

GasBloc
Multifunctional gas control
Combined regulator and
safety shut-off valves
Electrically modulating
GB-M(P) 057 D01



Two stage operating mode
GB-(LEP)Z 057 D01
3.11



Technical Description

Multiple actuator to EN 126 comprising electro-magnetically controlled regulator unit for modulating or two stage mode:

- Modulator with adjustable min. and max. limiter
- Ignition gas, optional
- Constant volume flow using servo pressure regulator with servo regulator
- Max. operating pressure 65 mbar (6.5 kPa)
- Different variants according to application

Application

Suitable for gases to EN 437 and other gaseous inert media.

Approvals

EU type test approval as per EU Gas Appliance Directive.

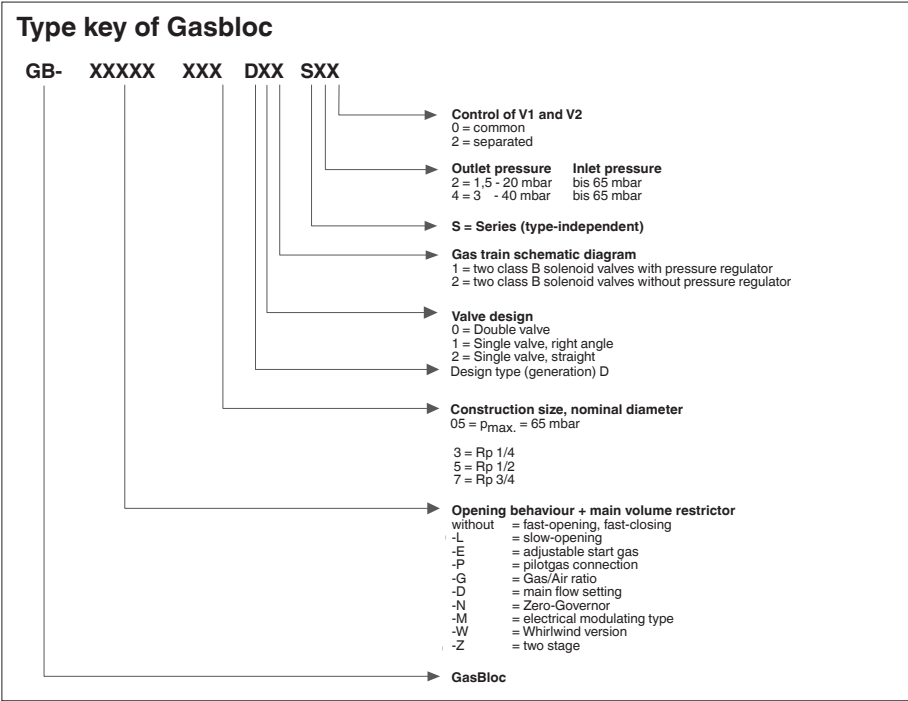
GB-M(P) 057 D01 CE-0085 CM 0036

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

Approvals in other important gas-consuming countries.

Specification / Main types	electro-magnetically controlled servo pressure regulator	two stage switch-able servo-pres-sure regulator	Operating valve Solenoid valve [class]	Safety valve Solenoid valve [class]	minimum modula-tor current [mA]	maximum modula-tor current [mA]	two stage control 230 V AC	min. and max. burner pressure adjustable	Dirt trap device	Ignition gas con-nection	Gas pressure switch	Line socket	MPA 109x
GB-M 057 D01	●	---	B	B	50	165	---	●	●	---	○	○	○
GB-MP 057 D01	●	---	B	B	50	165	---	●	●	●	○	○	○
GB-Z 057 D01	---	●	B	B	---	---	●	---	---	○	○	○	○

● standard ○ optional --- not available



Description of main components

Pressure regulator and modulator

The pressure control unit and servo regulator compensates for pressure fluctuations in the supply network. This ensures a constant volume flow at constant injector pressure. The injector pressure can be regulated by controlling an electrical modulator between adjustable minimum and maximum values.

In the two-stage operating mode, the control toggles between the maximum and minimum values.

Solenoid valves

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

Filter

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 modes

Mode 1

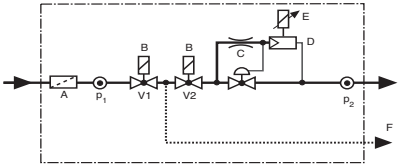
V1 and V2 can be activated and opened either together or separately.

Mode 2

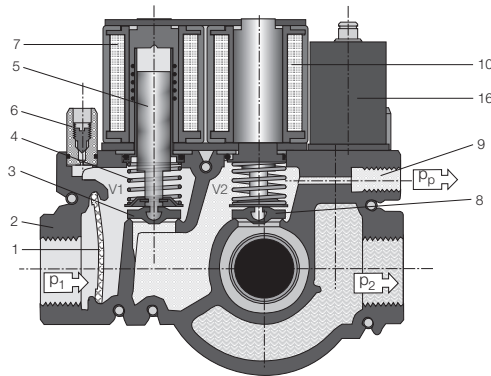
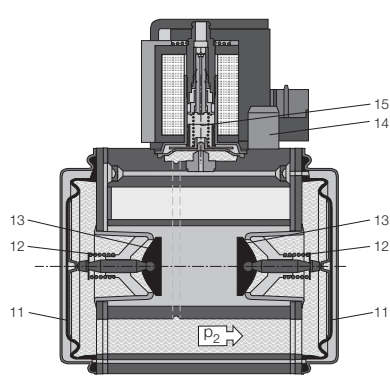
V1 and V2 are opened and activated separately. Pilot gas outlet is released and V1 opens. When the flame has been detected, release is performed and V2 opens.

Block diagram

- A Filter
- B Automatic shut-off valves
- C Pressure regulator
- D Servo-pressure regulator
- E Electrical modulator
- F Pilot gas outlet
- p₁ Test nipple, inlet
- p₂ Test nipple, outlet



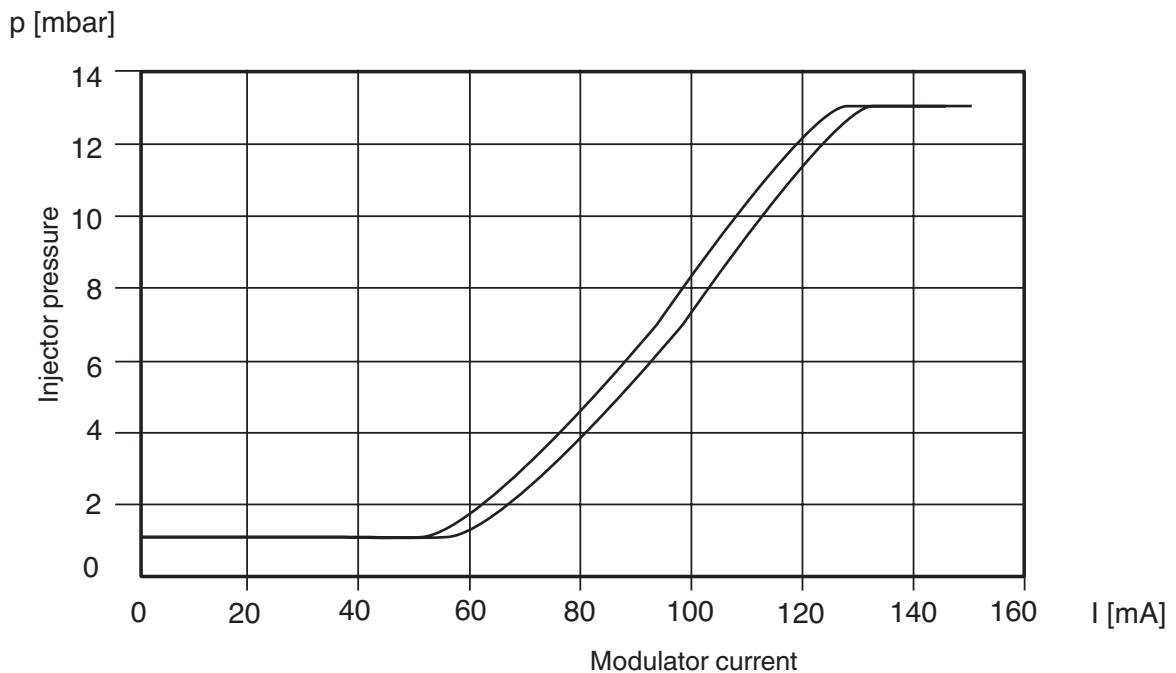
**Functional diagram GB-M(P) 057 D01
GB-(LEP)Z 057 D01**



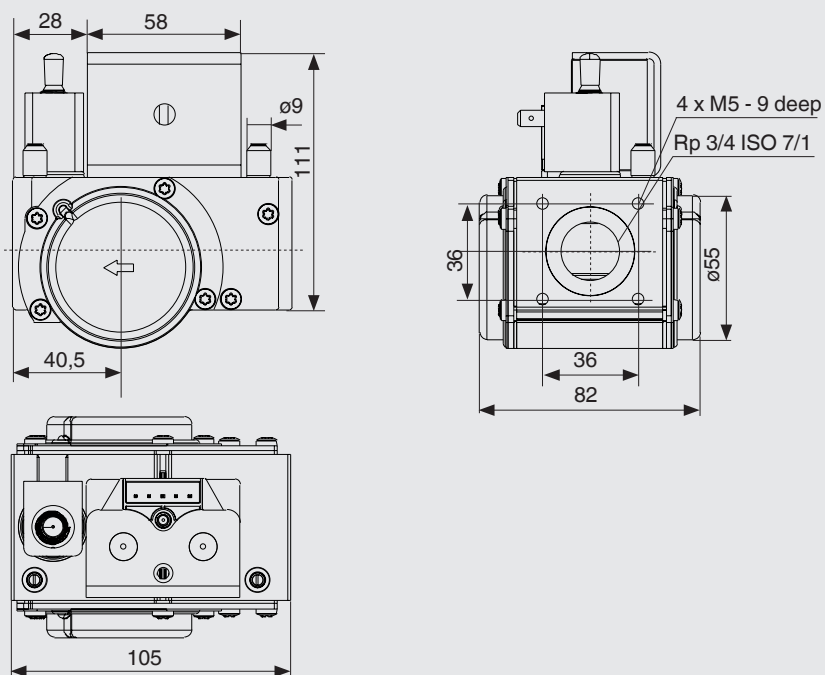
Legend

- 1 Fine-meshed strainer
- 2 Housing
- 3 Valve V1
- 4 Closing spring
- 5 Plunger V1
- 6 Test nipple
- 7 Solenoid V1
- 8 Valve V2
- 9 Ignition gas connection
- 10 Solenoid V2
- 11 Working diaphragm
- 12 Return spring
- 13 Operating valve
- 14 Electrical connection
- 15 Servo-pressure regulator
- 16 Modulator coil

**Current-pressure characteristic GB-M(P) 057 D01
for GB-(LEP)Z 057 D01: only on/off**



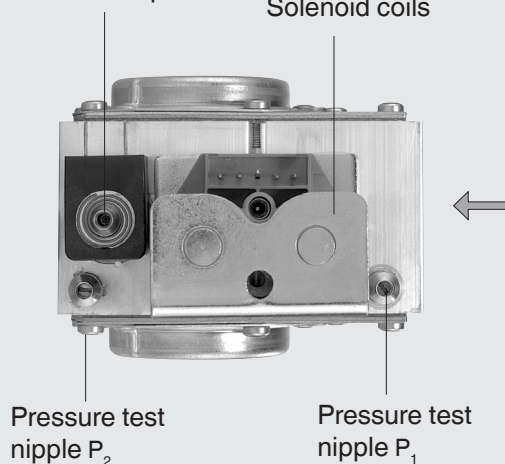
Dimensions [mm]



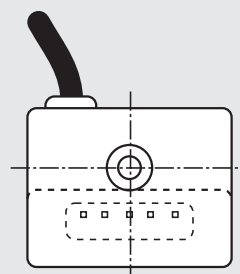
Adjusting devices

Reference value setting
min. and max. burner pressure

Solenoid coils

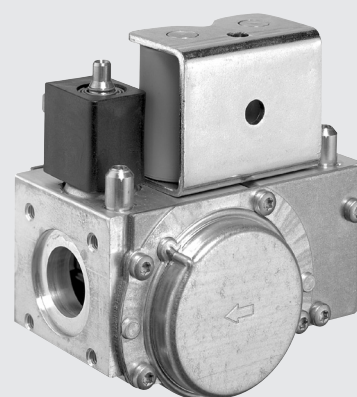


Electrical connection



Standard

Box with cable connection IP 40
Molex Crimp System 3001



Volume flow pressure difference characteristic GB-M(P) 057 D01 - electrical modulating as per DIN EN 126 GB-(LEP)Z 057 D01 - two stage as per DIN EN 126

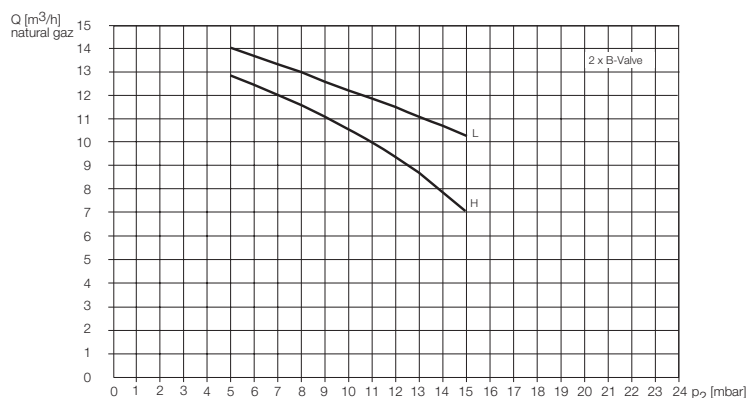
Inlet pressure range (mbar)

2nd gas family	$P_{NOM.}$	$P_{MAX.}$	$P_{MIN.}$
Natural gas-H-E	20	25	17
Natural gas-L	25	30	20

Permissible deviation

Pressure regulator class C - 2nd gas family

$p_2 + 10\% - 15\%$ as per EN 126

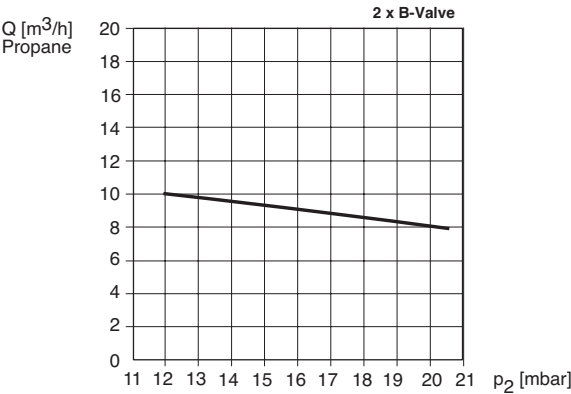


Volume flow pressure difference characteristic
GB-M(P) 057 D01 - electrical modulating as per DIN EN 126
GB-(LEP)Z 057 D01 - two stage as per DIN EN 126

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
 p₂ ±10 % as per EN 126

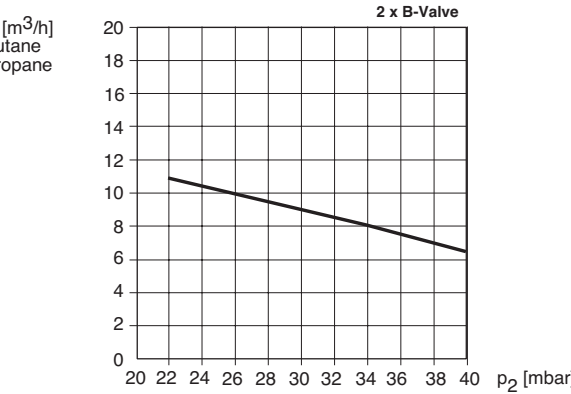


Volume flow pressure difference characteristic
GB-M(P) 057 D01 - electrical modulating as per DIN EN 126
GB-(LEP)Z 057 D01 - two stage as per DIN EN 126

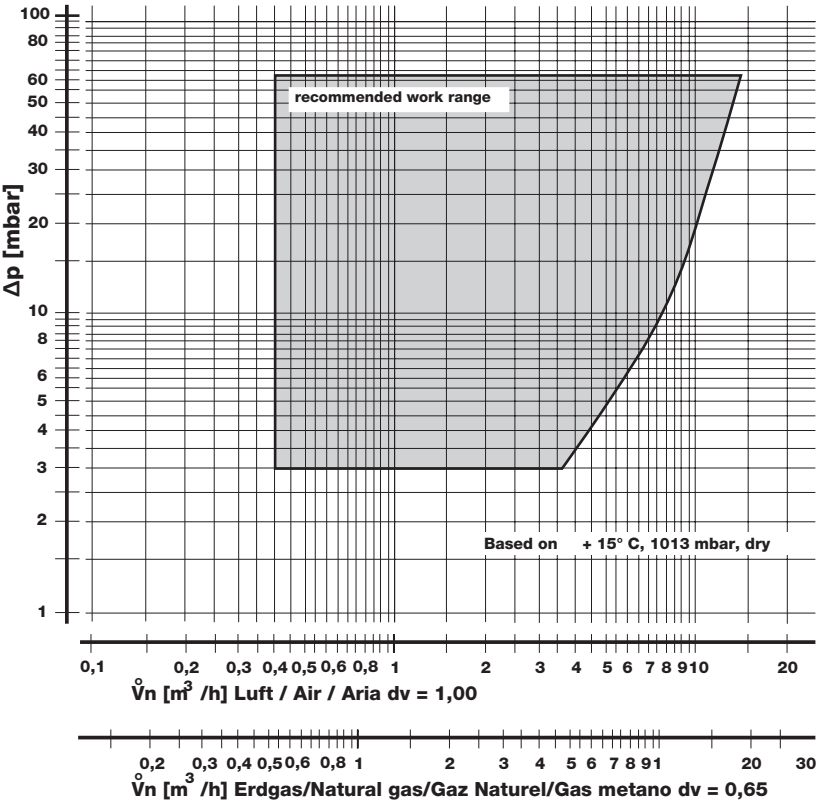
Inlet pressure range (mbar)

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
 p₂ ±10 % as per EN 126



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DUNGS®
Combustion Controls

Specifications

Nominal diameter	DN 15
Gas connection	Rp 3/4 ISO 7/1
Flange with tube thread	Rp 3/4 ISO 7/1 ID
Pilot gas connection	M8 x 1 Ø 4 mm
Max. inlet pressure	65 mbar (6.5 kPa)
Outlet pressure range of regulator	1.5 mbar (0.15 kPa) to 20 mbar (2.0 kPa) - neutral gas 3.0 mbar (0.30 kPa) to 37 mbar (7.3 kPa) - liquid gas $p_{2max} - p_{2min} \geq 3$ mbar (0.3 kPa)
Nominal flow	5,3 m ³ /h (Air) at Δp 5 mbar (0.5 kPa), governed
Ambient temperature	-15 °C to +70 °C 0 °C to +70 °C at LPG
Automatic shut-off valves	Class B as per EN 126
Group	2
Pressure regulator	Class C
Degree of protection	IP 40
Opening time	Fast-opening < 1 s
Closing time	< 1 s
Switch on duration	100 % ED
Voltage/frequency	~(AC) 50 - 60 Hz 24 V +10 % - 15 % ~(AC) 50 - 60 Hz 230 V +10 % - 15 %
Load of coil (24 V, 230 V)	2 x 12,5 VA
Electrical Data of Modulator GB-M	Operating voltage max. (DC) 28 V Operating current max. 165 mA Resistance at +20 °C 125 Ω
Electrical Data of Modulator GB-Z	Operating voltage 230 V AC Operate only with Dungs connecting plug Resistance at +20 °C 9800 Ω
Electrical connection	Molex System connection coil or Option: Connection box with integrated cable Modulator connection 6.3 x 0.8 mm Flat plug-in sleeves
Optional equipment	Electrical connections in Rast 5 Automatic burner control MPA 109x Gas pressure switch GW A5
Installation position	Solenoid at any position between ver- tical and horizontal axis.

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

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