



SELF-OPERATED PRESSURE REGULATORS

PRESSURE REDUCING VALVE MODEL **M2**

MAIN FEATURES

Self-actuating pressure reducing valve balancing by diaphragm used to provide a constant downstream still there being oscillations in inlet pressure.

Valve closes when outlet pressure increases.

This series of regulators is suitable for steam, compressed air, non-hazardous gases and liquids.

Actuator mounts diaphragm with intermediate reinforced lining.

Outlet pressure regulating range between 0,02 and 8 barg with different actuators.

Condensation tank (pot) is available and necessary for steam or fluid upper to 125°C, to protect the diaphragm against overheating.

The pressure reducing valve is not a safety valve, and then if necessary, an overpressure protection must be installed.

Max. permissible upstream pressure	25 barg
Max. permissible temperature	-10 to 80°C (gases and liquids) Up 180°C (steam)
Sizes	DN15 to DN100
Body material	Nodular Iron (GGG40.3) Carbon steel (GSC25N) Stainless steel (1.4408)
Connections	Flanged DIN PN16-PN40 Flanged ANSI 150 / 300 Threaded BSP / NPT, consult
Trim material	Stainless steel Aisi 316L
Diaphragm Material	EPDM -40°C to 125°C EPDM + PTFE 125°C to 180°C
Seal material	NBR, EPDM, PEEK,... Graphited PTFE

M2 valves are perfectly suitable for controlling gases in the temperature range between -20 and +80°C (or 0 to 180°C when soft seal is PTFE+GR and diaphragm EPDM+PTFE).

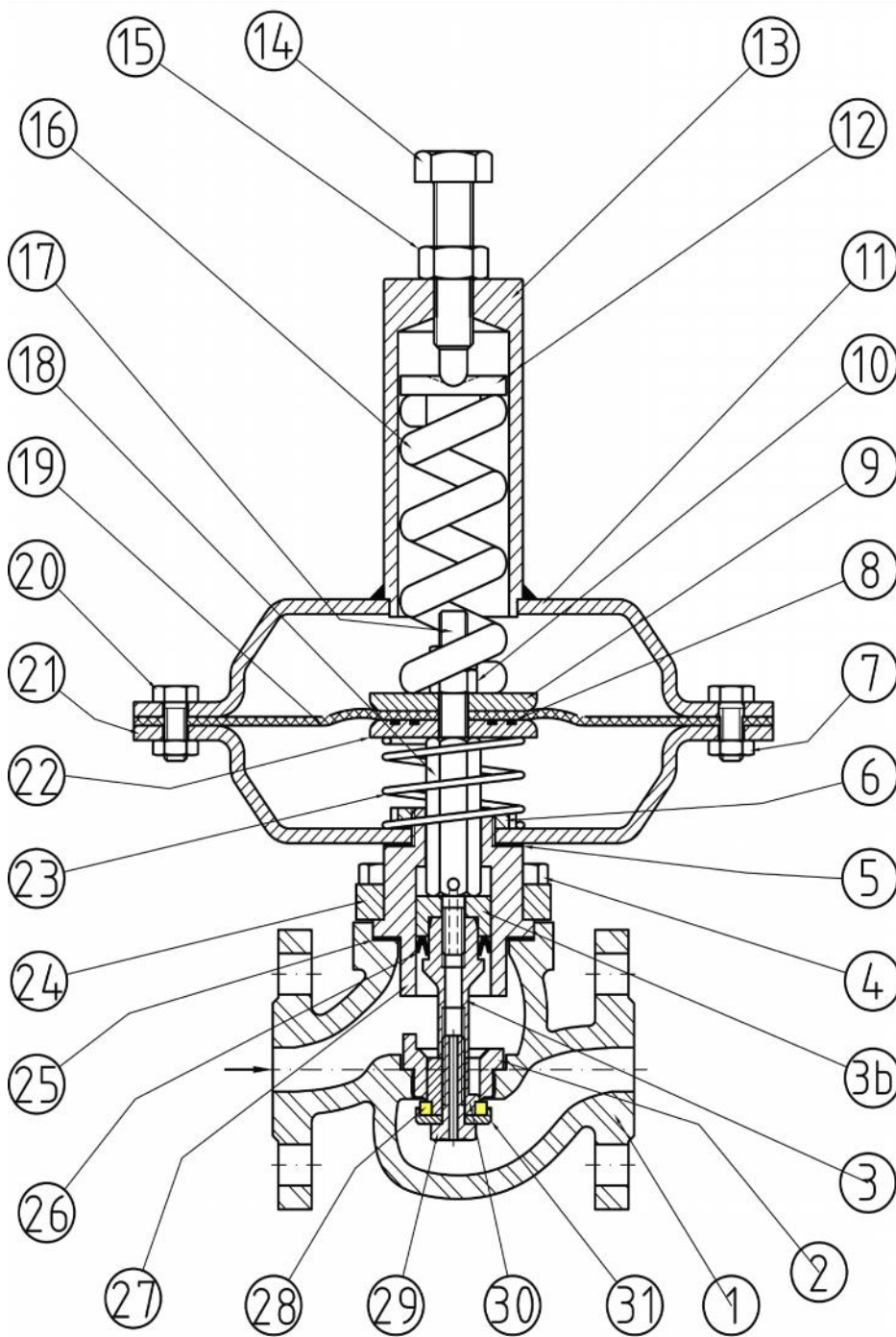


Common uses

Chemical laboratory installations, waters distribution systems, installation of waste water, industrial, compressed air, sprinkler systems, fuel-oil, fire protection, inert gas protection,...

Special features

Steam installation up 180°C for steam, actuator, Stainless steel AISI316 actuator, Stainless steel AISI 316 trims, special soft-seals, external control line could be replaced by internal set (not for steam)...

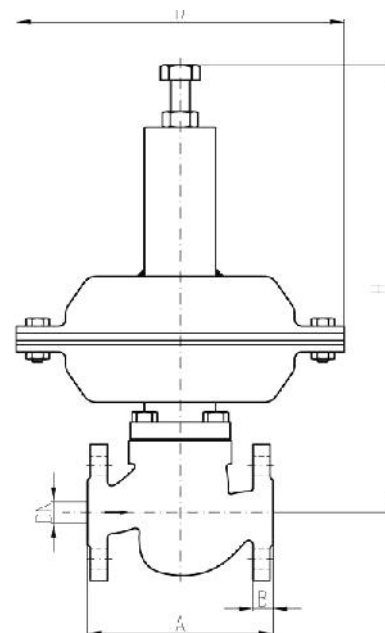


OPERATING

Medium flows through the valve as indicated by the arrow and force stem-piston-gasket (3 – 26 – 3b) to close the valve.

Outlet pressure is controlled rotating the screw (14) in clockwise direction. This causes displacement of the spring (16), which itself acts on the membrane (19) and closing (30 and 31) opening the valve until it reaches the required downstream pressure.

Any variation on the upstream pressure will be absorbed by reducing by compensating piston (26) and downstream by the diaphragm (19).



DN	15	20	25	32	40	50	65	80	100	
Kv value	3,5	5	9	13,5	22	32	57	82	115	m ³ /h
A (EN PN40)	130	150	160	180	200	230	290	350	350	mm
A (ANSI 150 LB)			7,25	-	8,75	10	10,86	13,88	352,5	In.
A (ANSI 300 LB)			7,76	-	9,25	10,5	11,5	14,49	368	In.
H	315	315	325	325	360	360	390	390	410	mm
Aprox. Weight	8	9	12	13	15	20	30	42	55	kg

Available on request



Description	Material	Description	Material
1 Body	Nodular Iron EN-JS1049 (GGG40.3), Bronze RG10, Carbon Steel 1.0619 (GSC-25N), Stainless steel 1.4408 (CF8M)	16 Regulation spring	Spring steel 52SiCrNi5
2 Seat	Stainless steel 1.4404 - SS 316L	17 Screw	A-2 Stainless steel
3 Stem	Stainless steel 1.4404 - SS 316L	18 Stem	Stainless steel 1.4404 - SS 316L
3b Bushing Guide	Stainless steel 1.4404 - SS 316L	19 Diaphragm	EPDM / EPDM+PTFE
4 Screw	Stainless steel A-2	20 M8 Screw	A-2 Stainless steel
5 Gasket	PTFE	21 Lower actuator	- 1.0335 (Steel sheet with epoxy paint) - Stainless steel sheet AISI 316L
6 Nut	Stainless Steel AISI 316L	22 Lower support dia.	Stainless steel 1.4404 - SS 316L
7 Nut	A-2 Stainless steel	23 Support spring	Stainless steel Aisi 302
8 O-ring	NBR / Viton / EPDM	24 Cover	Galvanized Steel 1.1141
9 Support spring	1.0035 sheet steel galvanized	25 Gasket	Graphite
10 Nut	A-2 Stainless steel	26 Gasket	Graphited PTFE + St. Steel spring
11 Upper Actuator	- 1.0335 (Steel sheet with epoxy paint) - Stainless steel sheet AISI 316L	27 Guide Stem	Stainless steel 1.4404 - SS 316L
12 Spring guide	1.1191 - Carbon Steel galvanized	28 Seal	Graphited PTFE
13 Spring cover	- 1.1191 Carbon Steel epoxy painted - Stainless Steel AISI 316L	29 Seal screw	A-2 Stainless steel
14 Regulation screw	8.8 - Carbon steel	30 Guide seal	Stainless steel 1.4404 - SS 316L
15 Regulation nut	8.8 - Carbon steel	31 Support seal	Stainless steel 1.4404 - SS 316L
		Recommended spare parts	

Approximate pressure ranges and actuator sizes

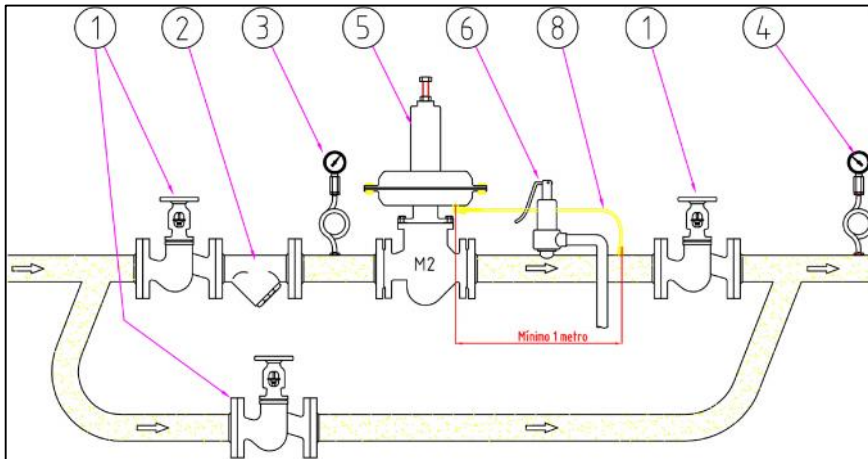


DN	15	20	25	32	40	50	65	80	100
20 - 40 mbar	D350				-	-	-	-	-
30 - 100 mbar	D295				D350		-	-	-
0,08 – 0,3 bar	D295						D350		
0,2 – 2 bar	D230						D295		
0,8 – 3 bar	D195						D230		
2 – 8 bar	D175						D195		
5 – 20 bar	D175 - CONSULTAR						D175 - CONSULTAR		

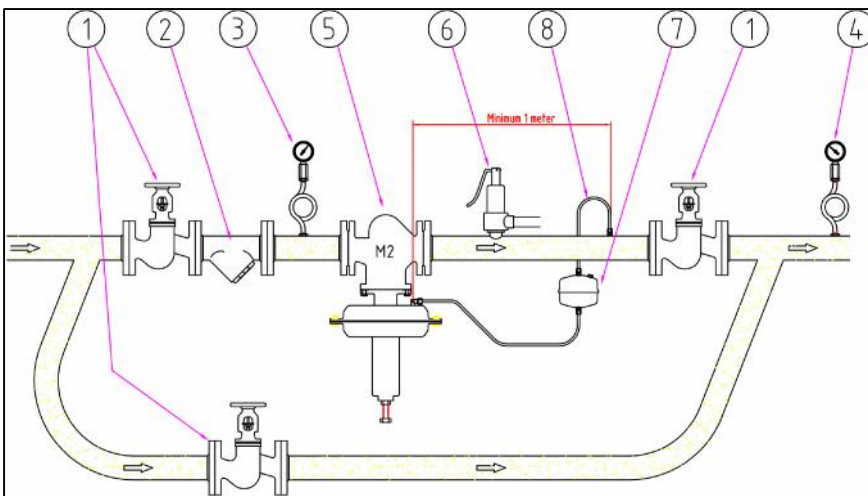


INSTALLATION

If you install the valve into a bypass, which is highly recommended, it must be spliced back to the main pipe behind the pressure tapping and check valves with the scheme:



Liquids and neutral gases scheme (impulse pipeline optionally under request)



Steam scheme (impulse pipeline mandatory)

M2 valve should be installed in horizontal pipe and respecting the fluid flow direction must match the arrow on the valve body.

Steam installations, the actuator must be installed like lower figure, in low position. Tank is essential when temperatures above 120°C to protect the diaphragm from overheating. The tank is always placed in the highest point of the pipe.

The strainer (item 2) must be installed upstream of the regulator to protect seal and diaphragm and avoid excessive maintenance. Remember to leave enough space to remove and clean it.

The distance between connection control line and valve would be, at least, 6xDN.

- 1-Check Valve
- 2-Strainer
- 3-Pressure gauge P₁
- 4-Pressure gauge P₂
- 5-Pressure reducing valve M2
- 6-Safety valve
- 7-Tank
- 8-Impulse pipeline

Technical data

Nominal pressure	PN16-PN25-PN40 or CLASS 150-CLASS 300		
Nominal size	DN15 to DN50	DN65 to DN80	DN100
Max. permissible differential pressure p	25 bar	20 bar	16 bar
Max. permissible temperature: body	Refer to technical sheet HT-101		
Max. permissible temperature: plug	metal: 180°C PTFE+GR: 180°C PEEK: 180°C EPDM, FPM: 150°C NBR: 80°C	metal: 180°C PTFE+GR: 180°C PEEK: 180°C EPDM, FPM: 150°C NBR: 80°C	
Max. permissible temperature: actuator	Diaphragm EPDM till 125°C Diaphragm EPDM+PTFE and condensation tank till 180°C		