

Pressure Reducing Valve - Model M2

BASIC INFORMATION

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 (low temperatures), compressed air, non-hazardous gases and liquids.

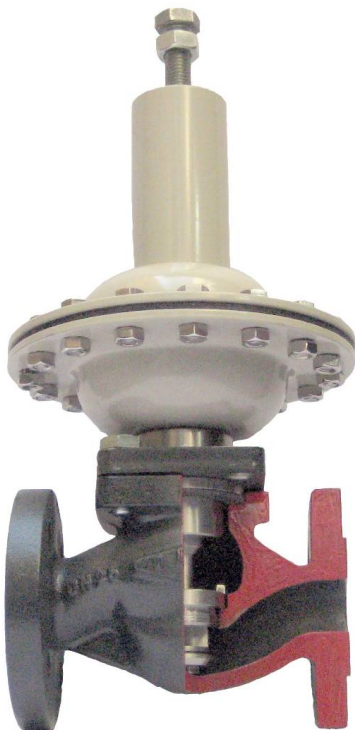
Actuator mounts diaphragm with intermediate reinforced lining.

Outlet pressure regulating range between **0,02** and **10 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.

PARTS



Common uses

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

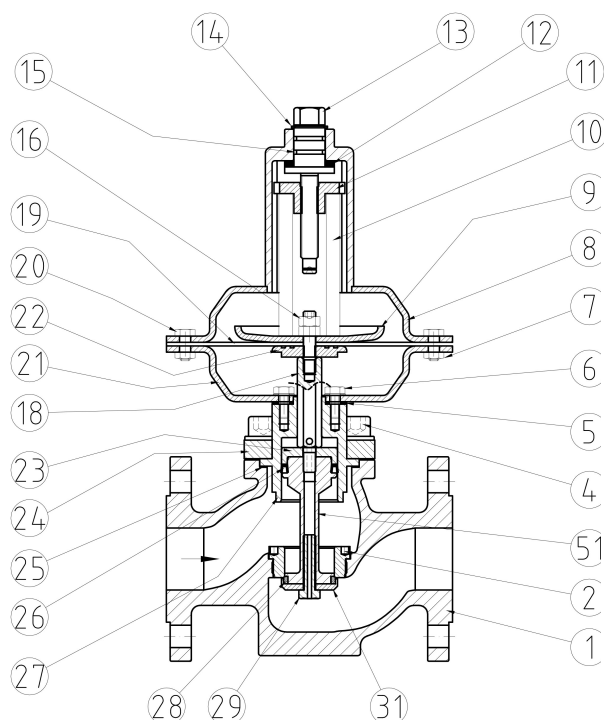
Special features

- Internal control line could be replaced by external set (mandatory for low temperature steam)
- Stainless steel actuator, special soft-seals,...
- Special Kv available.

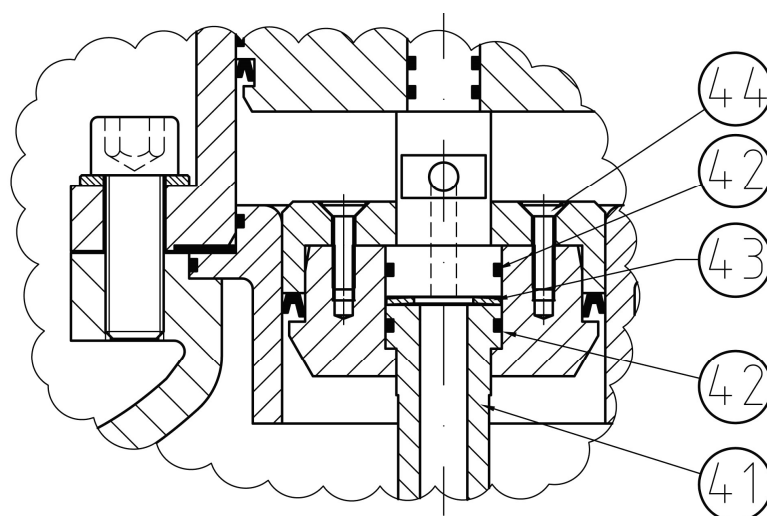
Max. permissible upstream pressure	DN15-50 DN65-100	40 barg 25 barg
Sizes	DN15 to DN100	
Body material	PN25: Nodular Iron (GGG40.3) PN40: Carbon steel WCB (GSC25N) PN40: Stainless steel CF3M (1.4408)	
Connections	Flanged DIN PN16-PN40 Flanged ANSI 150 / 300 Threaded BSP / NPT, consult	
Trim material	Stainless steel Aisi 316L	
Max. permissible temperature	NBR: -20 a 80°C EPDM: -40 a 125°C FKM: consultar PTFE: - 40 a 180°C	

MATERIALS

	Description	Material		Description	Material
1	Body	Stainless steel CF8M-316 Bronze RG10 Carbon steel WCB Nodular Iron GGG40.3	20	Bolt	Stainless Steel A2-70
2	Seat	1.4404 - SS 316L	21	Lower actuator	1.0335 (Sheet Steel with Epoxy painting) ro 1.4404 - SS 316L
4	Bolt	Galvanized Steel 8.8 / A2-70	22	Diaphragm lower plate	1.4404 - SS 316L
5	Gasket	PTFE	23	Collar guide	1.4404 - SS 316L
6	Bolt	Stainless Steel A2-70	24	Cover	Galvanized Steel 1.1141
7	Nut	Stainless Steel A2-70	25	Gasket	Graphite
8	Upper actuator	1.0335 (Sheet Steel with Epoxy painting) ro 1.4404 - SS 316L	26	Balancing collar	NBR / FKM / EPDM / PTFE + GR
9	Spring support	1.0035 sheet steel galvanized	27	Bush guide	1.4404 - SS 316L
10	Regulation spring	Spring steel 52SiCrNi5 (epoxy)	28	Obturator	NBR / FKM / EPDM / PTFE + GR
11	Regulation nut	Galvanized Steel 8.8	29	Screw seal	Stainless Steel A2-70
12	Bearing	PTFE+GR	31	Support seal	1.4404 - SS 316L
13	Regulation stem	1.4404 - SS 316L	51	Bush stem	1.4404 - SS 316L
14	Safety washer	Stainless Steel A2-70			
15	O-ring	NBR / FKM / EPDM			
16	Nut	Stainless Steel A2-70			
17	O-ring	NBR / FKM / EPDM	41	Stem	1.4404 - SS 316L (DN100)
18	Stem	1.4404 - SS 316L	42	O-ring	NBR (DN100)
19	Diaphragm	NBR / EPDM / FKM	43	Washer spring	1.4404 - SS 316L (DN100)
19	Diaphragm (optional)	PTFE	44	Screw	Stainless Steel A2-70 (DN100)
				Recommended spare parts	



Scheme for DN100



STANDARD CONFIGURATIONS

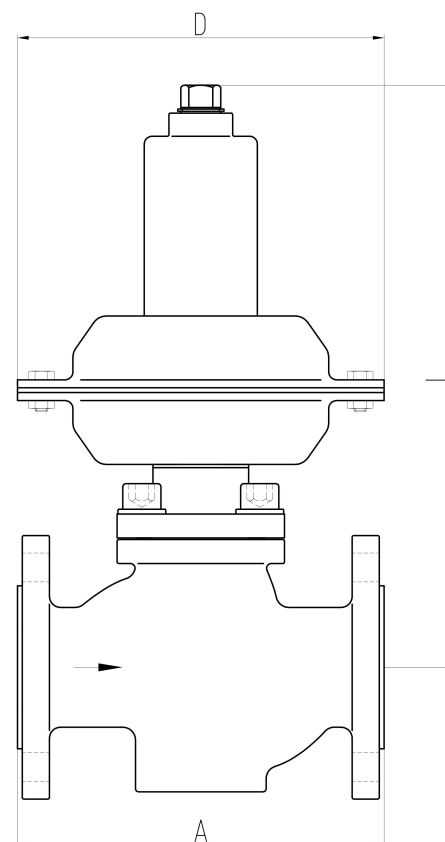
Dimensions

DN	15	20	25	32	40	50	65	80	100
Kv (m ³ /h)	3.5	5	9	13.5	22	32	57	82	115
A EN (mm)	130	150	160	180	200	230	290	310	350
A ANSI150 (mm) (inches)	-	-	184 7,25"	-	222 8,75"	254 10"	276 10,9"	298.5 11,75"	352.5 13,88"
A ANSI300 (mm) (inches)	-	-	197 7,76"	-	235 9,25"	267 10,51"	292 11,5"	317.5 12,50"	368 14,49"
L (mm)	345	345	320	320	375	375	405	490	505
L with cap (mm)	360	360	335	335	390	390	420	505	520
Weight (kg.)	20	20	22	23	25	28	43	53	60

Approximate ranges of outlet pressure and actuator size (D)

Range (barg)	DN15 DN20	DN25 DN32	DN40 DN50	DN65	DN80	DN100
0,02 - 0,05	350	350	-	-	-	-
0,03 - 0,1	295	295	350	350	-	-
0,1 - 1	295	295	295	295	295	295
0,2 - 1,5	-	-	-	-	295	295
0,2 - 2	230	230	230	230	-	-
0,5 - 2	-	-	-	-	-	230
1 - 4	-	-	-	-	230	230
1 - 6	175	175	175	175	-	-
3 - 8	-	-	-	-	230	230
3 - 10	175	175	175	175	-	-

(In case of Kv reduced, the selected actuator will be according the selected Kv)



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 Δp	25 bar	16 bar	12 bar
Max. permissible temperature: body	Refer to technical sheet HT-101		
Max. permissible temperature: plug	NBR: 80°C EPDM: 125°C FPM: 150°C PTFE+GR: 180°C		
Max. permissible temperature: actuator	Diaphragm NBR hasta 80°C Diaphragm EPDM hasta 125°C Diaphragm Viton hasta 150°C Diaphragm EPDM o NBR+PTFE+barrilete hasta 180°C		

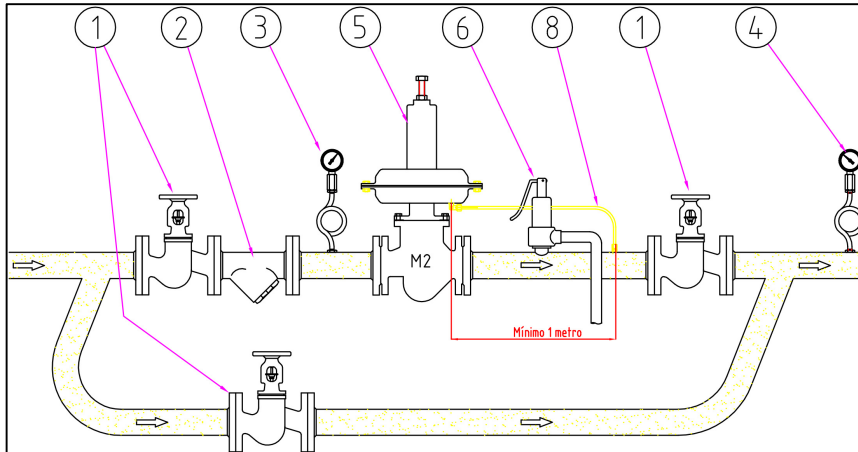
OPERATING

Medium flows through the valve as indicated by the arrow and force stem-piston-gasket (51 – 26 – 19) to close the valve. Inlet and outlet forces are balanced. Outlet pressure is controlled rotating the stem (13) in clockwise. This causes displacement of the spring (10), which itself acts on the seal, 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).

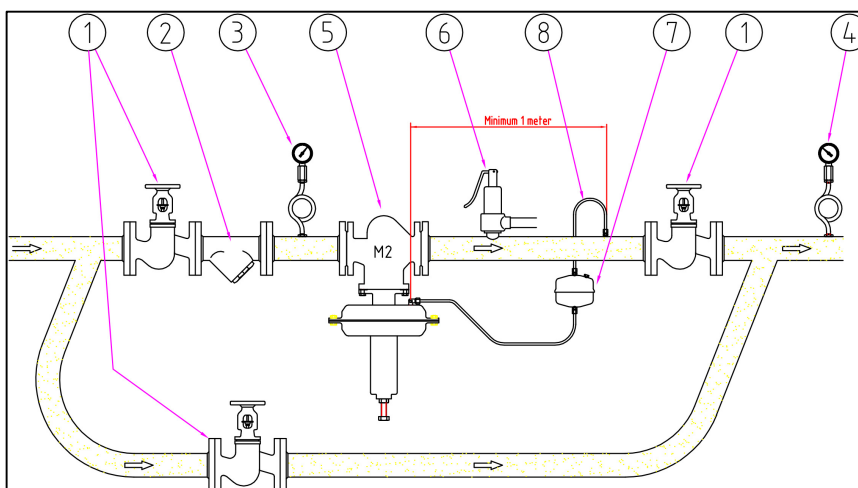
INSTALLATION

Recommended installation according to the following schemes:



Liquids and neutral gases scheme

(External control line is an option. As standard, internal control line)



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 P_1
- 4-Pressure gauge P_2
- 5-Pressure reducing valve M2
- 6-Safety valve
- 7-Tank
- 8-Impulse pipeline

Disclaimer

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