



# GESTRA® DISCO Non-Return Valve RK 86, 86 A



Issue Date: 8/01

**Non-Return Valve  
for Flanges  
PN 10/16/25/40  
ASME 150/300  
RK 86, 86 A**

# A<sub>2</sub>

**Application** for liquids, gases, vapours, aggressive fluids, low temperatures.

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

Service temp. °C(°F)	20(68)	100(212)	200(392)	300(572)	350(662)	400(752)	500(932)	550(1022)	Minimum temp.	
Max. service pressure <sup>2)</sup> barg(psig)	RK 86	DN15-100	51(739)	46.4(673)	43.9(637)	38.9(564)	36.9(535)	-	-	-10°C/14°F
		DN125-200	40(580)	40(580)	35(508)	28(406)	24(348)	21(305)	-	-
RK 86 A	DN15-100	49.6(720)	42.3(614)	35.8(520)	31.6(459)	30.4(441)	29.3(425)	27.3(396)	24(348)	-200°C/-328°F
	DN125+150	40(580)	33(479)	30(435)	26(377)	25(363)	24(348)	23(334)	22(319)	-200°C/-328°F
	DN200	40(580)	36(522)	30(435)	28(406)	27(392)	26(377)	24(348)	23(334)	-10°C/14°F

- <sup>1)</sup> For temperatures above 300 °C (572 °F) use a Nimonic spring.  
Linear interpolation between pressure and temperature ratings possible.  
According to AD W5 service pressure for 1.4408 must not exceed 300 °C.  
<sup>2)</sup> DN 15-100 mm (½-4") also rated for ASME 300.

**Soft seats** (Note pressure/temperature ratings in the above table for metal-to-metal seat.)

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

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

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

**Chemical resistance** see GESTRA Database "Chemical Resistance"

**Connections** of wafer-type valves

DIN <sup>3)</sup>	Standard valves for fitting between flanges to BS <sup>5)</sup>	ASME	JIS <sup>6)</sup>
DIN 2501-1 PN 10/16/25/40 <sup>4)</sup>	BS 10, Table D, E, F, H, J BS 4504-3.1, 10, 16, 25, 40	ASME B 16.1 Class 125 FF ASME B 16.5 Class 150/300 RF	B2238 10K

- <sup>3)</sup> DN 125-200 mm (5-8"): On request with flange facings to DIN 2512, form N or DIN 2513 form V 13.  
<sup>4)</sup> DN 15-100 mm (½-4") also suitable for PN 6.  
<sup>5)</sup> For installation between flanges DN 15 mm (½"), BS 10, table H and J please use RK 86/86A, DN 20 mm (¾").  
<sup>6)</sup> As standard for installation between FL JIS 10K (except DN 80 mm). When ordering please indicate nominal size (reworking required).

**Dimensions**

Nominal sizes DN	[mm]	15	20	25	32	40	50	65	80	100	125	150	200
	[inch]	½	¾	1	1¼	1½	2	2½	3	4	5	6	8
Dimensions in [mm]	L <sup>7)</sup>	16	19	22	28	31.5	40	46	50	60	90	106	140
	∅ D <sub>min</sub>	44	53	64	73	83	96	110	128	151	194	220	275
	∅ D <sub>max</sub>	67	76	82	93	104	118	136	158	186	194	220	275
Weight	[kg]	0.27	0.38	0.52	0.8	1.12	1.78	2.43	3.37	5.34	10	13	24

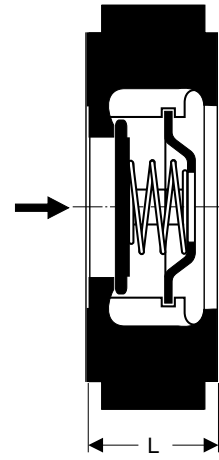
<sup>7)</sup> Short overall length according to DIN EN 558-1, series 49 (ΔDIN 3202, part 3, series K 4)

**Materials\*)**

DN 15-100 mm (½-4")	DIN reference	ASTM equivalent	
Body, seat and guide ribs	RK 86	G-X4CrNi 13-4 1.4317	A 743-CA 6-NM
	RK 86 A	G-X6CrNiMo 1810 1.4408	A 351-CF 8M
Valve disc, spring retainer	X 6CrNiMoTi 17 122	1.4571	A 182 F 316
Spring			A 313 Type 316

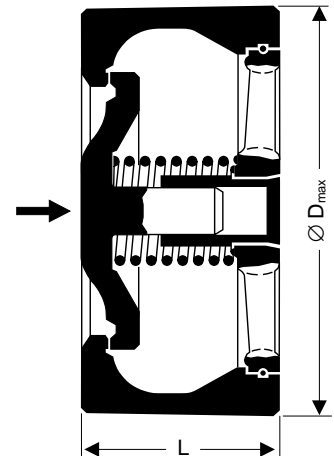
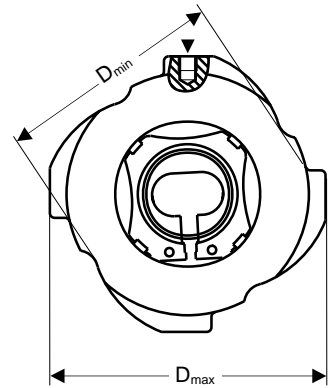
DN 125-200 mm (5-8")	DIN reference	ASTM equivalent	
Body	RK 86 DN 125, 150	C 22.8 1.0460	A 105
	DN 200	GP 240 GH (GS-C 25) 1.0619	A 216 WCB
	hard faced seat	X 8CrTi 18 1.4502	A 268
RK 86 A	DN 125, 150	X 6CrNiMoTi 17 122 1.4571	A 182 F 316
	DN 200	G-X 5CrNiMoNb 1810 1.4581	A 351 CF 8 M
Valve cone	RK 86	X 10Cr 13 1.4006	A 182 F 6
Guide support	RK 86	UZ St 37-2 1.0161	A 105
Spindle guide	RK 86	X 5CrNi 18 10 1.4301	A 182 F 304
Valve cone, guide support, spindle guide	RK 86 A	X 6CrNiMoTi 17 122 1.4571	A 182 F 316
Spring	RK 86 and 86 A	X 6CrNiMoTi 17 122 1.4571	A 313 Type 316

\*) For the use in hygienic installations, foodstuff industry, pharmaceutical industry and similar applications please order RK 86 A in pickled design.



DN 15-100 mm (½-4")  
PN 6/10/16/25/40  
ASME Class 125/150/300

Standard design fitted with M8 antistatic connection



DN 125-200 mm (5-8")  
PN 10/16/25/40  
ASME Class 125/150/300



These products comply with the requirements of the EC Pressure Equipment Directive (PED) 97/23/EC. DN 32-200 mm with CE marking. DN 15-25 mm are excluded from the scope of this Directive and **not entitled** to bear the CE marking.

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**Non-Return Valve  
for Flanges  
PN 10/16/25/40  
ASME 150/300**

**RK 86, 86A**



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An Invensys company

### 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
125	5	12.0	34	22.0	10
150	6	13.5	37	23.5	10
200	8	16.0	42	26.0	10

1 mbar = 0.0145 psi = 100 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 86...  
PN 10/16/25/40.

Wafer design with extremely short overall length to DIN EN 558-1, 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 86..., 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.

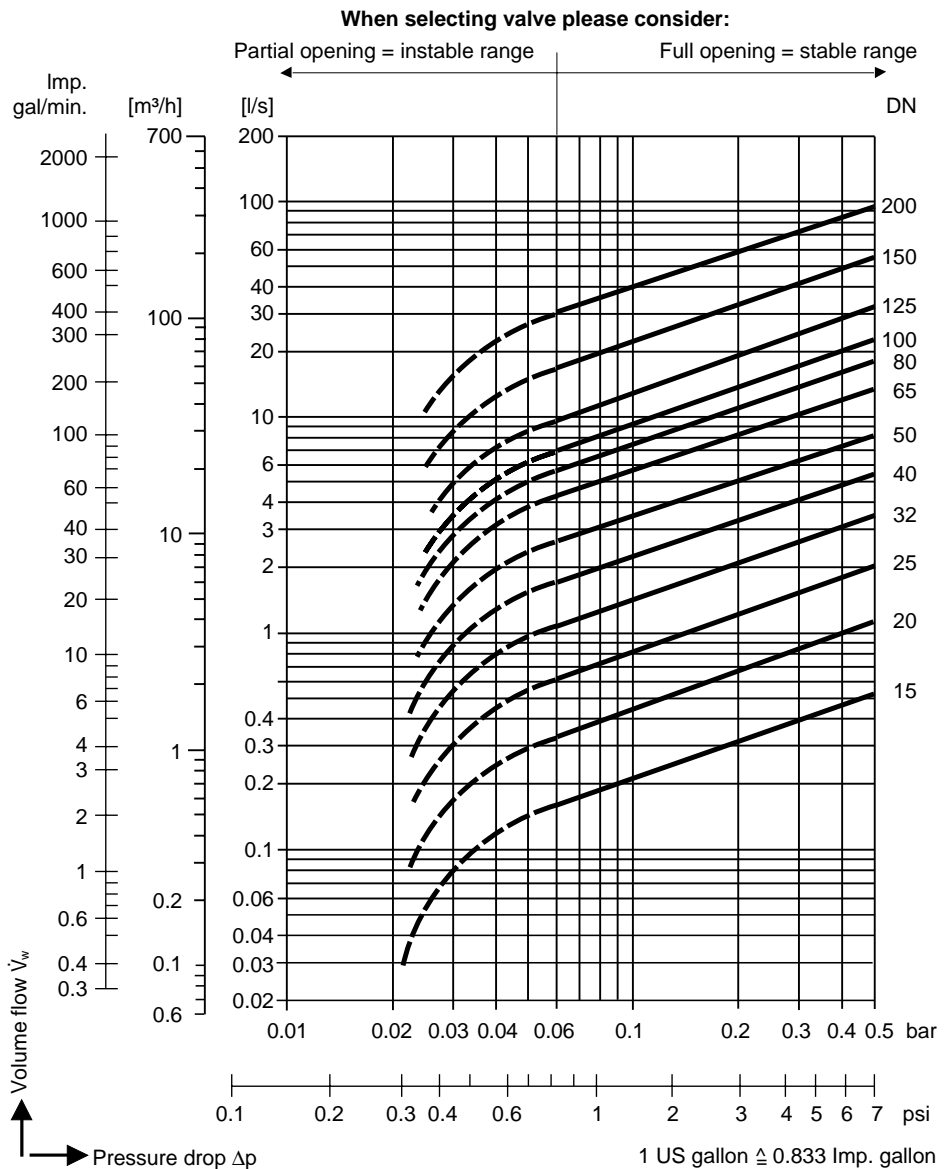
The values indicated in the chart are applicable to spring-assisted valves with horizontal flow. With vertical flow insignificant deviations occur only within the range of partial opening.

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

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

$\rho$  = Density of fluid (operating condition) in kg/m³

$\dot{V}$  = Volume of fluid (operating condition) in l/s or m³/h



Supply in accordance with our general terms of business.

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