



GESTRA® DISCO Non-Return Valves · Product Range Group A2

RK 16A

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 seat¹⁾

Nominal size	DN	15–100 (½–4")					
Nominal pressure	PN	40 ²⁾					
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 ³⁾		–200 °C (–328 °F)					

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

Linear interpolation between pressure and temperature ratings permitted.

²⁾ In terms of resistance also rated for ASME Class 300.

³⁾ 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 EN 558-2, table 11, leakage rates BN 1, BO 1. Permissible leakage rates with metal-to-metal seat in accordance with DIN EN 558-2, table 11, leakage rates BN 2, BO 3.

Chemical resistance see GESTRA Information A 2.1.

Connections of wafer-type valves

DIN	Optionally for fitting between flanges to	
	BS	ASME
DIN 2501 PN 10–40 ⁴⁾ 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

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

Dimensions

DN		L ⁵⁾ [mm]	Dimensions in [mm] ØD				Weight [kg]
[mm]	[in]		ASME		DIN		
			150 RF	300 RF	PN 10–40	2512 2513	
15	1½	25	46	52	52	0.25	
20	1¾	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 ⁶⁾	6.9	

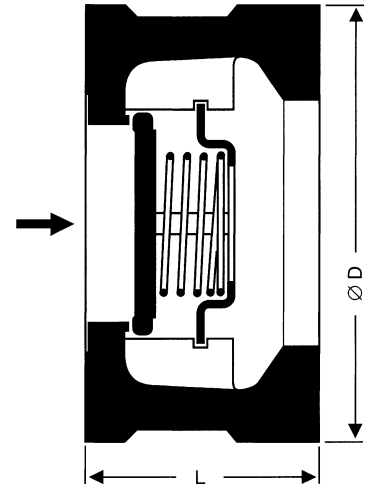
⁵⁾ Overall length according to DIN EN 558-2, table 11, series 52 (≙ DIN 3202, part 3, series K5)

⁶⁾ For counter-flanges PN 25/40 with raised face ØD = 169 mm.

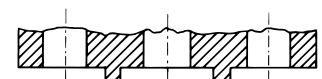
Materials*)

	DIN reference		ASTM equivalent
Body, seat, guide ribs, valve disc, spring retainer	X 6CrNiMoTi 17 12 2	1.4571	A 182 F 316
Spring	X 6CrNiMoTi 17 12 2	1.4571	A 313 Type 316

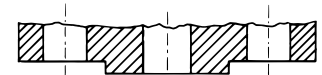
*) For the use in hygienic installations, foodstuff industry, pharmaceutical industry and similar applications please order RK 16A in pickled design.



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")

Opening pressures

Differential pressures at zero volume flow.

DN		Opening pressures in [mbar]			
		Direction of flow			
		without springs	with springs		
[mm]	[in]	↑	↑	→	↓
15	½	2.5	25	22.5	20
20	¾	2.5	25	22.5	20
25	1	2.5	25	22.5	20
32	1¼	3.5	27	23.5	20
40	1½	4.0	28	24.0	20
50	2	4.5	29	24.5	20
65	2½	5.0	30	25.0	20
80	3	5.5	31	25.5	20
100	4	6.5	33	26.5	20

1 mbar \triangleq 0.0145 psi \triangleq 100 mm w.g. \triangleq 0.4 in w.g.

On request at extra charge, special springs for opening pressures:

- between 5 and 1000 mbar for DN 15–50 mm (½–2"),
- between 5 and 700 mbar for DN 65, 80 mm (2½, 3"),
- between 5 and 500 mbar for DN 100 mm (4").

Enquiry Specification

GESTRA DISCO non-return valves RK 16A. Wafer design with extremely short overall length to DIN EN 558-2, table 11, series 52 (\triangleq DIN 3202, part 3, series K5).

For installation between pipe flanges to ASME, DIN or BS.

Indications on pressure, nominal size (DN), connection.

Metal-to-metal seat of soft seat (EPDM or FPM).

Order Specifications

Type RK 16A, DN...

Metal-to-metal or soft seat, EPDM or FPM.

For flanges to ASME... or DIN... or BS...

Fluid, flowrate, pressure and temperature.

Type of pipe flanges.

Note

The valves should not be used on compressors or where pulsating flow exists.

For these applications please consult us.



These products comply with the requirements of the EC Pressure Equipment Directive (PED) 97/23. DN 32–100 with CE marking. DN 15–25 are excluded from the scope of this Directive and **not entitled** to bear the CE marking.

Supply in accordance with our general terms of business.

Pressure Drop Chart

The curves given in the chart are valid for water at 20 °C. To read the pressure drop for other fluids the equivalent water volume flow-rate must be calculated and used in the graph.

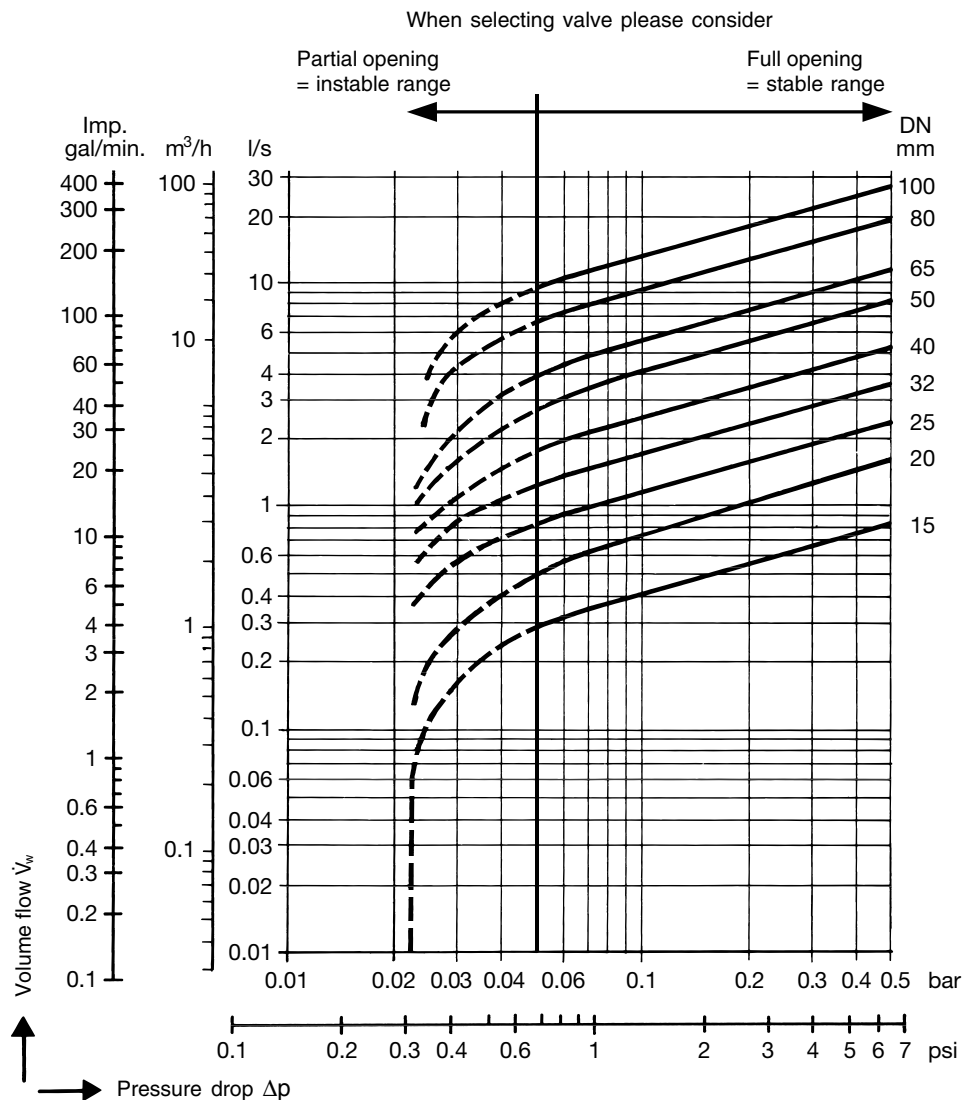
The values indicated in the chart are applicable to spring-assisted valves with horizontal flow. With vertical flow insignificant deviations occur only within the range of partial opening.

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

\dot{V}_w = Equivalent water volume flow in [l/s] etc.

ρ = Density of fluid (operating condition) in [kg/m³] etc.

\dot{V} = Volume of fluid (operating condition) in [l/s] etc.



1 US gallon \triangleq 0.833 Imp. gallon

Test certificates to EN 10204 available on request.



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