

Single-stage atmospheric operation
GB-(LEP) 055 D01



Technology

Multifunctional gas control as per EN 126 for fully automatic operation.

- Single-stage operation or two-stage operation with ignition gas
- Fast or slow-opening with adjustable start gas quantity
- Constant air flow thanks to pressure regulator with servo-controller
- Inlet pressures up to max. 65 mbar (6.5 kPa)
- Different device versions possible depending on application

Application

- For gas heating boilers and gas air heaters with atmospheric burners and fan-assisted burners.
- Suitable for gases as per EN 437 and other neutral combustion gases.

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

Single-stage atmospheric operation

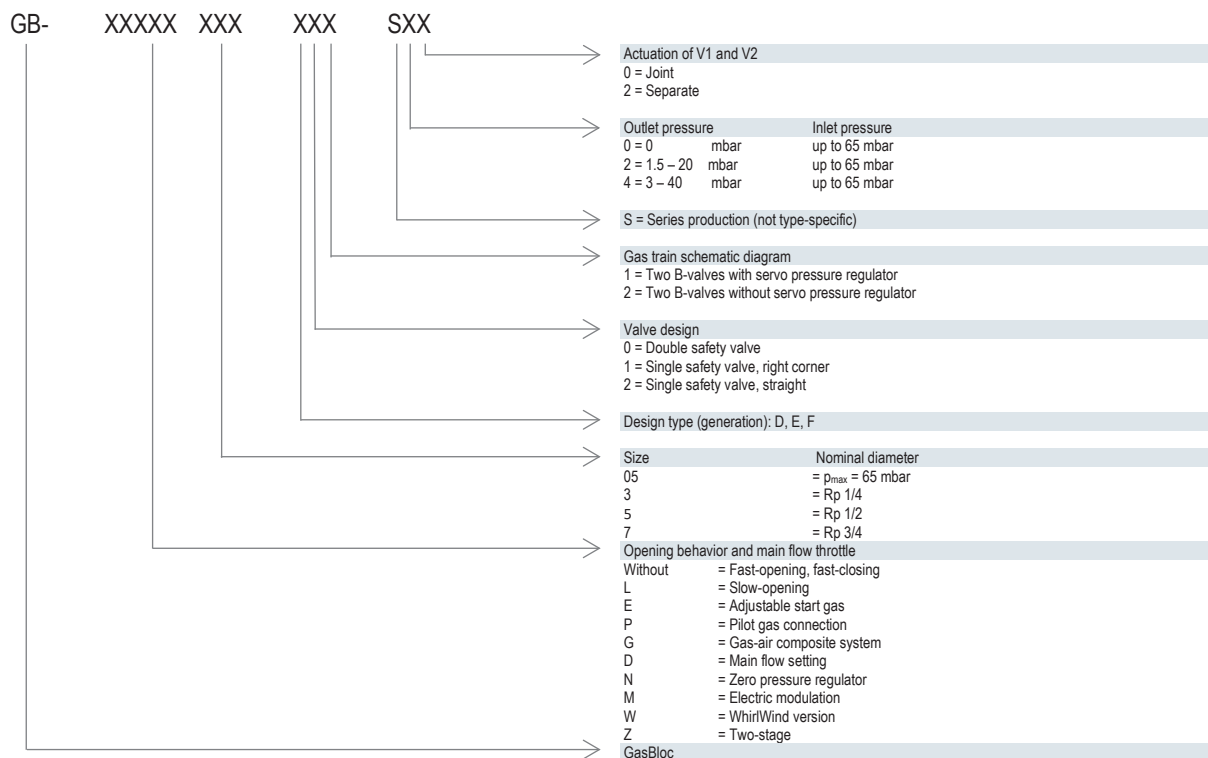
GB-(LEP) 055 D01

Combinations

Product	Servo pressure regulator	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V2	Pressure regulator Slow-opening	Pressure regulator Fast-opening	Dirt trap	Ignition gas connection	Gas pressure monitor	Start gas setting	Socket	MPA 109x
GB-LE 055 D01	●	B	B	●	-	●	-	○	●	○	○
GB- 055 D01	●	B	B	-	●	●	-	○	-	○	○
GB-LEP 055 D01	●	B	B	●	-	●	●	○	●	○	○
GB-P 055 D01	●	B	B	-	●	●	●	○	-	○	○

Key
 ● Standard
 ○ Optional
 - Not available

GasBloc type key

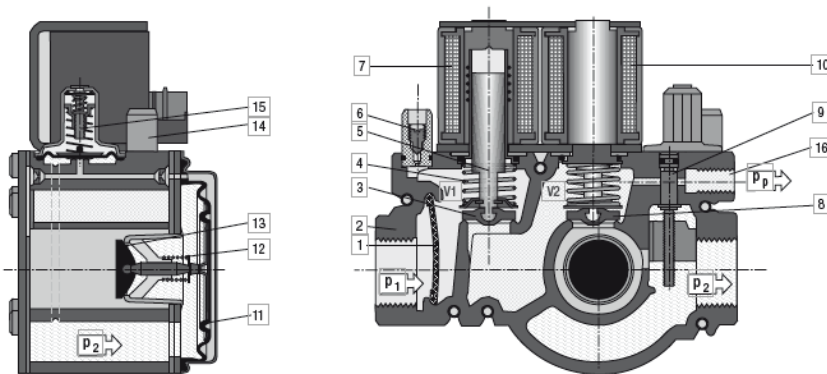


Single-stage atmospheric operation
GB-(LEP) 055 D01

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.
"Slow opening" function:	For slow start-up of the burner. The start gas quantity can be set to up to 80% of the main gas quantity.
Pressure regulator shutdown:	Shutdown by turning adjustment device 25 x in clockwise direction until a faint "click" is heard (attention: no stop).
Safety valves:	Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
Safety valve operating modes:	<p>Mode 1 Safety valves V1 and V2 can be actuated and opened jointly or separately.</p> <p>Mode 2 Safety valves V1 and V2 are opened separately and actuated separately. Ignition gas outlet enabled, V1 opens. When flame is lit, enabling takes place and V2 opens.</p>
Dirt trap:	Fine-meshed strainer to protect the fitting.
Gas pressure monitor (optional):	Monitors the inlet-side pressure to guard against gas failure. The pressure monitor can be pre-set to suit customer requirements and sealed.
Ignition gas:	Ignition gas connection between the safety valves V1 and V2
Pressure test nipple:	On inlet and outlet side

Block diagram of GB-(LEP) 055 D01



Key

1	Dirt trap, strainer	5	Armature V1	9	Start gas pre-setting	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	Ignition gas connection

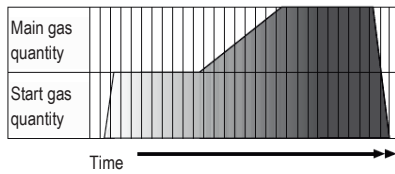
Single-stage atmospheric operation

GB-(LEP) 055 D01

Safety valve operating modes GB-(LEP) 055 D01

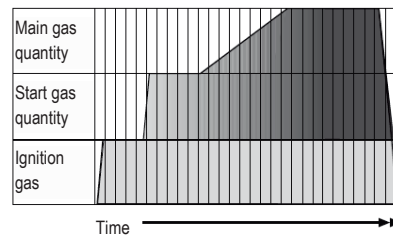
Mode 1

Start-up characteristics for slow start without ignition gas



Mode 2

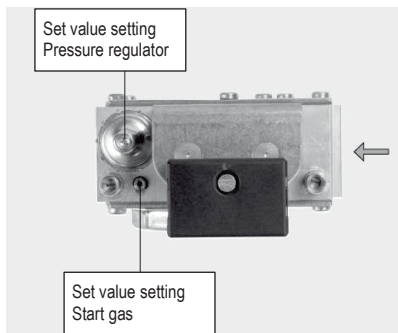
Start-up characteristics for slow start with ignition gas



Setting instructions – start gas and adjustment device

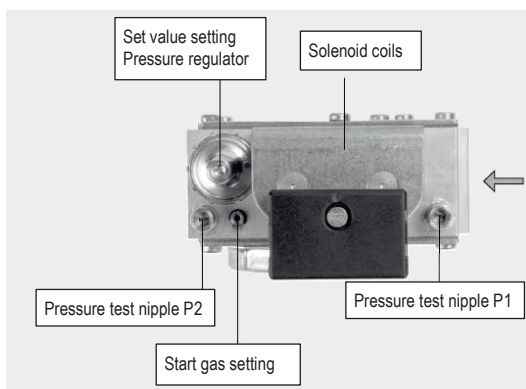
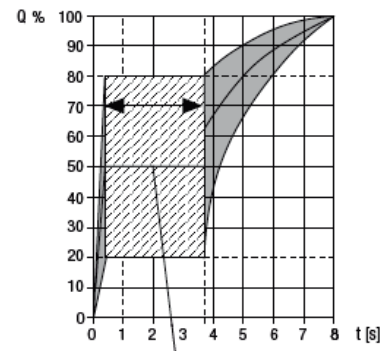
Start gas adjustment range

Slow starting requires the main valve of the pressure regulator to be closed on starting. Prior to restart, a waiting time of **at least 45 s** must therefore always be allowed.



Example:
Start gas = $0.5 \times Q_{max}$
max. $\approx 4s$

Output adjustable.
Time invariable.



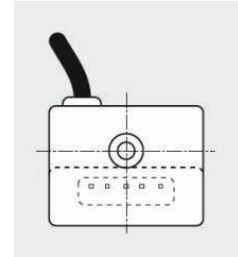
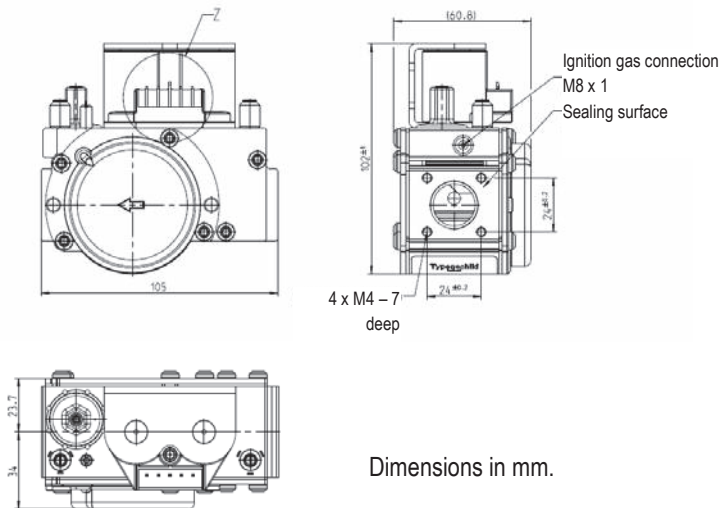
Adjusting device

Data sheet

GasBloc Multifunctional gas control

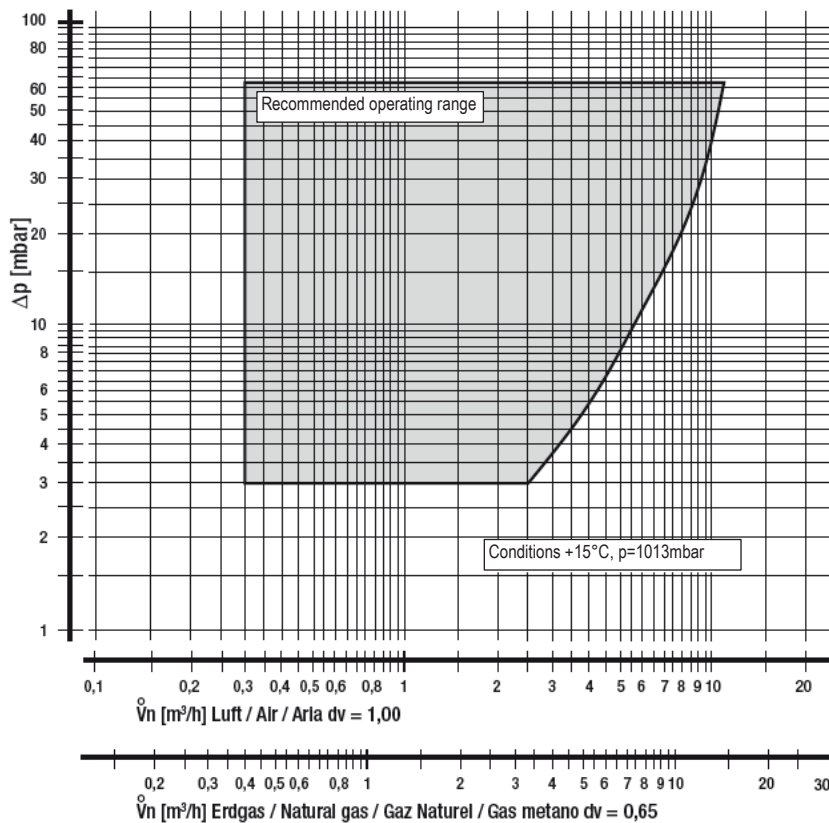
Single-stage atmospheric operation
GB-(LEP) 055 D01

Engineering drawing



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

Air flow/pressure gradient curve GB-(LEP) 055 D01

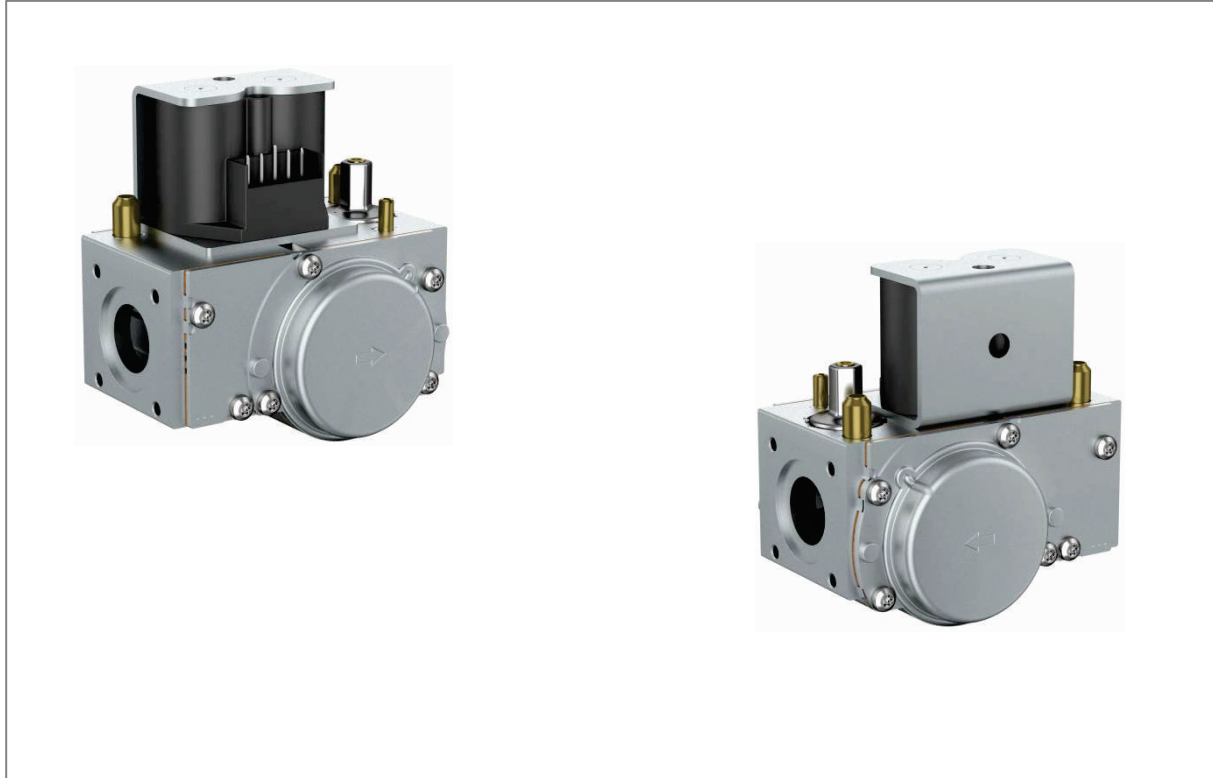


Single-stage atmospheric operation
 GB-(LEP) 055 D01

Technical data

Nominal diameter	DN 15
Main gas connection (inlet)	Rp 1/2 ISO 7/1 G 3/4 DIN ISO 228 external
Flanges with pipe thread	Rp 1/2 ISO 7/1 internal G 3/4 DIN ISO 228 external
Ignition gas connection	M8 x 1 dia. 4 mm
Max. inlet pressure	65 mbar (6.5 kPa)
Specified pressure range	2.5 mbar (0.25 kPa) up to 38 mbar (3.8 kPa)
Nominal flow rate	3.3 m ³ /h (air) with Δp 5 mbar (0.5 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
Degree of protection	IP 40
Opening time	Fast-opening < 1 s Slow-opening < 10 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 5.5 VA
Electrical hookup	Coil connection Molex system or connection box 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)

Single-stage atmospheric operation
GB-(LEP) 057 D01



Technology

Multifunctional gas control as per EN 126 for fully automatic operation.

- Single-stage operation or two-stage operation with ignition gas
- Fast or slow-opening with adjustable start gas quantity
- Constant air flow thanks to pressure regulator with servo-controller
- Inlet pressures up to max. 65 mbar (6.5 kPa)
- Different device versions possible depending on application

Application

- For gas heating boilers and gas air heaters with atmospheric burners and fan-assisted burners.
- Suitable for gases as per EN 437 and other neutral combustion gases.

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

Single-stage atmospheric operation

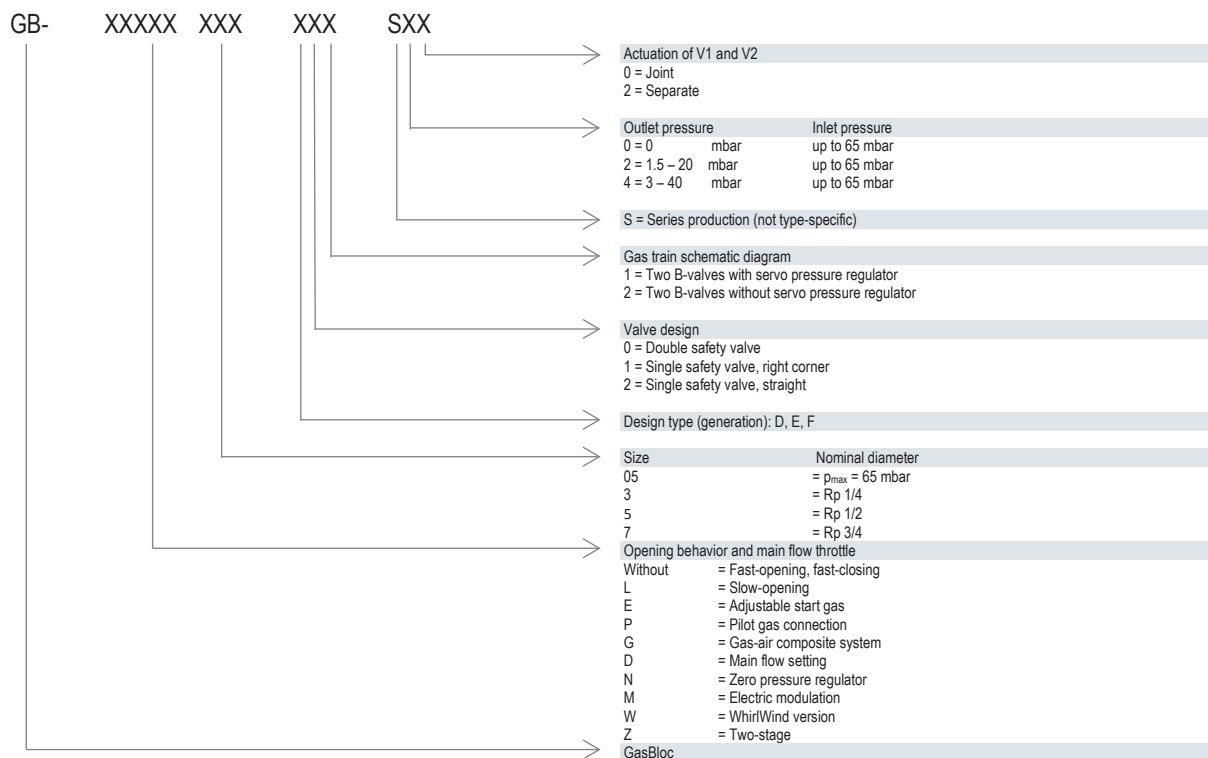
GB-(LEP) 057 D01

Combinations

Product	Servo pressure regulator	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V2	Pressure regulator Slow-opening	Pressure regulator Fast-opening	Dirt trap	Ignition gas connection	Gas pressure monitor	Start gas setting	Socket	MPA 109x
GB-LE 057 D01	●	B	B	●	..	●	-	○	●	○	○
GB- 057 D01	●	B	B	-	●	●	-	○	-	○	○
GB-LEP 057 D01	●	B	B	●	-	●	●	○	●	○	○
GB-P 057 D01	●	B	B	-	●	●	●	○	-	○	○

Key
 ● Standard
 ○ Optional
 - Not available

GasBloc type key

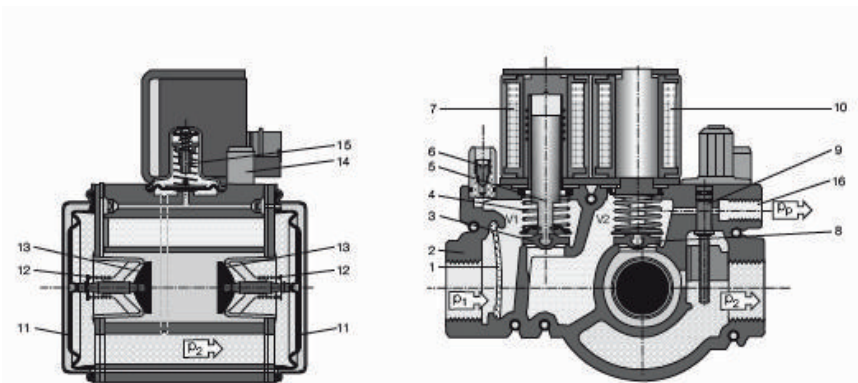


Single-stage atmospheric operation
GB-(LEP) 057 D01

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.
"Slow opening" function:	For slow start-up of the burner. The start gas quantity can be set to up to 80% of the main gas quantity.
Pressure regulator shutdown:	Shutdown by turning adjustment device 25 x in clockwise direction until a faint "click" is heard (attention: no stop).
Safety valves:	Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
Safety valve operating modes:	<p>Mode 1 Safety valves V1 and V2 can be actuated and opened jointly or separately.</p> <p>Mode 2 Safety valves V1 and V2 are opened separately and actuated separately. Ignition gas outlet enabled, V1 opens. When flame is lit, enabling takes place and V2 opens.</p>
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.
Ignition gas:	Ignition gas connection between the safety valves V1 and V2
Pressure test nipple:	On inlet and outlet side

Block diagram of GB-(LEP) 057 D01



Key

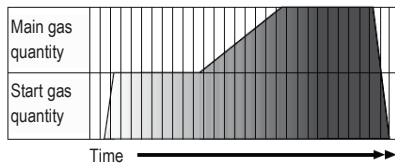
1	Dirt trap, strainer	5	Armature V1	9	Start gas pre-setting	13	Operating valve
2	Housing	6	Test nipple	10	Solenoid V2	14	Electrical hookup
3	Safety valve V1	7	Solenoid V1	11	Working diaphragm	15	Servo pressure regulator
4	Closing spring V1	8	Safety valve V2	12	Return spring	16	Ignition gas connection

Single-stage atmospheric operation
GB-(LEP) 057 D01

Safety valve operating modes GB-(LEP) 057 D01

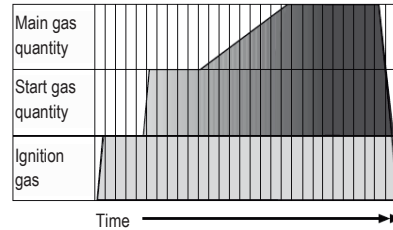
Mode 1

Start-up characteristics for slow start without ignition gas



Mode 2

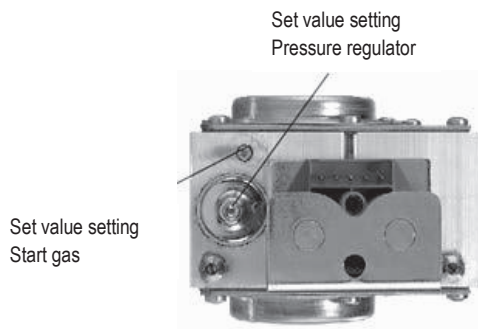
Start-up characteristics for slow start with ignition gas



Setting instructions – start gas and adjustment device

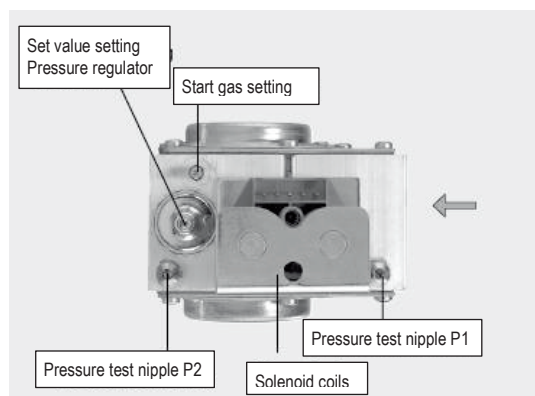
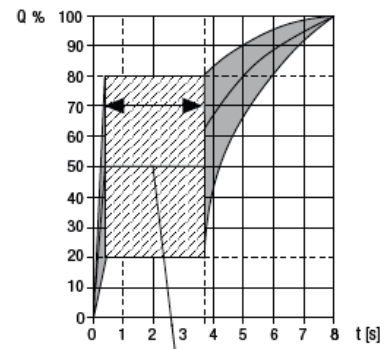
Start gas adjustment range

Slow starting requires the main valve of the pressure regulator to be closed on starting. Prior to restart, a waiting time of **at least 45 s** must therefore always be allowed.



Example:
Start gas = $0.5 \times Q_{max}$
max. ≈ 4 s

**Output adjustable.
Time invariable.**



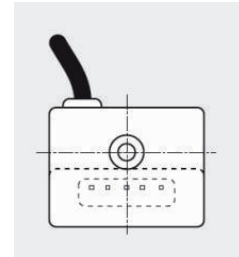
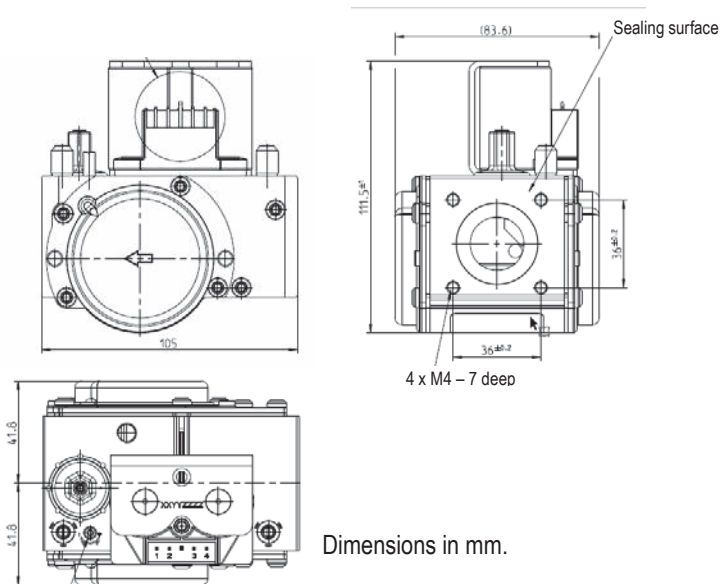
Adjusting device

Data sheet

GasBloc Multifunctional gas control

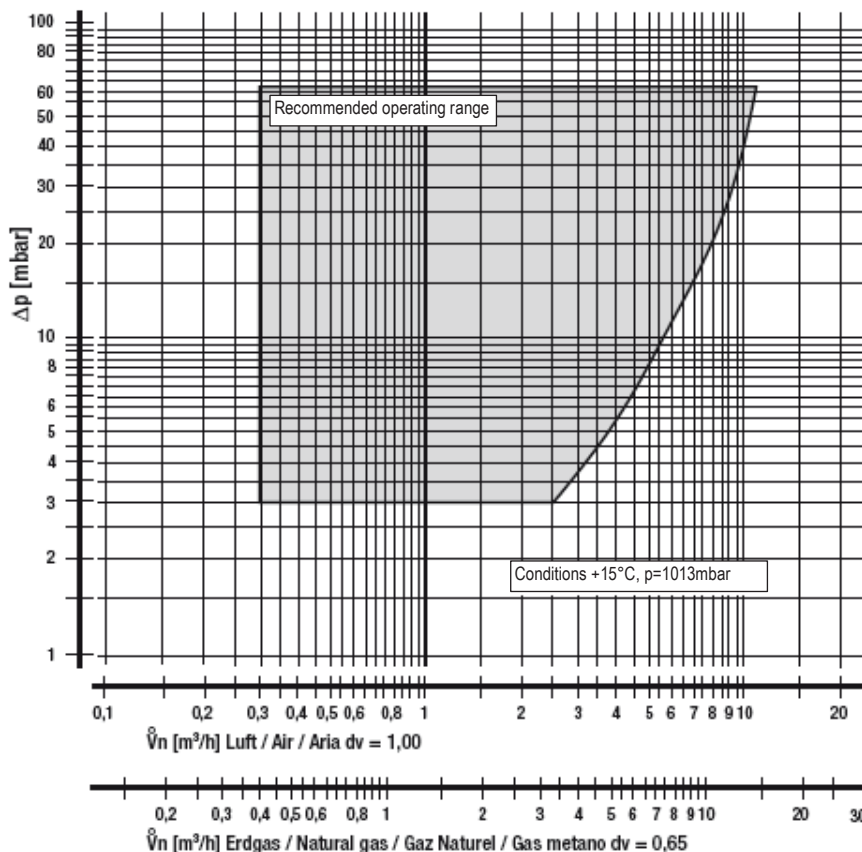
Single-stage atmospheric operation
GB-(LEP) 057 D01

Engineering drawing



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

Air flow/pressure gradient curve GB-(LEP) 057 D01



Single-stage atmospheric operation
 GB-(LEP) 057 D01

Technical data

Nominal diameter	DN 20
Main gas connection (inlet)	Rp 3/4 ISO 7/1
Flanges with pipe thread	Rp 3/4 ISO 7/1 internal
Ignition gas connection	M8 x 1 dia. 4 mm
Max. inlet pressure	65 mbar (6.5 kPa)
Specified pressure range	2.5 mbar (0.25 kPa) up to 38 mbar (3.8 kPa)
Nominal flow rate	5.3 m ³ /h (air) with Δp 5 mbar (0.5 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
Degree of protection	IP 40
Opening time	Fast-opening < 1 s Slow-opening < 10 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 box 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)

Electric modulation
Two-stage operation

GB-M(P) 055 D01
GB-(LEP)Z 055 D01



Technology

Multifunctional gas control as per EN 126 with electromagnetically influenced control element for modulating or two-stage operation:

- Modulator with adjustable minimum and maximum limitation
- Ignition gas optional
- Constant air flow thanks to pressure regulator with servo-controller
- Maximum operating pressure 65 mbar (6.5 kPa)
- Different device versions possible depending on application

Application

- For gas heating boilers and hot air generators with fan-assisted burners and premixing burners.
- Suitable for gases as per EN 437 and other neutral combustion gases.

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

Electric modulation
Two-stage operation

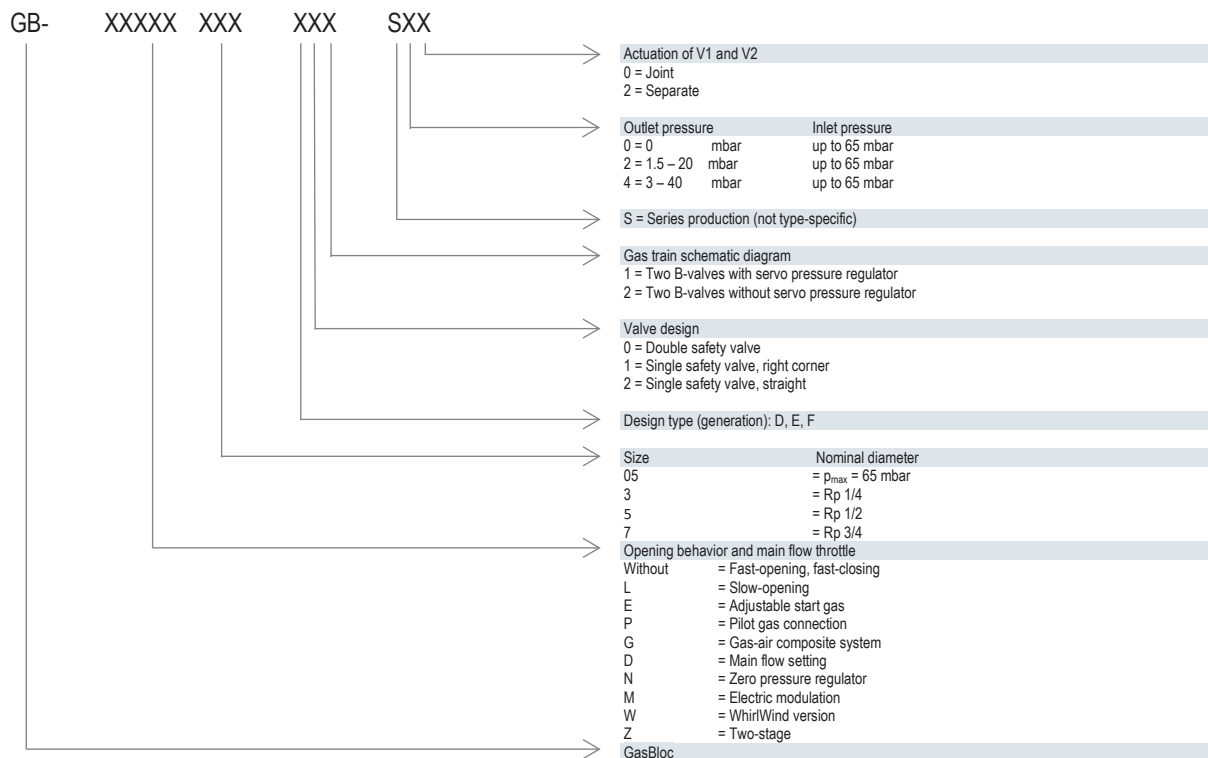
GB-M(P) 055 D01
GB-(LEP)Z 055 D01

Combinations

Product	Electromagnetically influenced servo pressure regulator	Two-stage switchable servo pressure regulator	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V1	Minimum modulator current (mA)	Maximum modulator current (mA)	Two-stage actuation 230 V AC	Min. and max. burner pressure, adjustable	Dirt trap	Ignition gas connection	Gas pressure monitor	Socket	MPA 109x
GB-M 055 D01	●	--	B	B	50	165	--	●	●	--	○	○	○
GB-MP 055 D01	●	--	B	B	50	165	--	●	●	●	○	○	○
GB-Z 055 D01	--	●	B	B	--	--	●	--	--	○	○	○	○

Key ● = Standard ○ = Optional -- = Not available

GasBloc type key



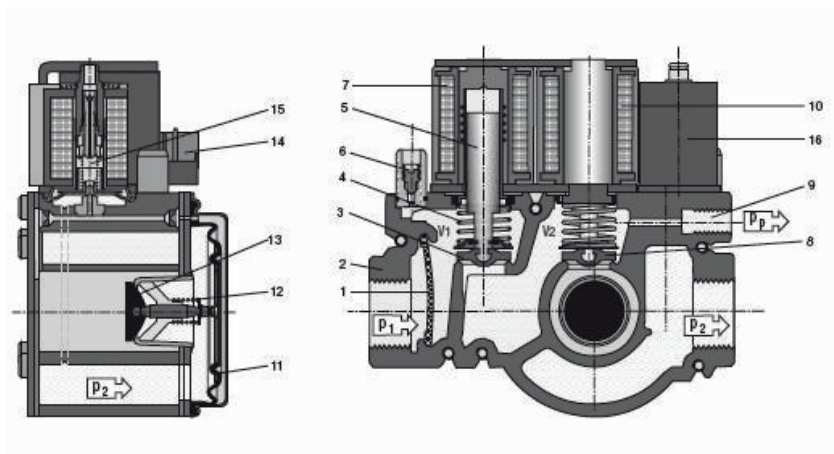
Electric modulation
Two-stage operation

GB-M(P) 055 D01
GB-(LEP)Z 055 D01

Description of main components

- Pressure regulator and modulator:** 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. The nozzle pressure can be regulated by actuating an electric modulator between an adjustable maximum and minimum value. With two-stage operation, actuation switches between the maximum and minimum value.
- Safety valves:** Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
- Safety valve operating modes:**
Mode 1 – without ignition gas
 Safety valves V1 and V2 can be actuated and opened jointly or separately.
Mode 2 – with ignition gas
 Safety valves V1 and V2 are opened separately and actuated separately. Ignition gas outlet enabled, V1 opens. When flame is lit, enabling takes place and V2 opens.
- 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.
- Ignition gas:** Ignition gas connection between the safety valves V1 and V2
- Pressure test nipple:** On inlet and outlet side

Block diagram of GB-M(P) 055 D01



Key

1	Dirt trap, strainer	5	Armature V1	9	Ignition gas connection	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	Modulator coil

Data sheet

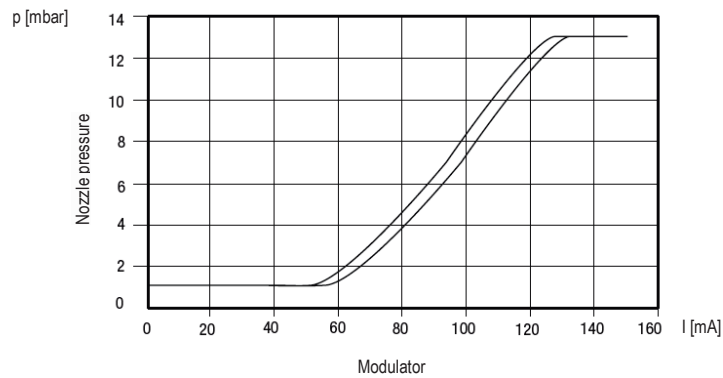
GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

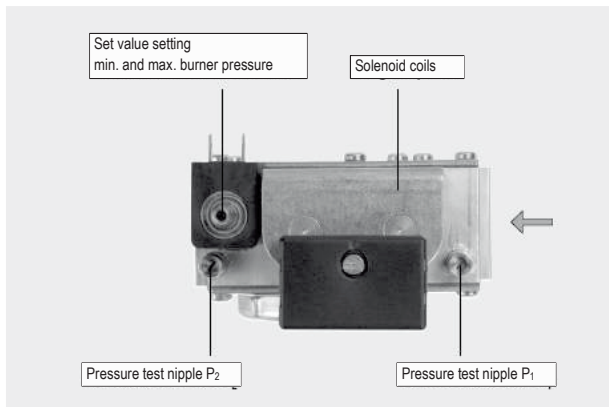
GB-M(P) 055 D01
GB-(LEP)Z 055 D01

Current/pressure curve GB-M(LEP) 055 D01

for GB-(LEP)Z 055 D01: on/off only



Adjusting device



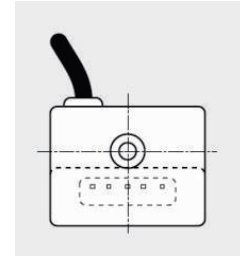
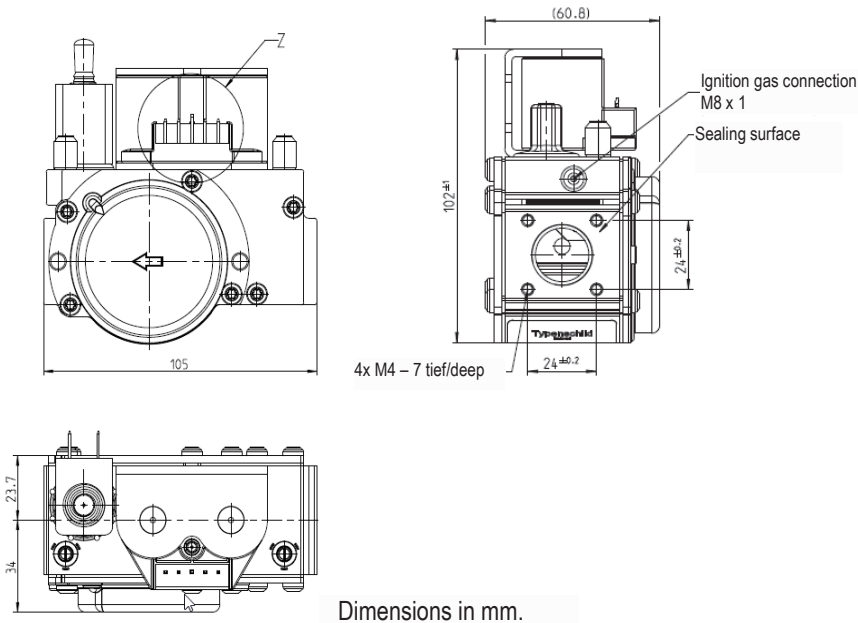
Data sheet

GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

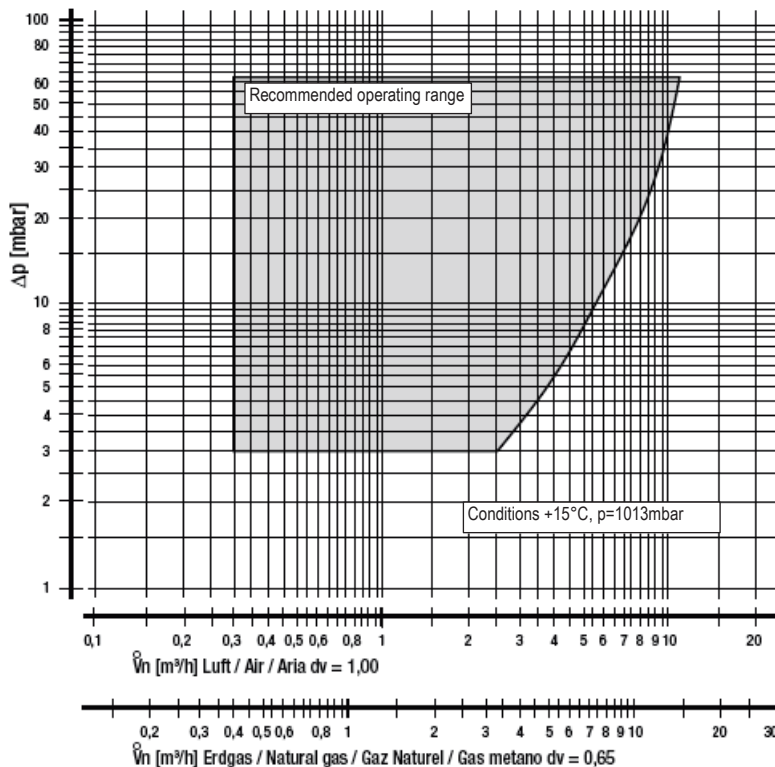
GB-M(P) 055 D01
GB-(LEP)Z 055 D01

Engineering drawing



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

Air flow/pressure gradient curve GB-M(P) 055 D01 / GB-(LEP)Z 055 D01



Data sheet

GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

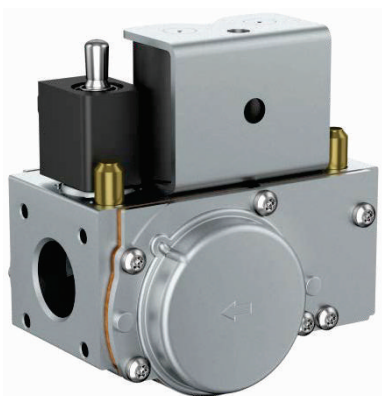
GB-M(P) 055 D01
GB-(LEP)Z 055 D01

Technical data

Nominal diameter	DN 15
Main gas connection (inlet)	Rp 1/2 ISO 7/1 G 3/4 DIN ISO 228 external
Flanges with pipe thread	Rp 1/2 ISO 7/1 internal G 3/4 DIN ISO 228 external
Ignition gas connection	M8 x 1; dia. 4 mm
Max. inlet pressure	65 mbar (6.5 kPa)
Controller outlet pressure range	1.5 mbar (0.15 kPa) up to 20 mbar (2.0 kPa) with natural gas 3.0 mbar (0.30 kPa) up to 37 mbar (3.7 kPa) with LPG $p_{2max} - p_{2min} \geq 3$ mbar (0.3 kPa)
Nominal flow rate	3.3 m ³ /h (air) with Δp 5 mbar (0.5 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
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 5.5 VA
Electrical data of modulator GB-M	Max. operating voltage (DC) 28 V Max. operating current 165 mA Resistance at +20°C 125 Ω
Electrical data of modulator GB-Z	Operating voltage 230 V AC Operation with ebm-papst plug only Resistance at +20°C 9800 Ω
Electrical hookup	Coil connection Molex system or connection box with integrated cable Modulator connection 6.3 x 0.8 mm flat push-on receptacles
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)

Electric modulation
Two-stage operation

GB-M(P) 057 D01
GB-(LEP)Z 057 D01



Technology

Multifunctional gas control as per EN 126 with electromagnetically influenced control element for modulating or two-stage operation:

- Modulator with adjustable minimum and maximum limitation
- Ignition gas optional
- Constant air flow thanks to pressure regulator with servo-controller
- Maximum operating pressure 65 mbar (6.5 kPa)
- Different device versions possible depending on application

Application

- For gas heating boilers and hot air generators with fan-assisted burners and premixing burners.
- Suitable for gases as per EN 437 and other neutral combustion gases.

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

Electric modulation
Two-stage operation

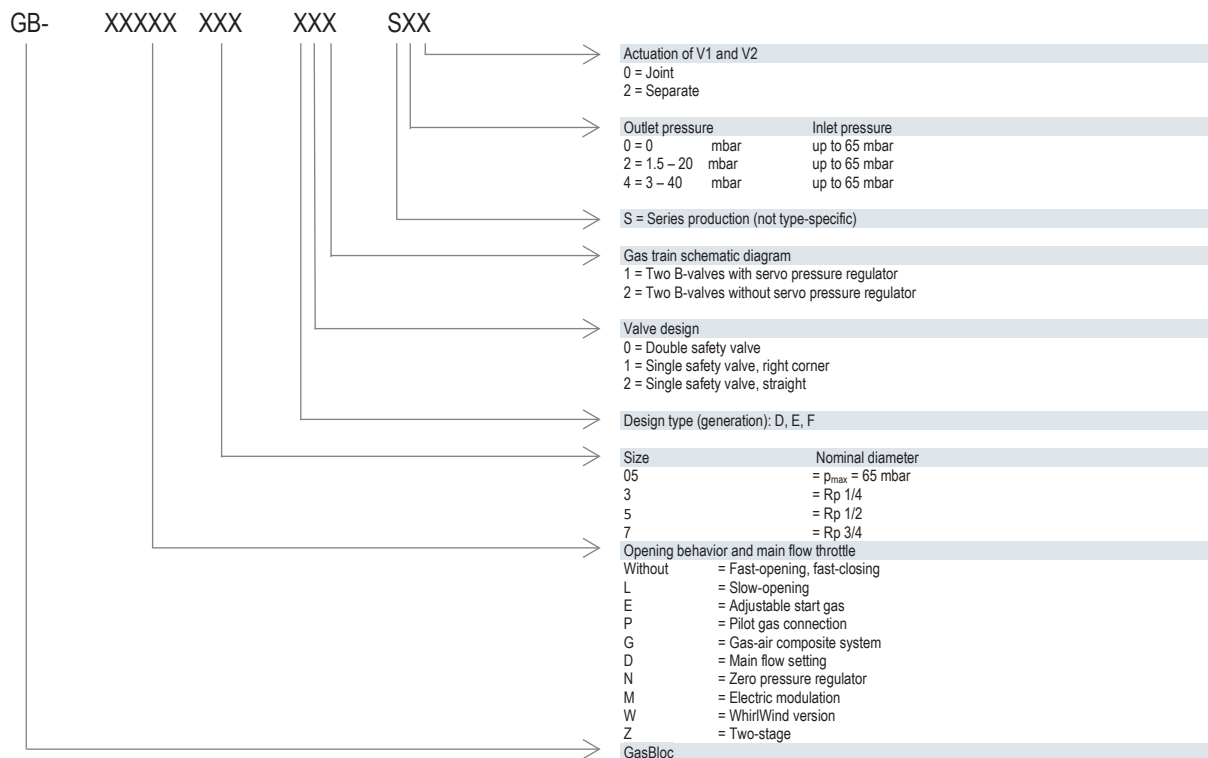
GB-M(P) 057 D01
GB-(LEP)Z 057 D01

Combinations

Product	Electromagnetically influenced servo pressure regulator	Two-stage switchable servo pressure regulator	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V1	Minimum modulator current (mA)	Maximum modulator current (mA)	Two-stage actuation 230 V AC	Min. and max. burner pressure, adjustable	Dirt trap	Ignition gas connection	Gas pressure monitor	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	--	--	●	--	--	○	○	○	○

Key ● = Standard ○ = Optional -- = Not available

GasBloc type key



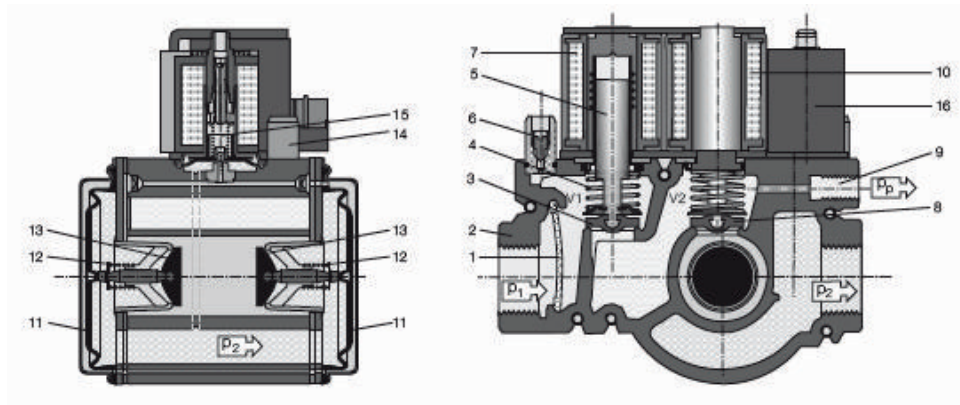
Electric modulation
Two-stage operation

GB-M(P) 057 D01
GB-(LEP)Z 057 D01

Description of main components

- Pressure regulator and modulator:** 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. The nozzle pressure can be regulated by actuating an electric modulator between an adjustable maximum and minimum value. With two-stage operation, actuation switches between the maximum and minimum value.
- Safety valves:** Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
- Safety valve operating modes:**
- Mode 1 – without ignition gas**
Safety valves V1 and V2 can be actuated and opened jointly or separately.
- Mode 2 – with ignition gas**
Safety valves V1 and V2 are opened separately and actuated separately. Ignition gas outlet enabled, V1 opens. When flame is lit, enabling takes place and V2 opens.
- 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.
- Ignition gas:** Ignition gas connection between the safety valves V1 and V2
- Pressure test nipple:** On inlet and outlet side

Block diagram of GB-M(P) 057 D01



Key

1	Dirt trap, strainer	5	Armature V1	9	Ignition gas connection	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	Modulator coil

Data sheet

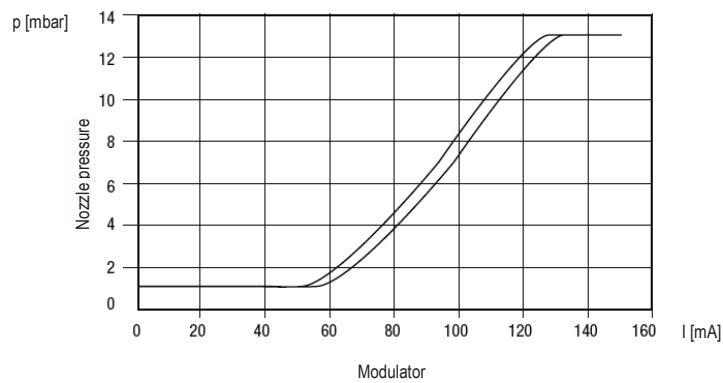
GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

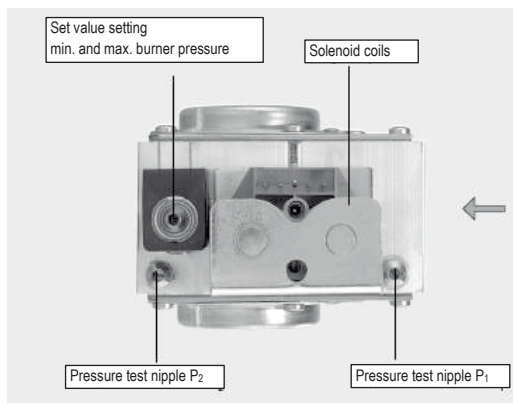
GB-M(P) 057 D01
GB-(LEP)Z 057 D01

Current/pressure curve GB-M(LEP) 057 D01

for GB-(LEP)Z 057 D01: on/off only



Adjusting device



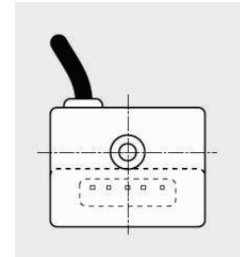
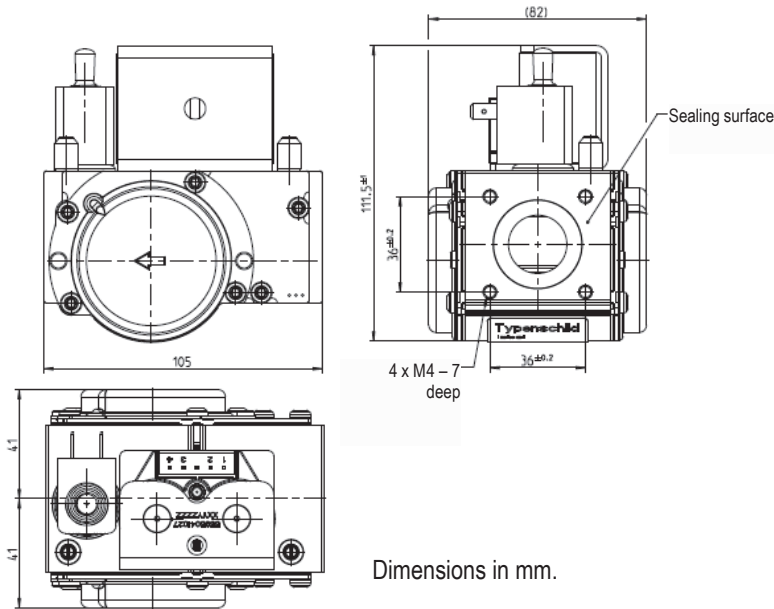
Data sheet

GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

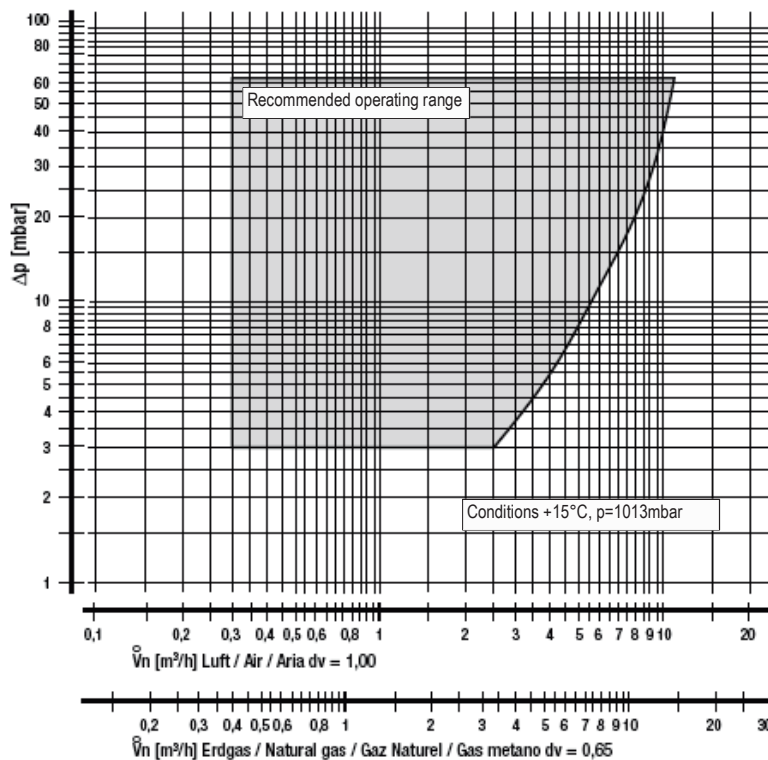
GB-M(P) 057 D01
GB-(LEP)Z 057 D01

Engineering drawing



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

Air flow/pressure gradient curve GB-M(P) 057 D01 / GB-(LEP)Z 057 D01



Data sheet

GasBloc Multifunctional gas control

Electric modulation
Two-stage operation

GB-M(P) 057 D01
GB-(LEP)Z 057 D01

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
Ignition gas connection	M8 x 1; dia. 4 mm
Max. inlet pressure	65 mbar (6.5 kPa)
Controller outlet pressure range	1.5 mbar (0.15 kPa) up to 20 mbar (2.0 kPa) with natural gas 3.0 mbar (0.30 kPa) up to 37 mbar (3.7 kPa) with LPG $p_{2max} - p_{2min} \geq 3$ mbar (0.3 kPa)
Nominal flow rate	5.3 m ³ /h (air) with Δp 5 mbar (0.5 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
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 data of modulator GB-M	Max. operating voltage (DC) 28 V Max. operating current 165 mA Resistance at +20°C 125 Ω
Electrical data of modulator GB-Z	Operating voltage 230 V AC Operation with ebm-papst plug only Resistance at +20°C 9,800 Ω
Electrical hookup	Coil connection Molex system or connection box with integrated cable Modulator connection 6.3 x 0.8 mm flat push-on receptacles
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)

GB-WND 055 D01 with WhirlWind as well as control and safety function



Technology

Multifunctional gas control with high power density based on ebmpapst zero pressure multifunctional control GB-ND 055 D01 as per EN 126 for modulating or multi-stage operation:

- Composite pneumatic system with zero pressure mode and integrated signal amplification
- Modulation range up to 1:10 breaks up flow pattern and reduces resonance
- Offset correction of gas-air ratio at servo-controller
- Limitation of maximum flow by throttle with low hysteresis, no nozzle change on switching to other gas families
- Inlet pressure up to max. 65 mbar (6.5 kPa)
- Adaptation of system components permits optimization for specific application and design conditions. Left and right design of the valve possible.

Application

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

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.

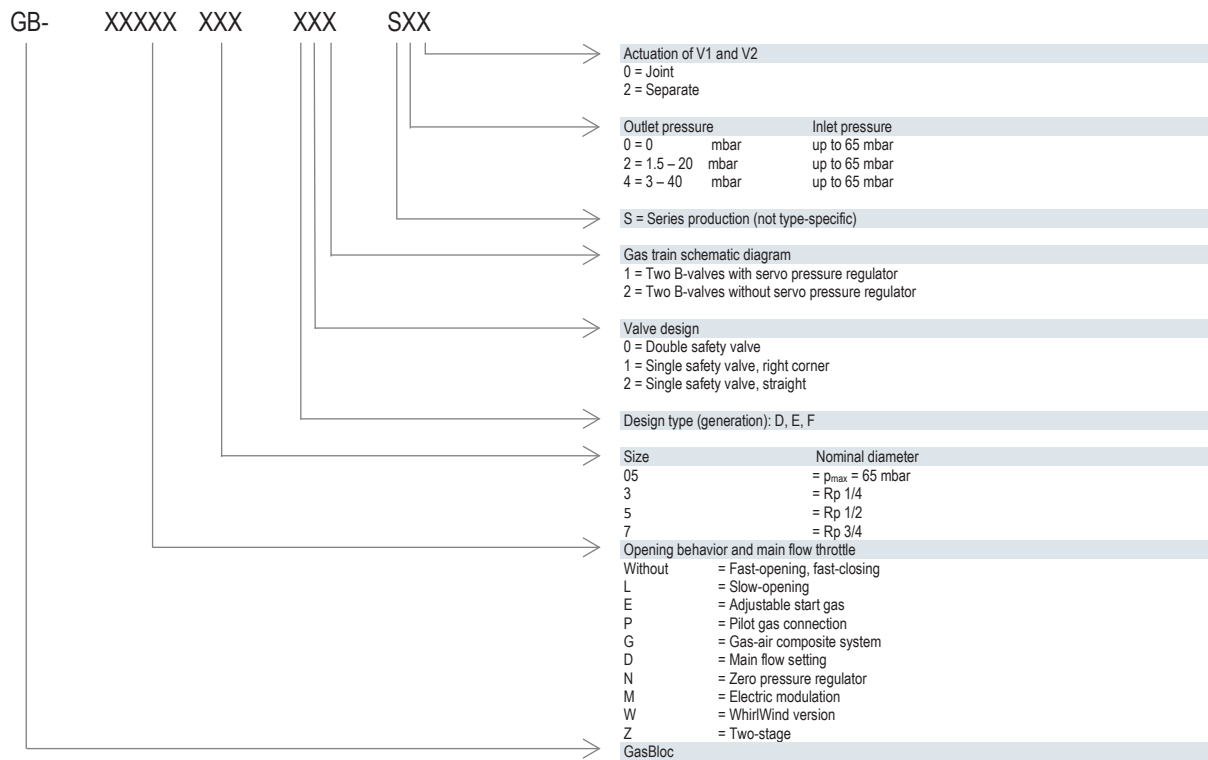
GB-WND 055 D01 with WhirlWind as well as control and safety function

Combinations

Product	Zero pressure servo-controller	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V2	Maximum throttle	Offset correction	Deflection insert for signal amplification	Blower adapter	Dirt trap	Gas pressure monitor	Socket	MPA 109x
GB-WND 055 D01	●	B	B	●	●	●	○	●	○	○	○

Key
 ● Standard
 ○ Optional
 - Not available

GasBloc type key



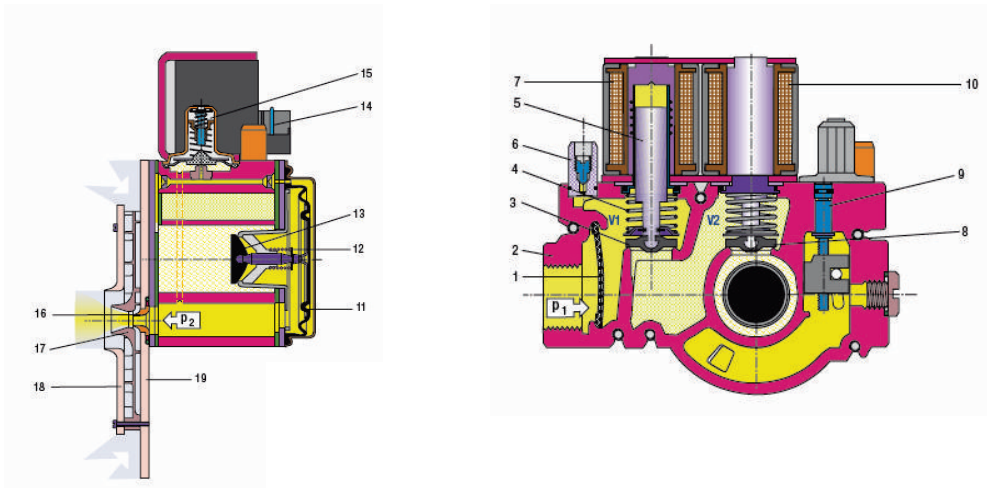
GB-WND 055 D01 with WhirlWind as well as control and safety function

Description of main components

Valve and pressure regulator:	The valve can be optionally supplied with side outlet to the left or right. This permits optimum adaptation of the WhirlWind system to the design conditions of the application. The pressure regulator with servo pressure regulator provides compensation for pressure fluctuations in the supply network. This ensures a uniform air flow with constant nozzle pressure. The servo-controller regulates the nozzle pressure at the valve outlet to zero depending on the vacuum generated.
Safety valves:	Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
Side cover with nozzle:	Side-mounted cover plate between valve and deflection insert for supply air routing and sound insulation. The nozzle is held between valve and cover plate and can be exchanged for switching between gas families if required.
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.
Deflection insert:	The integrated deflection insert provides two-stage cascaded signal amplification and permits reliable operation over a modulation range of up to 1:10. In addition, the specially designed guide blades break up flow patterns and prevent resonance.
Blower adapter:	Forms the interface with the selected blower and ensures defined flow conditions at the inlet as well as design flexibility with regard to the valve/blower arrangement.
Air/differential pressure monitor (optional):	The system offers the option of connecting an air or differential pressure monitor for monitoring the blower function. The air or differential pressure monitor can be pre-set to suit customer requirements and sealed.
Pressure test nipple:	On inlet and outlet side
Safety valve operating modes:	Safety valves V1 and V2 can be actuated and opened either jointly or separately.

GB-WND 055 D01 with WhirlWind as well as control and safety function

Block diagram of GB-WND 055 D01



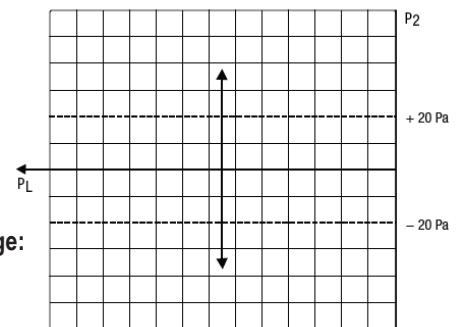
Key

- | | | | | | | | |
|---|---------------------|----|--------------------|----|--------------------------|----|-------------------|
| 1 | Dirt trap, strainer | 6 | Test nipple | 11 | Working diaphragm | 16 | Nozzle |
| 2 | Housing | 7 | Solenoid V1 | 12 | Return spring | 17 | Deflection insert |
| 3 | Safety valve V1 | 8 | Safety valve V2 | 13 | Operating valve | 18 | Blower adapter |
| 4 | Closing spring V1 | 9 | Main flow throttle | 14 | Electrical hookup | 19 | Side cover |
| 5 | Armature V1 | 10 | Solenoid V2 | 15 | Servo pressure regulator | | |

Setting instructions – offset, CO₂ curve and adjustment device GB-WND 055 D01

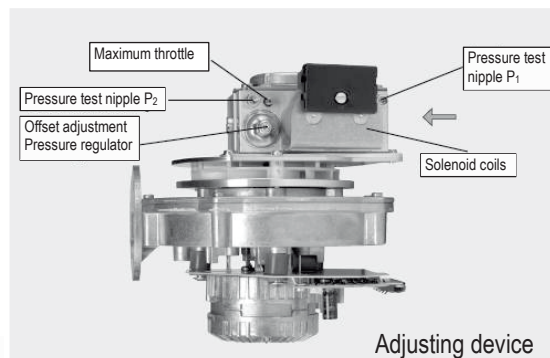
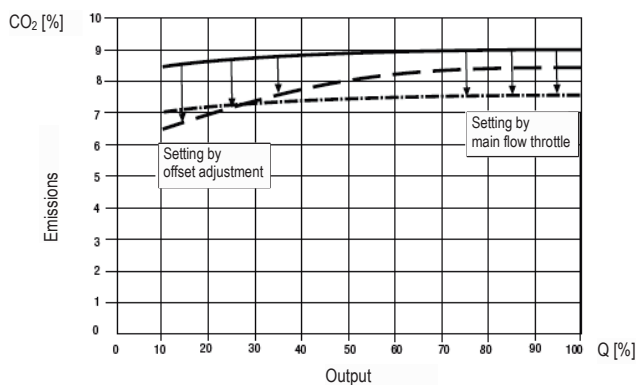
Setting

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



Offset correction adjustment range:
± 20 Pa (± 0.2 mbar)

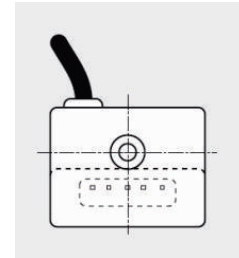
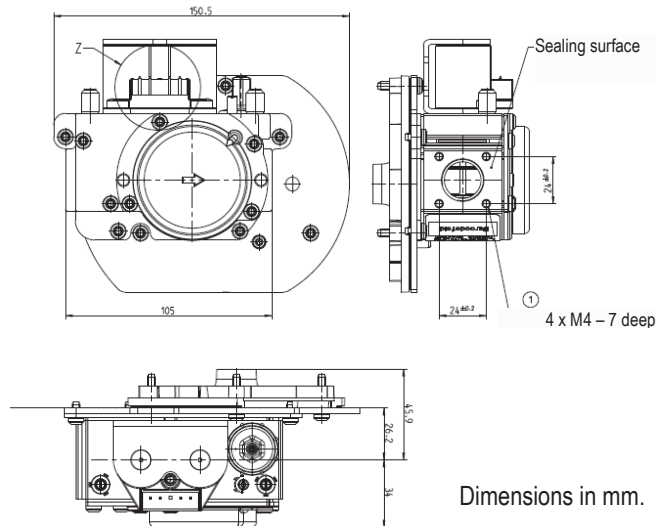
CO₂ curve



Adjusting device

GB-WND 055 D01 with WhirlWind as well as control and safety function

Engineering drawing



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

Deflection insert GB-WND 055 D01

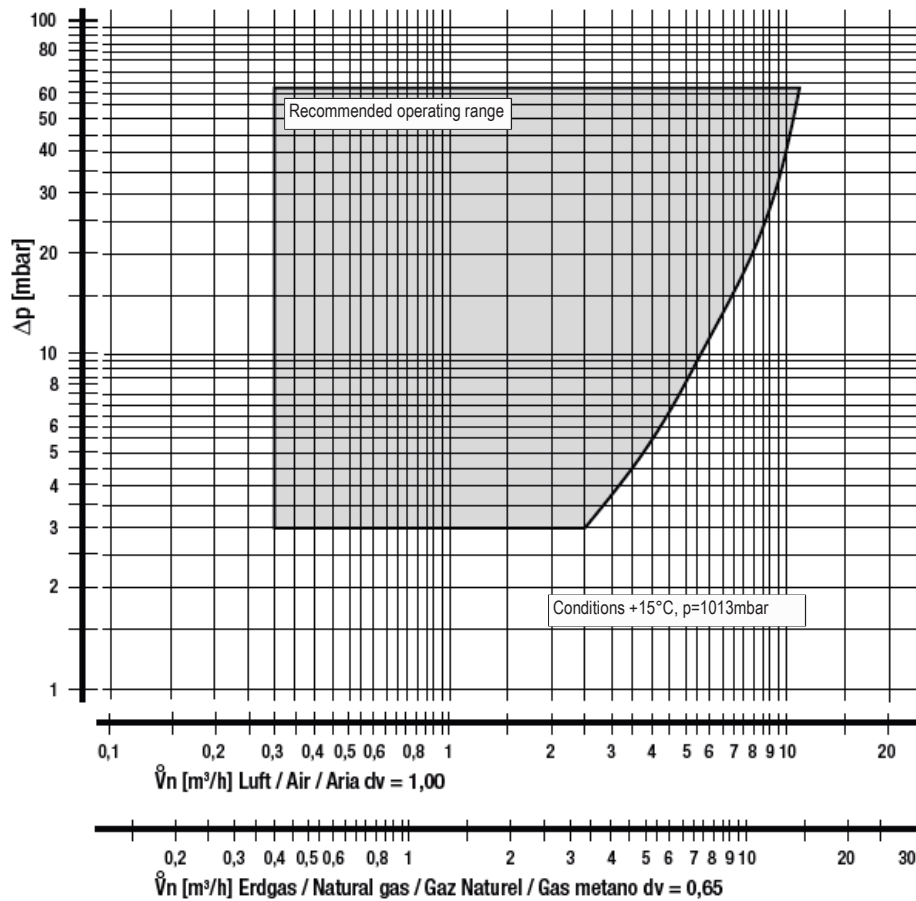
Integrated venturi
2nd signal amplification

Helical blades
1st signal amplification



GB-WND 055 D01 with WhirlWind as well as control and safety function

Air flow/pressure gradient curve GB-WND 055 D01



Permissible deviation

Controller class C

$p_2 \pm 10\%$ in accordance with EN 126

GB-WND 055 D01 with WhirlWind as well as control and safety function

Technical data

Nominal diameter	DN 15
Main gas connection (inlet)	Rp 1/2 ISO 7/1 G 3/4 DIN ISO 228 external
Flanges with pipe thread	Rp 1/2 ISO 7/1 internal G 3/4 DIN ISO 228 external
Max. inlet pressure	65 mbar (6.5 kPa)
Nominal flow rate	7.2 m ³ /h (air) with Δp 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 (0.03 kPa) with $\Delta p_{\text{Offset}} = 0 \text{ Pa}$
Offset correction	$\pm 0.2 \text{ mbar}$ (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 5.5 VA
Electrical hookup	Coil connection Molex system or connection box with integrated cable
Optional equipment	Electrical connections in RAST 5 Combustion controller MPA 109x Air pressure monitor LGW...A1 or A2
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)

GB-WND 057 D01 with WhirlWind as well as control and safety function



Technology

Multifunctional gas control with high power density based on ebmpapst zero pressure multifunctional control GB-ND 057 D01 as per EN 126 for modulating or multi-stage operation:

- Composite pneumatic system with zero pressure mode and integrated signal amplification
- Modulation range up to 1:10 breaks up flow pattern and reduces resonance
- Offset correction of gas-air ratio at servo-controller
- Limitation of maximum flow by throttle with low hysteresis, no nozzle change on switching to other gas families
- Inlet pressure up to max. 65 mbar (6.5 kPa)
- Adaptation of system components permits optimization for specific application and design conditions. Left and right design of the valve possible.

Application

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

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.

GB-WND 057 D01 with WhirlWind as well as control and safety function

Combinations

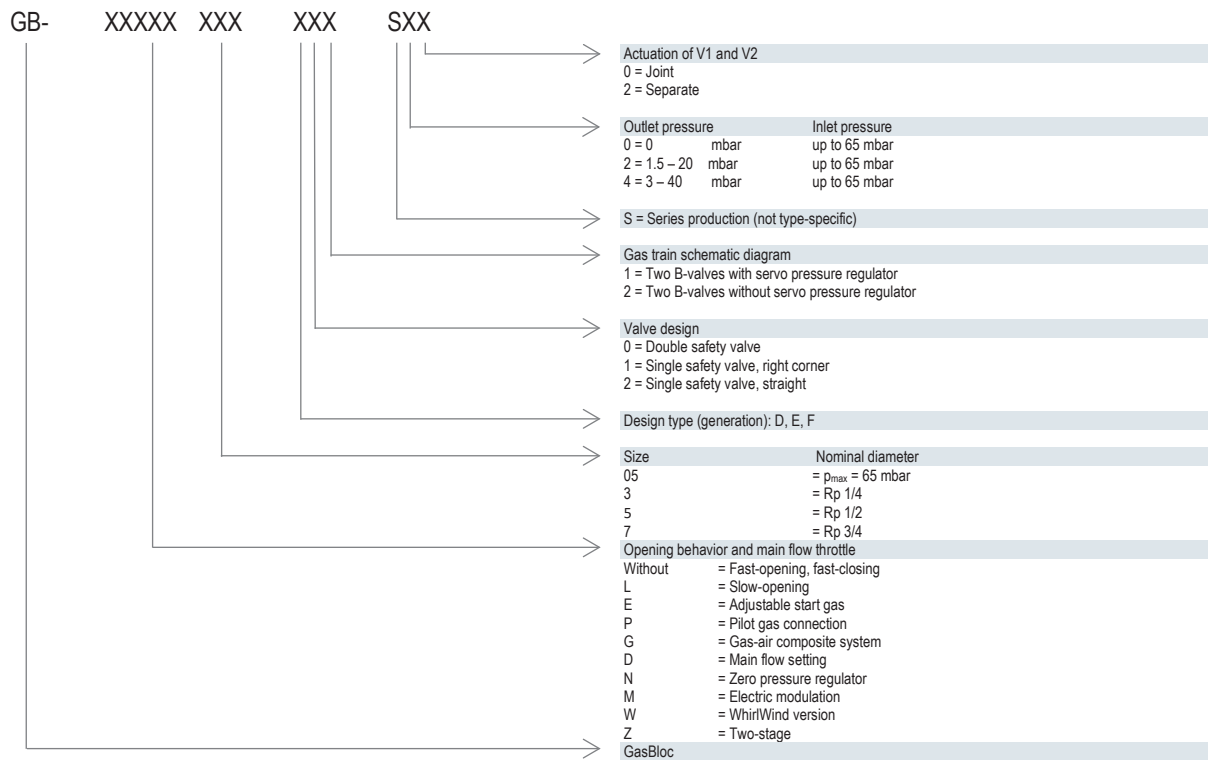
Product	Zero pressure servo-controller	Valve class (acc. to EN 161) V1	Valve class (acc. to EN 161) V2	Maximum throttle	Offset correction	Deflection insert for signal amplification	Blower adapter	Dirt trap	Gas pressure monitor	Socket	Supply air collector	MPA 109x
GB-WND 057 D01	●	B	B	●	●	●	●	●	○	○	○	○

Key



Standard
Optional
Not available

GasBloc type key



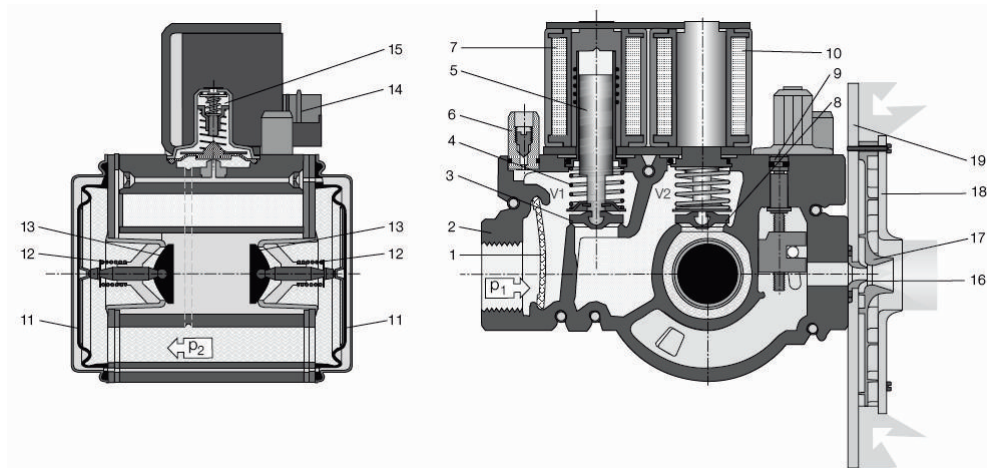
GB-WND 057 D01 with WhirlWind as well as control and safety function

Description of main components

Valve and pressure regulator:	The pressure regulator with servo pressure regulator provides compensation for pressure fluctuations in the supply network. This ensures a uniform air flow with constant nozzle pressure. The servo-controller regulates the nozzle pressure at the valve outlet to zero depending on the vacuum generated.
Safety valves:	Safety valves in accordance with EN 161, class B. DC coils, protected against voltage peaks.
Side cover with nozzle:	Cover plate between valve and deflection insert for supply air routing and sound insulation. The nozzle is held between valve and cover plate and can be exchanged for switching between gas families if required.
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.
Deflection insert:	The integrated deflection insert provides two-stage cascaded signal amplification and permits reliable operation over a modulation range of up to 1:10. In addition, the specially designed guide blades break up flow patterns and prevent resonance.
Blower adapter:	Forms the interface with the selected blower and ensures defined flow conditions at the inlet as well as design flexibility with regard to the valve/blower arrangement.
Air/differential pressure monitor (optional):	The system offers the option of connecting an air or differential pressure monitor for monitoring the blower function. The air or differential pressure monitor can be pre-set to suit customer requirements and sealed.
Pressure test nipple:	On inlet and outlet side
Safety valve operating modes:	Safety valves V1 and V2 can be actuated and opened either jointly or separately.

GB-WND 057 D01 with WhirlWind as well as control and safety function

Block diagram of GB-WND 057 D01



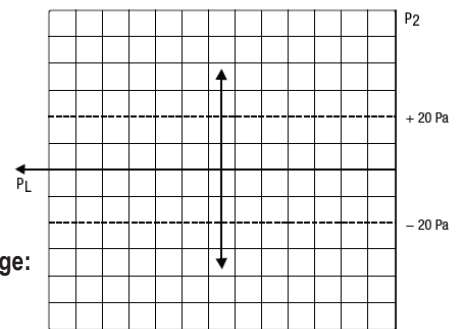
Key

1	Dirt trap, strainer	6	Test nipple	11	Working diaphragm	16	Nozzle
2	Housing	7	Solenoid V1	12	Return spring	17	Deflection insert
3	Safety valve V1	8	Safety valve V2	13	Operating valve	18	Blower adapter
4	Closing spring V1	9	Main flow throttle	14	Electrical hookup	19	Side cover
5	Armature V1	10	Solenoid V2	15	Servo pressure regulator		

Setting instructions – offset, CO₂ curve, adjustment device GB-WND 057 D01

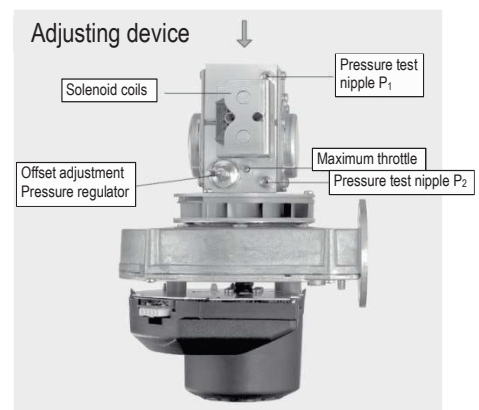
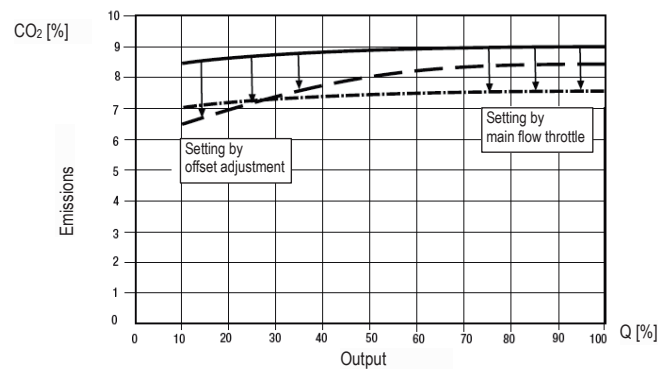
Setting

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



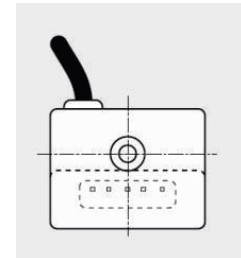
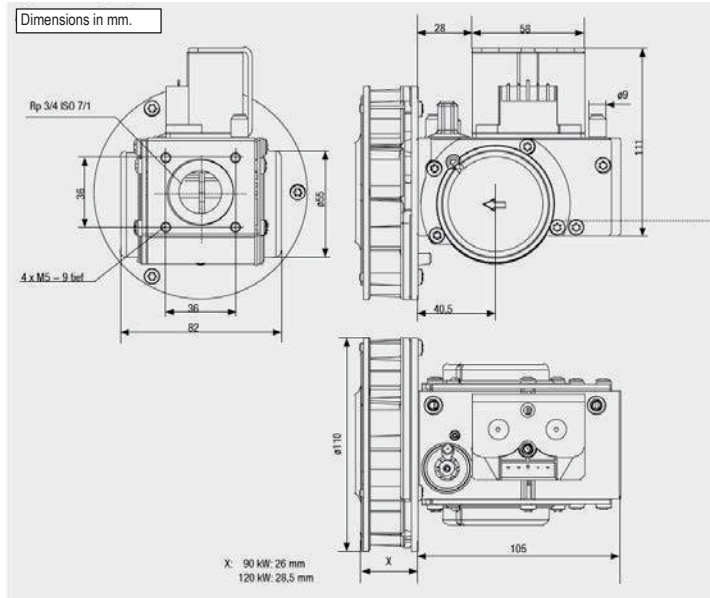
Offset correction adjustment range:
± 20 Pa (± 0.2 mbar)

CO₂ curve



GB-WND 057 D01 with WhirlWind as well as control and safety function

Engineering drawing

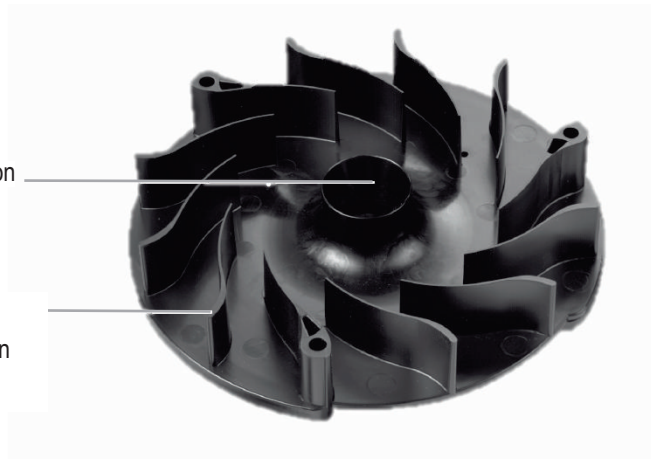


Electrical hookup:
Standard:
Molex Crimp 3001 system
Optional:
Box with cable connection IP40

Deflection insert GB-WND 057 D01

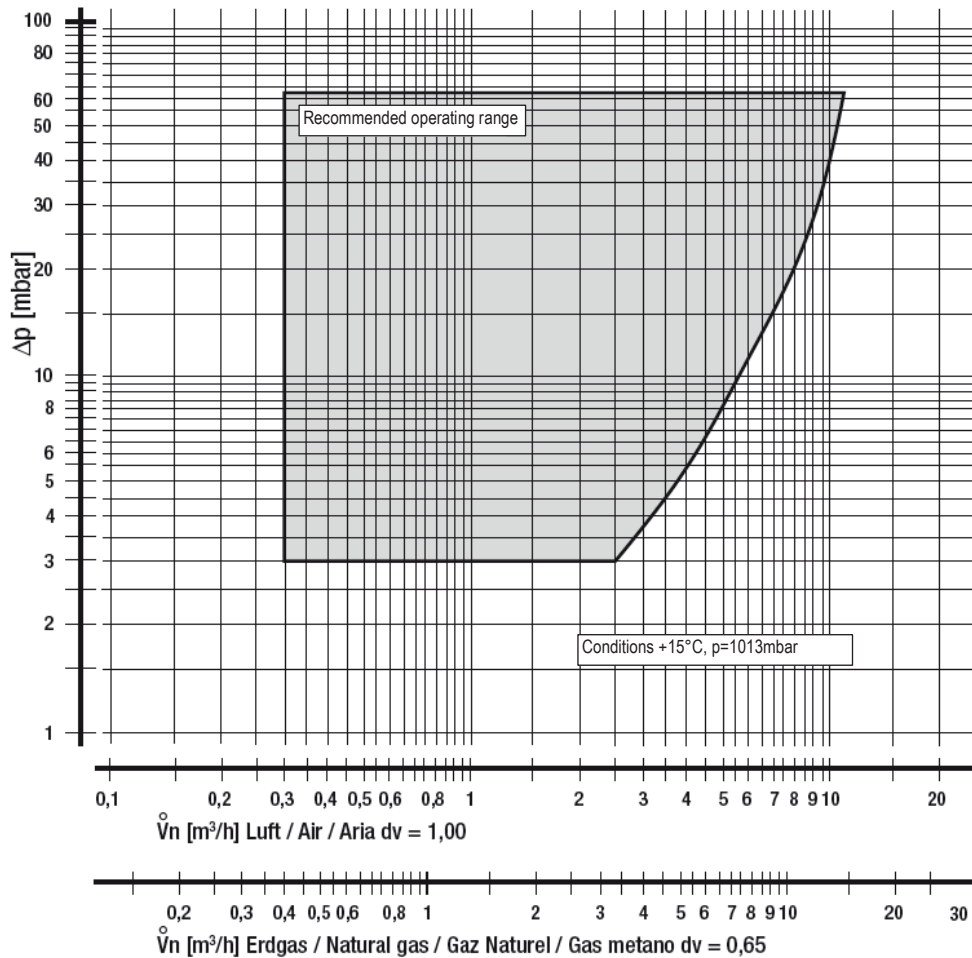
Integrated venturi
2nd signal amplification

Helical blades
1st signal amplification



GB-WND 057 D01 with WhirlWind as well as control and safety function

Air flow/pressure gradient curve GB-WND 057 D01



Permissible deviation

Controller class C

$p_2 \pm 10\%$ in accordance with EN 126

GB-WND 057 D01 with WhirlWind as well as control and safety function

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	15.4 m ³ /h (air) with Δp 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 (0.03 kPa) with $\Delta p_{\text{Offset}} = 0$ Pa
Offset correction	± 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 box with integrated cable
Optional equipment	Electrical connections in RAST 5 Combustion controller MPA 109x Air pressure monitor LGW...A3 Supply air collector
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)

GB-GD 055 D01 for Gas-air composite system
GB-ND 055 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.

GB-GD 055 D01 for Gas-air composite system

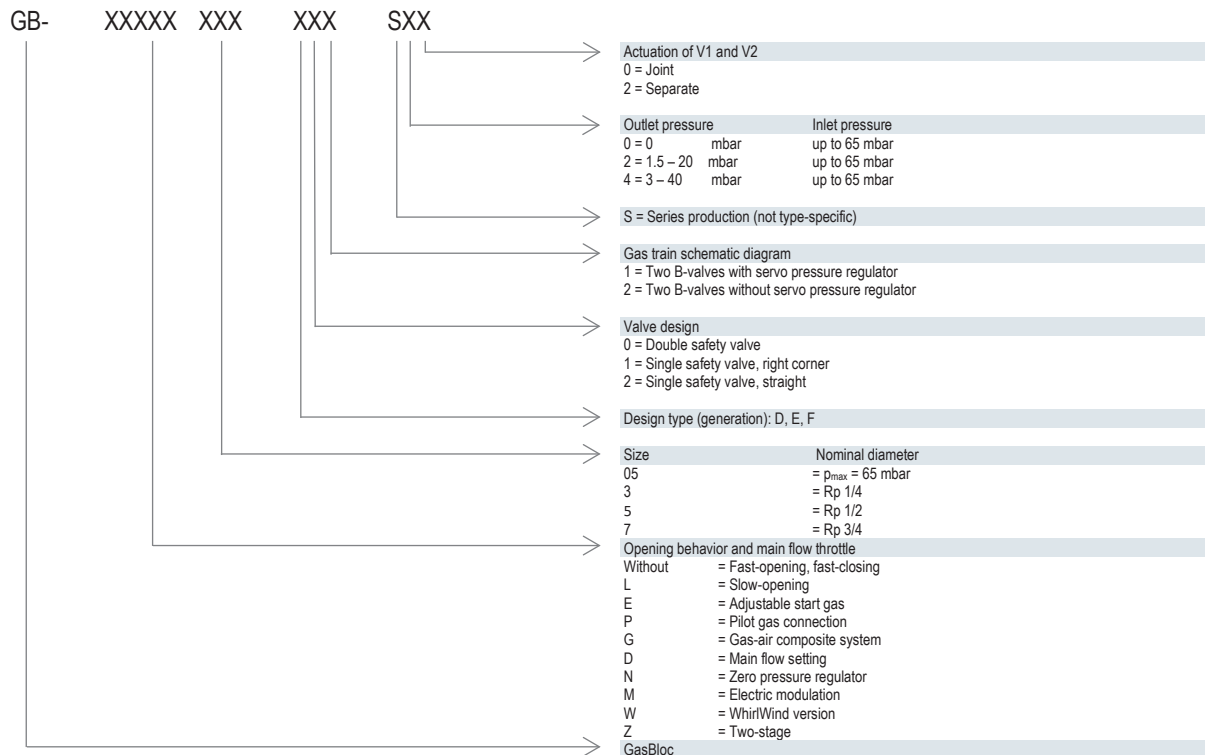
GB-ND 055 D01 Zero pressure regulator

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 109
GB-GD 055 D01	●	B	B	●	-	●	●	●	○	○	○
GB-ND 055 D01	●	B	B	-	●	●	●	●	○	○	

Key
 ● Standard
 ○ Optional
 - Not available

GasBloc type key



Description of main components

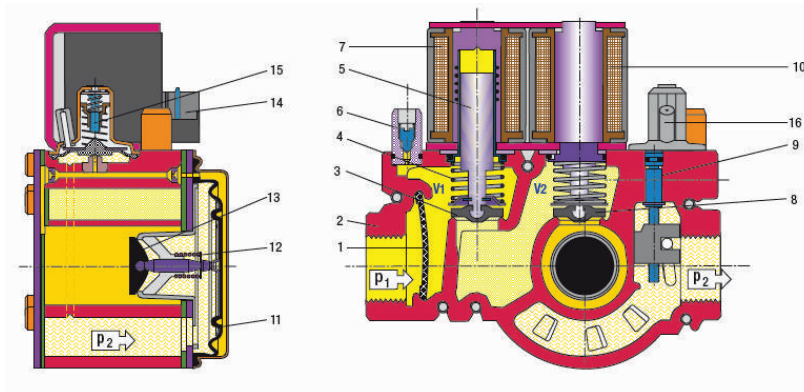
- Pressure regulator:** The pressure regulator with servo-controller provides compensation for pressure fluctuations in the supply network. This ensures a uniform air flow with constant nozzle pressure. With the gas-air composite system valve GB-GD 055, the nozzle pressure follows the signal pressure 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

Data sheet

GasBloc Multifunctional gas control

GB-GD 055 D01 for Gas-air composite system
 GB-ND 055 D01 Zero pressure regulator

Block diagram of GB-GD 055 D01/GB-ND 055 D01



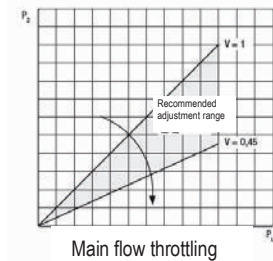
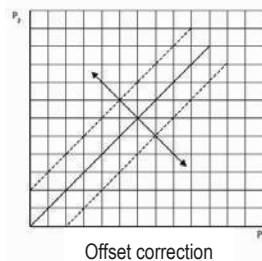
Key

- | | | | | | | | |
|---|---------------------|---|-----------------|----|--------------------|----|------------------------------------|
| 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 correction by way of adjusting screw at servo-controller
- Maximum flow by way of throttling screw

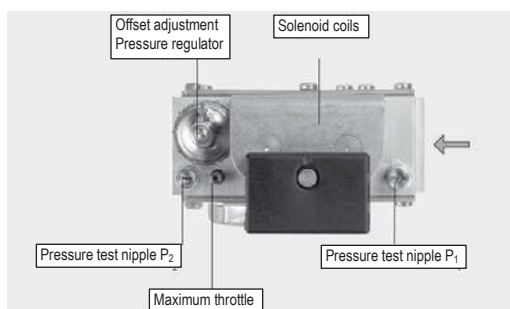


GB-ND adjustment range (zero pressure)

Offset correction ± 20 Pa (± 0.2 mbar)

GB-GD adjustment range (gas-air ratio)

Offset correction ± 20 Pa (± 0.2 mbar)



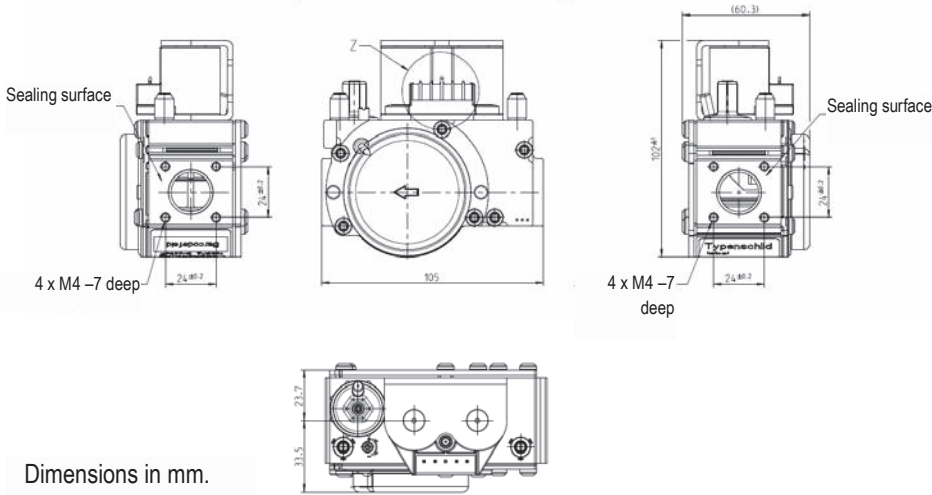
Adjusting device

Data sheet

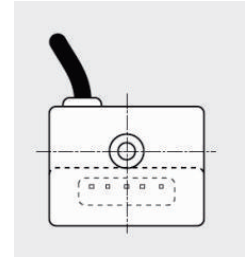
GasBloc Multifunctional gas control

GB-GD 055 D01 for Gas-air composite system
 GB-ND 055 D01 Zero pressure regulator

Engineering drawing

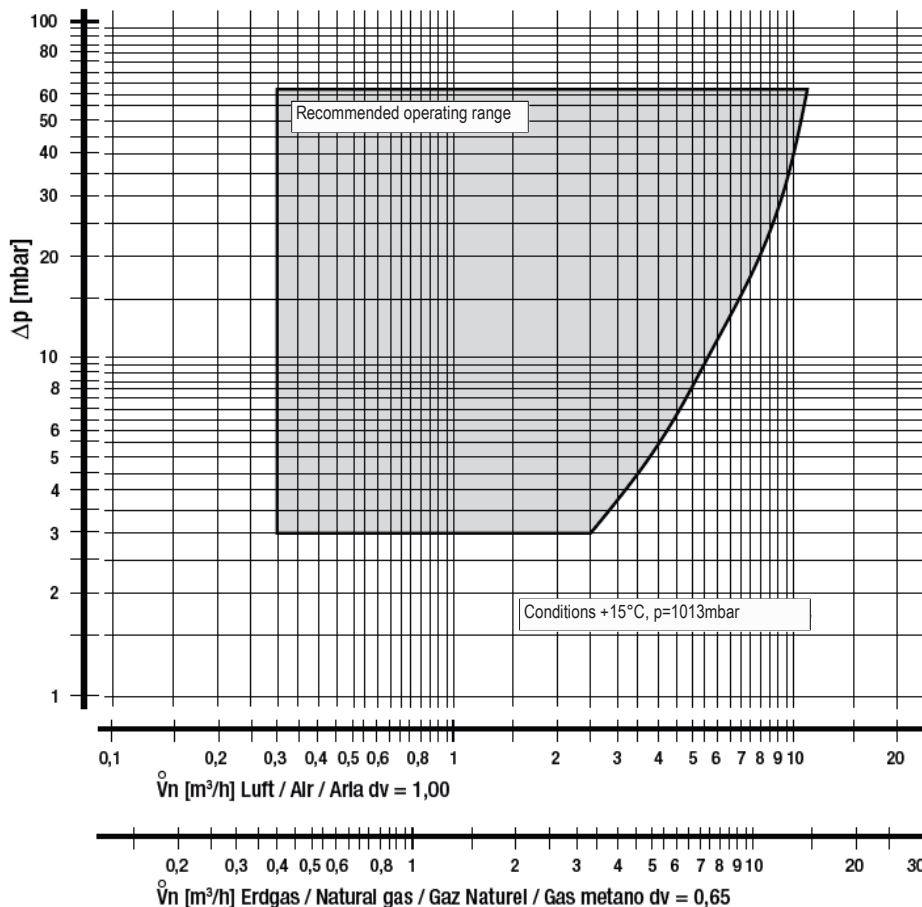


Dimensions in mm.



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

Air flow/pressure gradient curve (GB-...055 D01 – pneumatic in accordance with DIN EN 126)



GB-GD 055 D01 for Gas-air composite system
GB-ND 055 D01 Zero pressure regulator

Technical data

Nominal diameter	DN 15
Main gas connection (inlet)	Rp 1/2 ISO 7/1 G 3/4 DIN ISO 228 external Rp 1/2 ISO 7/1 internal
Flanges with pipe thread	Rp 1/2 ISO 7/1 internal G 3/4 DIN ISO 228 external
Max. inlet pressure	65 mbar (6.5 kPa)
Nominal flow rate GB-GD 055	3.3 m ³ /h (air) with Δp 5 mbar (0.5 kPa), regulated
Nominal flow rate GB-ND 055	7.2 m ³ /h (air) with Δp 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	± 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 5.5 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)

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.

GB-GD 057 D01 for Gas-air composite system

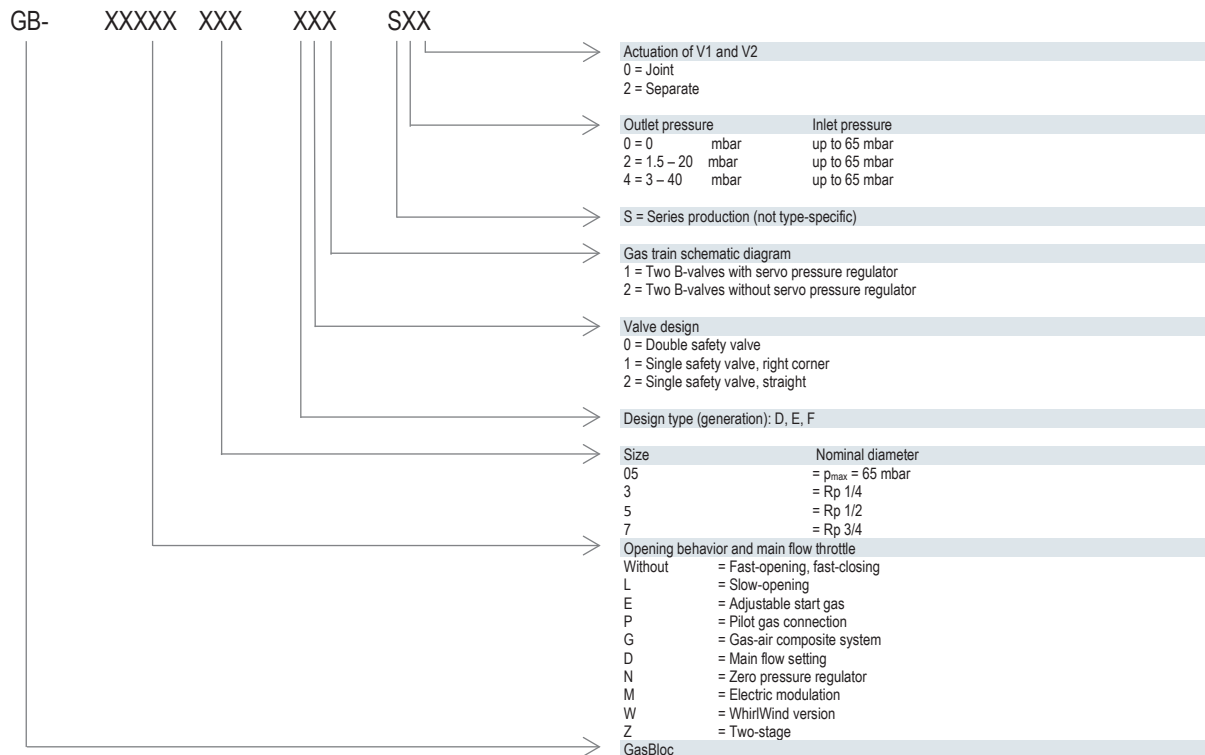
GB-ND 057 D01 Zero pressure regulator

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

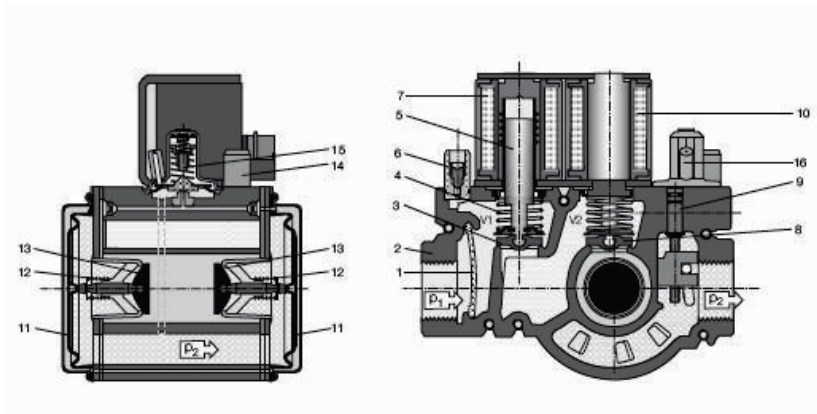
- Pressure regulator:** The pressure regulator with servo-controller provides compensation for pressure fluctuations in the supply network. This ensures a uniform air flow with constant nozzle pressure. With the gas-air composite system valve GB-GD 057, the nozzle pressure follows the signal pressure 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

Data sheet

GasBloc Multifunctional gas control

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



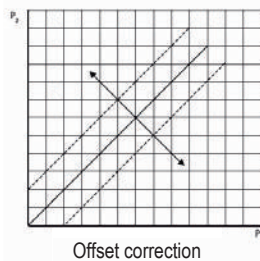
Key

- | | | | | | | | |
|---|---------------------|---|-----------------|----|--------------------|----|------------------------------------|
| 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

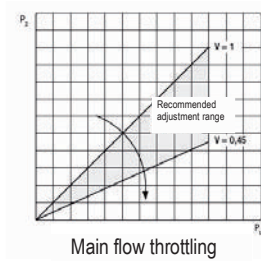
Setting:

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



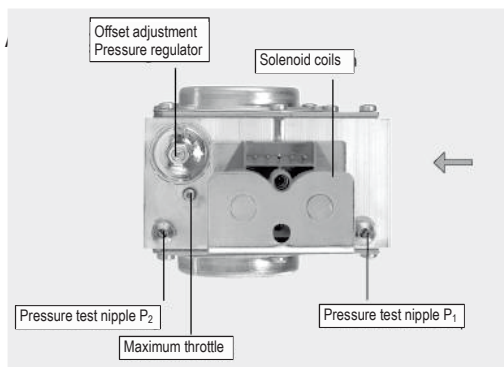
GB-ND adjustment range (zero pressure)

Offset correction ± 20 Pa (± 0.2 mbar)



GB-GD adjustment range (gas-air ratio)

Offset correction ± 20 Pa (± 0.2 mbar)

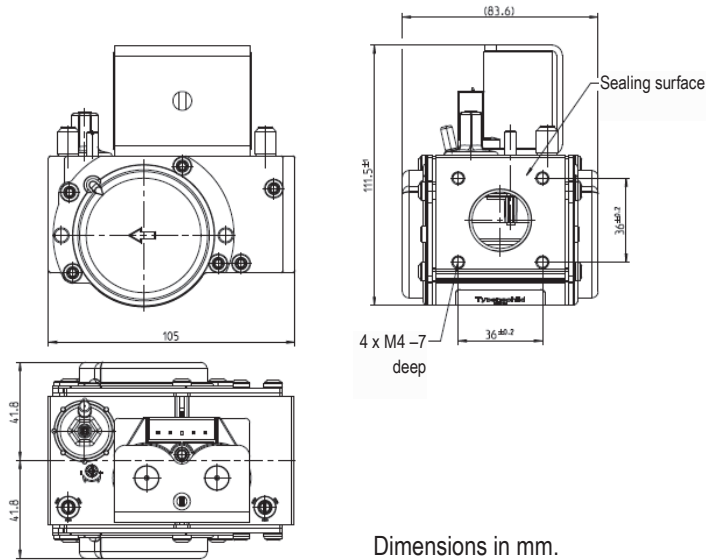


Data sheet

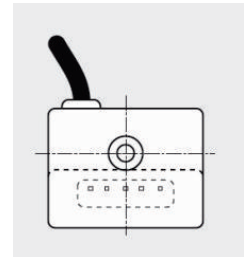
GasBloc Multifunctional gas control

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

Engineering drawing

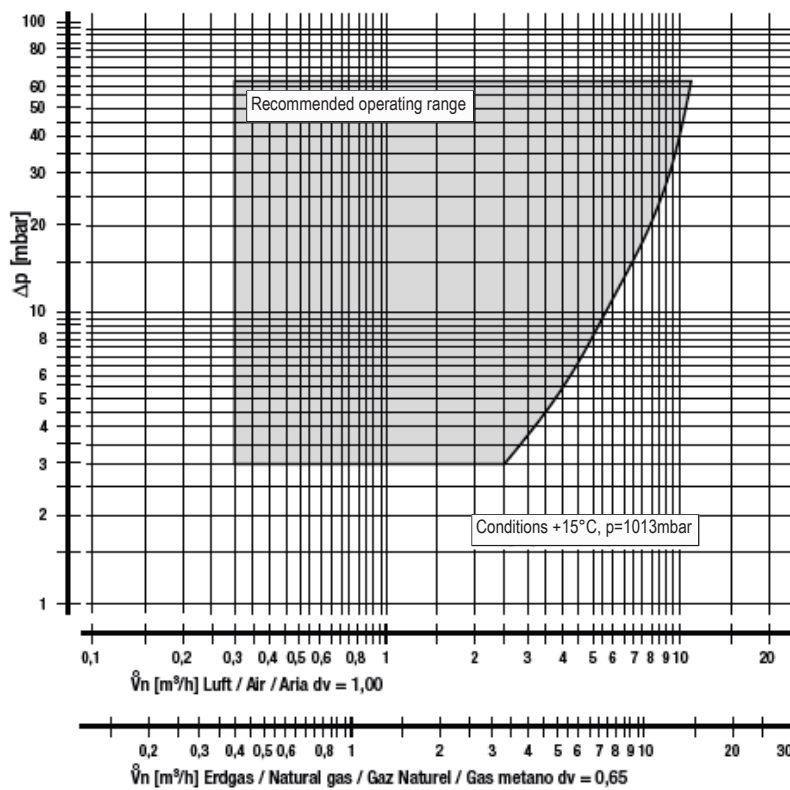


Dimensions in mm.



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)



Data sheet

GasBloc Multifunctional gas control

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 ³ /h (air) with Δp 5 mbar (0.5 kPa), regulated
Nominal flow rate GB-ND 055	7.2 m ³ /h (air) with Δp 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	± 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)