

## SELF-OPERATED PRESSURE REGULATORS

### PRESSURE REDUCING VALVE MODEL **M2 WITH BELLOW**

## MAIN FEATURES

Self-actuating pressure reducing valve balancing by bellow 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, gases and liquids.

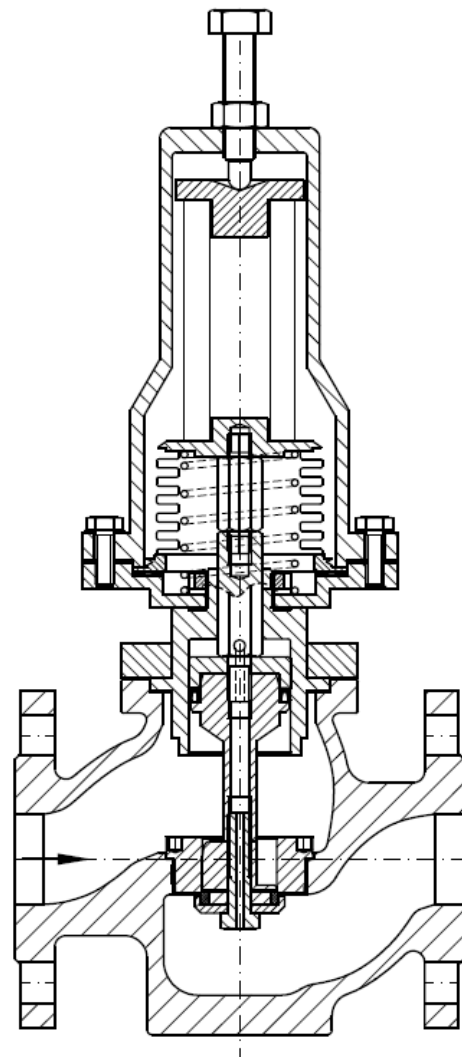
Recommended outlet pressure regulating ranges:

- 1 to 4 barg
- 3 to 10 barg (ask for special ranges)

Condensation tank (pot) is **NOT** necessary.

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	Up to 150°C (air and nitrogen) Up to 80°C (others gases) Up to 200°C (steam)	
Sizes	DN15 to DN50	
Body material	Nodular Iron GGG40.3	PN25
	Bronze RG10	PN25
	Carbon steel A216 WCB	PN40
	Stainless steel A351 CF3M	PN40
Connections	Flanged DIN PN16-PN40	
	Flanged ANSI 150 / 300	
	Threaded BSP / NPT	
	Consult BW and SW	
Trim material	Stainless steel AISI 316L (others on request)	
Seal material	Graphited PTFE/GR (standard) NBR, EPDM, FKM, PEEK, ... (on request)	
Installation position	Any mounting position possible	

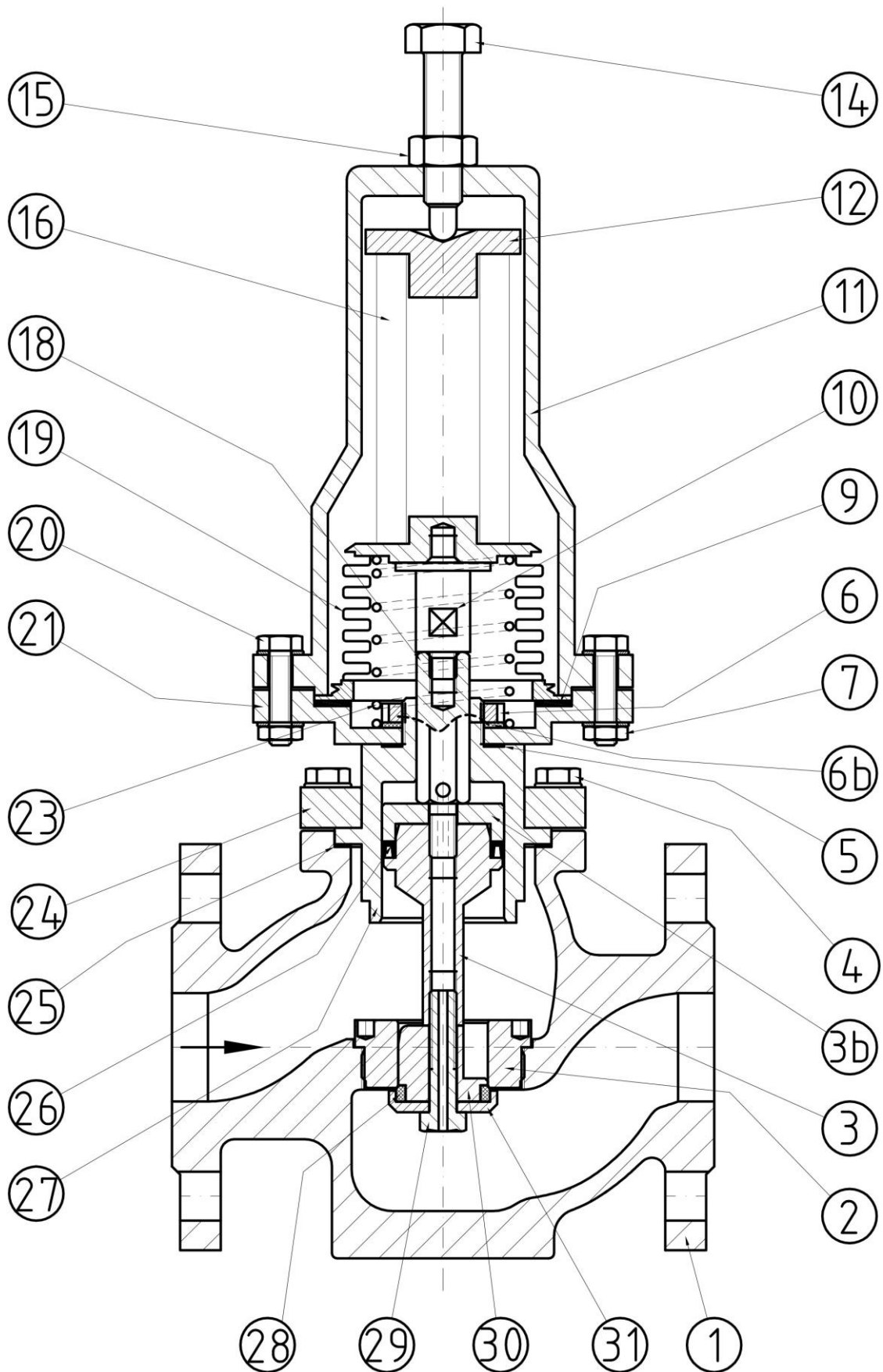


#### Common uses

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

#### Optionally

External control line.





	Description	Material		Description	Material
1	Body	Nodular Iron EN-JS1049 (GGG40.3) Bronze RG10 Carbon Steel 1.0619 (A216 WCB) Stainless steel 1.4408 (A351 CF3M)	18	Stem	Stainless steel 1.4404 - SS 316L
2	Seat	Stainless steel 1.4404 - SS 316L	19	Bellow	Stainless Steel AISI 316Ti
3	Stem	Stainless steel 1.4404 - SS 316L	20	M8 Screw	Galvanized Steel 8.8 ** A2-70 Stainless steel
3b	Bushing Guide	Stainless steel 1.4404 - SS 316L	21	Bellow support	1.1191 Carbon Steel epoxy painted ** Stainless steel AISI 316L
4	Screw	Galvanized Steel 8.8 ** A2-70 Stainless steel	23	Support spring	Stainless steel Aisi 302
5	Gasket	PTFE	24	Cover	Galvanized Steel 1.1141 *** Stainless Steel AISI 316L
6	Nut	Stainless Steel AISI 316L	25	Gasket	Graphite
6b	Washer spring	Carbon Steel galvanized ** A2-70 Stainless steel	26	Gasket	Graphited PTFE + Stainless Steel spring *** NBR, EPDM, Viton, ...
7	Nut	A2-70 Stainless steel	27	Guide Stem	Stainless steel 1.4404 - SS 316L
9	Gasket	Graphite	28	Seal	Graphited PTFE *** NBR, EPDM, Viton, ...
10	Pusher	Stainless steel 1.4404 - SS 316L	29	Seal screw	A2-70 Stainless steel
11	Spring cover	1.1192 Carbon Steel epoxy painted *** Stainless steel AISI 316L	30	Guide seal	Stainless steel 1.4404 - SS 316L
12	Spring guide	1.1191 - Carbon Steel galvanized *** Stainless steel AISI 316L	31	Support seal	Stainless steel 1.4404 - SS 316L
14	Regulation screw	8.8 – Galvanized Carbon steel			
15	Regulation nut	8.8 – Galvanized Carbon steel			** Standard when Stainless steel 1.4408 (A351 CF3M) body selection
16	Regulation spring	Spring steel 52SiCrNi5 (epoxy painting 60-100 micras)			*** Option only under request
					Recommended spare parts

## OPERATING

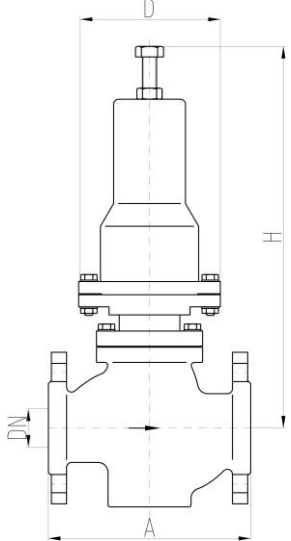
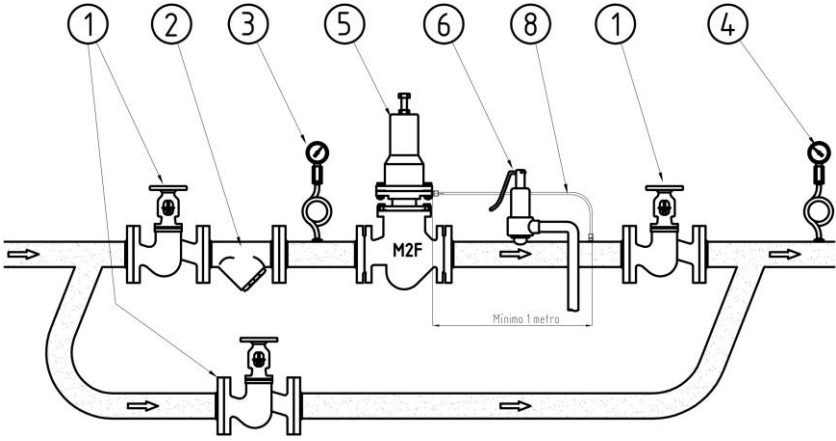
Medium flows through the valve as indicated by the arrow and force stem-piston-gasket (3 – 26 – 3b) to close the valve.

Outlet pressure is controlled rotating the screw (14) in clockwise direction. This causes displacement of the spring (16), which itself acts on the bellow (19) and closing (28, 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 balancing gasket (26) and downstream by the bellow (19).



DN	15	20	25	32	40	50	
<b>Kv value</b>	3,5	5	9	13,5	22	32	m <sup>3</sup> /h
A (EN PN40)	130	150	160	180	200	230	mm
A (ANSI 150 LB)	○	○	7,25	-	8,75	10	In.
A (ANSI 300 LB)	○	○	7,76	-	9,25	10,5	In.
H	340	340	350	350	365	365	mm
D	140						mm
Approx. Weight	11	12	14	15	18	22	kg

M2F valve should be installed in horizontal pipe and respecting the fluid flow direction must match the arrow on the valve body.

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

As option, the valve could be delivered with external control line (item 8), so the distance between connection control line and valve would be, at least, 6xDN

- 1-Check Valve
- 2-Strainer
- 3-Pressure gauge P<sub>1</sub>
- 4-Pressure gauge P<sub>2</sub>
- 5-Pressure reducing valve M2F
- 6-Safety valve
- 8-External sensing line (OPTIONAL UNDER REQUEST)

**Technical data**

Nominal pressure	PN25 - PN40 or CLASS 150 - CLASS 300	
Nominal size	DN15 to DN25	DN40 to DN50
Max. permissible differential pressure Δp	25 bar	16 bar
Max. permissible temperature: body	Refer to technical sheet HT-101	
Max. permissible temperature: plug	PTFE+GR: 200°C PEEK: 200°C EPDM, FPM: 150°C NBR: 80°C	PTFE+GR: 200°C PEEK: 200°C EPDM, FPM: 150°C NBR: 80°C
Max. permissible temperature: actuator	Stainless steel bellow 200°C	