

Pressure Reducing Valve VM7780

cast iron | DN 15-150 | PN 16 | flange



General

- » ARI pressure reducing valve for steam, neutral gases, vapors, and liquids.
- » Regulates a high upstream pressure to a smaller downstream pressure.
- » The valve closes when the downstream pressure rises.
- » Simple change of spring and actuator.
- » Diameter independent ranges.
- » 5 exchangeable actuator sizes (DMA 40-DMA 400).
- » 3 exchangeable spring sizes.
- » Pressure balanced by stainless steel bellow.
- » Face-to-face design according to DIN EN 558.
- » Program ARI-VASI for calculation of the size of the valve.
- » Leakage rate according to DIN EN 1349 or DIN EN 60534-4.
- » May not be used in systems according to TRD 110.

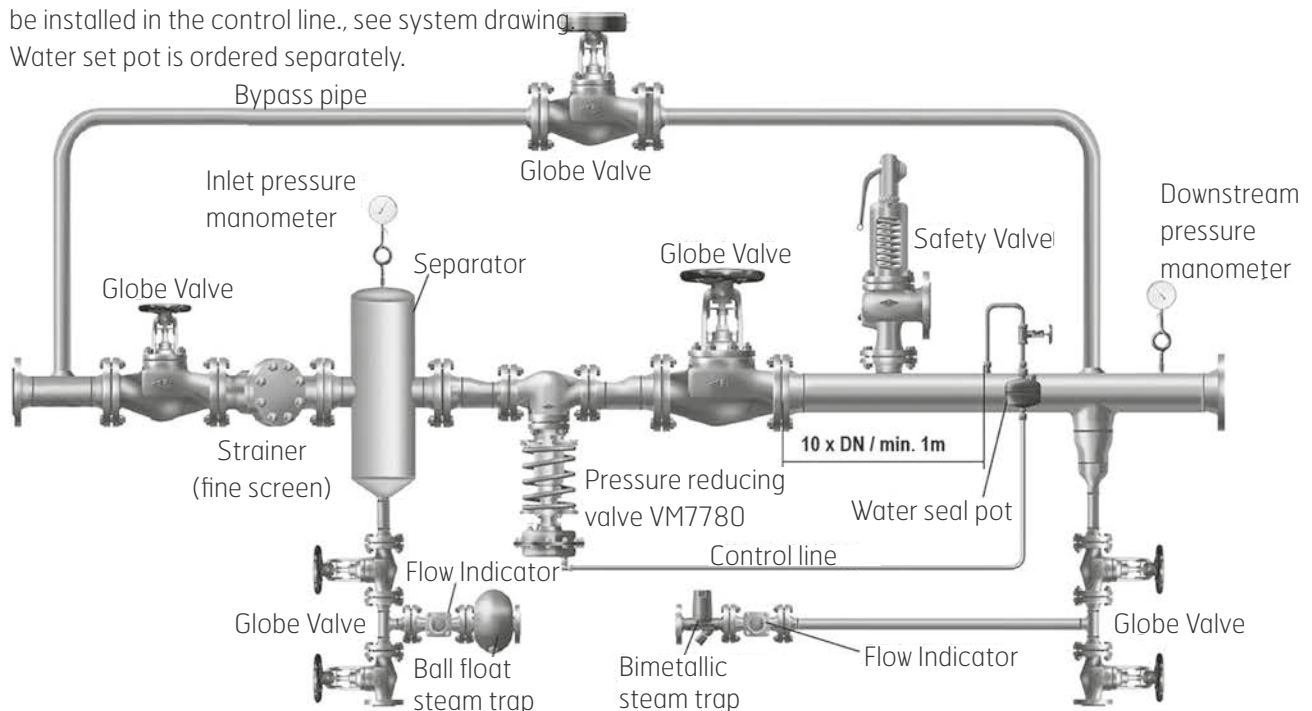


Options

- » Different materials.
- » Designs for other media, for example hot water.
- » Other pressure ratings.
- » NBR-rubber.
- » Dubbel spindeltätning.

Application

With steam and liquids, having temperatures higher than the allowable working temperatures a water seal pot must be installed in the control line., see system drawing.
Water set pot is ordered separately.



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Technical Data

Dimension DN	15	20	25	32	40	50	65	80	100	125	150
Pressure rating PN	16	16	16	16	16	16	16	16	16	16	16
Kvs-value standard m ³ /h	3,2	5	8	12,5	20	32	50	80	125	190	280
Kvs-value reduced m ³ /h	0,1/0,4/1/2,5	0,1/0,4/1/2,5/4	0,1/0,4/1/2,5/4/6,3	-	-	-	-	-	-	-	-
Seat ¹ Ø mm	187	22	25	32	40	50	65	80	100	125	150
Travel mm	4	5	6	8	8	10	11	13	16	19	22
Max. diff. pressure drop dP bar	40	40	25	25	25	25	20	20	20	16	16

1. Used to calculate pressure drop.

Max. Working Pressure bar (e) at Different Temperatures

Temperature °C	-10°C to +120°C	+150°C	+200°C	+250°C	+300°C
Working pressure bar (e)	16	14,4	12,8	11,2	9,6



A water seal put must be installed in regulating pipe to protect the diaphragm of the actuator at temperatures higher than +130°C.

Materials

Body	cast iron JL1040
Screwed seat ring	stainless steel 1.0421+QT
Packing	pure graphite (CrNi laminated with graphite)
Bush housing	ductile iron JS1049
Plug	stainless steel 1.4021+QT (hardened)
Rolling diaphragm	EPDM -40°C to +130°C

Downstream-Pressure Ranges

Bar	0,2-0,6	0,5-1,2	0,8-2,5	2-5	4,5-10	8-16
DMA cm ²	400	250	160	80	40	40
Actuator PN-max. bar	1,6	2,5	6	10	20	20

Dimension DN	15	20	25	32	40	50	65	80	100	125	150
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Proportional ranges (combination: actuator with valve in ± bar)

Actuator cm ²	DMA 400	Downstream pressure range bar	0,2-0,6	0,05	0,05	0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,08	0,10	0,15
	DMA 250		0,5-1,2	0,09	0,09	0,09	0,08	0,09	0,09	0,09	0,10	0,15	0,10	0,15	0,23
	DMA 180		0,8-2,5	0,15	0,20	0,15	0,20	0,20	0,25	0,25	0,30	0,35	0,40	0,50	
	DMA 80		2-5	0,40	0,45	0,40	0,45	0,35	0,40	0,45	0,50	0,60	0,75	0,90	
	DMA 40		4,5-10	0,55	0,55	0,60	0,65	0,70	0,75	0,80	0,85	0,90	1,20	1,35	
	DMA 40		8-16	0,80	0,85	1,0	1,05	1,10	1,25	1,30	1,50	1,75	1,80	2,00	

Pressure reducing valves are proportional regulators with permanent control deviation depending from the construction.

The actual control deviation depends on the valve load.

$(Kv\text{-value}/Kvs\text{-value-max}) \times \text{Proportional range} = \text{Actual control deviation}$.

The values shown are preliminary values and may vary by the real plant.

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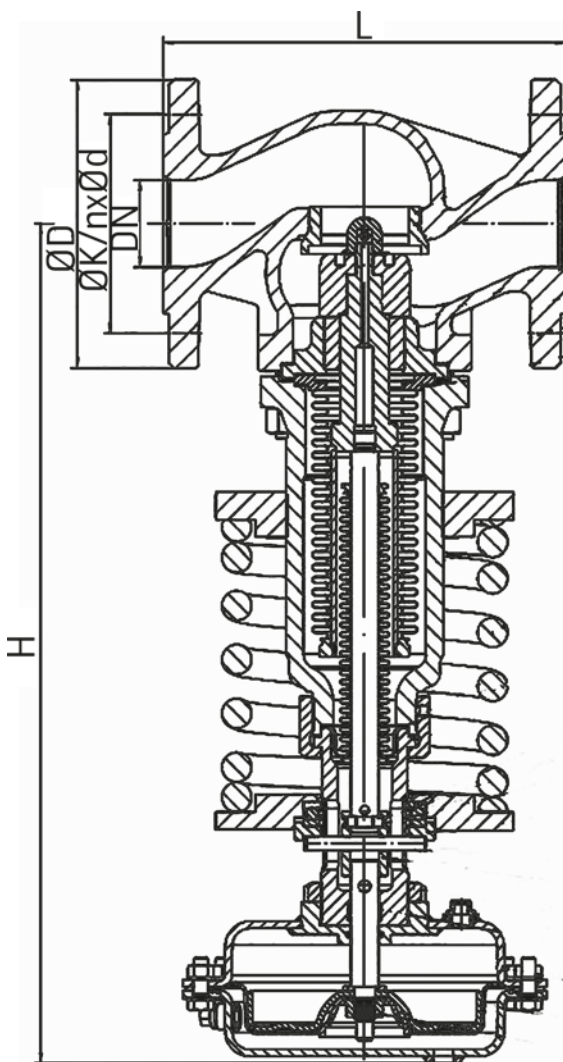
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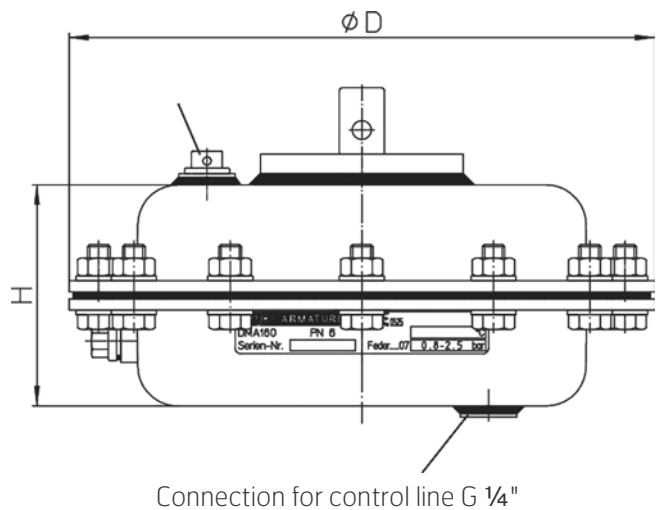
Dimensions [mm] and Weight

DN	15	20	25	32	40	50	65	80	100	125	150
L	130	150	160	180	200	230	290	310	350	400	480
H DMA 400	495	495	500	500	540	540	545	585	610	650	690
H DMA 250	455	455	460	460	500	500	505	545	585	610	650
H DMA 160	440	440	440	440	480	480	490	530	550	590	630
H DMA 80	435	435	440	440	480	480	485	530	550	590	630
H DMA 40	435	435	440	440	480	480	485	530	550	590	630
ØD	95	105	115	140	150	165	185	200	220	250	285
ØK	65	75	85	100	110	125	145	160	180	210	240
n x Ød	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 18	8 x 22
Weight with DMA 400 [kg]	26	27	28	30	35	41	48	70	85	125	158
Weight with DMA 250 [kg]	21	22	23	25	30	36	43	65	83	123	156
Weight with DMA 160 [kg]	19	20	21	23	28	34	41	63	81	121	154
Weight with DMA 80 [kg]	18	19	20	22	27	33	40	62	80	120	153
Weight with DMA 40 [kg]	17	18	19	21	26	32	39	61	79	119	152



Dimensions [mm] and Weight Actuator

DMA	400	250	160	80	40
D	300	250	210	170	140
H	135	90	80	75	75
Vikt [kg]	13,4	8,1	5,1	3,7	2,9



Connection for control line G 1/4"

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Markings

The valve is marked with DN, PN, materials, CE (DN 32-150), type no, flow direction arrow, and production year.

Mounting

A strainer should be installed before the valve. Note the flow direction arrow.

Maintenance

The valve is maintenance free.

Order information

Pressure reducing valve VM7780 in cast iron, DN....., PN 16 in flanged design and automated with actuator DMA.....