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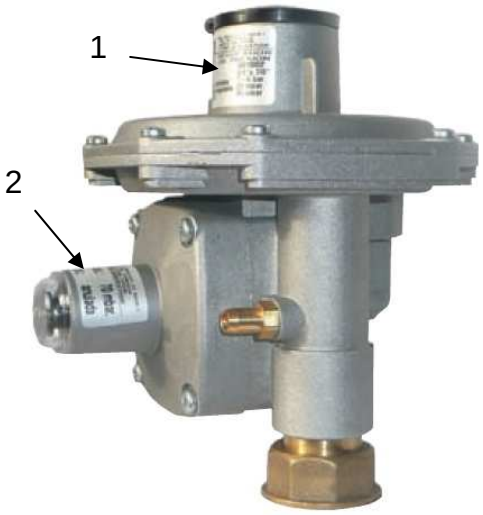
**EU Product/ Spain**

# REGULATOR DOMO BP

cod. CE.8.95.2000

**DESCRIPTION**

DOMO BP regulators are designed to regulate gas for medium pressure applications. They use a direct action type of regulation with a simple obturator, membrane action and adjustment spring.
They are used both for N.G., LPG, and other non-corrosive gas installations as well as 1st stage regulators.
They can also be fitted with a safety shut off device with minimum (UPSO) and maximum pressure (OPSO) – this model is the DOMO BP/S




**MODELS**

Two are manufactured, covering the most typical ranges of pressure in gas installations.

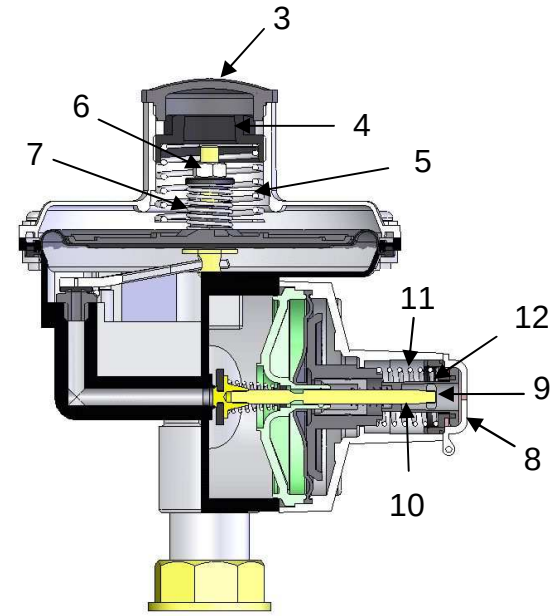
Model DOMO BP with outlet pressure from 18 to 80 mbar (These data sheets)

Model DOMO MP with outlet pressure from 80 to 180 mbar (Data sheet CE.8.95.2001)

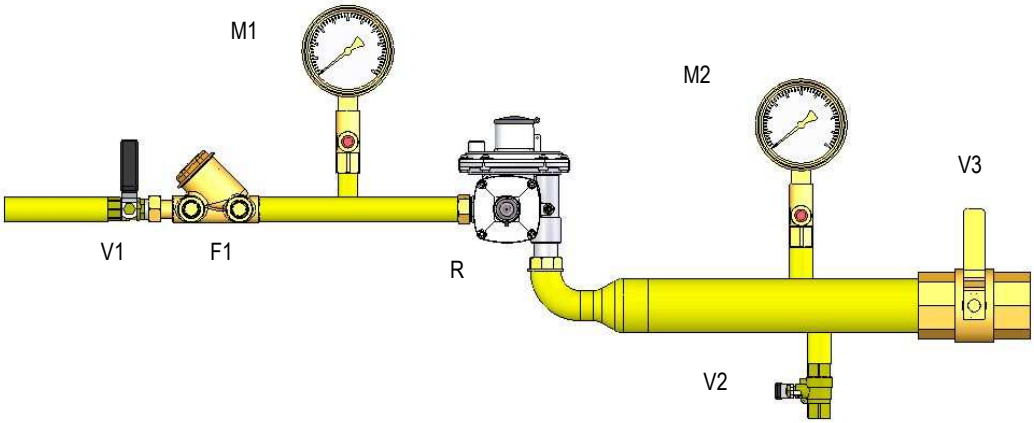
**INSTALLATION**

Before installing the regulator, ensure that:

- The regulator selected (see labels 1 and 2) coincides with the needs of the installations.
- The fluid passes through the body of the regulator in the correct direction, as indicated on the arrow on the body of the regulator.
- The pipeline has been previously cleaned and the gas reaches the regulator perfectly clean and dry.
- The regulator must be positioned so that there is sufficient room for maintenance to be carried out and for the outlet pressure to be adjusted and so that it complies whit maximum and minimum safety levels.
- They regulator is protected from rain and from direct sunlight.
- There is a pipeline buffer, with the regulator at maximum flow, has a capacity of 120 liters. For the lower levels, the size of the tank can be reduced proportionally.



**TYPICAL CHART**




**STARTING UP THE REGULATOR WITHOUT SAFETY SHUT OFF DEVICE**

- Provide a light flow of gas downstream from the regulator. For example, using the bleed valve V2.
- Slowly open the gas shutoff valve V1 slightly, situated upstream from the filter.
- Check that the gas pressure is correct, using the inlet pressure gauge M1.
- Check that the pressure is stable, using the outlet pressure gauge M2.
- If the outlet pressure is not correct, adjust the outlet pressure via the nut (4).
- Finish opening the shutoff valve V1 slowly, located after the filter inlet F1.
- Slowly finish opening the shutoff valve V3, located downstream from the regulator.
- Close the bleed valve V2.

**START UP THE REGULATOR WITH MAXIMUM SAFETY SHUT OFF DEVICE (AND MINIMUM)**

- Provide a light flow of gas downstream from the regulator. For example, using the bleed valve V2.
- Slowly open the gas flow valve V1 slightly, situated upstream from the filter.
- Check that the gas pressure is correct, using the inlet pressure gauge M1.
- Check that the pressure is stable, using the outlet pressure gauge M2.
- If there is no outlet pressure, reset the regulator:
    - Remove the protective cover (8).
    - Slowly pull the button (12), opening the internal bypass.
    - When the regulating pressure is reached at the outlet, the resistance on the button will reduce and it will be possible to finish pull the button and it should maintain this position unassisted.
- Finish opening the shutoff valve V1 slowly, located at the filter inlet F1.
- Slowly finish opening the shutoff valve V3, located downstream from the regulator.
- Close the bleed valve V2.

The time required to pull the button opening the internal bypass will depend on the differential of pressure between the inlet and outlet and the volume of the outlet tank.

**ADJUSTMENTS**

Regulators are supplied with springs suitable for the customer's requirements. These springs allow a range of specific adjustments, described in the catalogue. Where other values are required, the regulating spring must be replaced. Where the regulator has VIS, the springs may also need to be changed.

**REGULATION:**

- Remove the black plastic cover (3)
- Using a 27 mm socket wrench, tighten the mobile nut (4). Turning the nut clockwise increases the outlet pressure. Turning it anticlockwise will reduce the outlet pressure.
- Put back the black plastic cover (3).

**MINIMUM SHUT OFF DEVICE (optional) UPSO**

- Remove the transparent plastic cover (8).
- Using a screwdriver, on the screw ring (9). Turning the screw ring clockwise increases the minimum operating level. Turning it anticlockwise has the opposite effect.
- Put back the transparent plastic cover (8).

**MAXIMUM SHUT OFF DEVICE (optional) OPSO**

- Remove the transparent plastic cover (8).
- Using a 14 mm socket wrench, tighten the mobile nut (12). Turning the nut clockwise increases the maximum operating level. Turning it anticlockwise has the opposite effect.
- Put back the transparent plastic cover (8).

To avoid dirt or damage when closing the regulator, a gas filter should be installed before the regulator, with a minimum filter grade of 5 microns (F1).

**CHECK**

**Regulator without safety shut off device and without relief valve**

- Check that the valve (V1) at the inlet to the filter (F1), the valve (V3) at the outlet to the regulator and the bleed valve (V2) are closed.
- Slowly open the inlet valve (V1) and use the pressure gauge (M1) to check that the pressure is correct at the inlet to the regulator (R). Use the pressure gauge (M2) to check that the pressure increases at the inlet to the regulator (R) until it is stabilized to the adjusted pressure in the regulator (R).
- Close the inlet valve again (V1).
- Use the inlet pressure gauge (M1) to check that there are no leaks at the inlet to the regulator (R).
- Use the outlet pressure gauge (M2) to check that there are no leaks at the outlets of the regulator (R).

**Regulator without safety shut off device and with relief valve**

- Make the adjustments described above.
- Connect an external source of pressure via the bleed valve (V2) in the pipeline buffer located along the stretch between the outlet to the regulator (R) and the outlet valve (V3).
- Slowly increase the pressure until the relief valve is activated. If it is necessary to vary the firing point of the relief valve, make the appropriate adjustments at the nut (6).

**Regulator with safety shut off device at minimum UPSO**

- Make the adjustments described above.
- Start up the regulator (R), checking that the outlet has the correct regulation pressure.
- Close the gas inlet valve (V1) and slowly reduce the pressure to the outlet via the bleed valve (V2) until the safety shut off device for minimum pressure is activated. If it is necessary to vary the firing point, make the necessary adjustments at the nut (9).

**Regulator with safety shut off device at maximum OPSO**

- Make the adjustments described above.
- Connect an external source of pressure via the bleed valve (V2) in the pipeline buffer located along the stretch between the outlet to the regulator (R) and the outlet valve (V3).
- Slightly increase the pressure in the pipeline buffer until you see that the safety shut off device for maximum pressure valve is activated. If it is necessary to vary the firing point of the safety shut off device, make the necessary adjustments at the nut (12).

**REPLACING THE REGULATING SPRING**

**Disassembly**

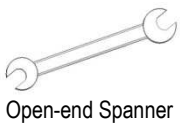
- Close gas inlet valve (V1) located at the inlet to the installation.
- Close gas inlet valve (V3) located at the outlet to the regulator.
- Open bleed key (V2), located at the outlet to the regulator, until the area is depressurized.
- Remove the black plastic cover (3) in order to access the regulating nut (4).
- Use a 27 mm tube spanner to turn the nut (4) anticlockwise and remove it.
- Remove the regulating spring (5).

**Installation**

- Choose from the list below the most suitable regulating spring for the required outlet pressure.
- Carry out the operations described under "disassembly" in reverse order. It should be borne in mind that only those springs indicated in the table below should be fitted. The fitting of other springs could cause damage to the regulator.

***WARNING!*** ***It is potentially dangerous to manipulate a gas installation and its components. Therefore all start-up, adjustments and maintenance of the regulator must be carried out by duly authorized people with sufficient technical knowledge.***

**TOOLS FOR MAINTAINING THE DOMO BP REGULATOR**

| | | | |
|---|---|---|---|
|  Open-end Spanner 30 – 34 |  Screwdriver |  Tweezers |  Tube Spanner 14 - 27 |

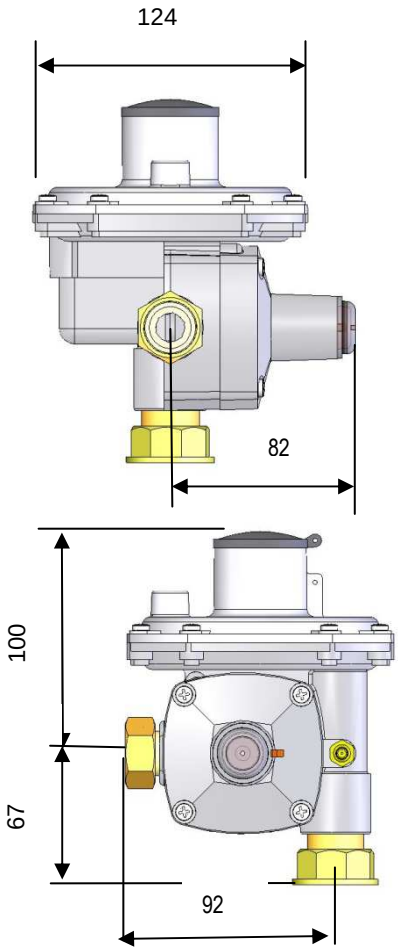
**OUTLET PRESSURE ADJUSTAMENT SPRINGS (5)**

| Wd (regulation) DOMO BP | | |
|---|---|---|
| **Ø wire (mm)** | **Spring code** | **Adjustment field in mbar** |
| 1.8 | ZM3.35.058181 | 16 ÷ 20 |
| 2.0 | ZM3.35.058200 | 20 ÷ 26 |
| 2.0 | ZM3.35.058201 | 25 ÷ 33 |
| 2.2 | ZM3.35.058220 | 29 ÷ 36 |
| 2.2 | ZM3.35.058221 | 31 ÷ 48 |
| 2.3 | ZM3.35.058231 | 38 ÷ 54 |
| 2.4 | ZM3.35.058241 | 46 ÷ 68 |
| 2.5 | ZM3.35.058251 | 52 ÷ 82 |

**OPSO ADJUSTAMENT SPRINGS (11)**

| Wdo (maximum) OPSO | |
|---|---|
| **Spring code** | **Adjustment field in mbar** |
| ZM3.19.028121 | 50 ÷ 62 |
| ZM3.19.028131 | 65 ÷ 80 |
| ZM3.19.028141 | 72 ÷ 105 |
| ZM3.19.028151 | 100 ÷ 134 |
| ZM3.19.028161 | 140 ÷ 190 |

**Dimensions in mm.**




| MAIN FEATURES | Nominal flow rate Qn m³/h N.G. | |
|---|---|---|
| **Inlet pressure bar** | **Orifice Ø 3mm** | **Orifice Ø 3.5mm** |
| Pd + 0.2 | 4.5 | 5.2 |
| Pd + 0.3 | 6.0 | 6.5 |
| Pd + 0.4 | 7.0 | 7.5 |
| Pd + 0.5 | 7.8 | 8.5 |
| Pd + 0.6 | 8.5 | 9.5 |
| Pd + 0.7 | 9.3 | 10 |
| Pd + 0.8 | 10.0 | 11 |
| Pd + 0.9 | 10.8 | 12 |
| Pd + 1.0 | 11.5 | 13 |
| Pd + 1.5 | 14.0 | 16 |
| Pd + 2.0 | 16.5 | 21 |
| Pd + 3.0 | 21.5 | 26 |

Technical Features

| | | |
|---|---|---|
| Bpu | 1÷6 bar | (inlet pressure range) |
| Ps | 6 bar | (design pressure) |
| Pu | 6 bar | (maximum inlet pressure) |
| Wd | | (outlet pressure range) |
| DOMO-BP | 17÷ 80 mbar | |
| DOMO MP | 80÷180 mbar | |
| Wdo BP | 50÷190 mbar | (OPSO range BP) |
| Wdo MP | 100÷250 mbar | (OPSO range MP) |
| Wdu BP | 30÷55 mbar | (UPSO range BP) |
| Wdu MP | 50÷95 mbar | (UPSO range MP) |
| Wrv | +10…+30% Pd | (relief valve range) |
| Ac | 20% | (degree of regulating pressure) |
| Sg | 30% max. | (degree of closed pressure) |
| T | -20ºC ÷ 60ºC | (operating temperature) |

| | |
|---|---|
| Inlet connection | 3/4" Sliding nut* |
| Outlet connection | 7/8" Sliding nut* |
| * Other connections on request | |
| Connection layout | Angle |
| Weight DOMO BP | 0.86 Kg |
| Weight DOMO MP | 0.88 Kg |

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