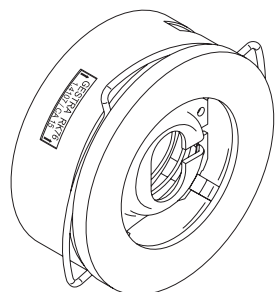




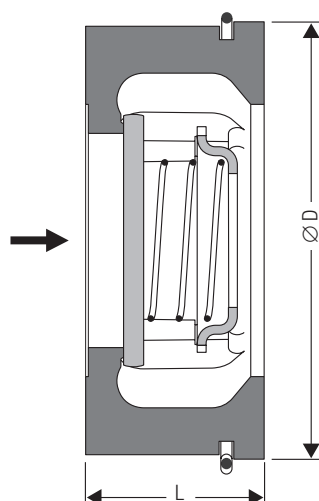
Non-Return Valve for Sandwiching Between Flanges

PN 6/10/16/25/40, ASME Class 125/150/300

RK 76 DN 15-100, NPS ½-4



DN 15-100



RK 76
Metal-to-metal (standard)

Description

RK non-return valves are used to prevent the return flow of fluid in pipes. Wafer-type non-return (check) valves for sandwiching between flanges, designed with spring for installation in any position. Without spring only for vertical lines with upward flow. Centred with a spiral centring ring. Suitable for liquid, gas and steam. Please note the classification according to the Pressure Equipment Directive (PED).

Pressure & temperature ratings

RK 76	DIN/EN, PN 40									Design
	T [°C]	-10	20	50	100	150	200	250	300	
DN 15 – 100	[barg]	40.0	40.0	40.0	38.1	34.2	30.2	28.0	25.8	Metal-to-metal (standard)

RK 76	ASME, CL 300									Design
	T [°C]	-10	20	50	100	150	200	250	300	
DN 15 – 100	[barg]	49.6	49.6	48.1	42.2	38.5	35.7	33.4	31.6	Metal-to-metal (standard)

Valve seats

Valve disk	t _{min} [°C]	t _{max} [°C]	Application	Leakage rate
Metal-to-metal RK 76, DN 15-100	-10	300	Liquid, gas, steam	DIN EN 12266, Class D
PTFE	-190	250	Aggressive fluids	DIN EN 12266, Class D
EPDM	-40	150	Water, condensate, steam	DIN EN 12266, Class A
FPM	-25	200	Mineral oil, gas, air	DIN EN 12266, Class A

For additional information on chemical resistance go to www.gestra.com, and click on "Technical Support" and then "Chemical resistance".

End connection

DIN	ASME	BS 10 ¹⁾	JIS
EN 1092, form B 1 PN 6/10/16/25/40	B 16.1 Class 125 FF B 16.5 Class 150/300 RF	Table D, E, F, H, J	B2238 10K

¹⁾ Table D, E, DN 65, DN 80: Select the next smallest nominal size.

Dimensions

Nominal size	[mm] [inch]	15	20	25	32	40	50	65	80	100
		½	¾	1	1¼	1½	2	2½	3	4
Dimensions	[mm] L ³⁾	16	19	22	28	31.5	40	46	50	60
Ø D	PN 6-40	45	55	65	75	85	98	118	134	154
Weight	[kg]	0.18	0.30	0.45	0.70	0.90	1.50	2.10	3.40	5.20

³⁾ Short overall length to EN 558, basic series 49 (≙ DIN 3202-3, series K4)

Materials

DN 15-100	DIN/EN	ASME	Category
Body, seat and guide ribs RK 76	1.4107	SA217 CA15	Chromium steel
Valve disk, spring retainer	1.4571		Stainless steel
Spring			Stainless steel
Spiral centring ring	1.4310		Chromium steel

Optional extras

- Special springs: 20 mbar to 1000 mbar
- RK valve seat: EPDM / FPM / PTFE
- Silicone-free
- Oil and grease-free
- Pickled and passivated
- Orifice hole
- Sealing strip:
EN 1092, form B2 and ASME RFS (smooth finish)

Sales Partner:

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Non-Return Valve for Sandwiching Between Flanges PN 6/10/16/25/40, ASME Class 125/150/300

RK 76 DN 15-100, NPS ½-4

Opening pressures

Differential pressure at zero volume flowrate.

DN	Opening pressures [mbar]			
	Direction of flow			
	without spring ↑	with spring ↑ → ↓		
15	2.5	10	7.5	5
20	2.5	10	7.5	5
25	2.5	10	7.5	5
32	3.5	12	8.5	5
40	4.0	13	9	5
50	4.5	14	9.5	5
65	5.0	15	10	5
80	5.5	16	10.5	5
100	6.5	18	11.5	5

Special springs for opening pressures available on request for an additional charge:

Between 20 and 1000 mbar with t DN 15–50, 20 and 700 mbar with DN 65 and 80, 20 and 500 mbar with DN 100.

Enquiry specification

GESTRA DISCO non-return valve

RK 76, DN:

Valve seat: metal-to-metal / EPDM / FPM / PTFE

Wafer-type non-return valve for sandwiching between flanges PN 6/10/16/25/40, Class 150/300

Short overall length to EN 558, basic series 49

RK 76, DN 15-100:

Body with spiral centring ring for horizontal and vertical pipes.

Spring: 1.4571.

Opening pressure: 5 mbar for upward flow, specially designed spring retainer ensures centric spring support.

Please note

The chosen non-return valve must ensure that the minimum volume flowrate keeps the valve disk in the open position (see pressure drop chart, "Full opening/stable range"). Systems with a pulsating flow, e.g. with compressors, may require specially designed non-return valves. If in doubt please consult us and we will carry out the pressure drop calculation and select a suitable valve.

Please note our general terms of business.

Pressure drop chart

The curves in the chart are valid for water at 20°C. To read the pressure drop for other fluids, calculate the equivalent water volume flowrate $\dot{V}_w$ and use it in the chart.

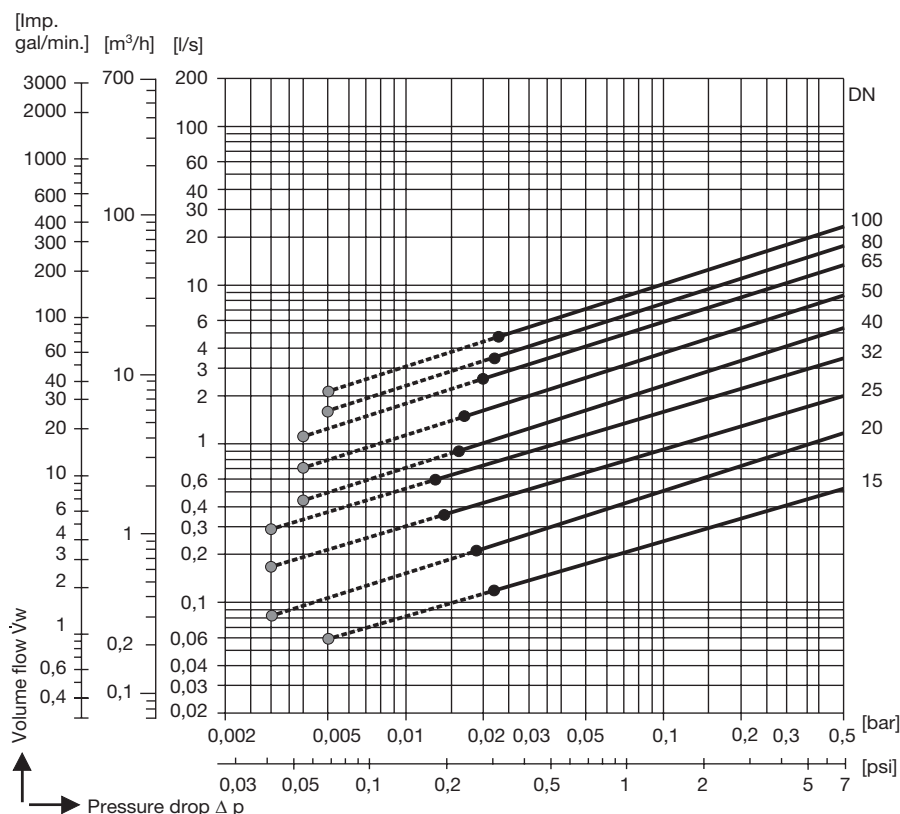
Pressure drops in the chart apply to spring-assisted valves for use in horizontal pipes and to valves without spring for use in vertical pipes with upward flow.

$$\dot{V}_w = \dot{V} \cdot \sqrt{\frac{\rho}{1000}}$$

$\dot{V}_w$ = equivalent water volume flowrate
in l/s or m³/h

ρ = density of fluid
(operating state) in kg/m³

$\dot{V}$ = volume flowrate of fluid
(operating state) in l/s or m³/h



- Required minimum volume flowrate $\dot{V}_w$ for valves without spring for use in vertical pipes with upward flow.
- Required minimum volume flowrate $\dot{V}_w$ for spring-assisted valves for use in horizontal pipes.

When ordering please state

Fluid, flowrate, service pressure and temperature, standard of pipe flange.

Acceptance tests

An inspection certificate to EN 10204 can be provided as verification of material and construction tests. All test requirements must be stated in the request for a quote or in the order. Test certificates can no longer be issued once delivery has been made. The standard test scope and costs of the above-mentioned test certificates can be found in our price list "Test and Inspection Charges for Standard Equipment". If you require a different test scope, please request a separate quote.

Application of European Directives

Pressure Equipment Directive

The equipment conforms to this directive and can be used for the following fluids:

■ Group 1 and 2 fluids

ATEX Directive

The RK equipment does not have its own potential ignition source and is therefore not subject to this directive.

Static electricity: Once installed, static electricity may arise between the equipment and the connected system. If used in potentially explosive atmospheres, the plant manufacturer or owner is responsible for discharging or preventing possible static charge.

If it is possible for fluid to escape, e.g. through actuating mechanisms or leaks in threaded joints, the plant manufacturer or owner must take this into consideration when dividing the area into zones.

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