990729 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 850  | 1030 x 430 x 650     | 59     | 1    |
| 19990743 (MBE 065)           | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 105                     | 380 | 582  | 830 x 430 x 640      | 28     | 1    |
| 19990744 (MBE 080)           | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 105                     | 380 | 622  | 830 x 430 x 640      | 31     | 1    |
| 19990745 (MBE 100)           | ●        | DN100 | ●    | ●   | ◆  | ●   | ●  | DN100 | 105                     | 380 | 702  | 830 x 430 x 640      | 41     | 1    |
| 19990751 (VGD20.050)         | ●        | 2"    | ●    | ●   | ◆  | ●   | ●  | 2"    | 114                     | 255 | 890  | 990 x 300 x 500      | 14     | 3    |
| 19990752 (VGD40.065)         | ●        | DN65  | ●    | ●   | ◆  | ●   | ●  | DN65  | 114                     | 318 | 1090 | 1380 x 430 x 700     | 26     | 3    |
| 19990753 (VGD40.080)         | ●        | DN80  | ●    | ●   | ◆  | ●   | ●  | DN80  | 114                     | 325 | 1175 | 1380 x 430 x 700     | 28     | 3    |

- CTV** Valve tightness control.
- F** Filter.
- LDU** LDU valve tightness control.
- Pct** Pressure switch for gas control.
- Pmax** Maximum pressure switch.
- Pmc** Minimum and control pressure switch gas leaks.
- Pmin** Minimum pressure switch.
- R** Pressure regulator.
- RF** Pressure regulator with filter.

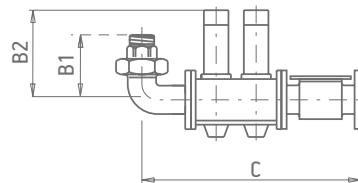
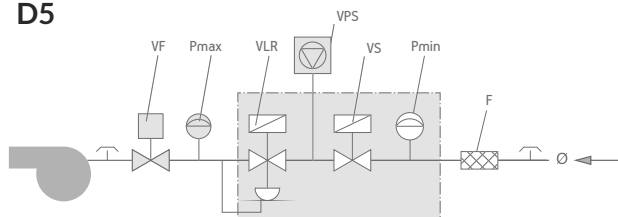
- RFP** Pressure regulator with filter for pilot gas train.
- RM** Manual flow rate regulator.
- RP** Pneumatic regulator.
- VF** Regulator throttle valve.
- VL** Operating valve.
- VL2** Two-stage operating valve.
- VLP** Operating pilot valve.
- VLR** Operating valve with pressure regulator.

- VP** Pilot valve.
- VPS** VPS valve tightness control.
- VS** Safety valve.
- VSP** Safety pilot valve.
- Ø** Gas train diameter.
- Ø1** Main gas train diameter.
- Ø2** Pilot gas train diameter.

- As Standard.
- ▲ As standard for burners with an output of more than 1200 kW, on request for burners with an output of less than 1200 kW.
- On request.
- ◆ Mounted on burner.

# GAS TRAIN STRUCTURE AND COMPOSITION

D5



| Gas train Part no. | Position |   |      |    |     |    |      | Gas train dimensions mm |     |      | Size of packaging mm | Weight |
|--------------------|----------|---|------|----|-----|----|------|-------------------------|-----|------|----------------------|--------|
|                    | Pmax     | F | Pmin | VF | VLR | VS | Ø    | B1                      | B2  | C    | L x P x H            | kg     |
| 19990720 (MBE 050) | ●        | ● | ●    | ◆  | ●   | ●  | 2"   | 100                     | 311 | 880  | 990X300X500          | 19,5   |
| 19990721 (MBE 065) | ●        | ● | ●    | ◆  | ●   | ●  | DN65 | 100                     | 381 | 1120 | 1380X430X700         | 45     |
| 19990722 (MBE 080) | ●        | ● | ●    | ◆  | ●   | ●  | DN80 | 100                     | 381 | 1190 | 1380X430X700         | 50     |
| 19990773 (MBE 050) | ●        | ● | ●    | ◆  | ●   | ●  | 2"   | 100                     | 311 | 880  | 990X300X500          | 19,5   |
| 19990774 (MBE 065) | ●        | ● | ●    | ◆  | ●   | ●  | DN65 | 100                     | 381 | 1120 | 1380X430X700         | 45     |
| 19990775 (MBE 080) | ●        | ● | ●    | ◆  | ●   | ●  | DN80 | 100                     | 381 | 1190 | 1380X430X700         | 50     |
| 19990786 (MBE 050) | ●        | ● | ●    | ◆  | ●   | ●  | 2"   | 100                     | 311 | 880  | 990X300X500          | 19,5   |
| 19990787 (MBE 065) | ●        | ● | ●    | ◆  | ●   | ●  | DN65 | 100                     | 381 | 1120 | 1380X430X700         | 45     |
| 19990788 (MBE 080) | ●        | ● | ●    | ◆  | ●   | ●  | DN80 | 100                     | 381 | 1190 | 1380X430X700         | 50     |

CTV Valve tightness control.  
 F Filter.  
 LDU LDU valve tightness control.  
 Pct Pressure switch for gas control.  
 Pmax Maximum pressure switch.  
 Pmc Minimum and control pressure switch gas leaks.  
 Pmin Minimum pressure switch.  
 R Pressure regulator.  
 RF Pressure regulator with filter.

RFP Pressure regulator with filter for pilot gas train.  
 RM Manual flow rate regulator.  
 RP Pneumatic regulator.  
 VF Regulator throttle valve.  
 VL Operating valve.  
 VL2 Two-stage operating valve.  
 VLP Operating pilot valve.  
 VLR Operating valve with pressure regulator.

VP Pilot valve.  
 VPS VPS valve tightness control.  
 VS Safety valve.  
 VSP Safety pilot valve.  
 Ø Gas train diameter.  
 Ø1 Main gas train diameter.  
 Ø2 Pilot gas train diameter.

● As Standard.  
 ▲ As standard for burners with an output of more than 1200 kW, on request for burners with an output of less than 1200 kW.  
 ■ On request.  
 ◆ Mounted on burner.



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