

PRESSURE RELIEF VALVE DHV 712

Nominal size DN 65-100

Nominal size 2 1/2"–4"

Nominal pressure PN 6-10 bar

PVC-U

PP

PVDF



Advantages

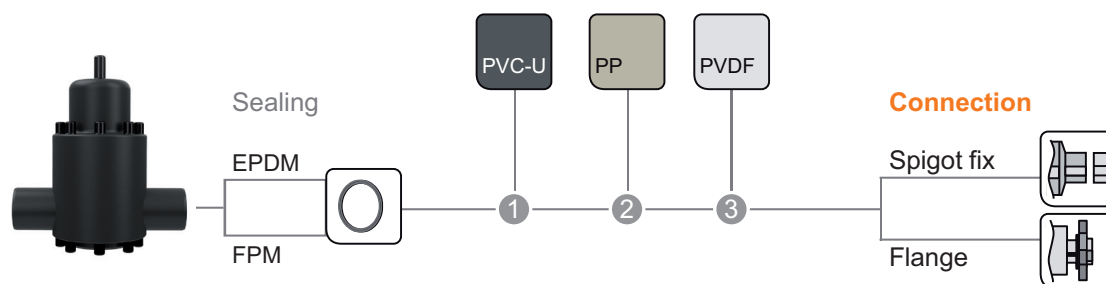
- pressure setting range 0.3 to 10 bar
- EPDM diaphragm, PTFE-coated on the medium side
- most powerful thermoplastic pressure relief valve for large nominal diameters
- two optional pressure ranges per nominal diameter
- reliable reduction of pressure peaks and pulsations
- for constant working pressures even with counter-pressure in the system
- constant, low vibration control behaviour
- simple pressure setting possible at any time, even during operation
- 100% back pressure free in the resting position

Additional options on request

- free of paint wetting impairment substances
- pressure presetting
- pressure gauge hole
- sealed

www.asv-stuebbe.com/products/instrumentation

Pressure Relief Valve DHV 712



Diaphragm PTFE (EPDM)



Pressure setting*

	DN 65	DN 80	DN 100
0,3 - 4,0 bar	●	●	●
0,5 - 10,0 bar	●	●	○
0,5 - 6,0 bar	○	○	●

On Demand

- » Pressure Gauge Bore 2x G1/2"
- » Sealing
- » Cleaning
(Free of Surface Disturbing Substances)

* Pressure settings in 0,5 bar steps.

- available
- not available

Basic Nominal Sizes:

DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400
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Connection Material (pipe connection)

1	PVC-U spigot fix PP/St. flange DIN, ANSI GFK flange DIN
2	PP spigot fix PP/St. flange DIN, ANSI GFK flange DIN
3	PVDF spigot fix PP/St. flange DIN, ANSI

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Use

Use

- chemical plant engineering
- industrial plant engineering
- water treatment

Application

- The pressure relief valve which is directly controlled by the medium, is used in technical processing plants for keeping preset working pressures constant on the primary side.
- The pressure relief valve can also be used as an overflow valve to prevent pressure peaks. In this case, the pressure relief valve is fitted in a bypass line.

Valve function

- If the working or inlet pressure rises above the set value, the pressurised valve piston is lifted against the spring force. The valve opens and pressure is relieved into the secondary line (outlet side). The valve closes as soon as the working pressure at the valve piston is lower than the set spring preload.
- Constructional damping at the piston prevents controller transient oscillations. The diaphragm separates the medium in the valve body from the bonnet and the atmosphere.

Valve setting

- Set or adjust the desired or permissible working pressure at the adjustment screw with the aid of pressure gauges (ASV diaphragm pressure gauge guard, 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 unauthorised adjustment, if necessary.

Flow medium

- 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.

Note

For nitric or sulphuric acid, please contact us and indicate the exact operating conditions!

Flow direction

- always in the direction of the arrow, see sectional drawing

ASV resistance guide

www.asv-stuebbe.de/pdf_resistance/300051.pdf

Process temperature

- see pressure/temperature diagram

Process pressure

- see pressure/temperature diagram

Nominal pressure (H₂O, 20 °C)

- PN 6-10 bar

Size

- DN 65-100

Pressure setting range

- DN 65/PN 10 bar: 0.3–4.0/0.5–10 bar
- DN 80/PN 10 bar: 0.3–4.0/0.5–10 bar
- DN 100/PN 6 bar: 0.3–4.0/0.5–6 bar

Working pressure

- equals set pressure plus flow-dependent pressure increase (see characteristic curves): approx. 0.3-10 bar

Opening pressure

- approx. 0.3–0.5 bar

Hysteresis

- Difference between opening and closing pressure approx. 1 bar

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Actuation

- medium controlled

Device connection

- Spigot end for solvent welding DIN/ISO (housing: PVC-U)
- Fusion spigot end DIN/ISO (housing: PP)
- Fusion spigot end DIN/ISO (housing: PVDF)
- Backing flange DIN 2501 PN 10/16

Material with medium contact

Housing/bonnet:

- PVC-U
- PP
- PVDF

Diaphragm:

- PTFE

(EPDM diaphragm, PTFE-coated on the medium side)

Sealing:

- FPM
- EPDM

Material without medium contact

Screws:

- stainless steel (1.4301)

Mounting position

- as required

Fastening

- via threaded inserts (metal inserts) in the valve body

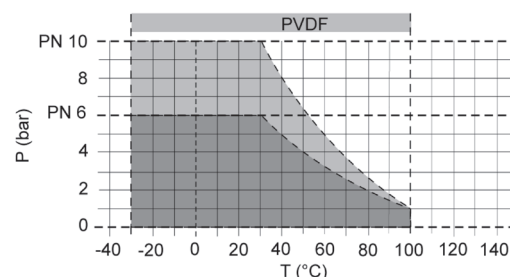
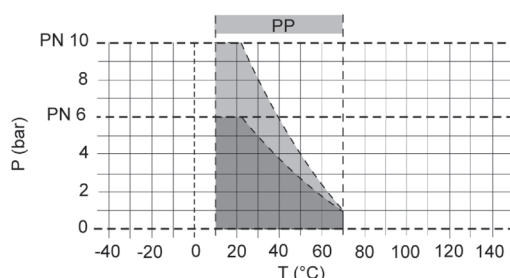
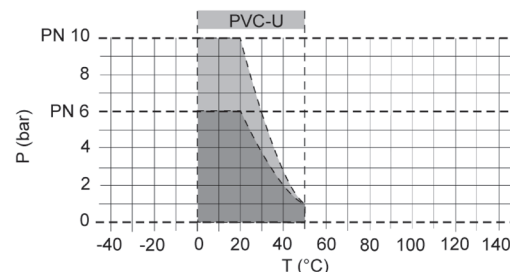
Colour, housing/bonnet

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

Pressure gauge connection

- The pressure relief valve can be factory fitted with a pressure gauge for neutral medium types. The resistance of the pressure gauge material has to be taken into consideration for other medium types.

Pressure/temperature diagram



Description	
P	Operating pressure
T	Temperature

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

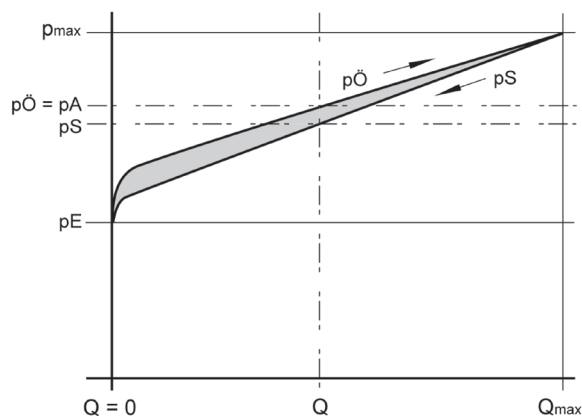
The values are a guide for flow media (DIN 2403), to which the valve material is resistant. For other fluids please refer to the ASV resistance guide; reduction ratios may have to be taken into account. The operating life of the wear parts depends on the conditions of use.

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

The rated pressure (PN) depends on the valve size and material of the housing.

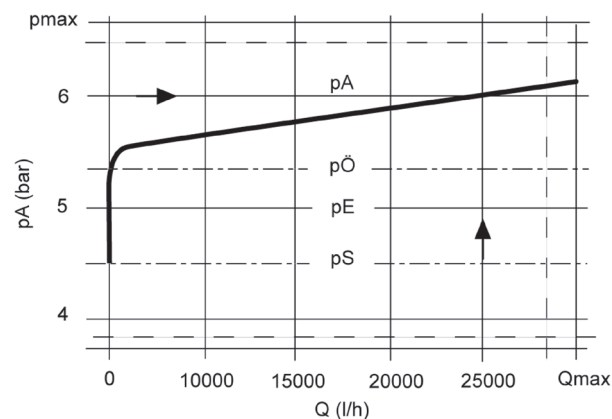
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Operating behaviour



	Description
pE	set pressure
pA	working pressure
p _{max}	maximum pressure
pÖ	opening pressure
pS	closing pressure
pÖ-pS	hysteresis
pA-pE	flow-dependent pressure increase
Q	Flow

Characteristic curve, design example



The valve is set tight at 5 bar.

A flow of approx. 25 000 l/h is reached at a pressure increase of 1 bar.

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

Set pressure pE: 5 bar

working pressure pA: 6 bar

opening pressure pÖ: 5.4 bar

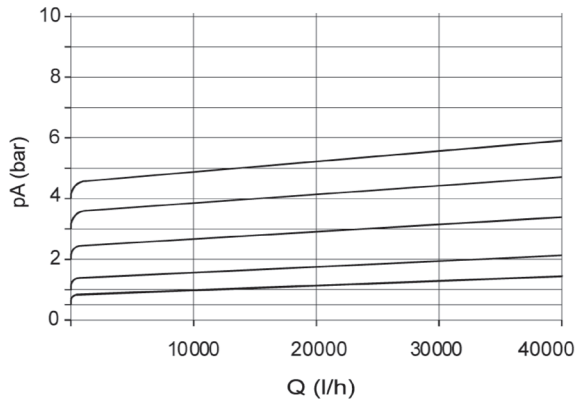
closing pressure pS: 4.5 bar

	Description
pA	Working pressure
Q	Flow

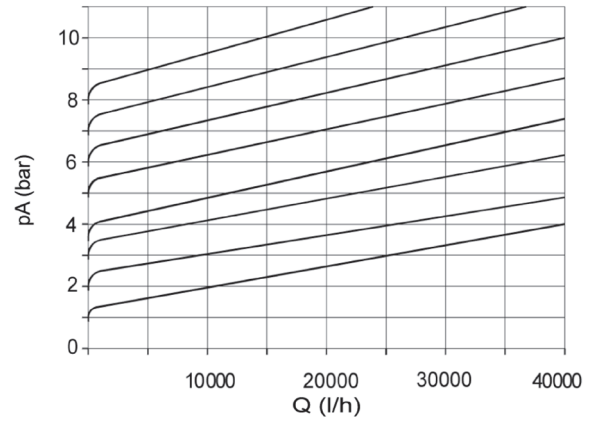
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Characteristic curve, set range

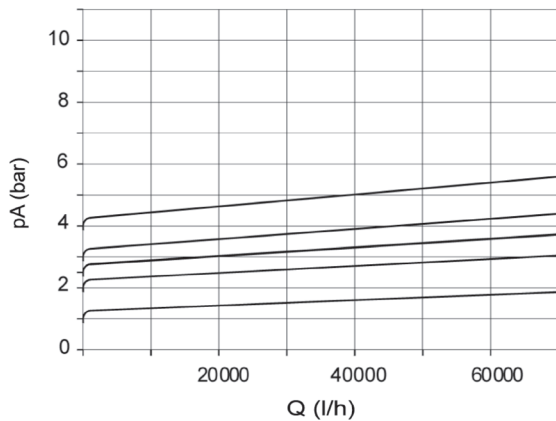
DN 65/PN 10 bar: 0.3-4.0 bar



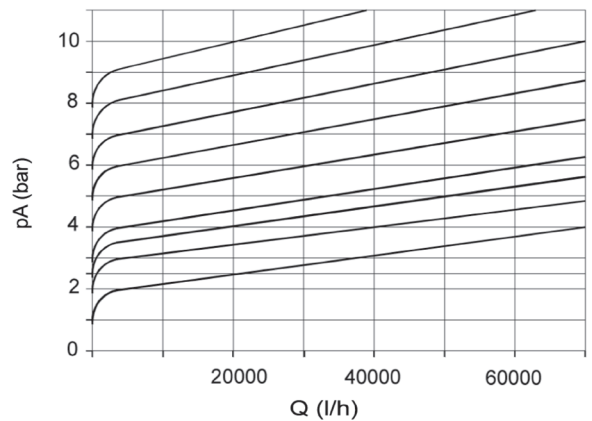
DN 65/PN 10 bar: 0.5-10 bar



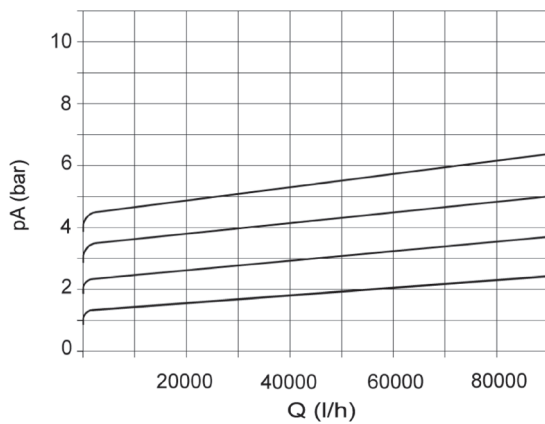
DN 80/PN 10 bar: 0.3-4.0 bar



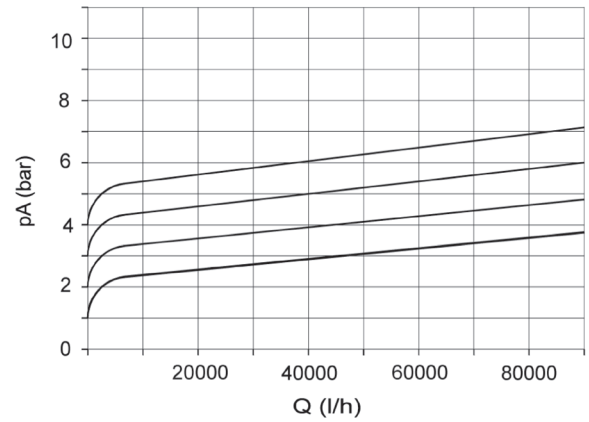
DN 80/PN 10 bar: 0.5-10 bar



DN 100/PN 6 bar: 0.3-4 bar



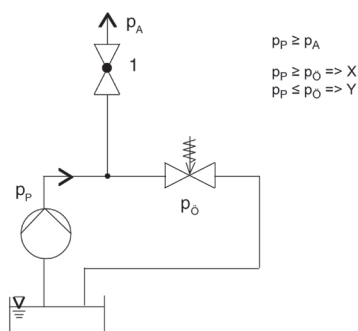
DN 100/PN 6 bar: 0.5-6 bar



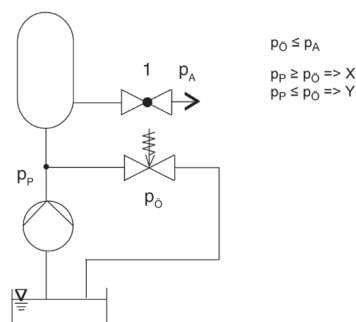
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Applications for pressure relief valves

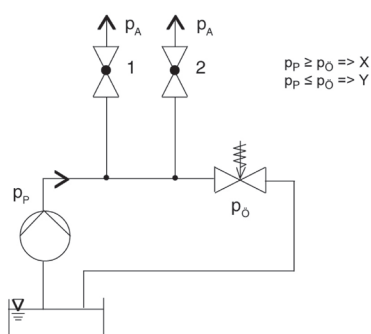
Example 1: Constant system pressure



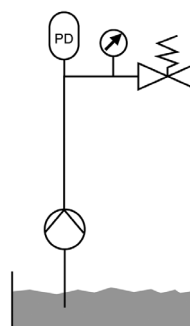
Example 4: Pressure relief valve as overflow valve;
container pressure must not exceed max. pressure



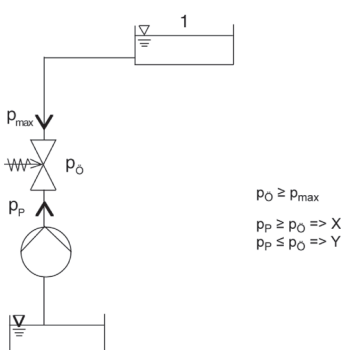
Example 2: Consumer 1 and/or 2 opens, pressure relief valve closes.



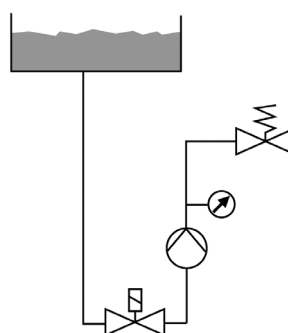
Example 5: Use in connection with pulsation damper for
low-pulsation dosing.



Example 3: Pressure relief valve as backflow preventer



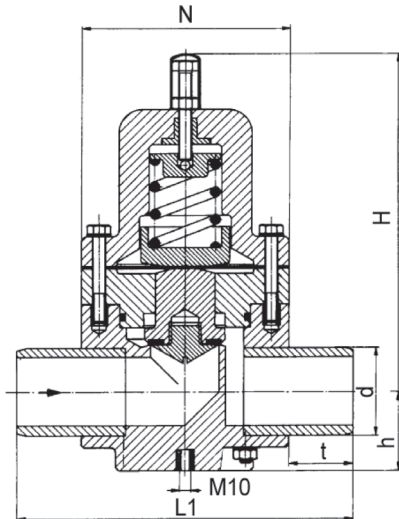
Example 6: Use with high primary pressure



	Description
X	Valve opens
Y	Valve closed
pA	Working pressure
p _{max}	maximum pressure
pP	pump pressure
pO	opening pressure

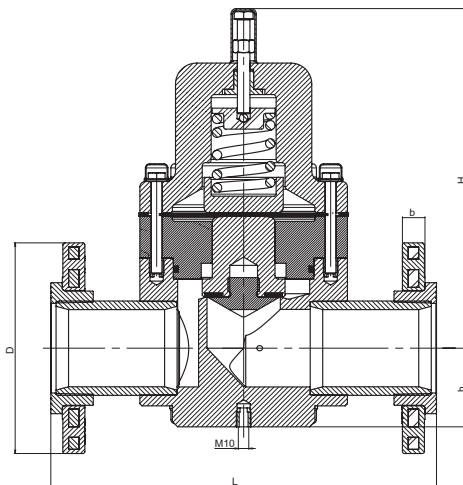
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Connection spigot

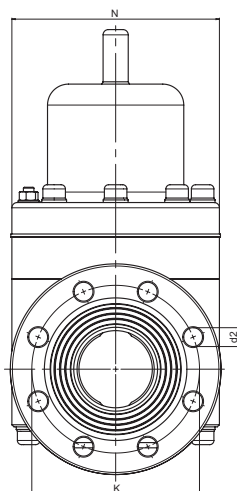


d (mm)	75	90	110
DN (mm)	65	80	100
DN (inch)	2 1/2	3	4
h (mm)	68	75	93
H (mm)	306	324	352
L1 (mm)	284	358	420
N (mm)	175	198	247
t (mm)	54	80	85

Connection flange

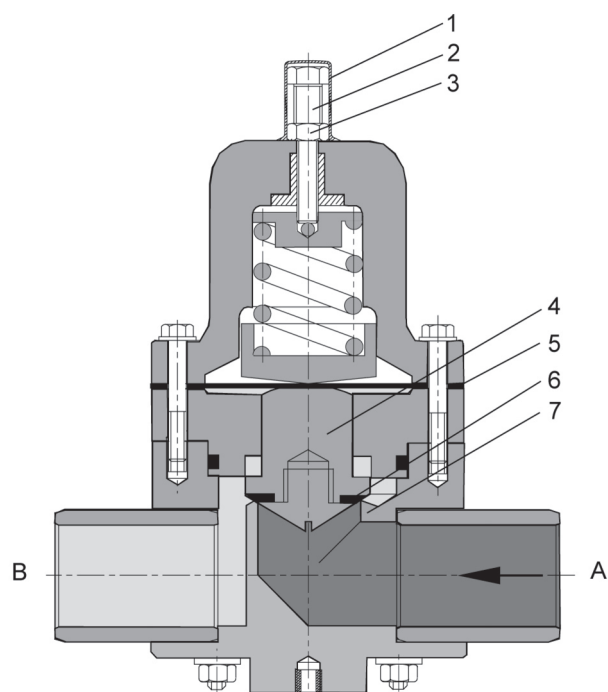


d (mm)	75	90	110
DN (mm)	65	80	100
DN (inch)	2 1/2	3	4
b (mm)	19	21	22
dz (mm)	18	18	18
D (mm)	186	201	221
h (mm)	68	75	93
H (mm)	306	324	352
K (mm)	145	160	180
L (mm)	290	368	430



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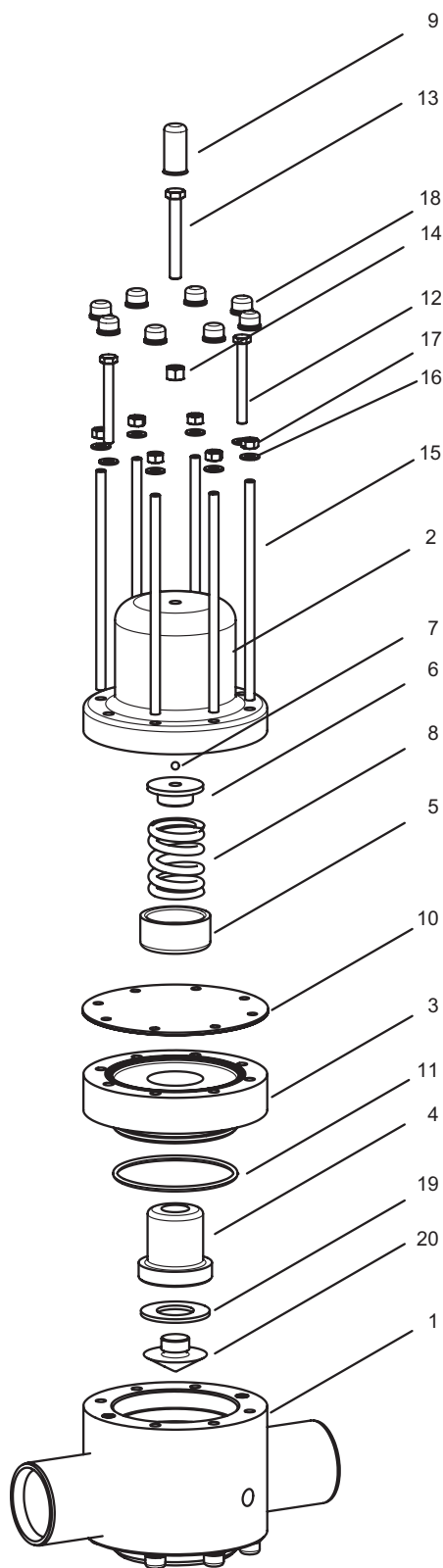
Sectional drawing



	Description
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

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Components



	Quantity DN 65	Quantity DN 80	Quantity DN 100	Description
1	1	1	1	housing, complete
2	1	1	1	bonnet
3	1	1	1	separating disc
4	1	1	1	piston, complete
5	1	1	1	spring plate
6	1	1	1	pressure plate
7	1	1	1	steel ball
8	1	1	1	pressure spring
9	1	1	1	protection cap
10	1	1	1	diaphragm
11	1	1	1	O-ring
12	8	2	2	hexagon screw
13	1	1	1	adjustment screw
14	1	1	1	counter nut
15	0	6	8	threaded rod
16	8	14	18	washer
17	6	12	16	hexagon nut
18	8	14	16	protection cap
19	1	1	1	flat sealing ring
20	1	1	1	piston point