

## Wafer Type Check Valve

### Construction

The GEMÜ RSK wafer type check valve is available in plastic or metal and the body, disc and seal can be chosen from various materials. The valve is clamped between two flanges and has a flange seal. It self-centres in the flanges between the bolt circle.

### Features

- Suitable for inert and corrosive\* liquid media
- The valve works according to the swing check principle
- Can be selected with or without spring return
- Horizontal or vertical installation possible

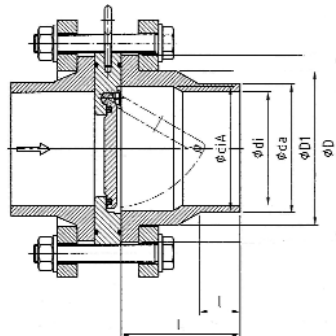
### Advantages

- Nominal sizes from DN 32 to 600
- Eye bolts as installation aids
- Weight and space saving design
- Very simple construction - low maintenance

\* See page 4 for information on working medium

### Special flange adaptors\* for wafer type check valves-optional

\*The special flange adaptors are to allow the valve flap to open further giving increased flow capability than a normal mating flange.



				Pipe connection				
				PN 6	PN 10			
DN	D	L	da	di	di	diA	l	D1
32	80	65	40	35	35	37	30	50
40	90	68	50	44	44	43	30	61
50	105	74	63	55	55	54	30	77
65	125	78	75	66	66	70	30	91
80	140	87	90	79	79	82	35	109
100	160	102	110	97	97	106	35	132
100	160	90	125	110	110	106	35	132
125	190	125	140	124	124	130	47	166
150	215	150	160	141	141	158	52	189
150	215	130	180	159	159	158	52	189
200	270	200	200	177	177	206	55	249
200	270	180	225	199	199	206	56	249
250	325	225	250	221	221	259	63	293
250	325	200	280	248	248	259	63	293
300	375	255	315	280	280	308	66	337

## Metal wafer type check valves

### Nominal size\* with body material

1.4305	1.4571	Brass	DN Code
32	32	32	0032
40	40	40	0040
50	50	50	0050
65	65	65	0065
80	80	80	0080
100	100	100	0100
125	125	125	0125
150	150	150	0150
200	200	200	0200
250	250	250	0250
300	300	300	0300
350	350	350	0350
400	400	400	0400
450	450	450	0450
500	500	500	0500
600	600	600	0600

\* Larger nominal sizes available upon request.

### Body material

Body material	Code
1.4305	45
1.4571	38
Brass	12
Aluminium	14
Cast bronze	9

### Disc material

Disc material	Code
1.4305	45
1.4571	38
Brass	12

### Seal material

Seal material	Code
NBR	2
EPDM	14
FPM	4
PTFE	5

### Working pressure

Working pressure	Code
6 bar	1
10 bar	2
16 bar	3

### Return spring

Return spring	Code
Without return spring	F0
1.4751	F1
Hastelloy	F2

### Nominal pressure

Nominal pressure	Code
PN 6	1
PN 10	2
PN 16	3

### Manual override

Manual override	Code
Only for metal wafer type check valves	H

### Optional design

Optional design	K-Number
Grease and oil free	0104

Order example	RSK	0100	2	2	45	45	14	F0	H		0104
Type	RSK										
Nominal size		0100									
Working pressure (code)			2								
Nominal pressure (code)				2							
Body material (code)					45						
Disc material (code)						45					
Seal material (code)							14				
Return spring (code)								F0			
Manual override (code)									H		
Optional design (K-Number)											0104

## Plastic wafer type check valves

### Maximum working pressure in bar due to temperature influence

DN	PVC-U			PP				PVDF			
	5° C	30° C	50° C	40° C	60° C	80° C	90° C	50° C	80° C	100° C	120° C
32-300	0.5	3	1	4	2	0.9	0.5	6	3	1	0.5
350-500	0.3	1.5	0.5	2.5	1	0.5	0.1	3	1	0.5	0.1
600	0.1	0.5	0.1	1.4	0.5	0.3	0.1	1.5	0.5	0.3	0.1

### Nominal size with body material

PVC-U, PP, PVDF	DN Code
32	0032
40	0040
50	0050
65	0065
80	0080
100	0100
125	0125
150	0150
200	0200
250	0250
300	0300

### Body material

Body material	Code
PVC-U	1
PP	5
PVDF	20

### Disc material

Disc material	Code
PVC-U	1
PP	5
PVDF	20

### Seal material

Seal material	Code
NBR	2
EPDM	14
FPM	4

### Working pressure

Working pressure	Code
6 bar	1
10 bar	2

### Return spring

Return spring	Code
Without return spring	F0
1.4751	F1
Hastelloy	F2

### Nominal pressure

Nominal pressure	Code
PN 6	1
PN 10	2
PN 16	3

### Optional design

Optional design	K-Number
Grease and oil free	0104

### Order example

Order example	RSK	0100	2	2	5	5	14	F0			0104
Type	RSK										
Nominal size		0100									
Working pressure (code)			2								
Nominal pressure (code)				2							
Body material (code)					5						
Disc material (code)						5					
Seal material (code)							14				
Return spring (code)								F0			
Optional design (K-Number)											0104

## Technical data for plastic and metal wafer type check valves

### Working medium

Corrosive and inert liquid media which have no negative impact on the physical and chemical properties of the body, disc and seal materials.

See "Technical Information on Plastic Materials"

### Maximum working pressure acc. to the Pressure Equipment Directive dependent on nominal size and material (temp. 20°C)

DN	PVC-U		PP		PVDF		Metal	
	Liquid		Liquid		Liquid		Liquid	
	Group 1*	Group 2**	Group 1*	Group 2**	Group 1*	Group 2**	Group 1*	Group 2**
32-50	5	5	6	6	8	8	16	16
65	5	5	6	6	8	8	16	16
80	5	5	6	6	8	8	16	16
100	5	5	6	6	8	8	16	16
125	5	5	6	6	8	8	16	16
150	5	5	6	6	8	8	10	16
200	5	5	6	6	8	8	10	16
250	5	5	6	6	8	8	10	16
300	5	5	6	6	5	5	10	10
350	3	3	4	4	5	5	10	10
400	3	3	4	4	5	5	10	10
500	3	3	4	4	5	5	10	10
600	1.5	1.5	2	2	2.5	2.5	10	10

\* explosive, flammable, poisonous, oxidising

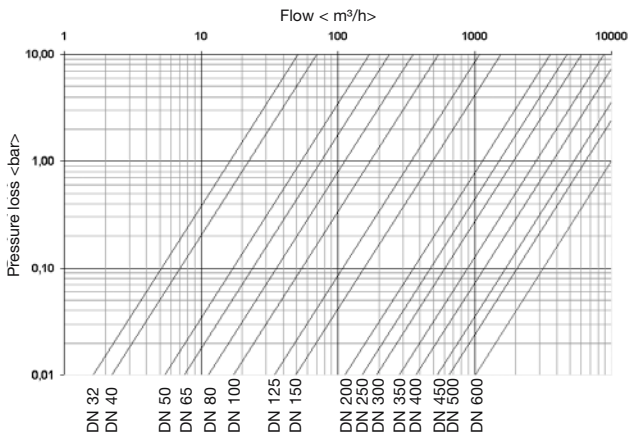
\*\* other fluids

### Max. working temperature dependent on seal material

NBR	90° C
EPDM	120° C
FPM	150° C
PTFE	200° C

### Hydraulic characteristics GEMÜ RSK

#### Pressure loss and $k_v$ values

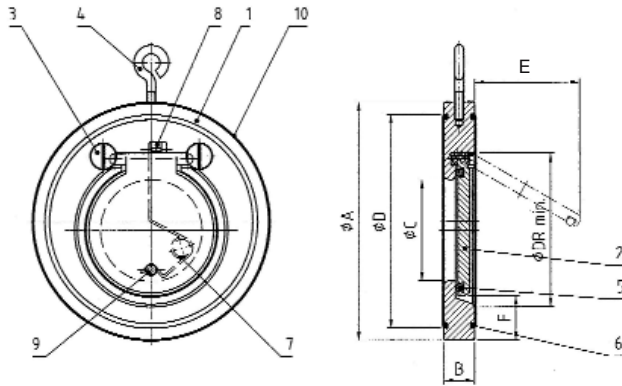


DN	$k_v$ [m³/h]
32	16.2
40	22.2
50	54
65	75
80	112
100	172
125	342
150	490
200	1025
250	1500
300	1914
350	2800
400	3700
500	6450

$$c_v = k_v \times 1.16$$

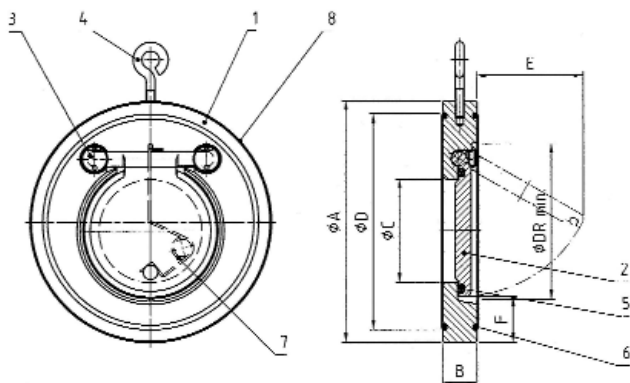
The diagram values are valid for water at 20° C. Please contact GEMÜ for the calculation of other fluids.

## Dimensions - RSK in metal



DN				without manual override		with manual override					
	PN 6	PN 10	PN 16	without spring	with spring	without spring	with spring	$\phi C$	$\phi D$	E	F
	$\phi A$	$\phi A$	$\phi A$	B	B	B	B				
32	79	85	84	15	15	-	-	18	59	22	25
40	89	95	95	16	16	-	-	22	72	25	28
50	98	109	109	17	17	19	19	32	86	37	29
65	118	129	129	17	17	19	19	40	109	50	31
80	134	144	144	17	17	20	20	54	119	61	32
100	154	164	164	21	21	23	23	70	146	77	31
125	184	195	195	18	22	24	24	92	173	98	35
150	209	220	220	20	26	29	29	112	197	120	35
200	264	275	275	22	29	30	30	154	255	160	38
250	319	330	331	26	36	35	35	192	312	190	41
300	375	380	386	32	43	43	43	227	363	220	41
350	425	440	446	38	47	48	48	266	416	250	54
400	475	491	499	44	53	-	-	310	467	290	55
500	580	596	621	58	68	-	-	400	550	390	58
600	681	698	738	62	-	-	-	486	660	470	60

## Dimensions - RSK in plastic

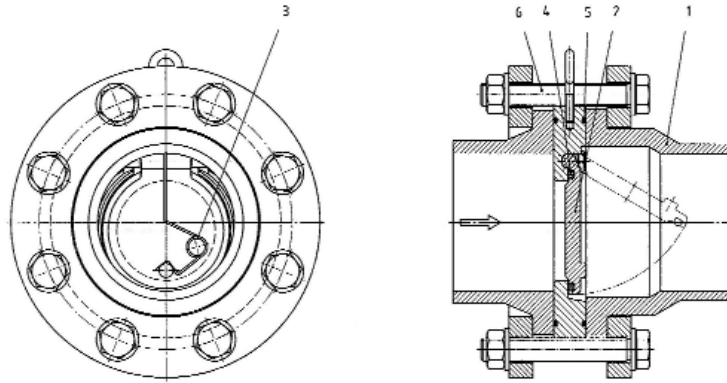


DN			without spring	with spring	$\phi C$	$\phi D$	E	F
	$\phi A$	B	B					
32	85	15	15	18	59	22	25	
40	95	16	16	22	72	25	28	
50	109	18	18	32	86	37	29	
65	129	20	20	40	105	50	31	
80	144	20	20	54	119	61	32	
100	164	33* 23	33* 23	70	146	67* 77	31	
125	195	23	23	92	173	94	35	
150	220	26	26	105	197	100	40	
200	275	35	35	154	255	152	38	
250	330	40	40	192	312	180	41	
300	380	45	45	227	363	215	41	
350	440	49	49	266	416	245	54	
400	491	65	65	310	467	285	55	
500	596	78	87	400	550	385	58	
600	698	97	97	486	659	470	60	

\* only valid for PVC-U design

### Flange bolt torques

Thread	M 12	M 16	M 20	M24	M 27
Torque	20	35	60	100	165



### Weight in kg

DN	Design			
	PVC-U	PP	PVDF	Stainless steel
32	0.13	0.09	0.17	0.5
40	0.16	0.10	0.21	0.8
50	0.26	0.18	0.34	1.0
65	0.33	0.23	0.43	1.4
80	0.40	0.27	0.52	1.8
100	0.56	0.38	0.72	2.9
125	0.76	0.51	0.98	3.9
150	1.12	0.76	1.44	4.5
200	2.13	1.43	2.73	7.5
250	3.54	2.44	4.56	13.0
300	5.35	3.57	6.95	23.0
350	7.56	5.16	9.76	33.5
400	11.10	7.40	14.40	52.0
500	22.85	15.20	29.60	94.0

### Minimum pressure for disc opening without spring

RSK	Installation	DN	40	50	65	80	100	125	150	200	250	300	350	400	500	600
	horizontal	[mbar]	0.8	1.0	1.4	1.7	2.1	2.6	3.1	4.2	5.2	6.2	7.3	8.3	10.4	12.5
	vertical	[mbar]	1.3	1.7	2.2	2.7	3.3	4.2	5.0	6.7	8.3	10.0	11.7	13.3	16.7	20.0



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