<table>
<thead>
<tr>
<th>COMPONENTS FOR COMBUSTION SYSTEMS</th>
<th>Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR – GAS MIXER</td>
<td>2</td>
</tr>
<tr>
<td>VENTURI MIXER</td>
<td>5</td>
</tr>
<tr>
<td>GAS ADJUSTER DP and LP SERIES</td>
<td>6</td>
</tr>
<tr>
<td>AIR-GAS RATIO MODULATOR</td>
<td>8</td>
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<td>BUTTERFLY VALVES</td>
<td>14</td>
</tr>
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<td>CALIBRATED ORIFICES</td>
<td>18</td>
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<td>20</td>
</tr>
</tbody>
</table>
MIXER FB SERIES

Capacity:
From 7 KW to 1860 KW
From 6000 Kcal/h to 1600000 Kcal/h

DESCRIPTION
Mixer FB Series are air/gas mixing devices. FB premixers utilize the Venturi effect in order to obtain a very good mixing of the gas flow (induced fluid) with the air flow (inducer fluid) in the premix burner combustion systems. The air/gas feedings to the premixer are controlled singularly; the capacity regulation of the premixer is executed by means of a motorized or manual butterfly valve disposed on the piping of the combustion air and by means of a zero-governor disposed on the piping of the gas; FB premixer is supplied complete of micrometric gas-adjuster.

FEATURES
Type of gas: natural gas, LPG
Max gas pressure: 150 mbar
Max air pressure: 150 mbar
Temperature range: -10°C to +100°C

INSTALLATION
FB premixer can be installed in whichever position.

CAUTION: it is absolutely forbidden to interpose interception or regulation devices between the premixer and the burner heads.

CAUTION: Pilot burner, main burner and the automatic burner control unit must be designed, installed and setted meeting the law regulations in force.
Fusar Bassini Astorre e C. Snc
MIXER FB SERIES

PREMIXER FB-5 FB-10 FB-18
TECHNICAL DATA

Housing : brass and steel
Air-gas injector : steel
Threaded connections

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>A [mm]</th>
<th>B &quot;GAS&quot;</th>
<th>D &quot;GAS&quot;</th>
<th>F [mm]</th>
<th>G [mm]</th>
<th>H [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB-5</td>
<td>280</td>
<td>1&quot; 1/4</td>
<td>3/4&quot;</td>
<td>100</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>FB-10</td>
<td>300</td>
<td>1&quot; 1/2</td>
<td>3/4&quot;</td>
<td>106</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>FB-18</td>
<td>350</td>
<td>2&quot;</td>
<td>1&quot;</td>
<td>115</td>
<td>50</td>
<td>120</td>
</tr>
</tbody>
</table>

CAPACITY : The capacity of an FB mixer depends by air pressure gauged upstream of the mixer *, by its size, its injector, by the size and number of burners or nozzles through which it fires and by the field conditions under which it operates.

MAX CAPACITY Kcal/h with standard injector, WITH AIR PRESSURE IN mbar

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>INJECTOR Standard</th>
<th>10 mbar</th>
<th>20 mbar</th>
<th>30 mbar</th>
<th>40 mbar</th>
<th>50 mbar</th>
<th>60 mbar</th>
<th>70 mbar</th>
<th>80 mbar</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB-5</td>
<td>18</td>
<td>30000</td>
<td>41000</td>
<td>50000</td>
<td>59000</td>
<td>65000</td>
<td>71000</td>
<td>76000</td>
<td>82000</td>
</tr>
<tr>
<td>FB-10</td>
<td>21</td>
<td>40000</td>
<td>55000</td>
<td>67000</td>
<td>79000</td>
<td>86000</td>
<td>95000</td>
<td>102000</td>
<td>110000</td>
</tr>
<tr>
<td>FB-18</td>
<td>26</td>
<td>60000</td>
<td>85000</td>
<td>106000</td>
<td>121000</td>
<td>137000</td>
<td>150000</td>
<td>162000</td>
<td>173000</td>
</tr>
</tbody>
</table>

PREMIXER FB-27 FB-40 FB-50
TECHNICAL DATA

Housing : cast iron
Air-gas injector : cast iron
Threaded connections

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>A [mm]</th>
<th>B &quot;GAS&quot;</th>
<th>D &quot;GAS&quot;</th>
<th>F [mm]</th>
<th>G [mm]</th>
<th>H [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB-27</td>
<td>390</td>
<td>2&quot; 1/2</td>
<td>1&quot; 1/4</td>
<td>140</td>
<td>60</td>
<td>125</td>
</tr>
<tr>
<td>FB-40</td>
<td>415</td>
<td>3&quot;</td>
<td>1&quot; 1/2</td>
<td>150</td>
<td>60</td>
<td>125</td>
</tr>
<tr>
<td>FB-50</td>
<td>640</td>
<td>4&quot;</td>
<td>2&quot;</td>
<td>175</td>
<td>77</td>
<td>140</td>
</tr>
</tbody>
</table>

CAPACITY : The capacity of an FB mixer depends by air pressure gauged upstream of the mixer *, by its size, its injector, by the size and number of burners or nozzles through which it fires and by the field conditions under which it operates.

MAX CAPACITY Kcal/h with standard injector, WITH AIR PRESSURE IN mbar

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>INJECTOR Standard</th>
<th>10 mbar</th>
<th>20 mbar</th>
<th>30 mbar</th>
<th>40 mbar</th>
<th>50 mbar</th>
<th>60 mbar</th>
<th>70 mbar</th>
<th>80 mbar</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB-27</td>
<td>32</td>
<td>92000</td>
<td>130000</td>
<td>160000</td>
<td>185000</td>
<td>203000</td>
<td>226000</td>
<td>244000</td>
<td>262000</td>
</tr>
<tr>
<td>FB-40</td>
<td>40</td>
<td>145000</td>
<td>200000</td>
<td>250000</td>
<td>289000</td>
<td>323000</td>
<td>354000</td>
<td>382000</td>
<td>410000</td>
</tr>
<tr>
<td>FB-50</td>
<td>52</td>
<td>245000</td>
<td>342000</td>
<td>424000</td>
<td>490000</td>
<td>545000</td>
<td>600000</td>
<td>645000</td>
<td>692000</td>
</tr>
</tbody>
</table>

The Kcal/h indicates on chart are available for Natural gas.
The value indicate must be reduced of the 7,4% to obtain the Kcal/h LPG
CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.

Fusar Bassini Astorre e C. Snc
GAS BURNERS AND COMPONENTS FOR COMBUSTION SYSTEMS
Via P.M. Ferrè, 14 -26013 CREMA (CR) Tel/Fax 0373-257594 web: www.fusarbassini.it e-mail: info@fusarbassini.it

we reserve the right to make technical changes without notice Ed. 31.07.08 CC.UK Sheet 3 of 20
PREMIXER FB-80 and FB-110

GASES:  
* Natural gas  
* Liquid gas – LPG

GAS PRESSURE: 500 – 800 mm H₂O

CAPACITY: The burner capacity depends EXCLUSIVELY by air pressure, gauged upstream of the burner

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>Ø A mm</th>
<th>PIPE Ø B &quot; GAS</th>
<th>C mm</th>
<th>E mm</th>
<th>Ø F &quot; GAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB-80</td>
<td>200</td>
<td>5&quot;</td>
<td>110</td>
<td>680</td>
<td>5&quot;</td>
</tr>
<tr>
<td>FB-110</td>
<td>230</td>
<td>6&quot;</td>
<td>120</td>
<td>760</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MIXER Size</th>
<th>AIR INJECTOR Ø mm</th>
<th>BURNER CAPACITY Kcak/h WITH AIR PRESSURE IN mm H₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>FB-80</td>
<td>62</td>
<td>288000</td>
</tr>
<tr>
<td>FB-110</td>
<td>75</td>
<td>430000</td>
</tr>
</tbody>
</table>

The Kcak/h indicates on chart are available for Natural gas  
The value indicate must be reduced of the 7,4% to obtain the Kcak/h LPG
VENTURI MIXER

Capacity: up to 1500 KW (1290000 Kcal/h)
Feeding gas: average, high pressure

Burner capacity Kcal/h with suction to the 100% of primary air and with combustion chamber on depression of the 2mm H2O,
With feedings gas to the pressure in ATE:

<table>
<thead>
<tr>
<th>BURNER</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>L</th>
<th>M</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP - 1/2 - A</td>
<td>115</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 1/2 - B</td>
<td>115</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 2/5 - A</td>
<td>110</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 2/5 - B</td>
<td>110</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 3/4 - A</td>
<td>100</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 3/4 - B</td>
<td>100</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 4/5 - A</td>
<td>95</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>AP - 4/5 - B</td>
<td>95</td>
<td>3/4</td>
<td>0.05</td>
<td>2.8</td>
<td>0.95</td>
<td>40</td>
<td>65</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
DESCRIPTION
Gas adjuster DP series is designed and assembling to regulate the gas flow in the combustion systems at the low pressure.

Diameter of flanged connection: from ½” to 2”
Type of gas: natural gas, LPG
Max gas pressure: 300 mbar
Temperature range: between -10°C to +70°C

INSTALLATION
Gas adjuster can be installed in whichever position.
For the threaded connections use the sealing material admitted by the normative one. To check the estate treat the attacks with soap.

TECHNICAL DATA
- Housing: brass
- Threaded connections
- Inside components: brass and aluminium
- Tight on micrometrical regulator: synthetic rubber
- Locking set screw regulation: steel
- Security cap: steel with packing

CAUTION: gas adjuster are not to hermetic estate and shall not be used as a safety shutdown device.

DIMENSIONS ADJUSTER DP-15

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
Fusar Bassini Astorre e C. Snc
GAS ADJUSTER LP SERIES

Diameter of flanged connection: from 2 ½" to 3"

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Ø A</th>
<th>Ø B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP-65</td>
<td>242</td>
<td>160</td>
<td>100</td>
<td>80</td>
<td>90</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LP-80</td>
<td>296</td>
<td>190</td>
<td>118</td>
<td>80</td>
<td>93</td>
<td>16</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
BALANCED ZERO REGULATOR
"Zerogovernor" regulators are used in both premix and nozzle-mix burner systems for maintaining a constant air-gas mixture. "Zerogovernor" regulator will supply zero gas to a gas mixer (or premix burner) when its vent is open to the atmosphere. When used with nozzle-mix burners, or with premix burner combustion systems, the vent of zerogovernor is cross-connected to the main air line downstream of the main control valve; regulator outlet pressure will equal air impulse pressure conveyed through the cross-connection; thus gas flow will remain proportional to air flow all firing rates.

TECHNICAL DATA
Housing: Aluminium
Inside components: Aluminium, Brass, Stainless steel
Diaphragm: synthetic rubber
Temperature range: -10 °C to +60°C
Pressure: max 150 mbar
Flanged connections up to 2" DN65 – DN80

INSTALLATION
All regulators are setted and sealed before shipment; if adjustment or repair is necessary, the regulator should be returned to the factory.
Mount regulator horizontally with diaphragm case below gas line and with arrow on body pointing in direction of the gas flow.
Do not use Zerogovernor like block safety valve.
ZEROGOVERNOR

We reserve the right to make technical changes designed to improve our products without prior notice.

Type | DN | Dimensions (mm) | Weight (kg.)
--- | --- | --- | ---
ZG25 | 1" | A: 250 B: 150 C: 65 D: 185 | 6.7
ZG32 | 1 1/4" | 305 180 75 205 | 9.6
ZG40 | 1 1/2" | 305 180 75 205 | 9.6
ZG50 | 2" | 405 220 85 260 | 15
ZG60 | 2 1/2" | 405 240 90 270 | 21
ZG80 | 3" | 405 330 100 300 | 25

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
LINE OF IMPULSE TO TWO REFERENCES

1) Disconnect the automatic burner control units

2) Start the flue gas aspirator and the fan of the combustion air. Set the air butterfly valves of combustion to the maximum capacity and the flue gas aspirator to the maximum capacity required by the project.

3) Close completely the adjuster cock B (combustion chamber) and open completely the adjuster cock A (impulse of the air combustion). Read the value of the air impulse on the test pressure.

4) Open the adjuster cock B up to make decrease the air impulse value around 100-200 mm H₂O

5) Bring the air valve regulator of combustion on the position ½ of the max. capacity of the air required by the burner. Insert the automatic burner control units and turn on the burner regulating the flame quality with the manual gas adjuster to the burner.

6) Measure the gas pressure inlet to the zerogovernor and close the adjuster cock A of the air impulse combustion up to bring the value of the impulse to the zerogovernor 100 mm under the pressure inlet of the zerogovernor. Example - Pressure inlet to the zerogovernor 600 mm H₂O close the adjuster cock A until the value of the impulse to the zerogovernor of 100 mm H₂O (600-100=500 mm H₂O)

7) CAUTION If the gas pressure inlet to the zerogovernor is 100 mm H₂O above to the value of the impulse when the burner works to the max. capacity can be omitted how much described to the paragraph 6

8) Bring the main burner on the max. capacity of HIGH FLAME and eventually ricalibrated the flame quality with the manual gas adjuster.

9) Verify that the burner’s flame maintains the air-gas ratio pre-fixed, on the whole execution of the automatic regulation between the maximum capacity and the least capacity.
GENERAL DESCRIPTION
The ratio modulator maintain the air-gas ratio constant to the burners of the combustion systems with preheated air.
With the aid of a calibrated orifice for the measure of the cold air flow a signal is transmitted to the ratio modulator that is linked to the temperature of the hot air that feeds the burners and of the pressure of the combustion air: so the gas flow is self-regulated of the combustion air.
The ratio modulator can connected at signal to the variation of the pressure in the combustion chamber of the oven.
The outlet pressure of the gas throught the RR modulator with a ratio multiplication of approximately 1.5 - 1.7 the signal in differential pressure from the calibrated orifice on the cold pipe of the combustion air.

TECHNICAL DATA
Housing : Aluminium
Inside components : Aluminium, Brass, Stainless steel
Diaphragm : synthetic rubber
Flanged connections

FEATURES
- Temperature range from -10° C to 60° C
- Max pressure inlet 700 mm H2O
- Mounting horizontal with the spring revolt
down (see diagram)

DIMENSIONS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>DN</th>
<th>RATIO MULTIPLICATION</th>
<th>DIMENSIONS (mm)</th>
<th>WEIGHT (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>RR 25</td>
<td>1&quot;</td>
<td>1.5</td>
<td>305</td>
<td>150</td>
</tr>
<tr>
<td>RR 40</td>
<td>1&quot;1/2</td>
<td>1.7</td>
<td>405</td>
<td>180</td>
</tr>
</tbody>
</table>

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the mainteinance are not carried out correctly, severe damages to things or persons might occur.
INSTALLATION
The installation must be carried out on a stretch of the horizontal pipe so that the vibrating diaphragm is parallel to the pipe, the spring facing downwards and the arrow facing in the direction of flow. All equipment is tested before shipment.
CALIBRATION

ADJUSTMENT
The initial adjustment system must be performed when the burner’s air capacity is required. The light device shall be adjusted so that the line impulse to point A has a value of 1.6 times the differential pressure value of the calibrated orifice. To get a good controller of potential burner should exploit the calibrated orifice air worth DELTAPI 250 mm H2O.

CHOICE OF FAN
For the choice of prevalence fan must be given the pressure drop through the calibrated flange boost air, modulating valve control air, the heat exchanger, the burner, pipes etc.…

CAUTION: the flow of fan must be obtained at the connection with maximum burner start-ups with cold air.

OPERATION FOR HOT AIR WITH MORE BURNERS

ADJUSTMENT CENTRALISED
The burner’s power should not be intercepted individually downstream calibrated orifice as the ratio of combustion burners lit to be amended.

SINGLE ADJUSTMENT
If there is the need to intercept the individual burners should be allowed the use of a ratio modulator for each burner.

CAUTION: air/gas pressure at the entrance to the ratio modulator in Section B must be equal to:
(1.6 x DELTAPI on calibrated flange air + 100) mm H2O

RATIO MODULATOR SCHEDULE OF APPLICATION ON COMBUSTION SYSTEMS WITH PREHEATED AIR COMBUSTION

DIRECT SYSTEM

INDIRECT SYSTEM
DESCRIPTION
Butterfly valves are used for modulating air flow in low pressure gas combustion systems. Standard versions are:
- **TYPE D**: manual flow control valve
- **TYPE LR**: rigid linkage
- **TYPE LM**: predisposition for electric servomotor, with lever: device that allows an easy regulation tall-low in the limits fixed by the screw of lock, without respect to the run of the servomotor.
- **TYPE CP**: with linkage for pneumatic actuator

TECHNICAL DATA
- Diameter threaded connections: from ½” to 1”
- Diameter of flanged connection: da 1 ¼” a 12”
- Inside components: steel
- Adjustable limit stops for maximum and minimum flow
- Max fluid temperature: 150°C
- Max working pressure: 350 mbar
- Tight shaft: synthetic rubber
- Ample indicator of position
- Interchangeability with the servo-control

IMPORTANT
Butterfly valves shall not be used as a safety shutdown device.

CHOICE OF TYPE OF VALVE
For regulations to two positions choose the butterfly valve’s diameter of the same dimensions of the air pipeline to the least of load through the valve.
For modulating regulations choose the butterfly valve’s diameter a loss of load provokes of around the 15% of the air pressure to the entrance of the valve
- Housing: aluminum
- Threaded connections UNI 338-66

**CAUTION:** The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
- Housing: aluminium
- Flanged connections with steel matching flanges, packings and bolts

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
- Housing: aluminium
- Flanged connections with steel matching flanges, packings and bolts

CAUTION: The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.

### BUTTERFLY VALVES FOR GAS FROM DN125 TO DN 300

- **Housing:** aluminium
- **Flanged connections with steel matching flanges, packings and bolts**

**DIMENSIONS (mm)**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Ø PIPE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 125</td>
<td>5&quot;</td>
<td>180</td>
<td>210</td>
<td>285</td>
<td>115</td>
<td>16</td>
</tr>
<tr>
<td>DN 150</td>
<td>6&quot;</td>
<td>205</td>
<td>230</td>
<td>305</td>
<td>125</td>
<td>17</td>
</tr>
<tr>
<td>DN 200</td>
<td>8&quot;</td>
<td>260</td>
<td>295</td>
<td>370</td>
<td>155</td>
<td>33</td>
</tr>
<tr>
<td>DN 250</td>
<td>10&quot;</td>
<td>270</td>
<td>375</td>
<td>430</td>
<td>160</td>
<td>57</td>
</tr>
<tr>
<td>DN 300</td>
<td>12&quot;</td>
<td>320</td>
<td>440</td>
<td>480</td>
<td>190</td>
<td>80</td>
</tr>
</tbody>
</table>

**FLOW RATE Nm³/h**

- AIR DS=1

**Specific gravity factors:**
- Natural gas (DS=0.62) F=1.27
- LPG (DS=1.56) F=0.80
**DESCRIPTION**

The calibrated diaphragms develop the function of measure of gas or air course (warm or cold). Their employment is particularly convenient in the systems of combustion, in which the air-gas ratio combustion can easily be checked contemporarily reading the gas and air courses. These tools of measure can be used besides as circumferentors in circuits checked by programmable logics.

**TECHNICAL**

- Construction in aluminum or steel (based to the employment);
- Temperatures of exercise: up to 500° C;
- Pressures of exercise: up to 1500 mm H2O;
- Threaded connections up to DN 50;
- Flanged connections up to DN 500;
- Raised reliability in the reading of course

**INSTALLATION**

Every calibrated diaphragm is equipped with the relative chart of setting and the indication of the residual losses of load provoked to valley of the diaphragm.

To assure reliability to the relief of the course the normative one they recommend to insert the diaphragm calibrated in a rectilinear line of pipeline having at least:

\[
\begin{align*}
L & = 10 \, d \\
L & = 5 \, d \text{ in valley of the diaphragm}
\end{align*}
\]

**Diameter of threaded connections:** from ½” to 2”

**Diameter of flanged connection:** from 2 ½” to 20”

**Equipped with chart Dp-Q**

---

**CAUTION:** The combustion system must be designed and installed meeting the law regulations in force. If the installation, the use and the maintenance are not carried out correctly, severe damages to things or persons might occur.
### CALIBRATED ORIFICIES

**FROM ½" TO 2"**

<table>
<thead>
<tr>
<th>ORIFICE</th>
<th>Ø mm</th>
<th>Ø &quot; mm</th>
<th>C mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 15 - 1/2&quot;</td>
<td>55 x 55</td>
<td>1/2&quot; gas</td>
<td>82</td>
</tr>
<tr>
<td>DN 20 - 3/4&quot;</td>
<td>55 x 55</td>
<td>3/4&quot; gas</td>
<td>82</td>
</tr>
<tr>
<td>DN 25 - 1&quot;</td>
<td>65 x 65</td>
<td>1&quot; gas</td>
<td>82</td>
</tr>
<tr>
<td>DN 32 - 1&quot;1/4</td>
<td>75 x 75</td>
<td>1&quot;1/4 gas</td>
<td>100</td>
</tr>
<tr>
<td>DN 40 - 1&quot;1/2</td>
<td>75 x 75</td>
<td>1&quot;1/2 gas</td>
<td>100</td>
</tr>
<tr>
<td>DN 50 - 2&quot;</td>
<td>95 x 95</td>
<td>2&quot; gas</td>
<td>108</td>
</tr>
</tbody>
</table>

**FROM 2 ½" TO 3"**

<table>
<thead>
<tr>
<th>ORIFICE</th>
<th>Ø mm</th>
<th>Ø PIPE mm</th>
<th>C mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 65 - 2&quot; 1/2</td>
<td>150</td>
<td>2&quot; 1/2</td>
<td>110</td>
</tr>
<tr>
<td>DN 80 - 3&quot;</td>
<td>180</td>
<td>3&quot;</td>
<td>110</td>
</tr>
</tbody>
</table>

**FROM 4" TO 12"**

<table>
<thead>
<tr>
<th>ORIFICE</th>
<th>Ø mm</th>
<th>Ø PIPE &quot;</th>
<th>C mm</th>
<th>D mm</th>
<th>E mm</th>
<th>F mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 100 - 4&quot;</td>
<td>210</td>
<td>4&quot;</td>
<td>114</td>
<td>320</td>
<td>40</td>
<td>680</td>
</tr>
<tr>
<td>DN 125 - 5&quot;</td>
<td>240</td>
<td>5&quot;</td>
<td>139,7</td>
<td>130</td>
<td>50</td>
<td>310</td>
</tr>
<tr>
<td>DN 150 - 6&quot;</td>
<td>265</td>
<td>6&quot;</td>
<td>166,5</td>
<td>180</td>
<td>50</td>
<td>410</td>
</tr>
<tr>
<td>DN 200 - 8&quot;</td>
<td>320</td>
<td>8&quot;</td>
<td>219,7</td>
<td>230</td>
<td>55</td>
<td>515</td>
</tr>
<tr>
<td>DN 250 - 10&quot;</td>
<td>375</td>
<td>10&quot;</td>
<td>273</td>
<td>270</td>
<td>60</td>
<td>600</td>
</tr>
<tr>
<td>DN 300 - 12&quot;</td>
<td>440</td>
<td>12&quot;</td>
<td>324</td>
<td>320</td>
<td>60</td>
<td>700</td>
</tr>
</tbody>
</table>
ACCESSORIES

- Filters for gas
- Flexible coupling
- Heads to retention flame
- Observation port
- Spherical orientator
- Thermal insulation joint
- Stabilizers
- Electrical and electronic servomotor
- Solenoid
- Electrodes and spark plug ignition
- Electrodes detection
- Manometers
- Transformers ignition high-voltage
- High Voltage Cable
- Insulators electrodes ignition and detection