

# PRESSURE RELIEF VALVE DHV 712

Nominal size DN 65-100

Nominal size 2 1/2"–4"

Nominal pressure PN 6-10 bar



## Advantages

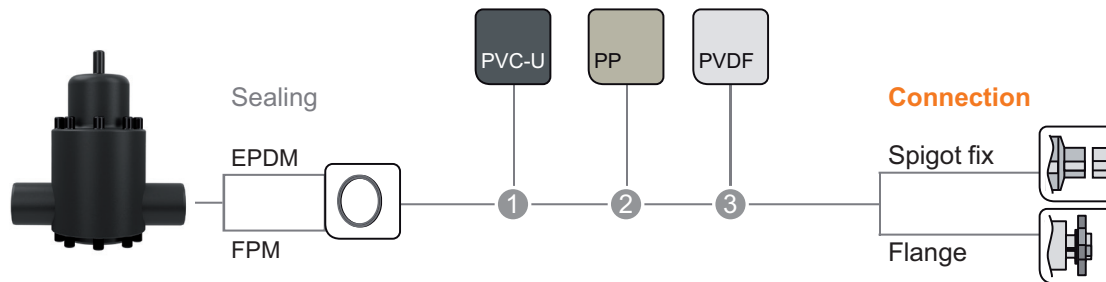
- pressure setting range 0.3 to 10 bar
- EPDM diaphragm, PTFE-coated on the medium side
- most powerful thermoplastic pressure relief valve for large nominal diameters
- two optional pressure ranges per nominal diameter
- reliable reduction of pressure peaks and pulsations
- for constant working pressures 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](http://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	<b>DN 65</b>	<b>DN 80</b>	<b>DN 100</b>	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**

## Pressure Relief Valve DHV 712

### 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](http://www.asv-stuebbe.de/pdf_resistance/300051.pdf)

#### Process temperature

- see pressure/temperature diagram

#### Process pressure

- see pressure/temperature diagram

#### Nominal pressure (H<sub>2</sub>O, 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

**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

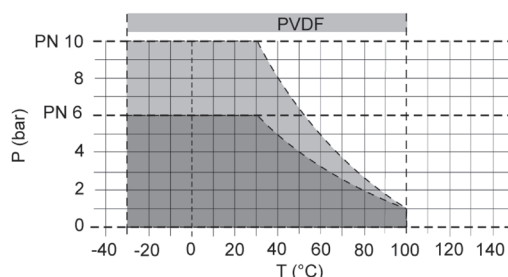
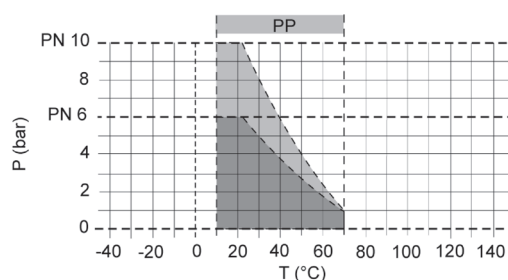
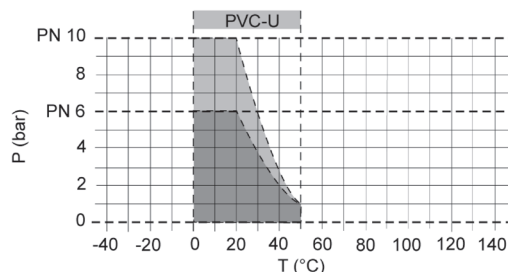
**Colour, housing/bonnet**

- 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.

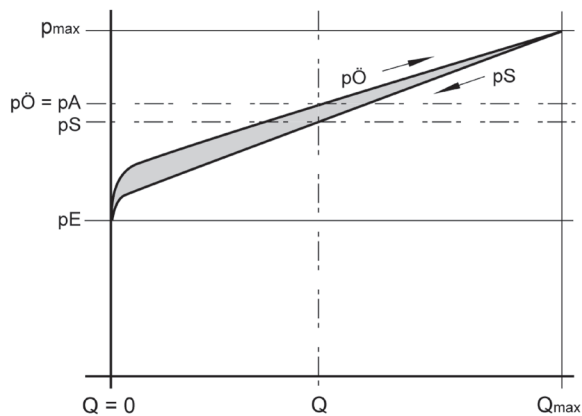
The values are a guide for flow media (DIN 2403), to which the valve material is resistant. For other fluids please refer to the ASV resistance guide; reduction ratios may have to be taken into account. The operating life of the wear parts depends on the conditions of use.

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.

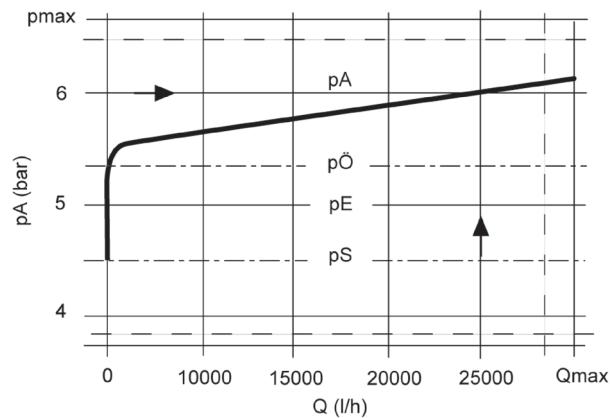
# Pressure Relief Valve DHV 712

## Operating behaviour



	Description
$p_E$	set pressure
$p_A$	working pressure
$p_{max}$	maximum pressure
$p_{\ddot{O}}$	opening pressure
$p_S$	closing pressure
$p_{\ddot{O}}-p_S$	hysteresis
$p_A-p_E$	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:

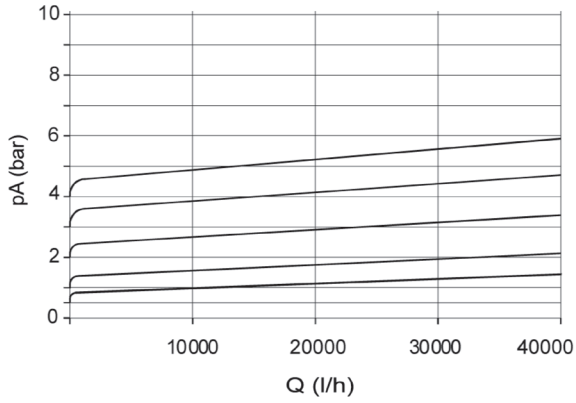
- Set pressure  $p_E$ : 5 bar
- working pressure  $p_A$ : 6 bar
- opening pressure  $p_{\ddot{O}}$ : 5.4 bar
- closing pressure  $p_S$ : 4.5 bar

	Description
$p_A$	Working pressure
$Q$	Flow

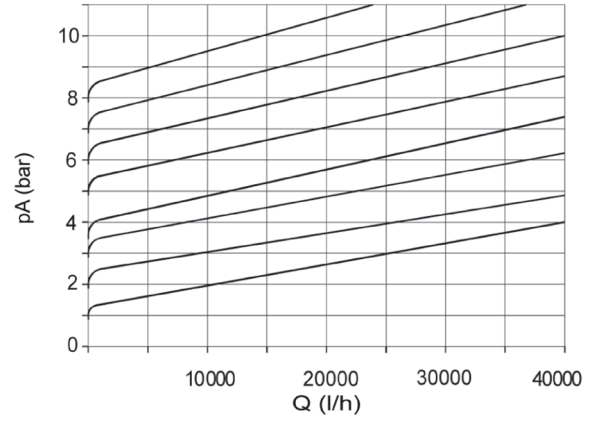
# Pressure Relief Valve DHV 712

## Characteristic curve, set range

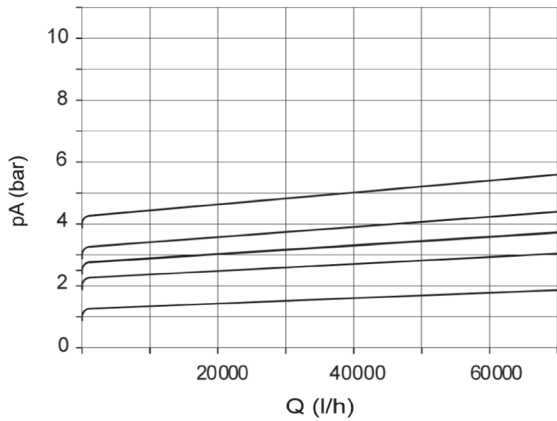
DN 65/PN 10 bar: 0.3-4.0 bar



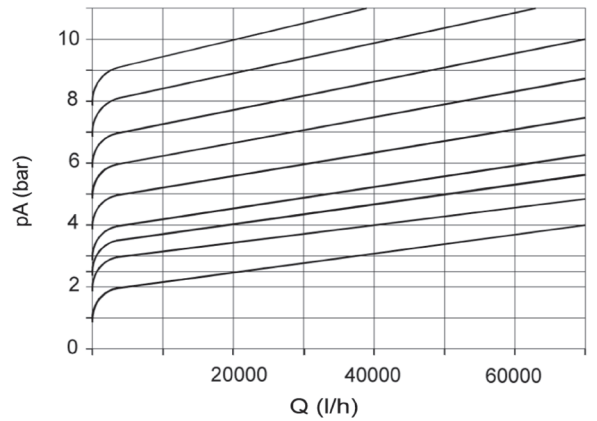
DN 65/PN 10 bar: 0.5-10 bar



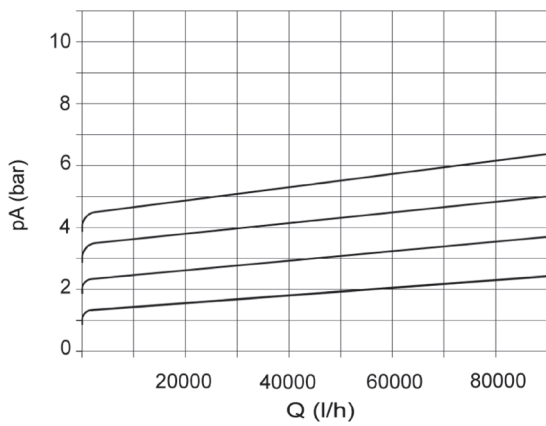
DN 80/PN 10 bar: 0.3-4.0 bar



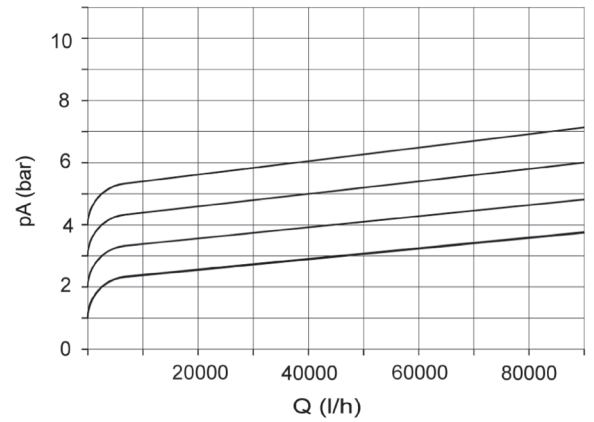
DN 80/PN 10 bar: 0.5-10 bar



DN 100/PN 6 bar: 0.3-4 bar



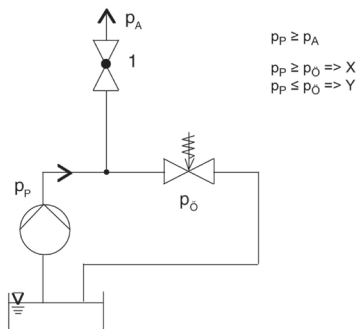
DN 100/PN 6 bar: 0.5-6 bar



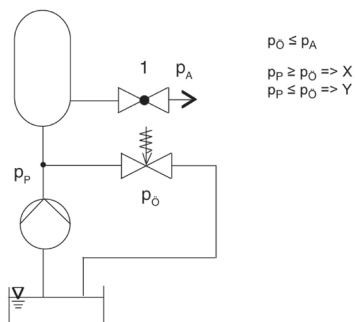
# Pressure Relief Valve DHV 712

## Applications for pressure relief valves

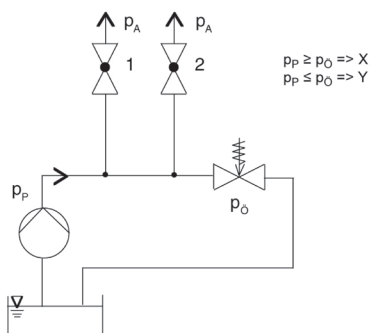
Example 1: Constant system pressure



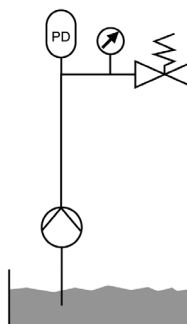
Example 4: Pressure relief valve as overflow valve; container pressure must not exceed max. pressure



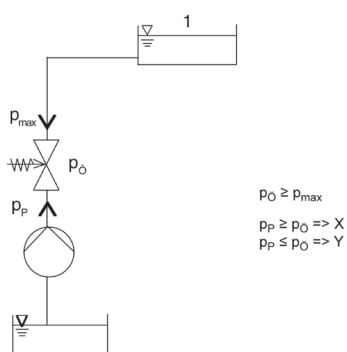
Example 2: Consumer 1 and/or 2 opens, pressure relief valve closes.



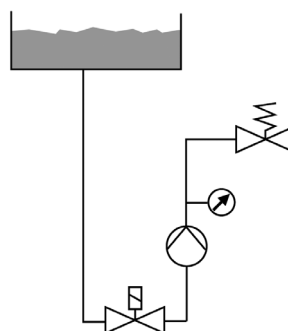
Example 5: Use in connection with pulsation damper for low-pulsation dosing.



Example 3: Pressure relief valve as backflow preventer



Example 6: Use with high primary pressure

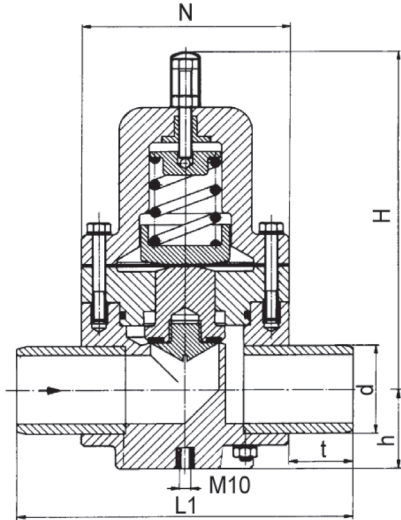


### Description

X	Valve opens
Y	Valve closed
pA	Working pressure
pmax	maximum pressure
pP	pump pressure
pO	opening pressure

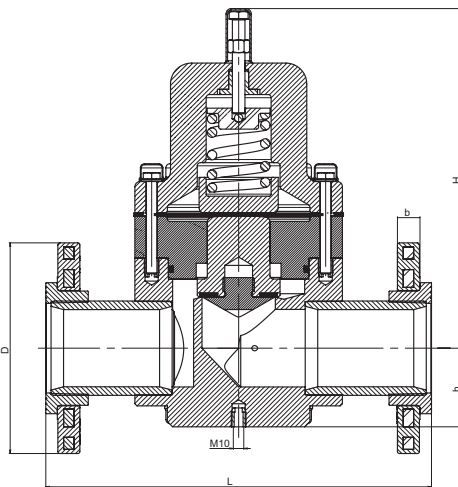
# Pressure Relief Valve DHV 712

## Connection spigot

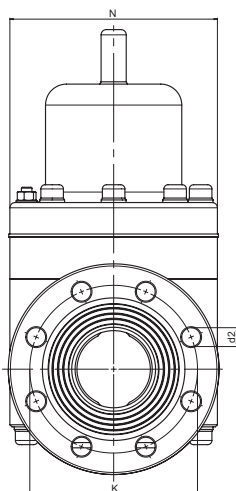


d (mm)	75	90	110
DN (mm)	65	80	100
DN (inch)	2 1/2	3	4
h (mm)	68	75	93
H (mm)	306	324	352
L1 (mm)	284	358	420
N (mm)	175	198	247
t (mm)	54	80	85

## Connection flange



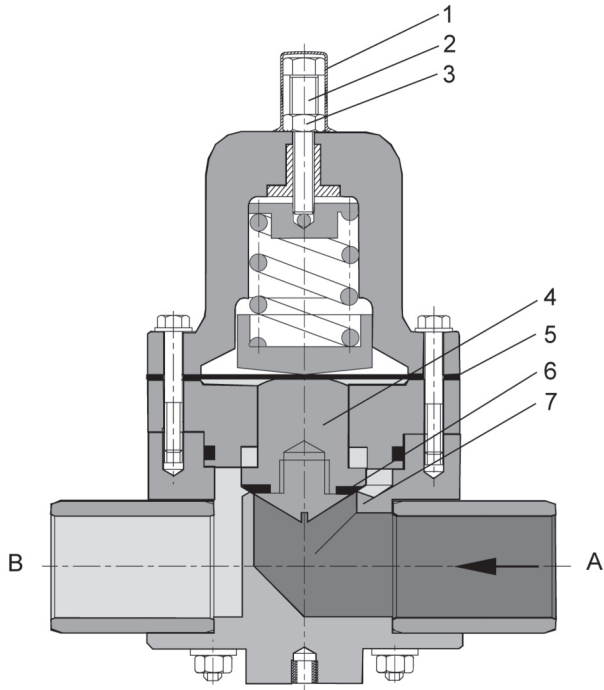
d (mm)	75	90	110
DN (mm)	65	80	100
DN (inch)	2 1/2	3	4
b (mm)	19	21	22
dz (mm)	18	18	18
D (mm)	186	201	221
h (mm)	68	75	93
H (mm)	306	324	352
K (mm)	145	160	180
L (mm)	290	368	430





# Pressure Relief Valve DHV 712

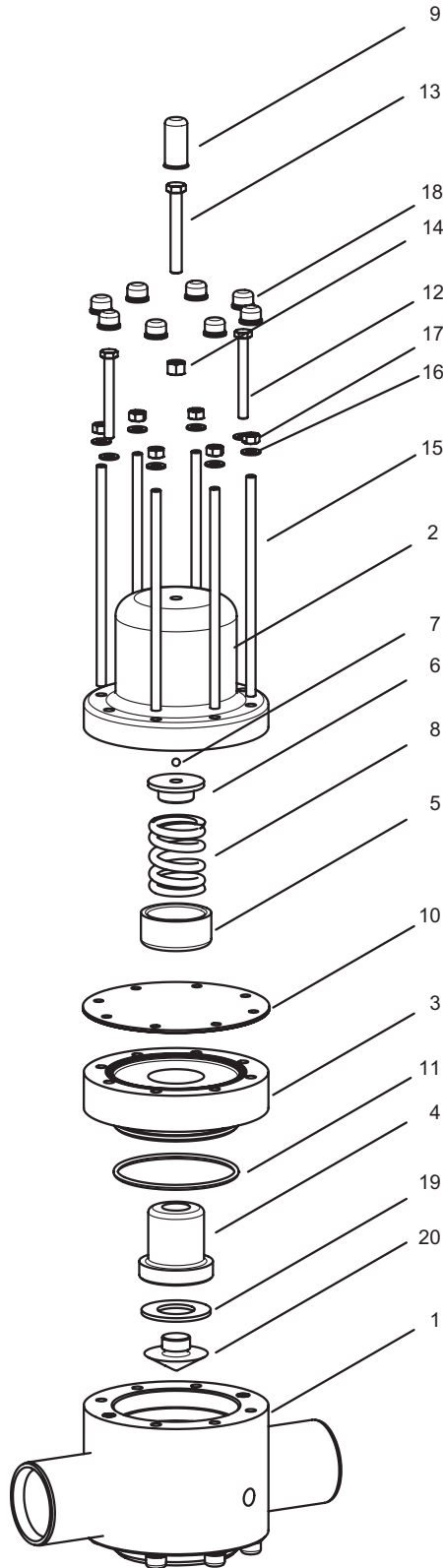
## Sectional drawing



	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

# Pressure Relief Valve DHV 712

## 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