

## GESTRA Steam Systems

Product Range A2

Non-Return Valve

**RK 29A**

for Flanges PN 63/100/160/250/320/400

ASME Class 400/600/900/1500/2500

**RK 29A**

### Description

Water-type non-return (check) valve for sandwiching between flanges. Valve with spring for installation in any position. Without spring only for vertical lines with upward flow. Self-centering valve body. Application for liquids, gases and vapours (observe classification according to PED).

### Pressure / Temperature Rating to EN 1092-1, Material Group 15E0

Pressure	Service pressure [bar] at temperatures [°C]									
	-200	20	100	200	250	300	350	400	450	500
PN 63	63	63	61.6	53.8	51.2	49.0	47.3	45.9	45.1	44.2
PN 100	100	100	97.8	85.3	81.3	77.8	75.1	72.9	71.6	70.2
PN 160	160	160	156.4	136.5	130.1	124.4	120.2	116.6	114.5	112.4
PN 250	250	250	244.4	213.3	203.3	194.4	187.8	182.2	178.9	175.6
PN 320	320	320	312.9	273.1	260.3	248.9	240.4	233.2	229.0	224.7
PN 400	400	400	391.1	341.3	325.3	311.1	300.4	291.6	286.2	280.9

### Pressure / Temperature Rating to B 16.5, Material Group 2.4

Pressure	Service pressure [bar] at temperatures [°C]									
	-218	20	100	200	250	300	350	400	450	500
CL 400	66.2	66.2	59.0	51.1	48.0	45.5	43.5	42.1	41.4	37.6
CL 600	99.3	99.3	88.5	76.6	72.0	68.3	65.2	63.2	61.7	56.5
CL 900	148.9	148.9	132.7	114.9	108.1	102.4	97.8	94.8	92.5	84.7
CL 1500	248.2	248.2	221.2	191.5	180.1	170.7	163.0	157.9	154.2	140.9
CL 2500	413.7	413.7	368.7	319.1	300.2	284.6	271.7	263.2	256.9	235.0

Tightness of seat in accordance with DIN 3230, part 3, leakage rate BN 2, BO 3.

Chemical resistance see GESTRA database "Chemical Resistance", [www.gestra.de](http://www.gestra.de).

Sealing surfaces machined in accordance with EN 1092-1, form B2, ASME B 16.5 RF smooth finish (63 – 125 µin).

Other designs available on request.

### Dimensions

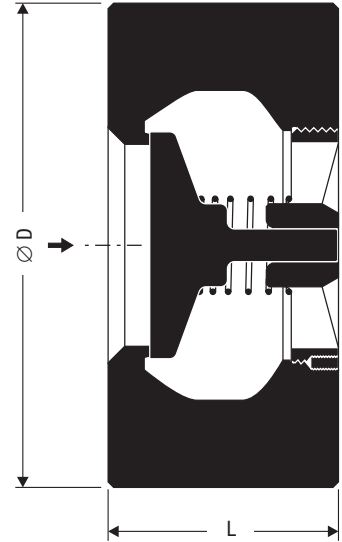
Dimensions of available sizes and pressures

DN	PN 63		PN 100		PN 160		PN 250		PN 320		PN 400		CL 400		CL 600		CL 900		CL 1500		CL 2500	
	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D
15	35	63	35	63	35	63	35	74	35	74	35	80	35	54	35	54	35	63	35	63	35	69.5
25	40	84	40	84	40	84	40	84	40	95	40	106	40	73	40	73	40	79	40	79	40	84
40	56	105	56	105	56	105	56	111	56	121	56	138	56	95	56	95	56	98	56	98	56	117
50	56	115	56	121	56	121	70	126	70	136	70	153	56	111	56	111	56	142.5	70	142.5	70	146
80	71	149	71	156	71	156	83	173	83	193	83	210	71	149	71	149	71	168	83	173	83	196.5
100	80	176	80	183	80	183	105	205	105	232	105	259	80	176	80	193.5	80	205	105	209.5	105	234.5
150	125	250	125	260	125	260							125	247.5	125	266.5	125	288.5				
200	160	312	160	327	160	327							160	304.5	160	320.5	160	358.5				

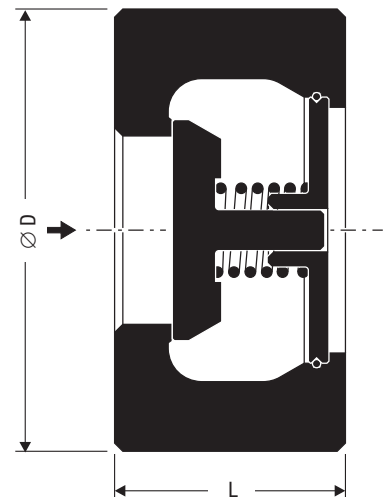
### Material\*)

DN 15 – 200	DIN, EN		ASTM equivalent
Body, seat, cone and guide ribs	X6CrNiMoTi17-12-2	1.4571	AISI 316Ti
Spring	NiCr 20 Co 18 Ti	2.4632	Nimonic

\*) For use in hygienic installations, foodstuff industry, pharmaceutical industry and similar applications please order RK 29A in pickled design.



DN 15 – 40  
PN 63/100/160/250/320/400  
ASME Class 400/600/900/1500/2500  
DN 50 – 200  
PN 250/320/400  
ASME Class 1500/2500



DN 50 – 200  
PN 63/100/160  
ASME Class 400/600/900

**Non-Return Valve**  
**RK 29A for Flanges**  
**PN 63/100/160/250/320/400**  
**ASME Class**  
**400/600/900/1500/2500**

**Enquiry Specification**

GESTRA DISCO Non-return valve RK 29A  
 PN 63/100/160/250/320/400  
 ASME Class 400/600/900/1500/2500.  
 Wafer design with extremley short overall length to EN 558-1, series 49.  
 Suitable for fitting between flanges to DIN and ASME.  
 Indications on pressure, nominal size (DN), body material.  
 Metal-to-metal seat or soft seat (EPDM or FPM).

**Order Specification**

Type RK 29A, PN ....., DN .....  
 Metal-to-metal seat.  
 Fluid, flowrate, pressure and temperature.  
 Type of pipe flanges.

**Note**

The valves should not be used on compressores or where pulsating flow exists.  
 For these applications please consult us.

**PED (Pressure Equipment Directive)**

These products comply with the requirements of the Pressure Equipment Directive 97/23/EC. Classified for application with fluids of group 1 and 2.  
 With EC-marking, except equipment in accordance with section 3.3.  
 For more information see PED Declaration of Conformity.

**ATEX (Atmosphère Explosible)**

The equipment does not have its own potential source of ignition and is therefore excluded from the scope of the Directive 94/9/CE. Applicable in Ex zones 0, 1, 2, 20, 21, 22 (1999/92/EC). The equipment is without Ex marking.  
 For more information see ATEX Declaration of Manufacturer.

Supply in accordance with our general terms of business.

**Opening Pressures**

Differential pressures at zero volume flow.

DN	Opening pressures in [mbar], direction of flow in valve						
	without spring ↑		with spring ↑		with spring →		with spring ↓
	up to PN 160	up to PN 400	up to PN 160	up to PN 400	up to PN 160	up to PN 400	up to PN 400
	up to CL 900	up to CL 2500	up to CL 900	up to CL 2500	up to CL 900	up to CL 2500	up to CL 2500
15	6		22		16		10
25	8		26		18		10
40	10		30		20		10
50	10		30		20		10
80	11	13	32	36	21	23	10
100	12	24	34	58	22	34	10
150	18		46		28		10 <sup>1)</sup>
200	21		52		31		10 <sup>1)</sup>

<sup>1)</sup> only for PN 63 - 400

**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.

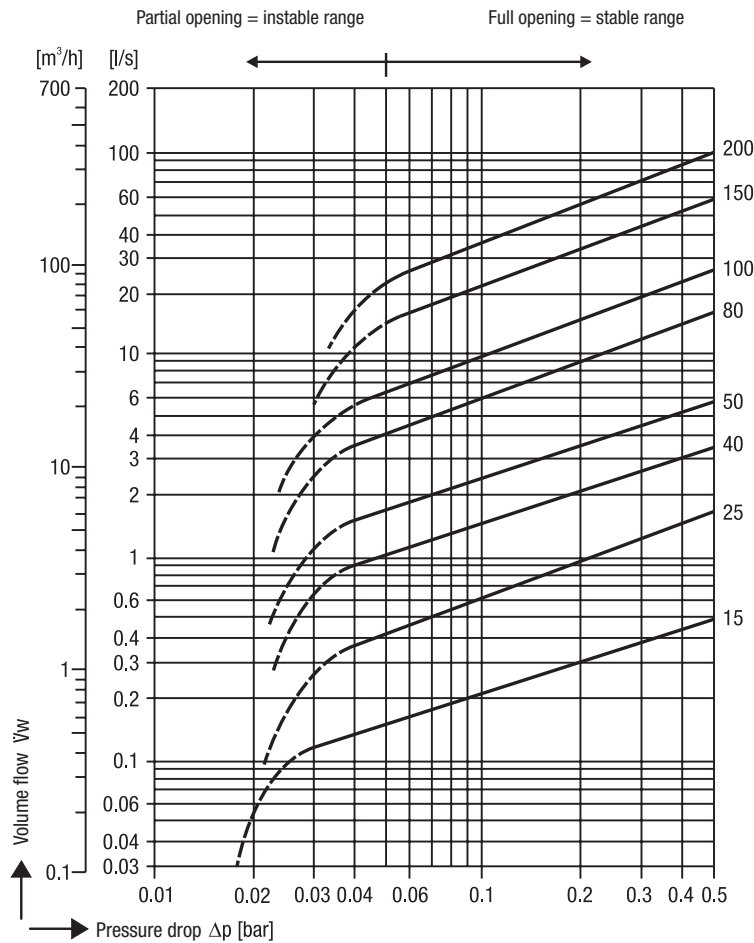
$$\dot{V}_w = \dot{V} \cdot \sqrt{\frac{\rho}{1000}}$$

$\dot{V}_w$  = 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

When selecting valve please consider:



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