

REDUCING REGULATORS

SR SERIES

FEATURES

- Body valve and valve seat (models 6, 8 and 12): cast iron G20
- Body valve and valve seat (models 20 and 24): cast iron G20
- Valve disc: "O" ring on aluminium
- Valve stem: AISI 303
- Diaphragms: nitrile rubber/nylon
- Max. operating pressure: 1.5 bar
- Max. operating temperature: 65°C
- Max. turndown range: 200:1
- Safety lock valve: (on request for mod. 6, 8 & 12)

APPLICATIONS

- Reducing pressure gas systems.
- Burner gas inlet pipes.
- Pressure stabilization in gaseous fuel pipes.

DESCRIPTION

The SR series reducing regulators operate with inlet pressure in the range of 70 mbar and 1.5 bar and delivery pressures from 10 mbar to 350 mbar.

The upper diaphragm chamber is normally vented to atmosphere while the lower diaphragm chamber, by means of the vent connection, is subject to outlet pressure. The vent connection is designed so that its area equals the effective area of the valve disc. Fluctuations in inlet pressure are thus counter-balanced by the two equal areas.

A compression spring loads the main diaphragm with an adjustable force which places the valve in its normal position. When the outlet pressure under the main diaphragm equals the spring load, a balance of forces occurs to move the diaphragm and the valve assembly towards the closed position and maintain a constant delivery pressure.

As changes in flow are required by the connected system, there will be slight changes in the outlet pressure and a minor unbalance in forces on the main diaphragm. This large sensitive diaphragm will move either up or down, as required to restore the force balance.

SR6, SR8 and SR12 regulators may mount a safety lock valve which interrupts the fuel flow.



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INSTALLATION

Regulators must always be mounted in a stem-up position, in a horizontal line, as close as practical to flow control point. Any other mounting position will cause a malfunction. The arrow cast on the side of the valve body indicates direction of flow.

Regulators should be installed in areas where operating temperatures do not exceed 65 °C. Special high temperature (up to 370°C) regulators are available where this is not practical.

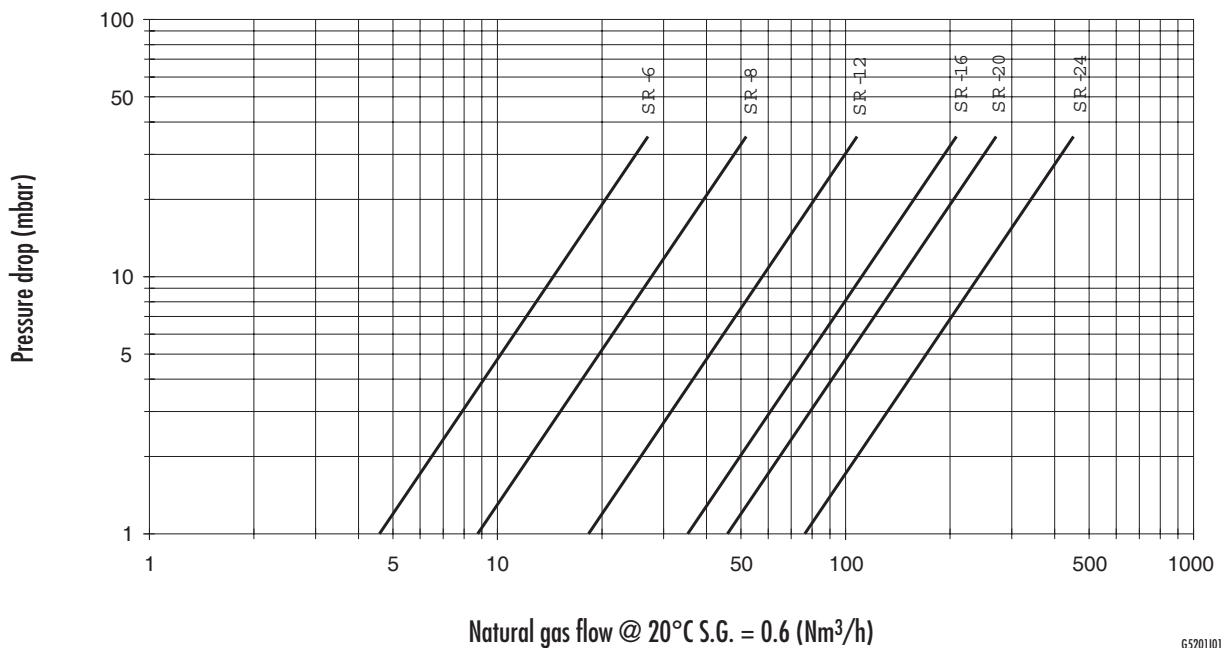
Outlet piping should be at least the same size as the regulator connection. At least five diameters of straight pipe must be allowed between the regulator and the first downstream valve or fitting. Approved pipe joint compound should be used on all connections to prevent leaks. Models SR16, SR20 and SR24 have flanged connections on both sides to simplify replacement should repairs ever

become necessary. Models SR6, SR8 and SR12 have threaded connections. All gas line should be tested for leaks.

The top diaphragm cover has a tapped hole for a factory installed bleed vent plug or loading tube connection. Do not install a solid pipe plug in this connection. Venting of the top diaphragm chamber may be required. Vent piping, if installed, must be without traps and preferable pitched away from the regulator and protected against stoppage.

Outlet pressure of regulator is dependent on spring compression. Adjustment screw is under stem cap. With a pressure gauge installed in outlet pipe, position slotted spring adjustment plug for desired pressure. Screw down (into housing) to raise pressure and up (out of housing) to lower pressure.

CAPACITY TABLE

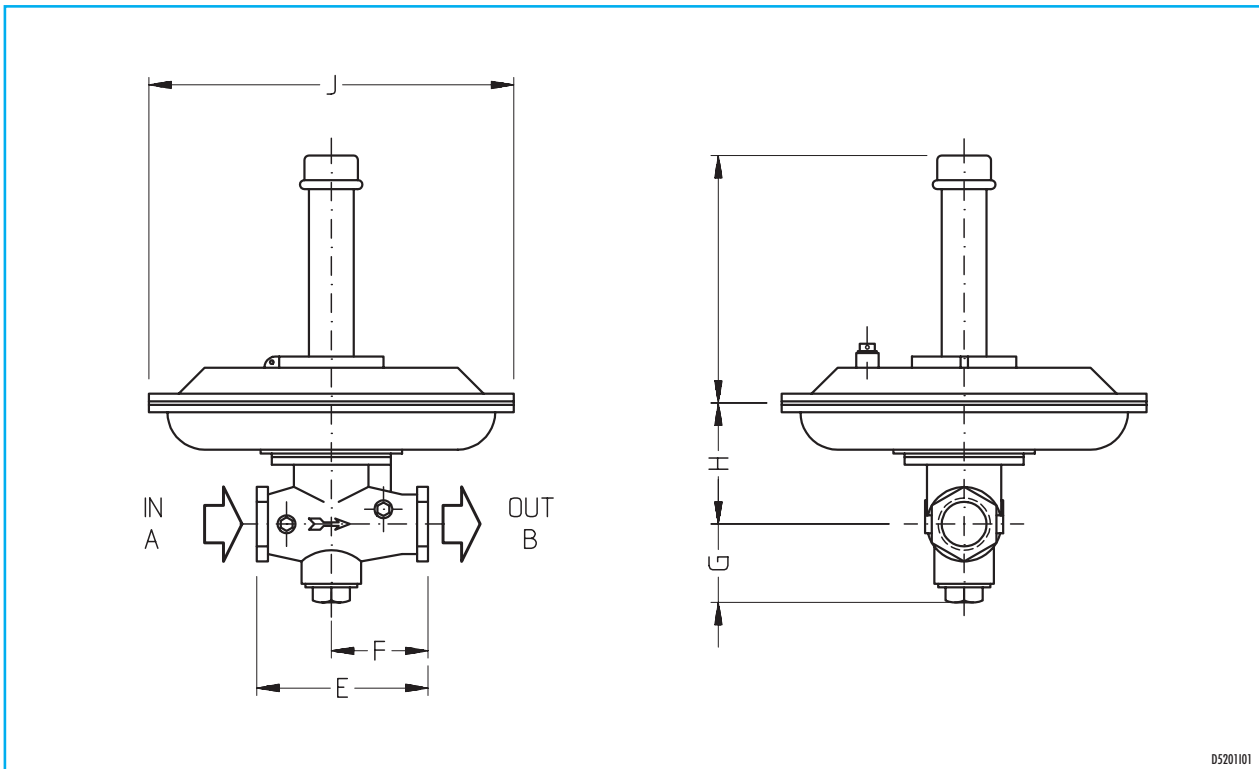


SPRING RANGES

1. Select spring for each regulator based on required system delivery pressure. Minimum pressure drop across regulator 36 mbar.
2. Outlet pressures between 210 and 350 mbar, for model SR20 to model SR32, are obtained from models with pilot regulator (PC).

Spring no.	Outlet pressure range		
	Min	Max	Available for
4	5 mbar	20 mbar	from SR6 to SR32
16	18 mbar	70 mbar	from SR6 to SR24
48	53 mbar	210 mbar	from SR6 to SR16
80	132 mbar	350 mbar	from SR6 to SR8

DIMENSIONS



Catalog no.	In	Out	E mm	F mm	G mm	H mm	I mm	J mm	Mass kg
SR 6	G - 3/4"	G - 3/4"	127	64	47	73	193	209	4
SR 8	G - 1"	G - 1"	120	60	50	70	193	248	5
SR 12	G - 1.1/2"	G - 1.1/2"	165	76	82	102	195	248	7
SR 16	G - 2"	G - 2"	193	92	92	102	216	248	8
SR 20	G - 2.1/2"	G - 2.1/2"	216	101	89	133	205	355	24
SR 24	G - 3"	G - 3"	292	146	112	152	205	355	29

NOTE: Based on the company's policy aimed at a continuous improvement on product quality, ESA-PYRONICS reserves the right to bring changes to the technical characteristics of this device without previous notice. Our catalog updated to the latest version is available on our web site www.esapyronics.com and it is possible to download modified documents

WARNING: When operating, this combustion system can be dangerous and cause harm to persons or damage to equipment. Every burner must be provided with a protection device that monitors the combustion. The installation, adjustment and maintenance operations should only be performed by trained and qualified personnel.