



GasMultiBloc®
Combined regulator and
safety shut-off valves
Single-stage function

MB-D(LE) 405 - 412 B01

DUNGS®
Combustion Controls

7.21



Technical description

The DUNGS GasMultiBloc® integrates filter, regulator, valves and pressure switches in one compact fitting.

- Dirt trap: Fine mesh-sieve
- One regulator and two valves: B01
- Two valves are fast opening
- One valve is fast opening and one valve is slow opening
- Solenoid valves up to 360 mbar (36 kPa) as per DIN EN 161 Class A Group 2
- Sensitive setting of output pressure by proportional regulator as per DIN EN 88 Class A Group 2
- High flow rates with low pressure drop
- DC solenoid drive interference degree N
- Main volume restrictor at valve V2
- Hydraulic opening delay
- Flange connections with pipe threads as per ISO 7/1
- Simple mounting, compact, light-weight

The modular system permits individual solutions by using external ignition gas tap in connection with separately controlled valves, by adding a valve proving system, mini/maxi pressure switches, pressure limiters, limit switch V2.

Application

The modular system permits individual solutions in gas safety and regulator engineering. Suitable for gases of families 1, 2, 3 and other neutral gaseous media.

Approvals

EC type test approval as per EC Gas Appliance Directive:

MB...405-412 B01 CE-0085 AP 3156
EC type test approval as per EC Pressure Equipment Directive:
MB...405-412 B01 CE0036

Approvals in other important gas consuming countries.



Specifications

| Nominal diameters Flange with pipe threads as per ISO 7/1 (DIN 2999) | MB-...405/407 B01 Rp 1/2, 3/4 and their combinations | MB-...410/412 B01 Rp 3/4, 1, 1 1/4 and their combinations | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|-----------------------|--|-----------------|--|-----------------------|----|--------------|--------------|---------|------|--------------|--------------|------|--------|--------------|--------------|------|-------|--------------|--------------|---------|
| Max. operating pressure | 360 mbar (36 kPa) | | | | | | | | | | | | | | | | | | | | | | |
| Output pressure ranges | MB-... S20/S22 p_a: 4 mbar (0.4 kPa) to 20 mbar (2 kPa) MB-... S50/S52 p_a: 4 mbar (0.4 kPa) to 50 mbar (5 kPa) | | | | | | | | | | | | | | | | | | | | | | |
| Media | Gases of families 1, 2, 3 and other neutral gaseous media | | | | | | | | | | | | | | | | | | | | | | |
| Ambient temperature | -15°C to +70°C (Do not operate MB-D below 0°C in liquid gas systems. Only suitable for gaseous liquid gas, liquid hydrocarbons destroy sealing materials.) | | | | | | | | | | | | | | | | | | | | | | |
| Dirt trap | Fine mesh-sieve, replacement only possible by dismantling the fitting. Types | | | | | | | | | | | | | | | | | | | | | | |
| Pressureswitches | GW A5, GW A2, NB A2, ÜB A2 mountable as per DIN EN 1854. For further information, refer to Datasheet GW A2 No. 215 183 and Datasheet GW A5 No. 225 901. | | | | | | | | | | | | | | | | | | | | | | |
| Pressure regulator | Pressure regulator compensated for residual pressure, leakproof seal when switched off by means of valve V1 as per DIN EN 88 Class A. Setpoint spring permanently installed (no spring exchange possible). A vent line above roof is not required. Internal pulse tap provided. | | | | | | | | | | | | | | | | | | | | | | |
| Solenoid valve V1 Solenoid valve V2 | Valve as per DIN EN 161 Class A Group 2, fast closing, fast opening Valve as per DIN EN 161 Class A Group 2 | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"><thead><tr><th></th><th colspan="2">Valve V2 design</th><th>Main volumerestrictor</th></tr></thead><tbody><tr><td>MB</td><td>fast closing</td><td>fast opening</td><td>without</td></tr><tr><td>MB-D</td><td>fast closing</td><td>fast opening</td><td>with</td></tr><tr><td>MB-DLE</td><td>fast closing</td><td>slow opening</td><td>with</td></tr><tr><td>MB-LE</td><td>fast closing</td><td>slow opening</td><td>without</td></tr></tbody></table> | | | | Valve V2 design | | Main volumerestrictor | MB | fast closing | fast opening | without | MB-D | fast closing | fast opening | with | MB-DLE | fast closing | slow opening | with | MB-LE | fast closing | slow opening | without |
| | Valve V2 design | | Main volumerestrictor | | | | | | | | | | | | | | | | | | | | |
| MB | fast closing | fast opening | without | | | | | | | | | | | | | | | | | | | | |
| MB-D | fast closing | fast opening | with | | | | | | | | | | | | | | | | | | | | |
| MB-DLE | fast closing | slow opening | with | | | | | | | | | | | | | | | | | | | | |
| MB-LE | fast closing | slow opening | without | | | | | | | | | | | | | | | | | | | | |
| Measuring/ignition gas connection | For G 1/8 as per DIN ISO 228, refer to Pressure taps on page 2 | | | | | | | | | | | | | | | | | | | | | | |
| Burner pressure monitor p _{Br} | Connection downstream of valve V2, pressure switch A2 mountable on adapter laterally | | | | | | | | | | | | | | | | | | | | | | |
| Voltage / frequency | 50-60 Hz 220-230 V AC - 15% + 10% Other preferred voltages: 240 VAC, 110-120 VAC, 48 VDC, 24-28 VDC | | | | | | | | | | | | | | | | | | | | | | |
| Electrical connection | Plug connection as per DIN EN 175301-803 for valves and pressure switches | | | | | | | | | | | | | | | | | | | | | | |
| Rating/power consumption Switch-on duration Degree of protection Radio interference | Refer to Dimensions on page 5 100% IP 54 as per IEC 529 (EN 60529) Interference degree N | | | | | | | | | | | | | | | | | | | | | | |
| Materials of gas-conveying parts | Housing Diaphragms, seals Solenoid drive | aluminium die casting NBR basis, Silopren (silicone rubber) steel, brass, aluminium | | | | | | | | | | | | | | | | | | | | | |
| Installation position | Solenoid vertically upright or lying horizontally as well as its intermediate positions Closed | | | | | | | | | | | | | | | | | | | | | | |
| Closed position signal contact | position signal contact, type K01/1 (DIN-tested), mountable on V2 | | | | | | | | | | | | | | | | | | | | | | |



บริษัท เอดีดี เฟอร์เนส จำกัด

ADD FURNACE CO.,LTD.

44 ซอยบรมราชชนนี 70 ถนนบรมราชชนนี แขวงศาลาธรรมสพน์ เขตทวีวัฒนา กรุงเทพฯ 10170

โทร: 02-888-3472 โทร: ออกแบบ:08-08-170-170 แฟกซ์: 02-888-3258

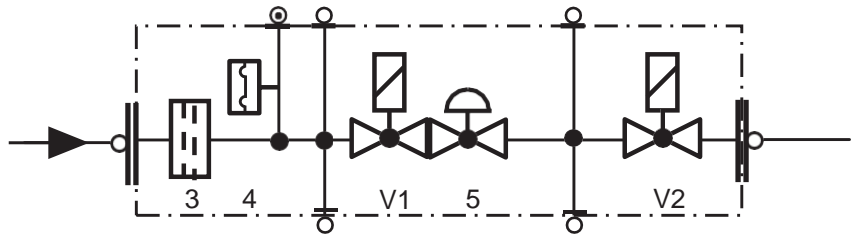
https://www.add-furnace.com E-mail: sales@add-furnace.com

| Equipment variants GasMultiBloc®...B01 Single-stage function | 405 B01 | 407 B01 | 410 B01 | 412 B01 | |
|---|------------------|------------------|------------------|------------------|--|
| MB | • | • | • | • | |
| MB-D MB- | • | • | • | • | |
| DLE MB- | • | • | • | • | |
| LE | • | • | • | • | |
| Microfilter with sieve | • | • | • | • | |
| Gas pressure switch downstream of filter downstream of valve V2 on adapter laterally downstream of valve V2 on flange with adapter | • • • | • • • | • • • | • • • | |
| Pressure regulator | • | • | • | • | |
| Valve V1, double seat Valve V2, single seat Valve V2, double seat | • • - | • - • | • • - | • - • | |
| Valves controlled together Valves controlled separately | • • | • • | • • | • • | S 20, S 50 S 22, S 52 |
| Flange Rp 1/2 Rp 3/4 Rp 1 Rp 1 1/4 | • • - - | • • - - | - • • • | - • • • | • = possible (•) = on request - = not possible |

MB...B01 version

V1 = Valve 1 V2 =
Valve 2

3 = Dirt trap
4 = Pressure switch
5 = Regulator



Mounting of VPS 504 valve proving system possible Mounting of K01/1
closed position signal contact possible

Type key of MultiBloc®

MB- XX XXX XX BOX SXX

Control of V1 and V2

0 = common
2 = separated

Outlet pressure Inlet pressure
2 = 4 - 20 mbar up to 360 mbar
5 = 4 - 50 mbar up to 360 mbar

S = Series (type-independent)

Gas train schematic diagram

1 = two A valves for main gas + regulator
7 = two A valves for main gas, one A valve together
with V1 as internal bypass around V2 + regulator

Design type (generation) B

Construction size, nominal diameter

403 = DN 10, V2 = Single-seat valve
405 = DN 15, V2 = Single-seat valve
407 = DN 20, V2 = Double-seat valve
410 = DN 25, V2 = Single-seat valve
412 = DN 32, V2 = Double-seat valve
415 = DN 40, V2 = Double-seat valve
420 = DN 50, V2 = Double-seat valve

Opening behaviour + main volume restrictor

without = (MB or MB-ZR)
-D = Main volume restrictor
-LE = adjustable opening behaviour
-DLE = D + LE combination

without = single stage
ZR = double-stage with partial volume setting
first stage

MultiBloc



บริษัท เอดีดี เฟอร์เนส จำกัด

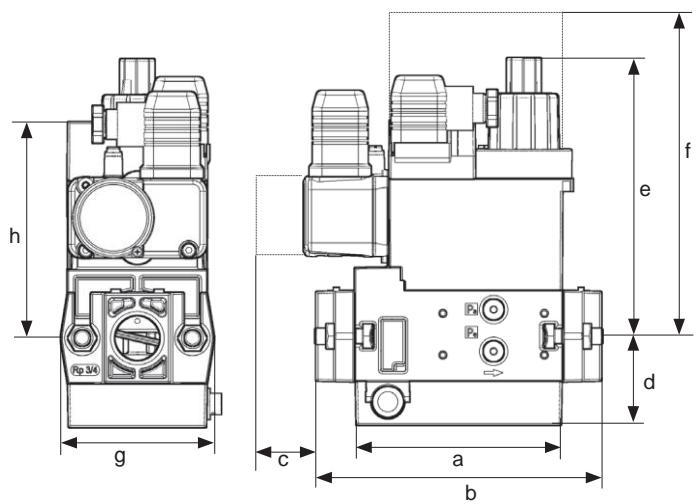
ADD FURNACE CO.,LTD.

44 ซอยบรมราชชนนี 70 ถนนบรมราชชนนี แขวงศาลาธรรมสพน์ เขตทวีวัฒนา กรุงเทพฯ 10170

โทร: 02-888-3472 โทร: ออกแบบ:08-08-170-170 แฟกซ์: 02-888-3258

https://www.add-furnace.com E-mail: sales@add-furnace.com

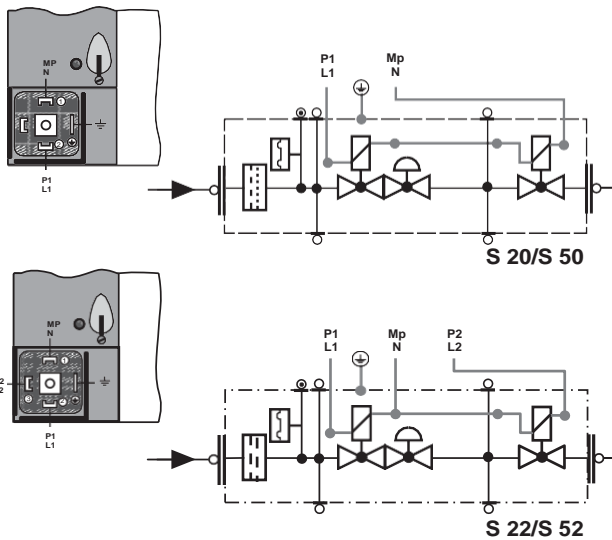
Dimensions [mm]



c = Space requirement for cover of pressure switch
f = Space requirement for exchanging the solenoid

| Typ | Rp | Opening time | Dimensions [mm] | | | | | | | | Weight [kg] |
|--------------------------|----------|--------------|-----------------|-----|----|----|-----|-----|----|-----|-------------|
| | | | a | b | c | d | e | f | g | h | |
| MB-D 405 B.../407 B... | Rp 1/2 | < 1 s | 110 | 151 | 40 | 46 | 100 | 185 | 74 | 115 | 2,5 |
| MB-DLE 405 B.../407 B... | Rp 3/4 | < 20 s | 110 | 151 | 40 | 46 | 140 | 185 | 74 | 115 | 2,6 |
| MB-D 410 B.../412 B... | Rp 1 | < 1 s | 140 | 185 | 40 | 55 | 125 | 245 | 90 | 135 | 4,9 |
| MB-DLE 410 B.../412 B... | Rp 1 1/4 | < 20 s | 140 | 185 | 40 | 55 | 160 | 245 | 90 | 135 | 5,0 |

Electrical connection



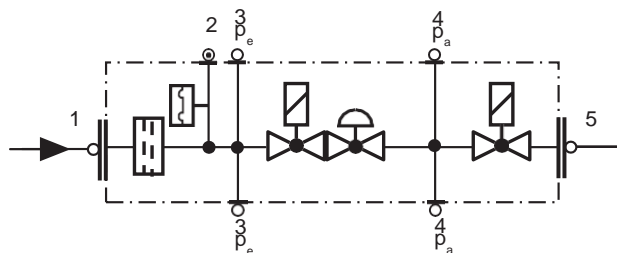
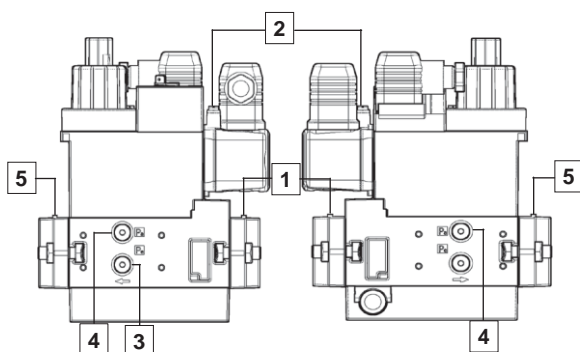
Rating / power consumption

[VA] ~(AC) 230 V; +20 °C:

| | |
|-----------------|----|
| MB 405/407 S 20 | 32 |
| MB 405/407 S 50 | 36 |
| MB 405/407 S 22 | 46 |
| MB 405/407 S 52 | 46 |
| MB 410/412 S 20 | 55 |
| MB 410/412 S 50 | 55 |
| MB 410/412 S 22 | 96 |
| MB 410/412 S 52 | 96 |

6

Pressure taps



1,3,4,5 G 1/8 screw plug
2 Test nipple

