GESTRA® DISCO Non-Return Valves RK 41, PN 16

Issue Date: 8/01

Non-Return Valves
PN 6/10/16
DN 15–200
(½–8")
RK 41, PN 16
A2

Application for liquids, gases, vapours.

Pressure / Temperature Rating for valves with metal-to-metal seat

Nominal sizes DN	[mm] [in]	15–100 ½–4			125–200 5–8		
Nominal pressure	PN	16[1]					
Max. service pressure	[barg] [psig]	16 230	14 200	13 185	16 230	14 200	13 185
Related temperature	[°C] [°F]	120 248	200 392	250 482	120 248	200 392	300 572
Minimum temperature[2]		–60 °C (–76 °F)			–10 °C (–14 °F)		

[1] In terms of resistance also rated for ASME 125 and 150.
[2] 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.

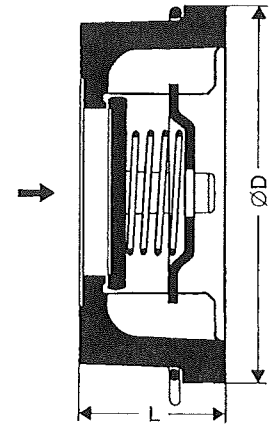
But also note valve pressure/temperature rating in the above table.

Chemical resistance see GESTRA Information A 2.1.

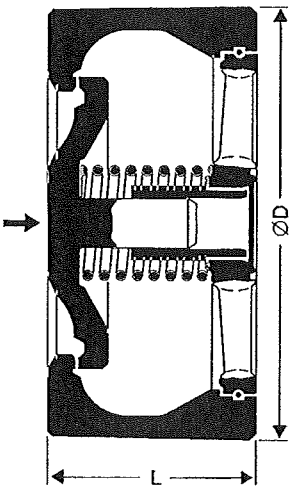
Connections of wafer-type valves[3]

Standard valves for fitting between flanges to		
DIN	BS	ASME
DIN 2501 (BS 4504) PN 6/10/16	BS 10 tables D, E, F	ASME B 16.1 Class 125 FF ASME B 16.5 Class 150 RF[4]

[3] DN 15–100 mm (½–4) with universal centering ring.
[4] ASME class 150 RF only suitable for DN 125–200 mm (5–8").



DN 15–100 mm (½–4")



DN 125–200 mm (5–8")

Dimensions

DN	[mm] [in]	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 in mm	L[5]	16	19	22	28	31,5	40	46	50	60	90	106	140
	D	40	47	56	72	82	95	115	132	152	184	209	264
Weight	[kg]	0.1	0.14	0.22	0.5	0.66	1.1	1.45	2.3	3.5	6.8	10	20

[5] Overall length according to DIN EN 558-1, table 11, series 49 (≙ DIN 3202, part 3, series K 4).

Materials

DN 15–100 mm (½–4")	DIN reference		ASTM equivalent
Body, seat and guide ribs	Brass CuZn 35 Ni	2.0540	
Valve disc, spring retainer	X 6 CrNiMoTi 17 12 2	1.4571	A 182 F 316
Spring			A 313 Type 316
Centering ring	X 12 CrNi 17 7	1.4310	A 313 Type 302
DN 125–200 mm (5–8")			
Body, seat	EN-GJL-250 (GG-25)	EN-JL 1040 (0.6025)	A 126 Class A
Valve cone and spindle	EN-GJS-400-15 (GGG 40)	EN-JS 1030 (0.7040)	A 536 60-40-18
Guide support	UZSt 37-2	1.0161	A 105
Spindle guide	X 5 CrNi 18 10	1.4301	A 182 F 304
Spring	X 6 CrNiMoTi 17 12 2	1.4571	A 313 Type 316

Old DIN designations are stated in brackets.

CE

These products comply with the requirements of the EC Pressure Equipment Directive (PED) 97/23. DN 100–200 mm with CE marking. DN 15–80 mm are excluded from the scope of this Directive and **not entitled** to bear the CE marking.

A2

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DN 15–200
(½–8")

RK 41, PN 16

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Invensys
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Opening Pressures

Differential pressures at zero volume flow

DN		Opening pressures [mbar]			
		Direction of flow			
		without springs	with springs		
[mm]	[in]	↑	↑	→	↓
15	½	2.5	25.0	22.5	20
20	¾	2.5	25.0	22.5	20
25	1	2.5	25.0	22.5	20
32	1¼	3.5	27.0	23.5	20
40	1½	4.0	28.0	24.0	20
50	2	4.5	29.0	24.5	20
65	2½	5.0	30.0	25.0	20
80	3	5.5	31.0	25.5	20
100	4	6.5	33.0	26.5	20
125	5	10.5	31.0	20.5	10
150	6	11.5	33.0	21.5	10
200	8	11.2	32.4	22.2	10

1 mbar = 0.0145 psi = 10 mm w.g. = 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 and 80 mm (2½–3"),
- between 5 and 500 mbar for DN 100–200 mm (4–8").

Enquiry Specification

GESTRA DISCO non-return valve RK 41 PN 6/10/16.
Wafer design with extremely short overall length to DIN EN 558-1, table 11, series 49.

Suitable for fitting between flanges to DIN, BS or ASME.

Indications on pressure, nominal size (DN), body material.

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

Order Specification

Type RK 41, DN...
Metal-to-metal or soft seat (EPDM or FPM).

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.

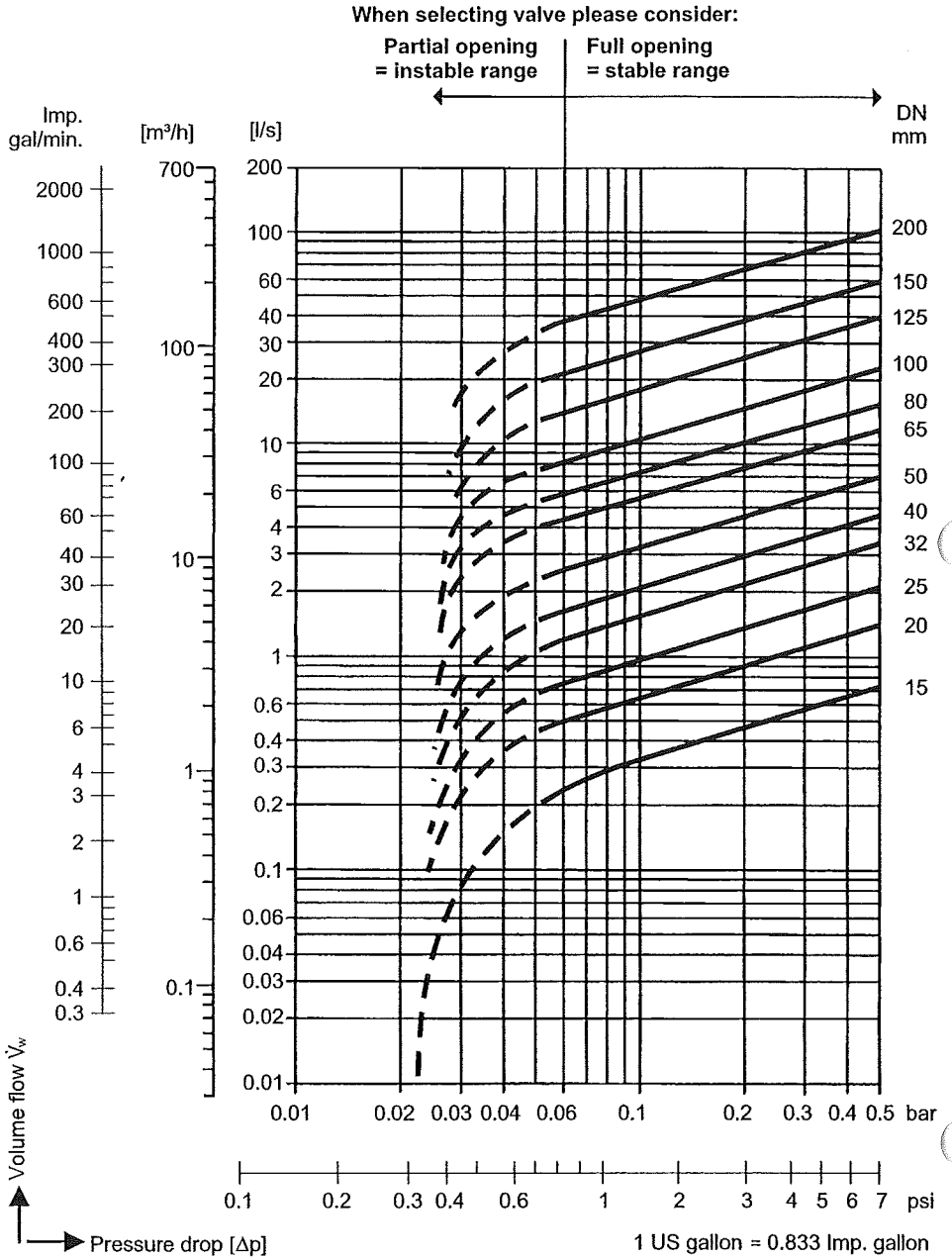
Pressure Drop Chart

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 flowrate must be calculated and used in the graph.

The values indicated in the chart are applicable to spring-loaded 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.



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