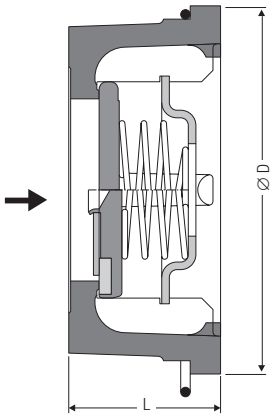
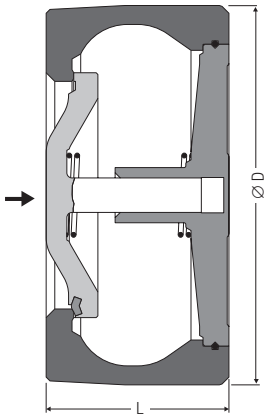


DN 15 – 100 (½ – 4")



DN 125 – 200 (5 – 8")

Non-Return Valve for Sandwiching between Flanges
PN 6/10/16, ASME Class 125
RK 44S, DN 15-200, NPS ½-8

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 pipes with upward flow. Centring ring or self-centring valve body. Suitable for liquid, gas and steam. Please note the classification according to the Pressure Equipment Directive (PED).

Pressure and temperature ratings for valves with metal-to-metal seat

RK 44		**DIN/EN, PN 16**				**Design**
	T [°C]	– 200	180	200	250	
DN 15 – 100 (½ – 4")	p [barg]	16.0	16.0	13.5	8.0	Metal-to-metal (standard)
DN 125 – 200 (5 – 8")	p [barg]	16.0	16.0	13.5	8.0	Metal-to-metal (standard)

Valve seats

Valve disc/cone	**tmin [°C]**	**tmax [°C]**	**Application**	**Leakage rate**
Metal-to-metal RK 44S, DN 15-100 (½-4")	– 200	200	Liquid, gas, steam	EN 12266-1, P12, leakage rate D
Metal-to-metal RK 44S, DN 125-200 (5-8")	– 10	300	Liquid, gas, steam	EN 12266-1, P12, leakage rate D
EPDM	– 40	150	Water, condensate, steam	EN 12266-1, P12, leakage rate A
FPM	– 25	200	Non-hazardous gas, air	EN 12266-1, P12, leakage rate A

Please check chemical resistance at www.gestra.com in the "Chemical resistance" database.

Connections of wafer-type valves[1])

Standard valves for fitting between flanges to		
EN	BS	ASME
DIN EN 1092, form B 1, PN 6/10/16	BS 10 Table D, E, F	B 16.1 Class 125 FF B 16.5 Class 150 RF[2])

[1]) DN 15–100 (½ – 4") with spiral centring ring.
[2]) ASME Class 150 RF only suitable for DN 125 – DN 200 (5 – 8").

Dimensions

Nominal size	[mm] [inch]	15 ½	20 ¾	25 1	32 1¼	40 1½	50 2	65 2½	80 3	100 4	125 5	150 6	200 8
Dimensions [mm]	L[5])	16	19	22	28	31.5	40	46	50	60	90	106	140
	∅ D	42	49	58	74	84	97	117	132	152	184	209	264
Weight	[kg]	0.1	0.2	0.25	0.5	0.7	1.1	1.4	2	3.2	9	12.9	25.5

[5]) Short overall length to DIN EN 558, series 49 (≙ DIN 3202-3, series K4).

Materials

DN 15 – 100 (½ – 4")	**DIN/EN**	**Category**
Body, seat and guide ribs	CC480K-GS (2.1050)	Bronze
Valve disc	CC483K-GS (2.1052)	Bronze
Spring retainer	CW352H (2.0872)	Bronze
Spring	CuSn6 F 90 (2.1020)	Bronze
Spiral centring ring	1.4310	Austenitic stainless steels
DN 125 – 200 (5 – 8")	**DIN/EN**	**Category**
Body, seat	CC483K-GC (2.1052)	Bronze
Valve cone, spindle guide	CC480K-GS (2.1050)	Bronze
Spring	CuSn6 F 90 (2.1020)	Bronze

Optional extras

- Without spring
- RK valve seat: EPDM / FPM
- Silicone-free
- Oil and grease-free
- Orifice hole

Non-Return valve for Sandwiching between Flanges PN 6/10/16, ASME Class 125

RK 44S, DN 15-200, NPS ½-8

Opening pressures

Differential pressure at zero volume flowrate.

DN	Opening pressures [mbar]			
	Direction of flow			
	without spring	with spring		
	↑	↑	→	↓
15	2.5	25	22.5	20
20	2.5	25	22.5	20
25	2.5	25	22.5	20
32	3.5	27	23.5	20
40	4.0	28	24.0	20
50	4.5	29	24.5	20
65	5.0	30	25.0	20
80	5.5	31	25.5	20
100	6.5	33	26.5	20
125	12.5	35	22.5	10
150	14.0	38	24.0	10
200	13.5	37	23.5	10

Enquiry specification

GESTRA DISCO non-return valve

RK 44S

DN:

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

Wafer-type non-return valve for sandwiching between flanges PN 6/10/16, Class 125

Short overall length to EN 558, series 49

DN 15-100 (½-4"):

Body with spiral centring ring for horizontal and vertical pipes.

Spring: 2.1020, opening pressure: 20 mbar for upward flow, specially designed spring retainer ensures centric spring support.

DN 125-200 (5-8"):

Self-centring body thanks to an adapted diameter for horizontal and vertical pipes.

Spring: 2.1020, opening pressure: 10 mbar for downward flow, centric cone and spring guide.

Please note

The chosen non-return valve must ensure that the minimum volume flowrate keeps the valve disc 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. When ordering, please expressly state your particular application and provide operating data that is as accurate as possible.

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 $\dot{V}_w$.

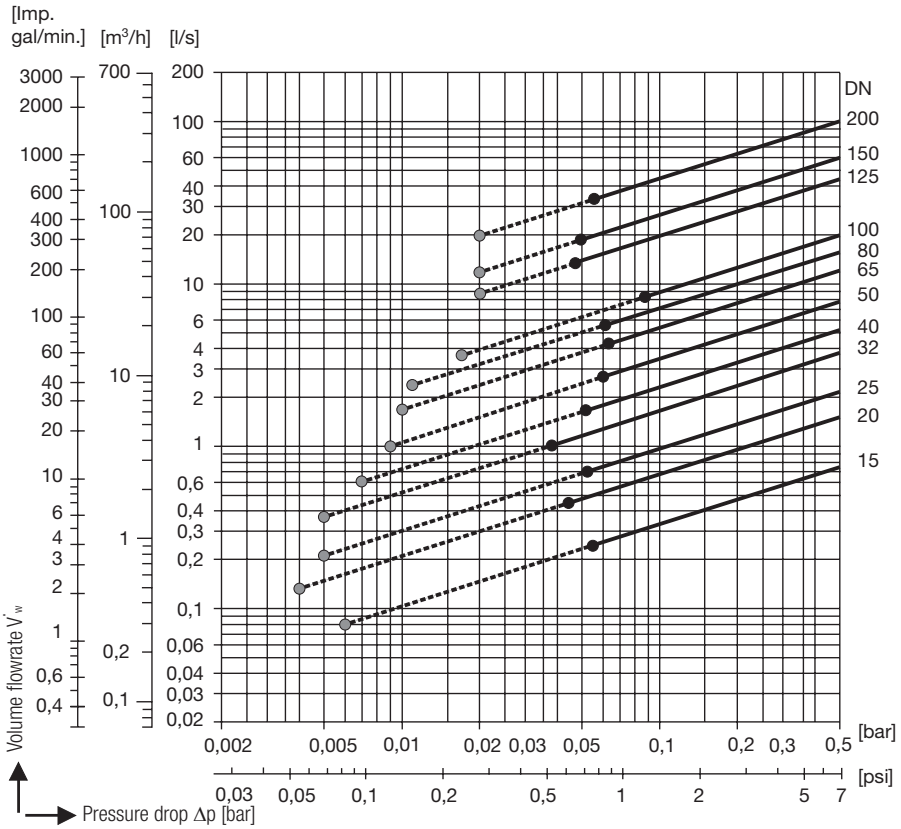
Pressure drops in the chart apply to valves with standard spring for use in horizontal pipes and to valves without spring for use in vertical pipes with upward flow.

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

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

ρ = density of fluid in operating state in [kg/m³]

$\dot{V}$ = volume flowrate of fluid in 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 valves with standard spring 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 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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