

Pressure Reducing Valve DMV 755

set range: 1,0 - 9,0 bar



Advantage

- pressure setting possible at any time, also during operation
- high reproducibility of the set pressure
- high level of operating safety and long service life
- constant, low vibration control
- low-maintenance
- hermetically sealed by valve diaphragm with formed sealing rings
- considerably shortened face-to-face dimension with injection moulded threaded neck according to DIN 8063
- metal inserts in the valve housing allow the valves to be directly fitted to mounting sets, the movability of the union nuts on the valves made of PVC-U, PP and PVDF remains unaffected

Application

- chemical plants
- industrial plants
- water treatment

Utilisation

- The pressure reducing valve which is directly controlled by the medium, is used in technical processing plants for reducing primary pressures to system dependent working pressures and for controlled maintenance of working pressures.

Valve Function

- The opened valve is in equilibrium between the inlet pressure (primary side) and the lower working pressure (secondary side). If the working pressure goes above or below the desired value, the large area membrane is lifted against the spring force or pressed down by the spring force. The valve starts closing or opening until the equilibrium condition is reached again, i.e. the working pressure remains constant independent of an increasing or decreasing inlet pressure (as long as the inlet pressure > working pressure).

Valve Setting

- Set or adjust the working pressure to be kept constant at the adjustment screw with the aid of pressure gauges (ASV diaphragm pressure gauge guard with pressure gauge, type MDM 902) in the pipe system after removing the protection cap. The adjustment screw is secured by a counter nut and can be sealed against unauthorized adjustment, if necessary.
- There are two types of application:
 - secondary pressure - system closed or
 - secondary pressure - system dynamically flowing

Flow Media

- Technically pure, neutral and aggressive fluids, provided that the selected valve materials coming into contact with the media are resistant at the operating temperature according to the ASV resistance guide.
- For nitric acid or sulfuric acid please specify the precise operating conditions of the application.

Fluid Temperature

- see pressure/temperature diagram

Operating Pressure

- see pressure/temperature diagram

Set Range

- 1.0 - 9.0 bar

Nominal Pressure (H₂O, 20°C)

- PN 10

Working Pressure

- set pressure minus flow dependent pressure reduction:
- secondary pressure
- 1,0 - 9,0 bar

Constant Working Pressure

- Difference between the maximum and minimum secondary pressure, caused by primary pressure fluctuations:
- approx. ± 0.2 bar

Hysteresis

- Difference between opening and closing pressure
- approx. 0.1 - 0.4 bar

Valve Body

- PVC-U
- PP
- PVDF

Bonnet

- PP, glass fibre reinforced

Diaphragm

- PTFE (EPDM diaphragm with PTFE coating on the surfaces coming into contact with the medium)

Sealing

- FPM
- EPDM

Screws

- stainless steel (1.4301)

Actuation

- medium controlled

Connection

- union DIN 8063
- union socket end for solvent welding DIN ISO (PVC-U)
- union socket end for fusion welding DIN ISO (PP)
- union socket end for fusion welding DIN ISO (PVDF)
- spigot end for solvent welding DIN ISO (PVC-U)
- fusion spigot end DIN ISO (PP)
- fusion spigot end DIN ISO (PVDF)
- backing flange DIN 2501, PN 10/16, on request

Flow Direction

- always in the direction of the arrow

Mounting

- as required

Colour

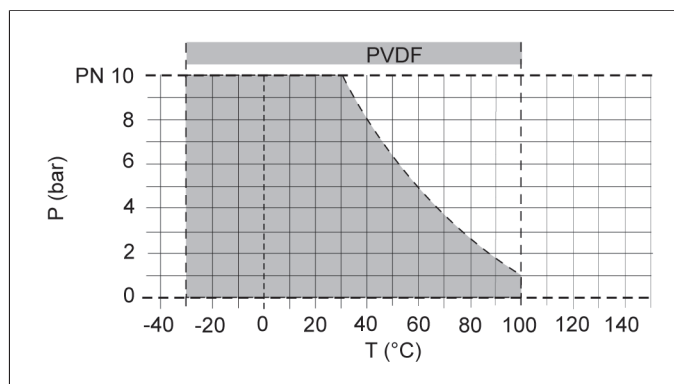
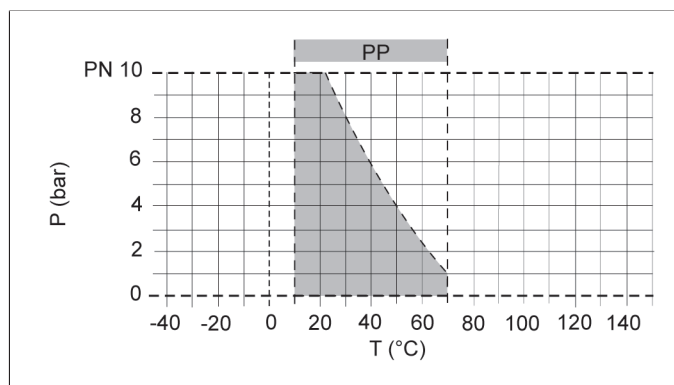
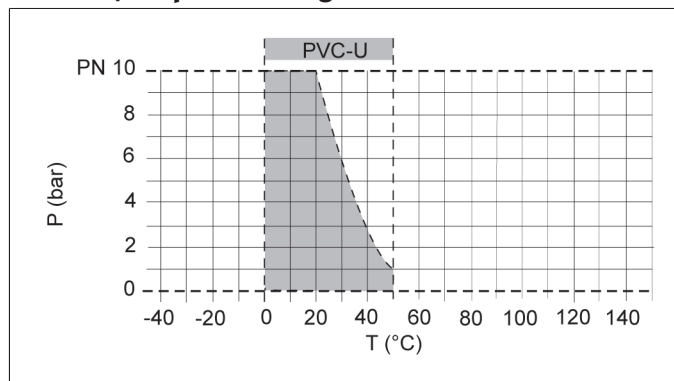
- bonnet: orange, RAL 2004
- bottom section: PVC-U, grey, RAL 7011
- bottom section: PP, grey, RAL 7032
- bottom section: PVDF, opaque, yellowish-white

Pressure Gauge Connection

- The pressure reducing valves can be factory fitted with a pressure gauge for neutral media. The resistance of the pressure gauge material has to be taken into consideration for other media.

Pressure reducing valves, Pressure Reducing Valve DMV 755

Pressure/temperature diagram



P = operating pressure

T = temperature

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant.

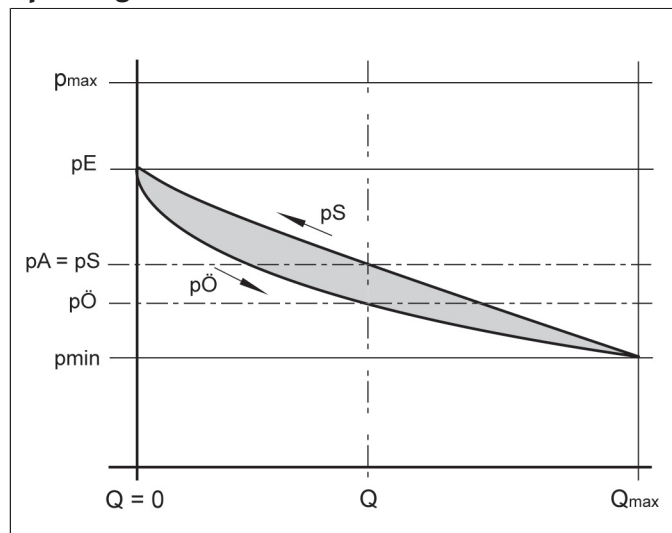
For other media please refer to the ASV resistance guide.

The durability of wear parts depends on the operating conditions of the application.

For temperatures below 0°C (PP < +10°C) please specify the precise operating conditions of the application.

The rated pressure depends on the valve size and material. For the corresponding rated pressure value of the valve, please refer to the »Order table«.

Operating behaviour



pE = set pressure

pA = working pressure

pO = opening pressure

pS = closing pressure

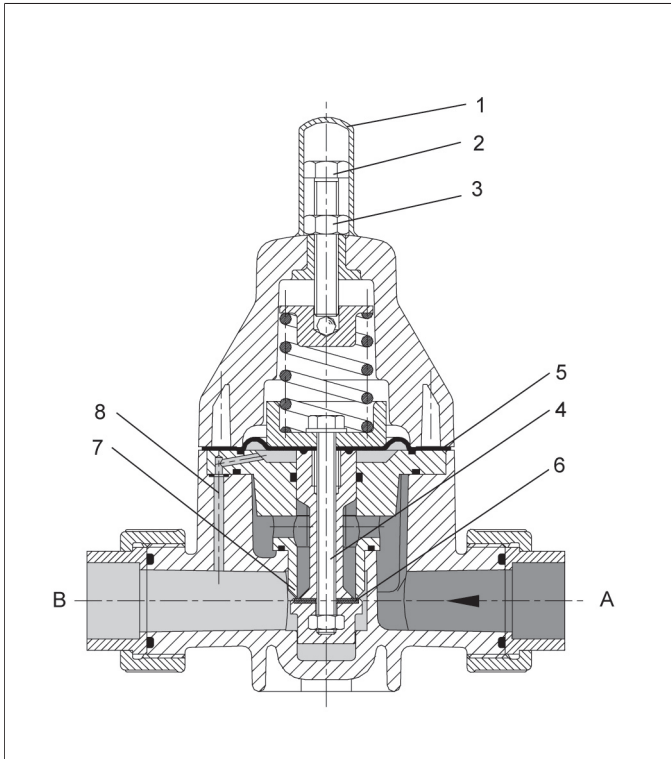
$pO - pS$ = hysteresis

$pA - pE$ = flow dependent pressure reduction

Q = flow

Pressure reducing valves, Pressure Reducing Valve DMV 755

Sectional drawing

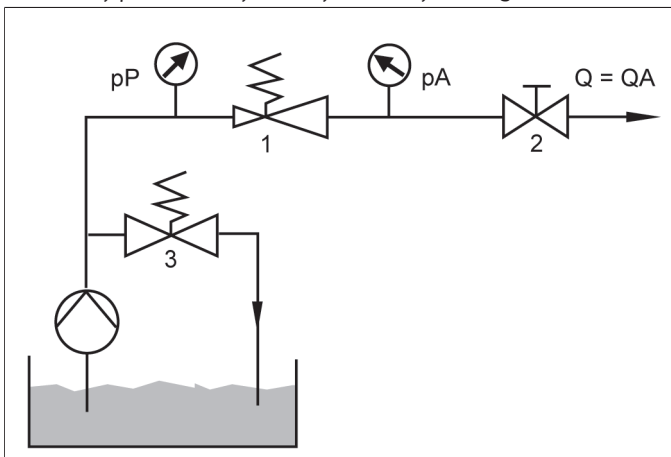


A = primary side
B = secondary side

1 = protection cap
2 = adjustment screw
3 = counter nut
4 = piston
5 = diaphragm
6 = flat sealing ring
7 = valve seat
8 = control bore hole

Applications

Secondary pressure - System dynamically flowing

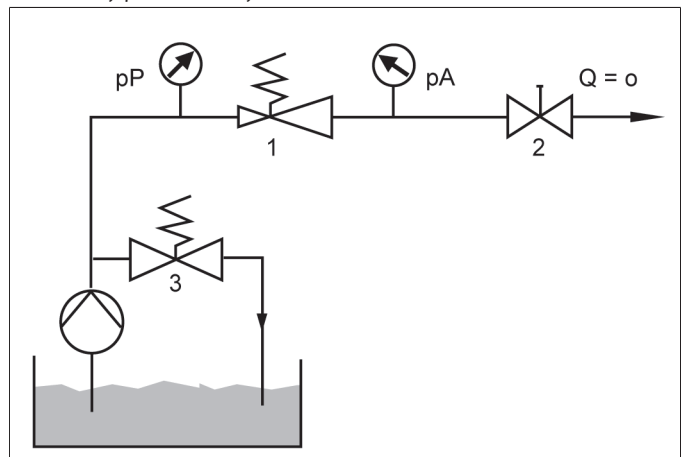


pP = pump pressure
pA = working pressure
1 = Pressure Reducing Valve
2 = stop valve
3 = Pressure Relief Valve

If the stop valve is closed, the working pressure pA rises by the amount of the closing pressure pS.

Applications

Secondary pressure - System closed



pP = pump pressure
pA = working pressure
1 = Pressure Reducing Valve
2 = stop valve
3 = Pressure Relief Valve

If the stop valve is opened, the working pressure pA drops by the amount of the opening pressure pÖ.

Pressure reducing valves, Pressure Reducing Valve DMV 755

Malfunctions, possible causes, rectification

Malfunction:	Cause:	Rectification:
Valve leaking at the diaphragm.	Insufficient contact pressure (membrane fastening). O-ring defective (13).	Tighten the connecting screws. Renew O-ring (13).
Pressure exceeds the set value.	Valve seat/seat seal defective. Diaphragm defective. Control bore hole soiled or blocked. Valve piston jammed.	Check piston and/or seat seal, replace, if necessary. Replace diaphragm. Dismantle piston and clean bore hole. Clean valve.
Valve closed (does not open).	Valve fitted the wrong way round.	Turn the valve around, observe the arrow for the direction of flow.
Medium leakage at the adjustment screw.	Diaphragm defective.	Replace diaphragm.

Maintenance note

Screw tightening torque (Nm)

d (mm)	16	20	25	32	40	50	63
Md (Nm)	4,5	4,5	6	6	8	8	8

The specified values apply to lubricated screws.

Check the tightening torque of the body screws at certain intervals in case of setting of the diaphragms and/or temperature fluctuations.

Operating note

Safe operation of the valve can only be ensured if it is properly installed, operated, serviced or repaired by qualified personnel according to its intended use while observing the accident prevention regulations, safety regulations, relevant standards, directives/technical regulations or codes of practice such as e.g. DIN, DIN EN, DIN ISO and DVS*. *DVS = German Welding Society
 The intended use includes adhering to specified limit values for pressure and temperature, as well as checking the resistance. This requires all components coming into contact with the medium to be "resistant" in accordance with the ASV resistance guide.

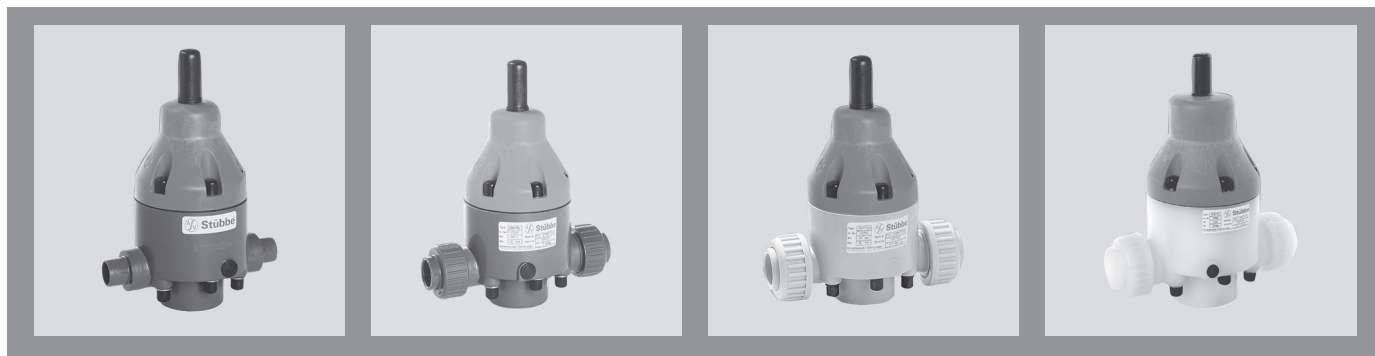
Pressure gauge version

If the valve body is equipped with a pressure gauge, do not tighten the pressure gauge with more than max. 3 Nm.

Please take into account that the material PTFE is classified as resistant against many media, however, PTFE is not diffusion tight when used as a film, e.g. for the ASV membranes. Please contact us for limit cases (nitric acid or sulfuric acid).

If the secondary pressure is additionally increased by the counterpressure, the pressure reducing valve DMV acts as a non-return valve. This force can lead to destruction of the valve piston.

Pressure reducing valves, Pressure Reducing Valve DMV 755



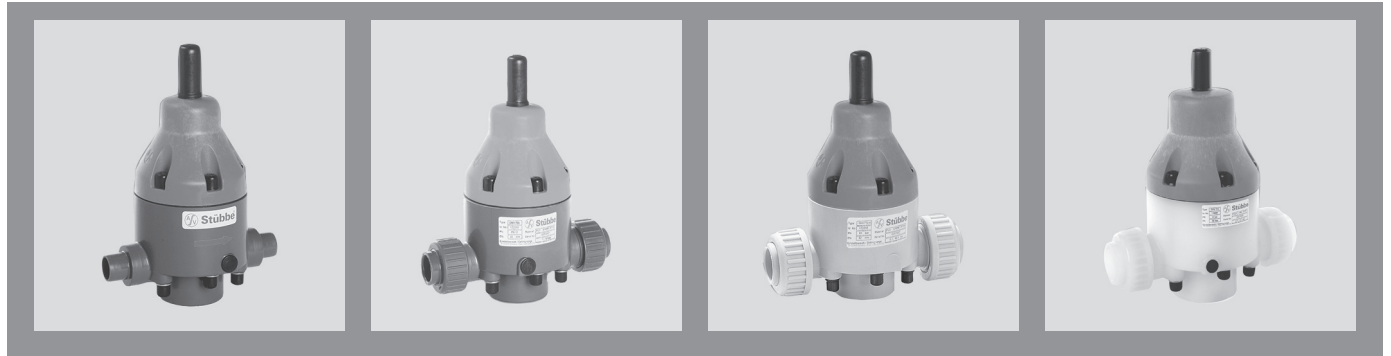
body PVC-U

size pressure range	d(mm)	16	20	25	32	40	50	63
	DN(mm)	10	15	20	25	32	40	50
	DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	PN(bar)	10	10	10	10	10	10	10
	setting range (bar)	1-9	1-9	1-9	1-9	1-9	1-9	1-9
Connection	sealing	ident No.						
PVC-U socket end DIN ISO	EPDM	119300	119301	119302	119303	119304	119305	119306
	FPM	119307	119308	119309	119310	119311	119312	119313
	weight	0.80 kg	0.90 kg	1.90 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U spigot end DIN ISO	EPDM	122048	122049	122050	122051	122052	122053	122054
	FPM	122055	122056	122057	122058	122059	122060	122061
	weight	0.80 kg	0.90 kg	1.90 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg

body PP

size pressure range	d(mm)	16	20	25	32	40	50	63
	DN(mm)	10	15	20	25	32	40	50
	DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	PN(bar)	10	10	10	10	10	10	10
	setting range (bar)	1-9	1-9	1-9	1-9	1-9	1-9	1-9
Connection	sealing	ident No.						
PP socket end DIN ISO	EPDM	119314	119315	119316	119317	119318	119319	119320
	FPM	119321	119322	119323	119324	119325	119326	119327
	weight	0.70 kg	0.70 kg	1.60 kg	1.60 kg	4.10 kg	4.20 kg	4.30 kg
PP spigot end DIN ISO	EPDM	122062	122063	122064	122065	122066	122067	122068
	FPM	122069	122070	122071	122072	122073	122074	122075
	weight	0.70 kg	0.70 kg	1.60 kg	1.60 kg	4.10 kg	4.20 kg	4.30 kg

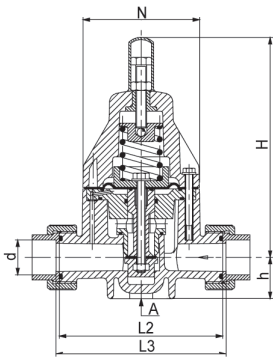
Pressure reducing valves, Pressure Reducing Valve DMV 755



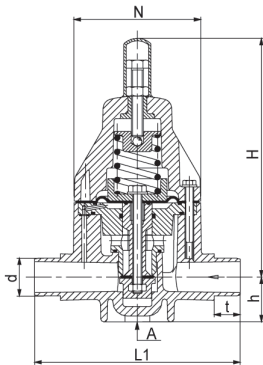
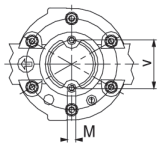
body PVDF

<i>size</i> <i>pressure range</i>	d(mm)	16	20	25	32	40	50	63
	DN(mm)	10	15	20	25	32	40	50
	DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	PN(bar)	10	10	10	10	10	10	10
	setting range (bar)	1-9	1-9	1-9	1-9	1-9	1-9	1-9
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVDF socket end DIN ISO	FPM	119335	119336	119337	119338	119339	119340	119341
	<i>weight</i>	1.00 kg	1.10 kg	2.10 kg	2.20 kg	5.50 kg	5.60 kg	5.70 kg
PVDF spigot end DIN ISO	FPM	122083	122084	122085	122086	122087	122088	122089
	<i>weight</i>	1.00 kg	1.10 kg	2.10 kg	2.20 kg	5.50 kg	5.60 kg	5.70 kg

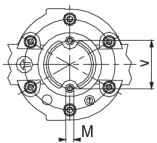
Pressure reducing valves, Pressure Reducing Valve DMV 755



Ansicht A / View A



Ansicht A / View A



dimensions

d(mm)	16	20	25	32	40	50	63
DN(mm)	10	15	20	25	32	40	50
DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2

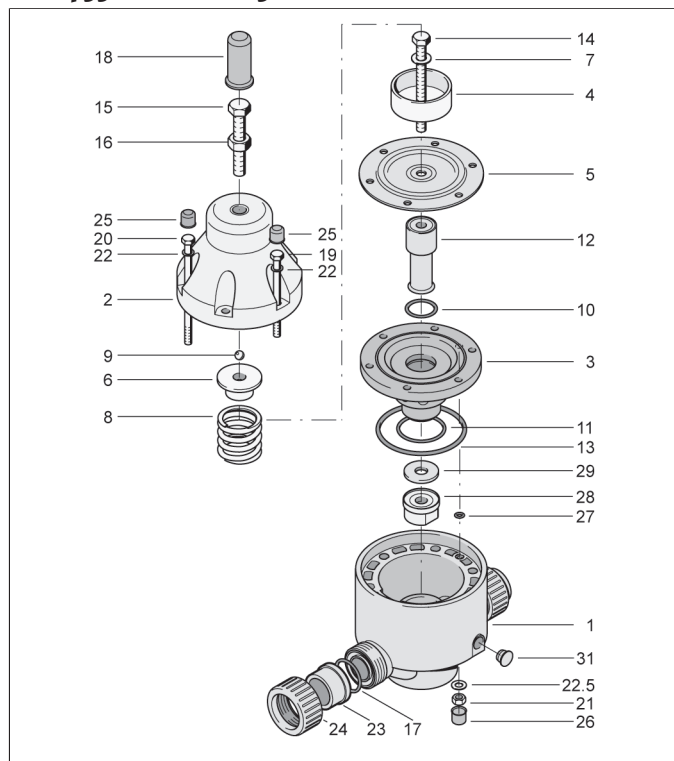
dimensions(mm)

	d	16	20	25	32	40	50	63
PP/PVC-U	h	25	25	37	37	57	57	57
PVDF	h	24	24	36	36	54	54	54
	L1	144	144	174	174	224	224	244
PP/PVC-U	L2	120	120	150	150	205	205	205
PVDF	L2	118	120	147	147	200	200	200
PP/PVC-U	L3	126	126	156	156	211	211	211
PVDF	L3	124	124	153	153	207	207	207
	t	14	16	19	22	26	31	38
	H	174	174	202	202	262	262	262
	N	81	81	107	107	147	147	147
	V	40	40	46	46	65	65	65

Pressure reducing valves, Pressure Reducing Valve DMV 755

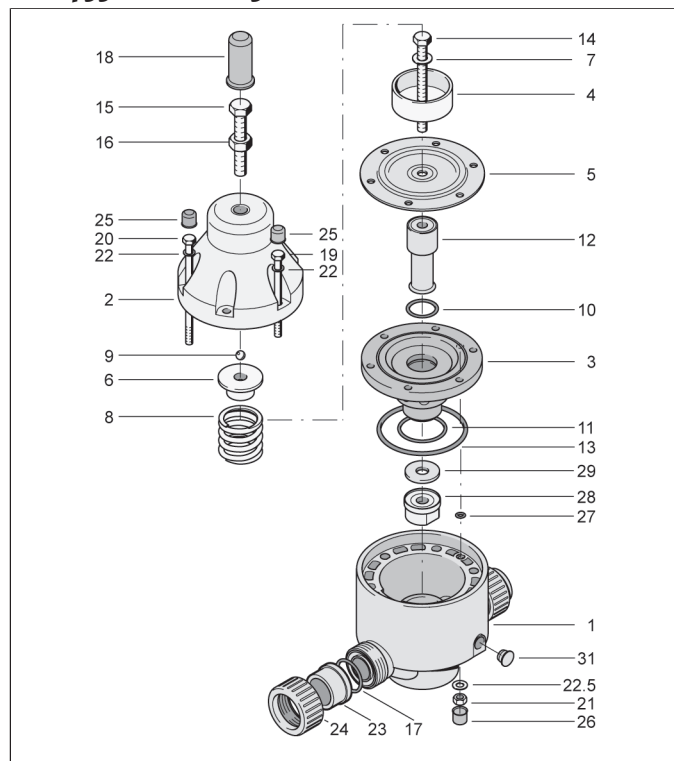
Exploded view

DMV 755 DN 10 - DN 15



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	spring plate
5	1	diaphragm
6	1	pressure plate
7	1	disc
8	1	pressure spring
9	1	steel ball
10	1	O-ring
11	1	O-ring
12	1	piston
13	1	O-ring
14	1	hexagon bolt
15	1	hexagon bolt
16	1	hexagon nut
17	2	O-ring
18	1	protection cap
19	4	hexagon bolt
21	4	hexagon nut
22	4	disc
22.5	4	disc
23	2	union end
24	2	union nut
25	4	protection cap
26	4	protection cap
27	1	O-ring
28	1	piston guidance
29	1	flat sealing ring
31	2	Plug

DMV 755 DN 20 - DN 50

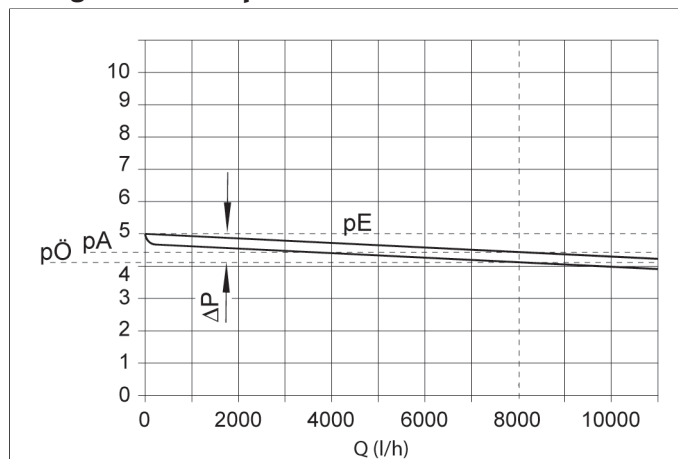


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	spring plate
5	1	diaphragm
6	1	pressure plate
7	1	disc
8	1	pressure spring
9	1	steel ball
10	1	O-ring
11	1	O-ring
12	1	piston
13	1	O-ring
14	1	hexagon bolt
15	1	hexagon bolt
16	1	hexagon nut
17	2	O-ring
18	1	protection cap
19	2	hexagon bolt
20	4	hexagon bolt
21	6	hexagon nut
22	6	disc
22.5	6	disc
23	2	union end
24	2	union nut
25	6	protection cap
26	6	protection cap
27	1	O-ring
28	1	piston guidance
29	1	flat sealing ring
31	2	Plug

Pressure reducing valves, Pressure Reducing Valve DMV 755

Characteristic curves

Configuration example



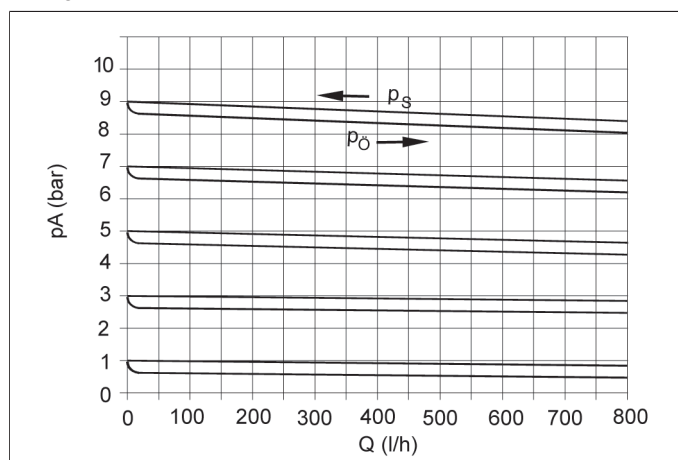
The valve is set tight at 5 bar.

Desired flow rate 8000 l/h, Medium H₂O

According to the curve, this results in the following values:

set pressure p_E : 5 bar; Pressure reduction: $p = 0,8$ bar; Working pressure $p_A = 4,4$ bar

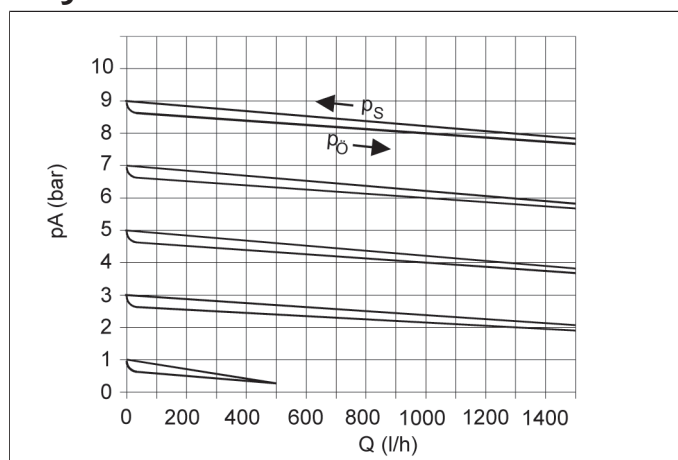
DN 10



p_A = working pressure (secondary pressure)

Q = flow

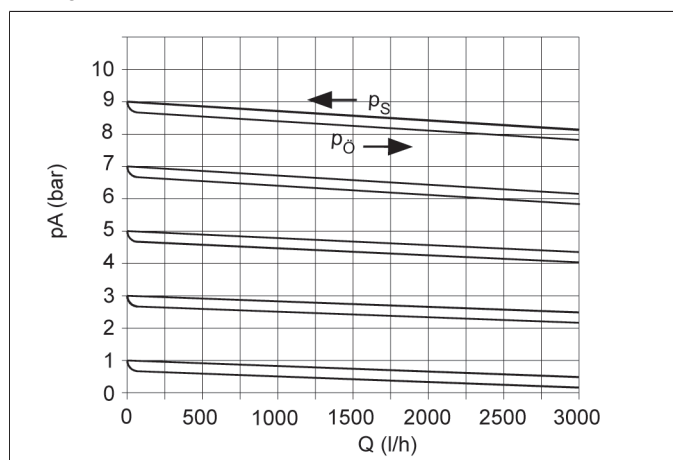
DN 15



p_A = working pressure (secondary pressure)

Q = flow

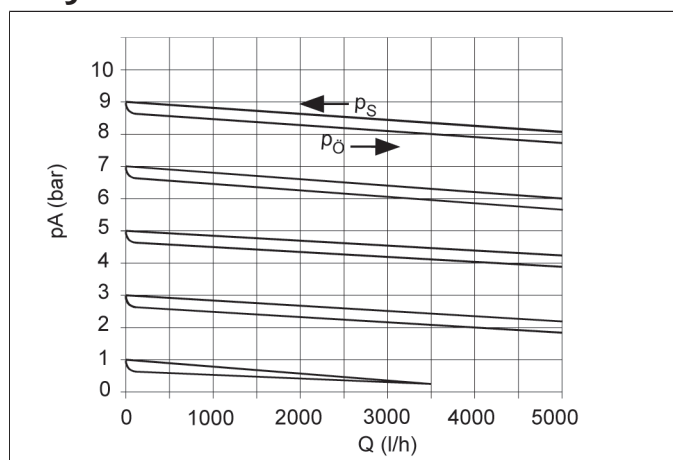
DN 20



p_A = working pressure (secondary pressure)

Q = flow

DN 25

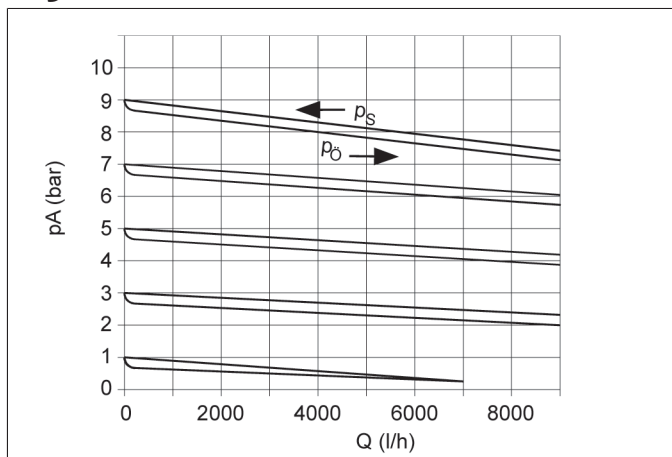


p_A = working pressure (secondary pressure)

Q = flow

Pressure reducing valves, Pressure Reducing Valve DMV 755

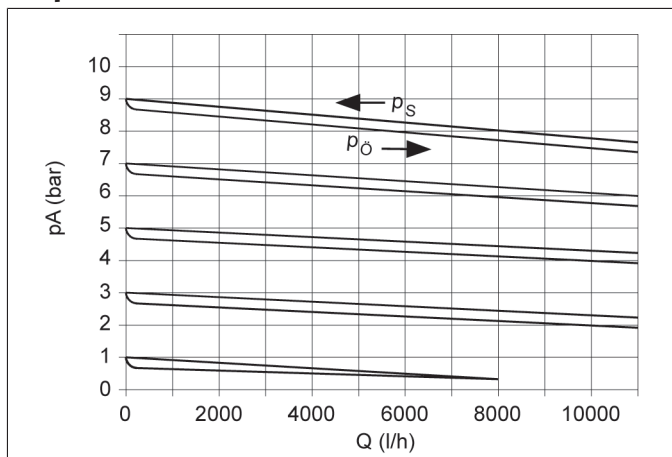
DN 32



p_A = working pressure (secondary pressure)

Q = flow

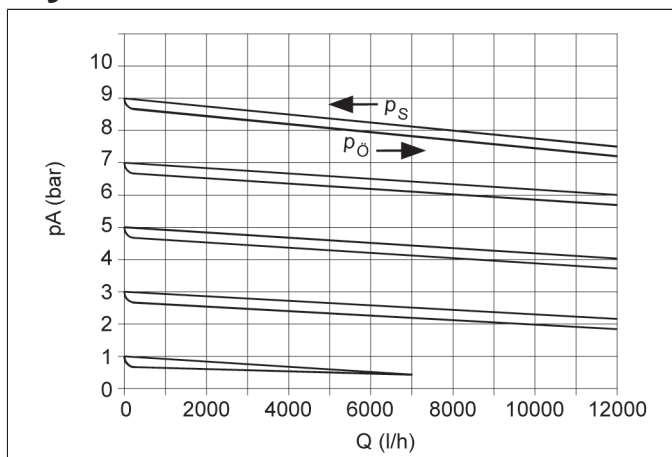
DN 40



p_A = working pressure (secondary pressure)

Q = flow

DN 50



p_A = working pressure (secondary pressure)

Q = flow

Pressure reducing valves, Pressure Reducing Valve DMV 755