

GB-GD 057 D01 for Gas-air composite system  
GB-ND 057 D01 Zero pressure regulator



### Technology

Multifunctional gas control as per EN 126 for modulating and multi-stage operation.

- Composite pneumatic system with air signal or zero pressure mode
- Offset correction of gas-air ratio at servo-controller
- Limitation of maximum flow by throttle
- Inlet pressure up to max. 65 mbar (6.5 kPa)
- Different device versions possible depending on application

### Application

- For premixing burners and fan-assisted burners.
- Suitable for gases as per EN 437 and other neutral gaseous media

### Approvals

EU prototype test certificate in accordance with EU gas appliance regulation.

CE-0085 CM 0036  
CSA 240 9198

Approvals in other important gas-consuming countries.

# Data sheet

## GasBloc Multifunctional gas control

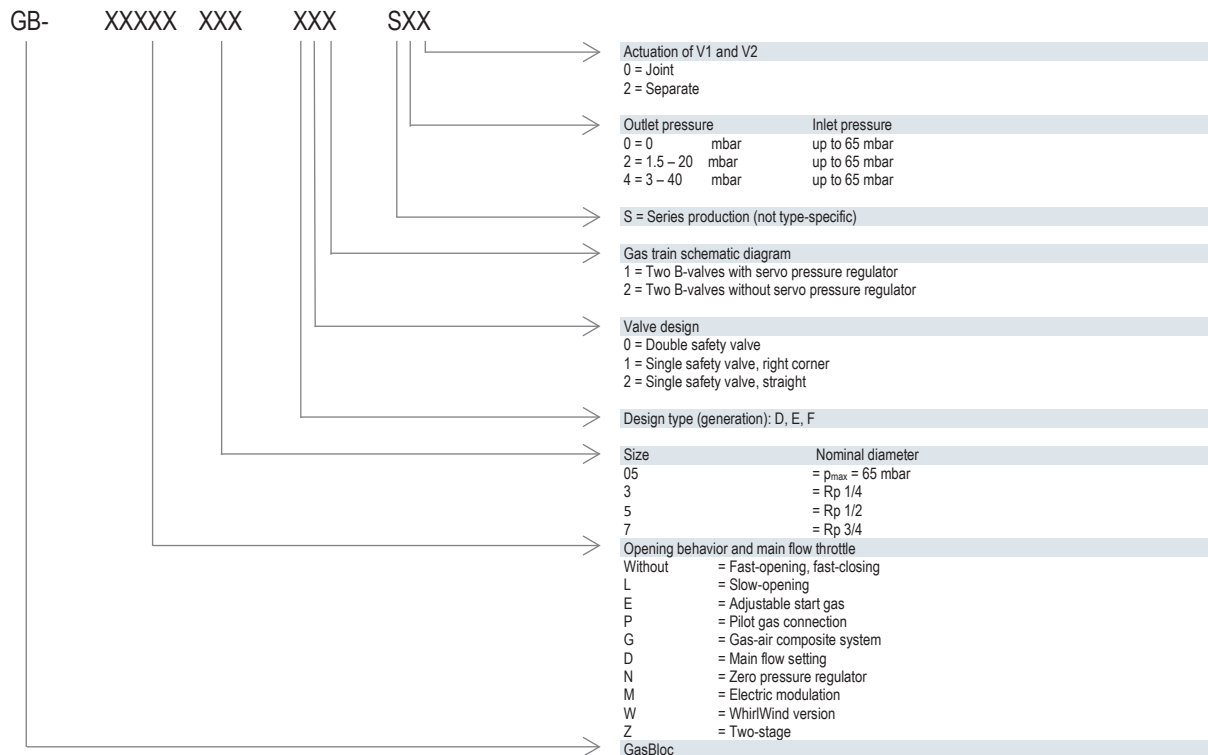
GB-GD 057 D01 for Gas-air composite system  
 GB-ND 057 D01 Zero pressure regulator

### Combinations

Product	Servo pressure regulator	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V2	Gas-air regulator 1:1	Zero pressure regulator	Maximum throttle	Offset correction	Dirt trap	Gas pressure monitor	Socket	MPA 109x
GB-GD 057 D01	●	B	B	●	-	●	●	●	○	○	○
GB-ND 057 D01	●	B	B	-	●	●	●	●	○	○	

Key  
 ● Standard  
 ○ Optional  
 - Not available

### GasBloc type key

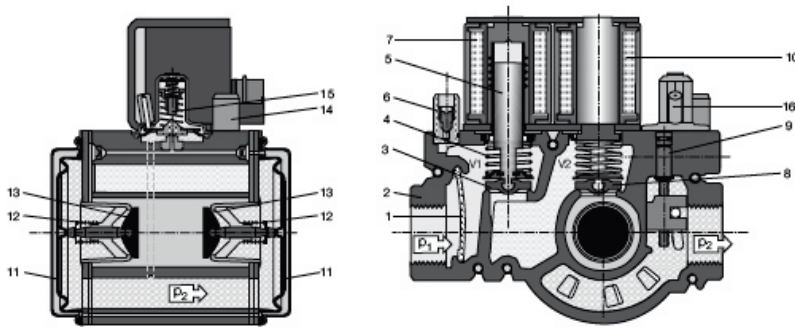


### Description of main components

- Pressure regulator:** The pressure regulator with servo-controller provides compensation for pressure fluctuations in the supply network. This ensures a uniform air flow with constant nozzle pressure. With the gas-air composite system valve GB-GD 057, the nozzle pressure follows the signal pressure applied to the servo-diaphragm in a ratio of 1:1. The zero pressure valve GB-ND regulates the nozzle pressure at the valve outlet to zero depending on the vacuum generated.
- Safety valves:** In accordance with EN161, class B. DC coils, protected against voltage peaks
- Safety valve operating modes:** Safety valves V1 and V2 can be actuated and opened jointly or separately.
- Dirt trap:** Fine-meshed strainer to protect the fitting.
- Gas pressure monitor (optional):** Monitors the inlet-side gas pressure to guard against gas failure. The pressure monitor can be pre-set to suit customer requirements and sealed.
- Pressure test nipple:** On inlet and outlet side

GB-GD 057 D01 for Gas-air composite system  
GB-ND 057 D01 Zero pressure regulator

Block diagram of GB-GD 057 D01/GB-ND 05 D01



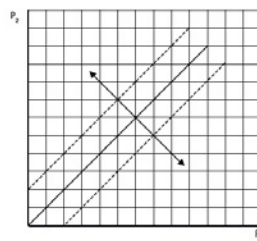
Key

- |   |                     |   |                 |    |                    |    |                                    |
|---|---------------------|---|-----------------|----|--------------------|----|------------------------------------|
| 1 | Dirt trap, strainer | 5 | Armature V1     | 9  | Main flow throttle | 13 | Operating valve                    |
| 2 | Housing             | 6 | Test nipple     | 10 | Solenoid V2        | 14 | Electrical hookup                  |
| 3 | Safety valve V1     | 7 | Solenoid V1     | 11 | Working diaphragm  | 15 | Servo pressure regulator           |
| 4 | Closing spring V1   | 8 | Safety valve V2 | 12 | Return spring      | 16 | Connection for signal (GB-GD only) |

Setting instructions – offset and gas-air ratio

Setting:

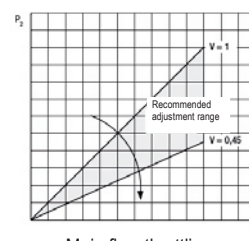
- Offset by way of adjusting screw at servo-controller
- Maximum flow by way of main flow throttling screw



Offset correction

**GB-ND adjustment range (zero pressure)**

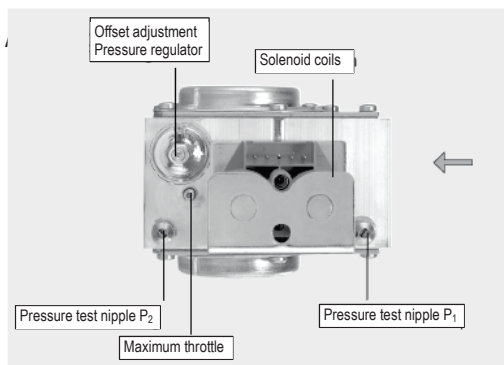
Offset correction  $\pm 20$  Pa ( $\pm 0.2$  mbar)



Main flow throttling

**GB-GD adjustment range (gas-air ratio)**

Offset correction  $\pm 20$  Pa ( $\pm 0.2$  mbar)

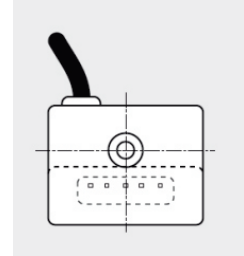
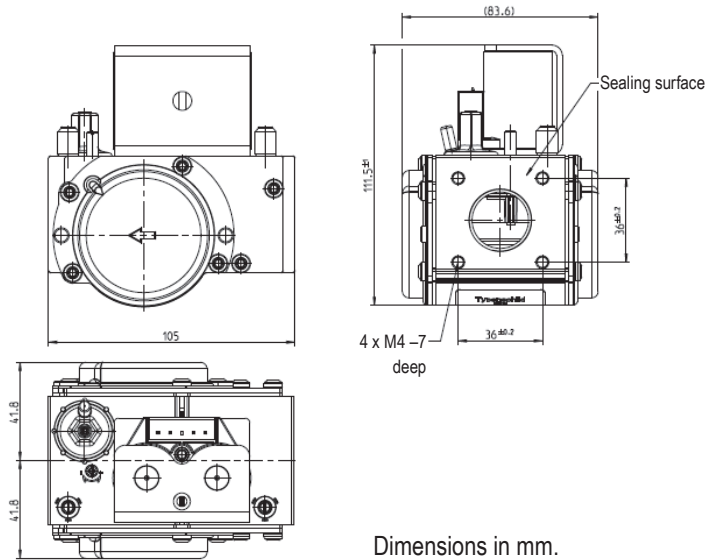


# Data sheet

## GasBloc Multifunctional gas control

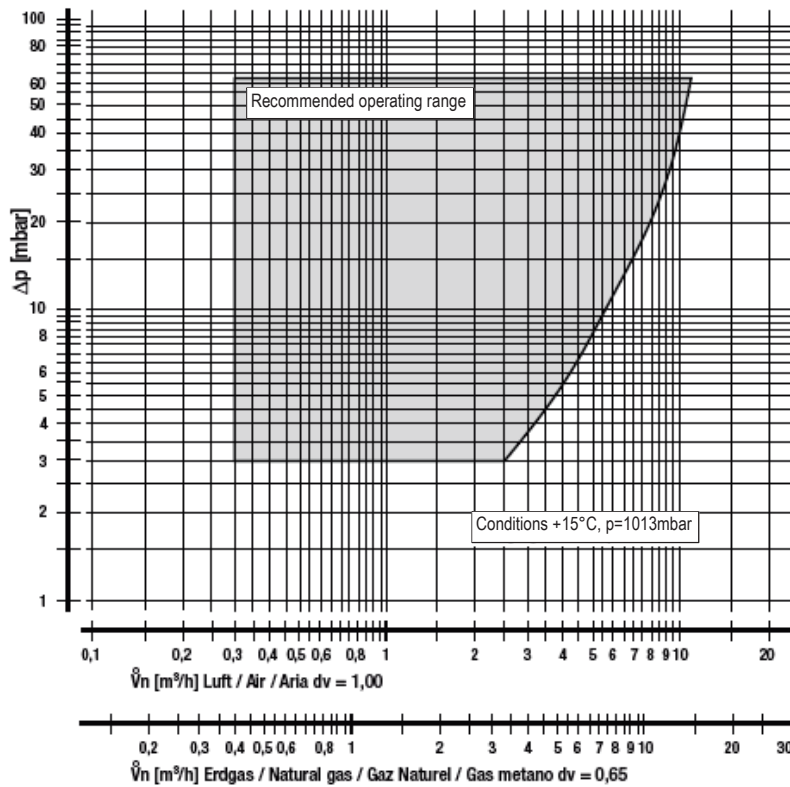
GB-GD 057 D01 for Gas-air composite system  
 GB-ND 057 D01 Zero pressure regulator

### Engineering drawing



**Electrical hookup:**  
 Standard:  
 Molex Crimp 3001 system  
 Optional:  
 Box with cable connection IP40

### Air flow/pressure gradient curve (GB-...057 D01 – pneumatic in accordance with DIN EN 126)



GB-GD 057 D01 for Gas-air composite system  
GB-ND 057 D01 Zero pressure regulator

Technical data

Nominal diameter	DN 15
Main gas connection (inlet)	Rp 3/4 ISO 7/1
Flanges with pipe thread	Rp 3/4 ISO 7/1 internal
Max. inlet pressure	65 mbar (6.5 kPa)
Nominal flow rate GB-GD 055	5.3 m <sup>3</sup> /h (air) with $\Delta p$ 5 mbar (0.5 kPa), regulated
Nominal flow rate GB-ND 055	7.2 m <sup>3</sup> /h (air) with $\Delta p$ 30 mbar (3.0 kPa), regulated
Ambient temperature range	-15°C to +70°C for town or natural gas (family 1 and 2) 0°C to +70°C for LPG (family 3)
Design lifetime	500,000 cycles or 10 years in accordance with EN 126/EN161 (Afecor/VHB) depending on the time/temperature profile
Automatic shut-off valves	Class B in accordance with EN 126
Group	2
Pressure regulator	Class C
Proportional adjustment range V	$V = p_{\text{Gas}} - p_{\text{Air}} = 0.45-1$
Minimum signal pressure	0.3 mbar with $\Delta p_{\text{offset}} = 0$ Pa
Offset correction	$\pm 0.2$ mbar (0.02 kPa)
Degree of protection	IP 40
Opening time	Fast-opening < 1 s
Closing time	< 1 s
ON time	100%
Voltage / frequency / activation	230 V RAC / 50/60 Hz / simultaneous (coil color: red) 230 V RAC / 50/60 Hz / separate (coil color: black) 120 V RAC / 50/60 Hz / simultaneous (coil color: yellow) 120 V RAC / 50/60 Hz / separate (coil color: orange) 24 V RAC / 50/60 Hz / simultaneous (coil color: grey) 24 V RAC / 50/60 Hz / separate (coil color: blue) 24 V DC / simultaneous (coil color: green)
Coil load (24 V, 230 V)	2 x 12.5 VA
Electrical hookup	Coil connection Molex system or connection with integrated cable
Optional equipment	Electrical connections in RAST 5 Combustion controller MPA 109x Gas pressure monitor GW...A5
Installation position	Coil from vertically upright to horizontal. Coil facing downwards not permissible
Maximum installation elevation	2,000 m above sea level (EN 60664-1)
Pollution degree	2 (EN 60730-1)