

Pressure Reducing Valve VM 7782

steel | DN15-150 | PN 40 | 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.

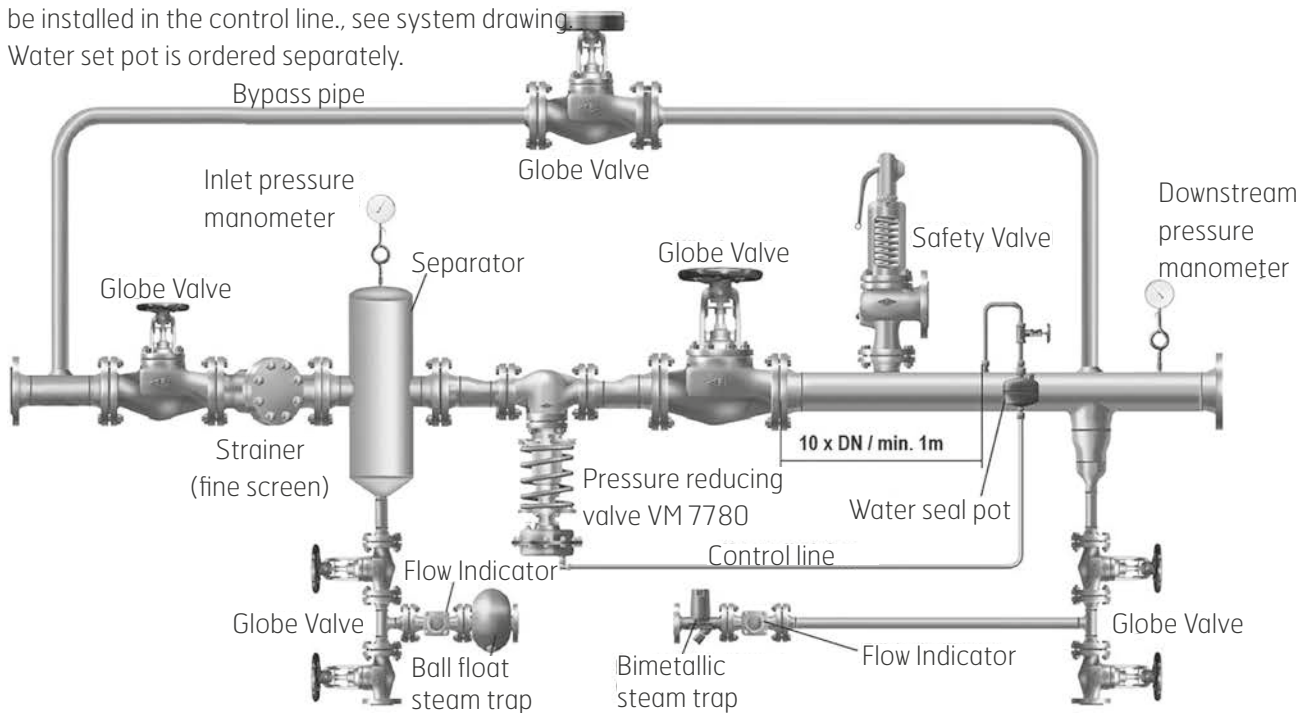


Options

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

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 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 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 ¹ °C | -60°C to <-10°C | -10°C to +120°C | +150°C | +200°C | +250°C | +300°C | +350°C |
| Working pressure bar (e) | 30 | 40 | 38,1 | 35 | 32 | 28 | 25,7 |

1. Studs and nuts made of A4-70 at temperatures below -10°C.



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 | steel EN 1.0619+N |
| Screed seat ring | stainless steel EN 1.0421+QT |
| Packing | pure graphite (CrNi laminated with graphite) |
| Bush housing | ductile iron EN-JS1049 |
| Plug | stainless steel EN 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 |
|--------------|----|----|----|----|----|----|----|----|-----|-----|-----|

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 | 0,10 | 0,15 | 0,10 | 0,15 | 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 | 0,40 | 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 | 0,75 | 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 | 1,20 | 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 | 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-value/Kvs-value-max) x Proportional range = Actual control deviation.

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

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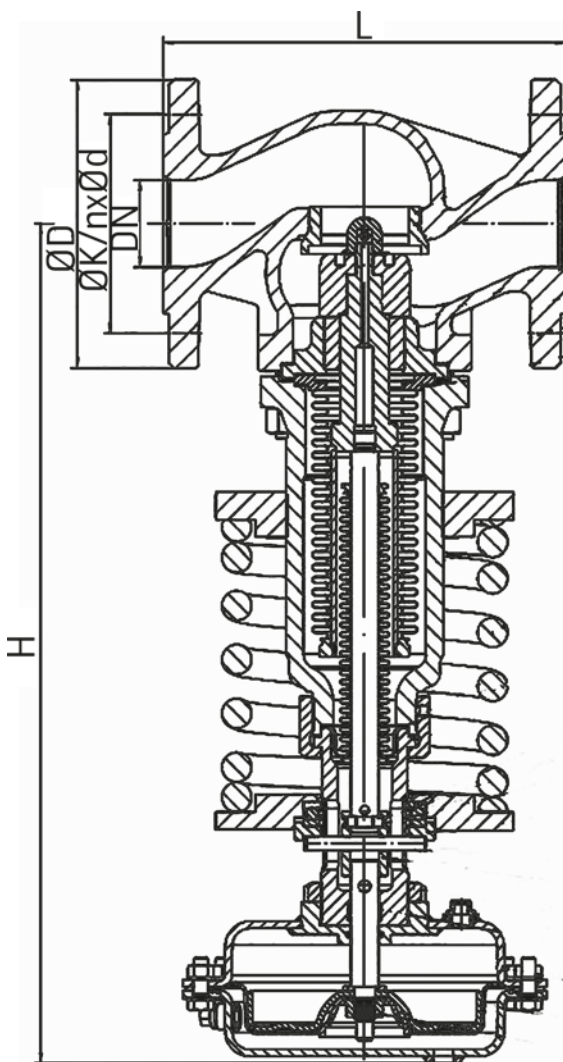
Pressure Reducing Valve VM 7782

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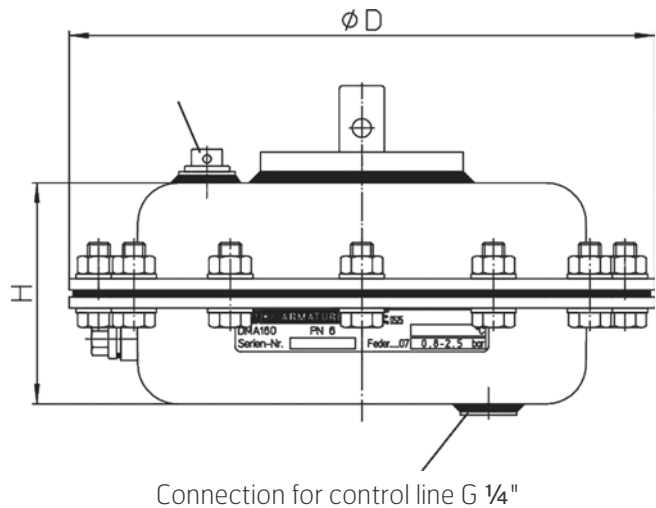
Dimensions [mm] and Weight

| 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 VM 7782 in steel, DN....., PN 40 in flanged design and automated with actuator DMA.....