

# INSTALLATION AND MAINTENANCE MANUAL

## Pressure regulator EQA 217

### ATTENTION

This regulator must be installed, operated and maintained according to the standards of the equipment or the place where they are installed and according to this manual.

Any gas leak outside the valve indicates that the gas supply must be shut off and technical assistance must be contacted. Only a qualified technician should install or repair the regulator.

When a replacement or technical assistance is requested, mention the information shown on the identification plate of the regulator (model - serial number – pressures - orifice diameter - flow).

### INSTALLATION

Before installing the regulator, check it for any damage on shipping. Be sure there is no dirt inside its body.

**Vent inlet pipe several times until no particles appear.** (This is the main cause of failures in start-ups).

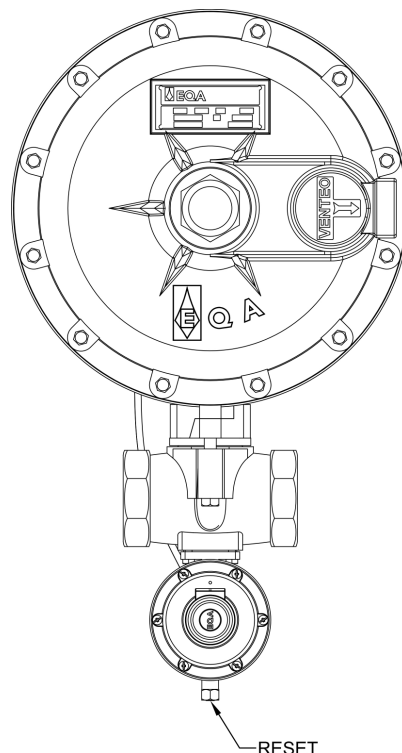
The regulator can be installed in any position. Gas circulation must coincide with the arrow on valve's main body. The vent hole should not be obstructed or exposed to rain or dust (if necessary, place a vent pipe to the outside). It should also be protected from vehicular traffic. The venting hole must be checked periodically to verify it has no obstructions.

It is recommended to have a dual regulation piping to avoid a gas interruption while doing maintenance or reparations.

### START-UP

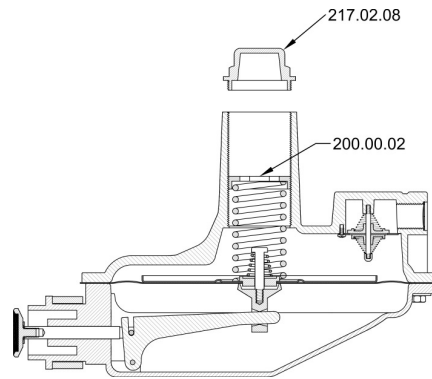
It is recommended to use suitable manometers to monitor inlet and outlet pressures while doing this procedure.

- 1- Open gas upstream valve slowly. The regulator usually starts working
- 2- If there is no outlet pressure, regulator must be reset (\*) in this way: Close all valves and release the pressure that could be trapped between valves and regulator. Open gas upstream valve. Unscrew RESET and pull from it until downstream pipe pressurizes. When pressure is high enough the shutoff will open. Screw the RESET again and open downstream valve.
- 3- Check all connections for possible gas leaks.



## ADJUSTMENT

There is a nut to adjust outlet pressure. Remove the cover (217.02.08), then turning the spring pusher nut (200.00.02) clockwise, outlet pressure will increase, turning it counter-clockwise, outlet pressure will decrease.



**Attention:** If you increase the outlet pressure, security elements such as relief valves, shutoff valves or pressure switches may act in case of overcoming their pressure settings.

The identification plate of the regulator should also be updated to avoid possible confusions.

## REPLACEMENTS

They must be ordered according to the part numbers shown on the drawings and the serial number shown on the identification plate of the regulator.

## MAINTENANCE

### ATTENTION

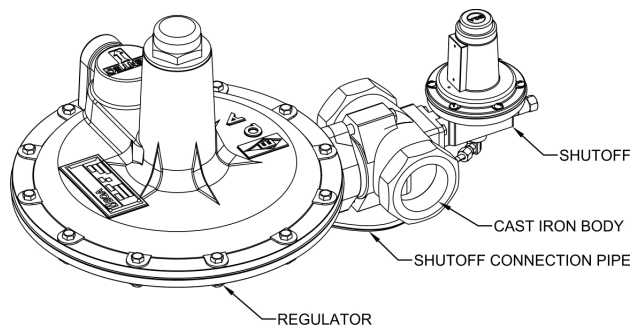
Before disassembling the regulator close upstream valves and release accumulated pressure.

Due to normal wear and tear that could occur in any gas regulator, certain elements should be regularly checked and replaced if necessary.

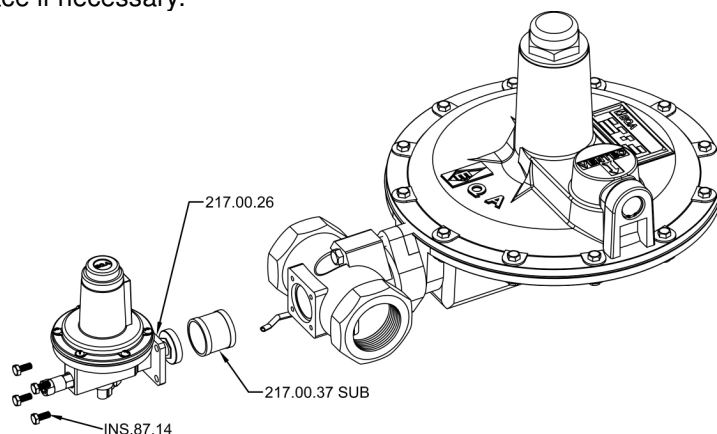
The frequency of inspections depends on the intensity of usage or as indicated by the corresponding standard.

## INSPECTION AND PART REPLACEMENT

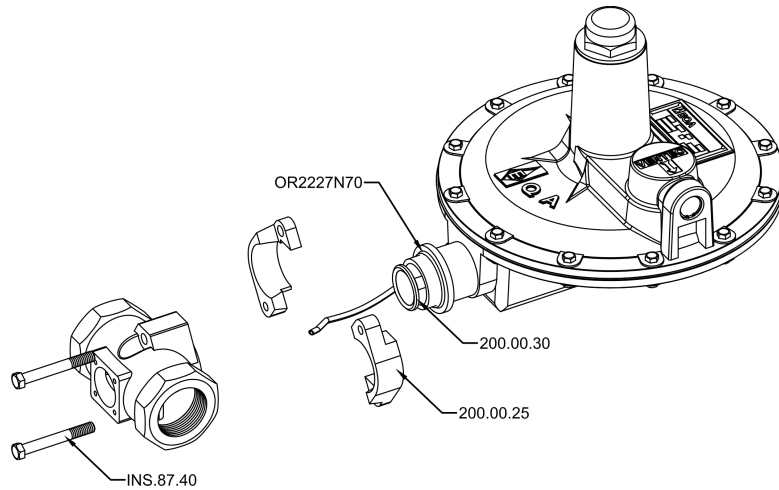
1- Remove connection pipe between regulator and shutoff.



2- Untight and remove screws (INS.87.14) that fix the shutoff to the cast iron body. Remove shutoff and gas filter (217.00.37 SUB). Verify gas filter and replace if necessary.

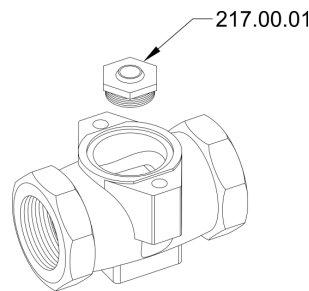


- 3- Untight and remove the 2 screws (INS.87.40) that fix the cast iron body to the diaphragm box of the regulator.
- 4- Remove the flange (200.00.25) and pull apart the diaphragm box of the regulator from the cast iron body.
- 5- Check the rubber seat (200.00.30). If it is scratched or has any particle that can not be removed, the rubber seat must be replaced. To do that, unscrew it and put a new one keeping the washers (INS.26.67) in case it has.



6- Check orifice (217.00.01). If it is scratched, it must be replaced keeping the same diameter. To replace it, follow the steps below:

- a) Untight and remove orifice (217.00.01) using a 1-5/8" socket wrench.

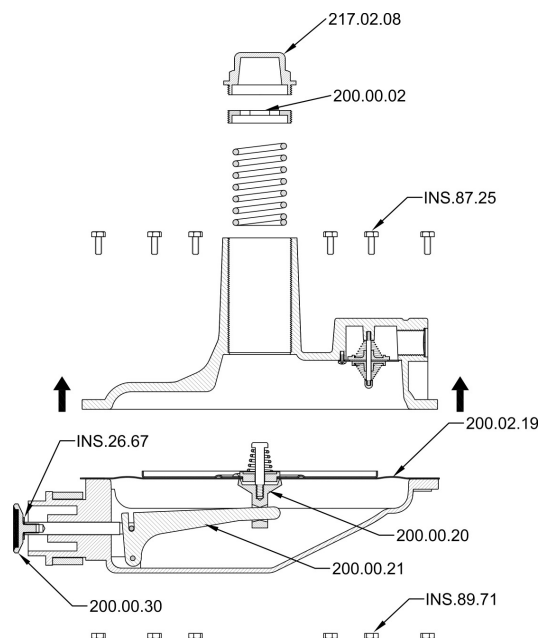


- b) Remove remaining adhesive inside the body (**Very important**).
- c) Put the new orifice (217.00.01). Fix it using a low torque thread sealing adhesive and a 1-5/8" socket wrench.

7- To replace rubber diaphragm (200.02.19) remove cover (217.02.18). Measure the position of the spring pusher nut (200.00.02) and then remove it. Untight and remove the twelve screws (INS.87.25) that fix the diaphragm cover. Remove the diaphragm (200.02.19). It is possible to replace the whole diaphragm assembly (KIT) or just the rubber diaphragm (200.02.19).

When assembling, ensure the lever (200.00.21) fits inside diaphragm holder (200.00.20).

Put the twelve screws (INS.87.25) and nuts (INS.89.71). Before tighten them, put the spring and the spring pusher nut and turn it five (5) turns clockwise. Then tighten the twelve screws (INS.87.25). Finally turn the spring pusher nut (200.00.02) until it reaches the measured position.



8- Reassemble the regulator and the shutoff. Verify joints (OR2227N70) and (217.00.26). Replace if necessary. Evenly adjust the two flange screws (INS.87.40) and the four screws (INS.87.25) that fix the shutoff to the cast iron body. Both adjustments must be done with low torque as the seal is done by the o'ring (OR2227N70) and the joint (217.00.26) respectively.

Put the connection pipe between the regulator and the shutoff and proceed as read on START-UP.

9- Put the regulator in service again and check there are no gas leaks in each of the disassembled parts.

### Gas filter cleaning

It is possible to clean the gas filter without disassembling the regulator. To do that, follow the steps below:

- a) Close upstream gas valve and vent the pipe
- b) Remove connection pipe between shutoff and regulator.
- c) Remove the four screws (INS.87.14) that fix the shutoff to the cast iron body. Then remove the shutoff and the gas filter (217.00.37 SUB).
- d) Clean or replace the gas filter.
- e) Fix the shutoff to the cast iron body using the four screws (INS.87.14). Verify the joint (217.00.26) before tightening.
- f) Put the connection pipe between regulator and shutoff.
- g) Put the regulator in service again as read on START-UP. Check there are no gas leaks in each of the disassembled parts.

