GasBloc
Multifunctional gas control
Combined regulator and
safety shut-off valves
single-stage atmospheric
operating mode

GB-(LEP) 057 D01

3.10

Technical description
Multifunctional gas control valve as per
EN 126 for fully automatic operation:

- One stage mode or two stage mode
  for direct burner ignition (DBI) or
  intermittent pilot (IP)
- Fast-open or slow-open with adjust-
  able start gas volume
- Constant volume flow using servo
  pressure regulator with servo regula-
  tor
- Input pressures up to max. 65 mbar
  (6.5 kPa)
- Different variants according to ap-
  plication

Application
Suitable for gases as per EN 437 and
other neutral combustion gases.

Approvals
EU type test approval as per EU Gas
Appliance Directive.

GB-(LEP) 057 D01 CE-0085 CM 0036

Approvals in other important gas-
consuming countries.
Combinations

<table>
<thead>
<tr>
<th>Main types</th>
<th>Specification</th>
<th>Multifunctional gas control valve GB-(LEP) 057 D01</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB-LE 057 D01</td>
<td>○</td>
<td>B</td>
</tr>
<tr>
<td>GB-057 D01</td>
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<td>GB-LEP 057 D01</td>
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<td>B</td>
</tr>
<tr>
<td>GB-P 057 D01</td>
<td>○</td>
<td>B</td>
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</tbody>
</table>

○ standard  ○ optional  --- not available

Type key of Gasbloc

- Control of V1 and V2
  0 = common
  2 = separated
- Outlet pressure
  0 = 0 mbar
  1.5 - 20 mbar
  2 = 3 - 40 mbar
  4 = 65 mbar
- Inlet pressure
  1 = service pressure regulator
  2 = two class B solenoid valves with pressure regulator
- Valve design
  0 = Double valve
  1 = Single valve, right angle
  2 = Single valve, straight
- Design type (generation) D
- Construction size, nominal diameter
  05 = Pmax = 65 mbar
  3 = Rp 1/4
  5 = Rp 1/2
  7 = Rp 3/4
- Opening behaviour + main volume restrictor
  without = fast-opening, fast-closing
  -L = slow-opening
  -A = adjustable start gas
  -P = pilot gas connection
  -D = Gas/Air ratio
  -m = main flow setting
  -Z = Zero-Governor
  -M = electrical modulating type
  -W = Whirlwind version
  -Z = two stage
- GasBloc

Description of main components

Pressure regulator
The pressure regulator includes a servo regulator to regulate pressure fluctuations in the mains supply. This ensures a precise volume flow and constant injector pressure.

Slow opening function
For slow start of the burner, the start rate can be adjusted to 80 % of the main gas volume.

Shutting down the pressure regulator
To shut down the pressure regulator turn the setting device 25 x clockwise until a soft click can be heard.

Solenoid valves
Solenoid valves as per EN 161, Class B. DC coils are protected against voltage transients.

Dirt trap device
Fine-meshed strainer to protect fitting.

Pilot gas
Pilot gas connection between V1 and V2.

Gas pressure switch
Optional equipment
Monitors gas pressure on the inlet side for gas leakage protection. The pressure switch can be pre-adjusted and sealed to customer specifications.

Pressure instrument glands
On inlet and outlet sides

Solenoid valve sides

Mode 1
V1 and V2 can be activated and opened either together or separately.

Mode 2
V1 and V2 are opened and activated separately. Pilot gas outlet is released and V1 opens. When the flame has been detected, release is performed and V2 opens.

Block diagram

A Filter
B Automatic shut-off valves
C Pressure regulator
D Servo-pressure regulator
E Start gas setting
F Pilot gas outlet
p1 Test nipple, inlet
p2 Test nipple, outlet
Solenoid valve modes GB-(LEP) 057 D01

Mode 1
Opening characteristic for slow start without ignition gas

Mode 2
Opening characteristic for slow start with ignition gas

Setting the start rate

Start rate can be set
Time cannot be changed

Slow start requires a closed pressure regulator at start. Before each restart, a waiting period of at least 45 s must be observed.

Example:
Start load = 0.5 x Q_{max}.
max. ≈ 4 s
Dimensions [mm]

Adjusting devices

Setting device
pressure regulator

Start gas setting device

Pressure test nipple P₂

Pressure test nipple P₁

Solenoid coils

Electrical connection

Standard
Box with cable connection IP 40
Molex Crimp System 3001

Volume flow pressure difference characteristic
GB-(LEP) 057 D01 - atmospheric as per DIN EN 126

Inlet pressure range (mbar)

<table>
<thead>
<tr>
<th>2nd gas family</th>
<th>P\text{NOM}</th>
<th>P\text{MAX}</th>
<th>P\text{MIN}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas-H-E</td>
<td>20</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>Natural gas-L</td>
<td>25</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

Permissible deviation
Pressure regulator class C - 2nd gas family

p₂ + 10 % - 15 % as per EN 126
Volume flow pressure difference characteristic
GB-(LEP) 057 D01 - atmospheric as per DIN EN 126

Inlet pressure range (mbar)
3rd gas family P_{NOM.} P_{MAX.} P_{MIN.}
Propane 37 45 25

Permissible deviation
Pressure regulator class C - 3rd gas family
p_2 \pm 10 \% as per EN 126

Volume flow pressure difference characteristic
GB-(LEP) 057 D01 - atmospheric as per DIN EN 126

Inlet pressure range (mbar)
3rd gas family P_{NOM.} P_{MAX.} P_{MIN.}
Butane/Propane 50 57,5 42,5

Permissible deviation
Pressure regulator class C - 3rd gas family
p_2 \pm 10 \% as per EN 126

Volume flow pressure difference characteristic
GB-(LEP) 057 D01
# Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal diameter</td>
<td>DN 20</td>
</tr>
<tr>
<td>Gas connection</td>
<td>Rp 3/4 ISO 7/1</td>
</tr>
<tr>
<td>Flange with tube thread</td>
<td>Rp 3/4 ISO 7/1 ID</td>
</tr>
<tr>
<td>Pilot gas connection</td>
<td>M8 x 1</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>65 mbar (6.5 kPa)</td>
</tr>
<tr>
<td>Pressure range</td>
<td>2.5 mbar (0.25 kPa) to 38 mbar (3.8 kPa)</td>
</tr>
<tr>
<td>Nominal flow</td>
<td>5.3 m³/h (Air)</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-15 °C to +70 °C</td>
</tr>
<tr>
<td>Max. inlet pressure</td>
<td>0 °C to +70 °C at LPG</td>
</tr>
<tr>
<td>Automatic shut-off valves</td>
<td>Class B as per EN 126</td>
</tr>
<tr>
<td>Group</td>
<td>2</td>
</tr>
<tr>
<td>Pressure regulator</td>
<td>Class C</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 40</td>
</tr>
<tr>
<td>Opening time</td>
<td>Fast-opening &lt; 1 s</td>
</tr>
<tr>
<td>Closing time</td>
<td>&lt; 1 s</td>
</tr>
<tr>
<td>Switch on duration</td>
<td>100 % ED</td>
</tr>
<tr>
<td>Voltage/frequency</td>
<td>~(AC) 50 - 60 Hz 24 V +10 % – 15 %</td>
</tr>
<tr>
<td>Load of coil (24 V, 230 V)</td>
<td>2 x 12.5 VA</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>Molex System connection coil or Option: Connection box with integrated cable</td>
</tr>
<tr>
<td>Optional equipment</td>
<td>Electrical connections in Rast 5</td>
</tr>
<tr>
<td>Installation position</td>
<td>Automatic burner control MPA 109x</td>
</tr>
<tr>
<td></td>
<td>Gas pressure switch GW A5</td>
</tr>
<tr>
<td></td>
<td>Solenoid at any position between vertical and horizontal axis.</td>
</tr>
</tbody>
</table>

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We reserve the right to make any changes in the interest of technical progress.