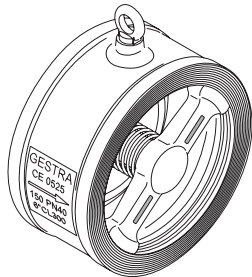


DN 15-100 mm (1/2 – 4")  
Standard design fitted with M8 antistatic connection



DN 125-200 mm (5 – 8")  
Standard design fitted with M8 antistatic connection

## Non-Return Valve for Sandwiching between Flanges

PN 10/16/25/40, ASME Class 125/150/300

**RK 86, RK 86A**, DN 15-200, NPS 1/2-8

**RKE 86, RKE 86A**, DN 15-100, NPS 1/2-4

### Description

RK and RKE non-return valves are used to prevent the return flow of fluid in pipes.

Only RKE non-return valves may be used as end valves (e.g. vacuum breakers). This equipment has passed the appropriate tests and bears the relevant markings, and must not be used with safety-relevant functions (e.g. safety valves). RKE non-return valves are only available with a metal valve disk.

Wafer-type non-return (check) valves for sandwiching between flanges, designed with closing spring for installation in any position. Without spring only for vertical lines with upward flow. Self-centring valve body. Suitable for liquid, gas and steam. Please note the classification according to the Pressure Equipment Directive (PED).

### Pressure/temperature ratings

Type	T [°C]	DIN/EN, PN 40									Design		
		-200	-10	50	100	200	300	350	400	500		550	
<b>RK 86, RKE 86</b> DN 15 – 100	p [barg]		40.0	40.0	37.4	33.6	27.8						Metal-to-metal (standard)
	p [barg]		40.0	40.0	37.4	33.6	27.8	25.9					Metal-to-metal with Nimonic® springs
<b>RK 86</b> DN 125 – 200	p [barg]		40.0	40.0	37.4	33.6	27.8						Metal-to-metal (standard)
	p [barg]		40.0	40.0	37.4	33.6	27.8	25.9	24.0				Metal-to-metal with Nimonic® springs

Type	T [°C]	DIN/EN, PN 40									Design		
		-200	-10	50	100	200	300	350	400	500		550	
<b>RK 86A, RKE 86A</b> DN 15 – 100	p [barg]	40.0	40.0	40.0	38.1	30.2	25.8						Metal-to-metal (standard)
	p [barg]	40.0	40.0	40.0	38.1	30.2	25.8	24.6	23.5	22.2	20.7		Metal-to-metal with Nimonic® springs
<b>RK 86A</b> DN 125 – 200	p [barg]	40.0	40.0	40.0	38.1	30.2	25.8						Metal-to-metal (standard)
	p [barg]	40.0	40.0	40.0	38.1	30.2	25.8	24.6	23.5				Metal-to-metal with Nimonic® springs

Type	T [°C]	ASME, CL 300									Design		
		-29	-10	50	100	200	300	350	400	500		550	
<b>RK 86, RKE 86</b> DN 15 – 100	p [barg]		51.1	51.1	46.6	43.8	39.8						Metal-to-metal (standard)
	p [barg]		51.1	51.1	46.6	43.8	39.8	37.6					Metal-to-metal with Nimonic® springs
<b>RK 86</b> DN 125 – 200	p [barg]	51.1	51.1	51.1	46.6	43.8	39.8						Metal-to-metal (standard)
	p [barg]	51.1	51.1	51.1	46.6	43.8	39.8	37.6	34.7				Metal-to-metal with Nimonic® springs

Type	T [°C]	ASME, CL 300									Design		
		-200	-10	50	100	200	300	350	400	500		538	
<b>RK 86A, RKE 86A</b> DN 15 – 100	p [barg]	49.6	49.6	49.6	42.2	35.7	31.6						Metal-to-metal (standard)
	p [barg]	49.6	49.6	49.6	42.2	35.7	31.6	30.3	29.4	28.2	25.1		Metal-to-metal with Nimonic® springs
<b>RK 86A</b> DN 125 – 200	p [barg]	49.6	49.6	49.6	42.2	35.7	31.6						Metal-to-metal (standard)
	p [barg]	49.6	49.6	49.6	42.2	35.7	31.6	30.3	29.4				Metal-to-metal with Nimonic® springs

RK 86A, RKE 86A: At operating temperatures above 300°C there is a risk of intercrystalline corrosion. Do not operate the equipment at temperatures above 300°C unless intercrystalline corrosion can be ruled out.

### Valve seats

Valve disk/cone	t <sub>min</sub> [°C]	t <sub>max</sub> [°C]	Application	Leakage rate
Metal-to-metal RK(E) 86, DN 15-100	-10	350	Liquid, gas, steam	EN 12266-1, P12, leakage rate C
Metal-to-metal RK 86, DN 125-200	-10	400	Liquid, gas, steam	EN 12266-1, P12, leakage rate C
Metal-to-metal RK(E) 86A, DN 15-100	-200	550	Liquid, gas, steam	EN 12266-1, P12, leakage rate C
Metal-to-metal RK 86A, DN 125-200	-200	400	Liquid, gas, steam	EN 12266-1, P12, leakage rate C
PTFE, DN15 – 100	-190	250	Aggressive fluids	EN 12266-1, P12, leakage rate C
PTFE, DN125 - 200	-25	200	Aggressive fluids	EN 12266-1, P12, leakage rate C
EPDM	-40	150	Water, condensate, steam	EN 12266-1, P12, leakage rate A
FPM	-25	200	Mineral oil, gas, air	EN 12266-1, P12, leakage rate A

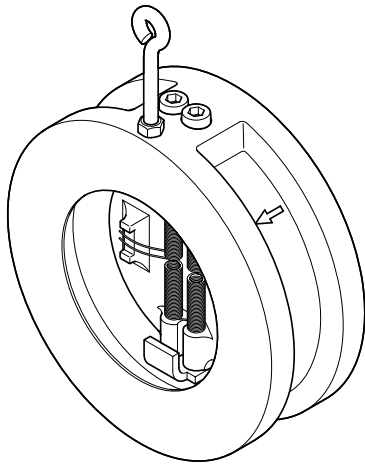
For additional information on chemical resistance go to [www.gestra.com](http://www.gestra.com), and click on "Technical Support" and then "Chemical Resistance".

### Optional features

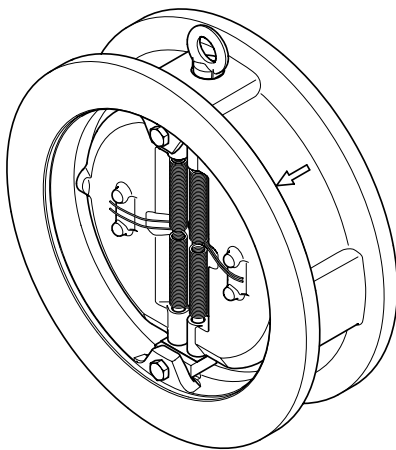
- Nimonic spring
- Special springs: 20 mbar to 3000 mbar
- RK seat gasket: EPDM / FPM / PTFE
- Silicone-free
- Oil and grease free
- Pickled and passivated
- Orifice
- Sealing strip:  
EN 1092, form B2 and ASME RFS (smooth finish)

### Accessories

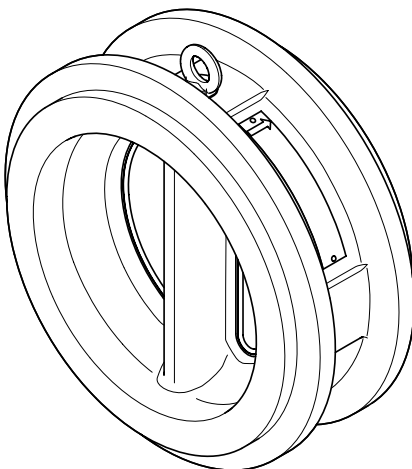
- RK stroke limiter



EN series BB 3... DN 50-125, DN 450/500  
ASME series BB 3... NPS 2"-5", NPS 18"/20"



EN series BB 3... DN 150-400,  
face to face dimension as per EN 558



ASME series BB 3... NPS 6" – 16",  
face to face dimension as per API 594

## Dual-Plate Check Valve

**BB 3...C** steel, **BB 3...A** stainless steel

**EN series: PN 10/16/25/40, DN 50 - 500**

**ASME series: Class 150/300, NPS 2" - 20"**

### Description

Dual-plate check valves prevent return flow in horizontal and vertical pipelines. They are wafer-type valves of double swing design.

For installation in horizontal pipelines, they are fitted with closing springs. For installation in vertical pipes with upward flow, closing springs may be included if required. For installation in vertical pipes with downward flow, they require 5V0 closing springs.

Dual-plate check valves can be used for liquids, gases and vapours in accordance with the Pressure Equipment Directive.

### Versions

The EN series complies with European requirements and the ASME series complies with American requirements.

BB 3... is available made of steel (BB 3...C) or stainless steel (BB 3...A).

The swing disc's standard seat gaskets are metal-to-metal seals.

### Optional features

- The ASME series BB 3...ASME (NPS 6" – 20") is optionally available with face to face dimension according to EN 558. Replaces BB 1...ASME and BB 2...ASME.
- Depending on the temperature limits and chemical resistance, seat gaskets such as EPDM, FPM (FKM), NBR or PTFE are available
- The stainless steel closing springs can be chosen according to installation position
- Closing springs optionally available made of Inconel (7WA)
- For systems that may experience pressure surges, dampers are available

### Material specifications

The equipment designations include material specifications:

BB ...C: Steel

BB ...A: Stainless steel

### Type overview EN series

PN	DN [mm]													
	50	65	80	100	125	150	200	250	300	350	400	450	500	
10	BB 32-36C BB 32-36A						BB 32/34C BB 32/34A		BB 32C BB 32A					
16									BB 34C BB 34A					
25	BB 35/36C BB 35/36A						BB 35/36C BB 35/36A		BB 35C BB 35A					
40									BB 36C BB 36A					

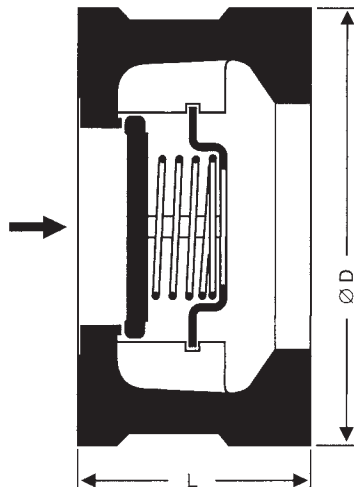
### Type overview ASME series

Class	DN/NPS [mm/inches]													
	2 50	2½ 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	
150	BB 35C BB 35A													
300	BB 36C BB 36A													

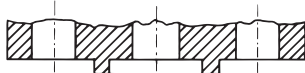
### Available pipe connections

Wafer-type valve for installation between flanges as per:

- EN 1092-1, PN 10/16/25/40, B1
- ASME B 16.5, Class 150/300, RF



Machining of facings in accordance with requirements for counter-flanges to



DIN 2512 – tongue flanges



DIN 2513 – male flanges

## Non-Return Valve RK 16A

### ASME 150 / 300, PN 10 / 16 / 25 / 40

### DN 15 – 100 mm (½" – 4")

**Application** for aggressive liquids, gases and vapours. Low temperatures.

**Pressure/Temperature Rating** for valves with metal-to-metal seat <sup>1)</sup>

Nominal size	DN	15 – 100 (½–4")					
Nominal pressure	PN	40 <sup>2)</sup>					
Max. service pressure	[bar g]	46.6	42.3	35.8	31.6	29.3	24
	[psi g]	676	612	518	459	425	348
Related temperature	[°C]	20	100	200	300	400	550
Minimum temperature <sup>3)</sup>		–200 °C (–328°F)					

<sup>1)</sup> For temperatures above 300 °C (572°F) use a Nimonic spring.

Linear interpolation between pressure and temperature ratings permitted.

<sup>2)</sup> In terms of resistance also rated for ASME Class 300.

<sup>3)</sup> Minimum temperature for nominal pressure rating.

#### Soft seats

EPDM: (ethylene propylene): –40 to +150°C (–40 to +302°F) for water, condensate and steam.

FPM: (fluoro rubber): –25 to +200°C (–13 to +392°F) for oils, gases and air.

Also note valve pressure/temperature rating in the above table.

Tightness with soft seats of EPDM and FPM in accordance with DIN 3230-3, leakage rates BN 1, BO 1. Permissible leakage rates with metal-to-metal seat in accordance with DIN 3230-3, leakage rates BN 2, BO 3.

For additional information on chemical resistance go to [www.gestra.de](http://www.gestra.de) and click on "Technical Support" and then on "Chemical Resistance"

#### Connections of wafer-type valves

DIN	Optionally for fitting between flanges to	
	BS	ASME
DIN 2501 PN 10–40 <sup>4)</sup> DIN 2512, 2513 2514	BS 10 tables D, E or table F or tables H, J	ASME B 16.1 class 125 FF ASME B 16.5 class 150 RF ASME B 16.5 class 300 RF

<sup>4)</sup> For valves of DN 100 mm (4") state PN 10/16 or PN 25/40.

#### Dimensions

DN		L <sup>5)</sup> [mm]	Dimensions in [mm] Ø D				Weight [kg]
[mm]	[in]		ASME		DIN		
			150 RF	300 RF	PN 10–40	2512 2513	
15	½	25	46	52	52	0.25	
20	¾	31.5	56	63	63	0.4	
25	1	35.5	66	72	72	0.57	
32	1¼	40	75	81	81	0.83	
40	1½	45	85	93	93	1.2	
50	2	56	104	108	108	2.15	
65	2½	63	123	128	128	3.2	
80	3	71	135	147	143	4.5	
100	4	80	173	179	163/169 <sup>6)</sup>	6.9	

<sup>5)</sup> Overall length according to DIN EN 558-2, table 11, series 52 (≅ DIN 3202, part 3, series K5)

<sup>6)</sup> For counter-flanges PN 25/40 with raised face Ø D = 169 mm.

#### Materials\*)

	DIN reference		ASTM equivalent
Body, seat, guide ribs, valve disc, spring retainer	X 6 CrNiMoTi 1712 2	1.4571	A182 F 316
Spring	X 6 CrNiMoTi 1712 2	1.4571	A313 Type 316

\*) For the use in hygienic installations, foodstuff industry, pharmaceutical industry and similar applications please order RK 16A in pickled design.