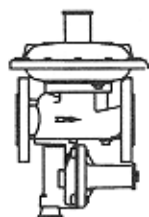
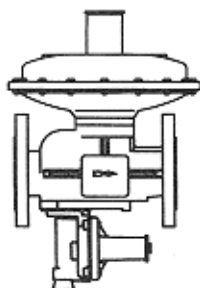


OPERATING INSTRUCTIONS for gas governors PN1, fire resistant with integrated slam shut valve (SAV)



MR 25 F, MR 25 SF
MR 25 G, MR 25 SG
MR 25 F-G, MR 25 SF-G
 p_e 0.026 - 1 bar, p_{as} 20 - 300 mbar

MR 25 MF, MR 25 MG, MR 25 MF-G
 p_e 0.026 - 1 bar, p_{as} 22 - 30 mbar



MR 50 G, MR 50 SG, MR 50 F, MR 50 SF
 p_e 0.05 - 1 bar, p_{as} 20 - 300 mbar

For natural gas, town gas, gaseous propane (gases to G 260 II) and air.
Ambient temperature: -20 °C to +60 °C
Installation, adjustment and maintenance ONLY by trained and authorized staff!

WARNING: Incorrect handling during installation, adjustment, modification, functional testing and/or maintenance activities may cause injuries and/or material damage.

Read the operating instructions prior to starting the installation.
This unit must be installed and monitored in accordance with the rules in force.

| | | | |
|-------------------------|--------------|---|------------------------|
| Maximum inlet pressure: | $p_{e \max}$ | : | according to typeplate |
| Set outlet pressure: | p_{as} | : | according to typeplate |
| Slam shut pressures: | p_{so} | : | according to typeplate |
| | p_{su} | : | according to typeplate |

We recommend installing a filter upstream of each unit.

Optionally (ordering option or at a later date), each unit can be equipped with a sieve in the inlet.

Install governor into the pipework

- Remove sealing caps and/or foils from the connecting surfaces.
- The direction of the gas flow must coincide with the arrow on the housing.
- Test and ensure that the inside of the gas lines is clean.
- The governor can be installed both into vertical and horizontal pipes.
Attention: If required, the setting of the outlet pressure must be corrected. As a rule, the factory adjustment is for horizontal installation with the diaphragm housing upwards.
Attention: In the case that the diaphragm housing is installed downwards, ensure that no dirt and no condensate can enter into the unit.
- The housing must not touch any surrounding walls.
- Use only approved jointing compounds and gaskets respectively.
- Only use new gaskets.
- No jointing compound should be allowed to enter the gas pipe when installing the governor.
- Always use an appropriate spanner. Do not use chimney on top of the diaphragm housing as a lever.

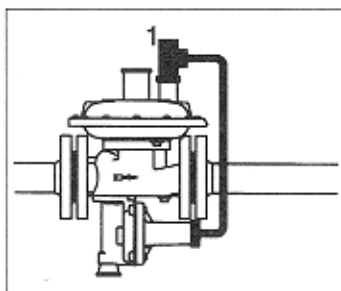
In order to ensure a safe commissioning, functional testing and maintenance, we recommend installing the following facilities:

- valves upstream and downstream of the governor;
- connections for measuring the pressure upstream and downstream of the governor;
- relief lines upstream and downstream of the governor (for indoor installation only).

1 = Install and connect breather line

Attention: only applicable to flood-proof units.

- Connection G1/2"; line diameter: DN 15 for line lengths up to 3 m; DN 20 for lengths 3 - 5 m; DN 25 for lengths exceeding 5 m.
- Connect relief line to threaded nozzle using approved jointing compounds and lead it above flood level.

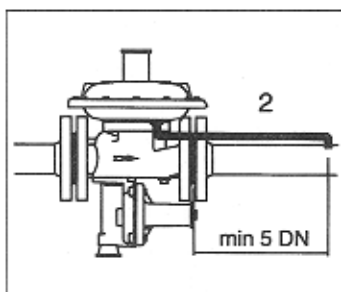


2 = Connect additional sensing line

Attention: only applicable to units with connection plug (order option)

Only connect, if required, e.g. for downstream quick-acting solenoid valves at high flow rates.
Connection thread: G1/8" for MR 25; G1/4" for MR 50.

- Unscrew and remove sealing plug wrench sizes: MR 25 9 mm, MR 50 13 mm.
- Connect and install sensing line.
- Use approved jointing compounds.



Leakproof Test

Attention: The gas governor must not be included when carrying out the leak test for the overall system (if required, insert blinds).

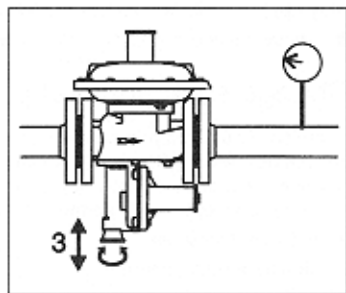
- Pressurize gas governor, inlet: $1.1 \times p_{e \max}$
 outlet: $1.1 \times p_{as \max}$ (however, not higher than 0.5 bar)
 The inlet pressure must always be equal to or higher than the outlet pressure.
- Use detergents at ends of pipe and ends of sensing line to check for leaks.

Attention: Foaming agents that are used as leak indicators should not be allowed to enter into the breathing openings. If required, the passage of the breathing openings should be checked.

Commissioning and functional testing

3 = Release safety shut-off valve (SAV)

- Connect manometer to measure the outlet pressure.
- Open valve upstream of the governor.
- Check slam shut lock up: observe pressure reading; no pressure increase is allowed downstream of the unit.
- Unscrew and remove reset cap.



Only units without under pressure cut off (MR..G, MR..SG, MR..F, MR..SF):

- Slightly pull reset cap; approx. 1 mm, and observe pressure reading. The line downstream of the unit is now pressurizing. The outlet pressure will be stabilized at approx. $1.3 \times p_{as}$.
- Pull reset cap up to the stop and keep holding for approx. 10 seconds.
- Screw down reset cap again.

Only units with under pressure cut off (MR 25 MG, MR 25 MF, MR 25 MF-G):

- Pull reset cap up to the stop and keep holding for approx. 10 seconds, then screw down.
- The under pressure cut off will then open automatically after a waiting time. The time is dependent on the downstream line volume and the inlet pressure at the governor.

Attention: In the case of leaks in the installation, under pressure cut off will remain shut.

- Check lock up of the control valve: observe pressure reading; the outlet pressure must not rise.
- Briefly cause consumption.
- Determine closing pressure: maximum $1.3 \times p_{as}$ for lock-up pressure class 30; maximum $1.2 \times p_{as}$ for lock-up pressure class 20.
- Check slam shut set overpressure: increase outlet pressure via feed line (approx. 1 mbar/s) until the slam shut is actuated. Observe pressure reading.
 Attention: The measuring result will be distorted by a rapid pressure rise.
- Lower outlet pressure and reset slam shut.

Only necessary for MR 25 S..., MR 50 S... (overpressure & underpressure slam shut):

- Close valve upstream of the governor.
- Check slam shut set underpressure. Lower outlet pressure (approx. 1 mbar/s) until the slam shut is actuated. Observe pressure reading.
 Attention: The measuring result will be distorted by a rapid pressure drop.
- Open valve upstream of the governor. Reset slam shut.

Change outlet pressure p_{as}

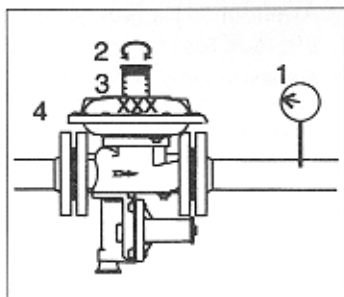
Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.

- Activate consumer or cause consumption.
- 1. Measure outlet pressure.
- 2. Unscrew sealing cap.
- 3. Turn adjusting ring by means of special key or Allen key.
Clockwise: outlet pressure increases.
Anticlockwise: outlet pressure decreases.
- 4. Mark adjusted value of outlet pressure on the unit (xxx).

- Screw down sealing cap.

Only applicable to flood-proof models:

- Check sealing cap O-ring. Screw down sealing cap tight.



Change slam shut set pressures

Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.

- Activate consumer.
- 1. Measure outlet pressure.

Standard models:

- 2. Unscrew sealing cap.
- 3. Turn adjusting ring by means of special key for slam shut overpressure and screw driver for slam shut underpressure.
Clockwise: set pressure increases.
Anticlockwise: set pressure decreases.

- Screw sealing cap tight.
- Test set pressure and set pressures respectively.
- 4. Mark adjusted values of set pressures on the unit (xxx).

Flood-proof models:

- 2. Loosen breather line (Ermeto) on both screw connections. Unscrew and remove sealing cap.
- 3. Turn adjusting ring by means of special key for slam shut overpressure and screw driver for slam shut underpressure.
Clockwise: set pressure increases.
Anticlockwise: set pressure decreases.
- Check sealing cap O-ring. Screw sealing cap tight.
- Test set pressure and set pressures respectively.
- Connect breather line (Ermeto) tight.
- 4. Mark adjusted values of set pressures on the unit (xxx).

