

DISCO Non-Return Valves RK, PN 6 to PN 40

Short overall length according to DIN EN 558-1, table 11, series 49

(Δ DIN 3202, part 3, series K4)

GESTRA

RK 86 and RK 86 A – Our Robust All-Rounder

Application and Features

Type	PN	Application for liquids, gases and vapours	Features
RK 86	PN 40 Class 300	for industrial applications	patented fixed centering lugs for easy alignment between flanges and optimum guidance of valve disk, earthing connection as standard, broad sealing surfaces, RK 86A approved by Bureau Veritas
RK 86A		particularly suitable for low temperatures, aggressive fluids, boiler feedwater lines	

Body Material

Type		Nominal sizes DN	EN reference	ASTM equivalent ¹⁾
RK 86	Body	15 – 100 mm	Chromium steel, 1.4317	A 743-CA6-NM
	Valve disk		1.4571	AISI 316 Ti
	Body	125 – 200 mm	GP240GH (1.0619)	A 216 WCB
	Plug		1.4006	A182 F6 A
RK 86A	Body	15 – 100 mm	1.4408	A351 CF 8M
	Valve disk		1.4571	AISI 316 Ti
	Body	125 – 200 mm	1.4408	A351 CF 8M
	Plug		1.4404	A182 F316 L

¹⁾ ASTM material similar to EN material.

Observe different physical and chemical properties!

Deimensions and Weights

DN	[mm]	15	20	25	32	40	50	65	80	100	125	150	200
	[inch]	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
L	[mm]	16	19	22	28	31.5	40	46	50	60	90	106	140
Z min.	[mm]	44	53	64	73	83	96	110	128	151	–	–	–
Z max.	[mm]	67	76	82	93	104	118	136	158	186	–	–	–
PN 10/16	D	[mm]	–	–	–	–	–	–	–	–	194	220	275
PN 25	D	[mm]	–	–	–	–	–	–	–	–	194	226	286
PN 40	D	[mm]	–	–	–	–	–	–	–	–	194	226	293
Class 125/150	D	[mm]	–	–	–	–	–	–	–	–	194	220	275
Class 300	D	[mm]	–	–	–	–	–	–	–	–	216	251	308
Weight	[kg]	0.27	0.38	0.52	0.8	1.12	1.78	2.43	3.37	5.34	11	14	25

Pressure/Temperature Ratings with metal-to-metal seat

Typ	PN/Class	DN	p / T / [bar] / [°C]		
RK 86	PN 40/Class 300	15 – 200	51.1 / -10	43.8 / 200	36.9 / 350 ²⁾
RK 86 A	PN 40/Class 300	15 – 200	49.6 / -200	35.7 / 200	24.9 / 550 ²⁾

²⁾ If the operating temperatures exceed 300 °C intercrystalline corrosion may occur. Do not subject the equipment to operating temperatures higher than 300 °C unless intercrystalline corrosion can be ruled out.

Designs

Type	Seat				Springs			Earthing connection
	metal-to-metal	EPDM (–40 up to 150 °C ³⁾)	FPM (–25 up to 200 °C ³⁾)	PTFE ³⁾⁴⁾	without spring	special spring	Nimonic spring ⁵⁾	
RK 86	X	0	0	0	0	0	0	X
RK 86A	X	0	0	0	0	0	0	X

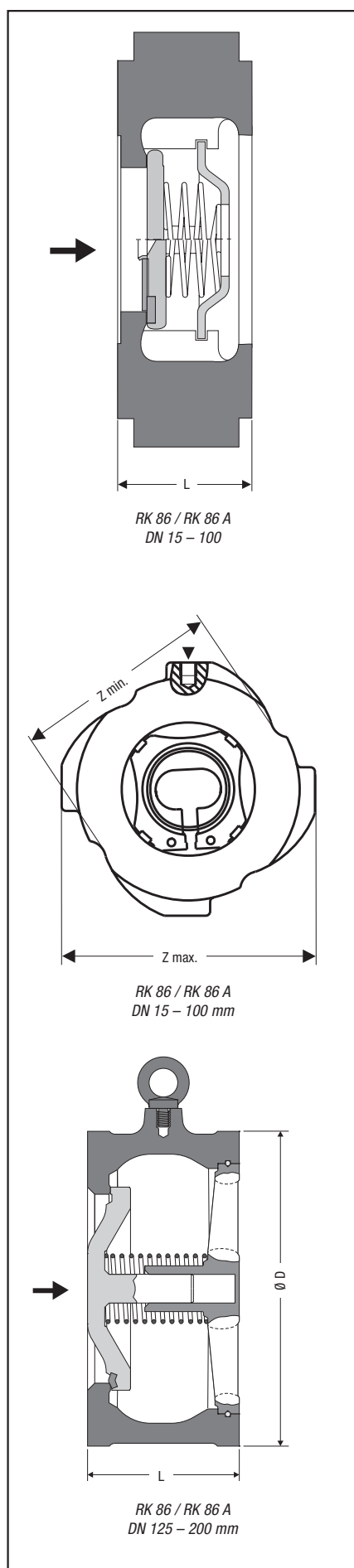
³⁾ Observe pressure/temp. ratings of the equipment

⁴⁾ DN 15-100 –190 °C up to 250 °C; DN 125-200 –60 up to 200 °C

⁵⁾ Required for temperatures above 300 °C

X : standard

0 : optional



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Pressure Drop Charts

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 $\dot{V}_w$.

The values indicated in the chart are applicable for spring-assisted valves with horizontal flow and to valves without spring installed in vertical pipes with upward flow.

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

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

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

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

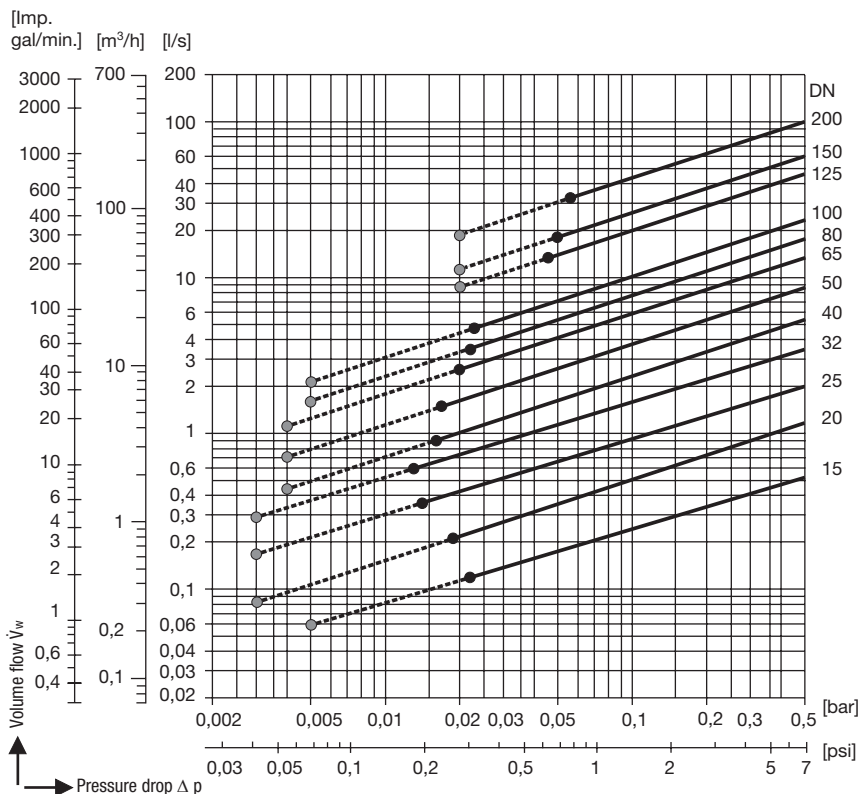
Opening Pressures

Differential pressures at zero volume flow.

RK 86, RK 86 A

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
125	12.5	35	22.5	10
150	14.0	38	24.0	10
200	13.5	37	23.5	10

RK 86, 86A



- Required minimum volume flow $\dot{V}_w$ for equipment without spring installed in vertical pipes with upward flow.
- Required minimum volume flow $\dot{V}_w$ for equipment with standard spring and horizontal flow.