

PRESSURE REDUCING VALVE RP45 (EN)

DESCRIPTION

The RP45 series pressure reducing valves are single seated, bellows sealed controllers that operate without auxiliary energy. Designed for use with steam, compressed air, and other gases compatible with the construction.

They are particularly suitable for reducing steam pressure in all energy and process systems where pressures must be kept under control.

MAIN FEATURES

Specially designed high durability bellows, providing pressure balancing and frictionless plug stem.

Robust construction (fit-and-forget).

Suitable for use with high pressure turndowns.

Interchangeable actuators.

OPTIONS: Soft sealing version in PTFE/GR for use with steam.
Nitrile rubber soft sealing version for air and gas applications, where tight shut-off is required.
Low-noise flow divider.

USE: Steam, compressed air and other gases compatible with the construction. Limited use with liquids. Consult manufacturer before installing the valve with liquids.

AVAILABLE MODELS: RP45G and RP45GT or N – PN 16 SG iron.
RP45S and RP45ST or N – PN 16 cast steel.
RP45S and RP45ST or N – PN 40 cast steel.
RP45i and RP45iT or N – stainless steel (all wetted parts free of ferrous metal or in stainless steel. Only available from DN 15 to DN 100).
Suffix T: soft sealed with PTFE/GR.
Suffix N: soft sealed with nitrile rubber.

SIZES: DN 15 to DN 150.

CONNECTIONS: RP45G – Flanged EN 1092-2 PN 16.
RP45S and RP45i – Flanged EN 1092-1 PN 16 or PN 40.
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2 on request.

AVAILABLE ACTUATORS: A1, A10, A11, A12, A3, A4, B1, B3, B4 and C11 – carbon steel.
A2, A21, B2 and B21 – SG iron or carbon steel.
A1i, A10i, A11i, A12i, A2i, A21i, A3i and A4i – stainless steel.

INSTALLATION: See IMI – Installation and maintenance instructions.



RP45
DN 15 to DN 100



RP45i
DN 15 to DN 100



RP45
DN 125 to DN 150



RP45i
DN 15 to DN 100
with sensing pipe
on body

CE MARKING – GROUP 2 (PED – European Directive)		
PN 16	PN 40	Category
DN 15 to 50	DN 15 to 32	SEP
DN 65 to 150	DN 40 to 100	1 (CE marked)
–	DN 125 to 150	2 (CE marked)



LIMITING CONDITIONS

Valve model	RP45G RP45S	RP45S	RP45i	RP45GT RP45ST	RP45ST	RP45iT	RP45GN RP45SN	RP45SN	RP45iN
Body design conditions	PN 16	PN 40	PN 40	PN 16	PN 40	PN 40	PN 16	PN 40	PN 40
Maximum upstream pressure	13 bar	25 bar	25 bar	13 bar	25 bar	25 bar	13 bar	25 bar	25 bar
Maximum downstream pressure (DN 15 to 100)	13 bar	18 bar	18 bar	13 bar	18 bar	18 bar	13 bar	18 bar	18 bar
Maximum downstream pressure (DN 125 to 150)	12 bar	16,5 bar	16,5 bar	12 bar	16,5 bar	16,5 bar	12 bar	16,5 bar	16,5 bar
Minimum downstream pressure	0,15 bar	0,15 bar	0,15 bar	0,15 bar	0,15 bar	0,15 bar	0,15 bar	0,15 bar	0,15 bar
Maximum operating temperature	200 °C	250 °C	250 °C	200 °C	200 °C	200 °C	80 °C	80 °C	80 °C
Maximum reducing ratio	25:1	25:1	25:1	25:1	25:1	25:1	10:1	10:1	10:1
Rangeability	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1
Maximum hydraulic factory valve body test	24 bar	60 bar	60 bar	24 bar	60 bar	60 bar	24 bar	60 bar	60 bar

Remarks: Other soft materials and temperature limits on request.

Actuator model	A1 A1i	A10 A10i	A11 A11i	A12 A12i	A2 A2i	A21 A21i	A3 A3i	A4 A4i	B1	B2	B21	B3	B4	C11
Maximum operating pressure (bar)	25	25	25	25	12	18	2,5	1,5	25	13	18	2,5	1,5	25
Maximum operating temperature	90 °C *													

* The water seal pot must be installed in the sensing pipe when operating with steam or liquids at temperatures above 90 °C.

FLOW RATE COEFFICIENTS (m³/h)

SIZE	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
Kvs	4,8	6,9	9,1	11,8	14,4	26,5	51,5	79,5	129,5	150	204

SATURATED STEAM CAPACITY TABLE (kg/h)

INLET (barg)	SIZE										
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
0,5	51	68	90	118	186	300	460	800	1250	1500	1800
0,75	63	84	112	146	230	360	580	1000	1550	1750	2350
1	75	100	133	175	280	430	700	1200	1850	2250	3200
1,5	100	133	175	240	360	590	910	1600	2500	3000	4000
2	126	170	230	290	450	730	1160	2000	3050	3500	4700
2,5	150	200	260	350	550	880	1390	2400	3600	4500	6500
3	175	240	310	400	640	1010	1600	2700	4300	5500	8500
4	220	290	390	510	800	1300	2000	3400	5400	7000	10000
5	260	350	480	620	1000	1600	2500	4200	6500	8000	12000
6	330	440	580	760	1220	1930	3000	5100	8000	9500	14000
7	400	520	700	910	1430	2300	3600	6100	9500	11500	16000
8	450	600	800	1040	1670	2700	4100	7100	11000	13000	18000
9	500	670	880	1180	1800	2900	4600	7800	12000	15000	20000
10	560	750	980	1300	2000	3200	5100	8500	13500	17000	22000
12	680	900	1180	1540	2500	4000	6100	10500	16300	20000	25000
14	800	1050	1400	1850	2900	4700	7200	12600	19000	23000	29000
16	920	1230	1630	2150	3400	5500	8300	14600	22000	26000	33000
18	1040	1400	1860	2450	3800	6200	9500	16600	25000	30000	38000
20	1170	1540	2100	2700	4200	7000	10800	18600	28000	33000	42000
22	1330	1780	2350	3050	4900	7800	12200	21000	32000	36000	45000
24	1500	2000	2600	3400	5400	8700	13700	23500	36000	40000	48000
25	1600	2150	2800	3600	5700	9200	14500	25500	38000	42000	50000

Remark: For pressure ratios where P2 > 0,7 P1 and/or when the operating medium is superheated steam, a correction factor must be applied.