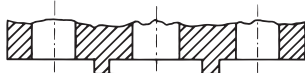


Machining of facings in accordance with requirements for counter-flanges to



DIN 2512 – tongue flanges



DIN 2513 – male flanges

**Non-Return Valve RK 16A**  
**ASME 150 / 300, PN 10 / 16 / 25 / 40**  
**DN 15 – 100 mm (½" – 4")**

**Application** for aggressive liquids, gases and vapours. Low temperatures.

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

|                                   |         |                  |      |      |      |      |     |
|-----------------------------------|---------|------------------|------|------|------|------|-----|
| Nominal size                      | DN      | 15 – 100 (½–4")  |      |      |      |      |     |
| Nominal pressure                  | PN      | 40 <sup>2)</sup> |      |      |      |      |     |
| Max. service pressure             | [bar g] | 46.6             | 42.3 | 35.8 | 31.6 | 29.3 | 24  |
|                                   | [psi g] | 676              | 612  | 518  | 459  | 425  | 348 |
| Related temperature               | [°C]    | 20               | 100  | 200  | 300  | 400  | 550 |
| Minimum temperature <sup>3)</sup> |         | –200 °C (–328°F) |      |      |      |      |     |

<sup>1)</sup> For temperatures above 300 °C (572°F) use a Nimonic spring.

Linear interpolation between pressure and temperature ratings permitted.

<sup>2)</sup> In terms of resistance also rated for ASME Class 300.

<sup>3)</sup> Minimum temperature for nominal pressure rating.

**Soft seats**

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

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

Also note valve pressure/temperature rating in the above table.

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

**Chemical resistance** see GESTRA Information A 2.1.

**Connections** of wafer-type valves

| DIN   | Optionally for fitting between flanges to         |  |
|---|---|--|
|   | BS  | ASME   |
| DIN 2501 PN 10–40 <sup>4)</sup><br>DIN 2512, 2513<br>2514 | BS 10 tables D, E<br>or table F<br>or tables H, J | ASME B 16.1 class 125 FF<br>ASME B 16.5 class 150 RF<br>ASME B 16.5 class 300 RF |

<sup>4)</sup> For valves of DN 100 mm (4") state PN 10/16 or PN 25/40.

**Dimensions**

| DN   |      | L <sup>5)</sup><br>[mm] | Dimensions in [mm] Ø D |        |                       |              | Weight<br>[kg] |
|------|------|-------------------------|------------------------|--------|-----------------------|--------------|----------------|
| [mm] | [in] |                         | ASME                   |        | DIN                   |              |                |
|      |      |                         | 150 RF                 | 300 RF | PN<br>10–40           | 2512<br>2513 |                |
| 15   | ½    | 25                      | 46                     | 52     | 52                    | 0.25         |                |
| 20   | ¾    | 31.5                    | 56                     | 63     | 63                    | 0.4          |                |
| 25   | 1    | 35.5                    | 66                     | 72     | 72                    | 0.57         |                |
| 32   | 1¼   | 40                      | 75                     | 81     | 81                    | 0.83         |                |
| 40   | 1½   | 45                      | 85                     | 93     | 93                    | 1.2          |                |
| 50   | 2    | 56                      | 104                    | 108    | 108                   | 2.15         |                |
| 65   | 2½   | 63                      | 123                    | 128    | 128                   | 3.2          |                |
| 80   | 3    | 71                      | 135                    | 147    | 143                   | 4.5          |                |
| 100  | 4    | 80                      | 173                    | 179    | 163/169 <sup>6)</sup> | 6.9          |                |

<sup>5)</sup> Overall length according to DIN EN 558-2, table 11, series 52 (≅ DIN 3202, part 3, series K5)

<sup>6)</sup> For counter-flanges PN 25/40 with raised face Ø D = 169 mm.

**Materials\*)**

|   | DIN reference       |        | ASTM equivalent |
|---|---------------------|--------|-----------------|
| Body, seat, guide ribs,<br>valve disc,<br>spring retainer | X 6 CrNiMoTi 1712 2 | 1.4571 | A182 F 316      |
| Spring  | X 6 CrNiMoTi 1712 2 | 1.4571 | A313 Type 316   |

\*) For the use in hygienic installations, foodstuff industry, pharmaceutical industry and similar applications please order RK 16A in pickled design.

**Non-Return Valve RK 16A**  
**ASME 150 / 300,**  
**PN 10 / 16 / 25/40,**  
**DN 15 – 100 mm (½" – 4")**

**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 |

1 mbar  $\cong$  0.0145 psi  $\cong$  100 mm w.g.  $\cong$  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, 80 mm (2½, 3"),
- between 5 and 500 mbar for DN 100 mm (4").

**Enquiry Specification**

GESTRA DISCO non-return valves RK 16A. Wafer design with extremely short overall length to DIN EN 558-2, table 11, series 52 ( $\Delta$ DIN 3202, part 3, series K5). For installation between pipe flanges to ASME, DIN or BS. Indications on pressure, nominal size (DN), connection. Metal-to-metal seat of soft seat (EPDM or FPM).

**Order Specifications**

Type RK 16 A, DN...  
 Metal-to-metal or soft seat, EPDM or FPM.  
 For flanges to ASME... or DIN... or BS...  
 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.



These products comply with the requirements of the EC Pressure Equipment Directive (PED) 97/23. DN 32-100 with CE marking. DN 15-25 are excluded from the scope of this Directive and **not entitled** to bear the CE marking.

Supply in accordance with our general terms of business.

**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 flow-rate must be calculated and used in the graph.

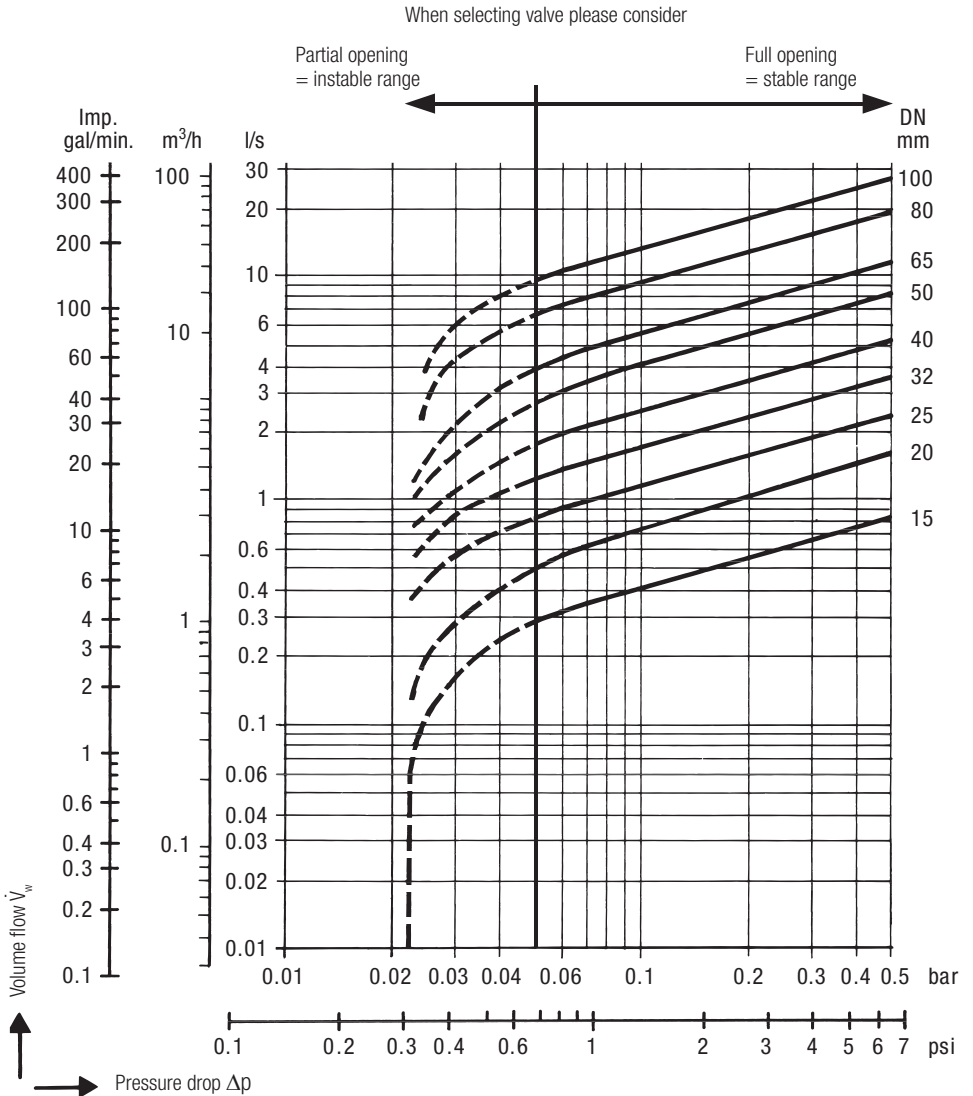
The values indicated in the chart are applicable to spring-assisted valves with horizontal flow. With vertical flow insignificant deviations occur only within the range of partial opening.

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

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

$\rho$  = Density of fluid (operating condition) in [kg/m³] etc.

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



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GESTRA