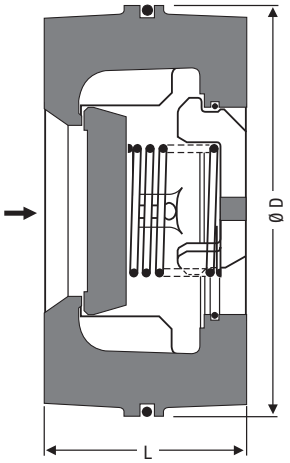
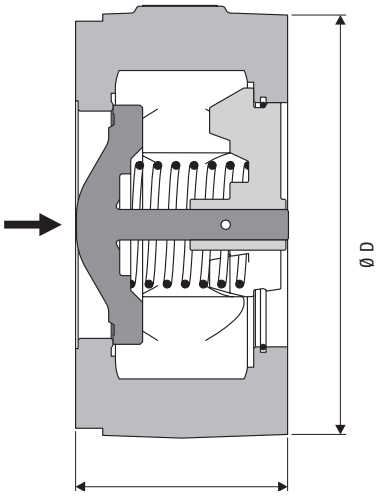


RK 49, DN 15 – 65 mm



RK 49, DN 80 – 200 mm

Application and Features

Type	PN	Application for liquids, gases and vapours	Features
RK 49	PN 63 – 160 Class 400 – 900	suitable for high pressures and temperatures	double centric spring guidance (DN 15-65), centric cone & spring guide unaffected by dirt (DN 80, 100), installation in any position, spring made of Nimonic

Body Material

Type		Nominal sizes DN	EN reference	ASTM equivalent [1])
RK 49	**Body**	15 – 65 mm	1.4581	A351 CF8
	Valve disk		1.4986	–
	Body	80 – 100 mm	1.7357	A217 WC6
	Plug		1.4923	–

[1]) ASTM material similar to EN material.
Observe different physical and chemical properties!

Dimensions

RK 49	DN	[mm]	15	20	25	32	40	50	65	80	100
		[in]	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	L	[mm]	25	31.5	35.5	40	45	56	63	71	80
	D	[mm]	54	63	74	84	95	110	130	147	173
	Weight	[kg]	0.43	0.7	1.0	1.4	2	3	4.7	7.1	12.1

Pressure/Temperature Ratings with metal-to-metal seat

Type	PN / Class	DN	p / T / [bar] / [°C]		
RK 49	PN 63 – 160 Class 400 – 900	15 – 65	160 / -10	130 / 300	93,2 / 550[2])
		80 – 100	160 / -10	160 / 300	47 / 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.

Seat tightness acc. to DIN EN 12266-1, leakrate C

For additional information on chemical resistance see GESTRA Information “Chemical Resistance”

Machining of seating faces acc. to EN 1092-1, form B2,

ASME B 16.5 RF (optional: ring joint facing)

Designs

Type	Seat				Springs			Earthing connection
	metal-to-metal	EPDM	FPM	PTFE	without spring	special spring	Nimonic spring [3])	
RK 49	X	–	–	–	O	–	X	O

[3]) Required for temperatures above 300 °C.

X : standard
O : optional
– : not available

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]

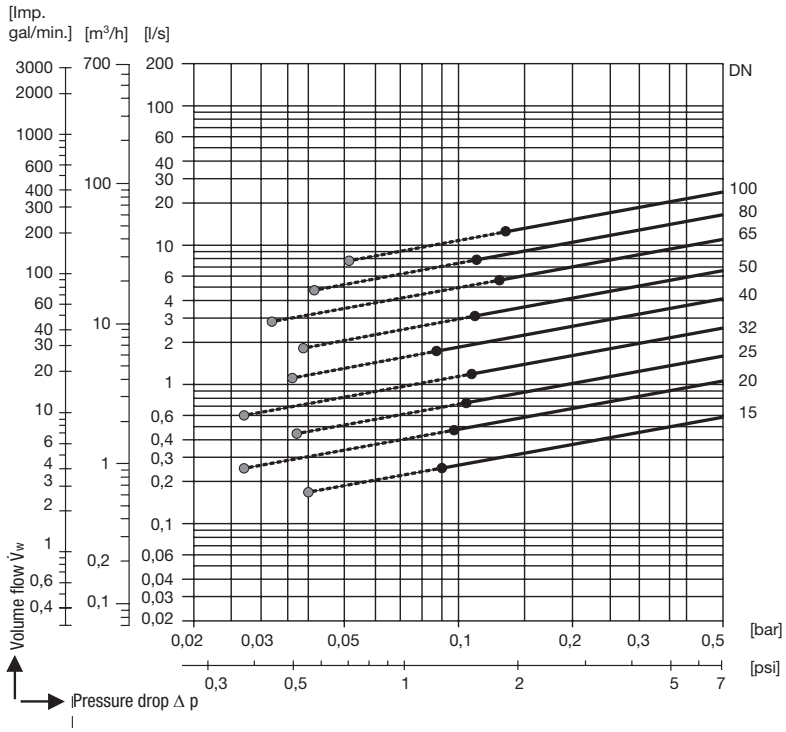
Opening Pressures

Differential pressures at zero volume flow.

RK 49

DN	Opening pressures [mbar]			
	without spring ↑	Direction of flow with spring ↑	→	↓
15	16.5	73	56.5	40
20	17.5	74	57.0	40
25	18.0	76	58.0	40
32	18.0	76	58.0	40
40	19.5	79	59.5	40
50	22.0	84	62.0	40
65	23.0	87	63.0	40
80	17.5	75	57.5	40
100	20.0	80	60.0	40

RK 49



- 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.