# DISCO
# CHECK VALVES

**SERIES**
930 | 931 | 932 | 932-HD | 936

AWS
APPARATEBAU

**Publisher**
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**Design:**
RSB Design GmbH





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## DISCO CHECK VALVES

# GENERAL DESCRIPTION
## DISCO CHECK VALVES


**Description and intended purpose**

AWS disco check valves are suitable for universal use in piping systems for the transport of liquid and gaseous substances as well as in plants or environments in which particularly high demands are placed on the material. They can be installed directly between flanges (PN 6 - PN 160 or Class 150 - Class 900).

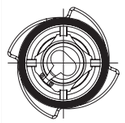
**AWS disco check valves are maintenance-free.**

**Function**

AWS disco check valves require a low opening pressure. The resulting opening force pushes the disc against a spring and, if necessary, also the weight force of the disc (depending on the installation position), so that the medium can flow. If the inlet pressure drops or if the backpressure exceeds the inlet pressure, the valve closes and seals against the medium by means of the soft seat or the metal seat.

# OVERVIEW MATRIX
## DISCO CHECK VALVES

**DESCRIPTION**

| | | 930 | 931 | | 932 | | 932-HD | 936 |
|---|---|---|---|---|---|---|---|---|
| | |  |  |  |  |  |  |  |
| **NOMINAL SIZES** | | DN 15 – DN 100 | DN 15 – DN 100 | DN 125 – DN 200 | DN 15 – DN 100 | DN 125 – DN 300 | DN 15 – DN 100 | DN 15 – DN 100 |
| **FLANGE CONNECTION** *1 | | PN 6*2 / PN 10 / PN 16 / PN 25 / PN 40<br>Class 150*2 | PN 6 / PN 10 / PN 16<br>Class 150 | | PN 6 / PN 10 / PN 16 / PN 25 / PN 40<br>Class 150 / Class 300 | PN 10 / PN 16 / PN 25 / PN 40<br>Class 150 / Class 300*2 | PN 63 / PN 100 / PN 160<br>Class 600 / Class 900 | PN 10 |
| **PRESSURE** | | max. 40 bar | max. 16 bar | | max. 50 bar | | max. 160 bar | max. 10 bar |
| **TEMPERATURE RANGES** | | -20 °C to +300 °C | -10 °C to +200 °C | -20 °C to +300 °C | -196 °C to +400 °C*3 | | -200 °C to +450 °C*3 | -20 °C to +120 °C |
| **MATERIALS AVAILABLE** *4 | Stainless steel | x | – | – | x | x | x | – |
| | Brass | – | x | – | – | – | – | – |
| | Alu bronze | – | – | – | x | – | – | – |
| | Carbon steel | – | – | – | x | x | – | – |
| | Superduplex | – | – | – | x | x | x | – |
| | Ductile iron | – | – | x | – | – | – | – |
| | PVC | – | – | – | – | – | – | x |
| | PP | – | – | – | – | – | – | x |
| | PVDF | – | – | – | – | – | – | x |
| **SEALS AVAILABLE** | | Metal, NBR, EPDM, FKM, PTFE | Metal, NBR, EPDM, FKM | | Metal, NBR, EPDM, FKM, PTFE | | Metal, NBR, EPDM, FKM, PTFE | NBR, EPDM, FKM, PTFE |
| **DIFFERENT OPENING PRESSURES AS SPECIAL OPTION** | | – | – | | x | | x | x |

*1 other flange connections on request *2 not for at all nominal sizes *3 higher or lower temperatures on request *4 other materials on request



# WHY CHOOSE AWS
## DISCO CHECK VALVES?

**IN BRIEF:**

Many years of experience in the production of check valves

In-house assembly department with maximum flexibility and expertise

Advice and technical design via in-house design and engineering team

High availability ensuring short delivery times of standard articles

**QUALITY AND TESTING AT AWS:**

Own test benches for pressure and leak tests in accordance with EN 12266-1, API 598 and other common standards

Experience and routine in the preparation of works and acceptance test certificates in accordance with DIN EN 10204 (2.2, 3.1 or 3.2 certificate)

Regular auditing of processes and quality mechanisms by TÜV Süd, discerning customers and other external bodies

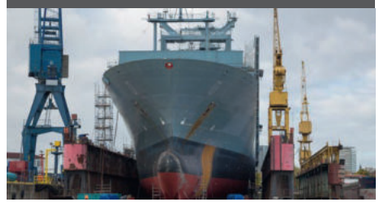
In-house spectral analyses for metallic materials

Additional quality assurance measures (external and internal), for example corrosion testing, dye penetrant testing, X-ray testing, preparation of QCPs, etc.

# ... AND BECAUSE WE KNOW
## WHAT MATTERS IN YOUR INDUSTRY!

**HVAC**

**Shipbuilding**



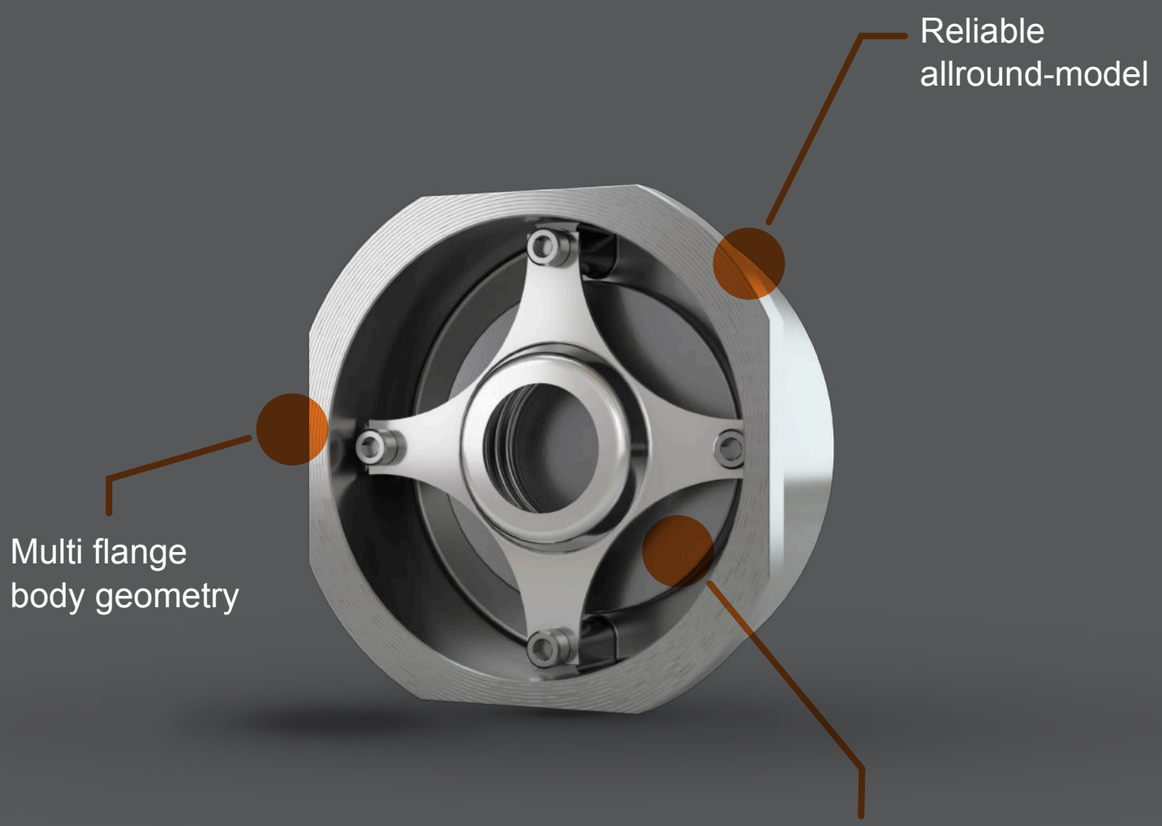
**Water and waste water**

**Refineries**

**Industrial pipeline construction**

**Chemical and pharma industry**

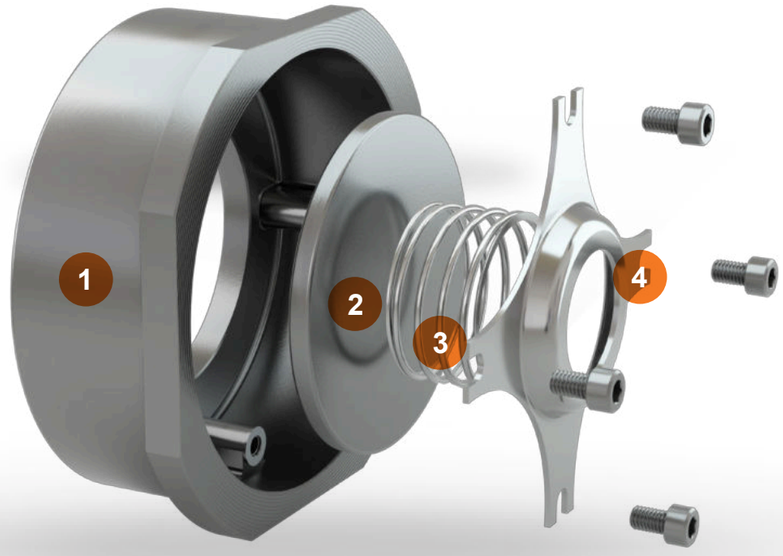
# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 930




**Nominal sizes**
DN 15 - DN 100
**Flange connection**
PN 6 - PN 40 | Class 150
**FTF (face-to-face) dimensions**
DIN EN 558, Series 49
**Temperature range**
-20 °C to +300 °C



# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 930




1. Body
2. Disc
3. Spring
4. Spring cross

| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 1 | 1.4408 | 1.4408 *2 | 1.4436 | 1.4436 | 0 to max. 40 bar |

*1 max. allowable pressure is dependent on the temperature
*2 soft sealing valve with disc made of 1.4571

| Nominal size | Suitable flanges | | | | | |
|---|---|---|---|---|---|---|
| | PN 6 | PN 10 | PN 16 | PN 25 | PN 40 | ANSI 150 |
| DN 15 | - | x | x | x | x | - |
| DN 20 | x | x | x | x | x | - |
| DN 25 | x | x | x | x | x | - |
| DN 32 | - | x | x | x | x | - |
| DN 40 | x | x | x | x | x | - |
| DN 50 | x | x | x | x | x | x |
| DN 65 | x | x | x | x | x | - |
| DN 80 | x | x | x | x | x | x |
| DN 100 | x | x | x | x | x | x |

| Seal | Temperature | Leakage rate*3 |
|---|---|---|
| Metal seated | -20 °C to +300 °C | ≥G |
| NBR | -20 °C to +100 °C | A |
| EPDM | -20 °C to +150 °C | A |
| FKM | -15 °C to +200 °C | A |
| PTFE | -20 °C to +250 °C | A |

*3 acc. to EN 12266-1

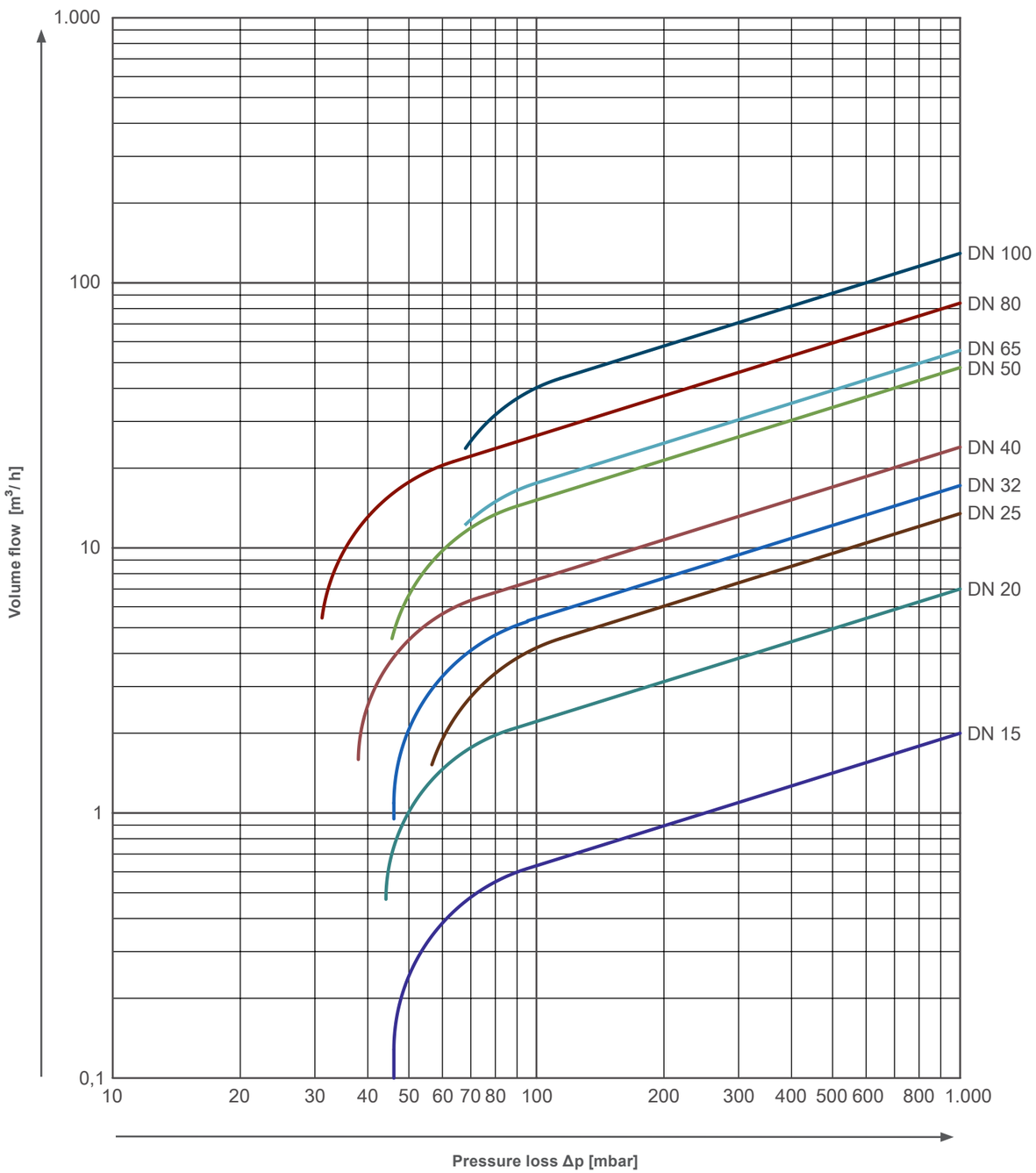
| Nominal size | Ø D | Ø d | C | L | Kv value | Opening pressure [mbar] | | | w/o spring | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | [m³/h] | ⟷ | ↑ | ↓ | ↑ | [kg] |
| DN 15 | 53 | 15 | 43 | 16 | 2 | ~ 47 | ~ 51 | ~ 43 | ~ 4 | 0.10 |
| DN 20 | 63 | 20 | 53 | 19 | 7 | ~ 44 | ~ 48 | ~ 40 | ~ 4 | 0.16 |
| DN 25 | 73 | 25 | 63 | 22 | 13 | ~ 57 | ~ 61 | ~ 53 | ~ 4 | 0.28 |
| DN 32 | 84 | 30 | 75 | 28 | 17 | ~ 47 | ~ 52 | ~ 42 | ~ 5 | 0.52 |
| DN 40 | 94 | 38 | 86 | 31.5 | 23 | ~ 38 | ~ 43 | ~ 33 | ~ 5 | 0.70 |
| DN 50 | 107 | 47 | 95 | 40 | 48 | ~ 45 | ~ 52 | ~ 38 | ~7 | 1.10 |
| DN 65 | 126 | 62 | 115 | 46 | 55 | ~ 50 | ~ 55 | ~ 45 | ~ 5 | 1.58 |
| DN 80 | 145 | 77 | 131 | 50 | 83 | ~ 31 | ~ 38 | ~ 24 | ~7 | 1.78 |
| DN 100 | 164 | 96 | 150 | 60 | 127 | ~ 55 | ~ 65 | ~ 45 | ~ 10 | 3.30 |



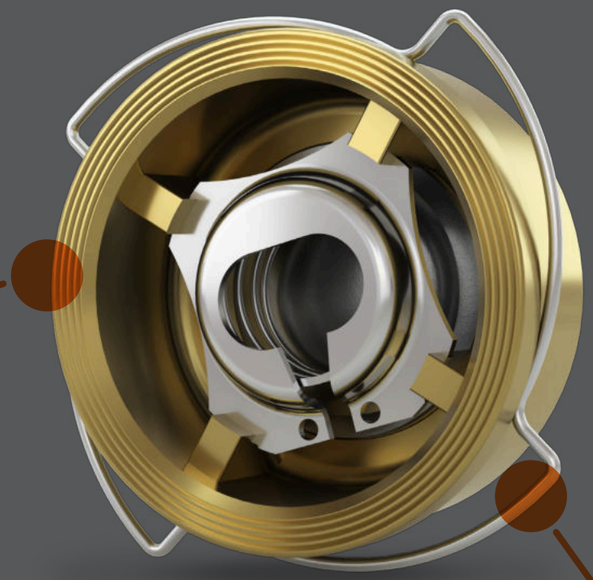

# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 930


**Pressure-Loss Diagram Type 930**

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.



# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 931



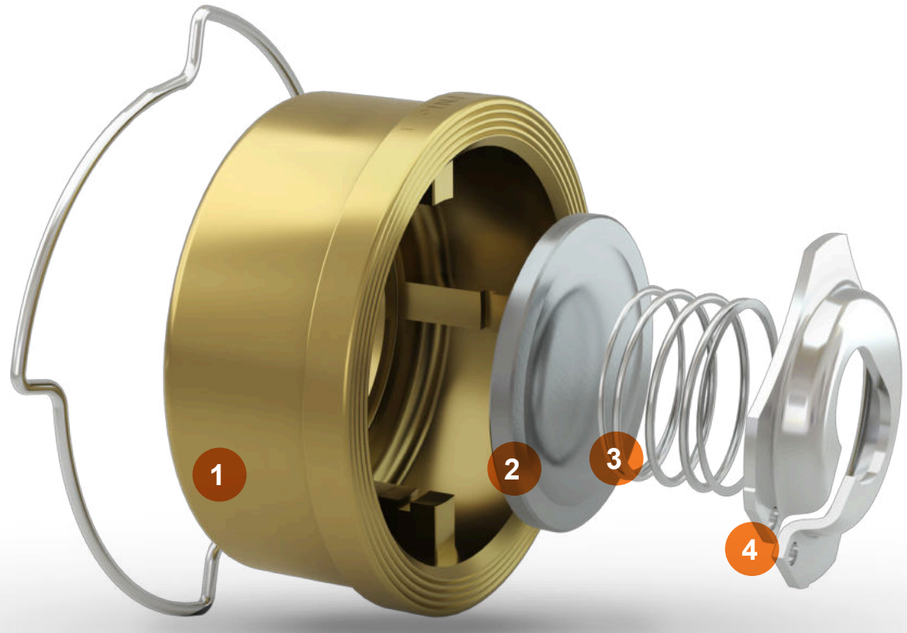
Prefered model for HVAC applications

Spiral center ring covers various flange connection

**Nominal sizes**
DN 15 - DN 100
**Flange connection**
PN 6 - PN 16 | Class 150
**FTF (face-to-face) dimensions**
DIN EN 558, Series 49
**Temperature range**
-10 °C to +250 °C



# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 931



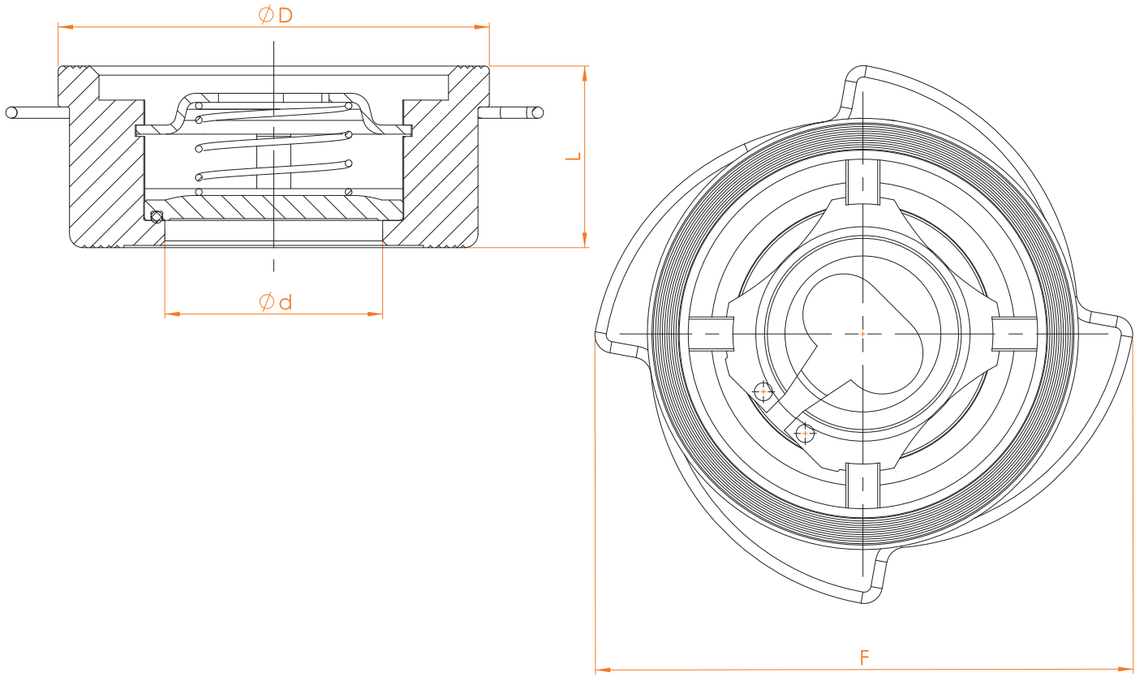

1. Body
2. Disc
3. Spring
4. Spring cross

| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 3 | CW617N (2.0402) | 1.4301 | 1.4301 | 1.4401 | 0 to max. 16 bar |

*1 max. allowable pressure is dependent on the temperature

| Seal | Temperature | Leakage rate*2 |
|---|---|---|
| Metal seated | -10 °C to +250 °C | ≥G |
| NBR | -10 °C to +90 °C | A |
| EPDM | -10 °C to +120 °C | A |
| FKM | -10 °C to +200 °C | A |

*2 acc. to EN 12266-1



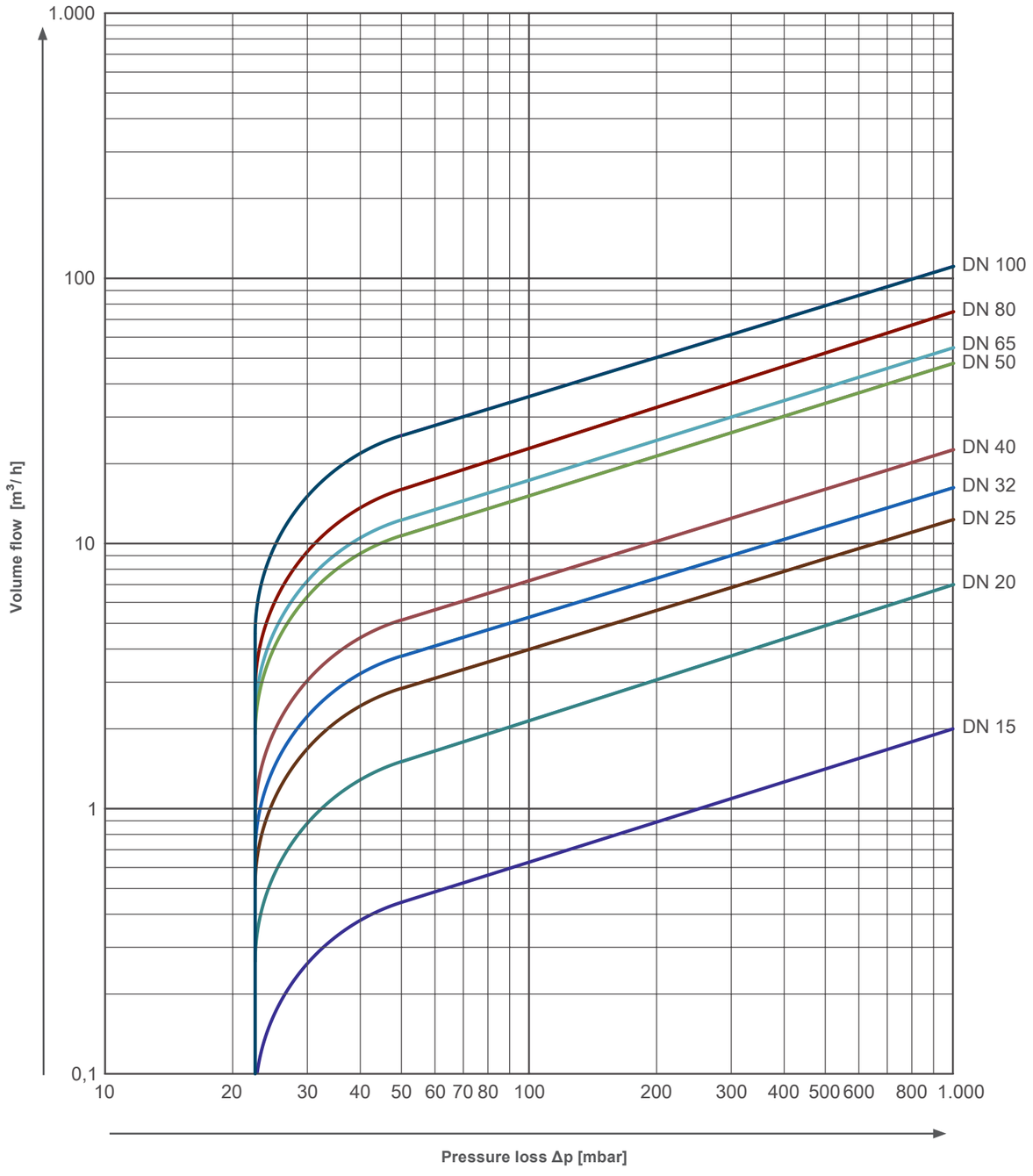

| Nominal size | Ø D | Ø d | F | L | Kv value | Opening pressure [mbar] | | | w/o spring | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | [m³/h] | ⟷ | ↑ | ↓ | ↑ | [kg] |
| DN 15 | 40 | 15 | 65 | 16 | 2 | ~ 21 | ~ 24 | ~ 18 | ~ 3 | 0.09 |
| DN 20 | 47 | 20 | 76 | 19 | 7 | ~ 21 | ~ 24 | ~ 18 | ~ 3 | 0.13 |
| DN 25 | 56 | 25 | 86 | 22 | 13 | ~ 21 | ~ 24 | ~ 18 | ~ 3 | 0.20 |
| DN 32 | 72 | 31.5 | 92 | 28 | 17 | ~ 21 | ~ 24 | ~ 18 | ~ 3 | 0.46 |
| DN 40 | 82 | 39 | 107 | 31,5 | 23 | ~ 21 | ~ 25 | ~ 17 | ~ 4 | 0.62 |
| DN 50 | 95 | 48 | 123 | 40 | 48 | ~ 21 | ~ 25 | ~ 17 | ~ 4 | 0.78 |
| DN 65 | 115 | 64 | 148 | 46 | 55 | ~ 21 | ~ 26 | ~ 16 | ~ 5 | 1.4 |
| DN 80 | 132 | 74 | 158 | 50 | 75 | ~ 21 | ~ 27 | ~ 15 | ~ 6 | 2.1 |
| DN 100 | 152 | 89 | 186 | 60 | 115 | ~ 21 | ~ 28 | ~ 14 | ~ 7 | 3.0 |

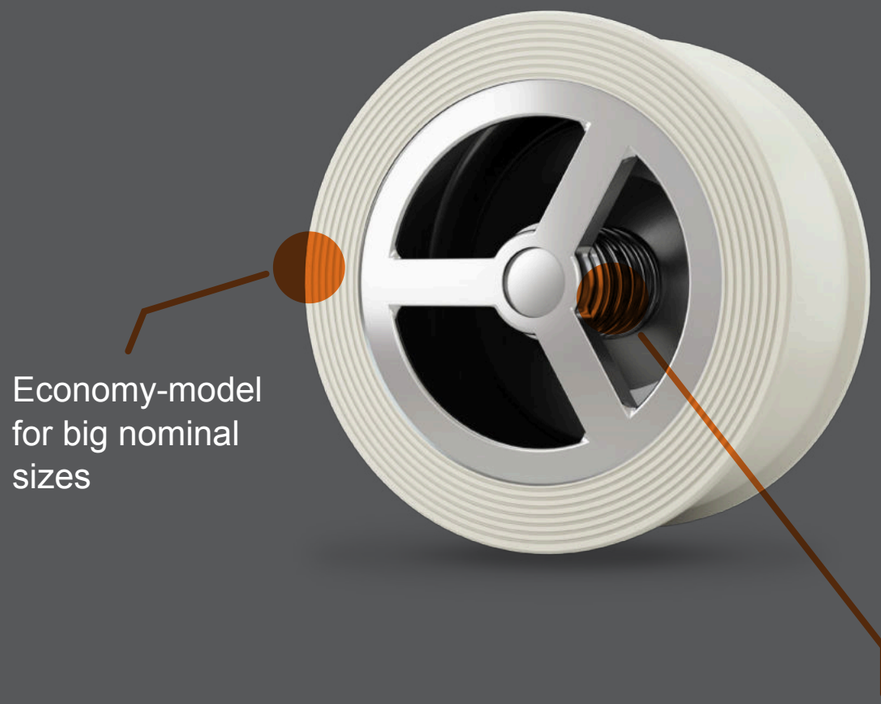



# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 931


**Pressure-Loss Diagram Typ 931**

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.

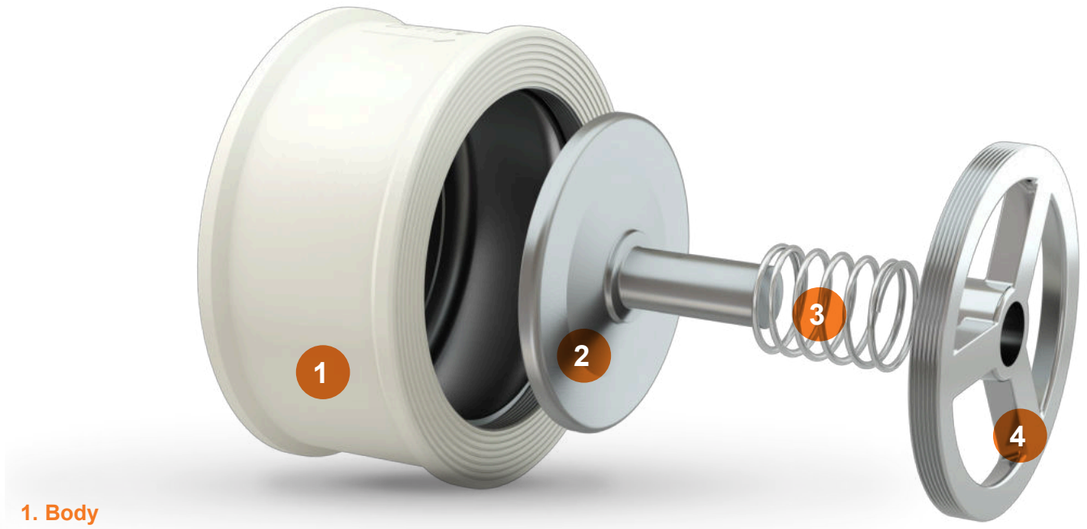





**Nominal sizes**
DN 125 - DN 200
**Flange connection**
PN 6 - PN 16 | Class 150
**FTF (face-to-face) dimension**
DIN EN 558, Series 49
**Temperature range**
-20 °C to +300 °C



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 931




1. Body
2. Disc
3. Spring
4. Spring cross

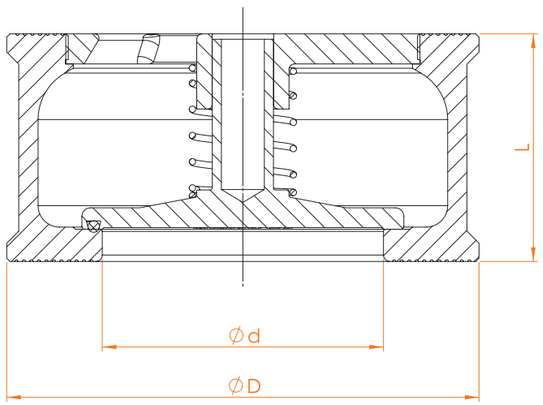
| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 9 | EN-GJS-400-18-LT (GGG40.3) | EN-GJS-400-18-LT (GGG40.3) | 1.4408 | 1.4571 | 0 to max. 16 bar |
| 9.1 | EN-GJS-400-18-LT (GGG40.3) | 1.4308 | 1.4408 | 1.4571 | 0 to max. 16 bar |

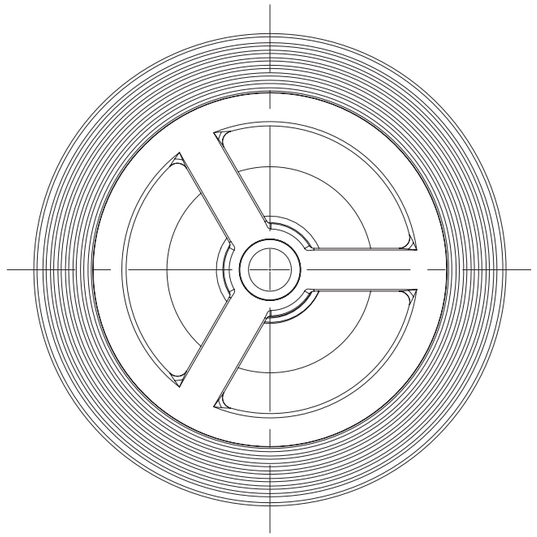
*1 max. allowable pressure is dependent on the temperature

| Seal | Temperature | Leakage rate*2 |
|---|---|---|
| Metal seated | -10 °C to +250 °C | ≥G |
| NBR | -10 °C to +90 °C | A |
| EPDM | -10 °C to +120 °C | A |
| FKM | -10 °C to +200 °C | A |

*2 acc. to EN 12266-1

**Seals comply with the following approvals / conformities:**
NBR: DIN EN 549, BAM, REACH, RoHS etc.
EPDM: KTW UBA, DVGW W 270, WRAS, NSF, FDA, BfR XXI Kat. 4, ADI-free, 3A, USP Cl. 6, BAM, REACH, RohS etc.
FKM: REACH, RoHS etc.



| Nominal size | Ø D | | | Ø d | L | Kv value | Opening pressure [mbar] | | | w/o spring | Weight*3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN 6 | PN 10 / 16 | 150 lbs | | | [m³/h] | ⟷ | ↑ | ↓ | ↑ | [kg] |
| DN 125 | 183 | 194 | 194 | 112 | 90 | 222 | ~ 30 | ~ 39 | ~ 21 | ~ 9 | 7.2 |
| DN 150 | 208 | 220 | 220 | 131 | 106 | 288 | ~ 30 | ~ 41 | ~ 19 | ~ 11 | 10.8 |
| DN 200 | 263 | 275 | 275 | 175 | 140 | 530 | ~ 30 | ~ 42 | ~ 18 | ~ 12 | 18.9 |

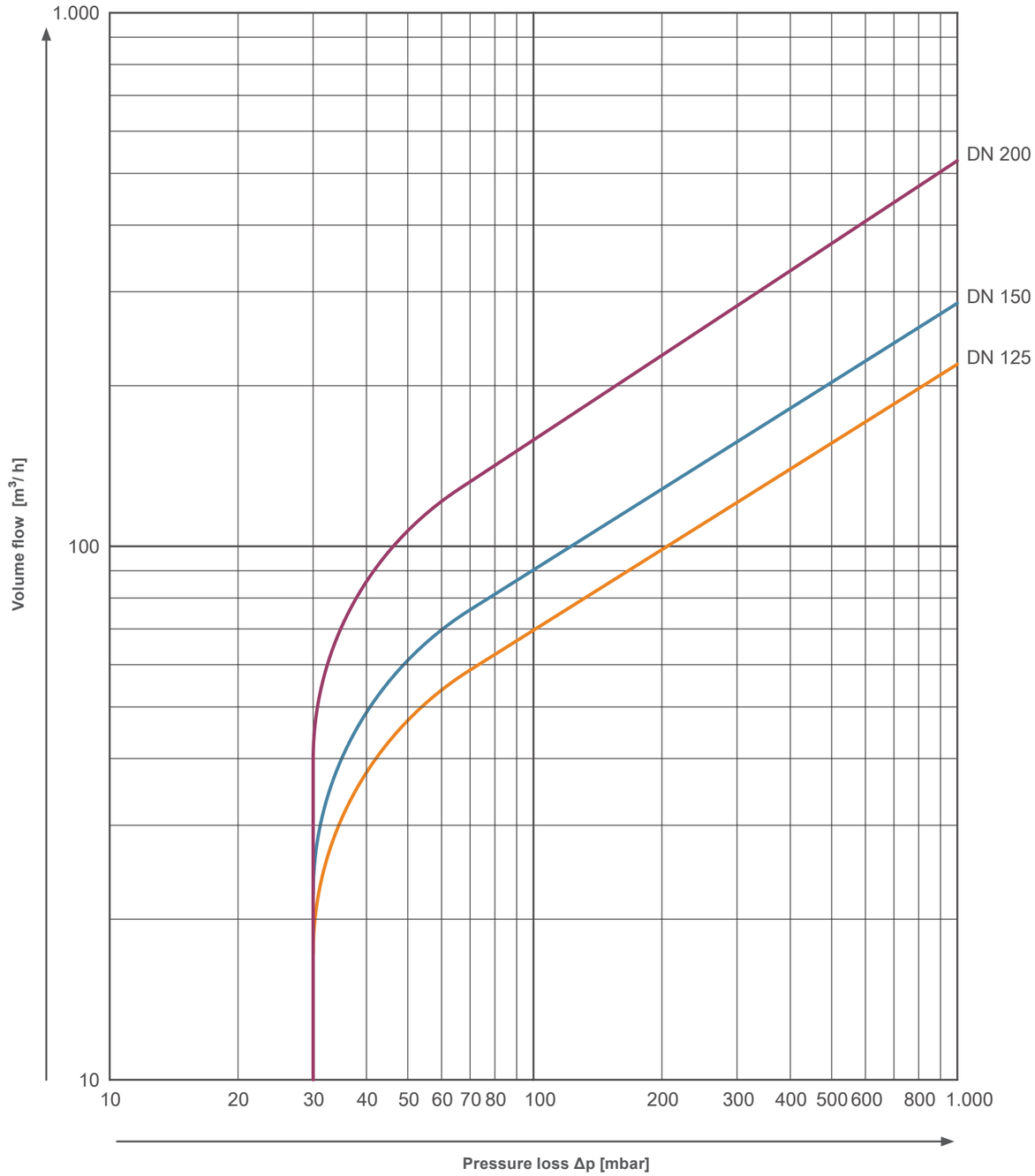
*3 weight may vary slightly, depending on the design

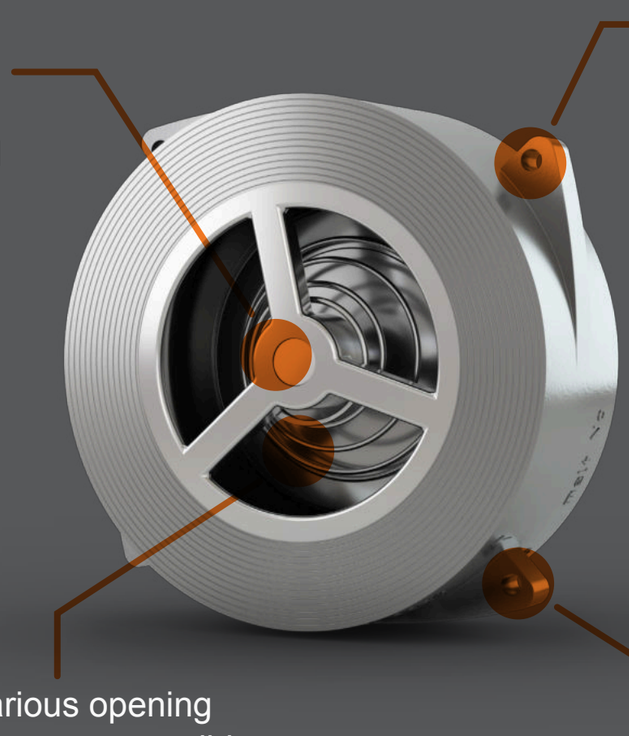


**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 931

**Pressure-Loss Diagram Type 931**

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.






**Nominal sizes**
DN 15 - DN 100
**Flange connection**
PN 6 - PN 40 | Class 150 - 300
**FTF (face-to-face) dimensions**
DIN EN 558, Series 49
**Temperature range**
-196 °C to +400 °C



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 932


1. Body
2. Disc
3. Spring
4. Spring cross

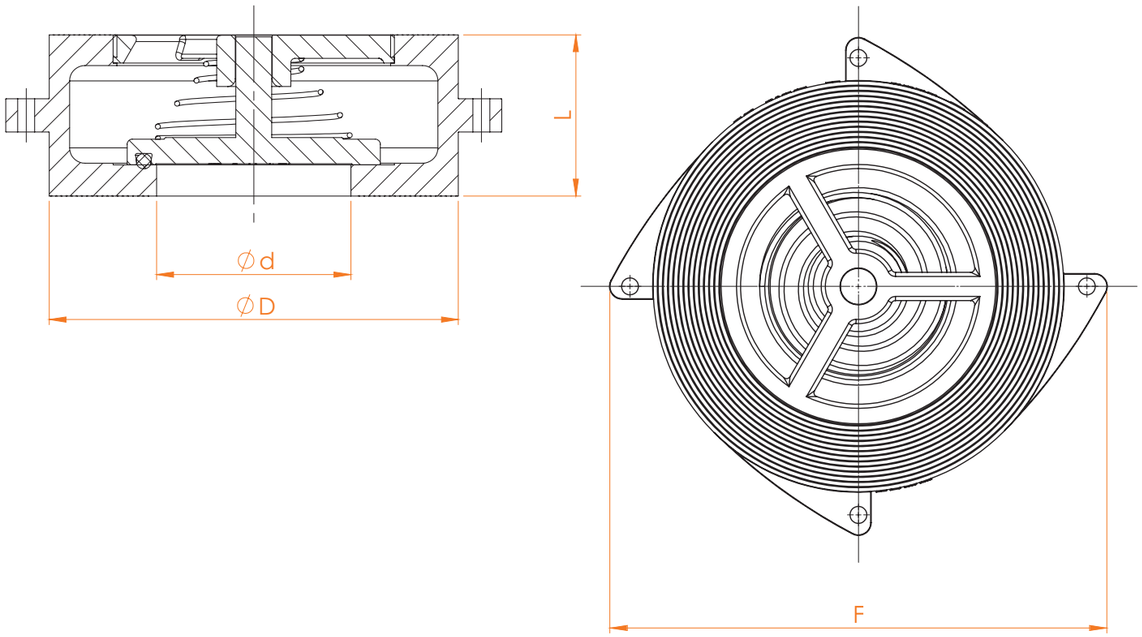
| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 1 | 1.4408 | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |
| 4 | CC333G (2.0975) | CC333G (2.0975) | CC333G (2.0975) | Hastelloy C4 (2.4610) | 0 to max. 50 bar |
| 4.1 | CC333G (2.0975) | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |
| 5 | 1.0619, zinc plated | 1.4408 | 1.4408 | 1.4571 | 0 to max. 40 bar |
| 6 | 1.4469 (Superduplex) | 1.4469 (Super-duplex) | 1.4469 (Superduplex) | Hastelloy C4 (2.4610) | 0 to max. 50 bar |
| 6.1 | 1.4469 (Superduplex) | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |

*1 max. allowable pressure is dependent on size and temperature

| Seal | Design | Temperature | Leakage rate*2 |
|---|---|---|---|
| Metal seated | 1<br>4 / 4.1<br>5<br>6 / 6.1 | -196 °C to +400 °C*3<br>-10 °C to +350 °C*3<br>-10 °C to +400 °C*3<br>-10 °C to +250 °C | G |
| NBR*4 | – | -30 °C to +100 °C | A |
| EPDM*4 | – | -65 °C to+150 °C | A |
| FKM*4 | – | -30 °C to +230 °C | A |
| PTFE*4 | – | -196 °C to +250 °C | A |

*2 acc. to EN 12266-1
*3 temperatures above 300 °C require spring material Hastelloy C4 (low temperature limit for design 1: -100 °C)
*4 for some designs, the temperature range is additionally limited by the temperature range of the metallic parts (see temperature range for metal seated)

**Seals comply with the following approvals / conformities:**
NBR: DIN EN 549, BAM, REACH, RoHS etc.
EPDM: KTW UBA, DVGW W 270, WRAS, NSF, FDA, BfR XXI Kat. 4, ADI-free, 3A, USP Cl. 6, BAM, REACH, RohS etc.
FKM: DIN EN 549, ADI-frei, REACH, RoHS etc.
PTFE: KTW UBA, DVGW W 270, WRAS, FDA, BfR, ADI-free, EU 10/2011, 3A, USP Cl. 6, REACH, RoHS etc.



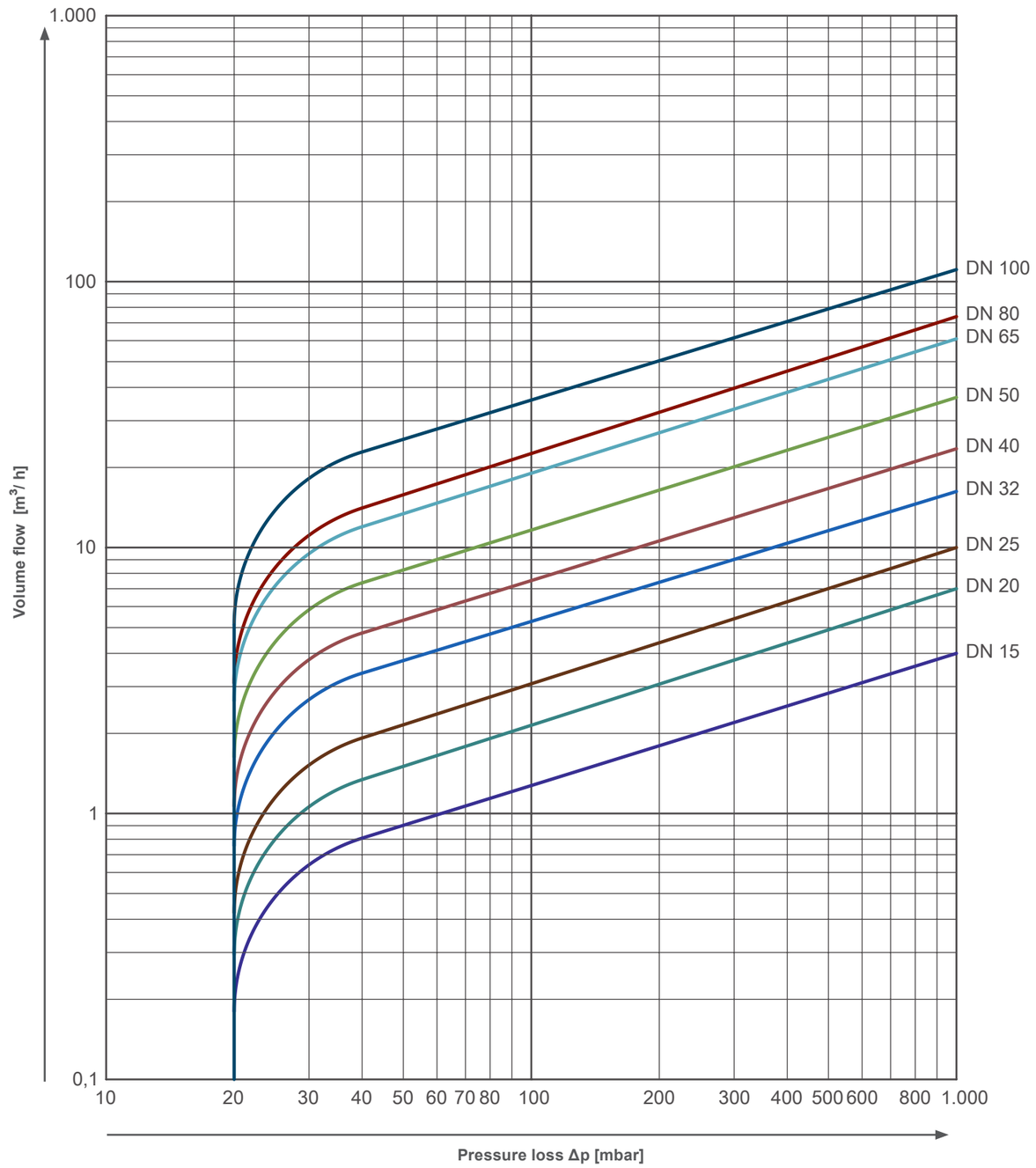

| Nominal size | Ø D | Ø d | F | L | Kv value | Opening pressure*5 [mbar] | | | w/o spring | Weight*6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | [m³/h] | ↔ | ↑ | ↓ | ↑ | [kg] |
| DN 15 | 43 | 15 | 57 | 16 | 4 | ~ 20 | ~ 24 | ~ 16 | ~ 4 | 0.12 |
| DN 20 | 53 | 19 | 72 | 19 | 7 | ~ 20 | ~ 25 | ~ 15 | ~ 5 | 0.20 |
| DN 25 | 63 | 25 | 79 | 22 | 10 | ~ 20 | ~ 25 | ~ 15 | ~ 5 | 0.32 |
| DN 32 | 75 | 32 | 92 | 28 | 17 | ~ 20 | ~ 26 | ~ 14 | ~ 6 | 0.52 |
| DN 40 | 80 | 38 | 97 | 31.5 | 24 | ~ 20 | ~ 27 | ~ 13 | ~ 7 | 0.62 |
| DN 50 | 95 | 47 | 113 | 40 | 37 | ~ 20 | ~ 28 | ~ 12 | ~ 8 | 1.1 |
| DN 65 | 115 | 63 | 137 | 46 | 61 | ~ 20 | ~ 29 | ~ 11 | ~ 9 | 1.7 |
| DN 80 | 131 | 77 | 154 | 50 | 74 | ~ 20 | ~ 30 | ~ 10 | ~ 10 | 2.5 |
| DN 100 | 150 | 97,5 | 186 | 60 | 115 | ~ 20 | ~ 33 | ~ 7 | ~ 13 | 4.0 |

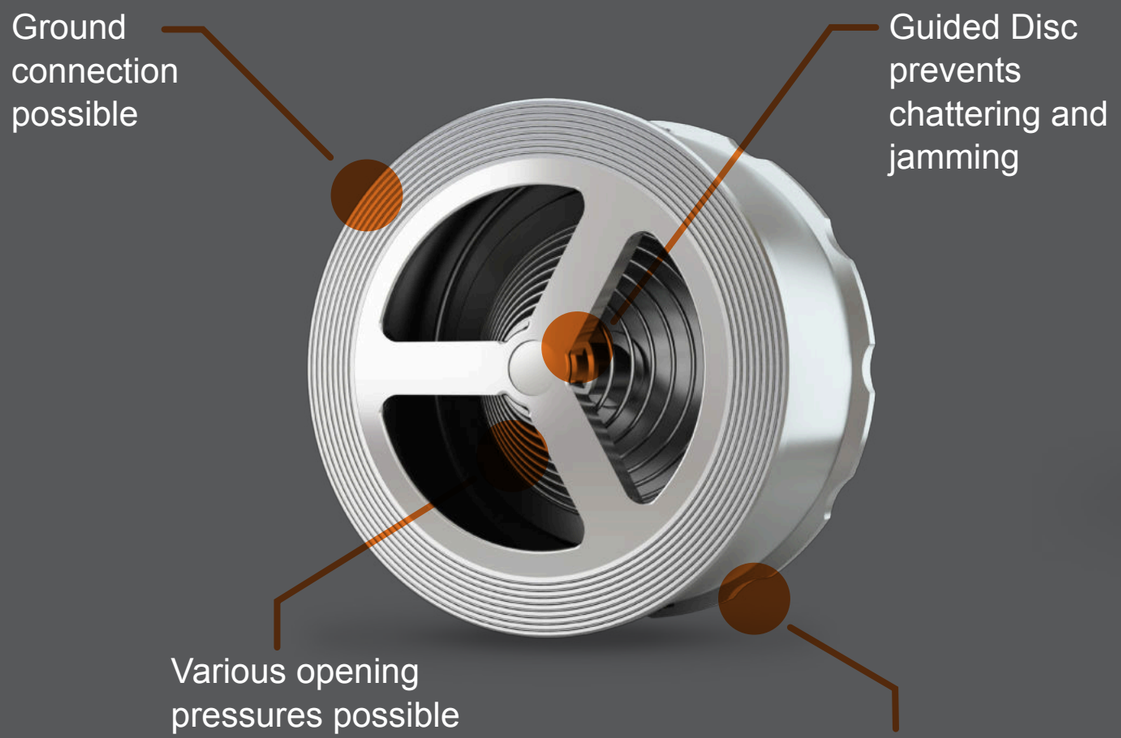
*5 other opening pressures on request (for high opening pressures the Kv value may be reduced if disc springs must be used)
*6 weight may vary slightly, depending on the design



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 932

**Pressure-Loss Diagram 932**
The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.

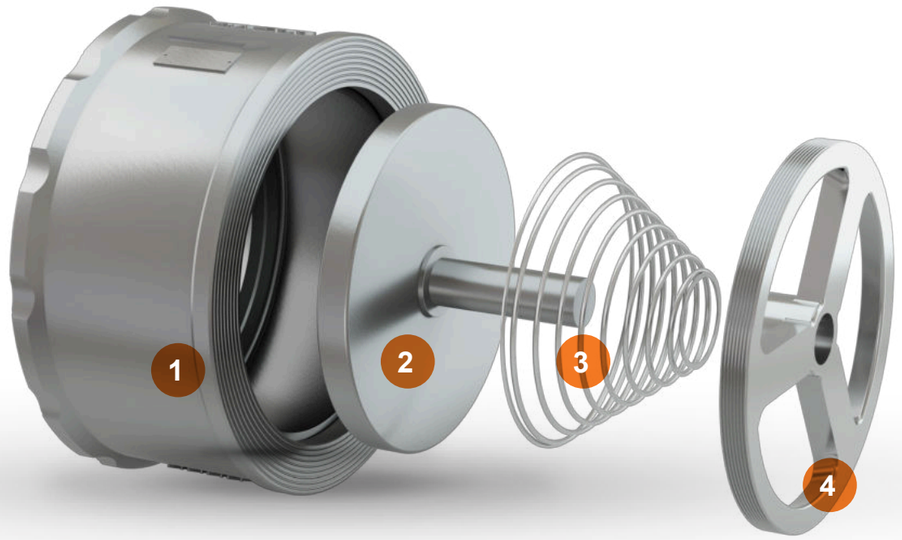





**Nominal sizes**
DN 125 - DN 300
**Flange connection**
PN 10 - PN 40 | Class 150 - 300
**FTF (face-to-face) dimensions**
DIN EN 558, Series 49 (DN 250 and DN 300 acc. to AWS company standard)
**Temperature range**
-196 °C to +400 °C



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 932




1. Body
2. Disc
3. Spring
4. Spring cross

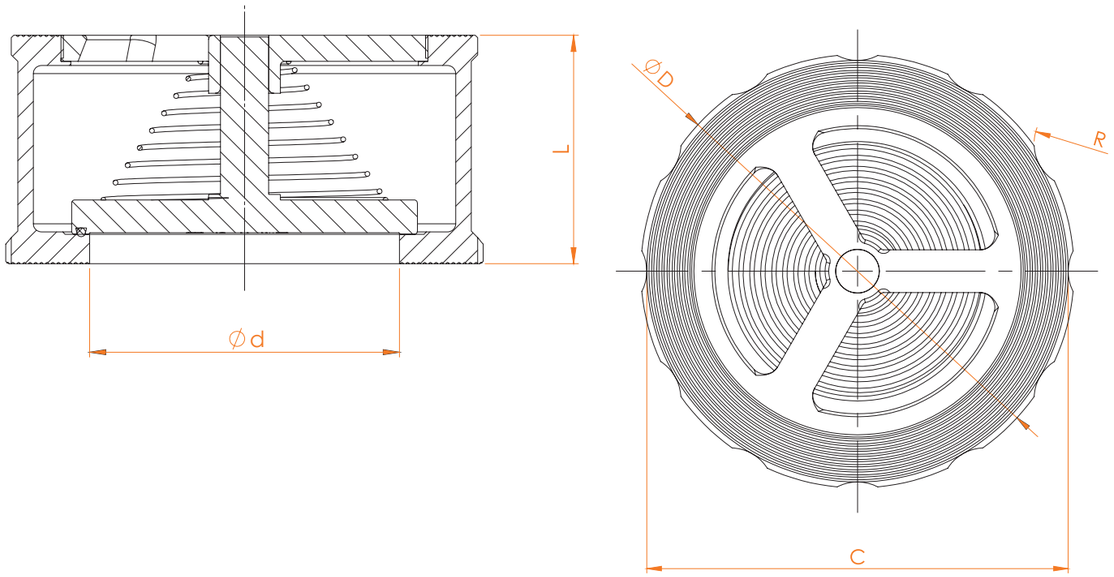
| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 1 | 1.4408 | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |
| 5 | 1.0619, zinc plated | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |
| 6 | 1.4469 (Superduplex) | 1.4469 (Super-duplex) | 1.4469 (Superduplex) | Hastelloy C4 (2.4610) | 0 to max. 50 bar |
| 6.1 | 1.4469 (Superduplex) | 1.4408 | 1.4408 | 1.4571 | 0 to max. 50 bar |

*1 max. allowable pressure is dependent on size and temperature

| Seal | Design | Temperature | Leakage rate*2 |
|---|---|---|---|
| Metal seated | 1<br>5<br>6 / 6.1 | -196 °C to +400 °C*3<br>-10 °C to +400 °C*3<br>-10 °C to +250 °C | G |
| NBR*4 | – | -30 °C to +100 °C | A |
| EPDM*4 | – | -65 °C bis +150 °C | A |
| FKM*4 | – | -30 °C to +230 °C | A |
| PTFE*4 | – | -200 °C to +250 °C | A |

*2 acc. to EN 12266-1
*3 temperatures above 300 °C require spring material Hastelloy C4 (low temperature limit for design 1: -100 °C)
*4 for some designs, the temperature range is additionally limited by the temperature range of the metallic parts (see temperature range for metal seated)

**Seals comply with the following approvals / conformities:**
NBR: DIN EN 549, BAM, REACH, RoHS etc.
EPDM: KTW UBA, DVGW W 270, WRAS, NSF, FDA, BfR XXI Kat. 4, ADI-free, 3A, USP Cl. 6, BAM, REACH, RohS etc.
FKM: DIN EN 549, ADI-frei, REACH, RoHS etc.
PTFE: KTW UBA, DVGW W 270, WRAS, FDA, BfR, ADI-free, EU 10/2011, 3A, USP Cl. 6, REACH, RoHS etc.




| Nominal size | C | Ø D | Ø D | C | Ø D | R | R | Ø d | L | Kv value | Opening pressure*5 [mbar] | | | w/o spring | Weight*6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN 10/16 | PN 10/16 | 150 lbs | PN 25 | PN 40 | PN 10/16 | PN 25 | | | [m³/h] | ⟷ | ↑ | ↓ | ↑ | [kg] |
| DN 125 | 194 | 194 | 194 | 194 | 194 | - | - | 118.5 | 90 | 201 | ~ 30 | ~ 46 | ~ 14 | ~ 16 | 8.4 |
| DN 150 | 220 | 220 | 220 | 220 | 220 | - | - | 141 | 106 | 286 | ~ 30 | ~ 47 | ~ 13 | ~ 17 | 12.4 |
| DN 200 | 275 | 280 | 280 | 286 | 294 | 11 | 30 | 190 | 140 | 553 | ~ 30 | ~ 51 | ~ 9 | ~ 21 | 23.9 |
| DN 250 | 331 | 340 | 340 | 344 | 356 | 13 | 33 | 229 | 145 | 643 | ~ 40 | ~ 64 | ~ 16 | ~ 24 | 39.2 |
| DN 300 | 380 | 386 | 404 | 404 | 421 | 11 | 33 | 280 | 160 | 867 | ~ 40 | ~ 68 | ~ 12 | ~ 38 | 58.3 |

*5 other opening pressures on request (for high opening pressures the Kv value may be reduced if disc springs must be used)

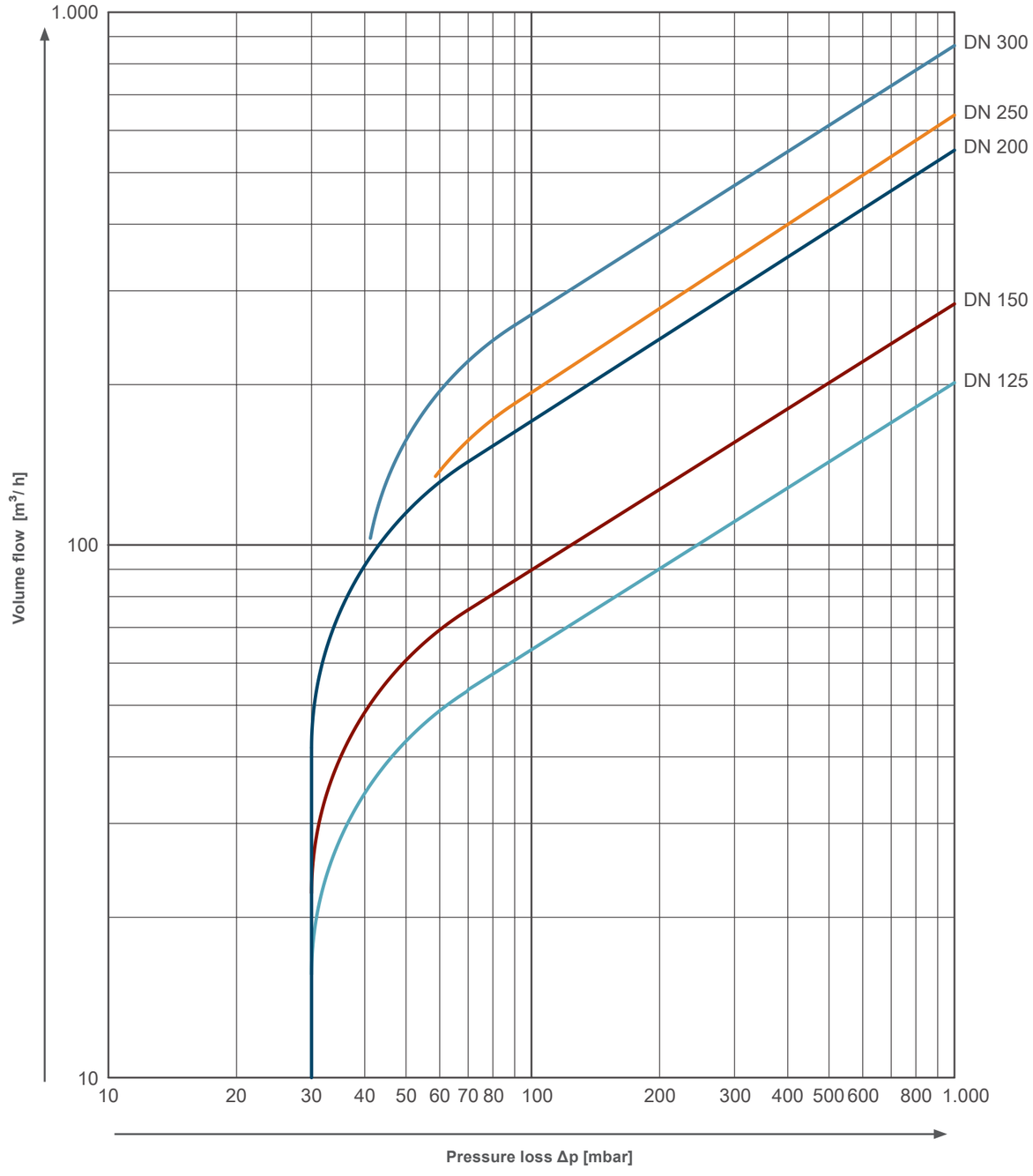
*6 weight may vary slightly, depending on the design

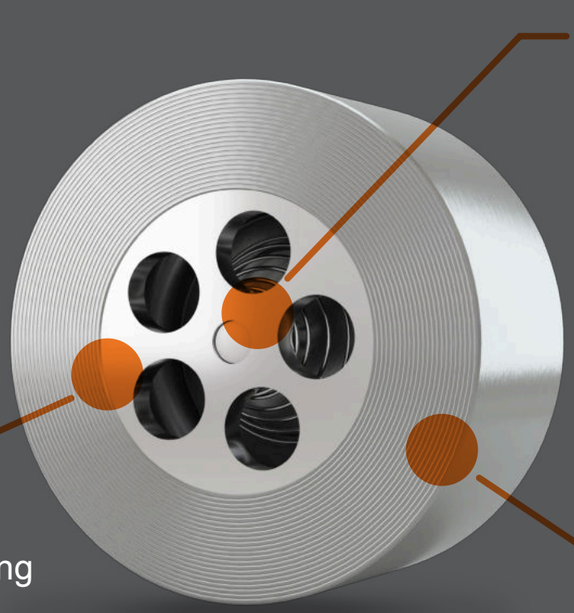



# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 932


**Pressure-Loss Diagram Type 932**

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.





High operational reliability by guided disc

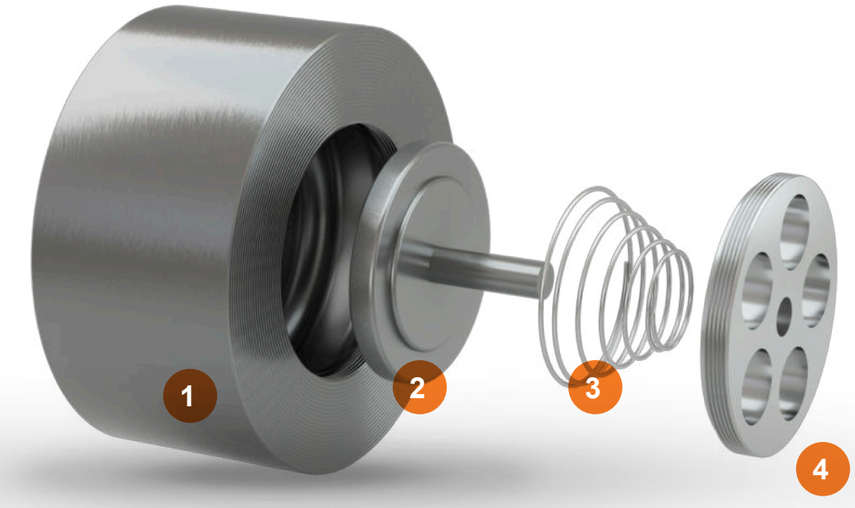
For most demanding conditions that go beyond the standard

Pressure ranges up to 160 bar

**Nominal sizes**
DN 15 - DN 100
**Flange connection**
PN 63 - 100 | Class 600 - 900
**FTF (face-to-face) dimensions**
DIN EN 558, Series 52
**Temperature range**
-200 °C to +450 °C



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 932-HD




1. Body
2. Disc
3. Spring
4. Spring cross

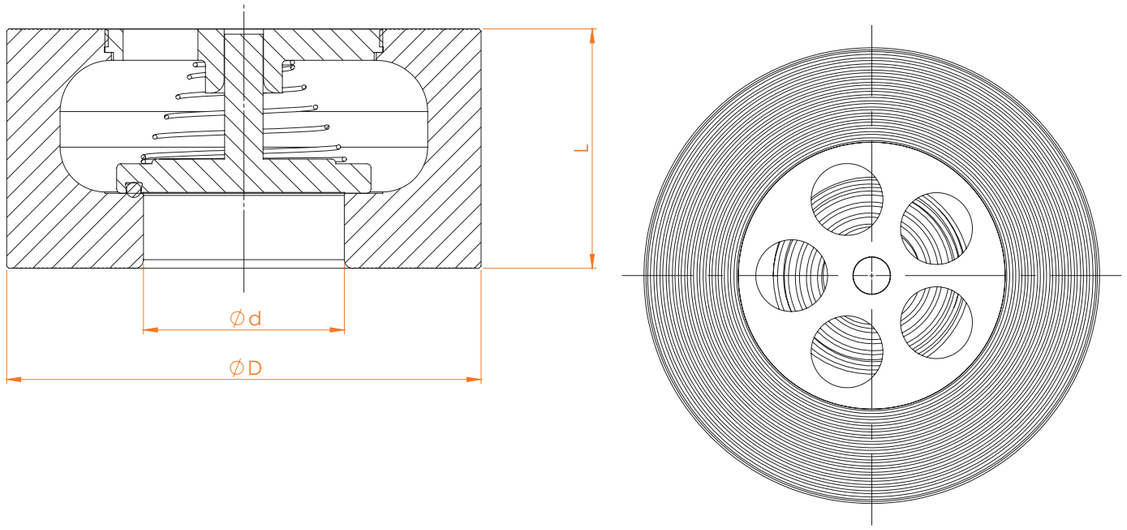
| Design | Body | Disc | Spring cross | Spring | Pressure range*1 |
|---|---|---|---|---|---|
| 1 | 1.4404 | 1.4404 | 1.4404 | 1.4571 | 0 to max. 160 bar |
| 6 | 1.4410 (Superduplex) | 1.4410 (Superduplex) | 1.4410 (Superduplex) | Hastelloy C4 (2.4610) | 0 to max. 160 bar |

*1 max. allowable pressure is dependent on the temperature

| Seal | Design | Temperature | Leakage rate*2 |
|---|---|---|---|
| Metal seated | 1<br>6 | -200 °C to +450 °C*3<br>-10 °C to +250 °C | G |
| NBR*4 | – | -30 °C to +100 °C | A |
| EPDM*4 | – | -65 °C bis +150 °C | A |
| FKM*4 | – | -30 °C to +230 °C | A |
| PTFE*4 | – | -200 °C to +250 °C | A |

*2 acc. to EN 12266-1
*3 temperatures above 300 °C require spring material Hastelloy C4 (low temperature limit for design 1: -100 °C)
*4 low temperature limit for design 6: -10 °C

**Seals comply with the following approvals / conformities:**
NBR: DIN EN 549, BAM, REACH, RoHS etc.
EPDM: KTW UBA, DVGW W 270, WRAS, NSF, FDA, BfR XXI Kat. 4, ADI-free, 3A, USP Cl. 6, BAM, REACH, RohS etc.
FKM: DIN EN 549, ADI-frei, REACH, RoHS etc.
PTFE: KTW UBA, DVGW W 270, WRAS, FDA, BfR, ADI-free, EU 10/2011, 3A, USP Cl. 6, REACH, RoHS etc.



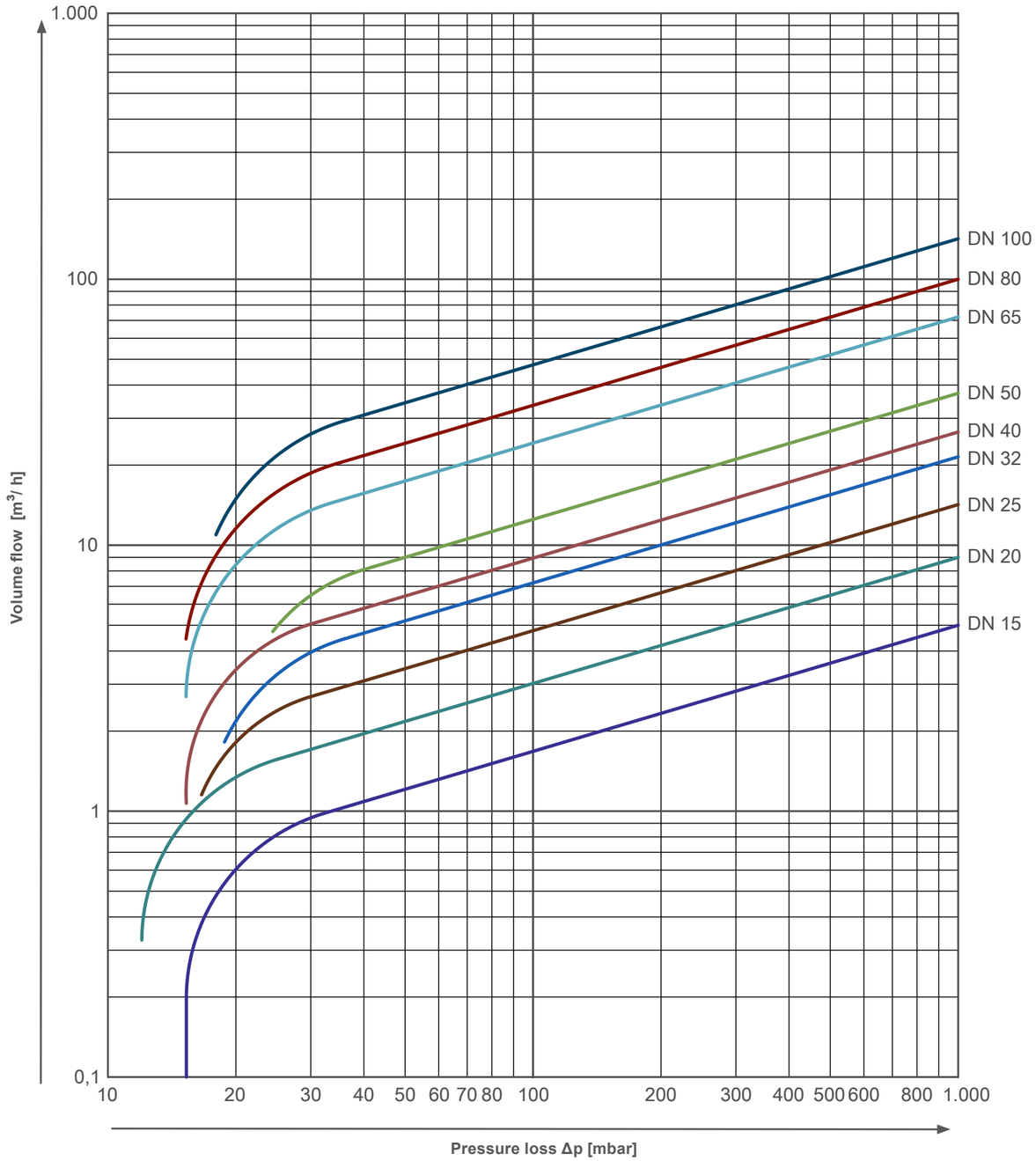

| Nominal size | Ø D | Ø d | L | Kv value | Opening pressure*5 [mbar] | | | w/o spring | Weight*6 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | [m³/h] | ←→ | ↑ | ↓ | ↑ | [kg] |
| DN 15 | 54 | 15 | 25 | 5 | ~ 16 | ~ 23 | ~ 9 | ~ 7 | 0.4 |
| DN 20 | 68 | 19 | 31.5 | 9 | ~ 12 | ~ 19 | ~ 5 | ~ 7 | 0.7 |
| DN 25 | 74 | 25 | 35.5 | 14 | ~ 15 | ~ 23 | ~ 7 | ~ 8 | 0.9 |
| DN 32 | 83 | 32 | 40 | 21 | ~ 18 | ~ 27 | ~ 9 | ~ 9 | 1.2 |
| DN 40 | 95 | 38 | 45 | 27 | ~ 16 | ~ 24 | ~ 8 | ~ 8 | 1.7 |
| DN 50 | 110 | 47 | 56 | 37 | ~ 19 | ~ 29 | ~ 9 | ~ 10 | 2.8 |
| DN 65 | 130 | 63 | 63 | 71 | ~ 16 | ~ 31 | - | ~ 15 | 3.9 |
| DN 80 | 149 | 77 | 71 | 100 | ~ 16 | ~ 32 | - | ~ 16 | 5.6 |
| DN 100 | 176 | 97.5 | 80 | 143 | ~ 17 | ~ 36 | - | ~ 18 | 11.6 |

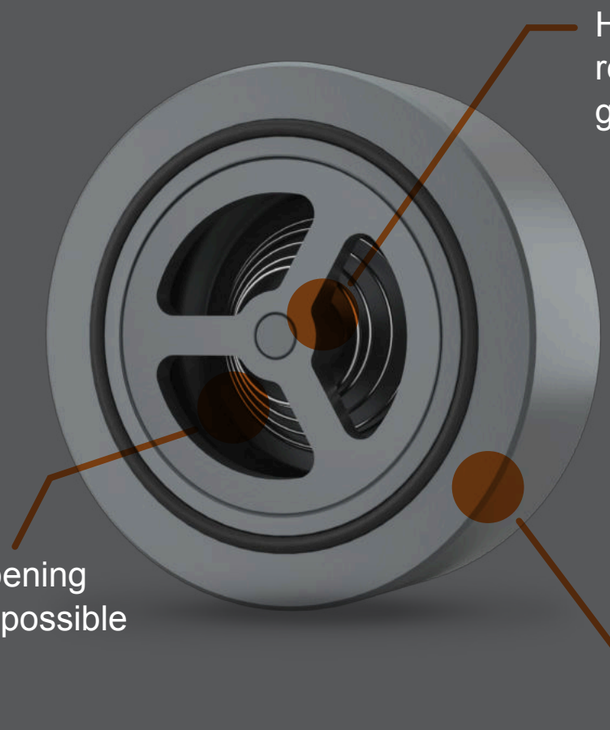
*5 other opening pressures on request (for high opening pressures the Kv value may be reduced if disc-springs must be used)
*6 weight may vary slightly, depending on the design




# TECHNICAL DATA
DISCO CHECK VALVE | SERIES 932-HD


**Pressure-Loss Diagram Type 932-HD**
The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.





High operational reliability by guided disc

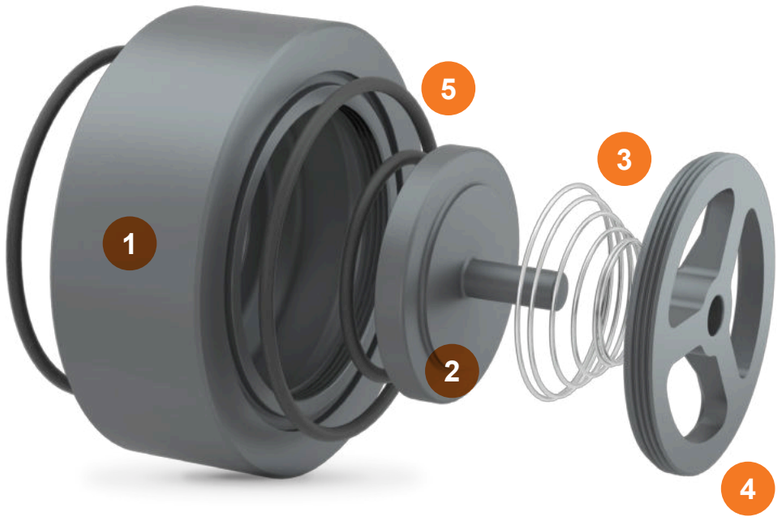
Various opening pressures possible

Choice of plastics allows maximum level of chemical resistance

**Nominal sizes**
DN 15 - DN 100 **Flange connection** PN 10
**FTF (face-to-face) dimensions**
DIN EN 558, Series 49
**Temperature range**
-20 °C to +120 °C



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 936




1. Body
2. Disc
3. Spring
4. Spring cross
5. Seals

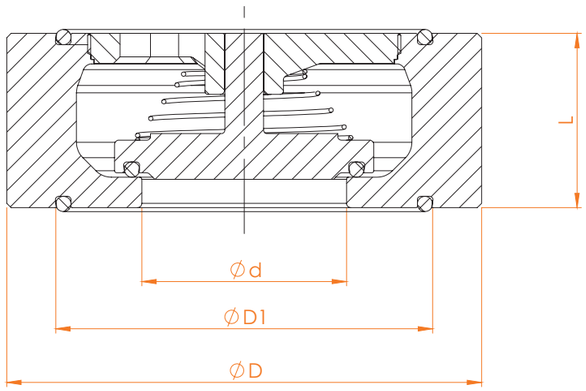
| Design | Body | Disc | Spring cross | Spring*1 | Pressure range*2 | |
|---|---|---|---|---|---|---|
| | | | | | 0 to max. 10 bar | 0 to max. 6 bar |
| 4 | PVC-U | PVC-U | PVC-U | 1.4571, 2.4640 | DN 15 - 100 | - |
| 5 | PP-H | PP-H | PP-H | 1.4571, 2.4640 | DN 15 - 50 | DN 65 - 100 |
| 8 | PVDF | PVDF | PVDF | 1.4571, 2.4640 | DN 15 - 100 | - |

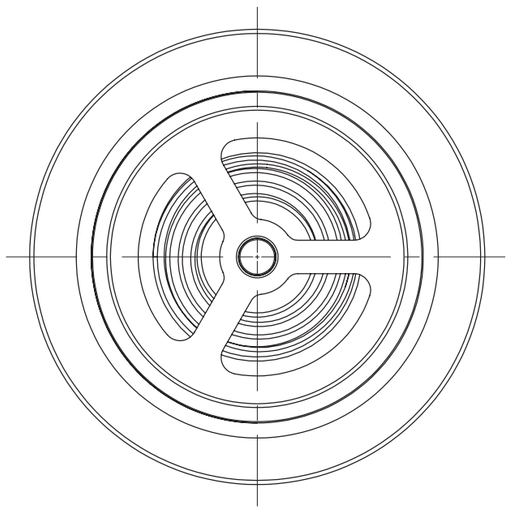
*1 for the choice of the appropriate spring material, the chemical resistance against the media has to be regarded

*2 max. allowable pressure is dependent on the temperature

| Seal | Temperature | | | Leakage rate*3 |
|---|---|---|---|---|
| | PVC-U | PP | PVDF | |
| NBR | 0 °C to +60 °C | 0 °C to +90 °C | -20 °C to +90 °C | A |
| EPDM | | | -20 °C to +120 °C | A |
| FKM | | | -15 °C to +120 °C | A |
| PTFE | | | -20 °C to +120 °C | A |

*3 acc. to EN 12266-1



| Nominal size | Ø D | Ø d | Ø D1 | L | Kv value | Opening pressure*4 [mbar] | | | Weight*5 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | [m³/h] | ⟷ | ↑ | ↓ | [kg] |
| DN 15 | 54 | 15 | 32 | 16 | 4 | ~ 15 | ~ 16 | ~ 14 | 0.04 |
| DN 20 | 64 | 19,5 | 38 | 19 | 7 | ~ 14 | ~ 15 | ~ 13 | 0.07 |
| DN 25 | 74 | 25 | 47 | 22 | 11 | ~ 12 | ~ 13 | ~ 11 | 0.11 |
| DN 32 | 85 | 32 | 59 | 28 | 19 | ~ 11 | ~ 12 | ~ 10 | 0.17 |
| DN 40 | 95 | 38 | 70 | 31.5 | 24 | ~ 11 | ~ 13 | ~ 9 | 0.22 |
| DN 50 | 109 | 47 | 86 | 40 | 38 | ~ 15 | ~ 16 | ~ 14 | 0.36 |
| DN 65 | 129 | 63 | 105 | 46 | 64 | ~ 12 | ~ 13 | ~ 11 | 0.53 |
| DN 80 | 144 | 77 | 119 | 50 | 85 | ~ 12 | ~ 14 | ~ 10 | 0.68 |
| DN 100 | 164 | 95 | 145 | 145 | 134 | ~ 12 | ~ 14 | ~ 10 | 0.95 |

*4 higher opening pressures on request

*5 weight refers to valve made of PVC-U and may vary, depending on the design

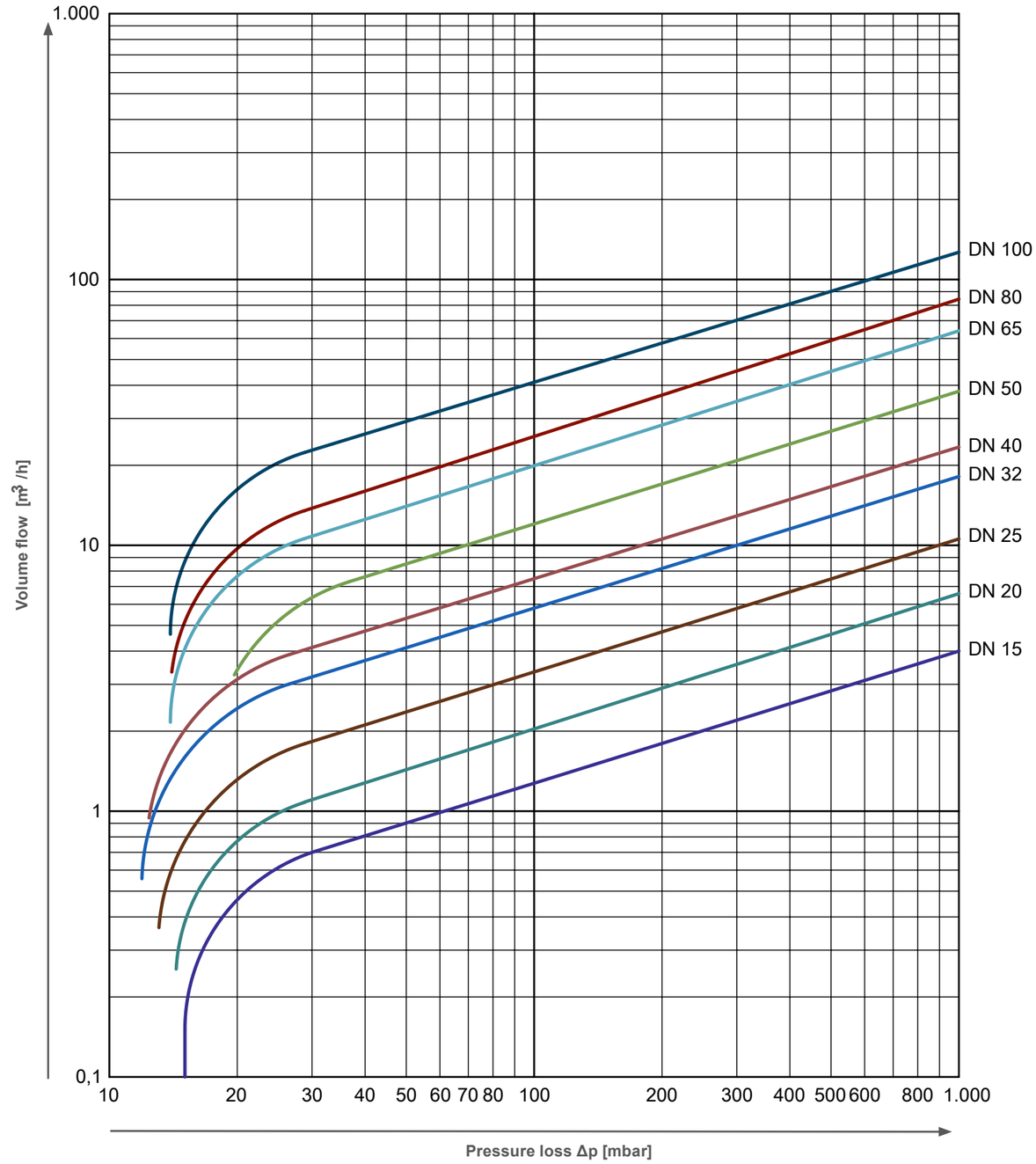
Restriction concerning fluids: For operating valves from DN 32 on with the following fluids, only those in Group 2 according to the Pressure Equipment Directive may be used: gases, liquefied gases, gases dissolved under pressure, vapours and also those liquids whose vapour pressure at the maximum allowable temperature is greater than 0.5 bar above normal atmospheric pressure (1.013 bar).



**TECHNICAL DATA**
DISCO CHECK VALVE | SERIES 936

**Pressure-Loss Diagram Type 936**

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 - PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.

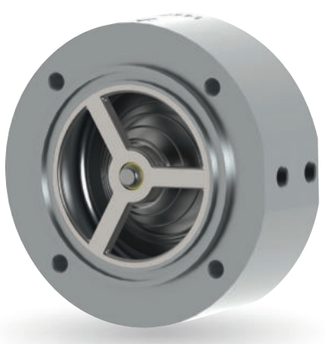


# SPECIAL OPTIONS
## DISCO CHECK VALVES

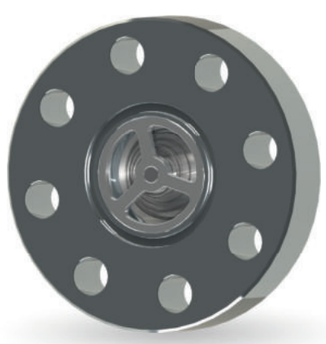
With many years of experience and our understanding of the demands of the market and the constantly rising expectations of our customers, we always strive to develop and implement solutions that go well beyond the standard. Here are just a few examples of special designs that we have created either in-house, based on our standard models, or with the help of our long-standing pool of partners. Here we adhere to the criteria of technical and economic feasibility combined with a healthy dose of pragmatism.

## Various special bodies

With various forms of flange sealing surfaces acc. to diverse standards

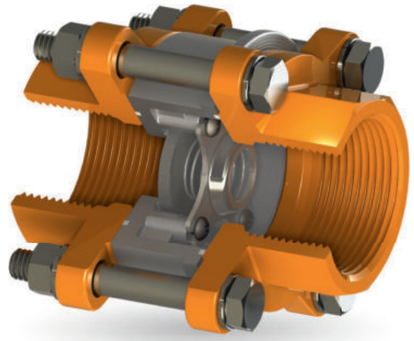


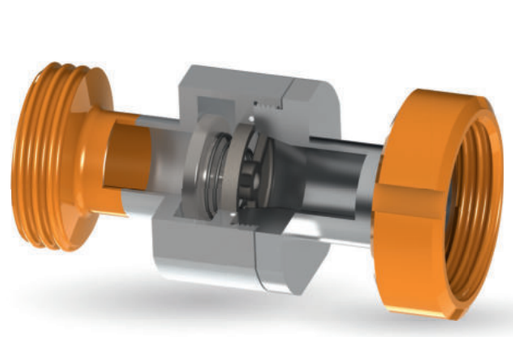
With thread holes



With lug type body

## With mounted connecting pieces for thread connections



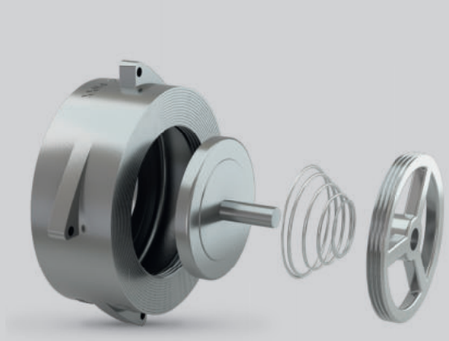


With attached ground cable

**Other special options:**

- Special opening pressure (type 932, 932-HD, 936)
- Cleaned free of oil and grease
- Cleaned free of silicone
- Cleaned free of PWIS
- Seals with additional approvals which go beyond the standard
- Metal seated with reduced leakage rate acc. to DIN EN 12266-1 (type 932, 932-HD)
- Seal glued in for vacuum applications
- Other materials on request
- Other flange dimensions on request
- Other special options on request

# TYPE CODE
## DISCO CHECK VALVES



| Order example | Disco-RSV 932/100/1/M/F1 |
|---|---|
| **Type of valve** | Disco-Rückschlagventil |
| **Type** | 932 |
| **Nominal Size** | DN 100 |
| **Body / Disc / Spring cross** | 1.4408 |
| **Seal** | Metal seated |
| **Spring** | 1.4571 (F1) |

| | DN | | | Material | | | |
|---|---|---|---|---|---|---|---|
| **Type** | **Nominal size** | **Design** | **Body** | **Disc** | **Spring cross** | **Spring** | **Seal** |
| **930** | 15 - 100 | 1 | 1.4408 | 1.4408 | 1.4436 | 1.4436 (F5) | Metal seated (M)<br>NBR (N)<br>EPDM (E)<br>FKM (F)<br>PTFE (Teflon) (T)*3 |
| **931** | 15 - 100 | 3 | CW617N (2.0402) | 1.4301 | 1.4301 | 1.4401 (F1) | |
| | 125 - 200 | 9 | EN-GJS-400-18-LT | EN-GJS-400-18-LT | 1.4408 | 1.4571 (F1) | |
| | | 9.1 | EN-GJS-400-18-LT | 1.4308 | 1.4408 | 1.4571 (F1) | |
| **932** | 15 - 100 | 1 | 1.4408 | 1.4408 | 1.4408 | 1.4571 (F1)*1 | |
| | | 4 | CC333G (2.0975) | CC333G (2.0975) | CC333G (2.0975) | Hastelloy C4 (F2) | |
| | | 4.1 | CC333G (2.0975) | 1.4408 | 1.4408 | 1.4571 (F1)*1 | |
| | | 5 | 1.0619, galvanized | 1.4408 | 1.4408 | 1.4571 (F1)*1 | |
| | | 6 | 1.4469 (Superduplex) | 1.4469 (Superduplex) | 1.4469 (Superduplex) | Hastelloy C4 (F2) | |
| | | 6.1 | 1.4469 (Superduplex) | 1.4408 | 1.4408 | 1.4571 (F1) | |
| | 125 - 300 | 1 | 1.4408 | 1.4408 | 1.4408 | 1.4571 (F1)*1 | |
| | | 5 | 1.0619, zinc plated | 1.4408 | 1.4408 | 1.4571 (F1)*1 | |
| | | 6 | 1.4469 (Superduplex) | 1.4469 (Superduplex) | 1.4469 (Superduplex) | Hastelloy C4 (F2) | |
| | | 6.1 | 1.4469 (Superduplex) | 1.4408 | 1.4408 | 1.4571 (F1) | |
| **932-HD** | 15 - 100 | 1 | 1.4404 | 1.4404 | 1.4404 | 1.4571 (F1)*1 | |
| | | 6 | 1.4410 | 1.4410 | 1.4410 | Hastelloy C4 (F2) | |
| **936** | 15 - 100 | 4 | PVC-U | PVC-U | PVC-U | 1.4571 (F1), Hastelloy C4 (F2)*2 | NBR (N)<br>EPDM (E)<br>FKM (F)<br>PTFE (Teflon) (T) |
| | | 5 | PP | PP | PP | 1.4571 (F1), Hastelloy C4 (F2)*2 | |
| | | 8 | PVDF | PVDF | PVDF | 1.4571 (F1), Hastelloy C4 (F2)*2 | |

*1 metal seated valves require spring material Hastelloy C4 for temperatures above 300 °C

*2 for the choice of the appropriate spring material, the chemical resistance against the media has to be regarded

*3 available for type 930, 932 & 932-HD



# QUALITY
## AT AWS


### Certified

Our more than 40-year company history is characterised by our constant striving for the highest quality. As a modern and future-oriented group of companies, we have further optimised our flexible response to changing market conditions and customer requirements by introducing and applying a comprehensive quality management system.

For many years now, we have been certified in accordance with ISO 9001 and – in the field of valves – also in accordance with the Pressure Equipment Directive 2014/68/EU. Systematic quality checks are conducted throughout the entire process chain, from the receipt of the goods to the delivery of the products. Not least during the final inspection, state-of-the-art measuring methods (including 3D measuring machines and surface measuring devices for roughness, waviness and profile measurement) as well as pressure, tightness and vacuum tests both ensure and document that the required quality has been achieved.

# AWS PRODUCT OVERVIEW
## EVERYTHING FROM A SINGLE SOURCE!

AWS Apparatebau has a wide and advanced product range. With many decades of experience as a manufacturer of check valves and in the field of valve technology, we are able to provide you with solutions for a variety of applications.

Industries that rely on our products include:

- Building technology
- Shipbuilding
- Chemistry and refining
- Water, waste water, water treatment, desalination
- Food and beverage industry
- Vacuum technology
- Aviation industry

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