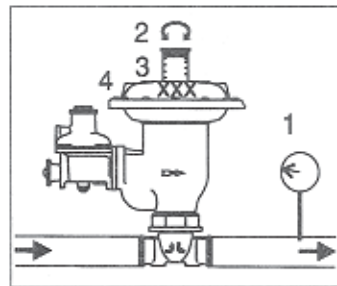


## Change outlet pressure $p_{as}$

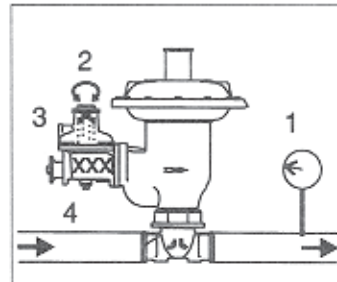
Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.



- 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

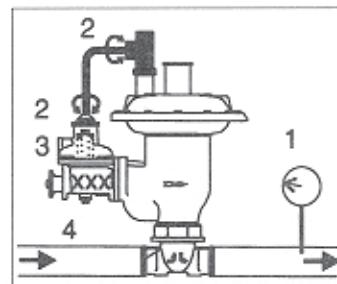
Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.



- 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).

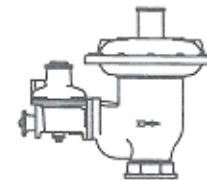
Flood-proof models:

- 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).



06.96/500 engl./6.293/r0

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



MAF 25 EI, MAF 25 EII  
MAF 40 EI, MAF 40 EII  
 $p_e$  0.026 - 1 bar,  $p_{as}$  20 - 300 mbar

MAF 25 ME, MAF 40 ME  
 $p_e$  0.026 - 1 bar,  $p_{as}$  22 - 30 mbar

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

Ambient temperature:  $-20\text{ }^{\circ}\text{C}$  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.

**ATTENTION:**

To ensure the proper operation of the unit, connection pieces are required that have been tested with respect to inside and outside impermeability.

Maximum inlet pressure:  $p_{e\text{ max}}$  : 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 or as indicated in the diagram below.
  - 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 that are not graphitized.
  - No jointing compound must be allowed to enter the gas pipe when installing the governor.
  - Always use an appropriate tool. Do not use chimney on top of the diaphragm housing as a lever.

When using the standard gasket made of REINZ AFM 30 and a straight connection piece to DIN 33822, we recommend the following torques:

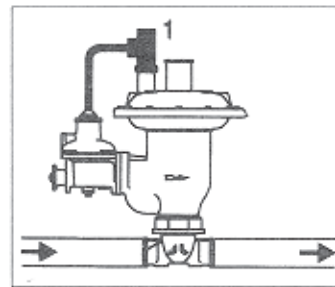
Type / Nominal width	Thread, dry	Thread, greased*
MAF 25 ...	330 Nm	230 Nm
MAF 40 ...	475 Nm	330 Nm

\* The values apply to greases with molybdenum disulfide (MoS<sub>2</sub>).

## 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.

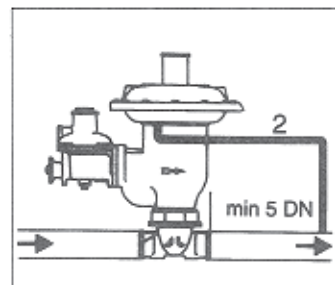


## 2 = Connect additional sensing line

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"

- Unscrew and remove sealing plug wrench size 9 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).

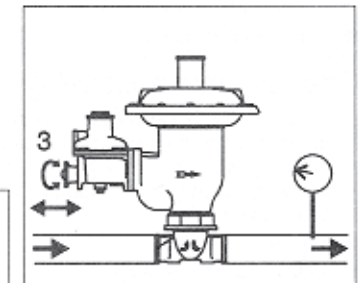
- Pressurize gas governor inlet:  $1.1 \times p_{e \max}$   
outlet:  $1.1 \times p_{as \max}$  (however, not higher than 0.5 bar)  
The inlet pressure must always be equal to or higher than the outlet pressure.
- Use detergents at ends of pipe and ends of sensing line to check for leaks.

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 (MAF 25 EI, MAF 25 EII, MAF 40 EI, MAF 40 EII):

- 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 approximately 10 seconds.
- Screw down reset cap again.

Only units with under pressure cut off (MAF 25 ME, MAF 40 ME):

- Pull reset cap up to the stop and keep holding for approximately 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 downstream installation, the 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 applicable to MAF 25 EII, MAF 40 EII (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.

## 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 or as indicated in the diagram below.
- 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 that are not graphitized.
- No jointing compound must be allowed to enter the gas pipe when installing the governor.
- Always use an appropriate tool. Do not use chimney on top of the diaphragm housing as a lever.

When using the standard gasket made of REINZ AFM 30 and a straight connection piece to DIN 33822, we recommend the following torques:

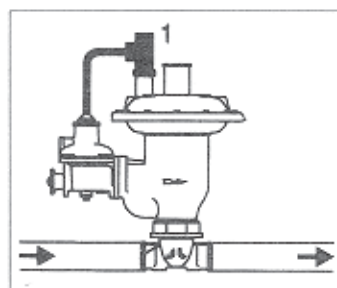
Type / Nominal width	Thread, dry	Thread, greased*
MAF 25 ...	330 Nm	230 Nm
MAF 40 ...	475 Nm	330 Nm

\* The values apply to greases with molybdenum disulfide (MoS<sub>2</sub>).

## 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.

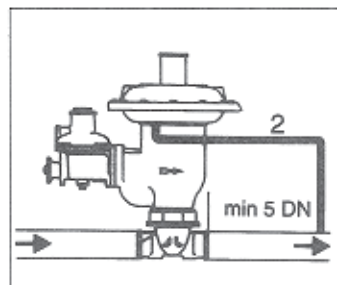


## 2 = Connect additional sensing line

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"

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



## Leakproof Test

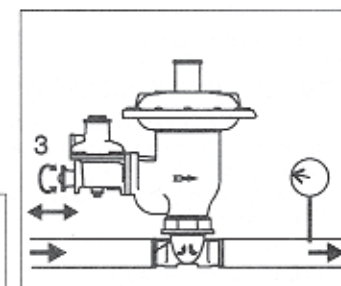
Attention: The gas governor must not be included when carrying out the leak test for the overall system (if required, insert blinds).

- 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 (MAF 25 EI, MAF 25 EII, MAF 40 EI, MAF 40 EII):

- 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 approximately 10 seconds.
- Screw down reset cap again.

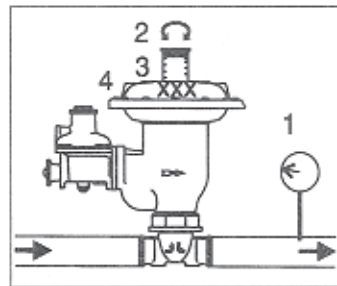
Only units with under pressure cut off (MAF 25 ME, MAF 40 ME):

- Pull reset cap up to the stop and keep holding for approximately 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 downstream installation, the 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 applicable to MAF 25 EII, MAF 40 EII (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 $p_{as}$

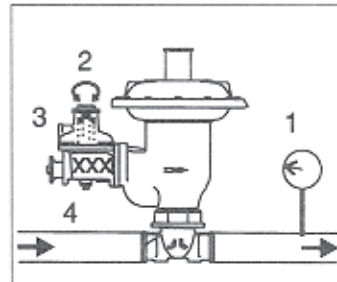
Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.



- 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

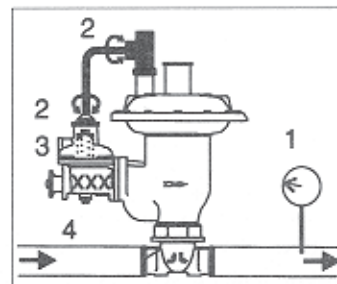
Attention: The outlet pressure range is covered by several adjusting springs. In case the desired outlet pressure cannot be adjusted by means of the built-in spring, the appropriate spring must be mounted.



- 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).

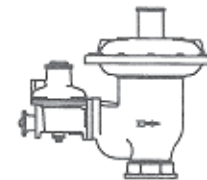
Flood-proof models:

- 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).



06.96/500 engl./6.293/r0

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



MAF 25 EI, MAF 25 EII  
MAF 40 EI, MAF 40 EII  
 $p_e$  0.026 - 1 bar,  $p_{as}$  20 - 300 mbar

MAF 25 ME, MAF 40 ME  
 $p_e$  0.026 - 1 bar,  $p_{as}$  22 - 30 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.

**ATTENTION:**

To ensure the proper operation of the unit, connection pieces are required that have been tested with respect to inside and outside impermeability.

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.