



# GESTRA® DISCO Non-Return Valves RK 49 High-Pressure

Non-Return Valves  
PN 63/100/160  
DN 15 – 200 mm  
(1/2 – 8")

**A<sub>2</sub>**

**RK 49 High-Pressure**

Issue Date: 8/90

## Application

For liquids, gases or vapours.  
In pipelines for all sections of industry  
at high pressures and temperatures.

## Range

For service pressures up to 160 bar and  
temperatures up to 550 °C.  
Ratings according to DIN 2401.

Max. service pressure	bar g psig	160 2320	153 2220	146 2120	139 2015	118 1710	79 1150	35 510
Max. temperature	°C	300	350	400	450	500	520	550

## Design

Wafer design for sandwiching between  
pipe flanges, with extremely short overall  
length according to DIN 3202, sheet 3,  
series K 5 (wafers).

The valve in DN 15–100 mm (1/2–4") is  
provided with a universal centring ring to  
facilitate its installation between pipe  
flanges with facings to DIN or ANSI.

## Connections

Wafer design generally suited for  
installation between flanges with facings  
to DIN or ANSI: PN 63/100/160 or  
ANSI 400 RF / 600 RF / 900 RF.

Further possibilities of installation on  
request, e.g. between flanges with  
facings to DIN 2512, DIN 2513, ANSI  
400 RJ, ANSI 600 RJ, ANSI 900 RJ.

## Installation

In any plane, taking care of the direction  
of flow.

## Materials

### DN 15–65 mm (1/2–2 1/2")

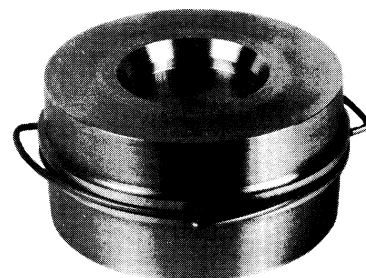
#### Austenitic stainless steel valve

Body, seat, guide ribs, insert:  
G-X 7 CrNiMoNb 18 10 (DIN Nr. 1.4581).  
Valve disc: X 8 CrNiMoBNb 16 16 (1.4986).  
Spring: NiCr 20 Co 18 Ti (2.4632).  
Retaining ring: X 10 CrNiMoTi 18 10  
(1.4571).  
Centring ring: X 12 CrNi 17 7 (1.4310).

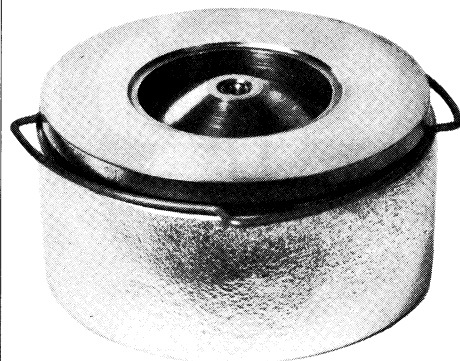
### DN 80–200 mm (3–8")

#### Cast alloy steel valve

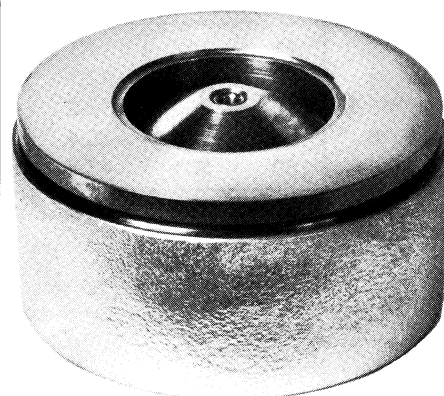
Body: GS-17 CrMo 5 5 (1.7357).  
Seat, armoured: S-NiCr 20 Nb  
(2.4806).  
Valve cone: X 20 CrMoV 12 1 (1.4922).  
Cone spindle: X 8 CrNiMoBNb 16 16  
(1.4986).  
Insert: G-X 7 CrNiMoNb 18 10 (1.4581)  
Spring: NiCr 20 Co 18 Ti (2.4632).  
Retaining ring: X 10 CrNiMoTi 18 10  
(1.4571).



DN 15 – 65 mm  
(1/2 – 2 1/2")



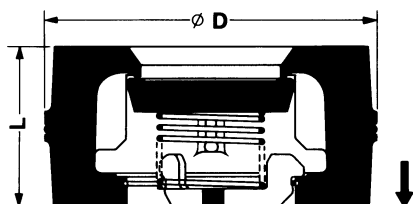
DN 80 – 100 mm  
(3 – 4")



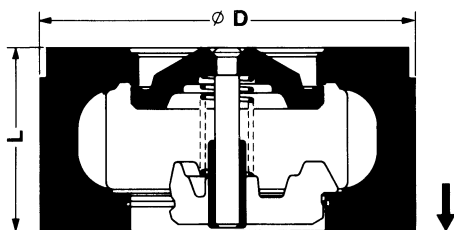
DN 125 – 200 mm  
(5 – 8")



## Dimensions



DN 15 – 65 mm  
(½ – 2½")



DN 80 – 200 mm  
(3 – 8")

DN	Dimensions		Approx. weight kg
	mm	in	
15	25	1	0.43
20	31.5	1¼	0.7
25	35.5	1½	1
32	40	1½	1.4
40	45	1¾	2
50	56	2	3
65	63	2½	4.7
80	71	2¾	7.1
100	80	3	12.1
125	110	4¼	18.2
150	125	5	29.4
200	160	6¾	47.5

\* Overall lengths according to DIN 3202, sheet 3, series K 5

## Pressure drop chart

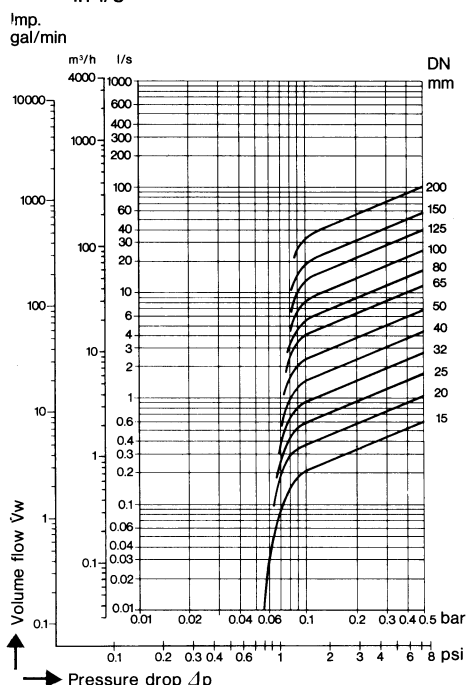
The curves given in the chart are valid for water at 20 °C. To read the pressure drop for other fluids the equivalent water volume flowrate must be calculated and used in the graph.

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

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

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

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



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.

## Opening pressures

Differential pressures at zero volume flow

Sizes		Opening pressures in mbar			
		Direction of flow			
mm	in	without spring	with spring		
		↑	↑	→	↓
15	½	16.5	73	56.5	40
20	¾	17.0	74	57.0	40
25	1	18.0	76	58.0	40
32	1¼	18.0	76	58.0	40
40	1½	19.5	79	59.5	40
50	2	22.0	84	62.0	40
65	2½	23.0	87	63.0	40
80	3	17.5	75	57.5	40
100	4	20.0	80	60.0	40
125	5	23.0	86	63.0	40
150	6	24.0	88	64.0	40
200	8	29.0	98	69.0	40

1 mbar  $\triangleq$  0.0145 psi  $\triangleq$  10 mm w. g.  
 $\triangleq$  0.4 in w. g.

(Special springs for specific opening pressures on request at extra cost)

## Enquiry specification

DISCO non-return valves, between-flange design with extremely short overall length, for installation between pipe flanges to DIN or ANSI. Indications on pressure, nominal size, connection, material.

## Order specifications

Type, PN (nominal pressure), DN (nominal size), connection. Fluid, flowrate, pressure and temperature.

## Note

The valves should not be used on compressors or where pulsating flow exists.

For these applications please consult us.

Supply in accordance with our general terms of business.

Technical modifications reserved.