

Maintenance-free wafer-type non-return valves



PN 6, DN 15-200
seat type: metal body / plastic plate
PN 6/10/16, DN 15-200
seat type: metal-to-metal

Application

- Industrial plants and heating systems
- Liquids, gases and steams
- Medium temperature warm-water heating systems DIN 4751
- High temperature hot-water heating systems DIN 4752
- Heat transfer installations DIN 4754 (only PN 6/10/16)
- Contact KSB for limitations imposed by the applicable technical codes.
- Not suitable for media liable to attack the materials used

Operating data

- Temperature range: design PN 6, -30 *) up to 100 °C
design PN 6/10/16, -30 *) up to 250 °C
*) DN 125-200 (cast iron) -10 °C
- Pressure range: up to $\Delta p = 6$ or 16 bar
- For further details, see table of working pressures

Materials

- DN 15-100
Body made of brass CuZn39Pb3
- DN 125-200
Body made of grey cast iron EN-GJL-250
(previously: GG-25)

Design

- Non-return valve with wafer-type body
- Sealed by spring-loaded plate or cone, guided by guiding pins
- Free from asbestos, PCB and CFC
- Short face-to-face dimension EN 558-1/49
(previously DIN 3202/3 K4)
- Exterior finish:
 - Body made of brass, DN 15-100 not painted
 - Body made of grey cast iron, DN 125-200 similar to blue RAL 5002

Remarks

- For the equipment of pressure vessels to TRD 108/110 we recommend flanged non-return valves BOA[®]-R according to type series booklet 7117.1

On all enquiries/orders please specify

Wafer-type non-return valves

1. BOA[®]-RVK according to type series booklet 7119.1
2. PN 6 or PN 6/10/16
3. DN 15-200

The valves meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) of annex I for fluids of the group 2.



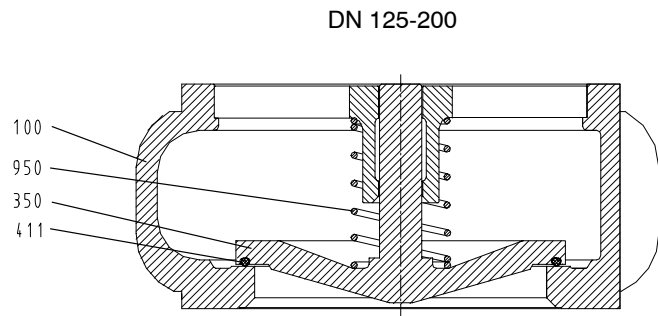
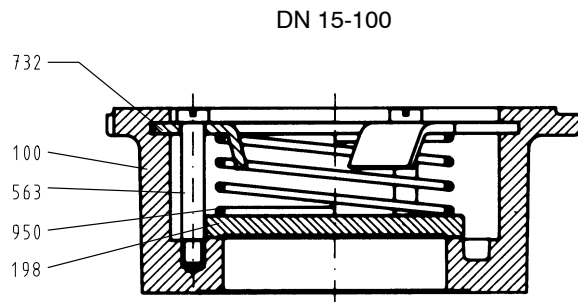
Working pressures

| Nominal pressure PN | Nominal bore DN | Body pressure test with water bar ¹⁾ | Seat tightness test with water bar ²⁾ | Working pressures in bar at temperatures in °C ³⁾ | | | | |
|------------------------|--------------------|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|----|-----|-----|-----|
| | | | | 50 | 80 | 100 | 120 | 250 |
| 6 | 15-200 | 9 | 6 | 6 | 4 | 2 | - | - |
| 6/10/16 | 15-200 | 24 | 16 | 16 | 16 | 16 | 16 | 13 |

¹⁾ DIN 3230-BQ (ISO 5208)

²⁾ DIN 3230 part 3, BN 2 (leak rate 2)

³⁾ For intermediate temperatures use linear interpolation.



Materials

| Part-no. | Name of parts | PN | DN | Material |
|----------|---------------|---------|---------|----------------------------------------|
| 100 | Body | | 15-100 | CuZn39Pb3 2.0401 |
| | | | 125-200 | EN-GJL-250 (previously: GG-25) JL 1040 |
| 198 | Plate | 6 | 15-100 | Plastic PPO-GFK |
| | | 6/10/16 | 15-100 | Stainless steel 1.4301 |
| 350 | Cone | 6 | 125-200 | EN-GJL-250 (previously: GG-25) JL 1040 |
| | | 6/10/16 | 125-200 | EN-GJL-250 (previously: GG-25) JL 1040 |
| 411 | Gasket | 6 | 125-200 | EPDM |
| 563 | Guide pin | | 15-200 | A2 |
| 732 | Holder | | 15-100 | Stainless steel 1.4301 |
| 950 | Spring | | 15-200 | Stainless steel 1.4571 |

Opening pressures (p_o)

depending on direction of flow

| DN | p_o in mbar | | | |
|-----|---------------|------|------|------------------|
| | ↔ | ↓ | ↑ | ↑ without spring |
| 15 | 20 | 16 | 24 | 4 |
| 20 | 20 | 16 | 24 | 4 |
| 25 | 20 | 16 | 24 | 4 |
| 32 | 20 | 16 | 24 | 4 |
| 40 | 20 | 15.5 | 24.5 | 4,5 |
| 50 | 20 | 15 | 25 | 5 |
| 65 | 20 | 14.5 | 25.5 | 5.5 |
| 80 | 20 | 13.5 | 26.5 | 6.5 |
| 100 | 20 | 13.5 | 26.5 | 6.5 |
| 125 | 20 | | 34 | 14 |
| 150 | 20 | | 33 | 13 |
| 200 | 20 | | 32 | 12 |

Installation instructions

Observe direction of flow and direction arrow.

For opening, a minimum pressure is required. If this pressure is not attained, the installed closing spring can be removed.

Without closing spring install only in vertical pipe with flow upward.

Connection dimensions - Standards:

Face-to-face dimension: EN558-1/49

(previously DIN 3202/K4)

Flanges: DIN 2501 PN 6-16

ANSI B 16.1 25/125

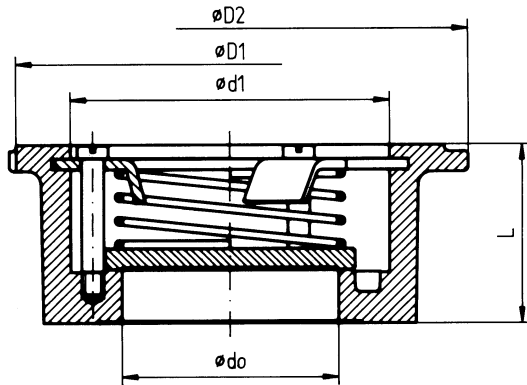
BS 4504 PN 6-16

Raised faces:

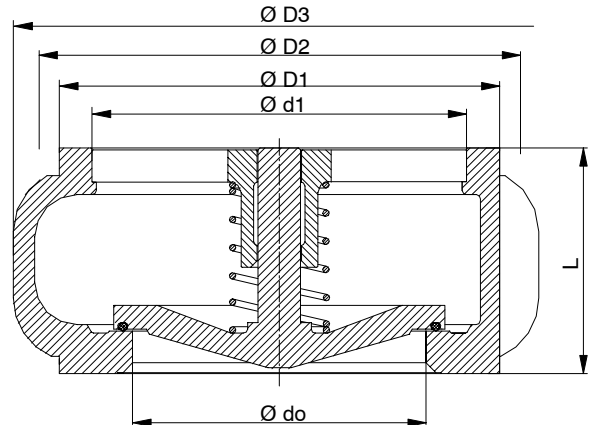
DIN 2526 type C

Dimensions

DN 15-100



DN 125-200



Dimensions (mm)

Weight

| PN | DN | L | $\varnothing D_1$ | $\varnothing D_2$ | $\varnothing D_3$ | $\varnothing d_o$ | $\varnothing d_1$ | approx. kg |
|---------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|
| 6/10/16 | 15 | 17 | 43 | 51 | - | 15 | 28 | 0.15 |
| | 20 | 20 | 53 | 61 | - | 20 | 33 | 0.25 |
| | 25 | 23 | 64 | 71 | - | 25 | 41.5 | 0.3 |
| | 32 | 28 | 76 | 82 | - | 32 | 51.5 | 0.5 |
| | 40 | 31.5 | 86 | 92 | - | 40 | 58.5 | 0.65 |
| | 50 | 40 | 96 | 108 | - | 48.5 | 71.5 | 0.9 |
| | 65 | 46 | 116 | 127 | - | 63 | 90 | 1.2 |
| | 80 | 51 | 132 | 142 | - | 77 | 110 | 2.0 |
| | 100 | 61 | 152 | 162 | - | 96 | 126 | 2.8 |
| | 125 | 90 | 184 | 192 | 210 | 118 | 161 | 10.0 |
| 150 | 106 | 209 | 218 | 250 | 138 | 186 | 13.0 | |
| 200 | 140 | 263 | 273 | 273 | 194 | 240 | 22.0 | |

 $\varnothing D_1$ = centring dia. for PN 6

 $\varnothing D_2$ = centring dia. for PN 16

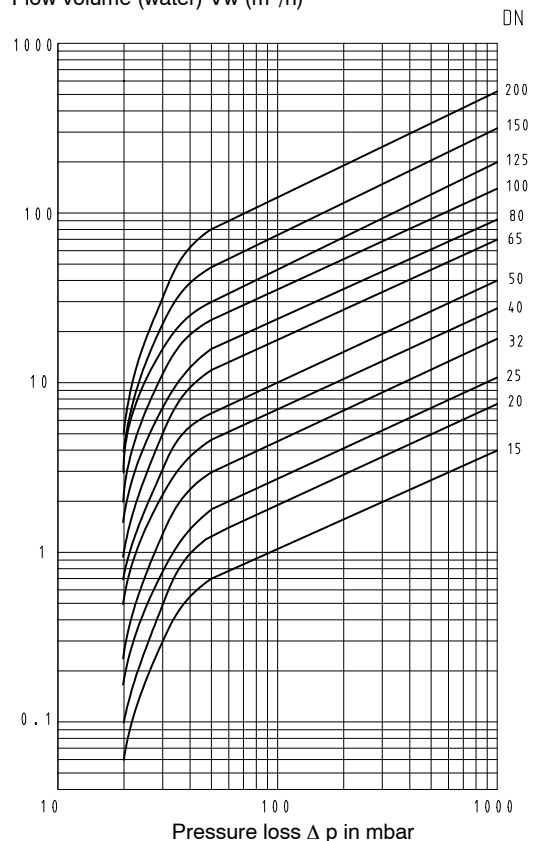
Flow diagram

The readings shown in the chart apply to water at 20 °C. They were measured on valves installed in horizontal pipes. Valves installed in vertical pipes show minor deviations when partially open. To calculate pressure with other fluids, the equivalent water flow must first be determined acc. to the following formula:

$$V_w = \sqrt{\frac{\rho}{1000}} \cdot V$$

 V_w = equivalent water volume flow m³/h

 ρ = density of the fluid
(operating conditions) kg/m³
 V = volumetric flow rate of the fluid
(operating condition) m³/h

 Flow volume (water) V_w (m³/h)


Product Features - to our Customers' Benefit

Installation in any position

(with installed spring)

Your benefit

- Easy plant engineering

Centring aid part of the body

Your benefit

- Easy, quick assembly
- Cannot be lost

Three guide pins for precise guidance of sealing plate

Your benefit

- Reliable operation
- No blocking of plate

Standard design can be installed between flanges to
DIN 2501 PN 6-16
ANSI B 16.1 25/125
BS 4504 PN 16

Your benefit

- easy stockkeeping

Compact design short face-to-face length

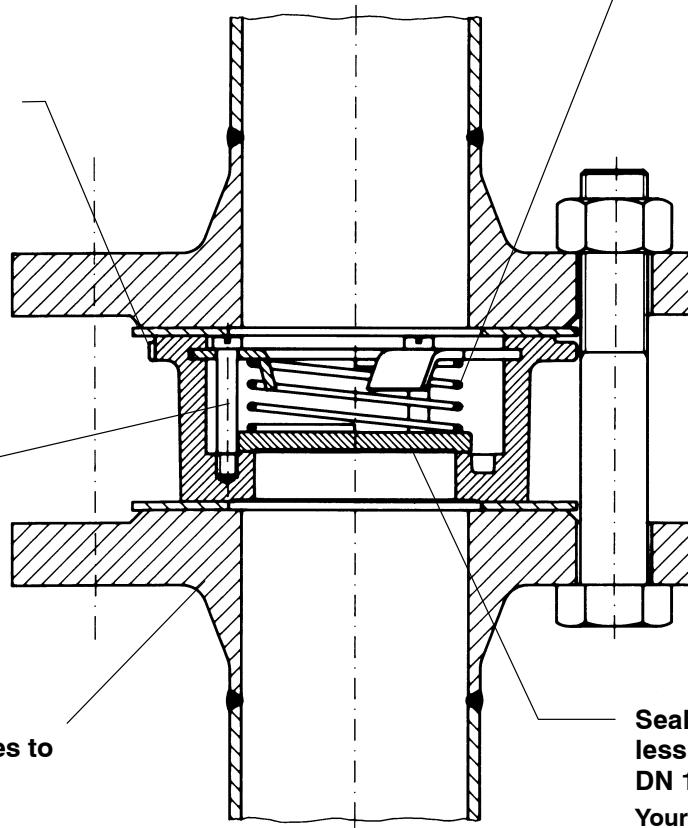
Your benefit

- Low weight
- Space-saving storage
- Easy to install
- **BOA®-RVK** helps to reduce construction volume and weight of the system
- Favourably-priced valve

Stainless steel spring, can easily be removed if necessary

Your benefit

- Corrosion-resistant, reliable operation
- easily adaptable to operating conditions



Sealing plate made of stainless steel on variant PN 6-16, DN 15-100

Your benefit

- corrosion-proof, reliable sealing

Sealing plate/cone made of plastic on design PN 6, DN 15-200

Your benefit

- reliable sealing, reduced closing noise

Low pressure drop

Your benefit

- reduced operating costs