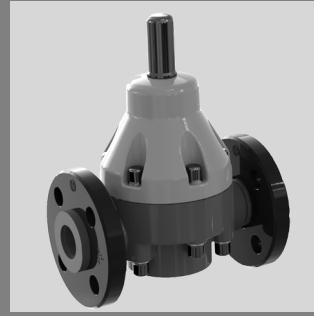
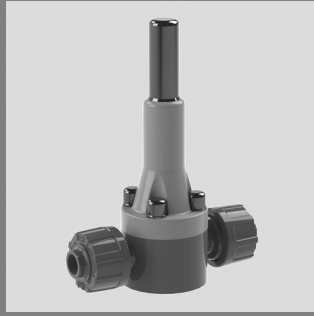


Pressure relief valve DHV 718



Benefits

- diaphragm controlled pressure relief valve
- 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.

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. 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

- 0,5 - 10,0 bar

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 (1.4571)

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

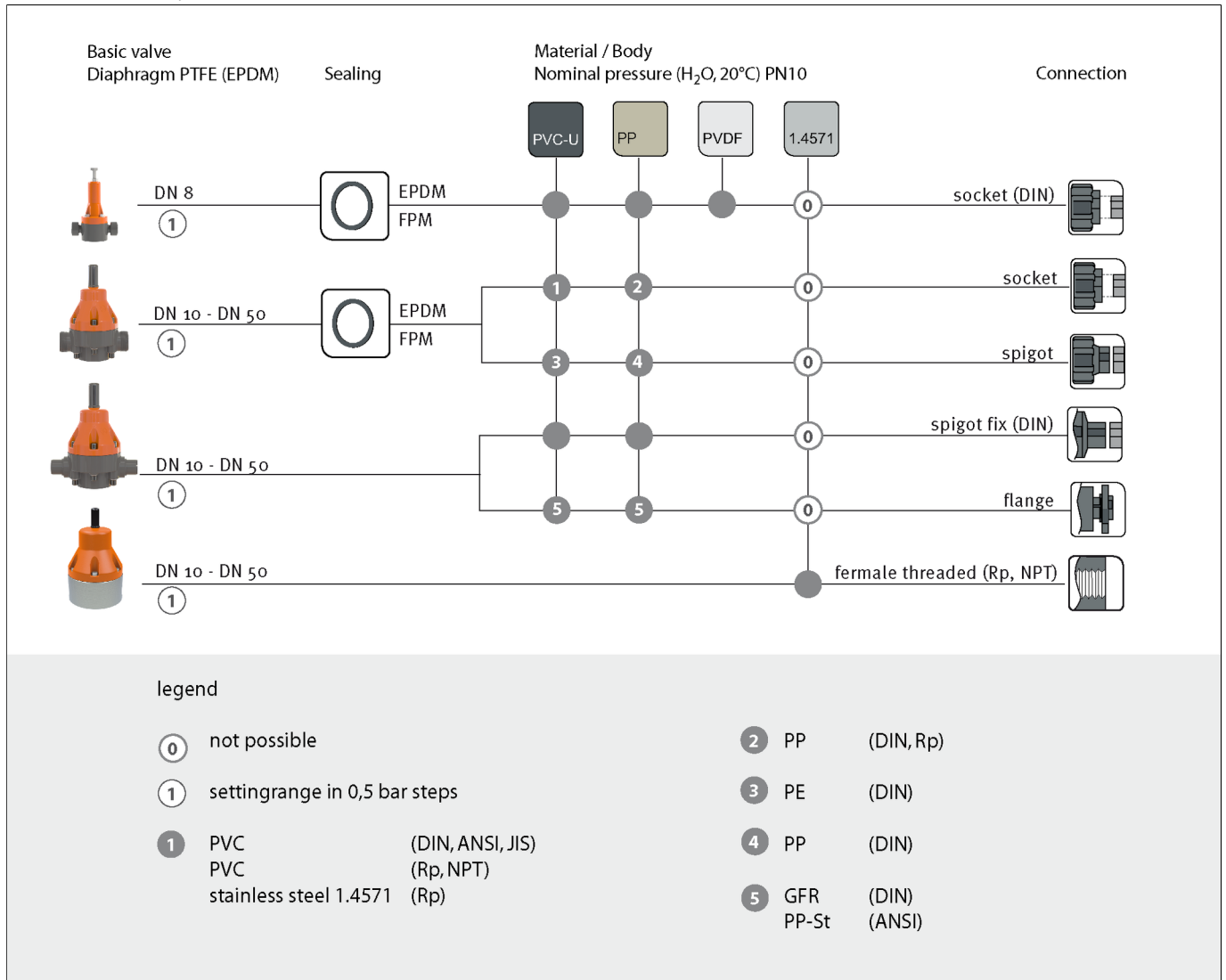
- body: PVC-U, grey, RAL 7011
- body: PP, grey, RAL 7032
- body: PVDF, opaque, yellowish-white
- bonnet: orange, RAL 2004
- valve body: stainless steel, unpainted

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.

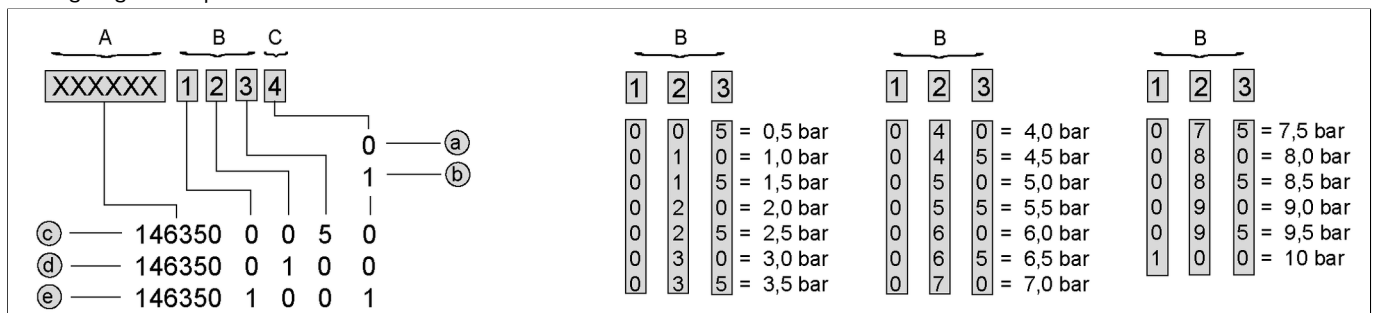
Pressure relief valve DHV 718

Possible delivery and connection options



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

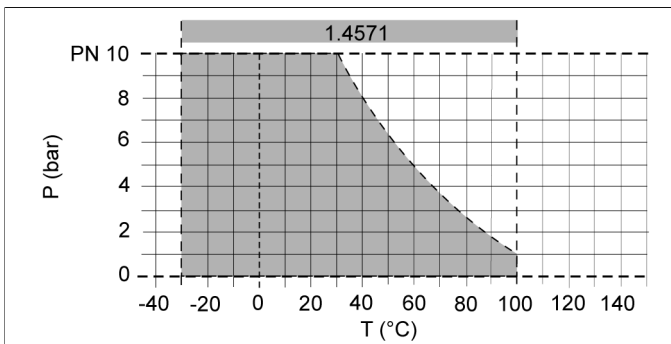
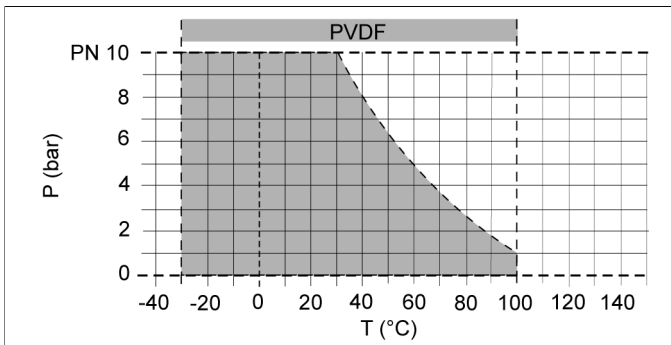
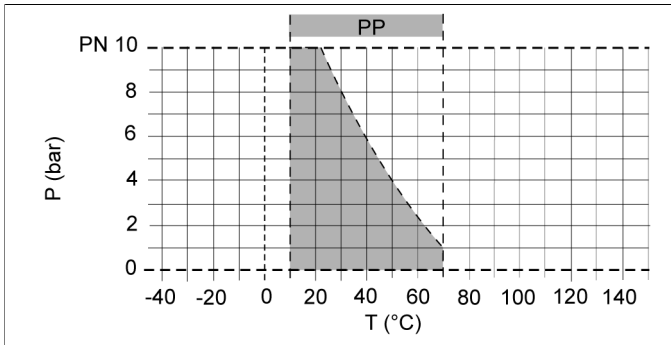
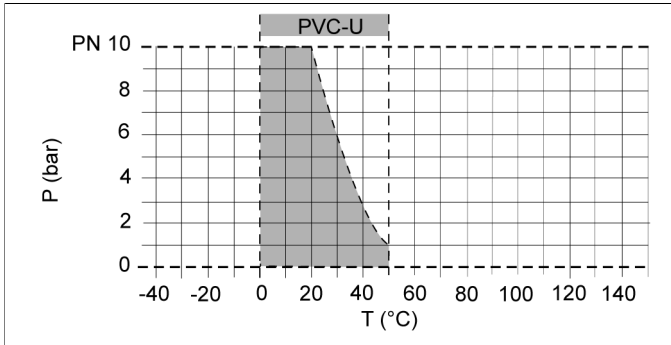
example c = ident no. / setting = 0,5 bar / not washed free of silicone

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

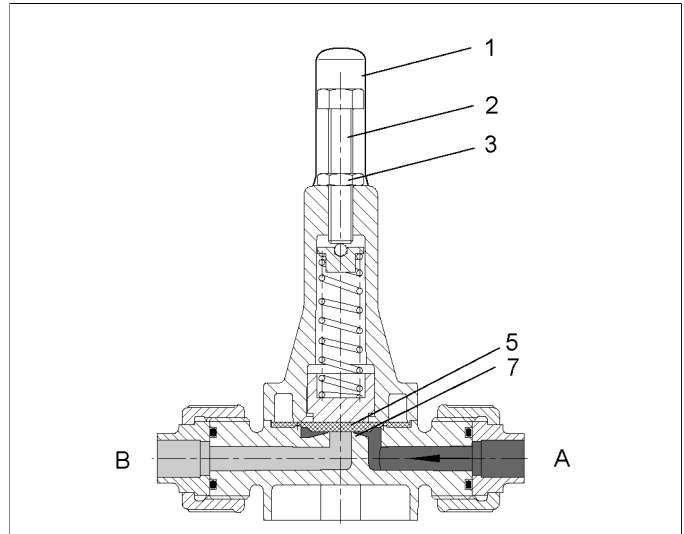


P = operating pressure T = temperature

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.

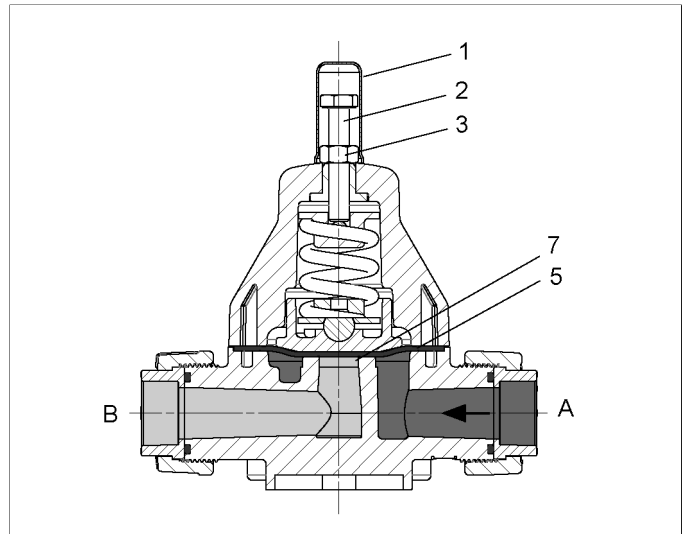
For other media please refer to the ASV resistance guide. The durability of wear parts depends on the operating conditions of the application.

Sectional drawing DHV 718, DN 8



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

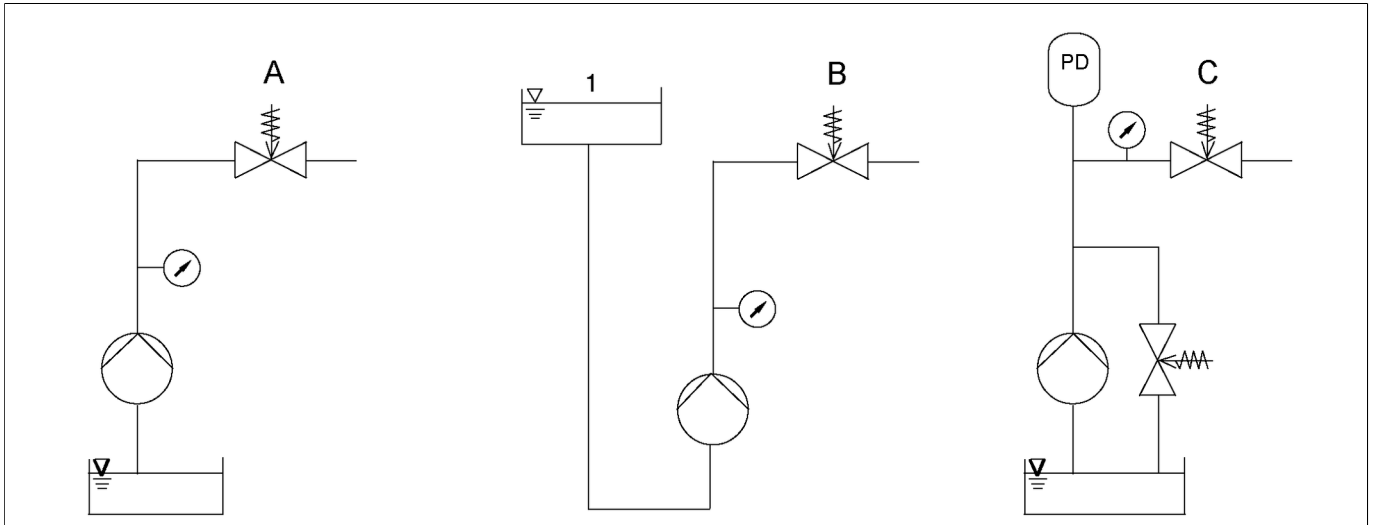
Sectional drawing DHV 718, DN 10 - DN 50



*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

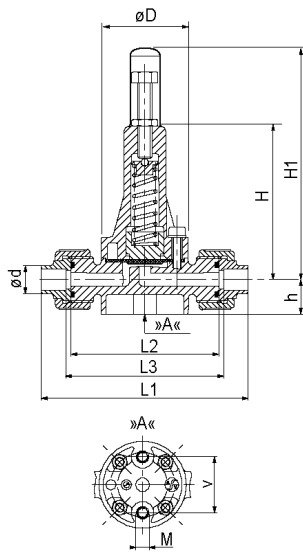
body PP

<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]

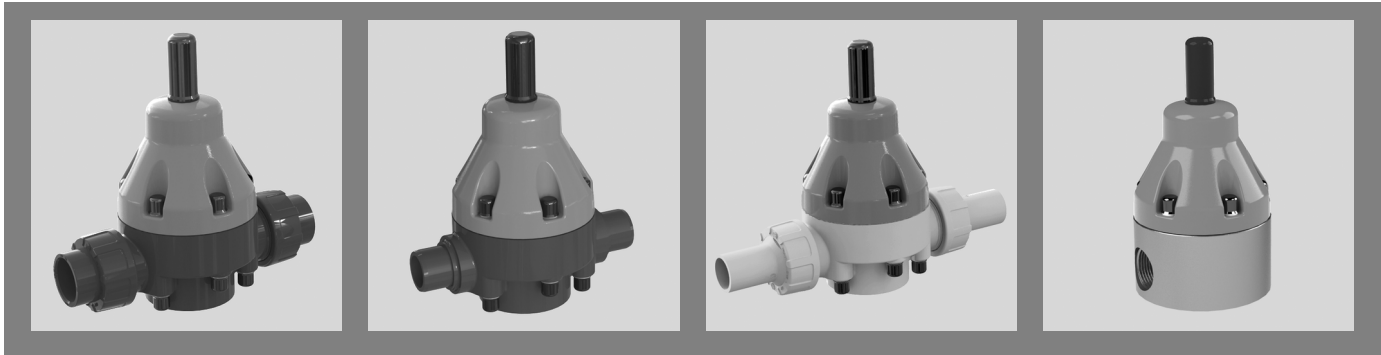


dimensions

d(mm)	12
DN(mm)	8
DN(inch)	1/4
dimensions(mm)	
d	12
H	120
H ₁	134
h	20
L ₁	119
L ₂	85
L ₃	91
M	M 5
v	32



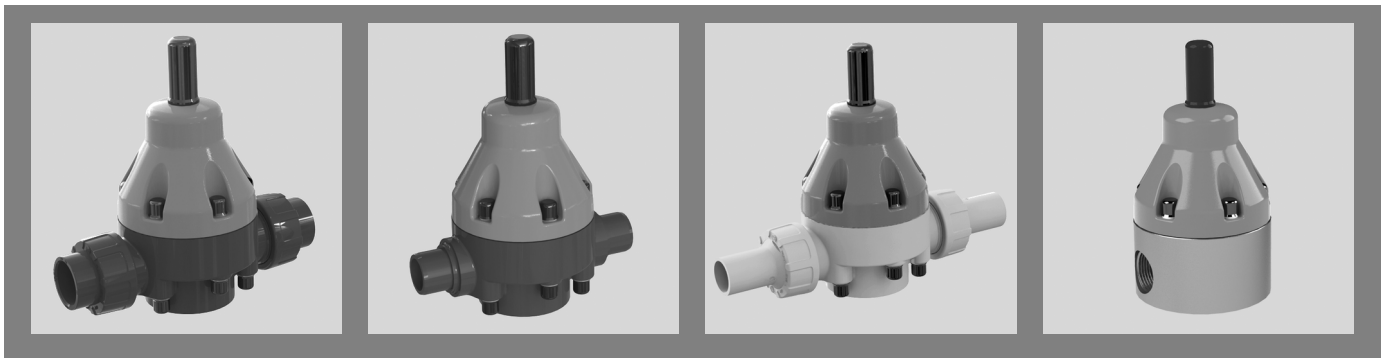
Pressure relief valve DHV 718, [d16 - d63]



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 female thread NPT	EPDM	147257	147258	147259	147260	147261	147262	147263
	FPM	147264	147265	147266	147267	147268	147269	147270
	weight	0.66 kg	0.65 kg	1.38 kg	1.42 kg	3.65 kg	3.70 kg	3.94 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	3.67 kg	3.91 kg
PVC-U socket ANSI	EPDM	147046	147047	147048	147049	147050	147051	147052
	FPM	147053	147054	147055	147056	147057	147058	147059
	weight	0.66 kg	0.65 kg	1.36 kg	1.40 kg	3.64 kg	3.68 kg	3.90 kg
PVC-U socket DIN	EPDM	147031	147032	147033	147034	147035	147036	147037
	FPM	147039	147040	147041	147042	147043	147044	147045
	weight	0.66 kg	0.65 kg	1.35 kg	1.40 kg	3.62 kg	3.64 kg	3.85 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 spigot fix DIN	-	146889	146890	146891	146892	146893	146894	146895
		0.58 kg	0.58 kg	1.26 kg	1.24 kg	3.39 kg	3.36 kg	3.37 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
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
GFR (DIN) flange DIN	-	-	147142	147143	147144	147145	147146	147147
		-	0.79 kg	1.55 kg	1.63 kg	4.05 kg	4.11 kg	4.38 kg
PP/steel (ANSI) flange ANSI	-	-	147148	147149	147150	147151	147152	147153
		-	1.05 kg	1.86 kg	2.15 kg	4.62 kg	4.58 kg	5.17 kg

Pressure relief valve DHV 718, [d16 - d63]



body PP

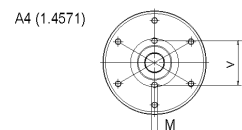
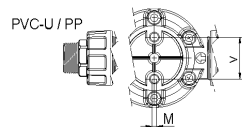
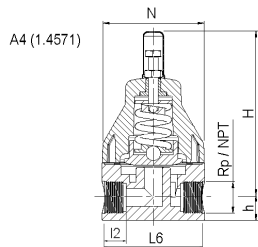
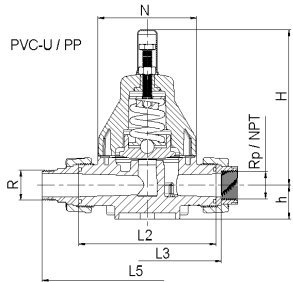
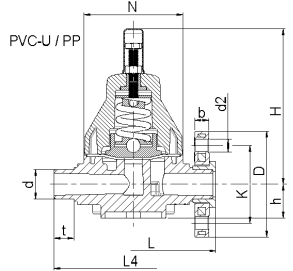
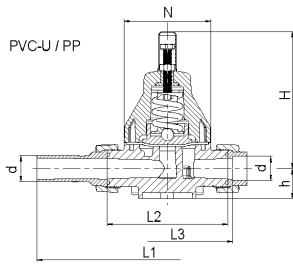
<i>size</i>	d(mm)	16	20	25	32	40	50	63	
	<i>pressure range</i>	DN(mm)	10	15	20	25	32	40	50
		DN(inch)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
		PN(bar)	10	10	10	10	10	10	10
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>							
PP female thread Rp	EPDM	147188	147189	147190	147191	147192	147193	147194	
	FPM	147195	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	
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 (DIN) 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 (ANSI) flange ANSI	-	-	147208	147209	147210	147211	147212	147213	
<i>weight</i>	-	1.00 kg	1.72 kg	2.04 kg	4.20 kg	4.18 kg	4.75 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 NPT	-	147271	147272	147273	147274	147275	147276	147277	
	<i>weight</i>	1.56 kg	1.64 kg	4.27 kg	4.18 kg	9.33 kg	9.80 kg	10.98 kg	
A4 1.4571 female thread Rp	-	147222	147223	147224	147225	147226	147227	147228	
	<i>weight</i>	1.68 kg	1.76 kg	4.29 kg	4.22 kg	9.20 kg	9.70 kg	10.90 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

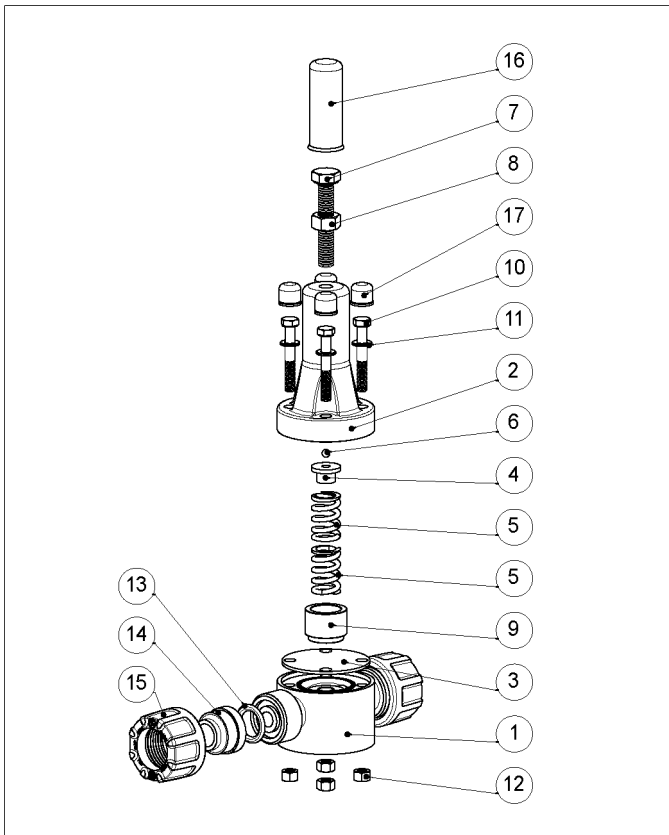
dimensions(mm)

	d	16	20	25	32	40	50	63
	Rp	3/8	1/2	3/4	1	1 1/4	1 1/2	2
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
PP	L1	-	150	180	180	230	230	250
PVC-U	L1	-	228	264	270	331	338	343
	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 (DIN)	d2	-	14	14	14	18	18	18
PP/steel (ANSI)	d2	-	16	16	16	16	16	19
GFR (DIN)	D	-	95	106	116	141	151	166
PP/steel (ANSI)	D	-	89	98	108	117	127	152
GFR (DIN)	K	-	65	75	85	100	110	125
PP/steel (ANSI)	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 (DIN)	b	-	13	15	16	18	18	19
PP/steel (ANSI)	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

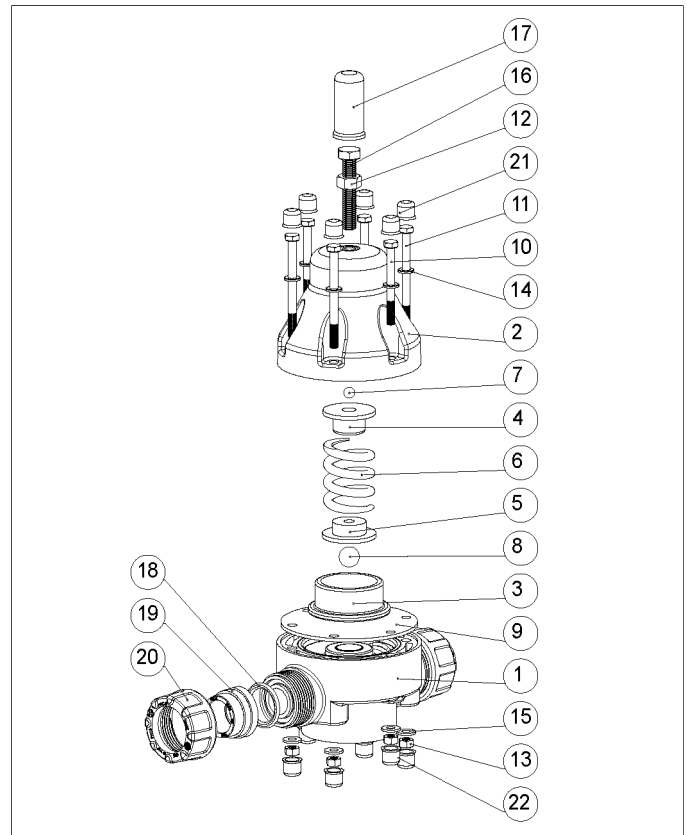
parts lists

DN 8, PVC-U, PP, PVDF



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

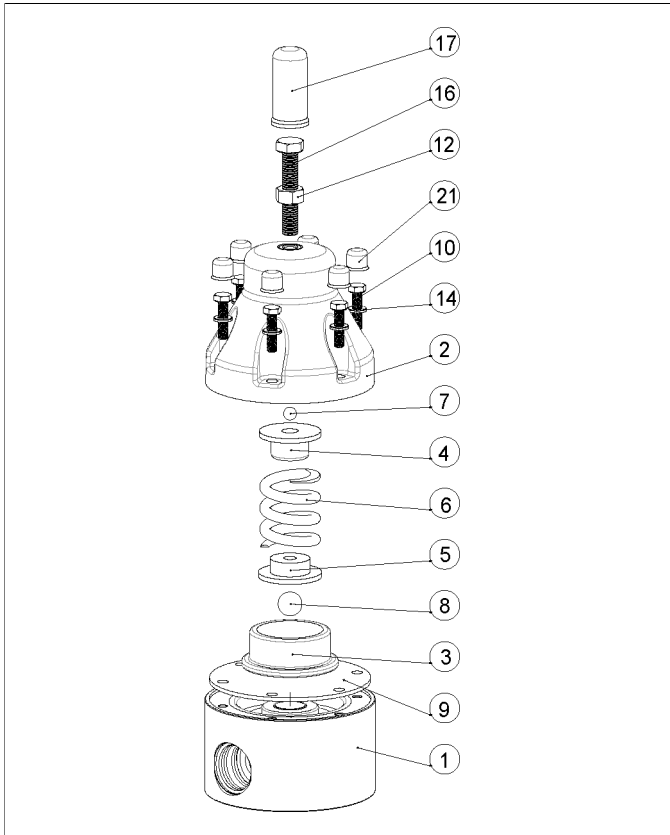
DN10-DN50, PVC-U, PP



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 M5
12	1	washer
13	6	hexagon nut
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)

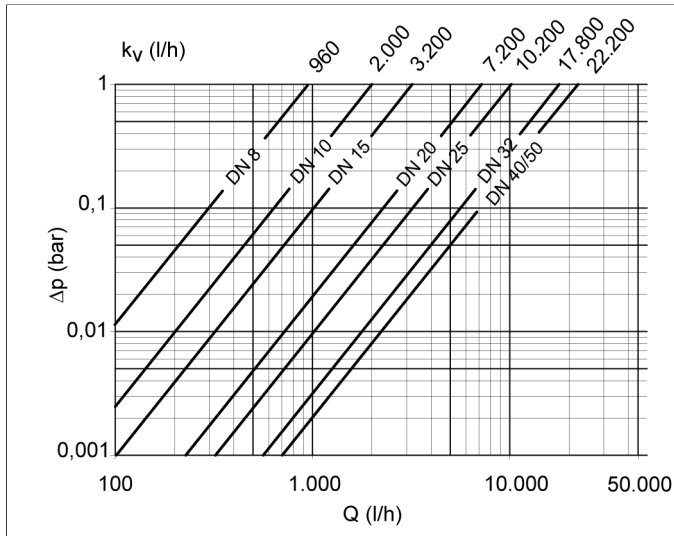


position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	diaphragm disc
4	1	pressure plate
5	1	spring plate
6	1	pressure spring
7	1	steel ball
8	1	steel ball
9	1	diaphragm
10	4	hexagon bolt
12	1	hexagon nut
14	6	washer
16	1	hexagon bolt
17	1	protection cap
21	6	protection cap

Pressure relief valve DHV 718

Characteristic curves

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



p_A = working pressure

ΔP = pressure loss

Q = flow

Pressure loss and k_v

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

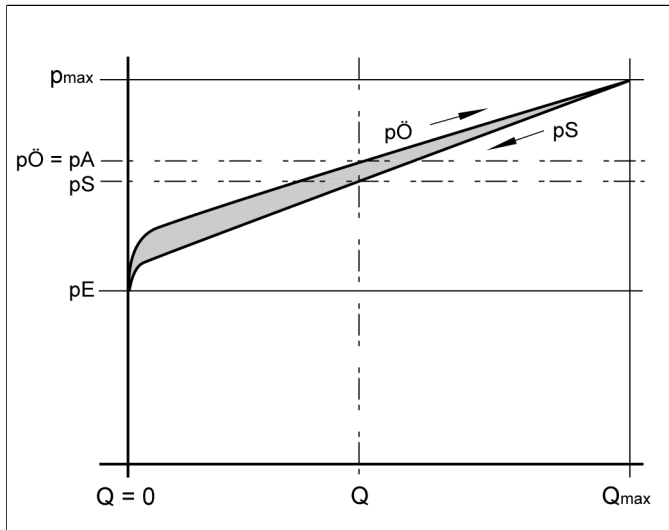
Conversion aid:

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

Units:

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

Operating behaviour



p_E = set Pressure

p_A = working pressure

$p_{\ddot{O}}$ = opening pressure

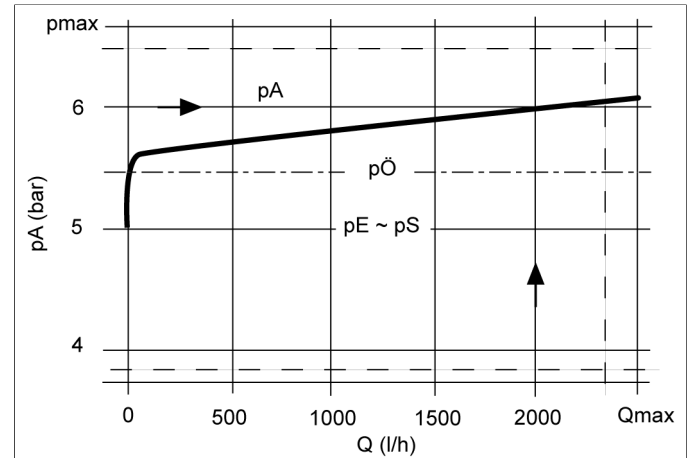
p_S = closing pressure

$p_{\ddot{O}} - p_S$ = hysteresis

$p_E - p_A$ = flow dependent pressure reduction

Q = flow

Configuration example

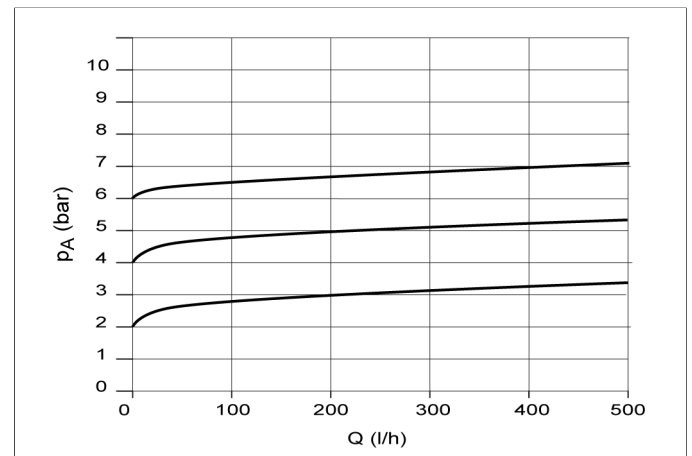


The valve is set tight at 5 bar.

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 p_E : 5 bar; working pressure p_A : 6 bar; opening pressure $p_{\ddot{O}}$: 5.5 bar; closing pressure p_S : 5 bar

DN 8



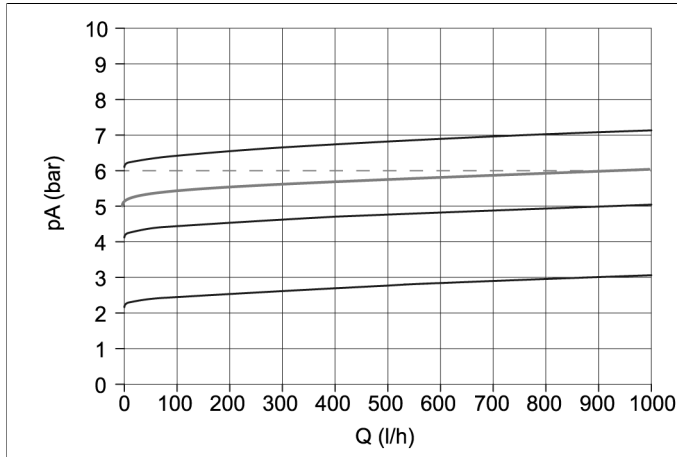
p_A = working pressure

Q = flow



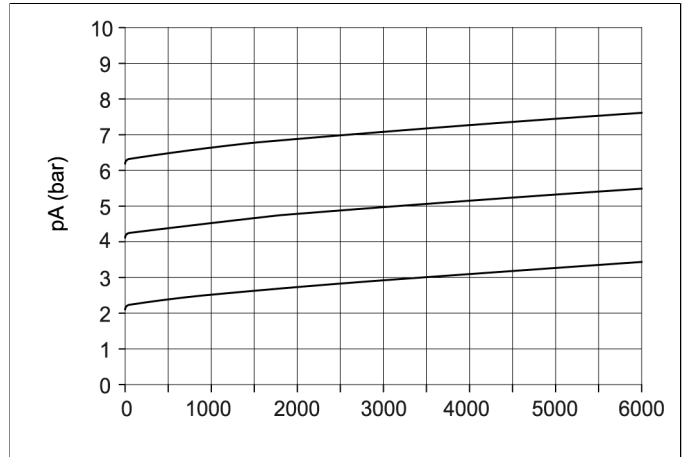
Pressure relief valve DHV 718

DN 10



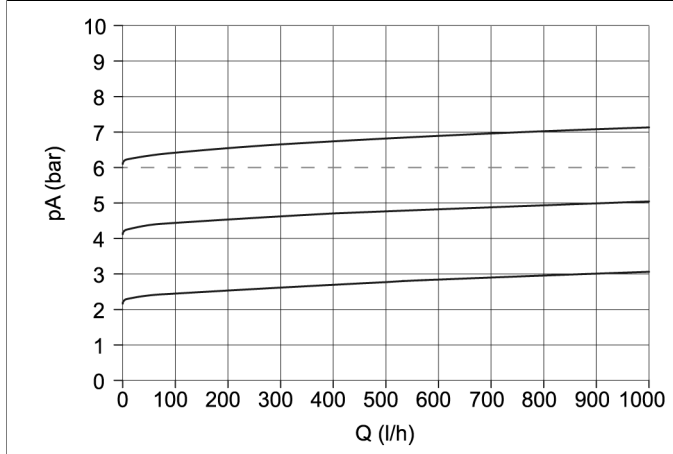
pA = working pressure
Q = flow

DN 25



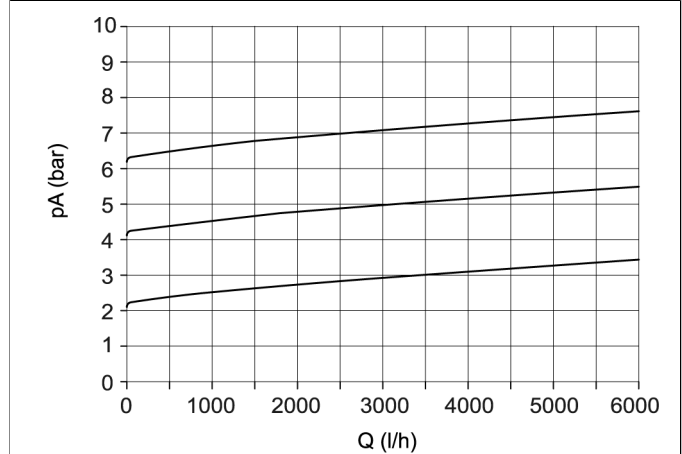
pA = working pressure
Q = flow

DN 15



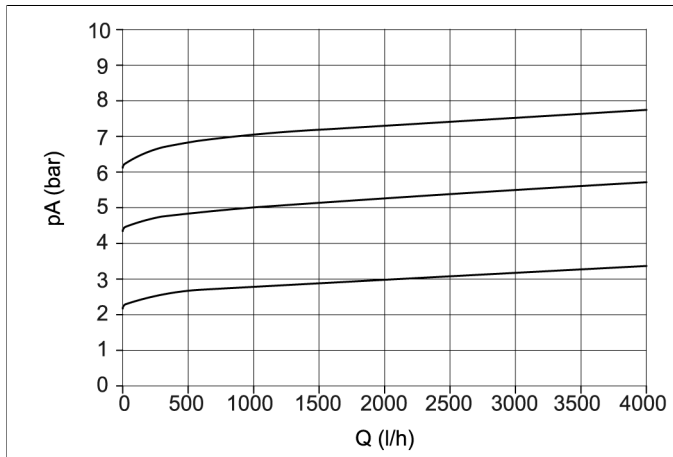
pA = working pressure
Q = flow

DN 32



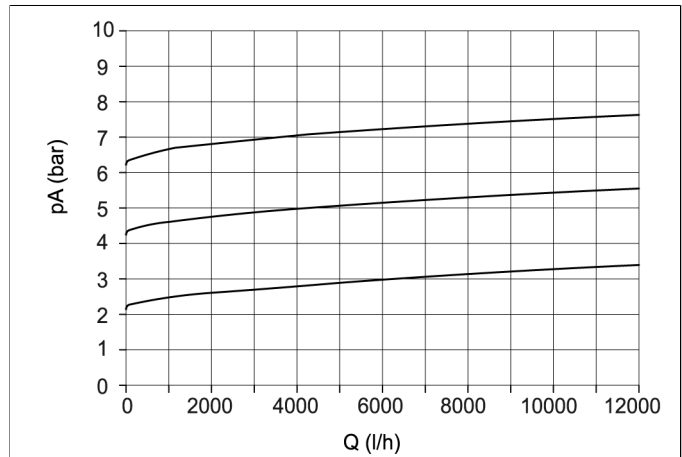
pA = working pressure
Q = flow

DN 20



pA = working pressure
Q = flow

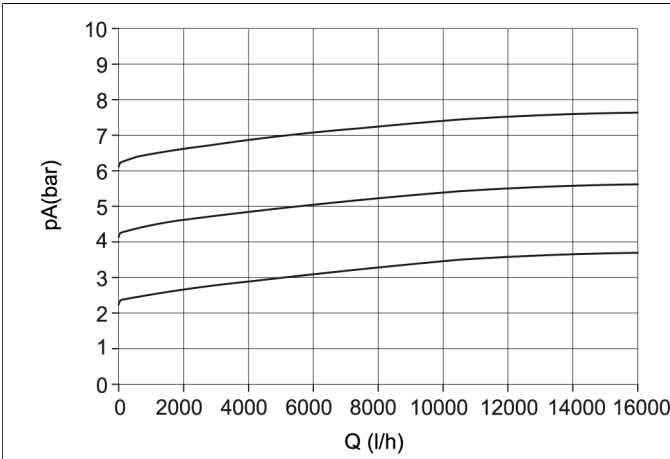
DN 40



pA = working pressure
Q = flow

Pressure relief valve DHV 718

DN 50



pA = working pressure
Q = flow



Pressure relief valve DHV 718