

# Wafer Check Valves

## Type RSK 500 and FRSK 501



### Advantages

- corrosion resistant materials
- return spring (FRSK) made of stainless steel or Hastelloy
- high-quality sealing elements
- simple installation as a wafer type fitting
- centring of the valve by the housing diameter
- housing with O-ring, no additional flange seals required
- space saving, maintenance-free design
- for vertical or horizontal mounting position

### Selection and application

#### Type RSK 500

- Wafer check valve without return spring for vertical pipes. Flow direction of the medium from bottom to top only.

#### Type FRSK 501

- Wafer check valve with return spring for horizontal pipes. We also recommend this type for pulsating flow conditions.

### Function

- Wafer check valves are medium controlled and flow dependent shut-off devices.

### Flow media

- Neutral and aggressive fluid or gaseous media, provided that the valve components coming into contact with the media are resistant at the operating temperature according to the ASV resistance guide. Contaminated media may impair the sealing function.

### Nominal pressure (H<sub>2</sub>O, 20°C)

- PVC-U up to 5 bar
- PP up to 6 bar
- PVDF up to 8 bar

### Medium temperature

- see pressure/temperature diagram

### Operating pressure

- see pressure/temperature diagram

### Size

- DN 40 - DN 400

### Housing/shut-off disc

- made of PVC-U, PP or PVDF

### Spring

- made of stainless steel (1.4571) or Hastelloy (C4)

### Sealing elements

- made of EPDM, FPM or FPM, PTFE coated

### Connection

- On the inlet side between flange adaptors or welding necks according to DIN/ISO with flat jointing faces.
- We only recommend the easy-to-install ASV installation adaptors on the outlet side.

If other fittings are used on the outlet side, the customer must check the correct opening and closing function of the shut-off disc. It may be necessary to provide the fittings with a bevel on the inside.

### NOTE

Ensure that the valve disc makes contact with the inner wall of the fitting before it reaches the max. opening angle, otherwise there is a risk of breakage. ✓

### Mounting

- vertical or horizontal, please note the direction of the arrow on the valve housing!

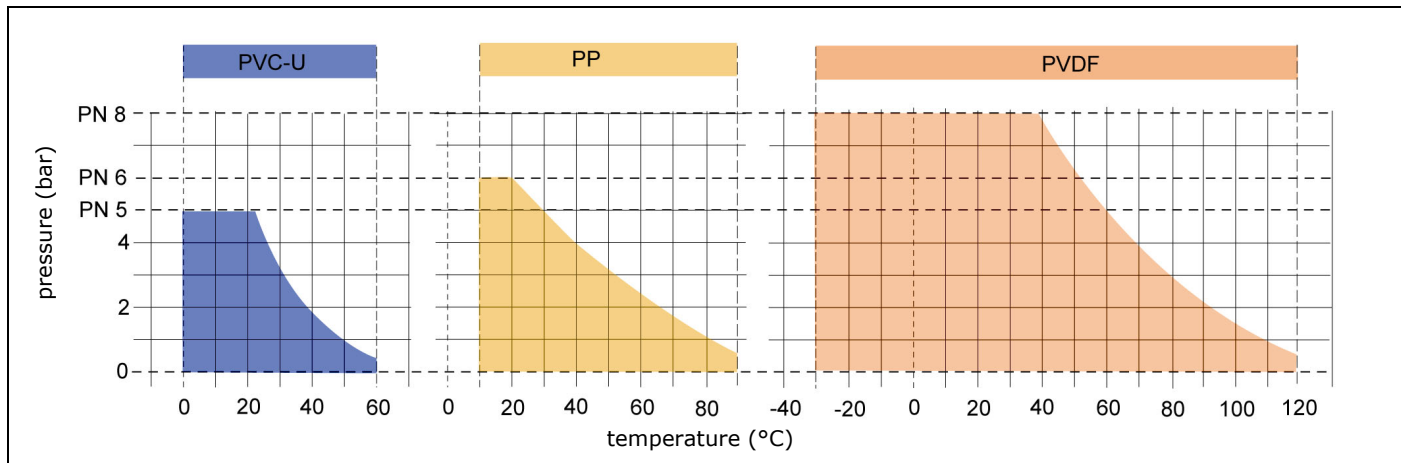
### Option

- installation adaptor

### Colour

- housing PVC-U: grey, RAL 7011
- PP: grey, RAL 7032
- PVDF: orange, RAL 2004

## Pressure/temperature diagram



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.

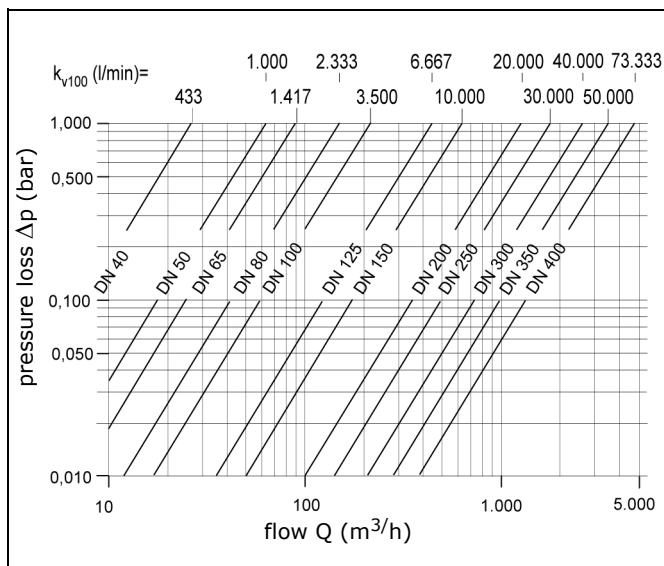
For other media please refer to the ASV resistance guide.

The durability of wear 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

(standard values for H<sub>2</sub>O, 20°C)



## Pressure loss and k<sub>v</sub>-value

The diagram shows the pressure loss  $\Delta p$  in relation to the flow  $Q$ .

**Conversion aid:**

$$c_v = k_v \times 0.07$$

$$f_v = k_v \times 0.0585$$

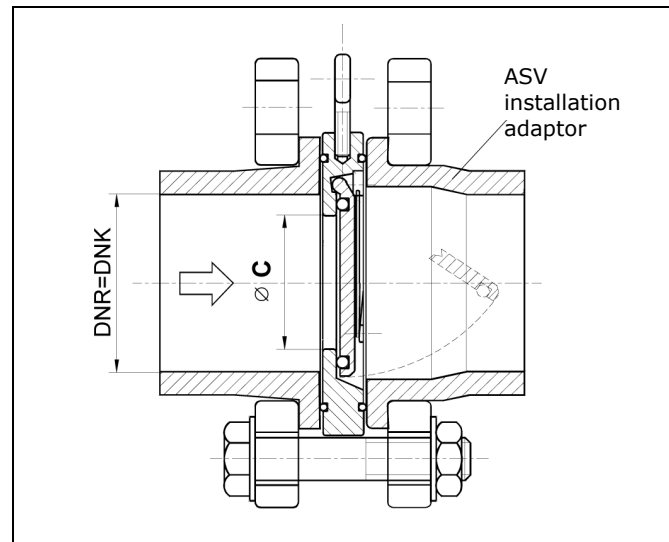
**Units:**

$$k_v \text{ [l/min]}$$

$$c_v \text{ [gal/min]}$$

$$f_v \text{ [gal/min]}$$

## Installation example



## Operating instructions

### ATTENTION

Prerequisite for the safe operation of the valve is the correct installation, operation, maintenance and repair by qualified personnel according to the intended use, with observance of the Health and Safety at work (UVV/Accident Prevention Regulations), safety regulations, relevant standards, directives or codes of practice such as e.g. DIN, DIN EN, DIN ISO and DVS\*.

\*DVS = German Welding Society

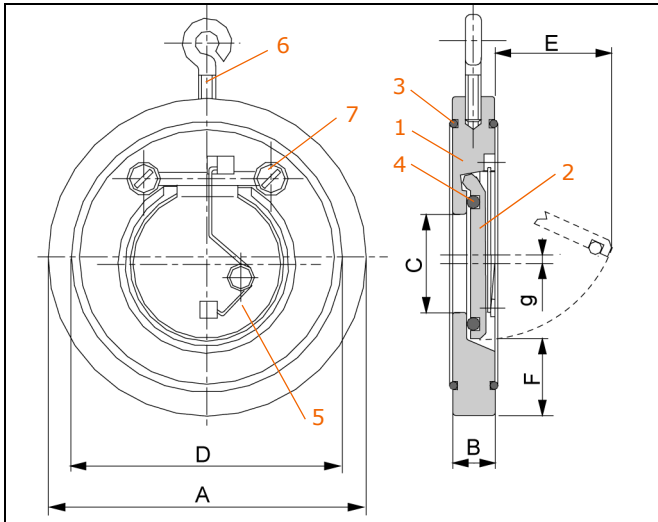
The intended use includes adhering to specified limit values for pressure and temperature, as well as checking the chemical resistance with regard to the operating conditions.

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

Non-observance of the specified instructions and safety regulations may cause damage to health and/or damage to assets.

# Wafer Check Valves RSK 500/FRSK 501

## Dimensions



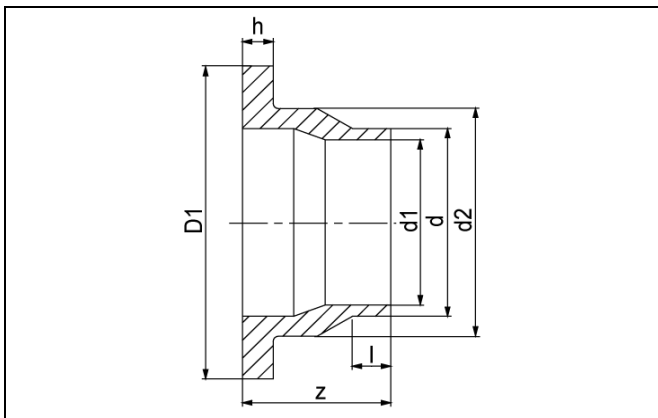
## Parts list

item	qty.	designation
1	1	housing
2	1	shut-off disc
3	2	O-ring
4	1	O-ring
5 <sup>3)</sup>	1	spring
6	1	eyelet screw
7	2	screw

size	A			B			C			D			E			F			g			opening pressure mbar				weight (kg)		
	d	DN	inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	vert. <sup>1)</sup>	hor. <sup>1)</sup>	vert. <sup>2)</sup>	hor. <sup>2)</sup>	PVC	PP	PVDF	
50	40	1 1/2	95	16	22	72	25	28	1,5	4	1	12	7	0,16	0,1	0,21												
63	50	2	109	18	32	86	37	29	3,2	4	1	12	7	0,25	0,17	0,33												
75	65	2 1/2	129	20	40	105	50	31	3,5	4	1	12	7	0,32	0,22	0,42												
90	80	3	144	20	54	119	61	32	3,5	7	1	20	7	0,39	0,26	0,51												
110	100	4	164	23	70	146	77	31	6	7	1	20	7	0,55	0,37	0,71												
140	125	5	195	23	92	173	94	35	7,5	7	1	20	7	0,75	0,5	0,97												
160	150	6	220	26	105	197	100	40	8	7	1	20	7	1,1	0,74	1,42												
225	200	8	275	34	154	255	152	38	11	12	1	27	8	2,1	1,4	2,71												
280	250	10	330	40	192	312	180	41	12,5	12	1	27	8	3,5	2,4	4,52												
315	300	12	380	45	227	363	215	41	20	12	1	27	8	5,3	3,52	6,9												
355	350	14	440	49	266	416	245	54	16	16	1	35	9	7,5	5,1	9,7												
400	400	16	491	65	310	467	285	55	19	16	1	35	9	11	7,3	14,3												

## Installation adaptor PN 10

d	dimension mm					PE <sup>4)</sup>			
	D1	d1	d2	h	z	PVC	PP/PE	PVC	PP/PE
50	90	40,8	61,0	12	71	48	33	10	121503
63	105	51,4	77,0	14	84	54	40	10	119135
75	125	61,0	91,0	16	89	58	46	15	121454
90	140	73,6	108,0	17	110	72	53	15	119137
110	160	90,0	131,0	18	137	92	63	18	119139
140	190	114,0	155,0	25	158	100	78	20	119141
160	215	130,8	187,0	25	188	120	88	20	121456
225	270	184,0	235,0	32	261	165	121	25	121458



- 1) wafer check valve without spring
- 2) wafer check valve with spring
- 3) spring-loaded wafer check valve
- 4) PVC-U, PP, PVDF see page 4



## Ident number

housing			PVC-U		PVC-U		PVC-U		installation adaptor
spring			-	-	SS 1.4571	SS 1.4571	Hastelloy	Hastelloy	
sealing elements			EPDM	FPM	EPDM	FPM	EPDM	FPM	PVC-U
d	DN	inch	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.
50	40	1 1/2	41460	41039	44088	44124	49744	49756	121629
63	50	2	41461	41040	44089	44125	49745	49757	121630
75	65	2 1/2	41462	41041	44090	44126	49746	49758	121631
90	80	3	41463	41042	44091	44127	49747	49759	121632
110	100	4	67940	41043	44092	44128	49748	49760	121633
140	125	5	67941	41044	44093	44129	49749	49761	121634
160	150	6	67942	41045	44094	44130	49750	49762	121635
225	200	8	41464	41046	44095	44131	49751	49763	121636
280	250	10	41465	41047	44096	44132	49752	49764	on request
315	300	12	41466	41048	44097	44133	49753	49765	on request
355	350	14	41467	41049	44098	44134	49754	49766	on request
400	400	16	41468	41050	44099	44135	49755	49767	on request

housing			PP		PP		PP		installation adaptor
spring			-	-	SS 1.4571	SS 1.4571	Hastelloy	Hastelloy	
sealing elements			EPDM	FPM	EPDM	FPM	EPDM	FPM	PP
d	DN	inch	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.
50	40	1 1/2	64349	41062	44232	44268	49840	49852	121502
63	50	2	67195	41063	44233	44269	49841	49853	119134
75	65	2 1/2	41086	41064	44234	44270	49842	49854	121453
90	80	3	41087	41065	44235	44271	49843	49855	119136
110	100	4	41088	41066	44236	44272	49844	49856	119138
140	125	5	41089	41067	44237	44273	49845	49857	119140
160	150	6	41090	41068	44238	44274	49846	49858	121455
225	200	8	41091	41069	44239	44275	49847	49859	121457
280	250	10	41092	41070	44240	44276	49848	49860	on request
315	300	12	41093	41071	44241	44277	49849	49861	on request
355	350	14	41094	41072	44242	44278	49850	49862	on request
400	400	16	41095	41073	44243	44279	49851	49863	on request

housing			PVDF		PVDF		PVDF		installation adaptor
spring			-	-	SS 1.4571	SS 1.4571	Hastelloy	Hastelloy	
sealing elements			FPM	FPM/PTFE	FPM	FPM/PTFE	FPM	FPM/PTFE	PVDF
d	DN	inch	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.	ID No.
50	40	1 1/2	41543	41531	44412	44448	49948	49960	on request
63	50	2	41544	41532	44413	44449	49949	49961	on request
75	65	2 1/2	41545	41533	44414	44450	49950	49962	on request
90	80	3	41546	41534	44415	44451	49951	49963	on request
110	100	4	41547	41535	44416	44452	49952	49964	on request
140	125	5	41548	41536	44417	44453	49953	49965	on request
160	150	6	41549	41537	44418	44454	49954	49966	on request
225	200	8	41550	41538	44419	44455	49955	49967	on request
280	250	10	41551	41539	44420	44456	49956	49968	on request
315	300	12	41552	41540	44421	44457	49957	49969	on request
355	350	14	41553	41541	44422	44458	49958	49970	on request
400	400	16	41554	41542	44423	44459	49959	49971	on request

Subject to technical modifications