Pressure Reducing Valve DMV 750

Reduction of system pressures to nearly constant working pressures

- Pressure reduction by flow control at valve seat
- Setting range from 1,0 to 6,0 bar
- Working pressure constant appr. ± 0,2 bar
- Sizes DN 65 and DN 80

Great operating security and long durability

- Operating/working or system pressure up to 10,0 bar (PN 10)
- Hermetically sealed by diaphragm
- Low-maintenance, easiest installation
- Valve setting and adjustment under working pressure
- Different materials: uPVC, PP or PVDF. PTFE-diaphragm
- Mounting with stainless steel bolts and nuts
- Threaded connection on each side for installation of gauge guard

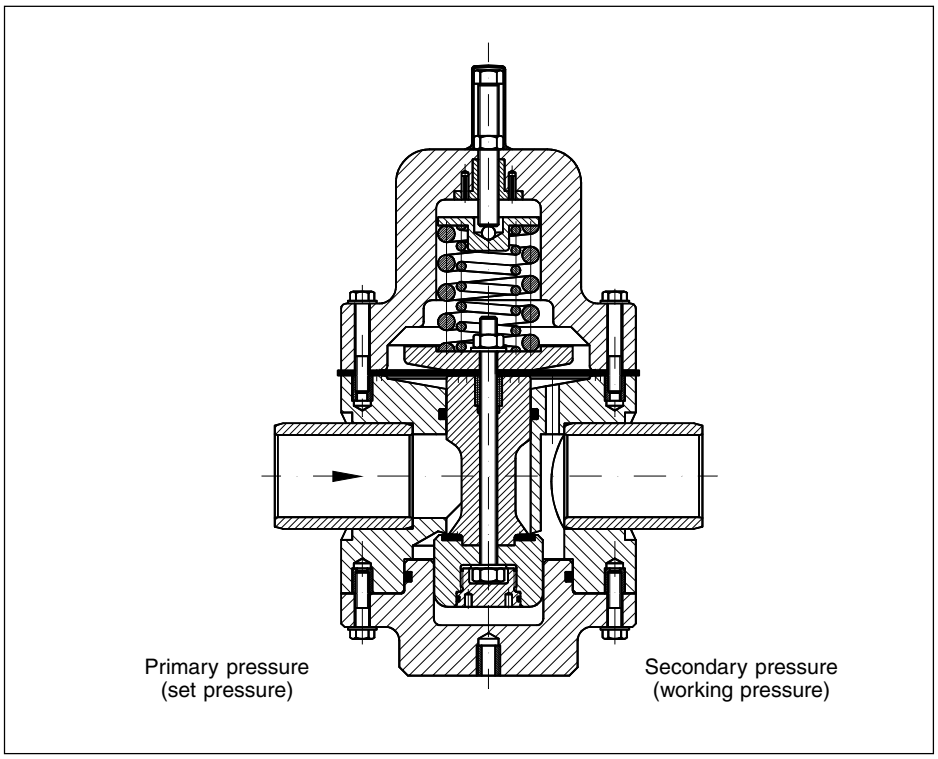
The pressure reducing valve 750 is used for reducing system pressures and to keep the working pressure constant.

Pressure reducing valves 750 have been developed due to higher technical requirements in the chemical engineering.

Valve functions and design:

The valve 750 is in working condition always open which means it is balanced between primary and secondary pressure. At any rise of working pressure - valve outlet - a pressure compensation takes place at the area below the diaphragm (control bore). The higher working pressure activates the large diaphragm and lifts the piston against the spring force. The flow reduces and the working pressure drops down until balanced condition is reached again. When the working pressure drops the described procedure reverses. The spring force opens the valve seat against lower pressure force below the diaphragm. The flow rises until the balanced condition is reached again.

For the two general applications it means (see page 4):
Secondary pressure system closed or secondary pressure system dynamically flowing.



Ident-No.

d	DN	DN	uPVC		PP		PVDF		Weight kg		
mm	mm	Inch	EPDM	FPM	EPDM	FPM	EPDM	FPM	uPVC	PP	PVDF
75	65	2 1/2	111 173	111 480	111 176	111 483	111 179	111 486	12,5	11,9	14,1
90	80	3	111 174	111 481	111 177	111 484	111 180	111 487	15,0	13,5	17,2

Size DN 100 on request

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- The piston is designed for withstanding high closing pressure at valve seat.
- The diaphragm separates the passing fluid from the bonnet by sealing it to the body.

Attention:
The secondary pressure working onto the diaphragm is conditionally compensated by the spring force which equally is balanced by the pressure setting.
If the secondary pressure is additionally increased by the back pressure, the pressure reducing valve works as nonreturn valve.
This pressure can lead to the destruction of the valve piston.

Valve setting and adjustment:
The presetting or readjustment is made by removing the protection cap (pos.10) at setting control screw (8) with a counternut and by reading the set pressure from the ASV diaphragm pressure gauge guard type 901 with pressure gauge in the pipe system. The counter nut can be leaded.

Materials:

Only thermoplastic materials with high impact strength and high creep strength are used by ASV.

Valve body, plug, piston::
- uPVC (Polyvinyl chloride)
- PP (Polypropylene)
- PVDF (Polyvinylidene fluoride)

Valve bonnet:
uPVC, PP, PVDF

Diaphragm:
EPDM, PTFE-diaphragm

Sealings:
EPDM, FPM

Connection screws:
Stainless steel (1.4301)

Other materials on request.

Colour:
Valve body/bonnet:
- uPVC grey, RAL 7011
- PP grey, RAL 7032
- PVDF grey, RAL (yellowish-white)

Connection:
- PVC spigot ends for solvent welding acc. DIN 8063, section 8.
- PP, PVDF spigot ends for fusion welding acc. DIN 16962/3.
- On request with union socket ends or flanges.

Technical data:

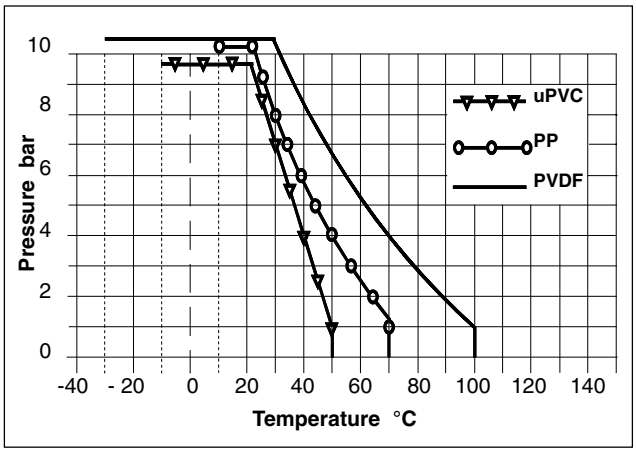
Type of fluids:
Neutral, aggressive or gaseous liquids provided that the selected materials are resistant at operating temperature. Refer to the ASV resistance guide.

Installation: In direction of arrow but independent of horizontal, vertical or upside-down installation.

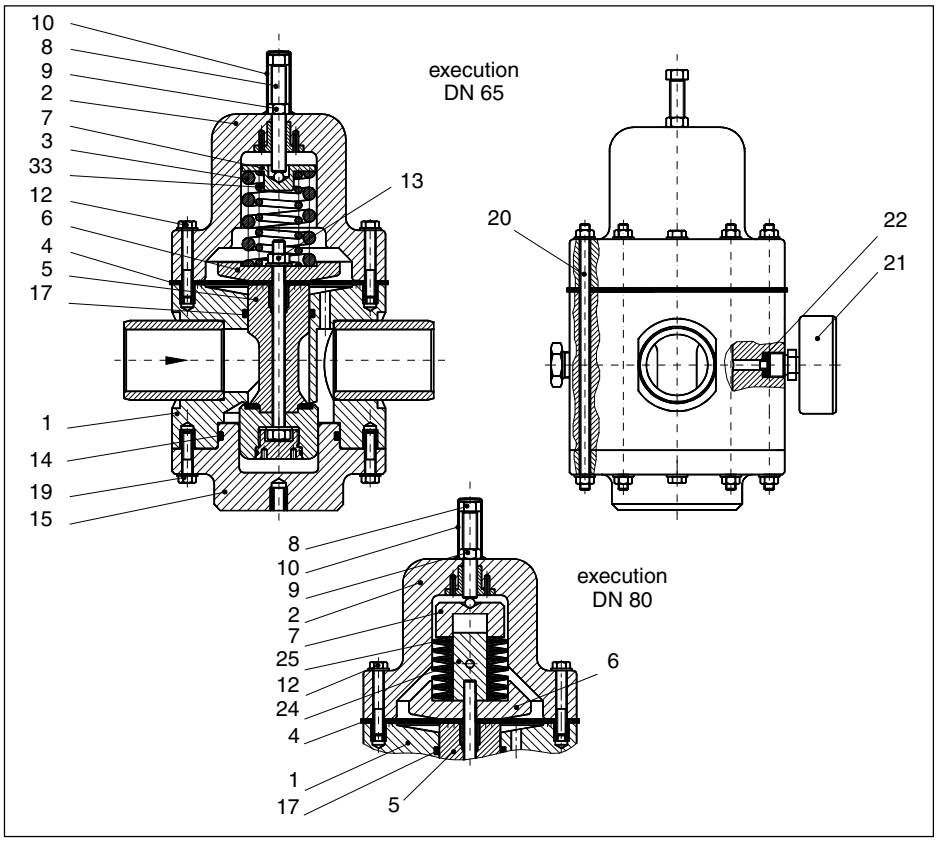
Nominal pressure: PN 10 bei 20° C.

Operating pressure: See pressure/ temperature diagram.

Pressure/temperature diagram:
The pressure/temperature limits are applicable for a computed operating life factor of 25 years at PN 10. The values are a guide for harmless fluids (DIN 2403) against which the material of the valve is resistant. Other media see the ASV resistance guide.
Durability of wear and tear parts is depending on the working conditions of the application.
Values < 0 °C (PP < + 10 °C) on request with exact data of operation.



Sectional drawing and part list



Pos.	Qty.	Description	Pos.	Qty.	Description
1	1	Valve Body	12	4/6	Screw complete
2	1	Valve Bonnet complete	13	1	Nut
3/33	1	Spring	14[1)]	1	O-ring Sealing
4[1)]	1	Diaphragm	15	1	Plug/Flange
5[1)]	1	Piston complete	17[1)]	1	O-ring sealing
6	1	Spring Plate	19	2	Screw complete
7	1	Pressure Plate with Ball	20	8	Threaded Rod complete
8	1	Setting Control Srew	21[2)]	1	Pressure Gauge
9	1	Counter Nut	22[2)]	1	Sealing
10	1	Cap	24	1	Guide Rod
			25	14	Spring Plate

[1)] Recommended spare parts. Materials as per ident-no.
[2)] Not standard, only on request for neutral media.
For aggressive media retrofitable with diaphragm pressure gauge guard.

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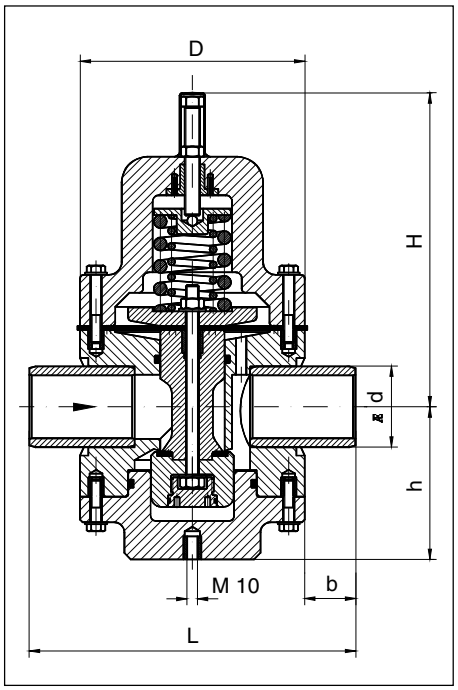
Working pressure (secondary pressure):
Corresponds to set pressure minus flow dependent pressure reduction: 1,0 up to 6 bar

Hysteresis:
Difference between opening and closing pressure: appr. 0,1 bis 0,4 bar

Fluid temperature:
Depends on the operating conditions (system pressure, load etc.). Taking creep strength into account, the following approximate temperatures apply:

- uPVC: up to + 50 °C
- PP: up to + 70 °C
- PVDF: up to + 100 °C

Dimension DMV 750



Size			Dimensions mm				
d mm	DN mm	DN Inch	L	b	H	h	D
75	65	2 1/2	284	44	265	121	195
90	80	3	360	55	340	143	250

Operating instructions

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, standards and technical regulations.
The intended use includes adhering to the specified limit values for pressure and temperature as well as the chemical resistance referring to the operating conditions.
For this purpose, ensure that all components getting in contact with the media are »resistant« in accordance with the ASV resistance guide.
The owner/user must inform the authorized qualified personnel instructed to perform the assembly, inspection and/or maintenance work of any potential danger emanating from the machine line/medium, and ensure that suitable safety measures are observed including local regulations and laws of the territories of use.
Non-observance of the specified information and safety instructions may lead to injuries and/or property damages.

Failures, possible causes and repair

Failures	Causes	Repair
Valve at diaphragm leaking.	Diaphragm clamping force too low.	Fasten screws (12/13/19/20).
Pressure rises above set pressure.	Seat seal (5) leaking.	Check piston or seat seat and replace if necessary.
	Diaphragm (4) leaking.	Replace diaphragm.
	O-ring sealing (17) leaking.	Replace O-ring sealing.
	Control bore at body and/ or intermediate flange dirty.	Disassemble piston and clean bore.
Valve closed (does not open).	Valve mounted in wrong direction.	Turn valve in direction of arrows.
Leakage at plug/flange (valve body).	O-ring sealing (14) leaking.	Disassemble plug/flange (15) and replace O-ring sealing.
Valve is leaking at control screw.	Diaphragm (4) damaged. Torque between spring plate, diaphragm and piston too low.	Replace diaphragm. Increase torque at nut (13).

Installation:

Attention In direction of arrow but independent of horizontal, vertical or upside-down installation.

- Valve to be installed into the pipe section in accordance with all technical standards. We recommend using detachable connections.
- In case of flange connections the torques for the screws to fasten the flanges have to be observed.
- Before flushing the pipeline the valve should be removed in order to avoid solids entering the valve.
- The valve is to be installed and the pipeline components are to be tested for leakages.
- Valve has to be adjusted according to description on page 2.

Disassembly:

Note Spare parts marked with [1)] in the spare part list are to be ordered in time.

- Observe the safety instructions. If required protection clothes must be worn.
- The pipe section is to be shut off and to be emptied.
- Any fluid rest is to be disposed properly.

1.1 Position the valve upright.
1.2 Remove cap (10).
1.3 Loosen counter nut (9) and setting control screw (8) so far that the springs (3, 33, 25) are totally released.
1.4 Remove housing bolts (12, 20) and pull off bonnet (2) from body (1).
1.5 Remove spring assemblies (3, 33, 25) of spring plate (6).
1.6 Loosen housing screws (19, 20).
1.7 Pull off flange/plug (15) from body (1).
1.8 Loosen nut (13), pull off washer and spring plate.
1.9 Remove diaphragm (4) and check for damages. Replace if necessary.
1.10 Pull of piston (5) out of body.
1.11 Check O-ring sealings (14, 17) for damages. Replace if necessary.
1.12 Disassembly/assembly of piston sealing has to be made by ASV.

Attention By own repair the valve might not function correctly and damages might occur in the equipment components.

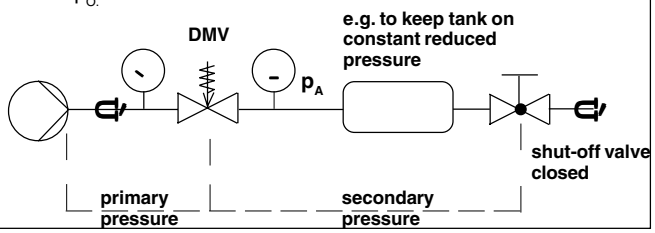
Assembly:

- In the reverse order to disassembly.
- Set pressure/pressure and leakage tests are to be made.

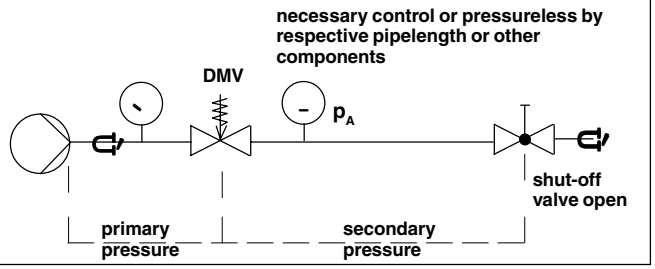
Note EPDM sealing elements should only be touched with silicon oil. Other oils or fat could cause swelling of sealing elements und influence the function.

Applications for pressure reducing valves

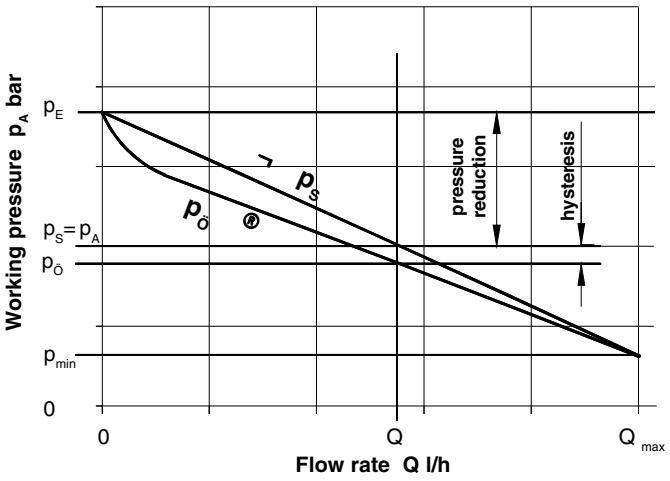
Working condition 1
If shut-off valve opens the working pressure p_A drops by an opening pressure $p_{Ö}$.



Working condition 2
If shut-off valve closes the working pressure rises by the closing pressure p_S.

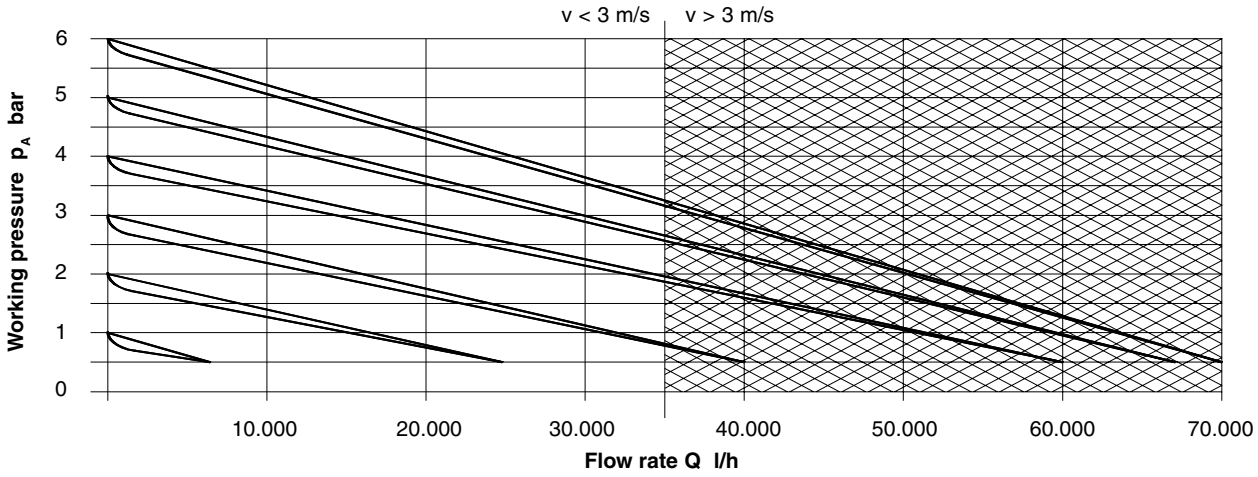


Operating conditions

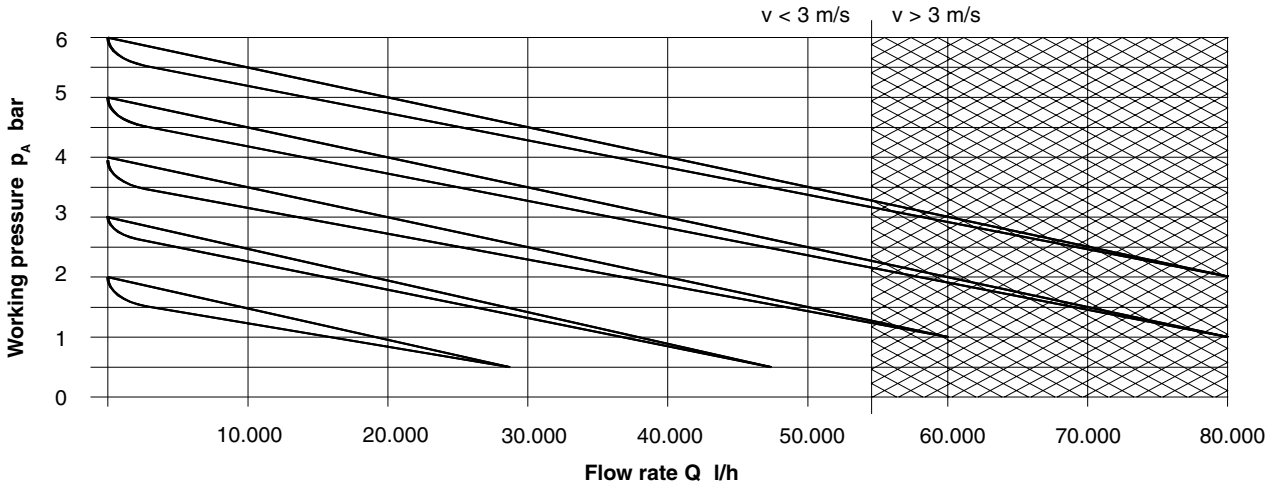


p_E = Set pressure
p_A = Working pressure
$p_Ö$ = Opening pressure
p_S = Closing pressure
$p_S - p_Ö$ = Hysteresis
$p_E - p_A$ = Flow depending pressure reduction
$p_E - p_{min}$ = max. pressure reduction

Characterisic DMV 750, DN 65



Characteristic DMV 750, DN 80



Technical alterations excepted

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