ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

Back Pressure / Relief Valve

Type DHV 718

optimized design, safe in function

Advantages
- frictionless components
- low maintenance
- low pressure increase up to fully opened valve
- constant low vibration controlling
- hermetically sealed by diaphragm
- for oscillating pumps
- for viscous media even slightly polluted

Application
- chemical plants
- water treatment
- galvanotechnics

Utilisation
- as pressure relief valve; constant working or primary pressure
- as overflow valve; opens in case of exceeding the set opening pressure

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

Examinations
- Requirements and examinations acc. to DIN 3441, 3442, 8063, 16962/3.

Nominal pressure (H_2O, 20°C)
- PN 10

Media temperature
- see pressure/temperature diagram

Operating pressure
- see pressure/temperature diagram

Set range
- 0,5 - 8 bar

Opening pressure
- DN 10 - DN 50 0,3 bar

Hysteresis
- ≤ 0,5 bar

Size
- DN 10 - DN 50

Body
- DN 10 - 50 stainless steel 1.4571

Bonnet (spring housing)
- PP, glass fibre reinforced

Diaphragm
- EPDM, fabric reinforced and PTFE-coated on fluid side

Adjustment and connecting screws
- SS 1.4301

Connection
- DN 10 - 50 pipe thread G
- DN 10 - 50 flanges acc. DIN 2633

Mounting
- variable, bonnet preferably in upright position

Flow direction
- direction of flow always in direction of arrow

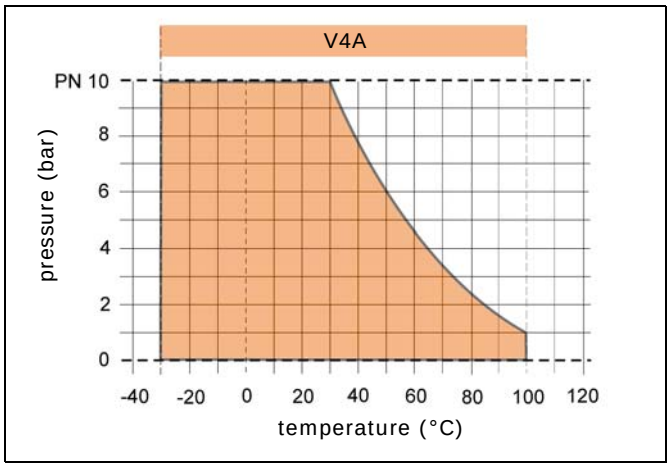
Fastening
- thread inserts for easiest mounting

Back Pressure/Relief Valve Type DHV 718

Colour

- housing SS 1.4571: silver
- bonnet: anthracite
- cap: yellow

Pressure / temperature diagram



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

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

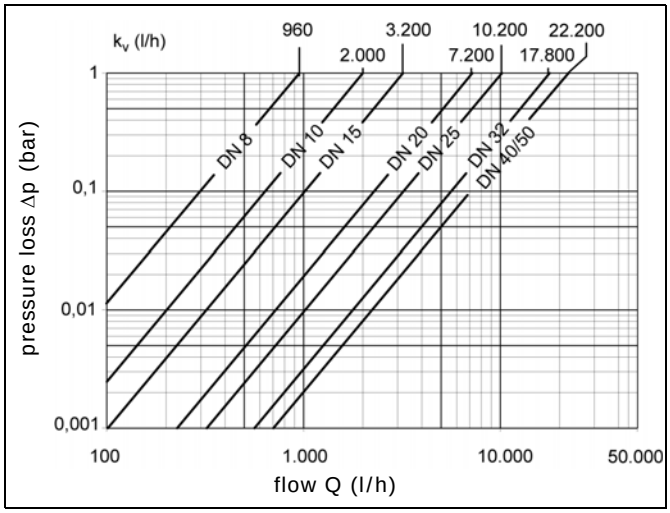
For other media see the ASV resistance guide.

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

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

Pressure loss curve

(reference values for H2O, 20°C)



Pressure loss and k_V-value

The diagram shows pressure loss Δp over the flow Q.

For calculation:

$c_v = k_v \cdot 0{,}07$
$f_v = k_v \cdot 0{,}0585$

Values:

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

Function and design

Normally the valve is closed and the diaphragm is only loaded by the low secondary pressure at the valve seat.

Any rise of working or primary pressure lifts the diaphragm against the spring force. The valve opens and the pressure decreases.

The flat diaphragm, constructed for full opening of the valve (D/4), safely separates the fluid from the spring housing.

The only components getting in contact with the medium are the PTFE-coated diaphragm and the valve housing.

In normal position the diaphragm seats on the well dimensioned valve seat. An inadmissible compression set at max. spring force is impossible.

The valve housing is provided with a cavity. The diaphragm has the appropriate design and is inserted into the cavity. At compression due to the screw tightening torques there is no leakage, even at higher temperatures.

NOTE

In normal position the counter pressure (secondary pressure) may be approximately 4 times higher than the set pressure pE, the valve rests closed.

Valve setting

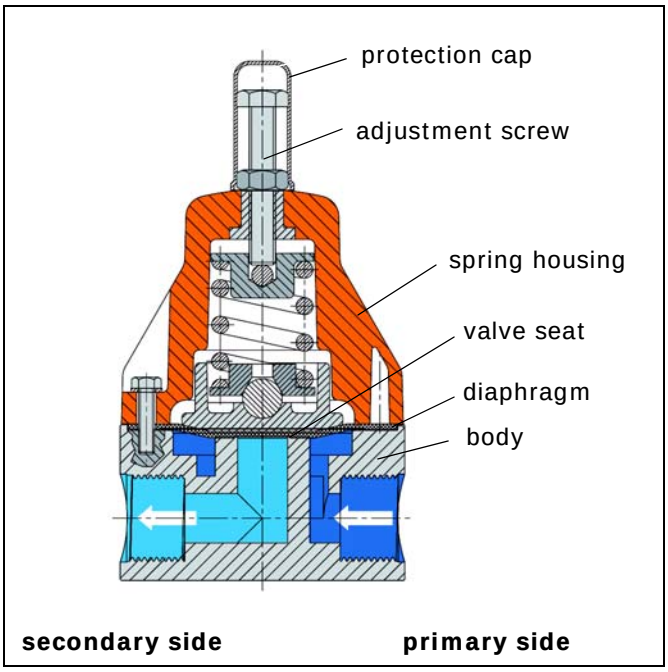
For reading the set pressure we recommend the installation of a diaphragm pressure gauge guard with pressure gauge in the primary line.

1. Pull off protection cap (DN 10 - DN 50).
2. Loosen counter nut at adjustment screw.
3. Turn adjustment screw clockwise (pressure increase) until the required set pressure or opening pressure is reached.

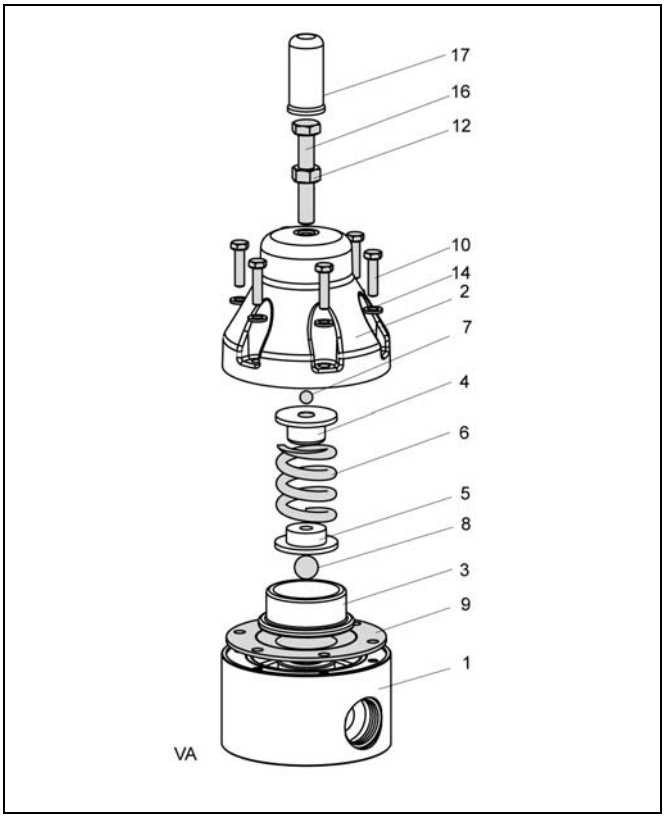
ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

Sectional drawing DHV 718, DN 10 - DN 50



Exploded drawing DHV 718



item	qty.	designation
1	1	body
2	1	bonnet
3	1	diaphragm plate
4	1	pressure plate
5	1	spring plate
6	1	spring *
7	1	steel ball
8	1	steel ball
9	1	flat diaphragm*
10	2	hexagonal screw
11	4	hexagonal screw
12	1	hexagonal nut
13	6	hexagonal nut
14	6	washer
15	6	washer
16	1	hexagonal screw
17	1	protection cap

* spare part

Operating instructions

ATTENTION

Safe operation of the valve can only be ensured if it is properly installed, operated, serviced or repaired by qualified personnel according to its intended use while observing the accident prevention regulations, safety regulations, relevant standards and technical regulations or data sheets such as e.g. DIN, DIN EN, DIN ISO and DVS* for example.
*DVS = German Welding Society

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

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

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

Non-observance of the specified information and safety instructions may lead to injuries and/or property damages.

NOTE

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

tightening torque								
d (mm)	12	16	20	25	32	40	50	63
MD (Nm)	2,5	4,5	4,5	6	6	8	8	8

fastening torque for lubricated screws

NOTE

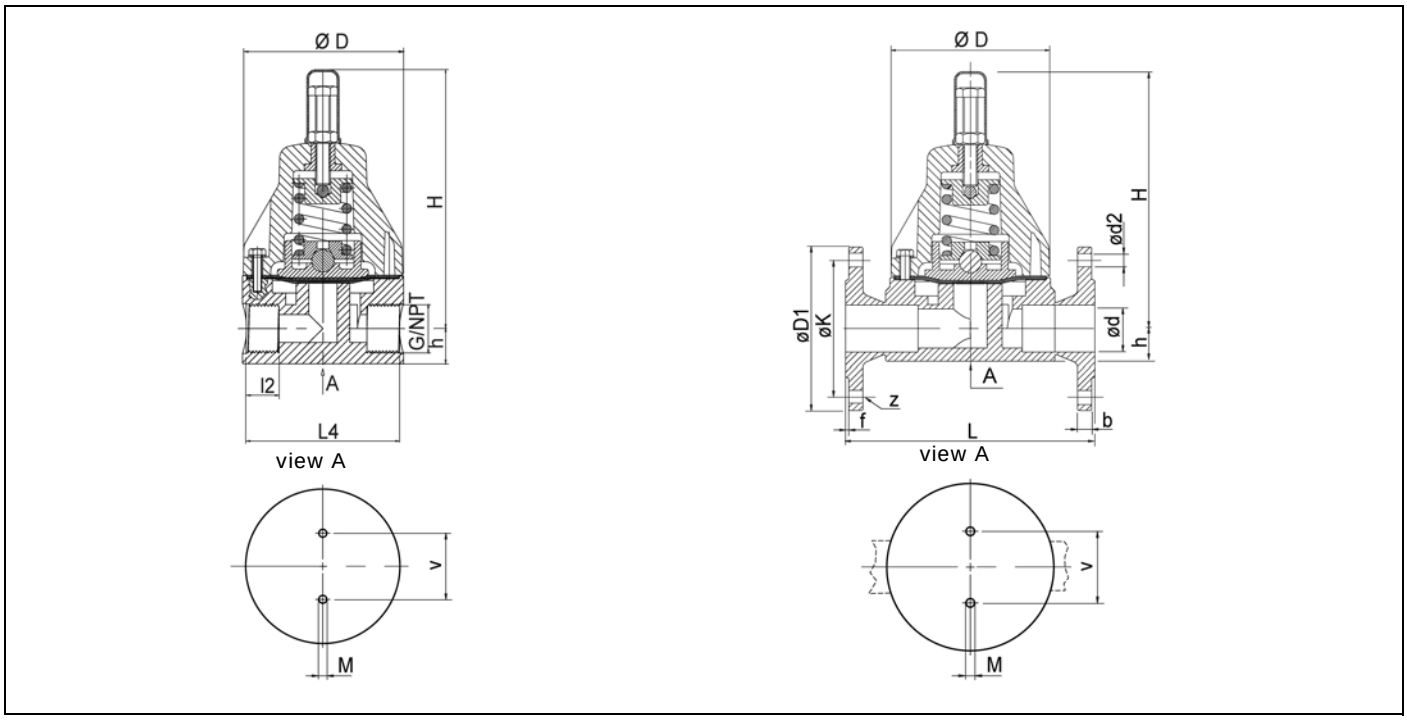
Do not allow elastomer components, especially the EPDM sealing elements, to come into contact with synthetic or mineral oils, grease or cleaning agents. Danger of swelling. Only appropriate grease should be used such as silicone grease.

NOTE

We recommend

- installing of filter or strainer (see print 330551) directly before the valve for avoiding impurities e.g. at valve seat.

Body: SS 1.4571



Dimension

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
pipe thread	G (inch)	-	3/8	1/2	3/4	1	1 1/4	1 1/2	2
thread	NPT (inch)	-	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	b	-	12,0	12,0	14,0	14,0	14,0	13,0	15,0
	f	-	2,0	2,0	2,0	2,0	2,0	3,0	3,0
threaded socket	D	-	81,5	81,5	108,0	108,0	148,0	148,0	148,0
flange	D1	-	90,0	95,0	105,0	115,0	140,0	150,0	165,0
	d2	-	14,0	14,0	14,0	14,0	18,0	18,0	18,0
threaded socket	H	-	152,0	152,0	175,0	175,0	217,0	219,5	227,5
flange	H	-	152,0	152,0	175,0	175,0	220,0	220,0	220,0
	h	-	16,0	16,0	24,0	24,0	27,5	30,0	35,0
	K	-	60,0	65,0	75,0	85,0	100,0	110,0	125,0
	L	-	150,0	150,0	180,0	180,0	230,0	230,0	240,0
	L4	-	79,0	79,0	103,0	103,0	142,0	140,0	136,0
NPT-thread	l2	-	11,0	15,0	16,0	18,0	20,0	22,0	25,0
pipe thread G	l2	-	16,0	18,0	20,0	22,0	25,0	25,0	25,0
	M	-	M 6	M 6	M 6	M 6	M 8	M 8	M 8
	v	-	40	40	46	46	65	65	65
	z	-	4	4	4	4	4	4	4

Weight (kg)

d (mm)		-	16	20	25	32	40	50	63
ss 1.4571	threaded socket	-	1,7	1,7	4,4	4,4	9,4	9,9	11,1
ss 1.4571	flange	-	3,4	3,5	7,1	7,5	15,2	15,5	18,2

ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 5733 - 799-0 • Fax +49 (0) 5733 - 799-200 • www.asv-stuebbe.de • contact@asv-stuebbe.de

Back Pressure/Relief Valve Type DHV 718

Characteristic curves DHV 718 for H_2O, 20°C

The valve curves show the working or primary pressure p_A (bar) in relation to flow Q (l/h).

The parameter is the set pressure p_E, the valve is closed (Q = 0 l/h).

The curve shows the progression of the opening pressure.

Example: Size DN 10

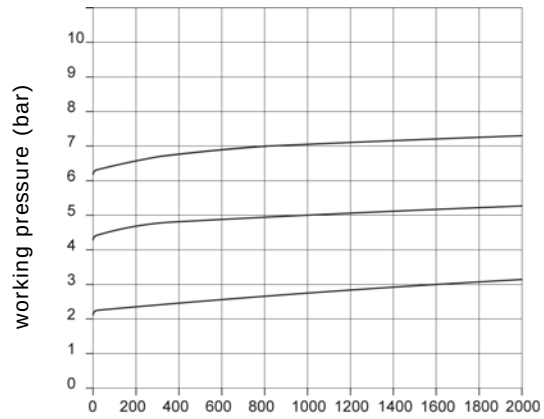
The valve is set tight at 5 bar.

At a pressure increase of 1 bar a flow of appr. 940 l/h is reached.

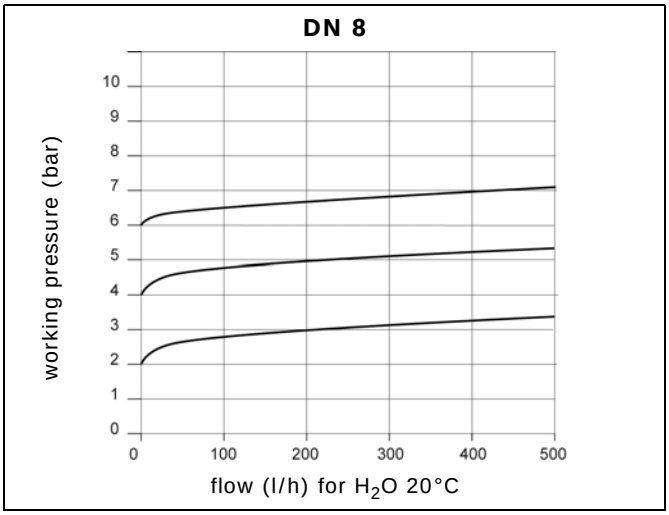
According to the curve following values arise:

Set pressure p_E	appr. 5,0 bar
Working pressure p_A	appr. 6,0 bar
Opening pressure $p_Ö$	appr. 5,4 bar
Closing pressure p_S	appr. 4,5 bar
Hysteresis ($p_Ö$-p_S)	appr. 1,0 bar

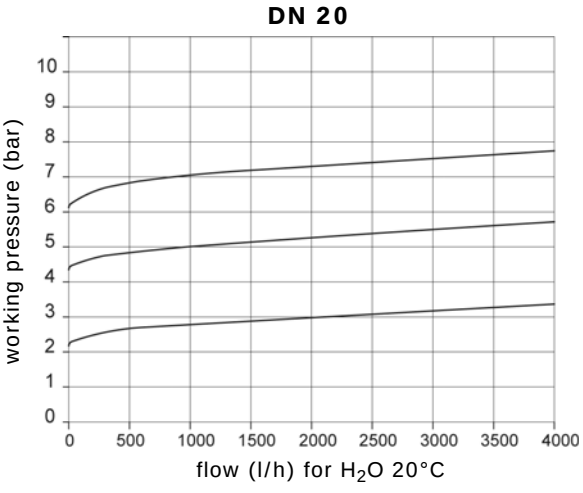
DN 15



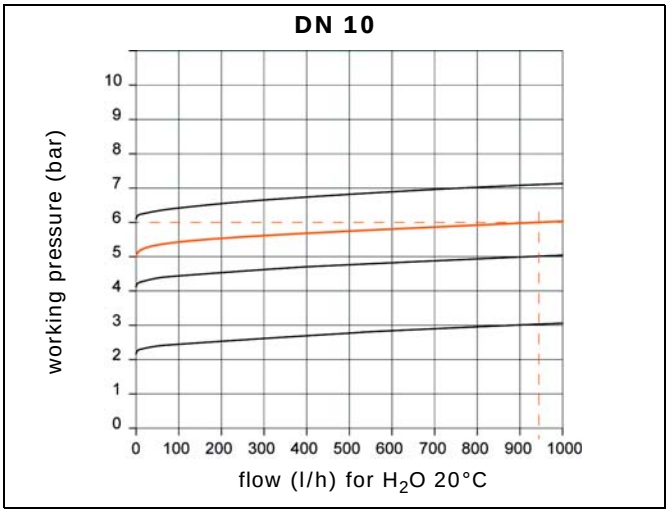
DN 8



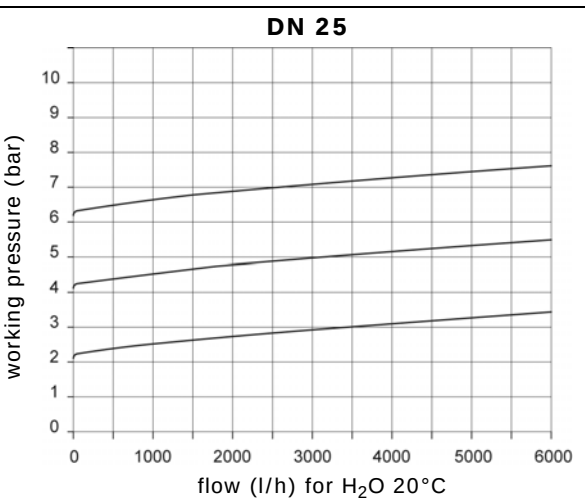
DN 20



DN 10



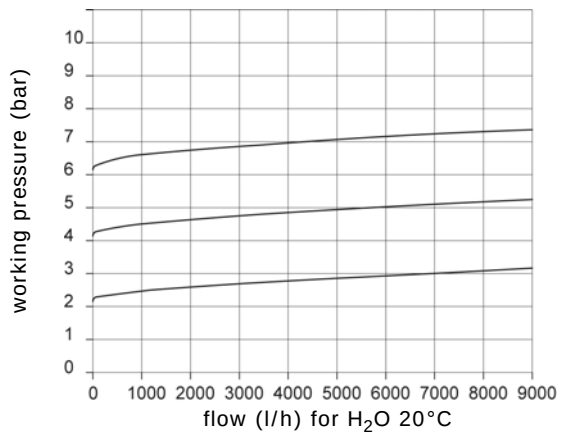
DN 25



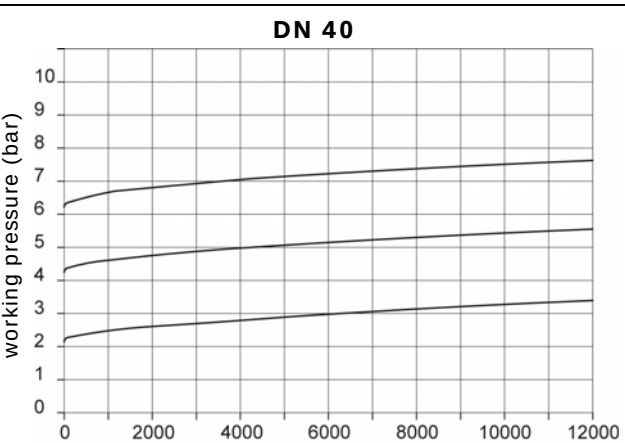
ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

Back Pressure/Relief Valve Type DHV 718

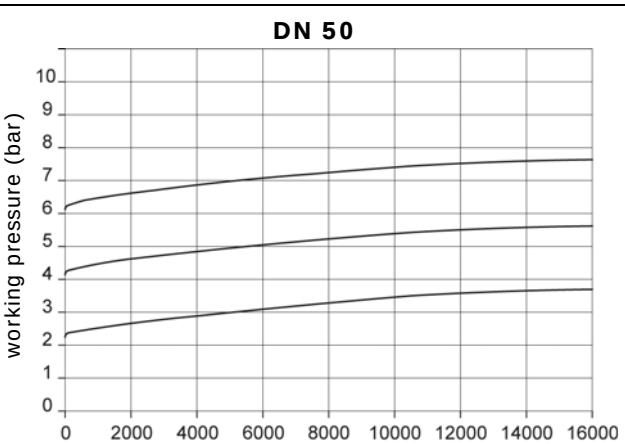
DN 32



DN 40



DN 50

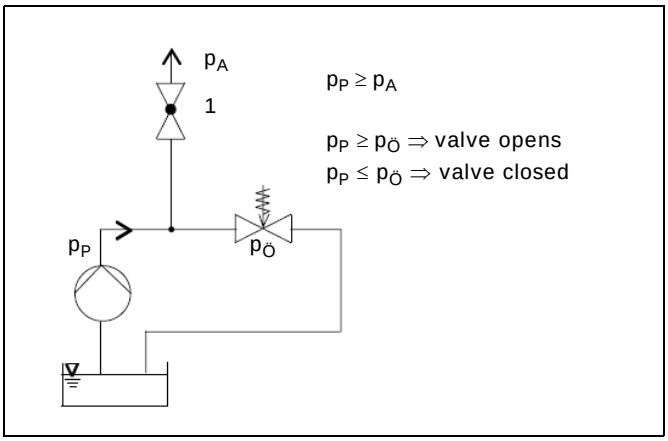


ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

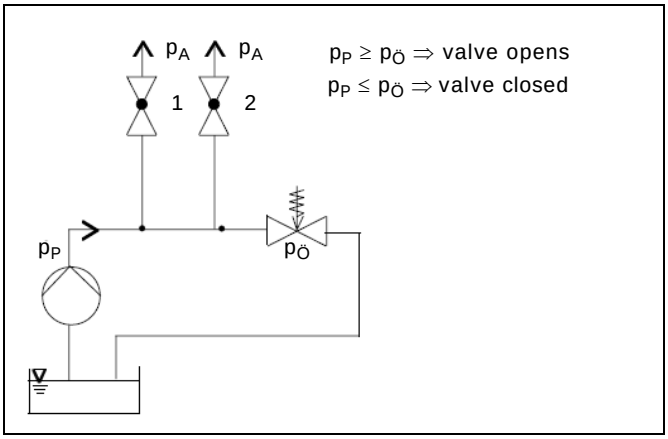
Back Pressure/Relief Valve Type DHV 718

Applications of pressure relief valves

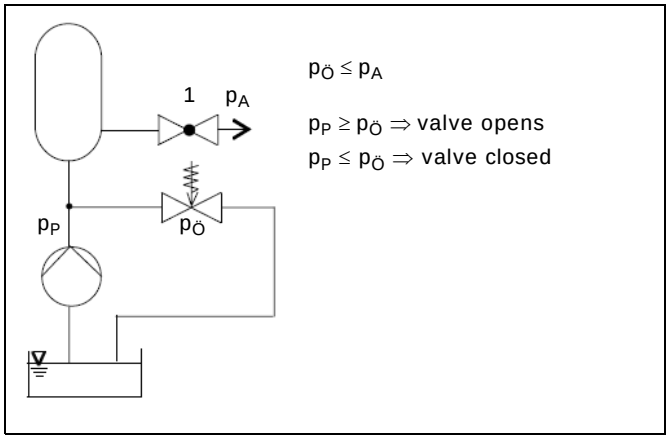
Example 1: Constant system pressure



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



Example 3: Pressure relief valve as overflow valve
Pressure of container or plant system may not exceed the max. pressure value.



P_A = working pressure
P_P = pump pressure
$P_Ö$ = opening pressure

Failures, possible causes and repair

Failure	Cause	Repair
Valve leaking at diaphragm.	Diaphragm clamping pressure too low.	Fasten housing screws.
Pressure drops below set pressure.	Diaphragm in the range of seal seat defective.	Replace diaphragm, if necessary, rectify seal seat.
	High degree of pollution.	Clean valve body.
Pressure rises above set value.	Secondary area is blocked.	Clean valve.
Valve is leaking at adjustment screw.	Diaphragm defective.	Replace diaphragm.

ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33 - 7 99-0 • Fax +49 (0) 57 33 - 7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de

Back Pressure/Relief Valve Type DHV 718

Body: SS 1.4571 **Diaphragm: EPDM/PTFE**

connection			fermale thread G	flange*
sealing			-	-
d	DN	DN	ident no.	ident no.
(mm)	(mm)	(inch)		
16	10	3/8	1371348801	1371348601
20	15	1/2	1371358801	1371358601
25	20	3/4	1371368801	1371368601
32	25	1	1371378801	1371378601
40	32	1 1/4	1371388801	1371388601
50	40	1 1/2	1371398801	1371398601
63	50	2	-	1371408601

* acc. to DIN 2633

Subject to technical modifications

ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 5733 - 799-0 • Fax +49 (0) 5733 - 799-200 • www.asv-stuebbe.de • contact@asv-stuebbe.de