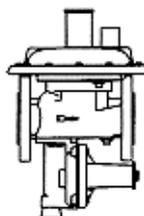


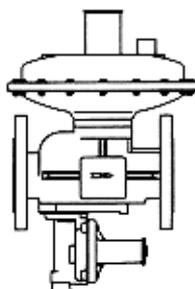
## OPERATING INSTRUCTIONS

for gas pressure regulators PN1 – PN6  
with integrated slam shut valve (SAV)  
and integrated limited capacity safety relief valve (SBV)



**MR 25 F4, MR 25 SF4, MR 25 F-G4, MR 25 SF-G4**  
Fire-resistant,  $p_e$  0.1 - 4 bar,  $p_{as}$  20 - 300 mbar

**MR 25 SF6**  
Nonfire-resistant,  $p_e$  0.1 - 6 bar,  $p_{as}$  20 - 300 mbar



**MR 50 G1, MR 50 SG1, MR 50 F1, MR 50 SF1**  
Fire-resistant,  $p_e$  0.05 - 1 bar,  $p_{as}$  20 - 300 mbar

**MR 50 F4, MR 50 SF4**  
Fire-resistant,  $p_e$  0.1 - 4 bar,  $p_{as}$  20 - 300 mbar

**MR 50 SF6**  
Nonfire-resistant,  $p_e$  0.1 - 6 bar,  $p_{as}$  20 - 300 mbar

For natural gas, town gas, gaseous propane (gases according to G 260 II) and air.

Ambient temperature:  $-15\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$

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:	$p_{e \text{ max}}$	:	according to typeplate
Set outlet pressure:	$p_{as}$	:	according to typeplate
Slam shut setting pressures:	$p_{so}$	:	according to typeplate
	$p_{su}$	:	according to typeplate

We recommend installing a filter upstream of each unit.

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

## Install pressure regulator into the pipeline

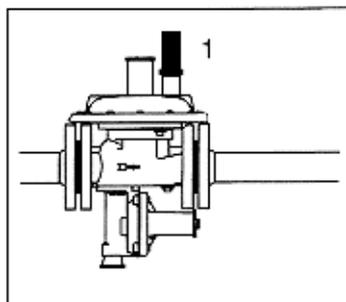
- Remove sealing caps and/or foils from the connecting surfaces.
- The direction of the gas flow must coincide with the arrow on the housing.
- Test and ensure that the inside of the gas lines is clean.
- The pressure regulator can be installed both into vertical and horizontal pipes.  
**Attention!** 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.
- The housing must not touch any surrounding walls.
- Use only approved jointing compounds and approved gaskets.
- No jointing compound should be allowed to enter the gas pipe when installing the pressure regulator.
- Always use an appropriate spanner. Do not use chimney on top of 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 pressure regulator;
- connections for measuring the pressure upstream and downstream of the pressure regulator;
- relief lines upstream and downstream of the pressure regulator (only for indoor-installation).

### 1 = Install and connect relief line (only for indoor-installation)

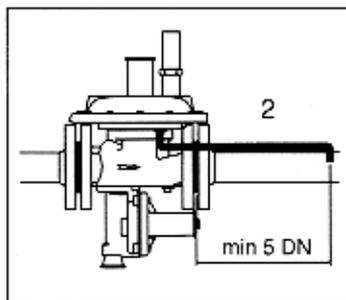
- Connection G1/2"; line diameter: DN 15 for line lengths up to 3 m; DN 20 for lengths 3 - 5 m; DN 25 for lengths exceeding 5 m.
- Connect relief line using approved jointing compounds and lead it outdoors.
- Do not connect relief line with other function lines (if possible) and, as far as possible, use no or only few elbows.



### 2 = Connect additional sensing line

Only connect, if required, e.g. for downstream quick-acting solenoid valves.  
 Connection thread: G1/8"

- Unscrew and remove sealing plug, wrench size 9 mm.
- Connect and install sensing line.
- Use approved jointing compounds.



## Leakproof test

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

- Pressurize gas pressure regulator

inlet:  $1.1 \times p_{e \text{ max}}$

outlet:  $1.1 \times p_{as \text{ max}}$  (however, always lower than 0.5 bar)

The inlet pressure must always be equal to or higher than the outlet pressure.

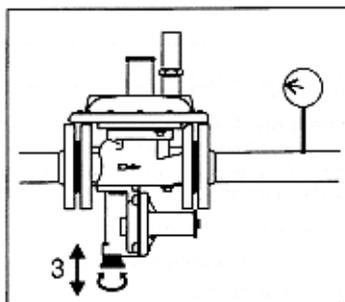
- Use detergents at the connections of pipe and sensing line to check for leaks.

## Putting into operation

### Commissioning and functional testing

#### 3 = Reset slam shut valve (SAV)

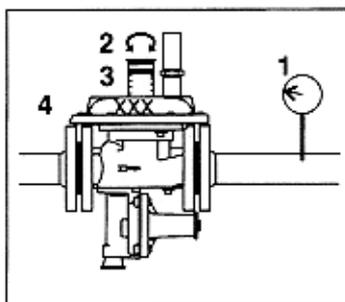
- Connect manometer to measure the outlet pressure.
  - Open valve upstream of the pressure regulator.
  - Close the valve downstream of the pressure regulator.
  - Check slam shut lock up: observe pressure reading; the pressure downstream should not rise.
  - Unscrew and remove reset cap.
  - Slightly pull reset cap; approx. 1 mm, and observe pressure reading. The line downstream of the unit is now pressurizing. The outlet pressure will stabilize at approx.  $1.2 \times p_{as}$ .
  - Remove reset cap up to the stop and keep holding for approx. 10 seconds.
  - Screw down reset cap again.
  - Check lock up of the control valve: observe pressure reading; the outlet pressure should not rise.
  - Cause consumption for a few seconds.
  - Determine lock up pressure: maximum  $1.3 \times p_{as}$  for lock up pressure class SG 30; maximum  $1.2 \times p_{as}$  for lock up pressure class SG 20.
  - Test relief valve set pressure: increase outlet pressure via feed line until the relief valve is actuated. Observe pressure reading.
  - Check lock up of relief valve: without any additional gas supply, the outlet pressure should not fall below  $0.9 \times$  set pressure.
  - Close relief line, e.g. with a plug G 1/2".
  - Check setting of over pressure slam shut: increase outlet pressure via feed line (approx. 1 mbar/s) until over pressure slam shut is actuated. Observe pressure reading.
  - Lower outlet pressure and release slam shut.
  - Open relief line.
- Only MR 25 SF ..., MR 50 SG ..., MR 50 SF ...**
- Close valve upstream of the pressure regulator.
  - Check setting of under pressure slam shut. Lower outlet pressure (approx. 1 mbar/s) until under pressure slam shut is actuated. Observe pressure reading.
  - Open valve upstream of the pressure regulator. Release slam shut. Open valve downstream of the pressure regulator.



## 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 corresponding spring must be mounted.

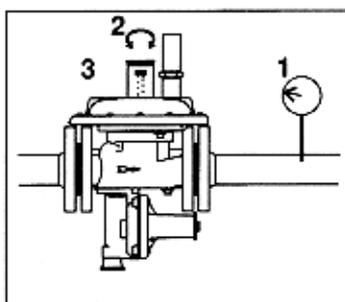
- Activate consumer or cause consumption.
1. Measure outlet pressure.
  2. Unscrew sealing cap.
  3. Turn adjusting ring by means of special key or Allen key.  
 Clockwise: outlet pressure increases.  
 Anticlockwise: outlet pressure decreases.
  4. Mark adjusted value of outlet pressure on the unit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



## Change relief valve set pressure

**Attention!** The relief valve set pressure must always be higher than the lock up pressure of the control valve and lower than the set over pressure of the slam shut.

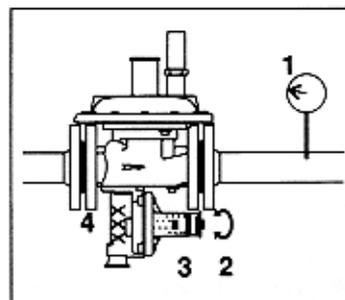
1. Measure outlet pressure.
  2. Unscrew sealing cap.
  3. Turn adjusting ring by means of a screw driver.  
 Clockwise: set pressure increases.  
 Anticlockwise: set pressure decreases.
- Test set pressure.
  - Screw sealing cap tight.



## Change slam shut set pressures

**Attention!** The set pressure ranges are covered by several adjusting springs. In case the desired set pressure cannot be adjusted by means of the built-in spring, the corresponding spring must be mounted.

- Cause consumption for a few seconds.
1. Measure outlet pressure.
  2. Unscrew sealing cap.
  3. Turn adjusting ring by means of a special key for over pressure slam shut and a screw driver for under pressure slam shut.  
 Clockwise: set pressure increases.  
 Anticlockwise: set pressure decreases.
- Screw sealing cap tight.
  - Test set pressure respectively set pressures.
4. Mark adjusted values of set pressures on the unit (xxx).



## **EC declaration of conformity**

In our capacity as manufacturers, we hereby declare that the products MR 25 F6, MR 50 F6, MR25 SF6, MR 50 SF6, marked with identification No. CE-0085BM0201, comply with the fundamental requirements of the following Directive:

- 97/23/EC in conjunction with EN 334.

The relevant products correspond to the types tested by the notified body 0085.

Comprehensive quality assurance is guaranteed by a certified Quality Management System pursuant to DIN EN ISO 9001 according to annex II, paragraph 3 of Directive 90/396/EEC.

Elster GmbH  
Mainz-Kastel