

New: The Elster Medium-Pressure 2-Stage Regulator **M2R**

As a result of the change in the German domestic regulator market from one-stage to two-stage regulators, a completely new generation of two-stage regulators has been developed in Mainz-Kastel.

Two-stage gas regulators have been mass-produced for the German market since 1997. From the very beginning, this device was designed in such a way that it was also possible to produce international versions alongside the standard German versions with regard to connections and fittings.

The requirements of the international markets also meant that we had to develop a very lightweight, highly-integrated and extremely compact device. This was only possible because we used cast aluminium instead of the normal spheroidal graphite iron.

The modular concept of the device enables us to react in a flexible way to the changing demands of the market and to customise the device. Besides the internationally standard form of the angled connection (Fig. 2) for a compact cabinet installation, other connection possibilities common to Germany and a variety of European countries are also available:

- flange inlet/outlet (Fig. 1)
- thread inlet/outlet
- flange inlet/thread outlet
- coaxial
- coaxial meter

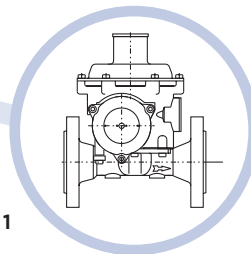


Fig. 1

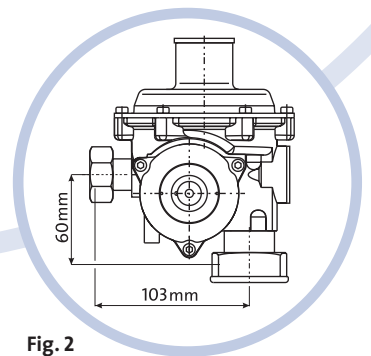


Fig. 2

The international version of the M2R comes with a slam-shut valve (SSV), a relief valve and a low-pressure cut-off valve (LPCO) as standard features. The LPCO acts also as an excess flow valve. In order to reset the device manually, there is an easily accessible reset button.

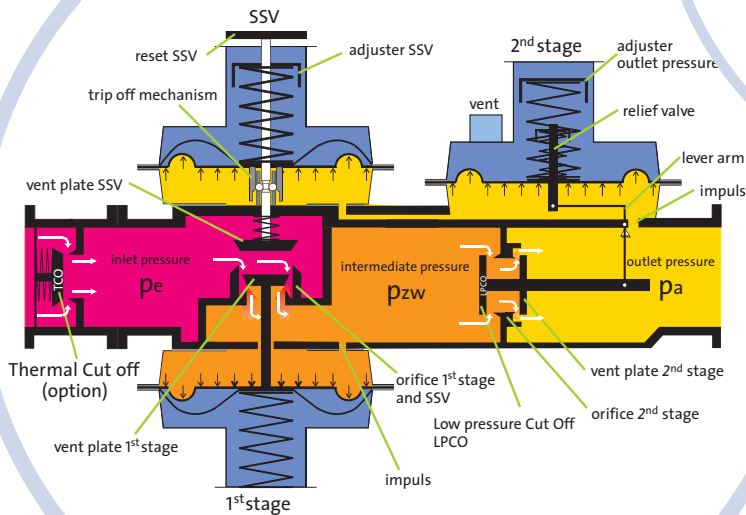


Fig. 3

Function

By combining a 1st stage, which operates directly, and a 2nd stage driven by an angled lever it is possible to achieve a highly accurate outlet pressure regulation over the entire inlet pressure range of 0.3 to 5 bar. The outlet pressure can be varied between 20 and 30 mbar.

The SSV is attached to the inlet side of the 1st stage orifice to prevent unduly high outlet pressure (Fig.3). The valve is activated by a ball driven mechanism. The large reset cap of the SSV, which is a major feature of the outer appearance of the regulator, provides a simple and easy-to-use reset. Hidden behind the reset cap, there is a special mechanism which enables the SSV setting to be changed at any time on site. To do this, the pins of a special tool have to be pushed through the two holes in the reset cap. If the tool is then turned, the tension of the adjustment spring and thus the cut off point can be changed (Fig. 4).

A further safety element to ensure the permissible outlet pressure is not exceeded is the limited capacity relief valve, which is integrated in the 2nd stage diaphragm.

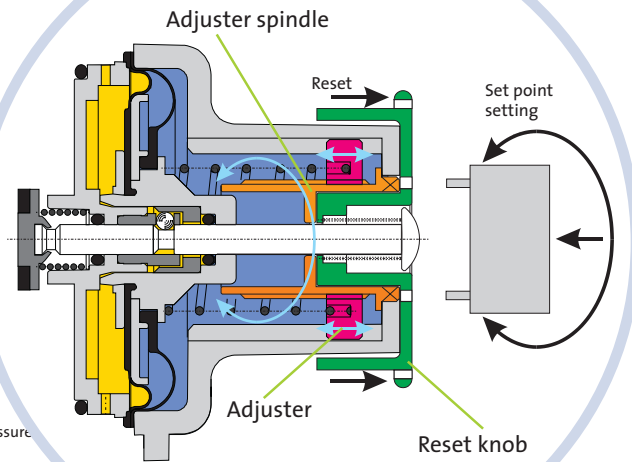


Fig. 4

The low pressure cut-off valve is built into the 2nd stage and ensures that the outlet pressure does not drop below the stipulated minimum pressure. It also acts as an excess flow valve and shuts off the gas flow when the load range is exceeded. By pressing a reset button above the outlet, the LPCO is once again open.

If the device is to be installed indoors, it is possible to fit a thermal cut-off valve in the inlet connection. In the case of fire, this valve then shuts off the supply of gas to the regulator.

Application

The flow capacity is customised for domestic use for the supply of one or more meter units (Fig. 5).

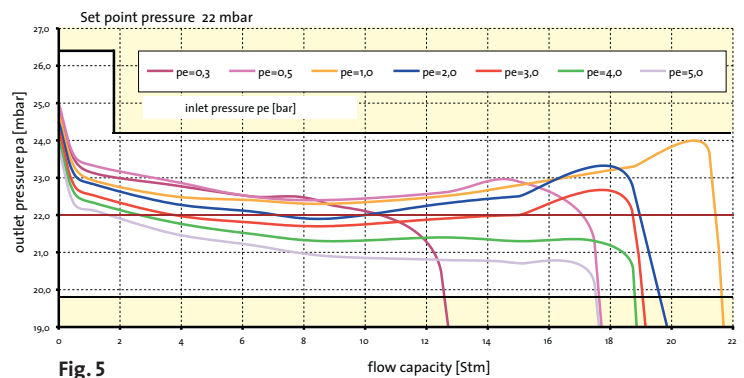


Fig. 5

The basic device and a number of the options described here have been tested and approved by the DVGW in accordance with the standards for gas regulators DIN 33 822/VP 200.

If you require any further information, please download the datasheet from our internet site www.elster-amco.com or contact B. Wientzek, e-mail: wientzek@elster.com.

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