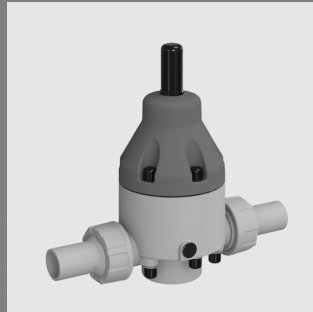


Pressure relief valve DHV 712-R

set range: 0,3 - 10,0 bar



Benefits

- pressure setting possible at any time, also during operation
- optimum monitoring valves
- high reproducibility of the set pressure
- high level of operating safety and long service life
- constant, low vibration control
- low-maintenance
- can be easily connected to the pipework by proven technologies - solvent or fusion welding
- radial removal is possible even after installation
- low pressure increase until the valve is fully opened
- reliable diaphragm fastening with standard stainless steel screws
- 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
- suitable for oscillating pumps

Application

- chemical plants
- industrial plants
- water treatment

Intended Use

- 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 712-R, specially designed for dosing technology, is used for ensuring constant dosing quantities in conjunction with oscillating pumps. In the event of any counterpressure on the secondary side, the admission pressure and thus the dosing quantity remain constant.
- not suitable for equipment with safety function according to the Pressure Equipment Directive.

Valve Function

- If the working or inlet pressure rises above the set value, the pressurized valve piston is lifted against the spring force. The valve opens and a pressure relief on the secondary side (outlet side) takes place. The valve closes as soon as the working pressure at the valve piston is lower than the set spring preload.
- When in the case of the dynamic flow valve with set working pressure, counter pressure is generated on the outlet side, this pressure acts simultaneously underneath the active area of the diaphragm and on the loosely guided valve piston, i.e. the forces under the diaphragm surface and the piston cancel each other out. The valve lift and thus the working pressure remain virtually constant.

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 unauthorized adjustment, if necessary.

Classification Of The Identification Number

- refer table on page 7

Application 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

Size

- DN 10 - DN 50

Set Range

- 0.3 - 10.0 bar

Nominal Pressure (H₂O, 20°C)

- PN 10

Working Pressure

- set pressure plus flow dependent pressure increase (see characteristic curves): approx. 0.3 - 10.0 bar

Deviation From The Working Pressure

- up to 5 bar counterpressure: approx. ±0.3 bar
- over 5 bar counterpressure: approx. ±0.5 bar

Opening Pressure

- approx. 0.3 - 0.5 bar

Hysteresis

- Difference between opening and closing pressure approx. 0.3 bar

Valve Body

- PVC-U
- PP
- PVDF
- PTFE - carbon fibre reinforced
- stainless steel 1.4571 (V4A)

Bonnet

- PP, glass fibre reinforced

Piston

- PVC-U
- PP
- PVDF
- PTFE piston for the media to permeation (penetration) tilt (such as HF, HCl, HNO₃).

Sealing

- FPM
- PTFE
- EPDM

Diaphragm

- PTFE (EPDM diaphragm with PTFE coating on the surfaces coming into contact with the medium)
- PTFE membrane with ECTFE film for media (such as HF, HCl, HNO₃) for the permeation (penetration) tilt.

Screws

- stainless steel (1.4301)

Actuation

- medium controlled

Connection

- refer comments on the identification numbers

Flow Direction

- always in the direction of the arrow

Mounting Position

- as required

Fastening

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

Colour

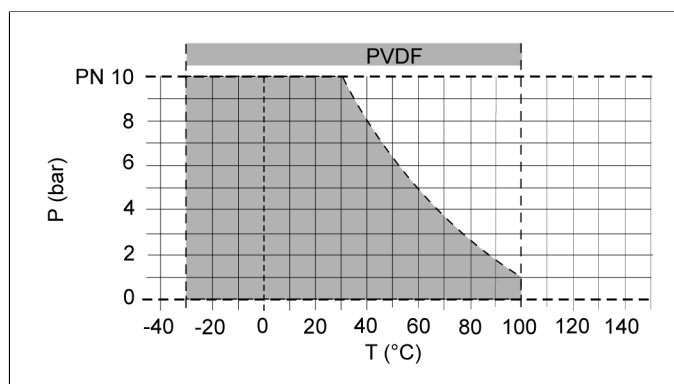
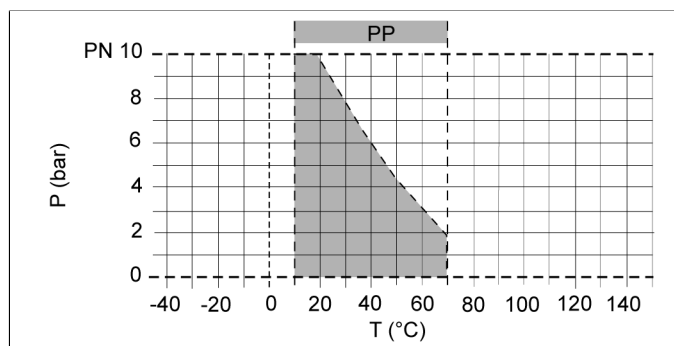
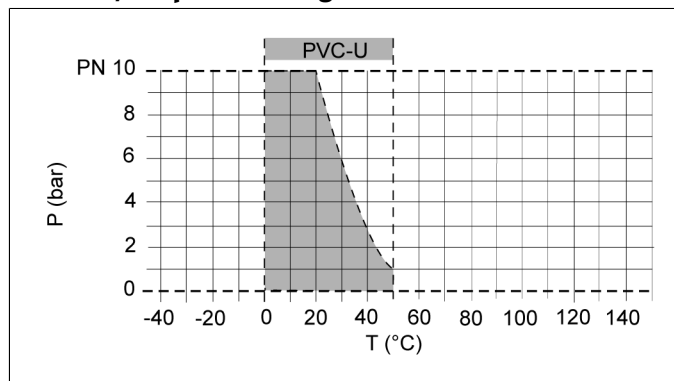
- valve body: PVC-U, grey, RAL 7011
- valve body: PP, grey, RAL 7032
- valve body: PVDF, opaque, yellowish-white
- bonnet: orange, RAL 2004
- valve body: PTFE, black
- valve body: stainless steel, unpainted

Pressure Gauge Connection

- see »version with threaded holes for pressure gauge mounting«

Pressure relief valve DHV 712-R

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.

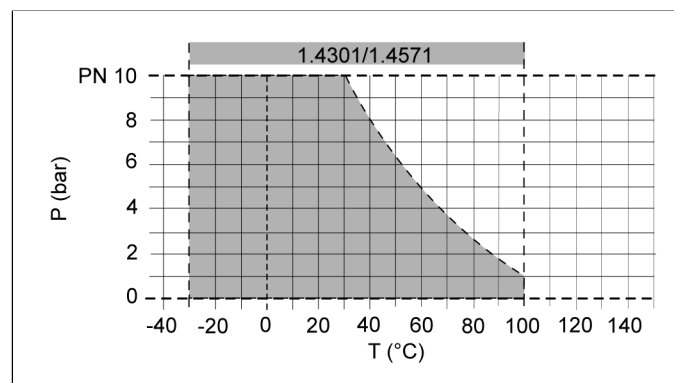
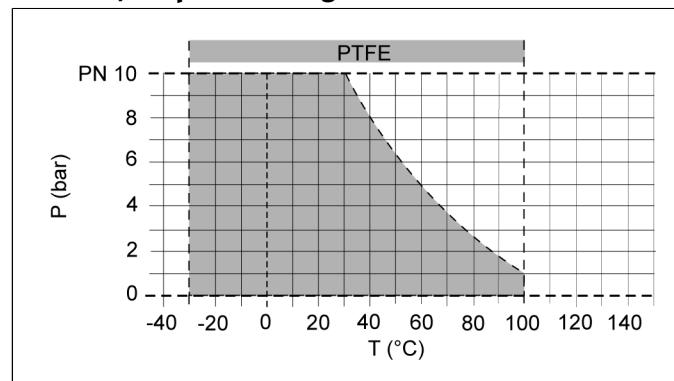
For other media please refer to the ASV resistance guide.

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«.

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.

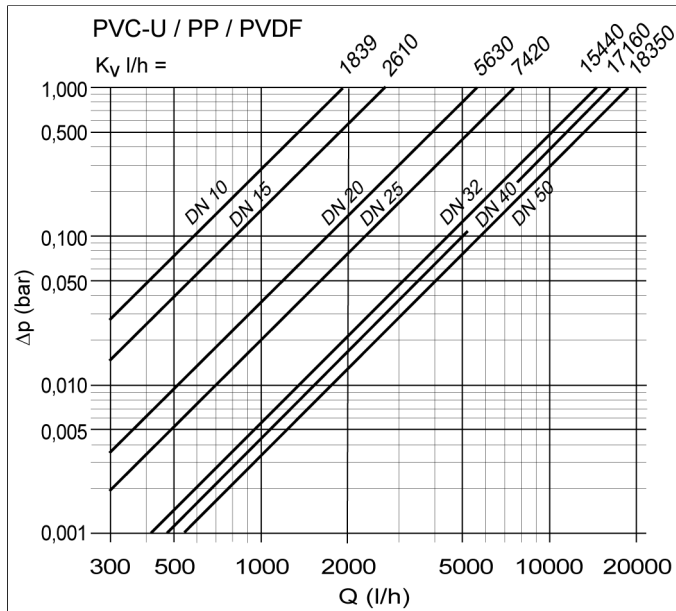
The durability of wear parts depends on the operating conditions of the application.

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

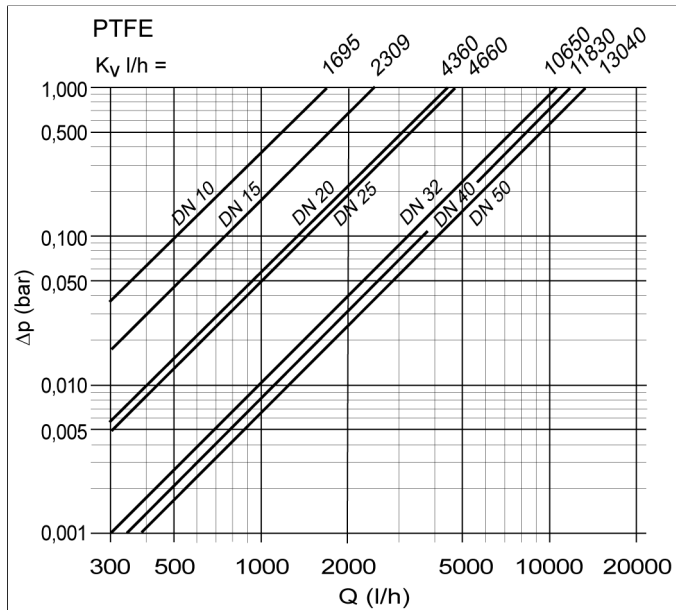
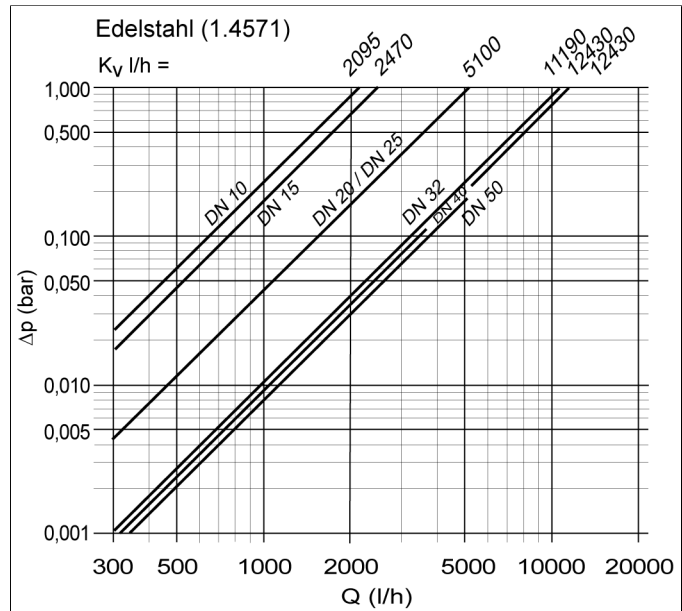
The rated pressure depends on the valve size and material. For the corresponding rated pressure value of the valve, please refer to the »Order table«.

Pressure relief valve DHV 712-R

Pressure loss curve (standard values for H₂O, 20°C)



Pressure loss curve (standard values for H₂O, 20°C)



ΔP = pressure loss

Q = flow

pressure loss and k_v value

The diagram shows the pressure loss ΔP in relation to the flow Q .

Conversion aid:

$$c_v = k_v \times 0.07; f_v = k_v \times 0.0585$$

Units:

k_v [l/min]; c_v [gal/min] US; f_v [gal/min] GB

ΔP = pressure loss

Q = flow

pressure loss and k_v value

The diagram shows the pressure loss ΔP in relation to the flow Q .

Conversion aid:

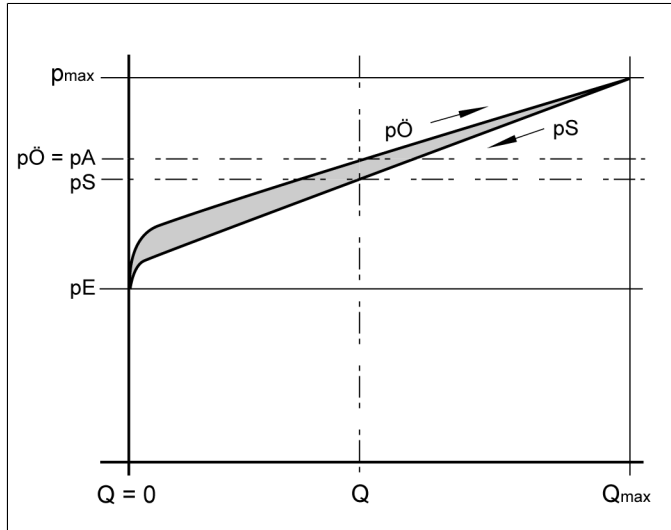
$$c_v = k_v \times 0.07; f_v = k_v \times 0.0585$$

Units:

k_v [l/min]; c_v [gal/min] US; f_v [gal/min] GB

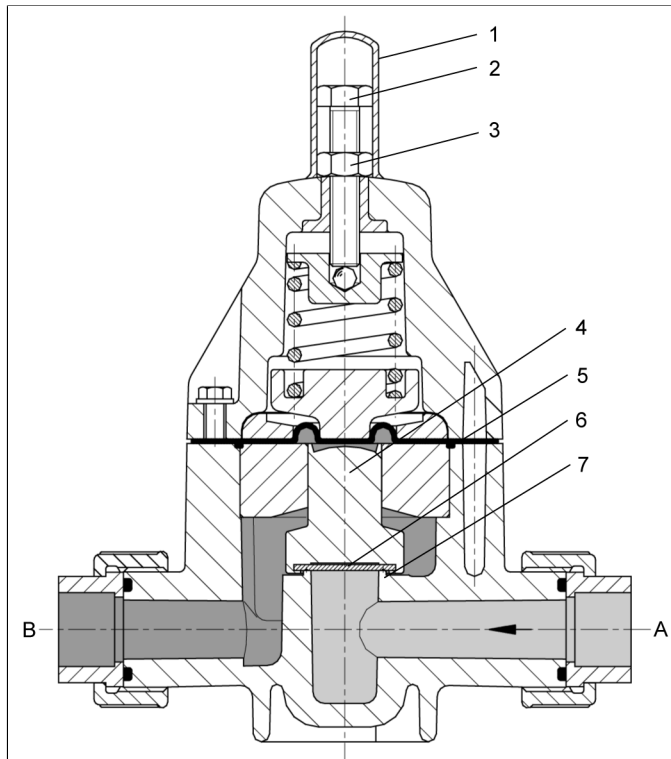
Pressure relief valve DHV 712-R

Operating behaviour



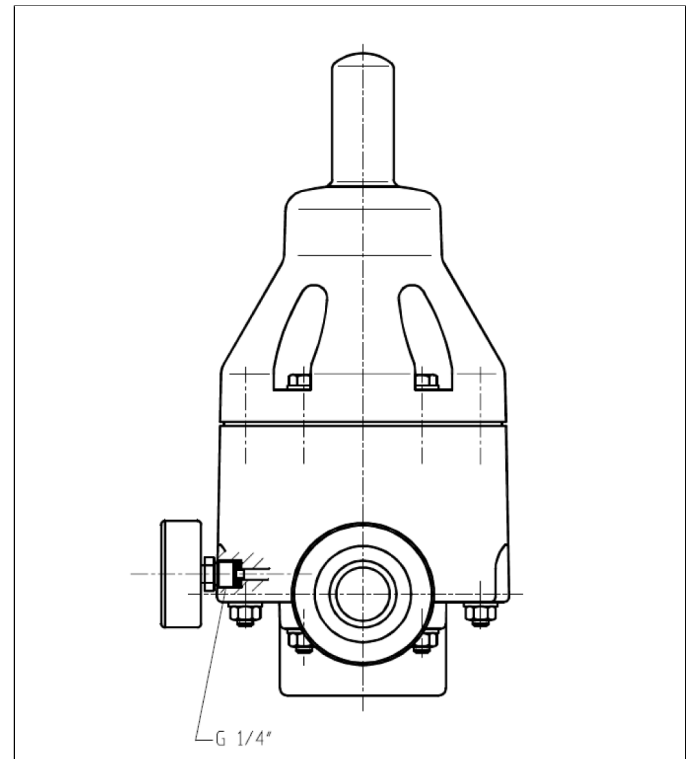
pE = set Pressure
 pA = working pressure
 $pÖ$ = opening pressure
 pS = closing pressure
 $pÖ - pS$ = hysteresis
 $pE - pA$ = flow dependent pressure reduction
 Q = flow

Sectional drawing DHV 712-R



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

DHV 712-R with pressure gauge

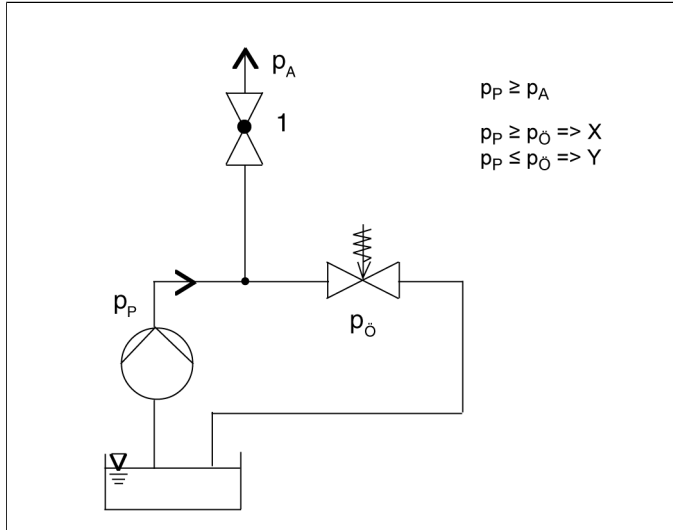


The pressure relief valve can be factory fitted with a pressure gauge for neutral media. The resistance of the pressure gauge material has to be taken into consideration for other media.

Pressure relief valve DHV 712-R

Applications for Pressure Relief Valve

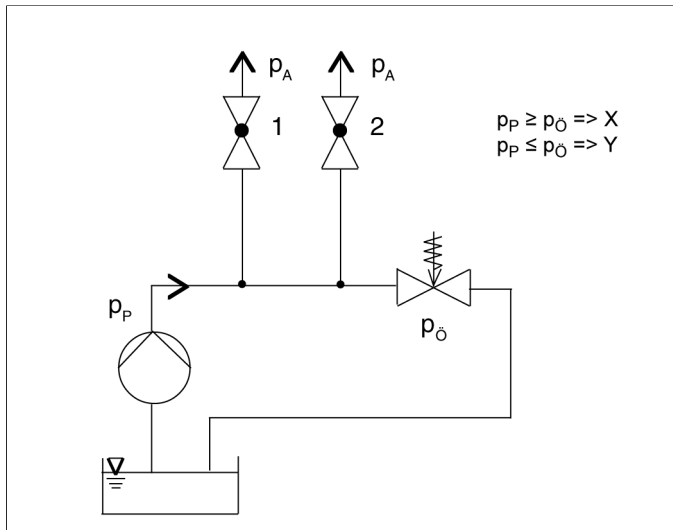
Example 1: Constant system pressure



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

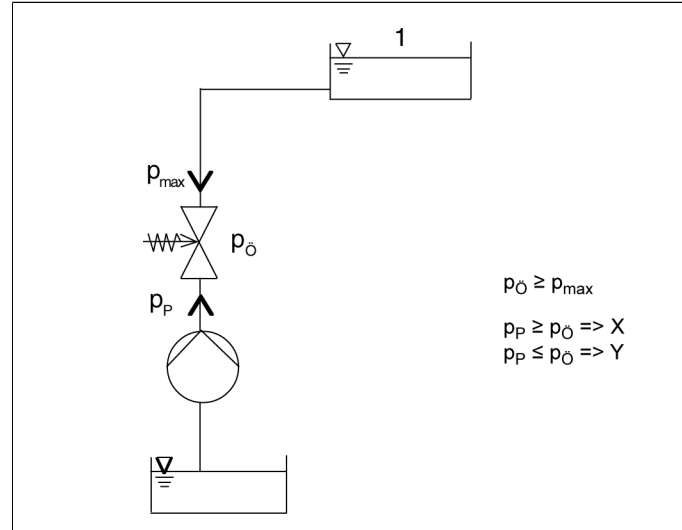
Example 2: Consumer 1 and/or 2 opens, pressure relief valve closes



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

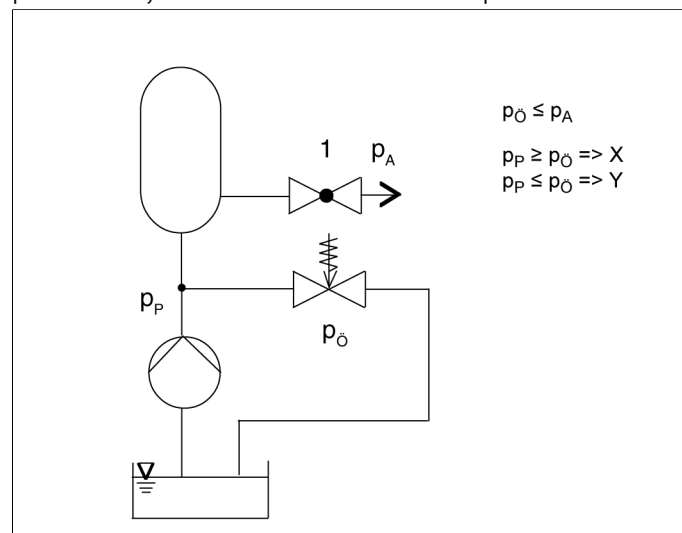
Example 3: Pressure relief valve as backflow preventer



X = valve opens
Y = valve closed
pmax = max. pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

Example 4: Pressure relief valve as overflow valve: The container pressure or system must not exceed the max. pressure value



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Pressure relief valve DHV 712-R

Malfunctions, possible causes, rectification

Malfunction:	Cause:	Rectification:
Valve leaking at the diaphragm.	Insufficient contact pressure (membrane fastening).	Tighten the connecting screws.
Pressure falls below the set value.	Valve seat/seat seal defective.	Check piston and/or valve seat and replace, if necessary.
Pressure exceeds the set value.	The piston guide sticking, possible due to soiling.	Clean valve.
	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.

Ident code

Settingrange and option

A	B				C		
XXXXXX	1	2	3	4			
					0	1	a) b)
c) —	146350	0	0	5	0		
d) —	146350	0	1	0	0		
e) —	146350	1	0	0	1		

B			
1	2	3	
0	0	5	= 0,5 bar
0	1	0	= 1,0 bar
0	1	5	= 1,5 bar
0	2	0	= 2,0 bar
0	2	5	= 2,5 bar
0	3	0	= 3,0 bar
0	3	5	= 3,5 bar

B			
1	2	3	
0	4	0	= 4,0 bar
0	4	5	= 4,5 bar
0	5	0	= 5,0 bar
0	5	5	= 5,5 bar
0	6	0	= 6,0 bar
0	6	5	= 6,5 bar
0	7	0	= 7,0 bar

B			
1	2	3	
0	7	5	= 7,5 bar
0	8	0	= 8,0 bar
0	8	5	= 8,5 bar
0	9	0	= 9,0 bar
0	9	5	= 9,5 bar
1	0	0	= 10 bar

A = standard ident no. (6 digits)

B = ident code for settingrange

C = ident code for »washed free of silicone«

a = ident code »0« not washed free of silicone

b = Ident code »1« washed free of silicone

example c = ident no. / setting = 0,5 bar / not washed free of silicone

example d = ident no. / setting = 1,0 bar / not washed free of silicone

example e = ident no. / setting = 10 bar / washed free of silicone

Pressure relief valve DHV 712-R

Operating note

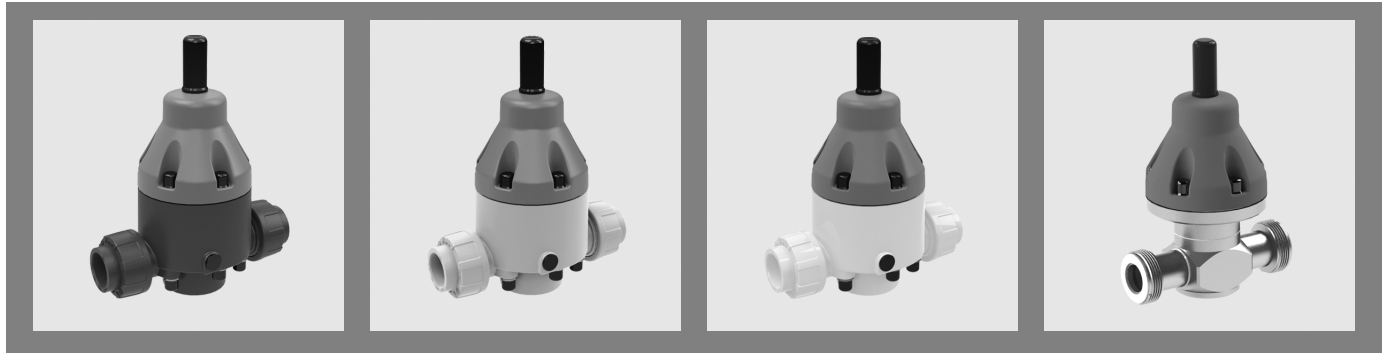
Safe operation of the valve can only be ensured if it is properly installed, operated, serviced or repaired by qualified personnel according to its intended use while observing the accident prevention regulations, safety regulations, relevant standards, directives/technical regulations or codes of practice 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).

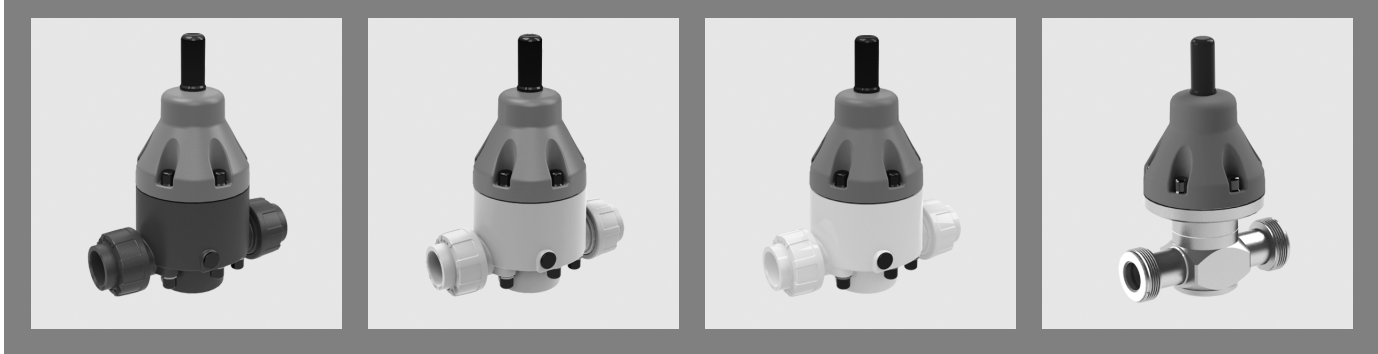
Pressure relief valve DHV 712-R, Standard



body PVC-U

		16	20	25	32	40	50	63
<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
	version	standard	standard	standard	standard	standard	standard	standard
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVC-U socket end DIN ISO	EPDM	146350	146351	146352	146353	146354	146355	146356
	FPM	146366	146367	146368	146369	146370	146371	146372
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U spigot end FIX DIN ISO	EPDM	146494	146495	146496	146497	146498	146499	146500
	FPM	146510	146511	146512	146513	146514	146515	146516
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U threaded sockets Rp	EPDM	146446	146447	146448	146449	146450	146451	146452
	FPM	146454	146455	146456	146457	146458	146459	146460
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U socket end ANSI	EPDM	146382	146383	146384	146385	146386	146387	146388
	FPM	146398	146399	146400	146401	146402	146403	146404
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U socket end BS	EPDM	146414	146415	146416	146417	146418	146419	146420
	FPM	146422	146423	146424	146425	146426	146427	146428
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U socket end JIS	EPDM	146430	146431	146432	146433	146434	146435	146436
	FPM	146438	146439	146440	146441	146442	146443	146444
	<i>weight</i>	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
A4 1.4571 threaded sockets Rp	EPDM	146478	146479	146480	146481	146482	146483	146484
	FPM	146486	146487	146488	146489	146490	146491	146492
	<i>weight</i>	0.85 kg	0.94 kg	2.00 kg	2.09 kg	5.41 kg	5.61 kg	6.11 kg
GFR flange DIN EN 1092	EPDM		146526	146527	146528	146529	146530	146531
	FPM		146540	146541	146542	146543	146544	146545
	<i>weight</i>		1.06 kg	2.16 kg	2.28 kg	5.66 kg	5.85 kg	6.21 kg
PP / steel flange ANSI	EPDM		146554	146555	146556	146557	146558	146559
	FPM		146568	146569	146570	146571	146572	146573
	<i>weight</i>		1.33 kg	2.46 kg	2.81 kg	6.10 kg	6.32 kg	7.00 kg
PE spigot end DIN ISO	EPDM		146463	146464	146465	146466	146467	146468
	FPM		146471	146472	146473	146474	146475	146476
	<i>weight</i>		0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg

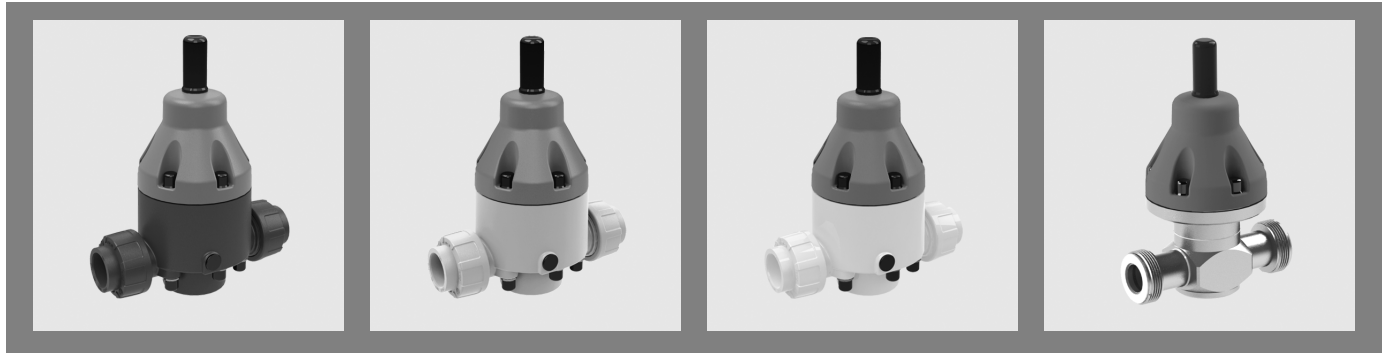
Pressure relief valve DHV 712-R, Standard



body PP

size	d(mm)	16	20	25	32	40	50	63
pressure range	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
	version	standard	standard	standard	standard	standard	standard	standard
Connection	sealing	ident No.						
PP spigot end DIN ISO	EPDM		146612	146613	146614	146615	146616	146617
	FPM		146619	146620	146621	146622	146623	146624
	weight		0.72 kg	1.57 kg	1.61 kg	4.10 kg	4.18 kg	4.28 kg
PP spigot end FIX DIN ISO	EPDM	146626	146627	146628	146629	146630	146631	146632
	FPM	146634	146635	146636	146637	146638	146639	146640
	weight	0.67 kg	0.72 kg	1.57 kg	1.61 kg	4.10 kg	4.18 kg	4.28 kg
PP threaded sockets Rp	EPDM		146598	146599	146600	146601	146602	146603
	FPM		146605	146606	146607	146608	146609	146610
	weight		0.72 kg	1.57 kg	1.61 kg	4.10 kg	4.18 kg	4.28 kg
GFR flange DIN EN 1092	EPDM		146642	146643	146644	146645	146646	146647
	FPM		146649	146650	146651	146652	146653	146654
	weight		0.94 kg	1.89 kg	2.02 kg	4.69 kg	4.94 kg	5.28 kg
PP / steel flange ANSI	EPDM		146656	146657	146658	146659	146660	146661
	FPM		146663	146664	146665	146666	146667	146668
	weight		1.20 kg	2.20 kg	2.55 kg	5.22 kg	5.42 kg	6.07 kg
PP socket end DIN ISO	EPDM	146582	146583	146584	146585	146586	146587	146588
	FPM	146590	146591	146592	146593	146594	146595	146596
	weight	0.67 kg	0.72 kg	1.57 kg	1.61 kg	4.10 kg	4.18 kg	4.28 kg

Pressure relief valve DHV 712-R, Standard



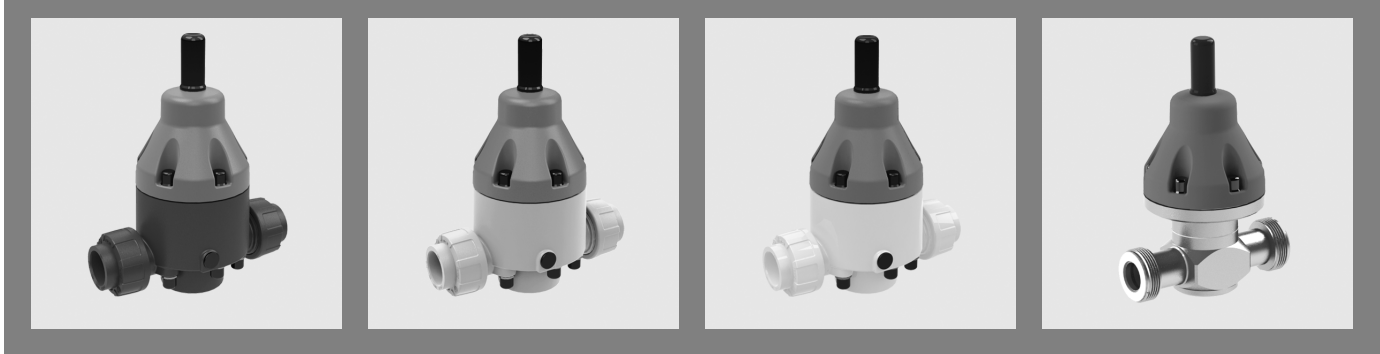
body PVDF

<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
	version	standard	standard	standard	standard	standard	standard	standard
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVDF socket end DIN ISO	FPM	146670	146671	146672	146673	146674	146675	146676
	<i>weight</i>	1.02 kg	1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PVDF spigot end DIN ISO	FPM		146686	146687	146688	146689	146690	146691
	<i>weight</i>		1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PVDF spigot end FIX DIN ISO	FPM	146700	146701	146702	146703	146704	146705	146706
	<i>weight</i>	1.07 kg	1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PP / steel flange ANSI	FPM		146730	146731	146732	146733	146734	146735
	<i>weight</i>		1.58 kg	2.78 kg	3.15 kg	6.67 kg	6.84 kg	7.61 kg
PP / steel flange DIN EN 1092	FPM		146716	146717	146718	146719	146720	146721
	<i>weight</i>		1.61 kg	2.85 kg	3.21 kg	6.99 kg	7.35 kg	7.78 kg

body PTFE

<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
	version	standard	standard	standard	standard	standard	standard	standard
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PTFE threaded neck G	PTFE	146744	146745	146746	146747	146748	146749	146750
	<i>weight</i>	1.00 kg	1.00 kg	2.20 kg	2.20 kg	5.80 kg	5.80 kg	5.80 kg

Pressure relief valve DHV 712-R, Standard

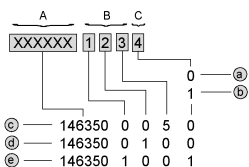


body A4 1.4571

<i>size</i>	d(mm)	16	20	25	32	40	50	63
	<i>pressure range</i>	10	15	20	25	32	40	50
	DN(mm)							
	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
	version	standard	standard	standard	standard	standard	standard	standard
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
	A4 1.4571 threaded neck G	PTFE	146752 2.00 kg	146753 2.20 kg	146754 4.60 kg	146755 4.60 kg	146756 12.80 kg	146757 12.80 kg

Pressure relief valve DHV 712-R, Standard

Ident-Schlüssel / Ident code



A = Standard-Identnummer (6 stellig)
 B = Identcode für die Druckeinstellung
 C = Identcode für »silikonfrei«
 a = Identcode »0« nicht silikon-frei gewaschen
 b = Identcode »1« silikon-frei gewaschen

Beispiel c:

Ident / Druckeinstellung = 0,5 bar / nicht silikon-frei gewaschen

Beispiel d:

Ident / Druckeinstellung = 1,0 bar / nicht silikon-frei gewaschen

Beispiel e:

Ident / Druckeinstellung = 10 bar / silikon-frei gewaschen

A = standard ident no. (6 digits)
 B = ident code for settingrange
 C = ident code for »washed free of silicone«
 a = ident code »0« not washed free of silicone
 b = ident code »1« washed free of silicone

example c:

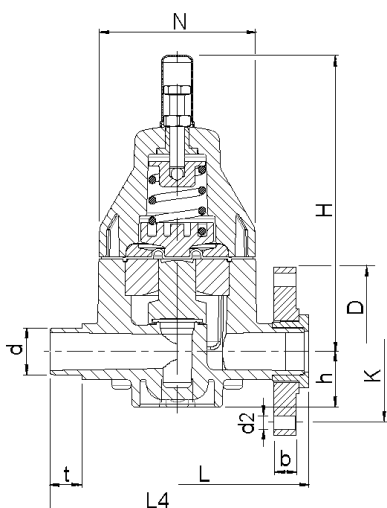
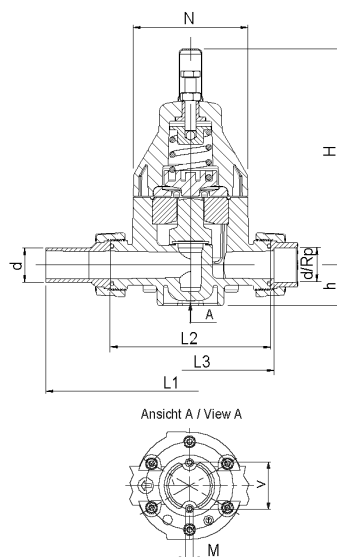
ident no. / setting = 0,5 bar / not washed free of silicone

example d:

ident no. / setting = 1,0 bar / not washed free of silicone

example e:

ident no. / setting = 10 bar / washed free of silicone



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
version	standard	standard	standard	standard	standard	standard	standard

dimensions(mm)

d	16	20	25	32	40	50	63
M	6	6	6	6	8	8	8
G	3/4	1	1 1/4	1 1/2	2	2 1/4	2 3/4
Rp	3/8	1/2	3/4	1	1 1/4	1 1/2	2
1.4571/PTFE	H	173	173	201	201	261	261
PP/PVC-U/PVDF	H	174	174	202	202	262	262
1.4571/PTFE	h	20	20	25	25	37	37
PP/PVC-U/PVDF	h	25	25	38	38	56	56
PP	L1	-	150	180	180	230	230
PVC-U	L1	-	228	264	270	331	338
PVDF	L1	-	310	340	340	395	395
1.4571/PTFE	L2	120	120	150	150	205	205
PP/PVC-U/PVDF	L2	120	120	150	150	204	204
PP	L3	-	126	156	156	211	214
PP	L3	128	126	156	156	211	211
PVC-U	L3	126	126	156	156	211	211
socket end DIN ISO	L3	129	126	156	156	211	211
threaded sockets	L3	127	125	156	156	209	209
PVDF	L3	126	126	156	156	211	211
	L3 ANSI	132	128	160	159	211	211
	L3 BS	126	126	156	156	211	211
		128	128	158	162	217	221
	t	14	16	19	22	26	31
	L4	144	144	174	174	224	244
PP/PVC-U	b	-	12	14	15	17	18
GFR	b	-	13	13	16	16	18
PP/PVC-U/PVDF	b	-	13	13	16	16	18
PP / steel	b	-	13	14.5	15.5	17.5	17.5
PVDF	b	-	13	14.5	15.5	17.5	17.5
N	81	81	107	107	147	147	147
1.4571	V	24	24	46	46	65	65
PP/PTFE/PVC-U/PVDFV	V	40	40	46	46	65	65

Pressure relief valve DHV 712-R, Pressure gauge version



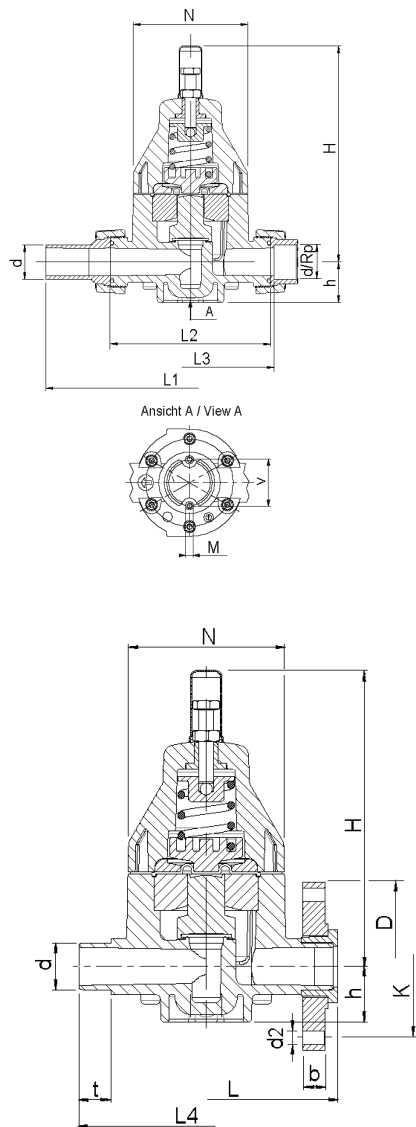
Version For Pressure Gauge Installation

- version with 2 x threaded hole G 1/4" for pressure gauge connection

body PVC-U

size	d(mm)	16	20	25	32	40	50	63
pressure range	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
Connection	sealing	ident No.						
PVC-U socket end DIN ISO	EPDM	146358	146359	146360	146361	146362	146363	146364
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U spigot end FIX DIN ISO	EPDM	146502	146503	146504	146505	146506	146507	146508
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U socket end ANSI	EPDM	146390	146391	146392	146393	146394	146395	146396
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
GFR flange DIN EN 1092	EPDM		146533	146534	146535	146536	146537	146538
	weight		1.06 kg	2.16 kg	2.28 kg	5.66 kg	5.85 kg	6.21 kg
PP / steel flange ANSI	EPDM		146561	146562	146563	146564	146565	146566
	weight		1.33 kg	2.46 kg	2.81 kg	6.10 kg	6.32 kg	7.00 kg

Pressure relief valve DHV 712-R, Pressure gauge version



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
M	6	6	6	6	8	8	8
H	174	174	202	202	262	262	262
h	25	25	38	38	56	56	56
L	-	150	180	180	230	230	250
L1	144	144	174	174	224	224	244
L2	120	120	150	150	204	204	204
L3	126	126	156	156	211	211	211
L3 ANSI	126	126	156	156	211	211	211
t	14	16	19	22	26	31	38
L4	144	144	174	174	224	224	244
GFR	b	12	14	15	17	17	18
PP / steel	b	13	13	16	16	18	18
N	81	81	107	107	147	147	147
V	40	40	46	46	65	65	65

Pressure relief valve DHV 712-R, Special Version



Special Version

- for media (such as HF, HCl, HNO₃) for the permeation (penetration) tilt.
- piston PTFE
- PTFE-Membrane with ECTFE film

body PVC-U

size	d(mm)	16	20	25	32	40	50	63
	pressure range	DN(mm)	10	15	20	25	32	40
	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
Connection	sealing	ident No.						
PVC-U socket end DIN ISO	FPM	146374	146375	146376	146377	146378	146379	146380
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U spigot end FIX DIN ISO	FPM	146518	146519	146520	146521	146522	146523	146524
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
PVC-U socket end ANSI	FPM	146406	146407	146408	146409	146410	146411	146412
	weight	0.80 kg	0.85 kg	1.86 kg	1.90 kg	5.00 kg	5.10 kg	5.20 kg
GFR flange DIN EN 1092	FPM		146547	146548	146549	146550	146551	146552
	weight		1.06 kg	2.16 kg	2.28 kg	5.66 kg	5.85 kg	6.21 kg
PP / steel flange ANSI	FPM		146575	146576	146577	146578	146579	146580
	weight		1.33 kg	2.46 kg	2.81 kg	6.10 kg	6.32 kg	7.00 kg

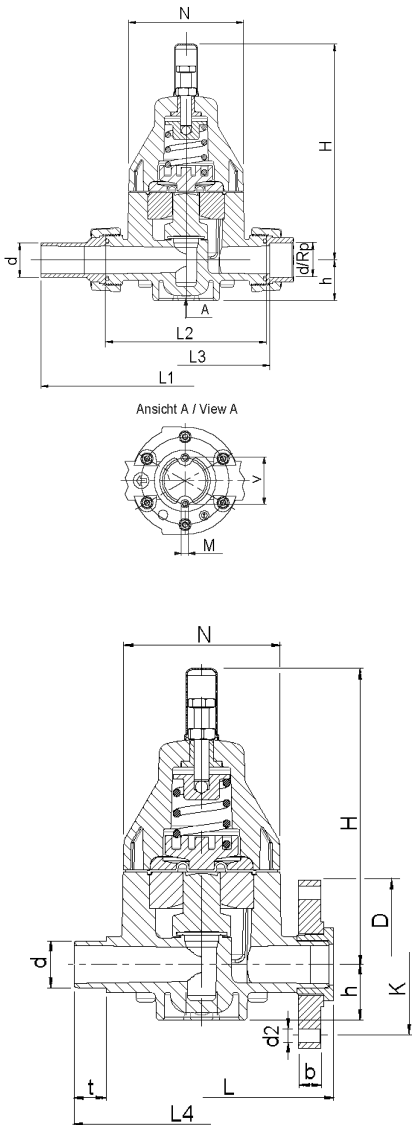
Pressure relief valve DHV 712-R, Special Version



body PVDF

		16	20	25	32	40	50	63
<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVDF socket end DIN ISO	FPM	146678	146679	146680	146681	146682	146683	146684
	<i>weight</i>	1.02 kg	1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PVDF spigot end DIN ISO	FPM		146693	146694	146695	146696	146697	146698
	<i>weight</i>		1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PVDF spigot end FIX DIN ISO	FPM	146708	146709	146710	146711	146712	146713	146714
	<i>weight</i>	1.02 kg	1.07 kg	2.11 kg	2.15 kg	5.45 kg	5.55 kg	5.65 kg
PP / steel flange ANSI	FPM		146737	146738	146739	146740	146741	146742
	<i>weight</i>		1.58 kg	2.78 kg	3.15 kg	6.67 kg	6.84 kg	7.61 kg
PP / steel flange DIN EN 1092	FPM		146723	146724	146725	146726	146727	146728
	<i>weight</i>		1.61 kg	2.85 kg	3.21 kg	6.99 kg	7.35 kg	7.78 kg

Pressure relief valve DHV 712-R, Special Version



dimensions

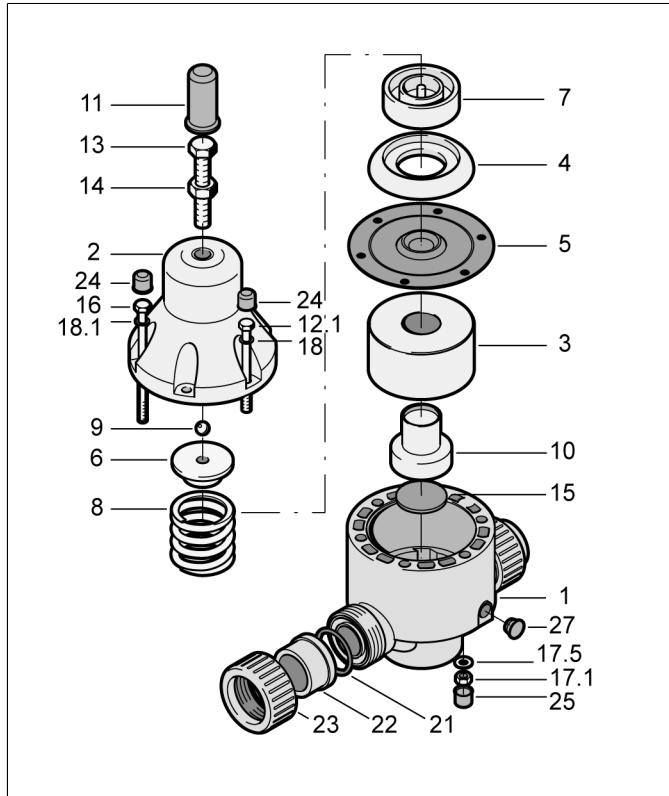
d(mm)	16	20	25	32	40	50	63
DN(mm)	10	15	20	25	32	40	50
DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
dimensions(mm)							
d	16	20	25	32	40	50	63
M	6	6	6	6	8	8	8
H	174	174	202	202	262	262	262
h	25	25	38	38	56	56	56
L	-	150	180	180	230	230	250
PVC-U L1	144	144	174	174	224	224	244
PVDF L1	-	225	261	267	321	327	333
PVC-U L2	120	120	150	150	204	204	204
PVDF L2	119	119	149	149	203	203	203
PVC-U L3	126	126	156	156	211	211	211
PVDF L3	127	125	156	156	209	209	209
L3 ANSI	126	126	156	156	211	211	211
t	14	16	19	22	26	31	38
PVC-U L4	144	144	174	174	224	224	244
GFR b	-	12	14	15	17	17	18
PVC-U/PVDF b	-	13	13	16	16	18	18
PP / steel b	-	13	14,5	15,5	17,5	17,5	19
PVDF b	-	13	14,5	15,5	17,5	17,5	19
N	81	81	107	107	147	147	147
V	40	40	46	46	65	65	65

Pressure relief valve DHV 712-R

Item Overview

DHV 712-R, PVC-U, PP, PVDF

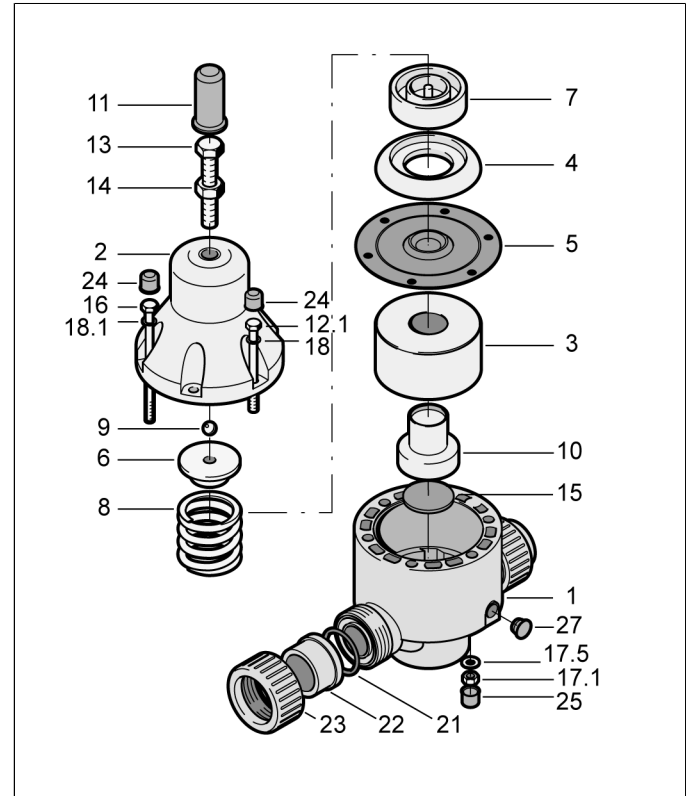
DN 10 - DN 15



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10	1	piston, complete
11	1	protection cap
12.1	4	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
15	1	flat sealing ring
17	4	hexagon nut
17.5	4	washer
18	4	washer
21	2	O-ring
22	2	union end
23	2	union nut
24	4	protection cap
25	4	protection cap
27	2	Plug

DHV 712-R PVC-U, PP, PVDF

DN 20 - DN 50

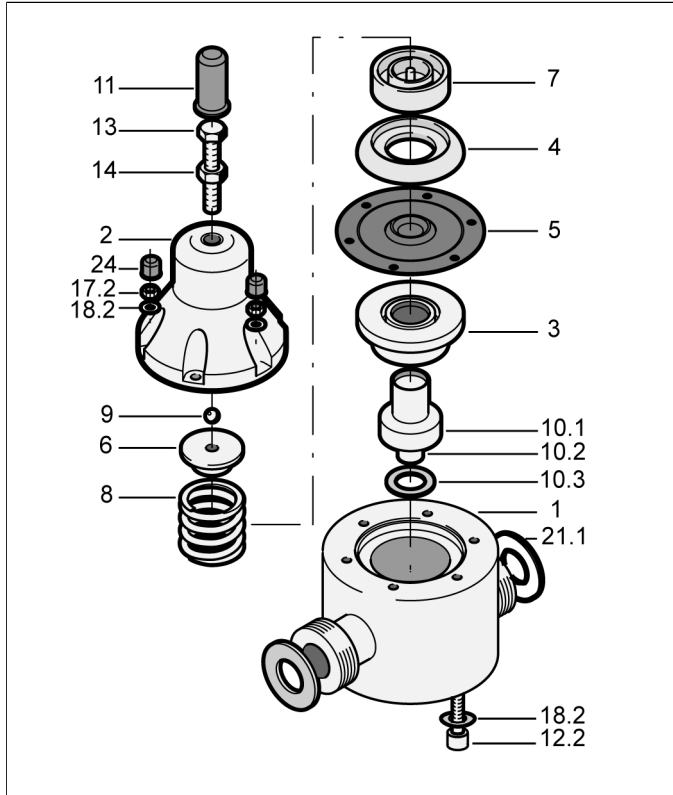


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10	1	piston, complete
11	1	protection cap
12.1	2	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
15	1	flat sealing ring
16	4	hexagon bolt
17	6	hexagon nut
17.5	6	washer
18	6	washer
21	2	O-ring
22	2	union end
23	2	union nut
24	4	protection cap
25	4	protection cap

Pressure relief valve DHV 712-R

DHV 712-R PTFE

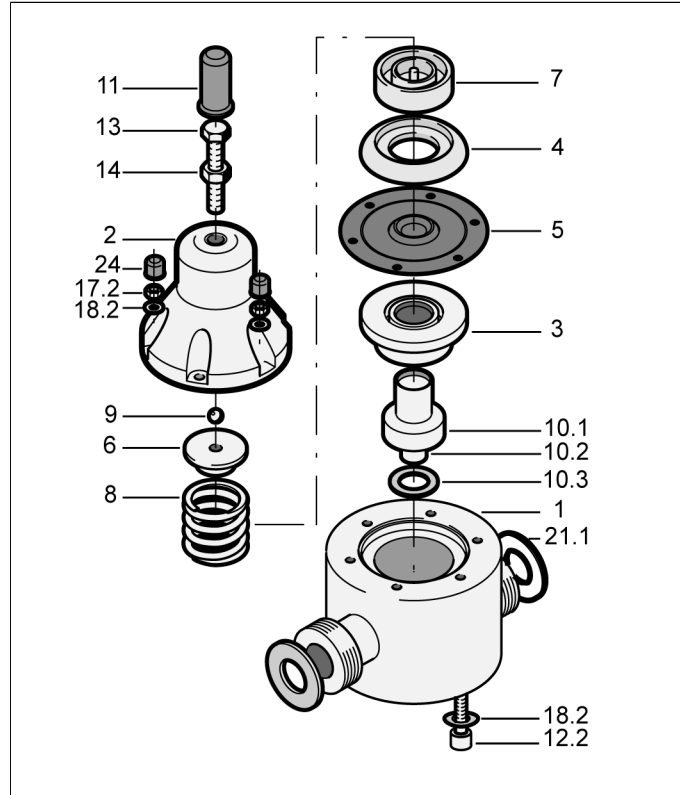
DN 10 - DN 15



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10.1	1	piston
10.2	1	piston point
10.3	1	flat sealing ring
11	1	protection cap
12	4	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
15	1	flat sealing ring
17	4	hexagon nut
17.2	4	washer
18.2	4	washer
21	2	O-ring
22	2	union end
23	2	union nut
24	4	protection cap
25	4	protection cap
27	2	Plug

DHV 712-R PTFE

DN 20 - DN 50

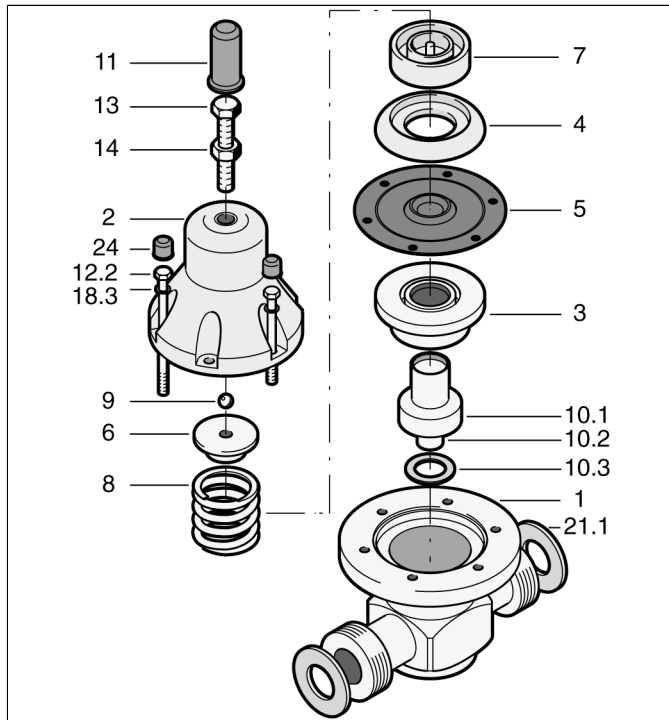


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10.1	1	piston
10.2	1	piston point
10.3	1	flat sealing ring
11	1	protection cap
12	4	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
15	1	flat sealing ring
17	4	hexagon nut
17.2	4	washer
18.2	6	washer
21	2	O-ring
22	2	union end
23	2	union nut
24	4	protection cap
25	4	protection cap
27	2	Plug

Pressure relief valve DHV 712-R

stainless steel 1.4571

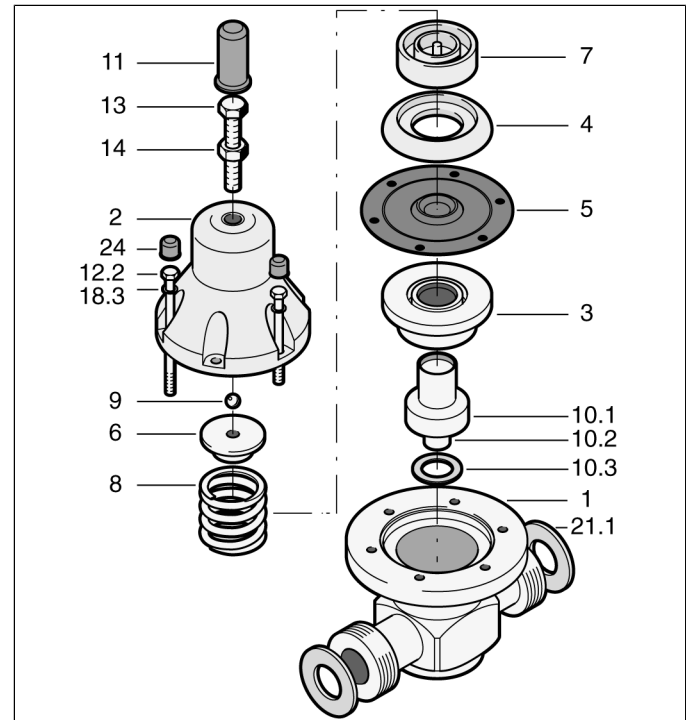
DN 10 - DN 15



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10.1	1	piston
10.2	1	piston point
10.3	1	flat sealing ring
11	1	protection cap
12	4	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
18	4	washer
21	2	O-ring
24	4	protection cap

stainless steel 1.4571

DN 20 - DN 50

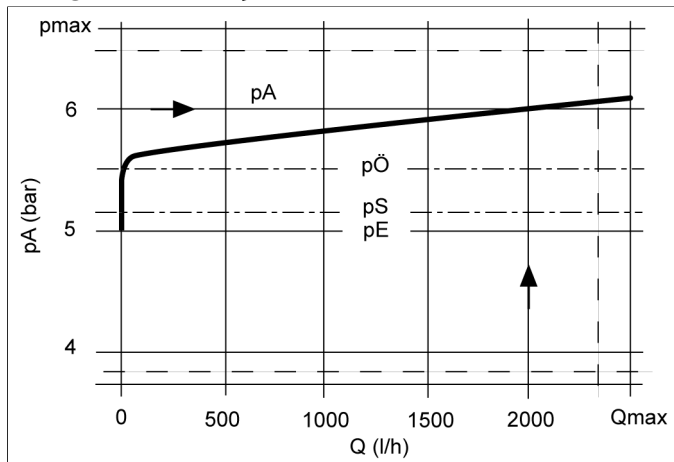


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	pressure disc
5	1	diaphragm
6	1	pressure plate
7	1	spring plate
8	1	pressure spring
9	1	steel ball
10.1	1	piston
10.2	1	piston point
10.3	1	flat sealing ring
11	1	protection cap
12	6	hexagon bolt
13	1	hexagon bolt
14	1	counter nut
18	6	washer
21	2	O-ring
24	6	protection cap

Pressure relief valve DHV 712-R

Characteristic curves

Configuration example



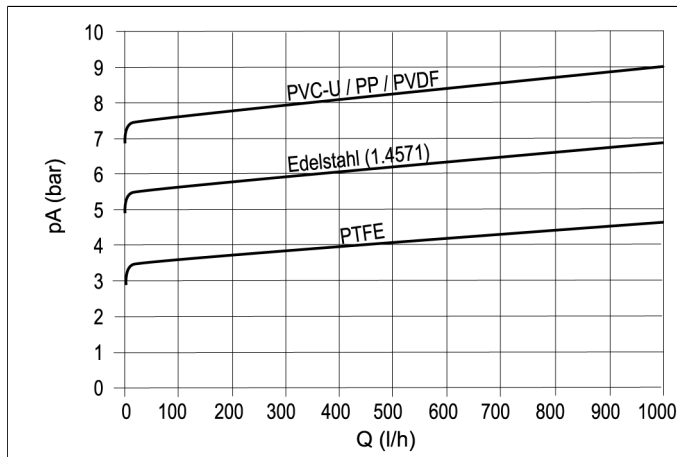
The valve is set tight at 5 bar.

A flow of approx. 2000 l/h is reached at a pressure increase of 1 bar.

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

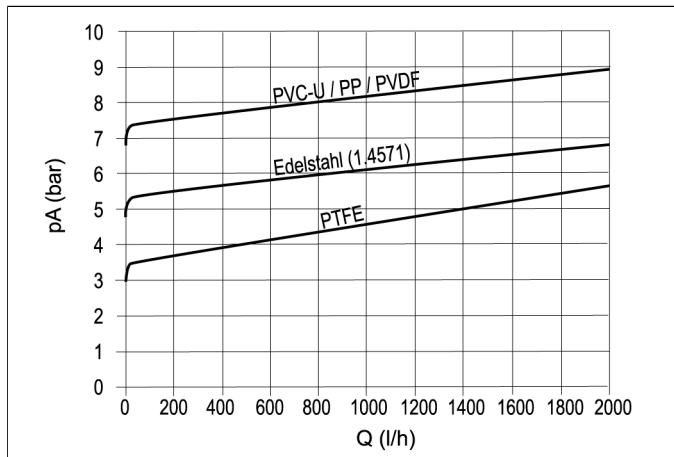
set pressure pE: 5 bar; working pressure pA: 6 bar; opening pressure pÖ: 5.5 bar; closing pressure pS: 5.2 bar

DN 10



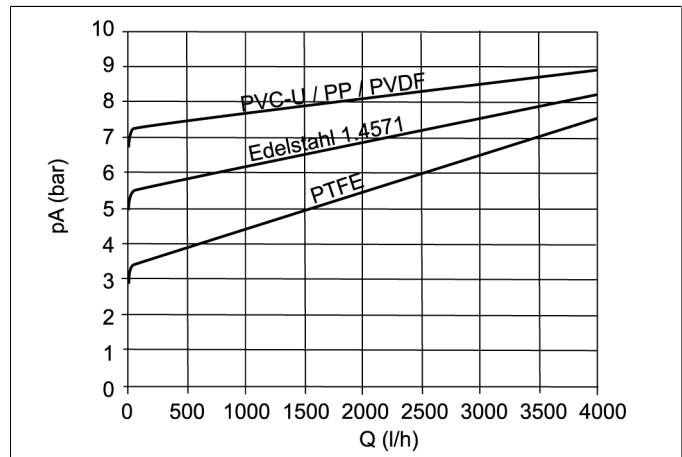
pA = working pressure
Q = flow

DN 15



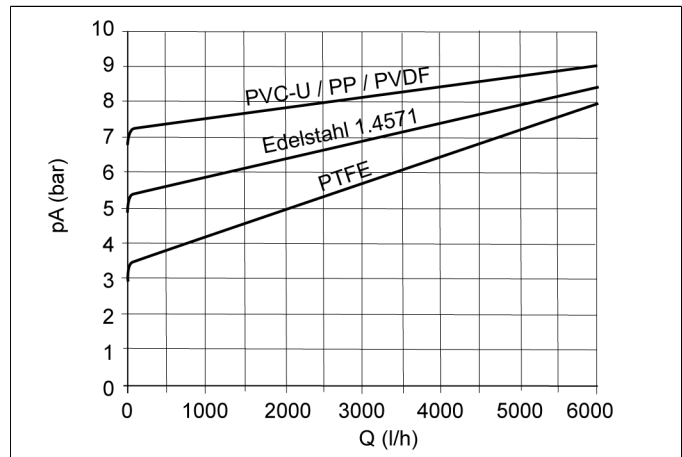
pA = working pressure
Q = flow

DN 20



pA = working pressure
Q = flow

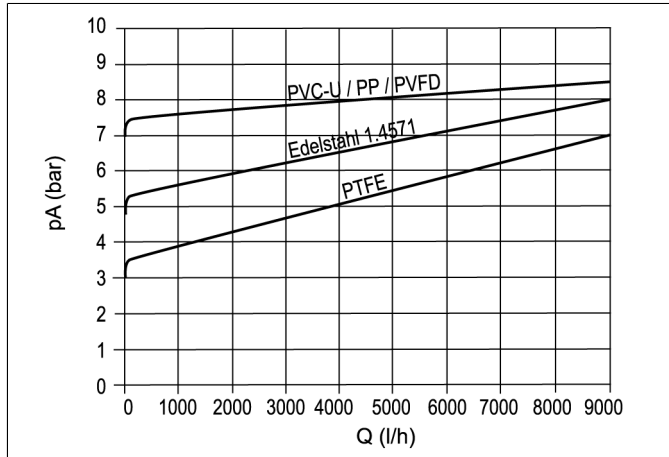
DN 25



pA = working pressure
Q = flow

Pressure relief valve DHV 712-R

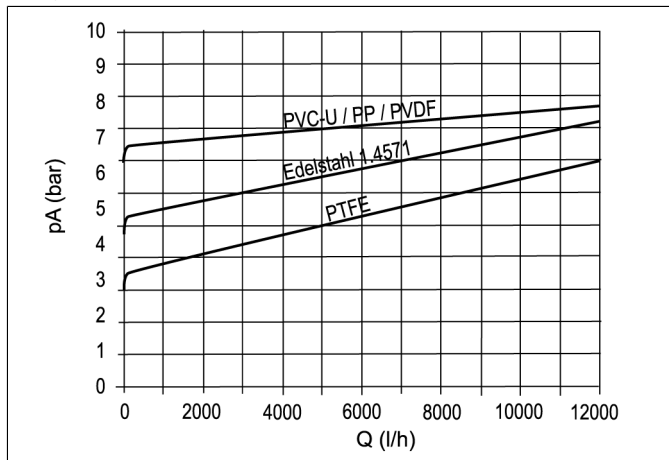
DN 32



p_A = working pressure

Q = flow

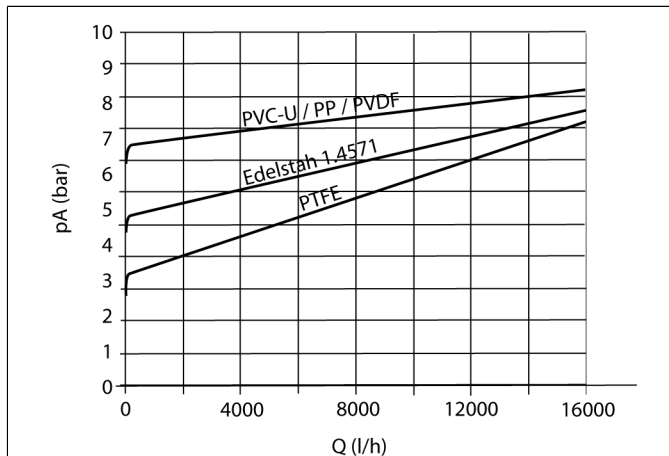
DN 40



p_A = working pressure

Q = flow

DN 50

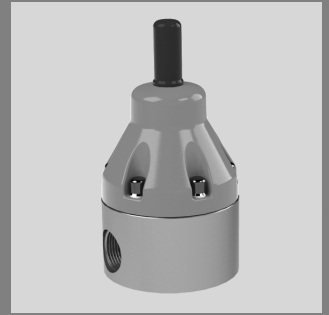
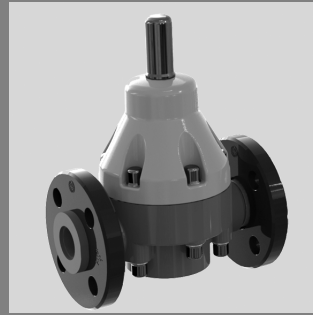


p_A = working pressure

Q = flow

Pressure relief valve DHV 712-R

Pressure relief valve DHV 718



Benefits

- diaphragm controlled pressure relief valve with piston guidance
- simple design, reliable function
- particularly suitable for oscillating pumps
- constant, frictionless and low vibration control behaviour
- high reproducibility of the set pressure
- simple pressure setting possible at any time, also during operation

Application

- chemical plants
- industrial plants
- water treatment
- electroplating plants

Intended Use

- 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.
- Pressure relief valves are not safety valves according to the Pressure Equipment Directive.

Valve Function

- When the valve is closed in the position of rest, the diaphragm under the valve seat is only impinged by the low secondary pressure. Any rise in working or primary pressure lifts the diaphragm against the spring force. The valve opens and the pressure decreases.

Valve Setting

- 1. Remove the protection cap (DN 10 - DN 50). 2. Undo the counter nut on the adjustment screw. 3. Turn the adjustment screw clockwise (pressure increase) until the desired set pressure or opening pressure is reached.

Application Media

- Neutral and aggressive fluids or fluids containing solid particles, provided that the valve components coming into contact with the fluids are resistant at the operating temperature in accordance with 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

- DN 8 - DN 15: 0,5 - 10 bar
- DN 20 - DN 50: 0,5 - 8 bar

Nominal Pressure (H₂O, 20°C)

- PN 10

Working Pressure

- set pressure plus flow dependent pressure increase (see characteristic curves).

Opening Pressure

- DN 8: 0,5 bar
- DN 10 - 50: 0,3 bar

Hysteresis

- Difference between opening and closing pressure approx. 0.3 bar

Valve Body

- DN 8: PVC-U, PP or PVDF
- DN 10 - 50: PVC-U, PP or stainless steel V4A

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

- refer comments on the identification numbers

Flow Direction

- always in the direction of the arrow

Mounting Position

- as required

Fastening

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

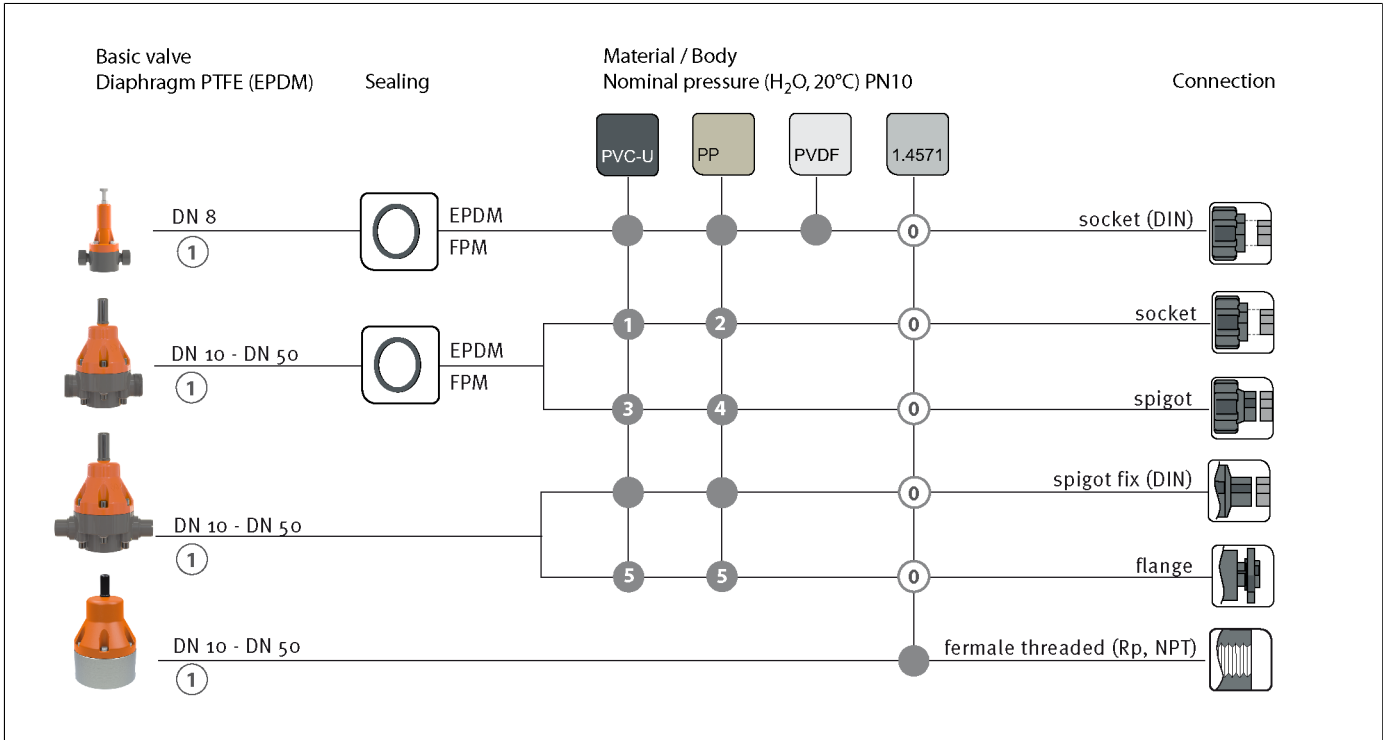
Colour

- body: PVC-U, grey, RAL 7011
- body: PP, grey, RAL 7032
- body: PVDF, opaque, yellowish-white
- bonnet: orange, RAL 2004
- valve body: stainless steel, unpainted

Attention

- When the valve is in the position of rest, the counterpressure (secondary pressure) may be approx. 4 times higher than the set pressure pE, the valve remains closed.

Pressure relief valve DHV 718

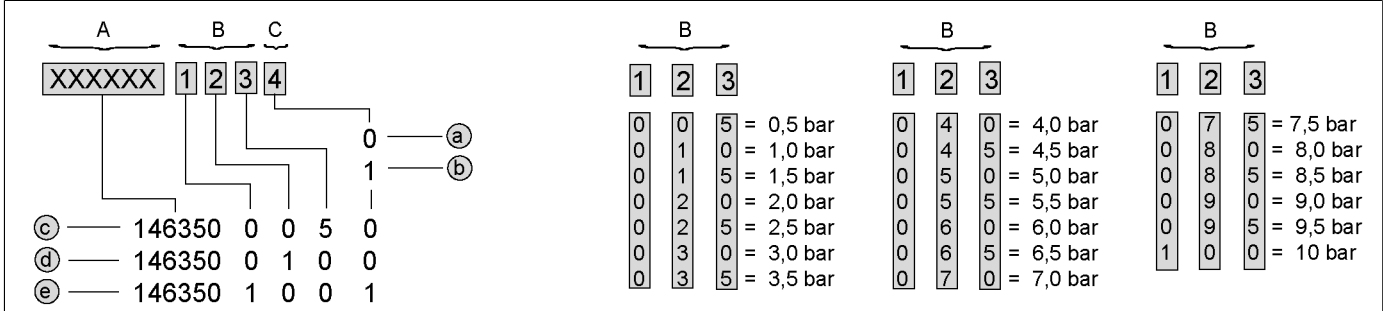


legend

0	not possible	2	PP (DIN, Rp)
1	settingrange in 0,5 bar steps	3	PE (DIN)
1	PVC (DIN, ANSI, JIS)	4	PP (DIN)
	PVC (Rp, NPT)	5	GFR (DIN)
	stainless steel 1.4571 (Rp)		PP-St (ANSI)

Ident code

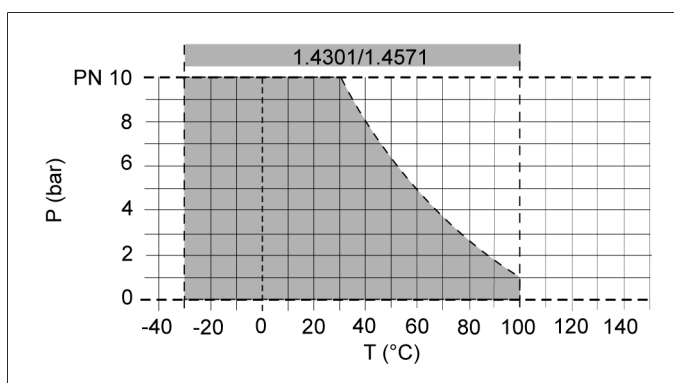
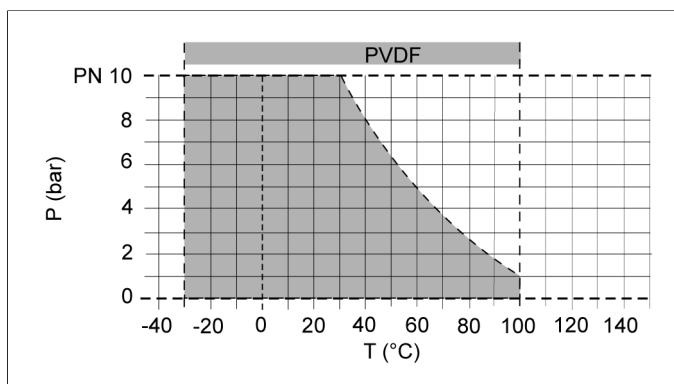
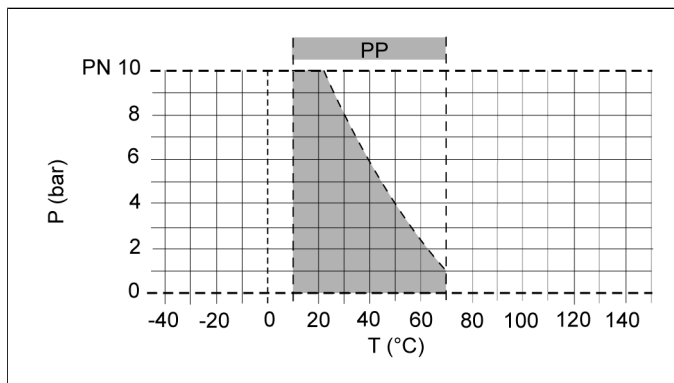
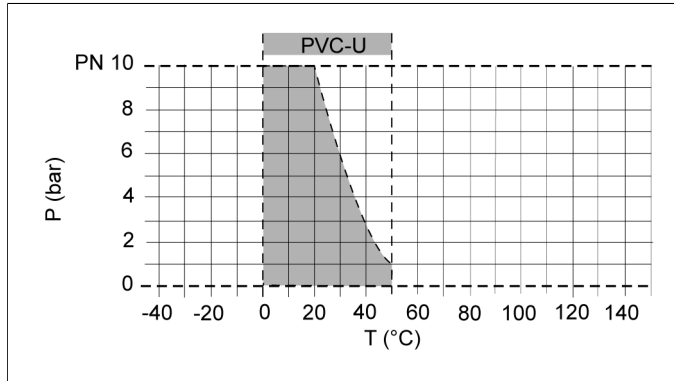
Settingrange and option



A = standard ident no. (6 digits)
 B = ident code for settingrange
 C = ident code for »washed free of silicone«
 a = ident code »0« not washed free of silicone
 b = ident code »1« washed free of silicone
 example c = ident no. / setting = 0,5 bar / not washed free of silicone
 example d = ident no. / setting = 1,0 bar / not washed free of silicone
 example e = ident no. / setting = 10 bar / washed free of silicone

Pressure relief valve DHV 718

Pressure/temperature diagram

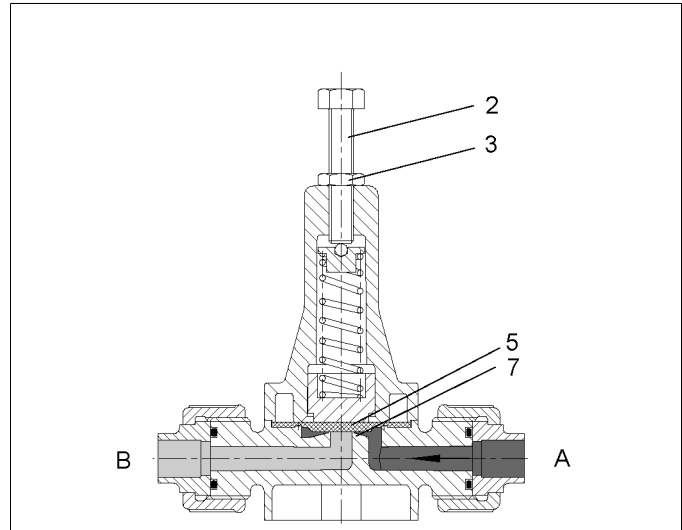


P = operating pressure T = temperature

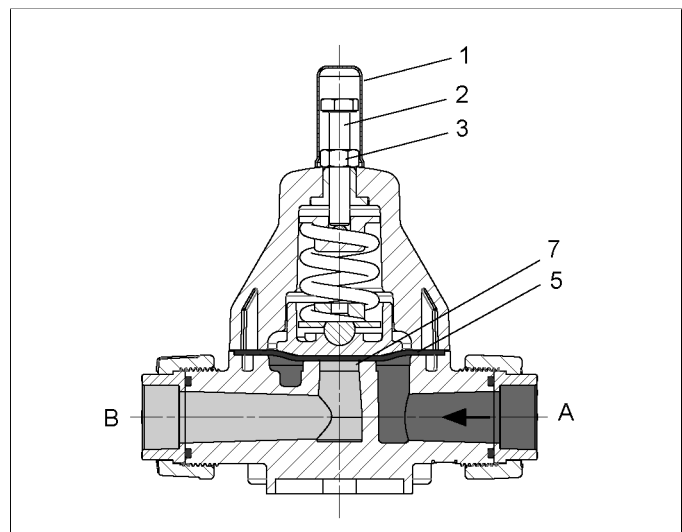
The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant.

For other media please refer to the ASV resistance guide. The durability of wear parts depends on the operating conditions of the application.

Sectional drawing DHV 718, DN 8



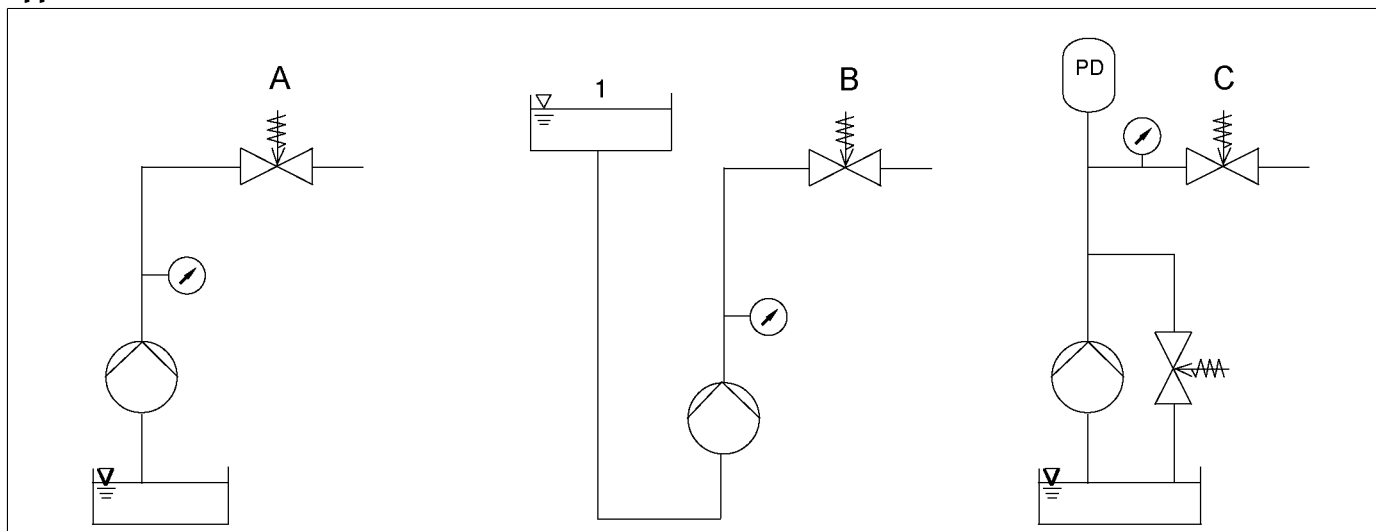
- A = primary side*
- B = secondary side*
- 2 = adjustment screw*
- 3 = counter nut*
- 5 = diaphragm*
- 7 = valve seat*



- A = primary side*
- B = secondary side*
- 1 = protection cap*
- 2 = adjustment screw*
- 3 = counter nut*
- 5 = diaphragm*
- 7 = valve seat*

Pressure relief valve DHV 718

Applications



A = generation of a constant working pressure

B = use at high inlet pressure

C = optimal solution for the reduction of pressure surges with overflow valve to protect the system

Malfunctions, possible causes, rectification

Malfunction:	Cause:	Rectification:
Valve leaking at the diaphragm.	Insufficient contact pressure (membrane fastening).	Tighten the connecting screws.
Pressure falls below the set value.	Diaphragm defective. Valve seat leaking. Heavy soiling.	Replace diaphragm. Check valve seat. Clean valve.
Pressure exceeds the set value.	Secondary area blocked.	Clean valve.
Medium leakage at the adjustment screw.	Diaphragm defective.	Replace diaphragm.

Maintenance note

Screw tightening torque (Nm)

d (mm)	12	16	20	25	32	40	50	63
Md (Nm)	2,5	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

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).

Pressure relief valve DHV 718, [d12]



body PVC-U

<i>size</i> <i>pressure range</i>	d(mm)		12
	DN(mm)		8
	DN(inch)		1/4
	PN(bar)		10
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>	
PVC-U socket DIN	EPDM		147030
	FPM		147038
	<i>weight</i>		0.30 kg

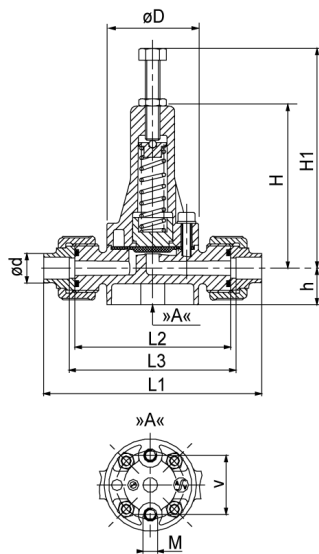
body PP

<i>size</i> <i>pressure range</i>	d(mm)		12
	DN(mm)		8
	DN(inch)		1/4
	PN(bar)		10
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>	
PP socket DIN	EPDM		147160
	FPM		147168
	<i>weight</i>		0.30 kg

body PVDF

<i>size</i> <i>pressure range</i>	d(mm)		12
	DN(mm)		8
	DN(inch)		1/4
	PN(bar)		10
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>	
PVDF socket DIN	EPDM		147220
	FPM		147221
	<i>weight</i>		0.30 kg

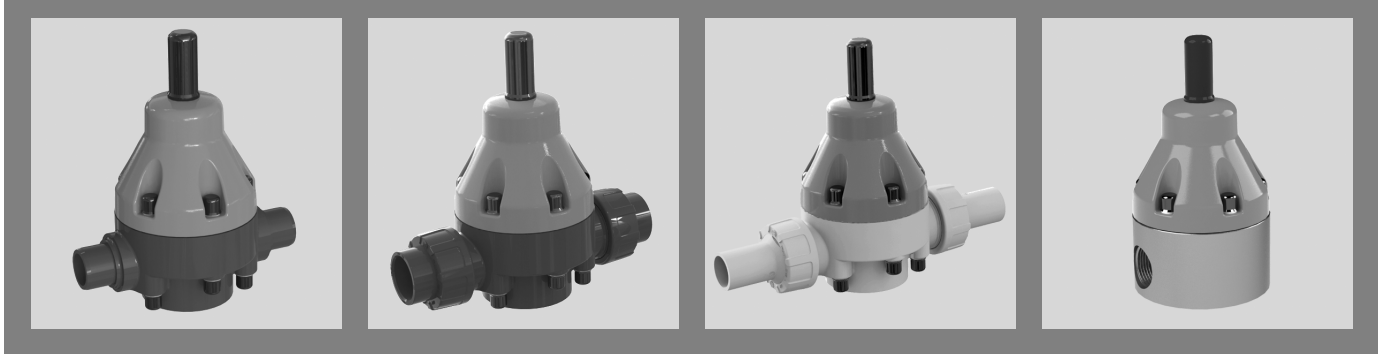
Pressure relief valve DHV 718, [d12]



dimensions

d(mm)	12
DN(mm)	8
DN(inch)	1/4
dimensions(mm)	
d	12
H	120
h	20
L1	119
L2	85
L3	91
M	M 5
v	32

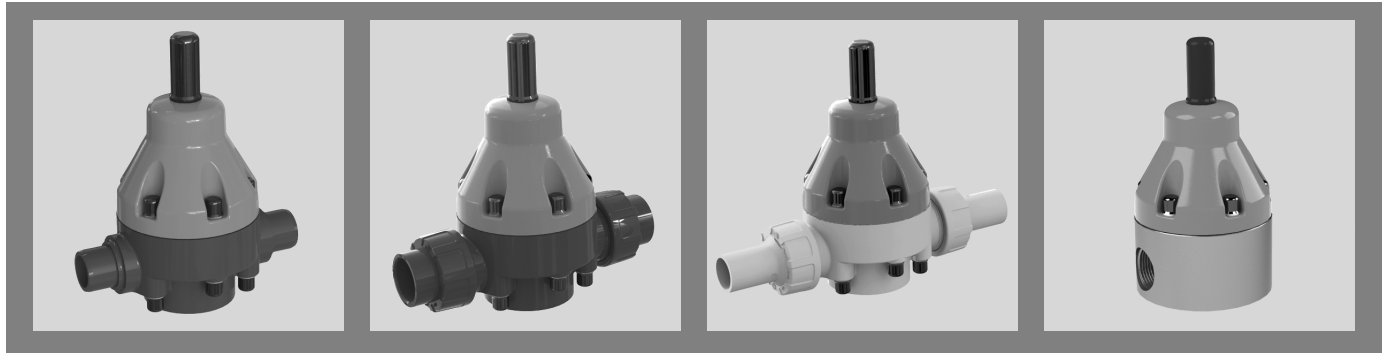
Pressure relief valve DHV 718, [d16 - d63]



body PVC-U

size	d(mm)	16	20	25	32	40	50	63
	pressure range	DN(mm)	10	15	20	25	32	40
	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
Connection	sealing	ident No.						
PVC-U socket DIN	EPDM	147031	147032	147033	147034	147035	147036	147037
	FPM	147039	147040	147041	147042	147043	147044	147045
	weight	0.66 kg	0.64 kg	1.35 kg	1.40 kg	3.62 kg	3.64 kg	3.85 kg
PVC-U spigot fix DIN	-	146889	146890	146891	146892	146893	146894	146895
	weight	0.58 kg	0.58 kg	1.26 kg	1.24 kg	3.39 kg	3.36 kg	3.37 kg
PVC-U socket ANSI	EPDM	147046	147047	147048	147049	147050	147051	147052
	FPM	147053	147054	147055	147056	147057	147058	147059
	weight	1.21 kg	0.65 kg	1.36 kg	1.40 kg	3.64 kg	3.68 kg	3.90 kg
PVC-U socket JIS	EPDM	147074	147075	147076	147077	147078	147079	147080
	FPM	147081	147082	147083	147084	147085	147086	147087
	weight	0.66 kg	0.65 kg	1.36 kg	1.41 kg	3.66 kg	3.67 kg	3.89 kg
PVC-U female thread Rp	EPDM	147128	147129	147130	147131	147132	147133	147134
	FPM	147135	147136	147137	147138	147139	147140	147141
	weight	0.66 kg	0.65 kg	1.35 kg	1.40 kg	3.64 kg	3.66 kg	3.91 kg
PVC-U female thread NPT	EPDM	147257	147258	147259	147260	147261	147262	147263
	FPM	147264	147265	147266	147267	147268	147269	147270
	weight	0.66 kg	1.97 kg	1.38 kg	1.42 kg	3.65 kg	3.70 kg	3.94 kg
PE spigot DIN	EPDM		147116	147117	147118	147119	147120	147121
	FPM		147122	147123	147124	147125	147126	147127
	weight		0.66 kg	1.36 kg	1.44 kg	3.67 kg	3.76 kg	4.03 kg
A4 1.4571 female thread Rp	EPDM	147102	147103	147104	147105	147106	147107	147108
	FPM	147109	147110	147111	147112	147113	147114	147115
	weight	0.70 kg	0.73 kg	1.51 kg	1.61 kg	4.02 kg	4.20 kg	4.84 kg
GFR flange DIN	-		147142	147143	147144	147145	147146	147147
			0.79 kg	1.55 kg	1.62 kg	4.05 kg	4.10 kg	4.38 kg
PP / steel flange ANSI	-		147148	147149	147150	147151	147152	147153
			1.05 kg	1.86 kg	2.15 kg	4.50 kg	4.58 kg	5.17 kg

Pressure relief valve DHV 718, [d16 - d63]



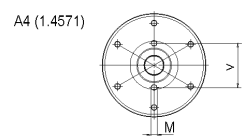
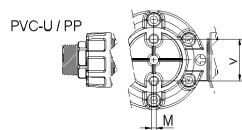
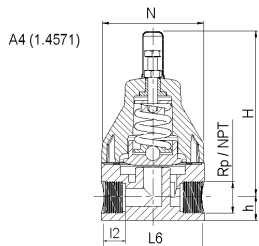
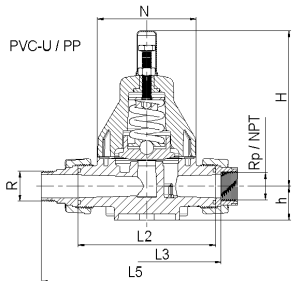
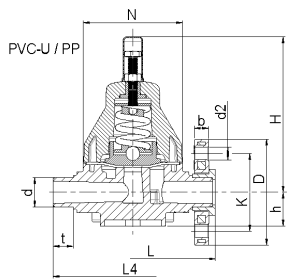
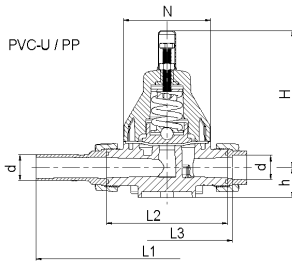
body PP

<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PP socket DIN	EPDM	147161	147162	147163	147164	147165	147166	147167
	FPM	147169	147170	147171	147172	147173	147174	147175
	<i>weight</i>	0.54 kg	0.57 kg	1.20 kg	1.26 kg	3.21 kg	3.21 kg	3.40 kg
PP spigot DIN	EPDM	-	147176	147177	147178	147179	147180	147181
	FPM	-	147182	147183	147184	147185	147186	147187
	<i>weight</i>	-	0.63 kg	1.21 kg	1.28 kg	3.23 kg	3.27 kg	3.52 kg
PP spigot fix DIN	-	146899	146900	146901	146902	146903	146904	146905
	<i>weight</i>	0.51 kg	0.51 kg	1.09 kg	1.10 kg	2.95 kg	2.94 kg	2.97 kg
GFR flange DIN	-	-	147202	147203	147204	147205	147206	147207
	<i>weight</i>	-	0.73 kg	1.41 kg	1.52 kg	3.63 kg	3.70 kg	3.96 kg
PP / steel flange ANSI	-	-	147208	147209	147210	147211	147212	147213
	<i>weight</i>	-	1.00 kg	1.72 kg	2.04 kg	4.08 kg	4.18 kg	4.75 kg
PP female thread Rp	EPDM	147188	147189	147190	147191	147192	147193	147194
	FPM	147195	147196	147197	147198	147199	147200	147201
	<i>weight</i>	0.54 kg	0.64 kg	1.20 kg	1.26 kg	3.19 kg	3.26 kg	3.46 kg

body A4 1.4571

<i>size</i>	d(mm)	16	20	25	32	40	50	63
<i>pressure range</i>	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
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
A4 1.4571 female thread Rp	-	147222	147223	147224	147225	147226	147227	147228
	<i>weight</i>	1.70 kg	4.40 kg	9.40 kg	11.10 kg	1.70 kg	4.40 kg	11.10 kg
A4 1.4571 female thread NPT	-	147271	147272	147273	147274	147275	147276	147277
	<i>weight</i>	1.70 kg	4.40 kg	9.40 kg	11.10 kg	1.70 kg	4.40 kg	11.10 kg

Pressure relief valve DHV 718, [d16 - d63]



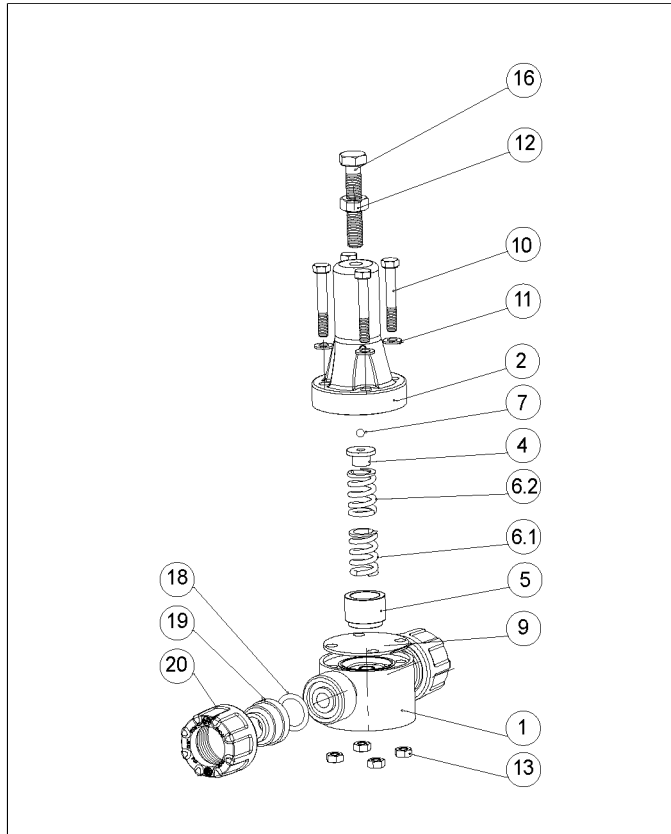
dimensions

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
Rp	3/8	1/2	3/4	1	1 1/4	1 1/2	2
NPT							
1.4571 H	152	152	175	175	217	219.5	227.5
PP/PVC-U H	177	177	207	207	277	277	277
1.4571 h	16	16	24	24	24.5	30	35
PP/PVC-U h	25	25	37	37	57	57	57
L	-	150	180	180	230	230	250
PP L1	-	228	264	270	331	338	343
PVC-U L1	-	310	340	340	395	395	395
L2	120	120	150	150	204	204	204
L3	126	126	156	156	211	211	211
L4	144	144	174	174	224	224	244
t	14	16	19	22	26	31	38
GFR d2	-	14	14	14	18	18	18
PP / steel d2	-	16	16	16	16	16	19
GFR D	-	95	106	116	141	151	166
PP / steel D	-	89	98	108	117	127	152
GFR K	-	65	75	85	100	110	125
PP / steel K	-	60.3	69.8	79.4	88.9	98.4	120.6
M	M 6	M 6	M 6	M 6	M 8	M 8	M 8
GFR b	-	13	15	16	18	18	19
PP / steel b	-	13	13	16	16	18	18
l2							
N	81	81	107	107	147	147	147
v	40	40	46	46	65	65	65

Pressure relief valve DHV 718

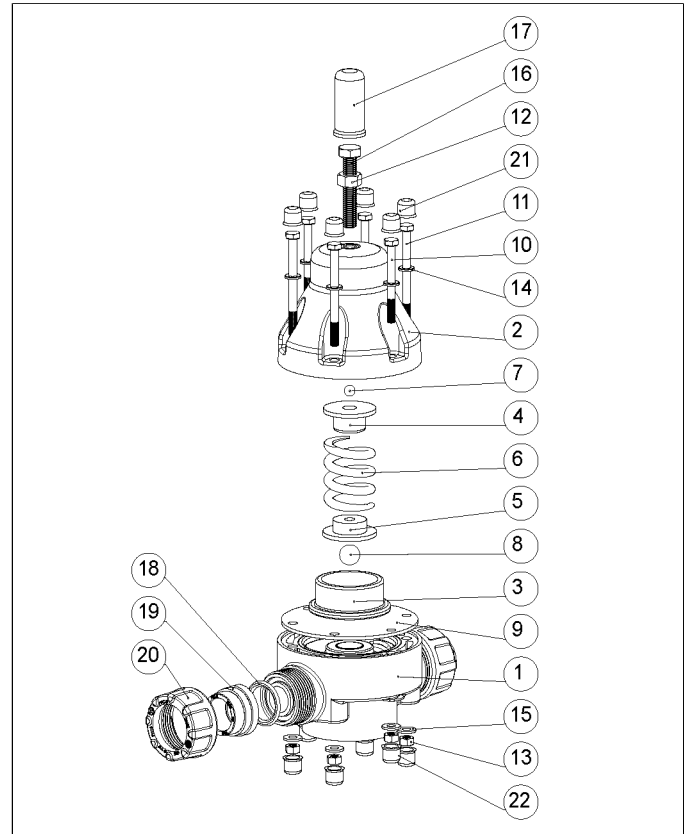
Item Overview

DN 8, PVC-U, PP, PVDF



position	quantity	designation
1	1	valve body
2	1	bonnet
4	1	pressure plate
5	1	spring plate
6.1	1	pressure spring
6.2	1	pressure spring
7	1	steel ball
9	1	diaphragm
10	4	socket head cap screw
11	4	washer
12	1	hexagon nut
13	4	hexagon nut
16	1	hexagon bolt
18	2	O-ring
19	2	union end
20	2	union nut

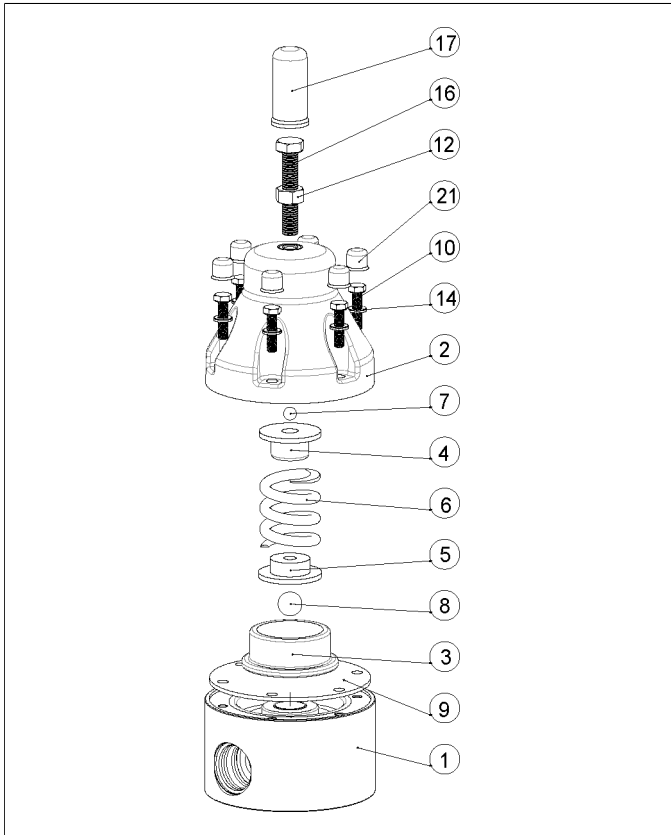
DN10-DN50, PVC-U, PP



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	diaphragm disc
4	1	pressure plate
5	1	spring plate
6	1	pressure spring
7	1	steel ball
8	1	steel ball
9	1	diaphragm
10	4	hexagon bolt
11	2	hexagon bolt
12	1	hexagon nut
13	6	hexagon nut
14	6	washer
15	6	washer
16	1	hexagon bolt
17	1	protection cap
18	2	O-ring
19	2	union end
20	2	union nut
21	6	protection cap
22	6	protection cap

Pressure relief valve DHV 718

DN10-DN50, A4 (1.4571)

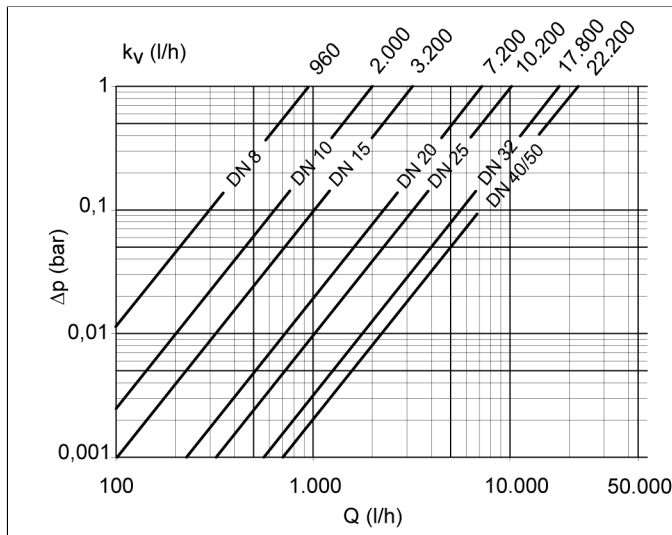


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	diaphragm disc
4	1	pressure plate
5	1	spring plate
6	1	pressure spring
7	1	steel ball
8	1	steel ball
9	1	diaphragm
10	4	hexagon bolt
12	1	hexagon nut
14	6	washer
16	1	hexagon bolt
17	1	protection cap
21	6	protection cap

Pressure relief valve DHV 718

Characteristic curves

Pressure loss curve (standard values for H₂O, 20°C)



ΔP = pressure loss
 Q = flow

Pressure loss and k_v

The diagram shows the pressure loss in relation to the flow Q .

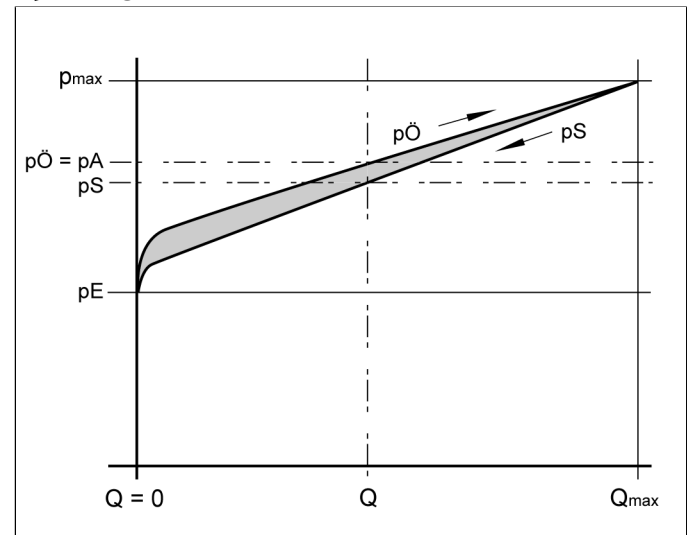
Conversion aid:

$cv = kv \times 0.07$; $fv = kv \times 0.0585$

Units:

kv [l/min]; cv [gal/min] US; fv [gal/min] GB

Operating behaviour



pE = set Pressure

pA = working pressure

$pÖ$ = opening pressure

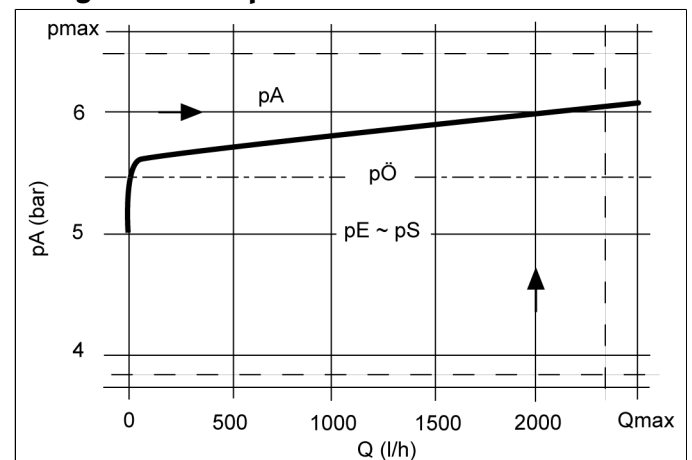
pS = closing pressure

$pÖ - pS$ = hysteresis

$pE - pA$ = flow dependent pressure reduction

Q = flow

Configuration example



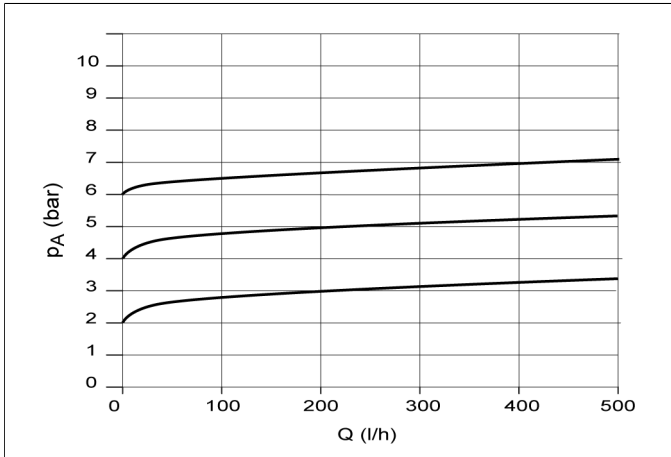
The valve is set tight at 5 bar.

A flow of approx. 2000 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 $pÖ$: 5.5 bar; closing pressure pS : 5 bar

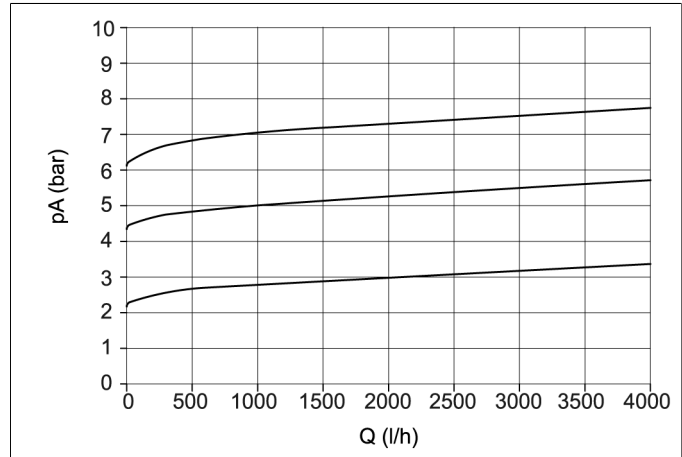
Pressure relief valve DHV 718

DN 8



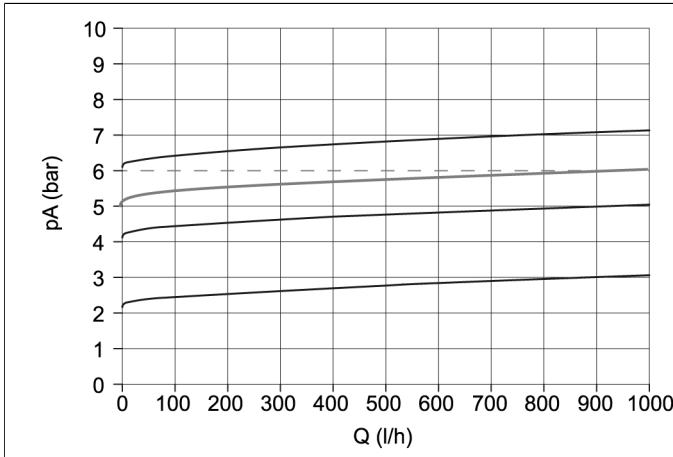
pA = working pressure
Q = flow

DN 20



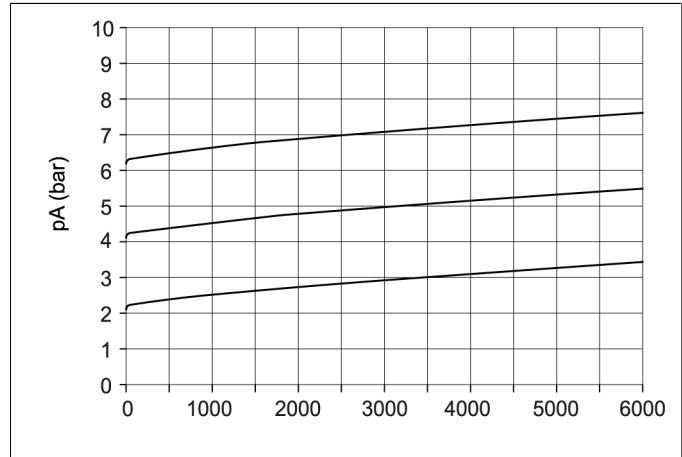
pA = working pressure
Q = flow

DN 10



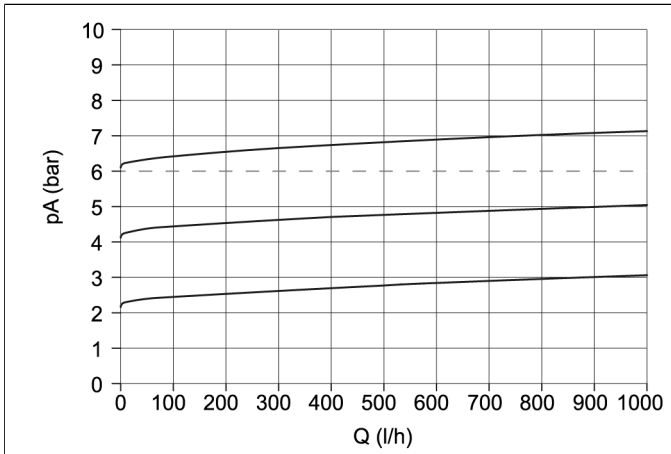
pA = working pressure
Q = flow

DN 25



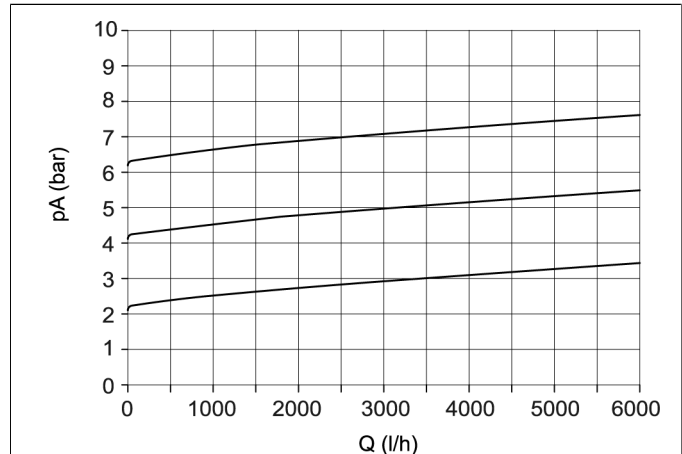
pA = working pressure
Q = flow

DN 15



pA = working pressure
Q = flow

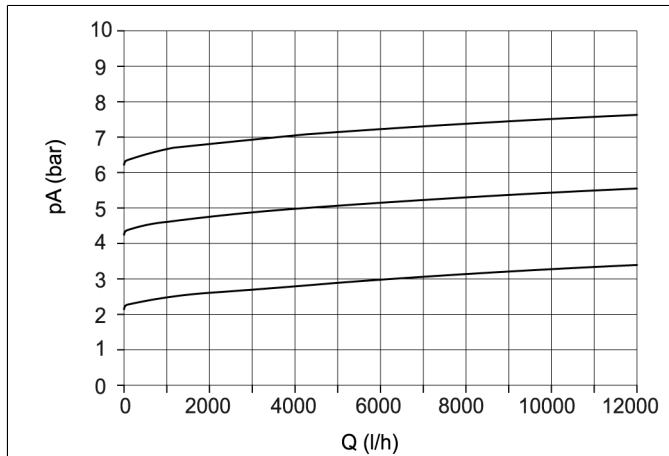
DN 32



pA = working pressure
Q = flow (H₂O, 20°C)

Pressure relief valve DHV 718

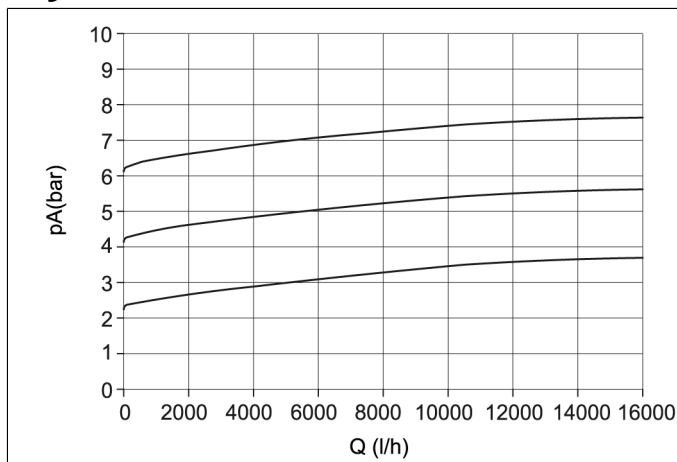
DN 40



p_A = working pressure

Q = flow (H_2O , $20^\circ C$)

DN 50



p_A = working pressure

Q = flow (H_2O , $20^\circ C$)

Pressure relief valve DHV 718

Pressure relief valve DHV 712

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



Advantage

- for high pressure stability
- reliable reduction of pressure peaks and pulsations
- pressure setting possible at any time, also during operation
- hermetically sealed by valve diaphragm
- in the position of rest 100% back pressure free

Application

- chemical plants
- industrial plants
- water treatment

Utilisation

- 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 pressurized valve piston is lifted against the spring force. The valve opens and a pressure relief on the secondary side (outlet side) takes place. 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 unauthorized adjustment, if necessary.

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

Size

- DN 65 - DN 100

Set Range

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

Nominal Pressure (H₂O, 20°C)

- PN 6 - PN 10

Working Pressure

- set pressure plus flow dependent pressure increase (see characteristic curves): approx. 0.3 - 10.0 bar

Opening Pressure

- approx. 0.3 - 0.5 bar

Hysteresis

- Difference between opening and closing pressure approx. 1 bar

Valve Body

- PVC-U
- PP
- PVDF

Bonnet

- PVC-U
- PP
- PVDF

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

- 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

Fastening

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

Colour

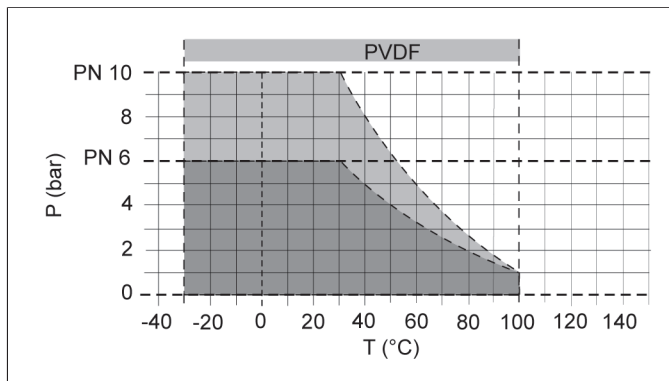
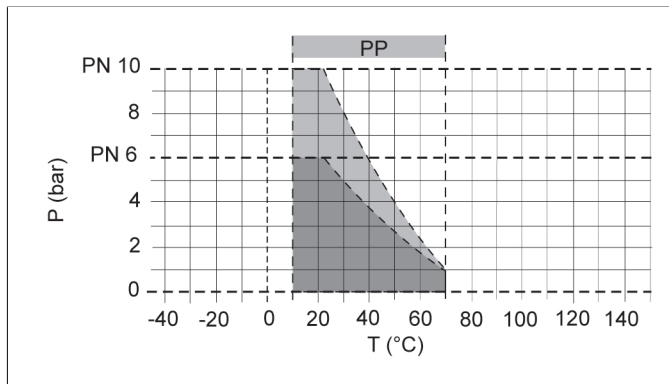
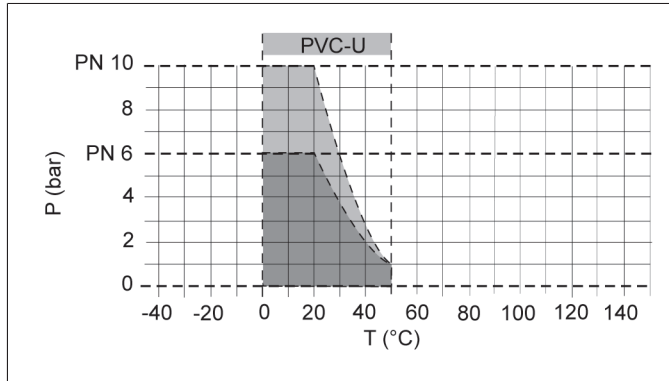
- PVC-U: grey, RAL 7011
- PP: grey, RAL 7032
- PVDF: opaque, yellowish-white

Pressure Gauge Connection

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

Pressure relief valves, Pressure relief valve DHV 712

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.

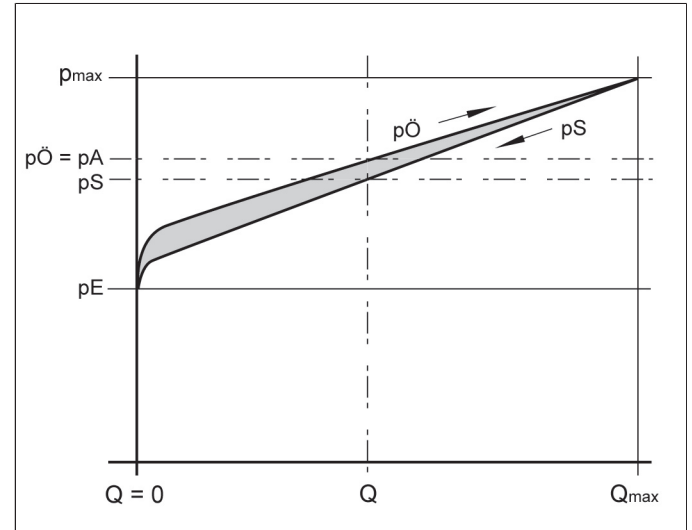
For other media please refer to the ASV resistance guide.

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

$pÖ$ = opening pressure

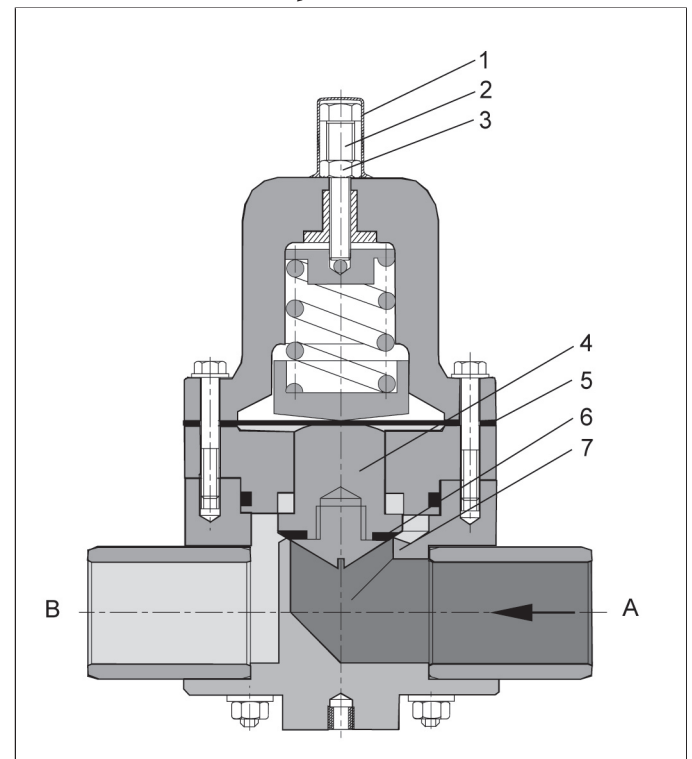
pS = closing pressure

$pÖ - pS$ = hysteresis

$pE - pA$ = flow dependent pressure reduction

Q = flow

The sectional view DHV 712



A = primary side

B = secondary side

1 = protection cap

2 = adjustment screw

3 = counter nut

4 = piston

5 = diaphragm

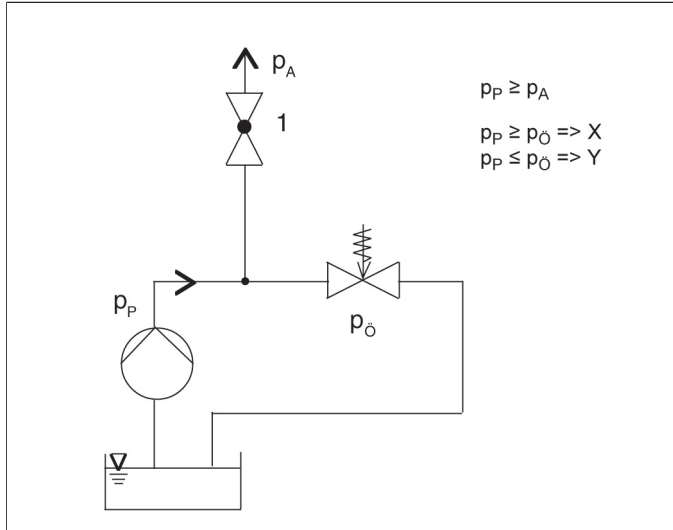
6 = flat sealing ring

7 = valve seat

Pressure relief valves, Pressure relief valve DHV 712

Applications for Pressure Relief Valve

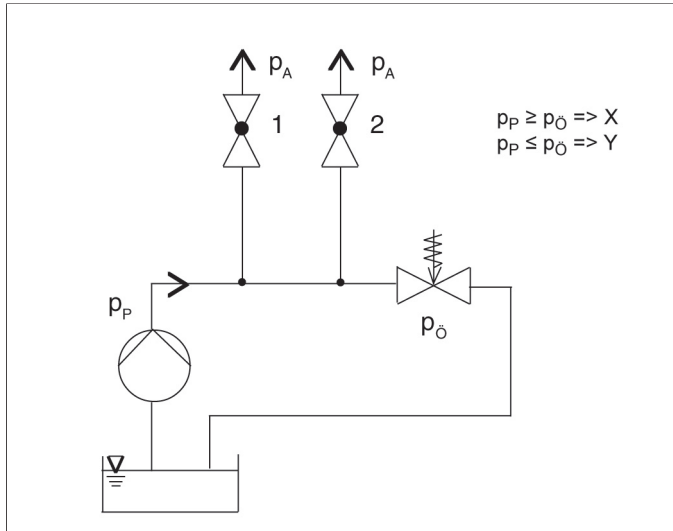
Example 1: Constant system pressure



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

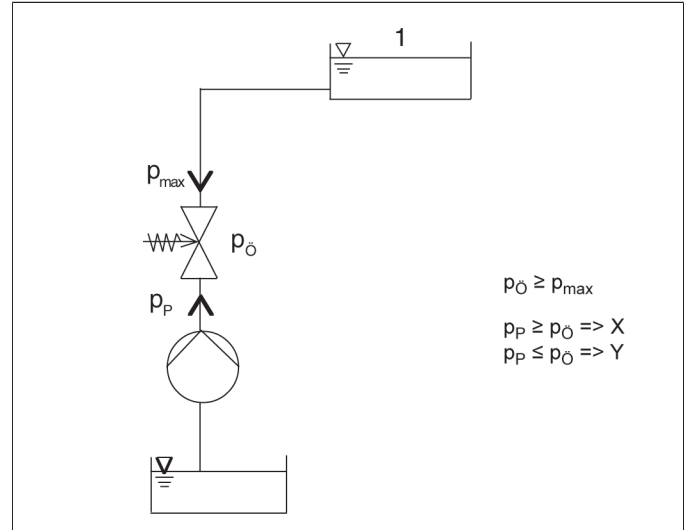
Example 2: Consumer 1 and/or 2 opens, pressure relief valve closes



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

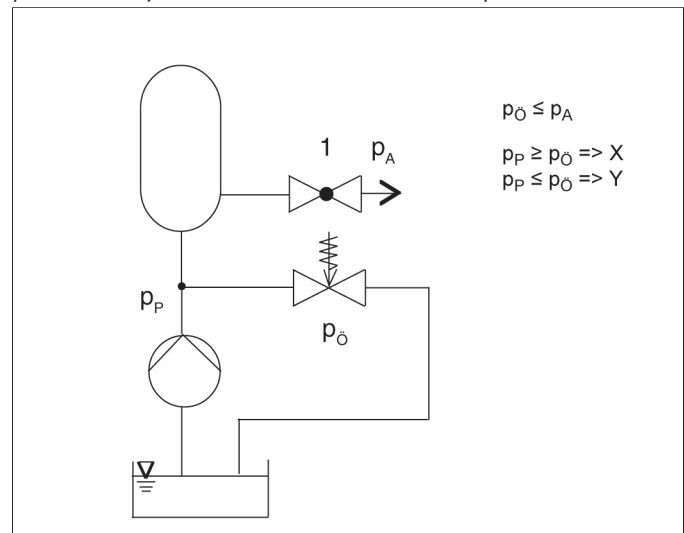
Example 3: Pressure relief valve as backflow preventer



X = valve opens
Y = valve closed
pmax = max. pressure
pP = pump pressure
pÖ = opening pressure

Applications for Pressure Relief Valve

Example 4: Pressure relief valve as overflow valve: The container pressure or system must not exceed the max. pressure value



X = valve opens
Y = valve closed
pA = working pressure
pP = pump pressure
pÖ = opening pressure

Pressure relief valves, Pressure relief valve DHV 712

Malfunctions, possible causes, rectification

Malfunction:	Cause:	Rectification:
Valve leaking at the diaphragm.	Insufficient contact pressure (membrane fastening).	Tighten the connecting screws.
Pressure falls below the set value.	Piston guidance or valve seat leaking.	Check piston and/or valve seat and replace, if necessary.
Pressure exceeds the set value.	The piston guide sticking, possible due to soiling.	Clean valve.
	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)	75	90	110
Md (Nm)	20	20	20

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).

Pressure relief valves, Pressure relief valve DHV 712



body PVC-U

<i>size</i>	d(mm)		75	75	90	90	110	110
	<i>pressure range</i>	DN(mm)	65	65	80	80	100	100
		DN(inch)	2 1/2	2 1/2	3	3	4	4
		PN(bar)	10	10	10	10	6	6
		Setting range (bar)	0.3-4	0.5-10	0.3-4	0.5-10	0.3-4	0.5-6
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
	PVC-U	EPDM	110545	110060	110548	110063	112926	111856
spigot end DIN ISO		FPM	112920	112911	112923	112914	112929	112932
	<i>weight</i>		9.50 kg	9.50 kg	12.00 kg	12.00 kg	15.00 kg	15.00 kg

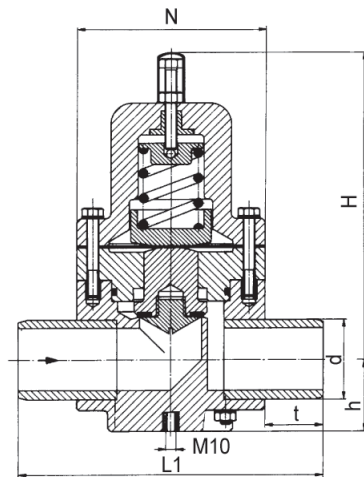
body PP

<i>size</i>	d(mm)		75	75	90	90	110	110
	<i>pressure range</i>	DN(mm)	65	65	80	80	100	100
		DN(inch)	2 1/2	2 1/2	3	3	4	4
		PN(bar)	10	10	10	10	6	6
		Setting range (bar)	0.3-4	0.5-10	0.3-4	0.5-10	0.3-4	0.5-6
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
	PP	EPDM	110546	110061	110549	110064	112927	111857
spigot end DIN ISO		FPM	112921	112912	112924	112915	112930	112933
	<i>weight</i>		7.00 kg	7.00 kg	10.80 kg	10.80 kg	12.00 kg	12.00 kg

body PVDF

<i>size</i>	d(mm)		75	75	90	90	110	110
	<i>pressure range</i>	DN(mm)	65	65	80	80	100	100
		DN(inch)	2 1/2	2 1/2	3	3	4	4
		PN(bar)	10	10	10	10	6	6
		Setting range (bar)	0.3-4	0.5-10	0.3-4	0.5-10	0.3-4	0.5-6
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
	PVDF	FPM	112922	112913	112925	112916	112931	112934
spigot end DIN ISO		<i>weight</i>	11.20 kg	11.20 kg	14.00 kg	14.00 kg	17.00 kg	17.00 kg

Pressure relief valves, Pressure relief valve DHV 712



dimensions

d(mm)	75	90	110
DN(mm)	65	80	100
DN(inch)	2 1/2	3	4

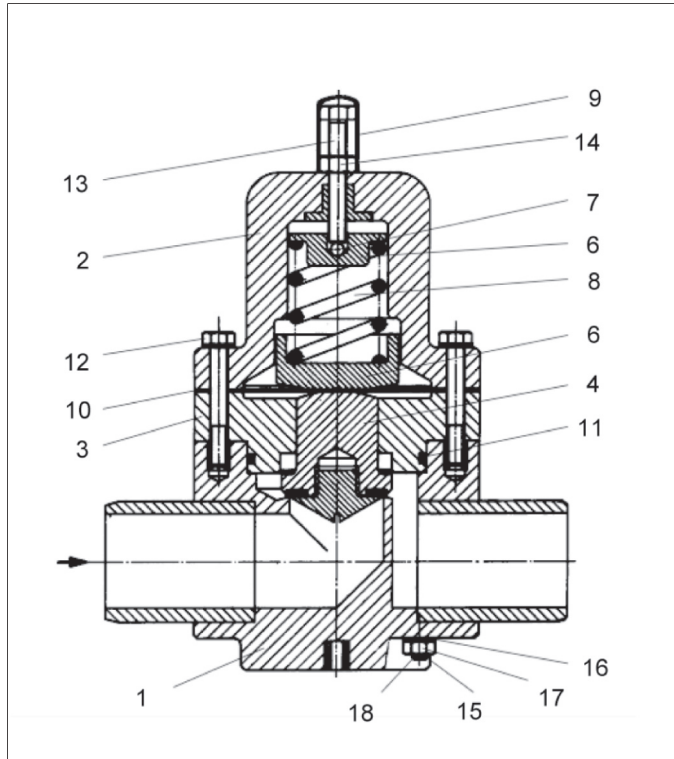
dimensions(mm)

d	75	90	110
h	68	75	95
L1	284	360	420
t	54	80	85
H	282	310	360
N	175	200	250

Pressure relief valves, Pressure relief valve DHV 712

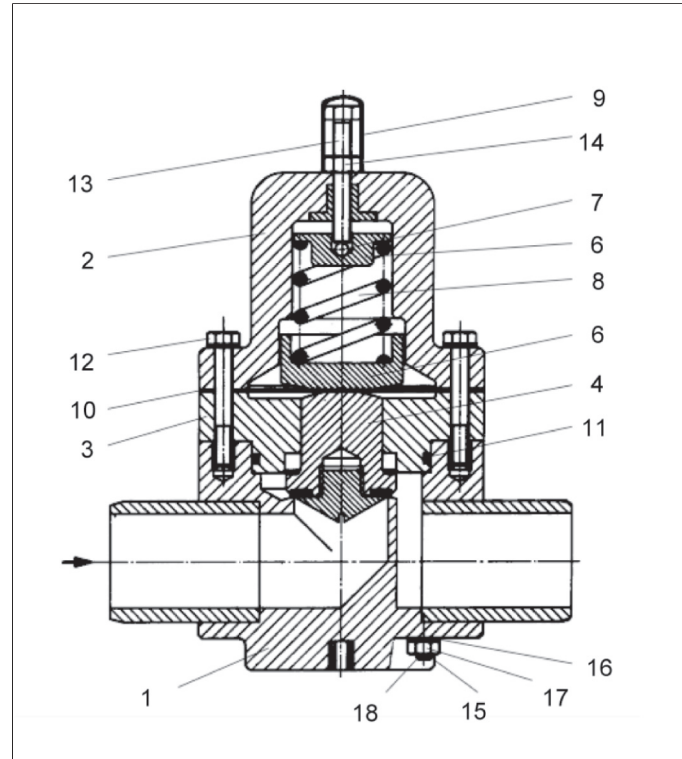
Exploded view

DHV 712 DN 65



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	piston, complete
5	1	spring plate
6	1	pressure plate
7	1	steel ball
8	1	pressure spring
9	1	protection cap
10	1	diaphragm
11	1	O-ring
12	2	hexagon bolt
13	1	adjustment screw
14	1	counter nut
15	6	hexagon bolt
16	14	washer
17	12	hexagon nut
18	14	protection cap

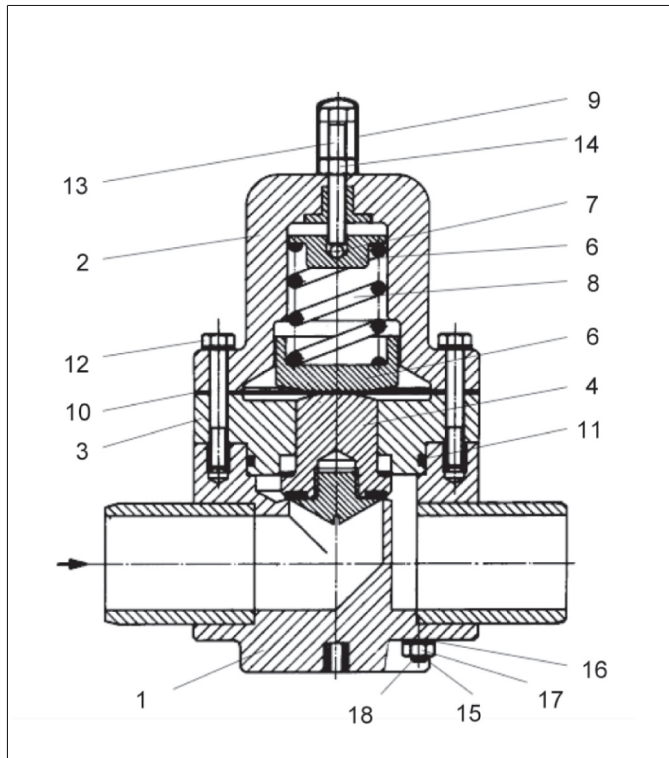
DHV 712 DN 80



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	piston, complete
5	1	spring plate
6	1	pressure plate
7	1	steel ball
8	1	pressure spring
9	1	protection cap
10	1	diaphragm
11	1	O-ring
12	2	hexagon bolt
13	1	adjustment screw
14	1	counter nut
15	6	threaded bolt
16	14	washer
17	12	hexagon nut
18	14	protection cap

Pressure relief valves, Pressure relief valve DHV 712

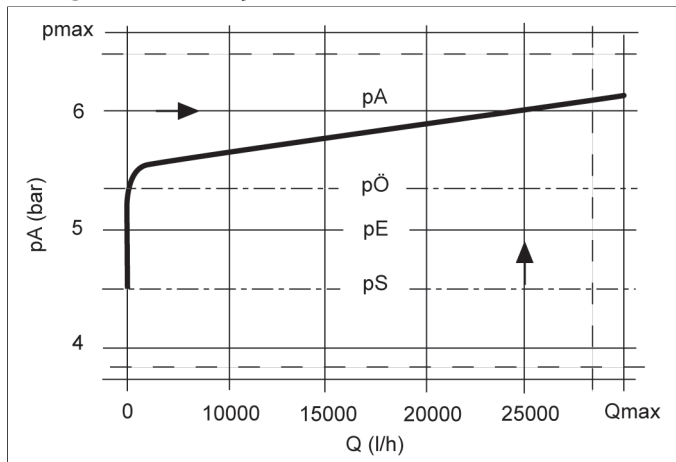
DHV 712 DN 100



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	separating disc
4	1	piston, complete
5	1	spring plate
6	1	pressure plate
7	1	steel ball
8	1	pressure spring
9	1	protection cap
10	1	diaphragm
11	1	O-ring
12	2	hexagon bolt
13	1	adjustment screw
14	1	counter nut
15	8	threaded bolt
16	18	washer
17	16	hexagon nut
18	18	protection cap

Characteristic curves

Configuration example



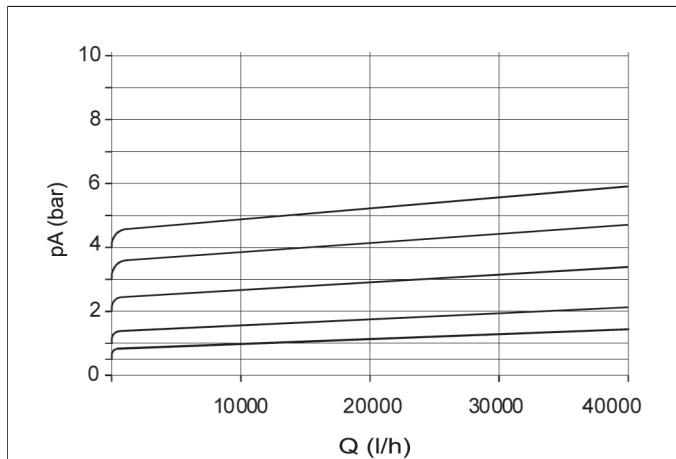
The valve is set tight at 5 bar.

A flow of approx. 25000 l/h is reached at a pressure increase of 1 bar.

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

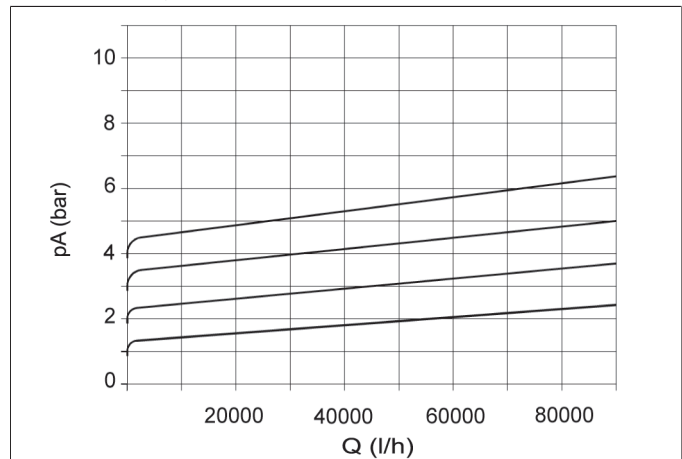
set pressure pE: 5 bar; working pressure pA: 6 bar; opening pressure pÖ: 5.4 bar; closing pressure pS: 4,5 bar

DN 65 0,3-4 bar



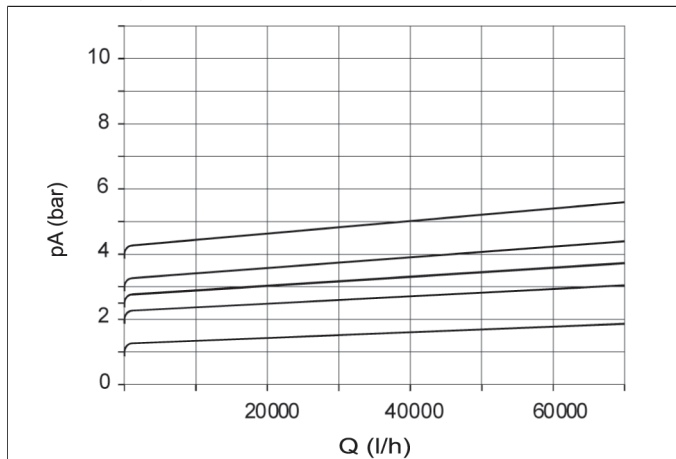
*pA = working pressure
Q = flow*

DN 100 0,3 - 4 bar



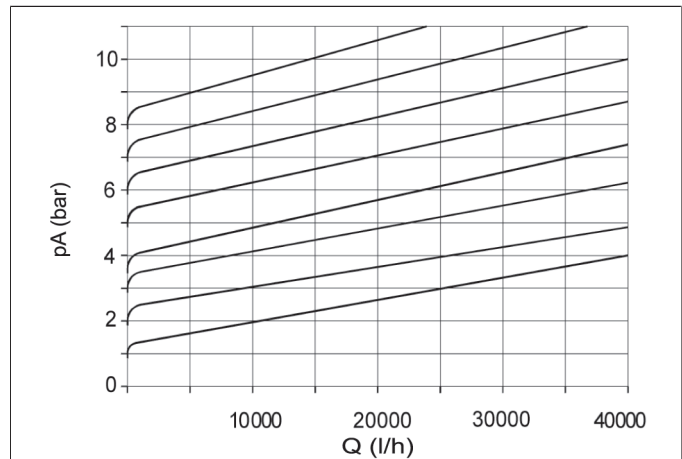
*pA = working pressure
Q = flow*

DN 80 0,3-4 bar



*pA = working pressure
Q = flow*

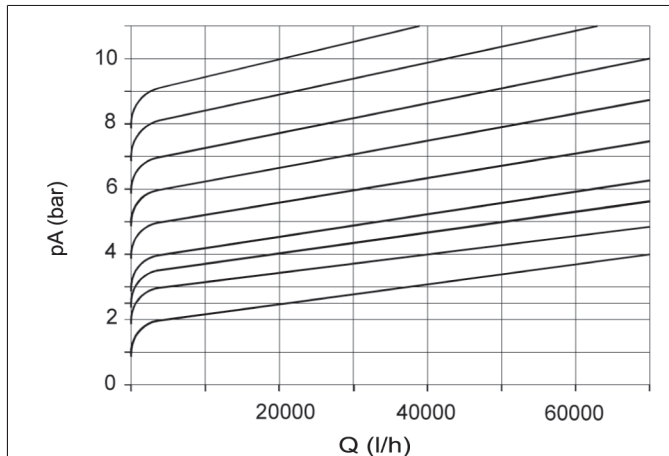
DN 65 0,5-10 bar



*pA = working pressure
Q = flow*

Pressure relief valves, Pressure relief valve DHV 712

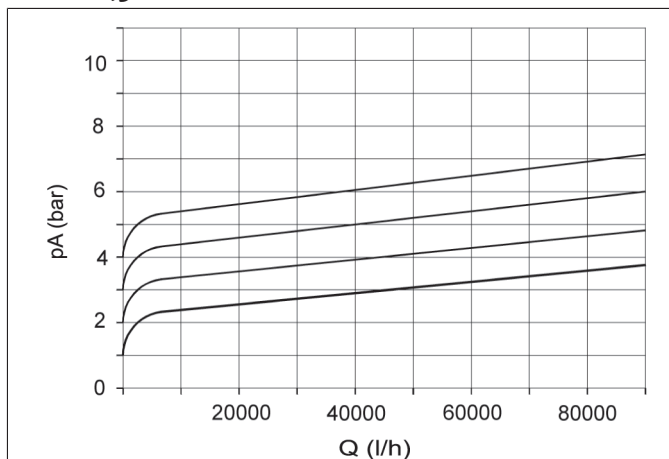
DN 80 0,5-10 bar



p_A = working pressure

Q = flow

DN 100 0,5 - 6 bar



p_A = working pressure

Q = flow

Pressure relief valves, Pressure relief valve DHV 712