

Pressure Reducing Valve DMV 750



Advantages

- reduction of system pressures to nearly constant working pressures
- pressure reduction by flow control at valve seat
- pressure settings at any time, also during operation
- great operating security and long service life
- hermetically sealed by diaphragm
- low maintenance
- diaphragm clamping with standard stainless steel bolts
- threaded connection on each side as standard for installation of pressure gauge or diaphragm pressure gauge guard

Application

- chemical plants
- water treatment

Utilisation

- for reducing system pressures and keeping the working pressure constant

Flow media

- Technically clean neutral and aggressive fluids provided that the components coming into contact with the medium are resistant at the operating temperature according to the ASV resistance guide.

Media temperature

- see pressure/temperature diagram

Nominal pressure (H₂O, 20°C)

- PN 10

Operating pressure

- see pressure/temperature diagram

Set range

- 1.0 - 6.0 bar

Working pressure

- set pressure minus flow depending pressure reduction 1.0 - 6.0 bar

Constant working pressure

- appr. ± 0.2 bar

Hysteresis

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

Size

- DN 65 and DN 80

Valve body, plug, piston

- PVC-U (polyvinyl chloride)
- PP (polypropylene)
- PVDF (polyvinylidene fluoride)

Valve bonnet

- PVC-U (polyvinyl chloride)
- PP (polypropylene)
- PVDF (polyvinylidene fluoride)

Diaphragm

- EPDM-diaphragm, PTFE-vulcanised on fluid side

Sealing

- EPDM
- FPM

Connection screws

- stainless steel 1.4301 (V2A)

Connection

- spigot ends for solvent welding DIN/ISO (PVC-U)
- spigot ends for fusion welding DIN/ISO (PP/PVDF)

On request with

- backing flanges acc. to DIN 2501 (PN 10/16)

Mounting

- variable

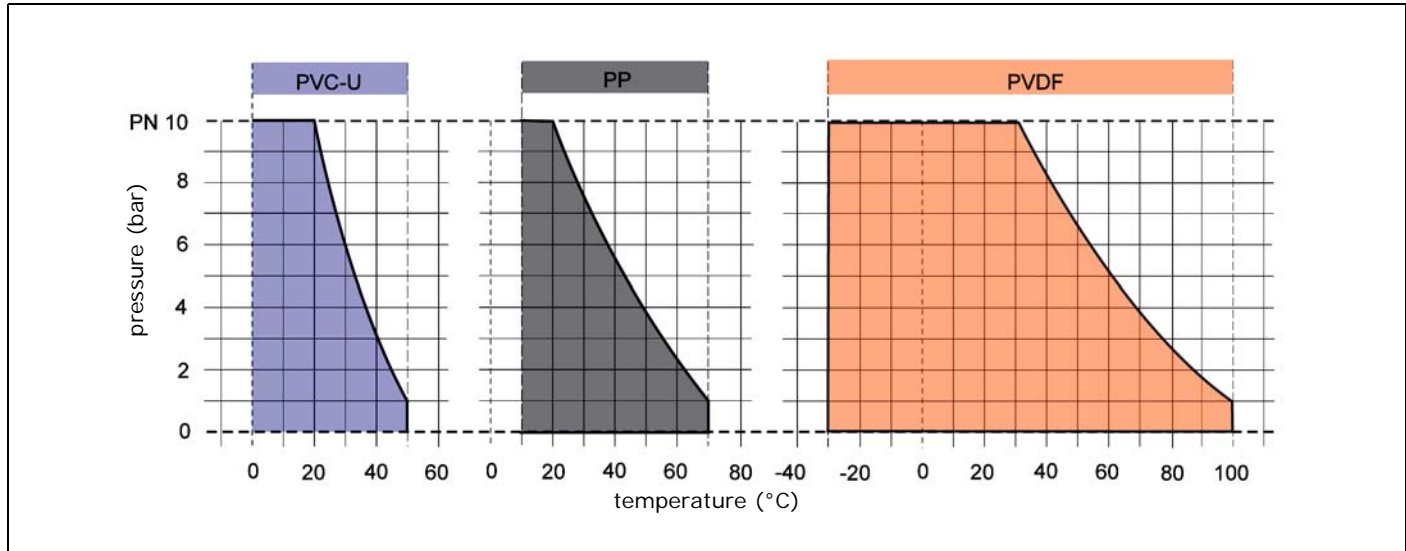
Flow direction

- always in the direction of the arrow

Colour

- PVC-U grey, RAL 7011
- PP grey, RAL 7032
- PVDF opaque (yellowish-white)

Pressure/temperature diagram



The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years.

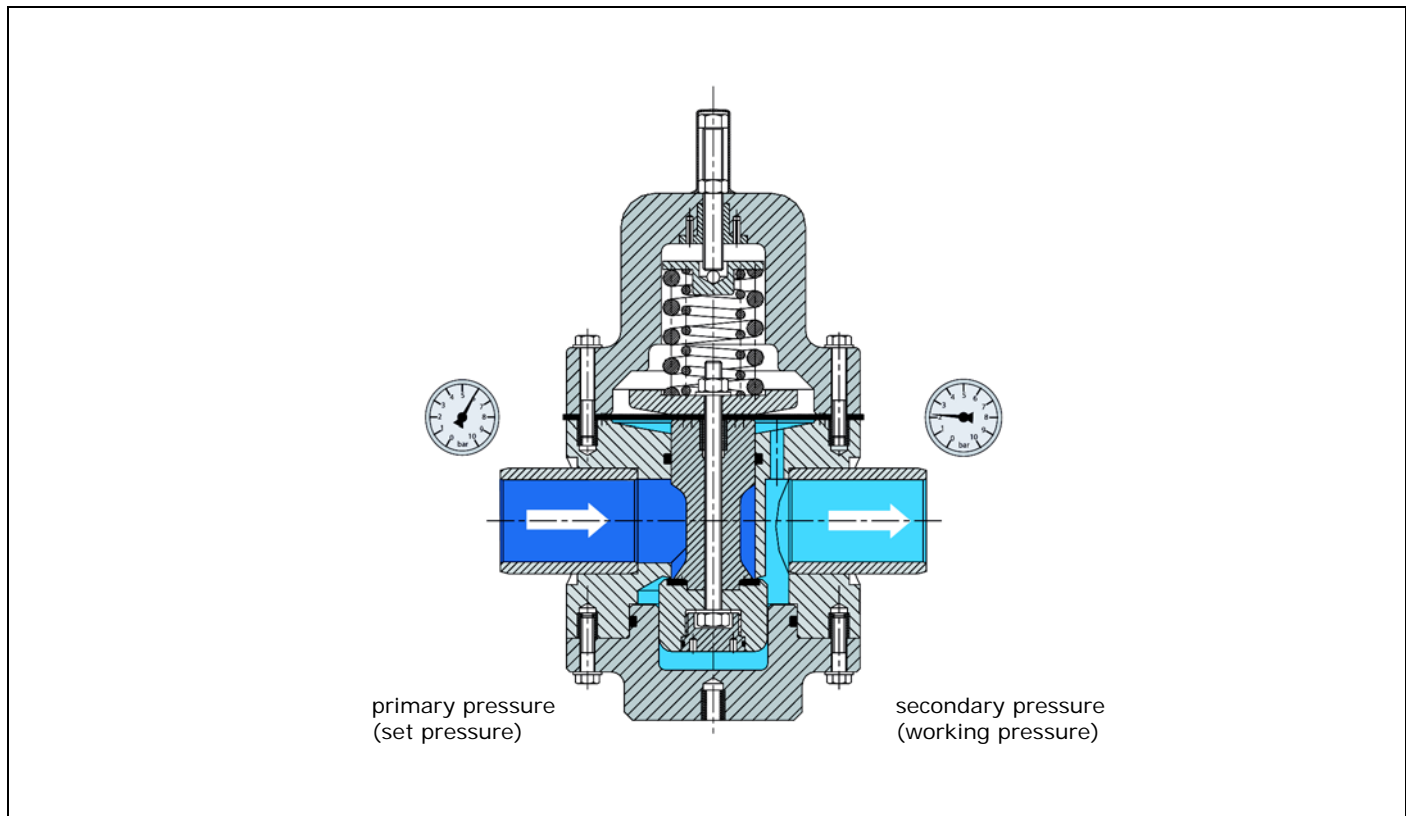
The values are a guide for harmless media (DIN 2403), to which the material of the valve is resistant.

For other media see the ASV resistance guide.

The durability of wear and tear 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.

Sectional drawing pressure reducing valve type DMV 750



Pressure Reducing Valve Type DMV 750

Valve function and design

The valve DMV 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 7):

- secondary pressure system closed or
- secondary pressure system dynamically flowing

The piston is designed for withstanding high closing pressure at valve seat.

The diaphragm separates the fluid in the bottom section of the valve from the bonnet and/or atmosphere. The seal is ensured by the shaped sealing flange on the valve body.

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 non-return 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 (10) at adjustment screw (8) with a counternut and by reading the set pressure from the ASV diaphragm pressure gauge guard type MDM 902 with pressure gauge in the pipe system. The counternut can be leaded.

Pressure reducing valve with pressure gauge

For neutral media the pressure reducing valves can be equipped by the manufacturer with a gauge.

For other media check and adhere to the resistance of the gauge material.

NOTE

If the valve is equipped with a pressure gauge, the pressure gauge may be tightened with max. 3 Nm only. ✓

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, relevant standards and technical regulations or data sheets such as e.g. DIN, DIN EN, DIN ISO

and DVS* for example.

*DVS = German Welding Society ✓

The intended use includes adhering to the specified limit values for pressure and temperature as well as checking the chemical resistance with regard to the operating conditions.

For this purpose, ensure that all components coming into contact with the media are **»resistant«** in accordance with the ASV resistance guide.

If no mounting or instruction manual is available to the authorized qualified personnel, please request a manual prior to installation, maintenance or repair.

Non-observance of the specified instructions and safety regulations may cause damage to health and/or damage to assets.

Tightening torque

NOTE

In the event of diaphragm settling and/or temperature fluctuations, it is necessary to check the tightening torque of the housing screws at certain intervals. ✓

Following tightening torque must be observed:

tightening torque	75	90
d (mm)	20	20
MD (Nm)	20	20

tightening torque for lubricated screws

NOTE

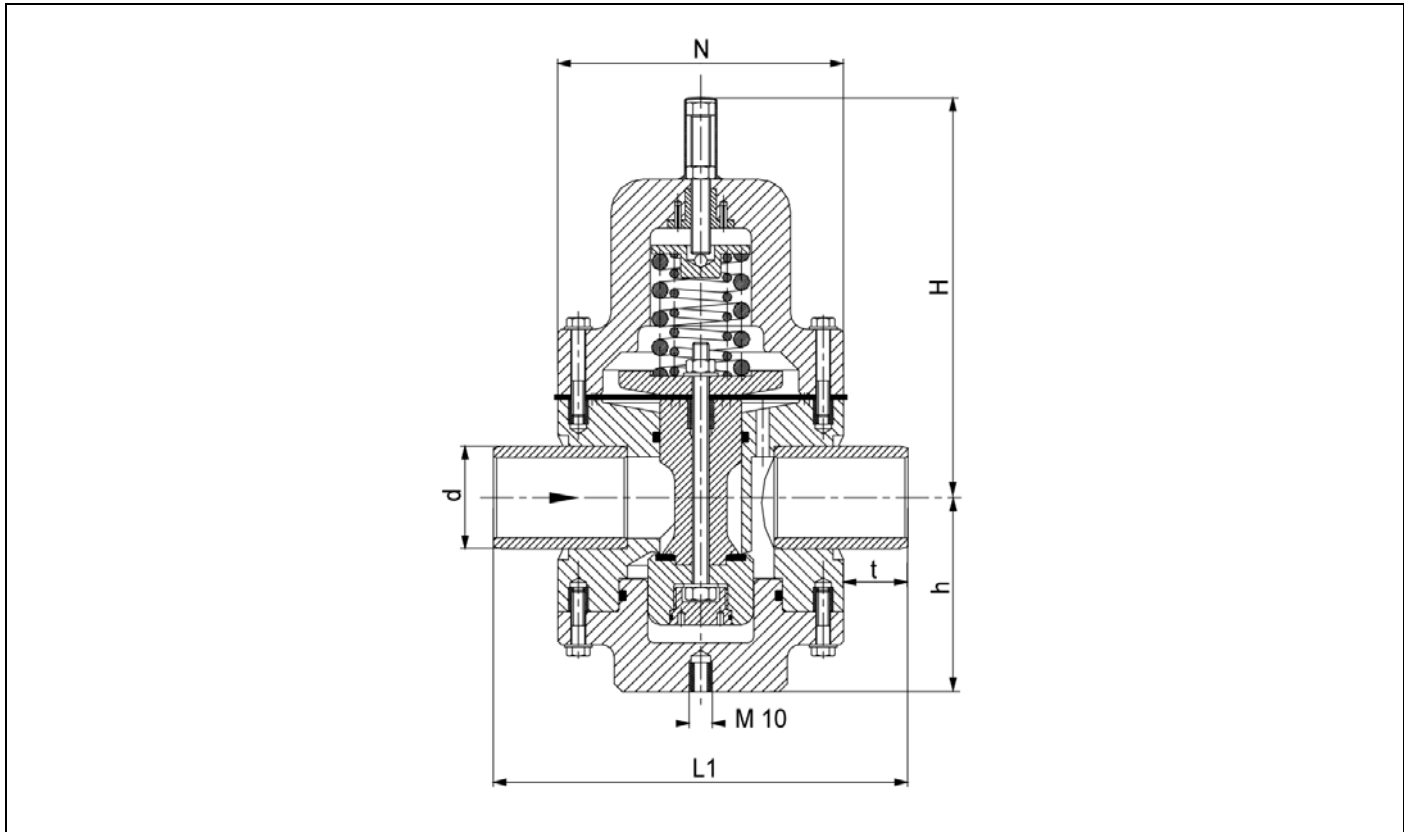
Do not allow elastomer components, especially the EPDM sealing elements, to come into contact with synthetic or mineral oils, grease or cleaning agents. Danger of swelling. Only appropriate grease should be used such as silicone grease. ✓

We recommend

- installing of filter or strainer (see print 330034) directly before the valve for avoiding impurities, e.g. at valve seat.

Pressure Reducing Valve Type DMV 750

Dimension



dimension	d (mm)	75	90
	DN (mm)	65	80
	DN (inch)	2 1/2	3
	b	44	55
	D	195	250
	h	121	143
	H	265	340
	L	284	360

Weight (kg)

weight	d (mm)	75	90
PVC-U		12,5	15,0
PP		11,9	13,5
PVDF		14,1	17,2

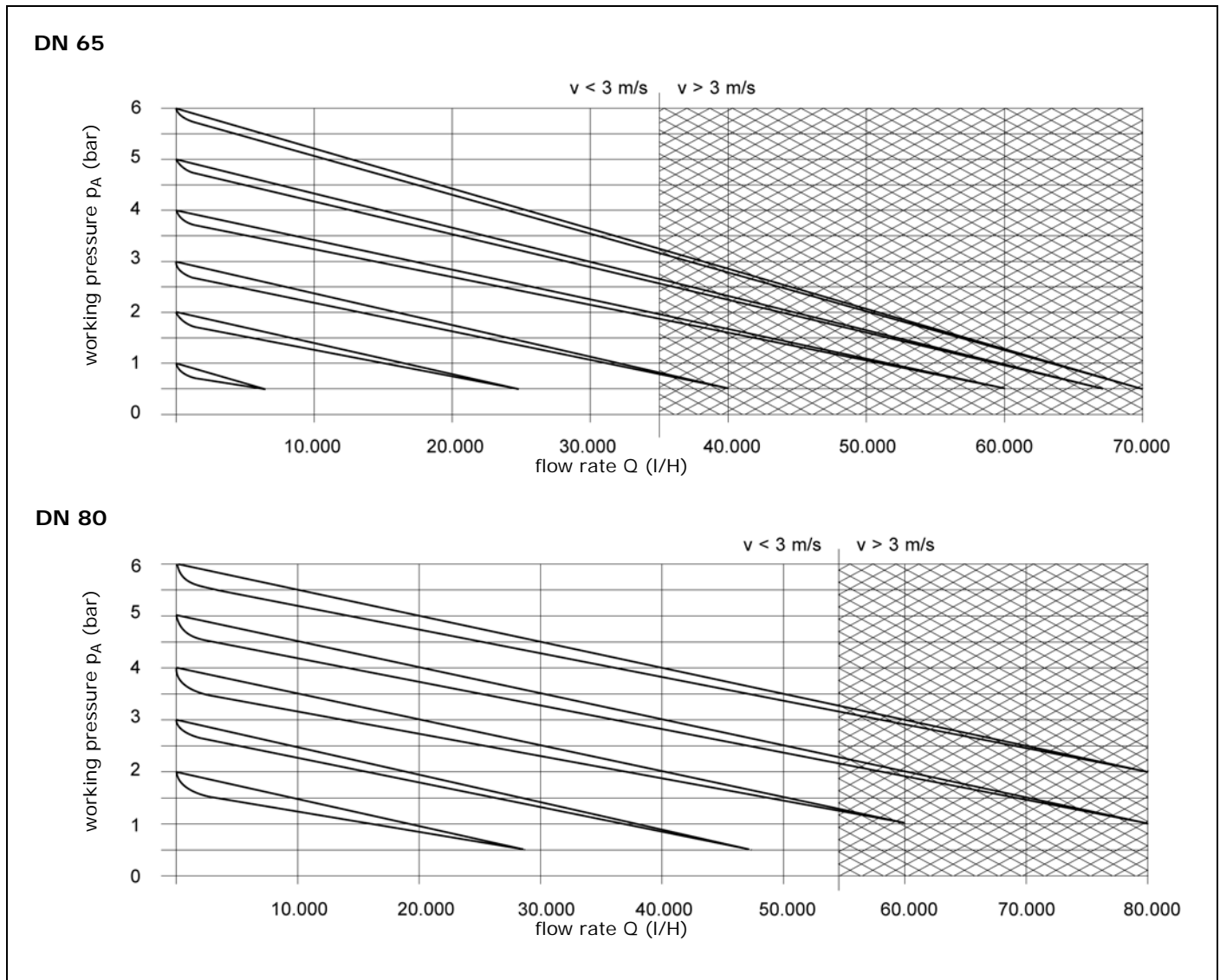
Ident number

ident number	d (mm)	75	90
	DN (mm)	65	80
	DN (inch)	2 1/2	3
PVC-U	EPDM	111173	111174
	FPM	111480	111481
PP	EPDM	111176	111177
	FPM	111483	111484
PVDF	EPDM	111179	111180
	FPM	111486	111487

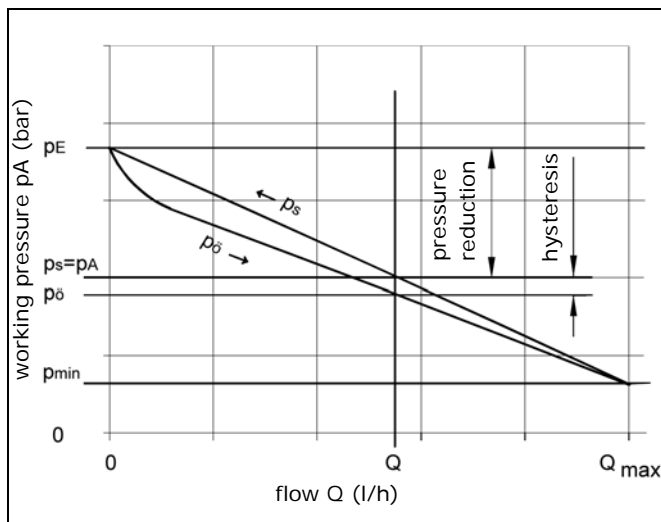
size DN 100 on request

Pressure Reducing Valve Type DMV 750

Characteristic curves



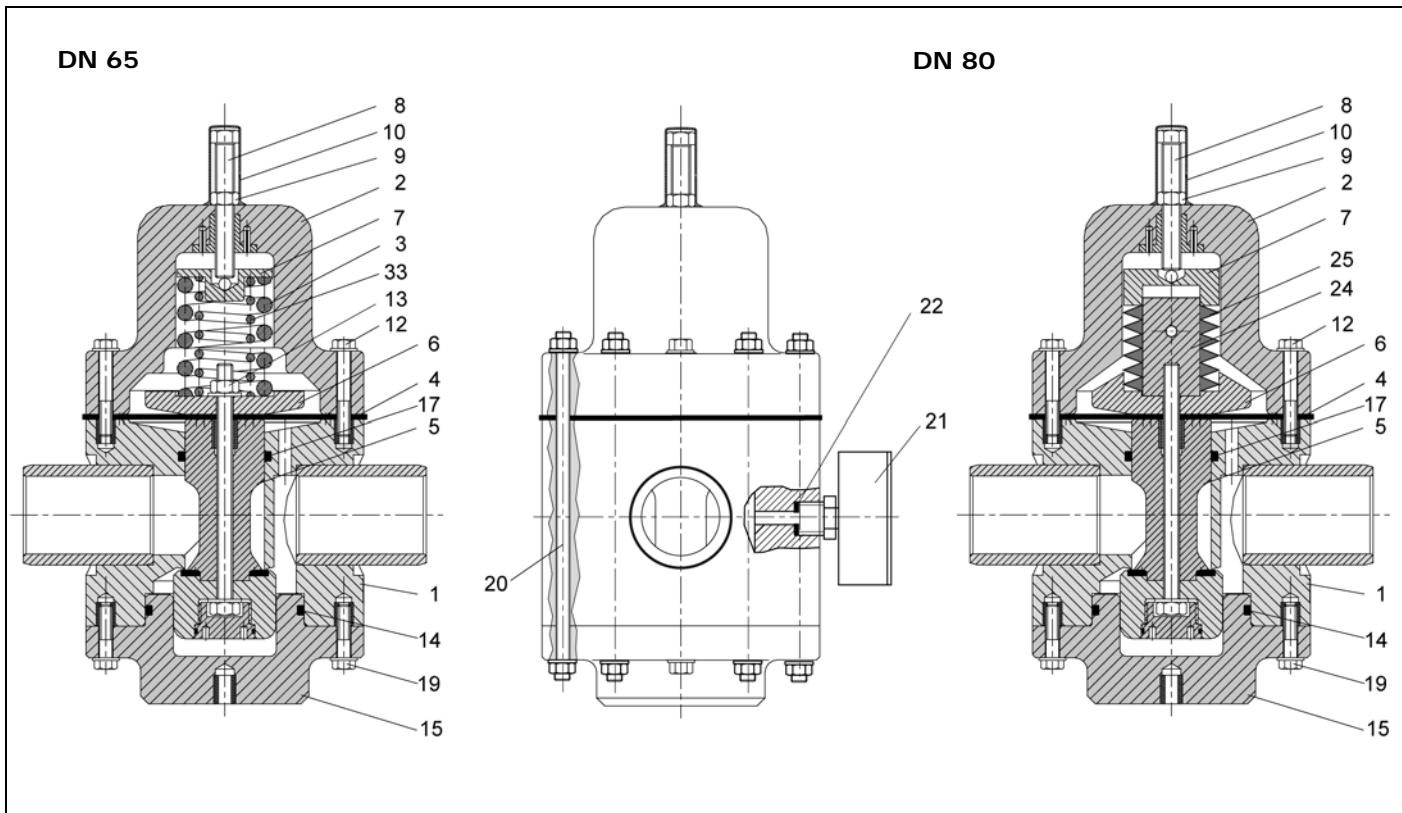
Operating conditions



- p_E = set (inlet) pressure
- p_A = working pressure
- p_O = opening pressure
- p_S = closing pressure
- $p_S - p_O$ = hysteresis
- $p_E - p_A$ = flow dependent pressure reduction
- $p_E - p_{min}$ = max. pressure reduction

Pressure Reducing Valve Type DMV 750

Spare parts list and designation



item	designation	qty.
1	body	1
2	bonnet complete	1
3/33	pressure spring	1
4 ¹⁾	diaphragm	1
5 ¹⁾	piston complete	1
6	spring plate	1
7	pressure plate with ball	1
8	adjustment screw	1
9	counternut	1
10	cap	1
12	screw complete	4/6
13	nut	1
14 ¹⁾	O-ring	1
15	plug/flange	1
17 ¹⁾	O-ring	1
19	screw complete	2
20	threaded rod complete	8
21 ²⁾	pressure gauge	1
22 ²⁾	sealing	1
24	guide rod	1
25	spring plate	14

1) recommended spare parts
Materials according to ident number.

2) not standard, only on request for neutral media
For aggressive media retrofitable with diaphragm pressure gauge guard.



Pressure Reducing Valve Type DMV 750

Failures, possible causes and repair

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

Subject to technical modifications