

GSR-EX SERIES

INTRODUCTION

The two stage self-driven pressure regulators series GSR are designed for use in a wide range of both domestic and industrial applications and can also be mounted in individual domestic gas systems and meters.

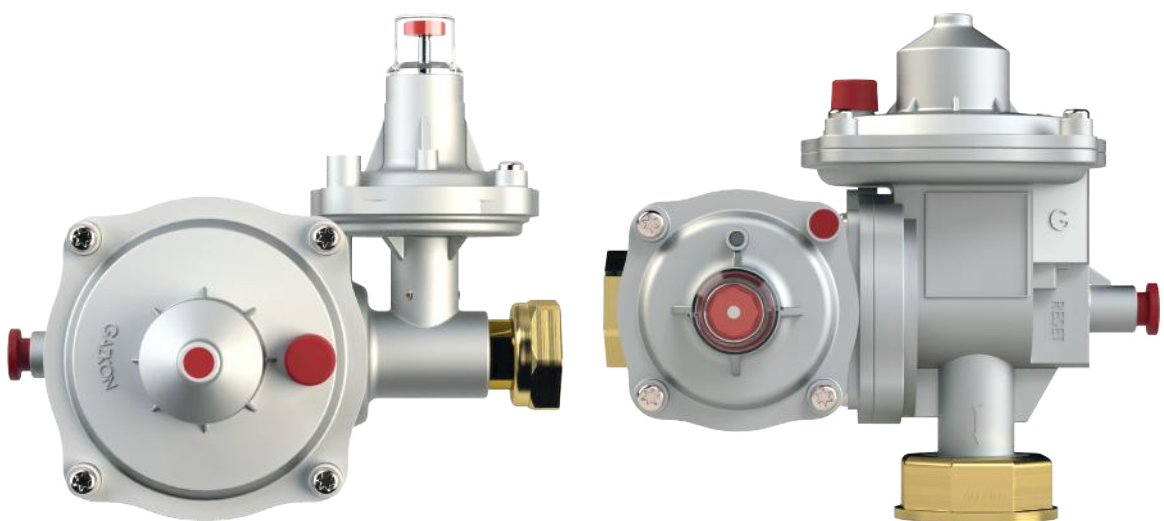
The regulator can be employed with natural gas, manufactured gas, air propane and other gases are not corrosive.

Their main features include compact size for space saving, high-quality materials, high regulation accuracy, easy setting and maximum reliability of safety devices.

The regulators can also be installed both outdoors and indoor applications with safety. The internal relief valve vent can be conveyed outside in case of installation with closed rooms or for underground plants.

Thanks to the concept of double regulation stage, it is possible to achieve a high accuracy; high operating reliability. Simple installation procedure.

The regulator are manufactured according to TS 10624.



Inlet Pressure 0,5 - 6 bar

Outlet Pressure 15 - 350 mbar

AC / RG 10 / 20

Ambient Temperature -20°C to +60°C

OPERATION

The gas at working pressure initially flows top the inlet connection, then through the filter and onto the first stage where pressure is reduced to 0.3 bar. Gas is subsequently conveyed to the second stage where pressure is reduced to the desired value.

The first stage regulator includes a diaphragm, a spring and a valve. Gas lows through pad-holder and then into chamber 1.stage at reduced pressure. Reduction value is preset and depends on the load of spring, which is normally set at 0.2 bar.

The seconds-stage regulator includes a diaphragm, a spring and a valve. The gas in chamber 1.stage flows into chamber 2. stage and then to utilities. Outlet pressure can be adjusted by means of ring nut.

Valve travel is limited by excess flow valve, thus limiting regulator capacity. Whenever the demand for gas exceeds %110 of regulator nominal capacity, excess flow valve shuts the flow.

-Increases in outlet pressure due to defective seal of regulator when closed cause relief valve opening, thus releasing gas to atmosphere.

-The relief valve is also useful in compensating for increase in pressure due to solar heating in regulators mounted in outdoor individual domestic gas systems when capacity is zero. Relief valve triggering value, corresponding normally to 10 mbar above outlet pressure, cannot be adjusted.

Safety Shut-off (UPSO/OPSO) System

The GSR MX safety shut-off system (UPSO/OPSO) keeps users safe by cutting off gas flow when the outlet pressure exceeds safe limits. The system functions like a safety valve and automatically activates when the outlet pressure exceeds the high-pressure (OPSO) setpoint. Similarly, it automatically cuts off gas flow when the outlet pressure falls below the low-pressure (UPSO) setpoint. When the Safety Shut-off system (UPSO/OPSO) shuts off the gas, manual reset is required to re-enable the regulator. The system has an independent shut-off mechanism and continuously monitors changes in outlet pressure, with a response time of less than 2 seconds. High-pressure shut-off (OPSO) can occur for the following reasons:

- a) Exceeding the outlet pressure relief setpoint
- b) Damage to the 1st-stage diaphragm
- c) Disruption of regulator settings due to external interference

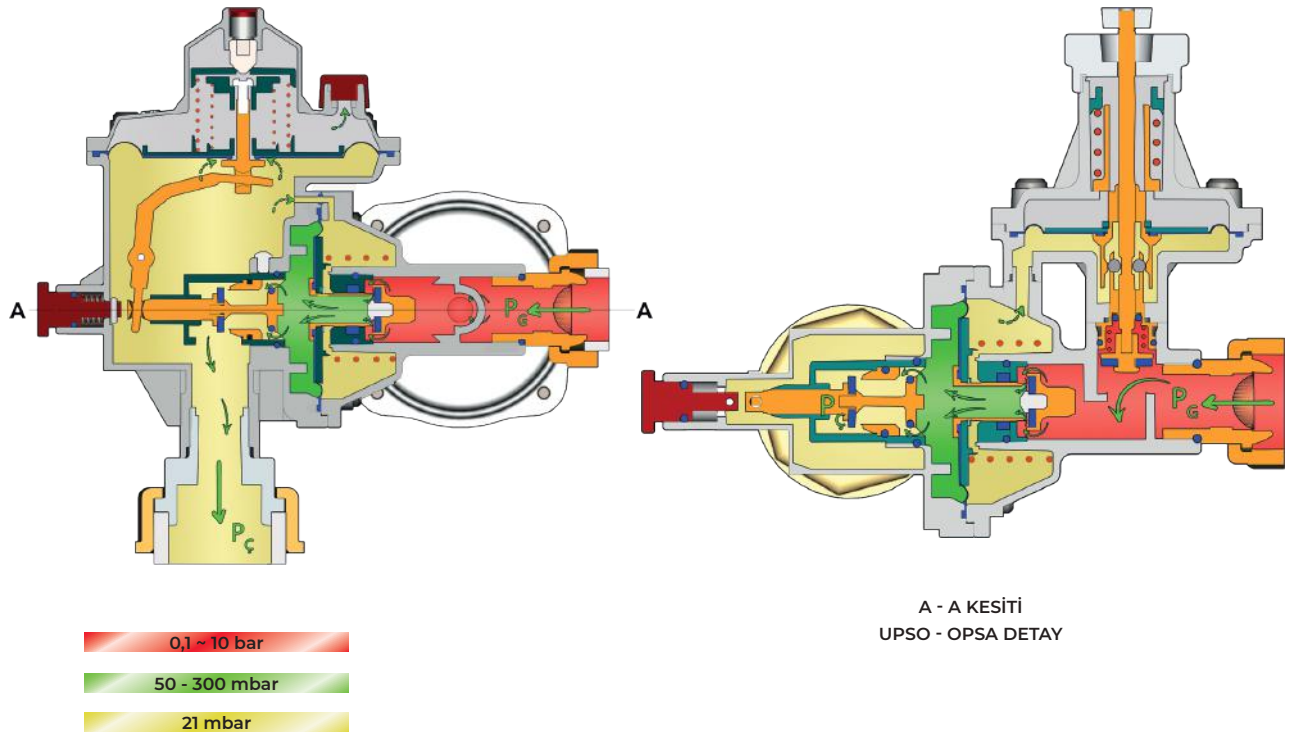
To prevent unnecessary activation of the high-pressure safety system, the regulator is equipped with a relief system. Particularly on hot days with no gas draw, it is normal and necessary for some gas to be released from the relief valve.

Low-pressure shut-off can occur in the following situations:

- a) Excessive drop in outlet pressure
- b) Gas interruption in the inlet line
- c) Excessive capacity utilization on the outlet side
- d) Inlet filter blockage due to contamination

The low-pressure safety system can also be triggered in situations with sudden gas draws. Therefore, during the installation phase, it is essential to ensure an adequate volume of gas is supplied at the regulator outlet.

GSR-EX



MATERIALS

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|-------------------|-------------------|
| BODY AND HEADS | Die-Cast Aluminum |
| INTERNAL PARTS | Brass |
| DIAPHRAGM NITRILE | Nitrile Rubber |

DIMENSION AND WEIGHTS

