



# DISCO CHECK VALVES

**SERIES**  
930 | 931

**AWS**  
**APPARATEBAU**

# 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.

# 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.

# 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/<br>PN 10/PN 16/<br>PN 25/PN 40<br><br>Class 150 *2 | PN 6/PN 10/PN 16<br><br>Class 150 |                      | PN 6 / PN 10 /<br>PN 16 / PN 25 /<br>PN 40<br><br>Class 150/<br>Class 300 | PN 10 / PN 16 /<br>PN 25 / PN 40<br><br>Class 150/<br>Class 300 *2 | PN 63/<br>PN 100 /<br>PN 160<br><br>Class 600/<br>Class 900 | PN 10                   |
| PRESSURE                                           |                 | max. 40 bar                                                 | max. 16 bar                       |                      | max. 50 bar                                                               |                                                                    | max. 160 bar                                                | max. 10 bar             |
| TEMPERATURE RANGES                                 |                 | -20 °C<br>to +300 °C                                        | -10 °C<br>to +200 °C              | -20 °C<br>to +300 °C | -196 °C to +400 °C*3                                                      |                                                                    | -200 °C<br>to +450 °C*3                                     | -20 °C<br>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,<br>EPDM, FKM,<br>PTFE                           | Metal, NBR, EPDM,<br>FKM          |                      | Metal, NBR, EPDM,<br>FKM, PTFE                                            |                                                                    | Metal, NBR,<br>EPDM, FKM,<br>PTFE                           | NBR, EPDM,<br>FKM, PTFE |
| DIFFERENT OPENING PRES-<br>SURES AS SPECIAL OPTION |                 | –                                                           | –                                 |                      | x                                                                         |                                                                    | x                                                           | x                       |

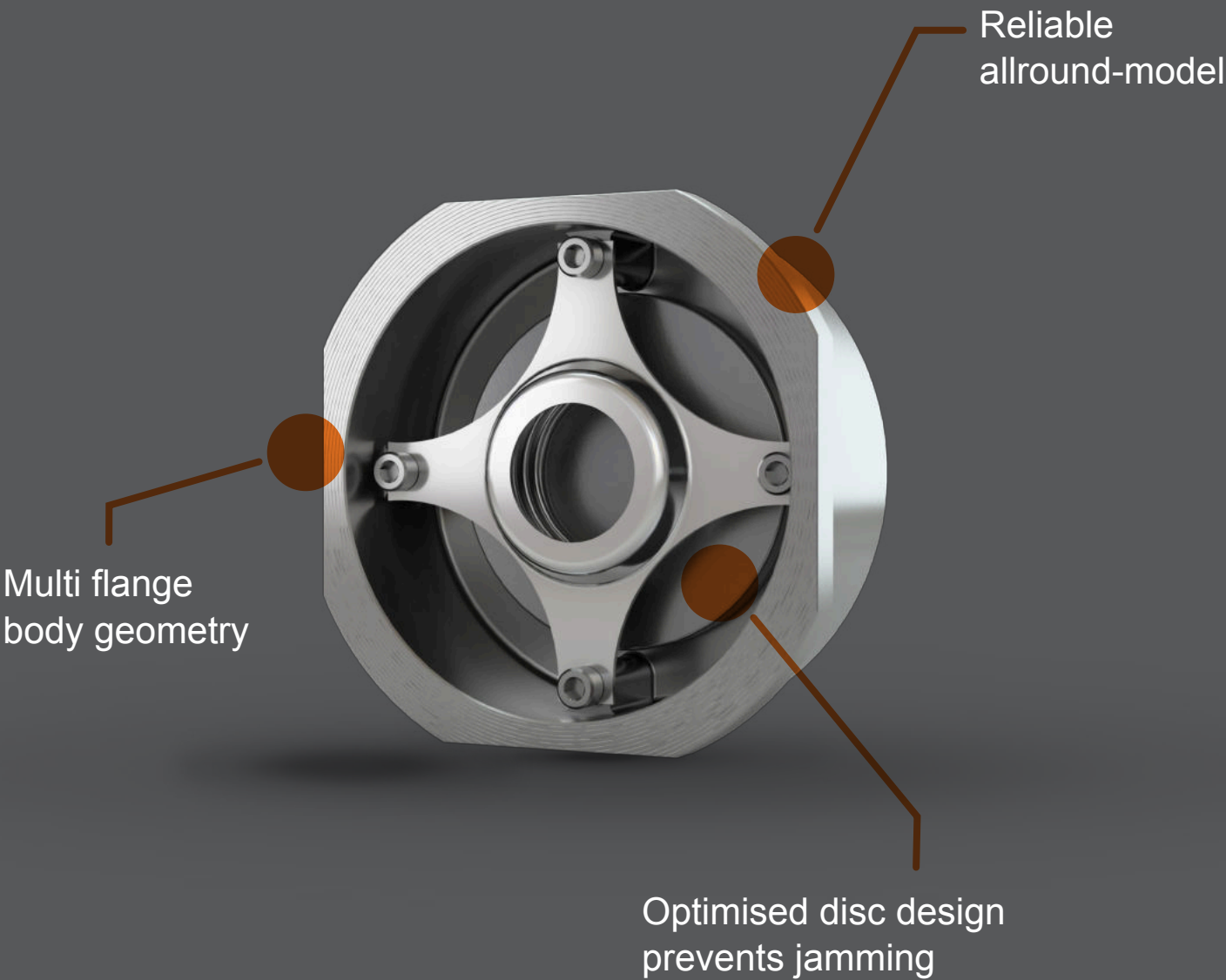
\*1 other flange connections on request    \*2 not for at all nominal sizes    \*3 higher or lower temperatures on request    \*4 other materials on request

# ... AND BECAUSE WE KNOW

## WHAT MATTERS IN YOUR INDUSTRY!

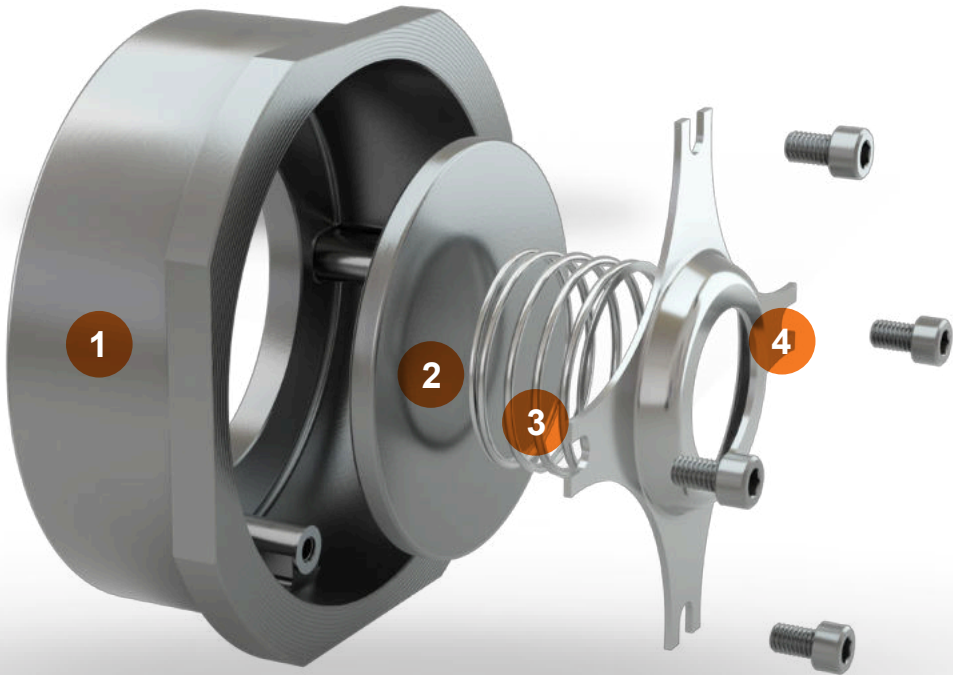


TECHNICAL DATA  
DISCO CHECK VALVE | SERIES 930



**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        |

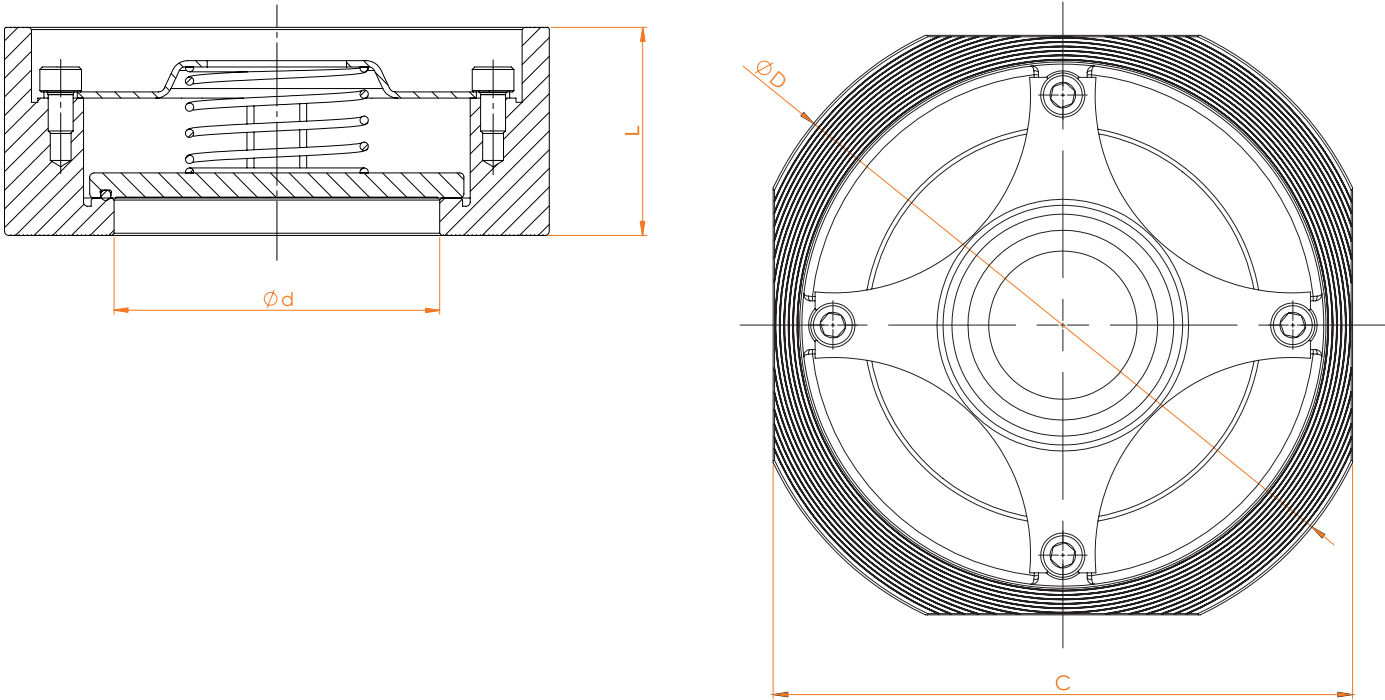
| Seal         | Temperature       | Leakage rate*3 |
|--------------|-------------------|----------------|
| Metal seated | -20 °C to +300 °C | ≥G             |
| NBR          | -20 °C to +100 °C | A              |
| EPDM         | -20 °C to +150 °C | A              |
| FKM          | -15 °C to +200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

\*3 acc. to EN 12266-1



TECHNICAL DATA

DISCO CHECK VALVE | SERIES 930



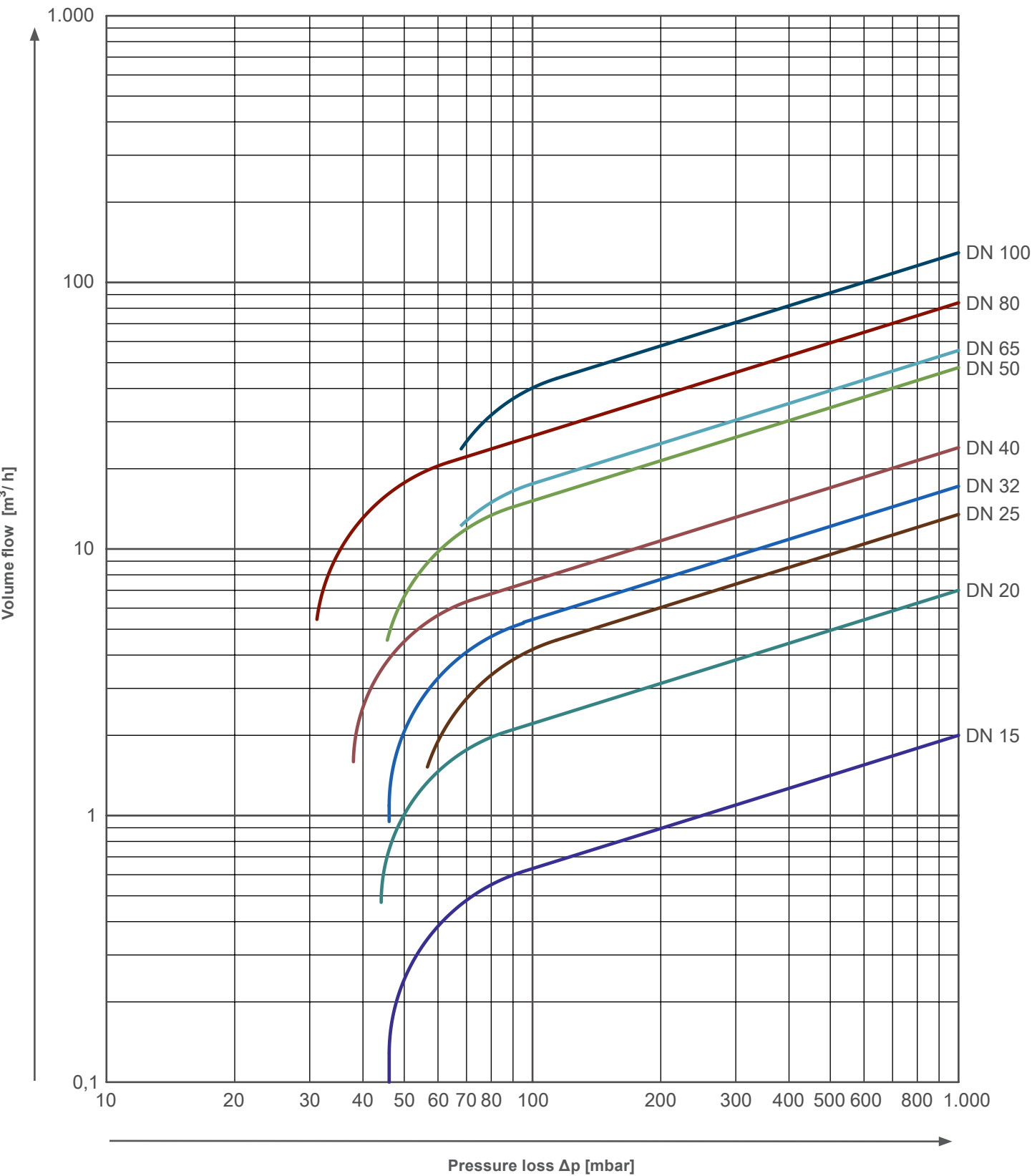
| Nominal size | Ø D | Ø d | C   | L    | Kv value<br>[m³/h] | Opening pressure [mbar] |      |      | w/o spring<br>↑ | Weight<br>[kg] |
|--------------|-----|-----|-----|------|--------------------|-------------------------|------|------|-----------------|----------------|
|              |     |     |     |      |                    | ↔                       | ↑    | ↓    |                 |                |
| 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

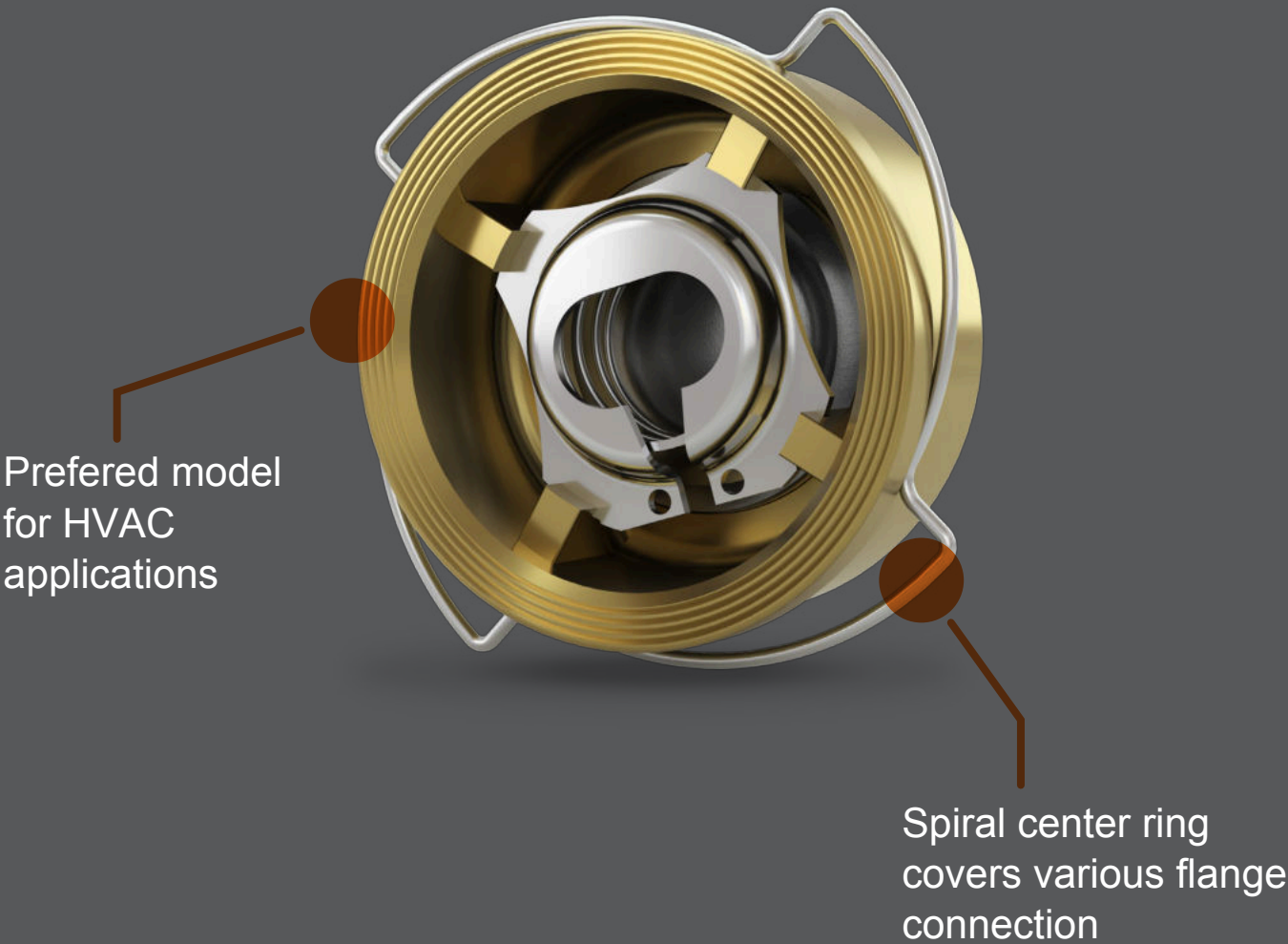
DISCO CHECK VALVE | SERIES 930

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.

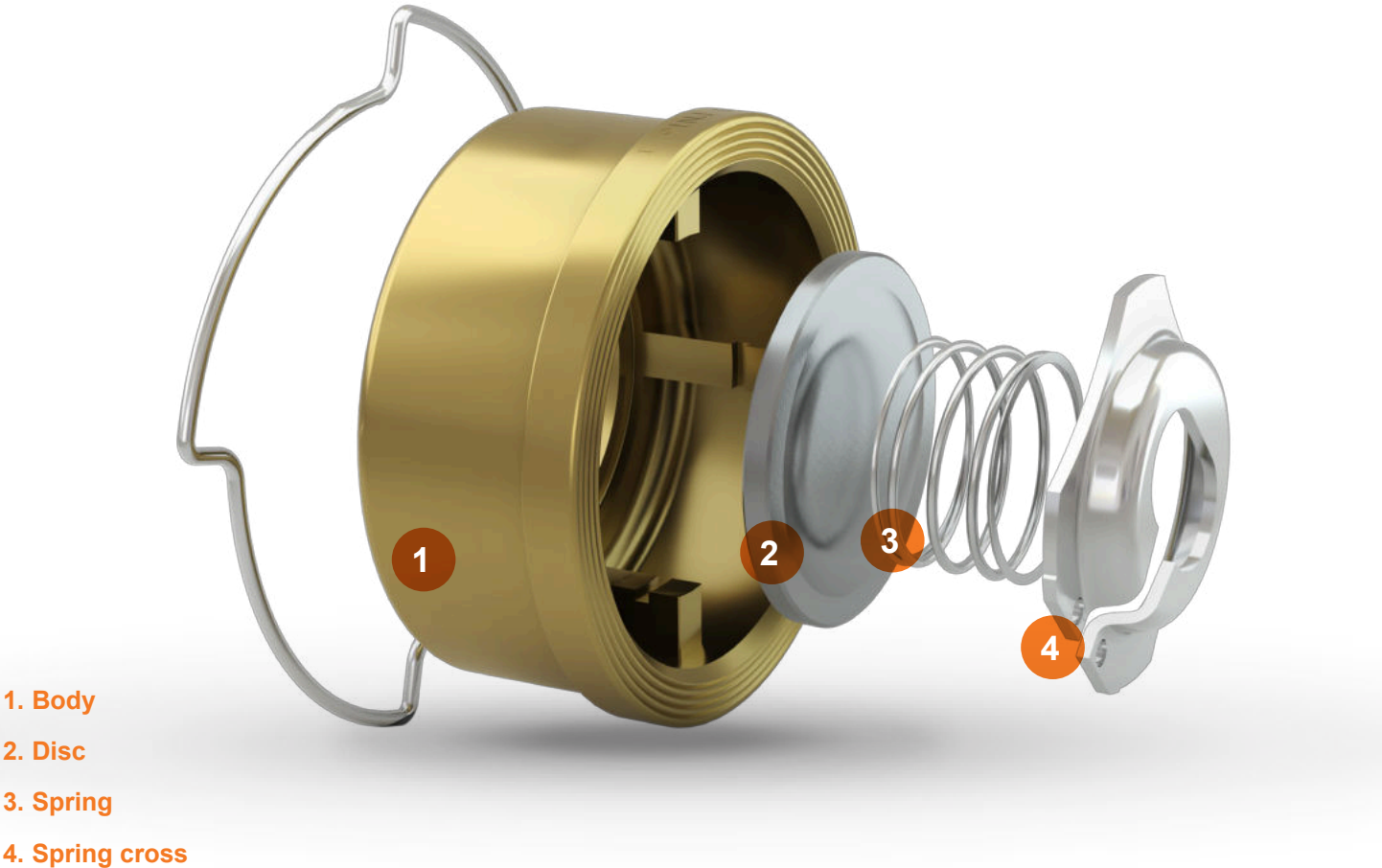


TECHNICAL DATA  
DISCO CHECK VALVE | SERIES 931



**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



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

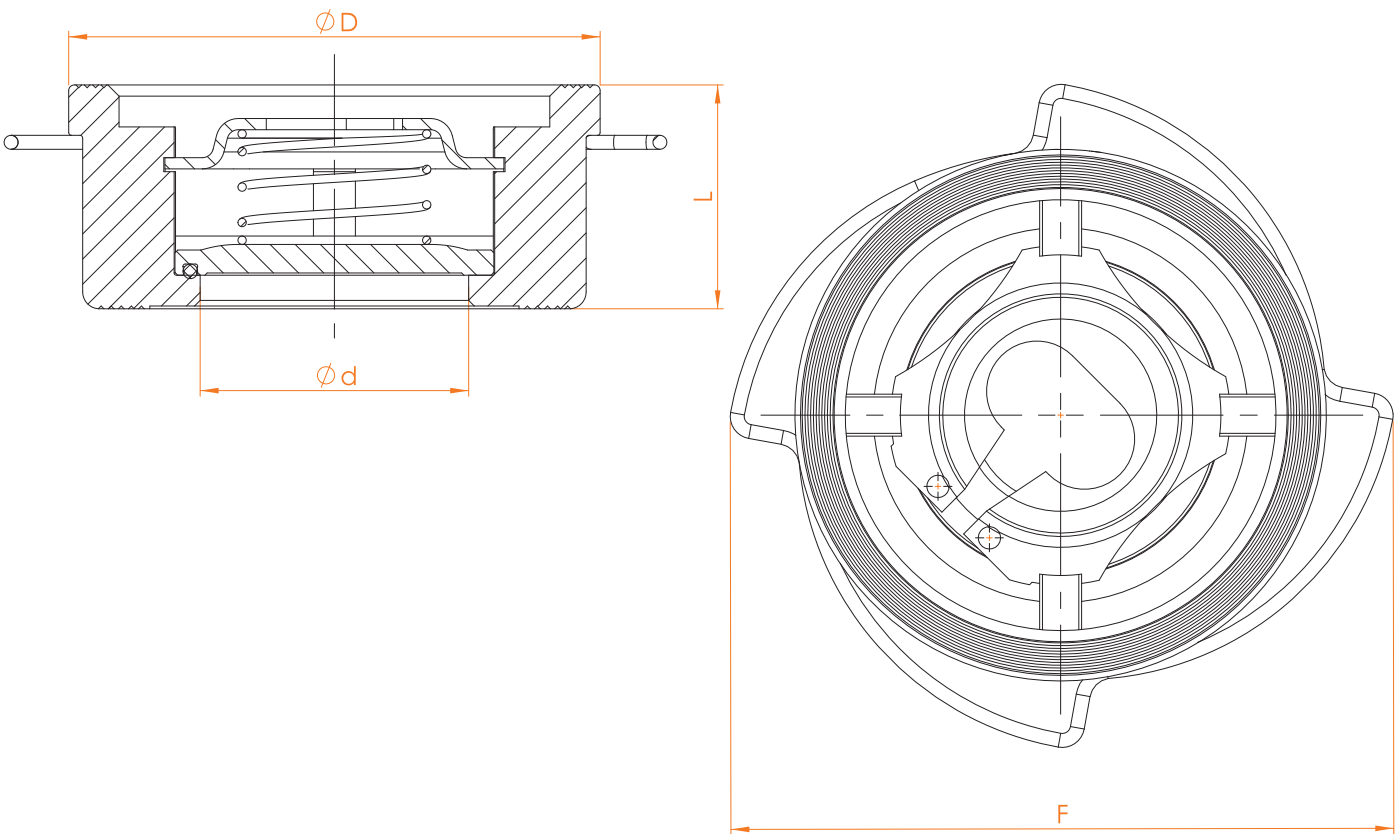
\*1 max. allowable pressure is dependent on the temperature

| 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

TECHNICAL DATA

DISCO CHECK VALVE | SERIES 931



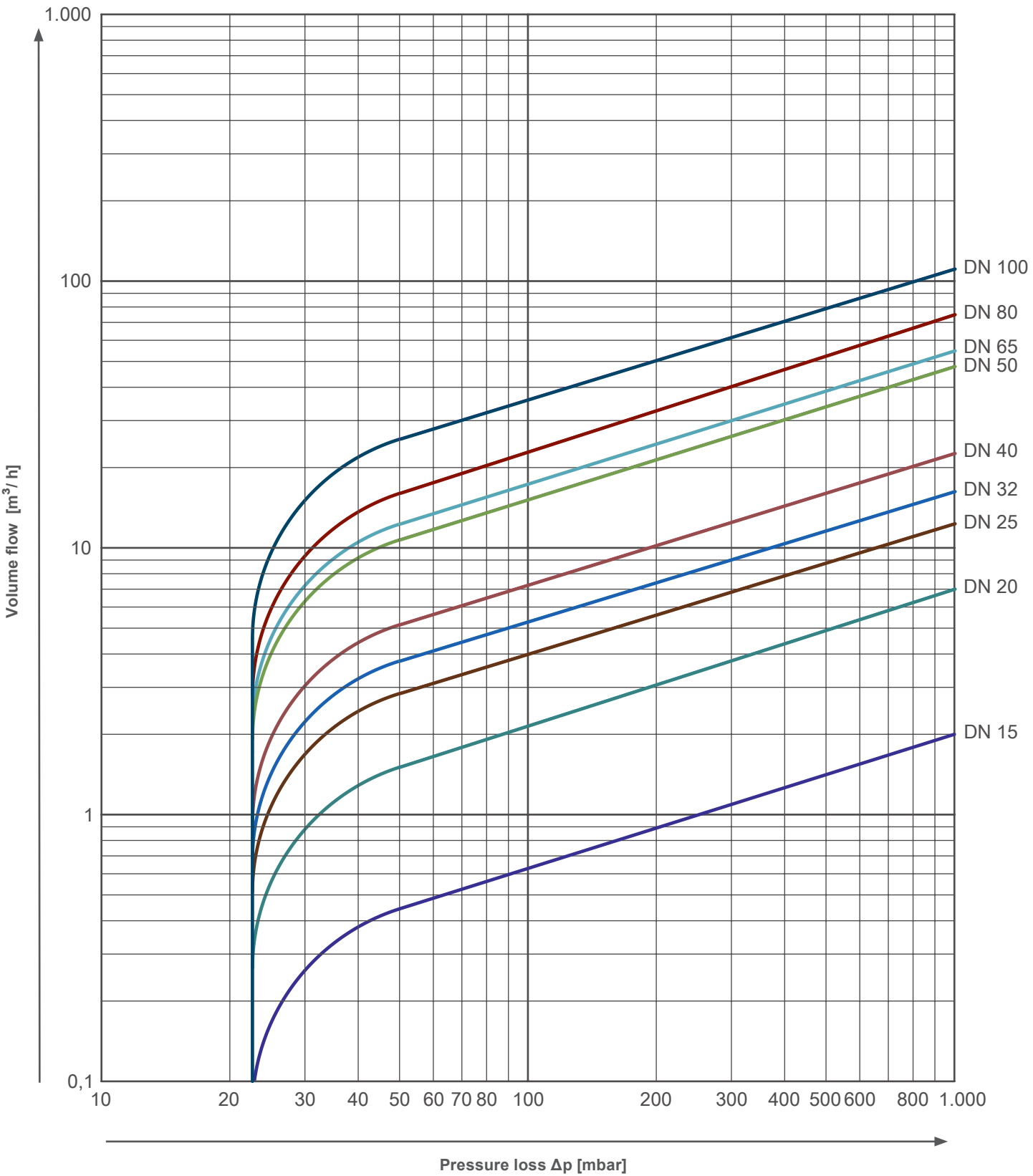
| Nominal size | Ø D | Ø d  | F   | L    | Kv value<br>[m³/h] | Opening pressure [mbar] |      |      | w/o spring | Weight<br>[kg] |
|--------------|-----|------|-----|------|--------------------|-------------------------|------|------|------------|----------------|
|              |     |      |     |      |                    | ↔                       | ↑    | ↓    |            |                |
| 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

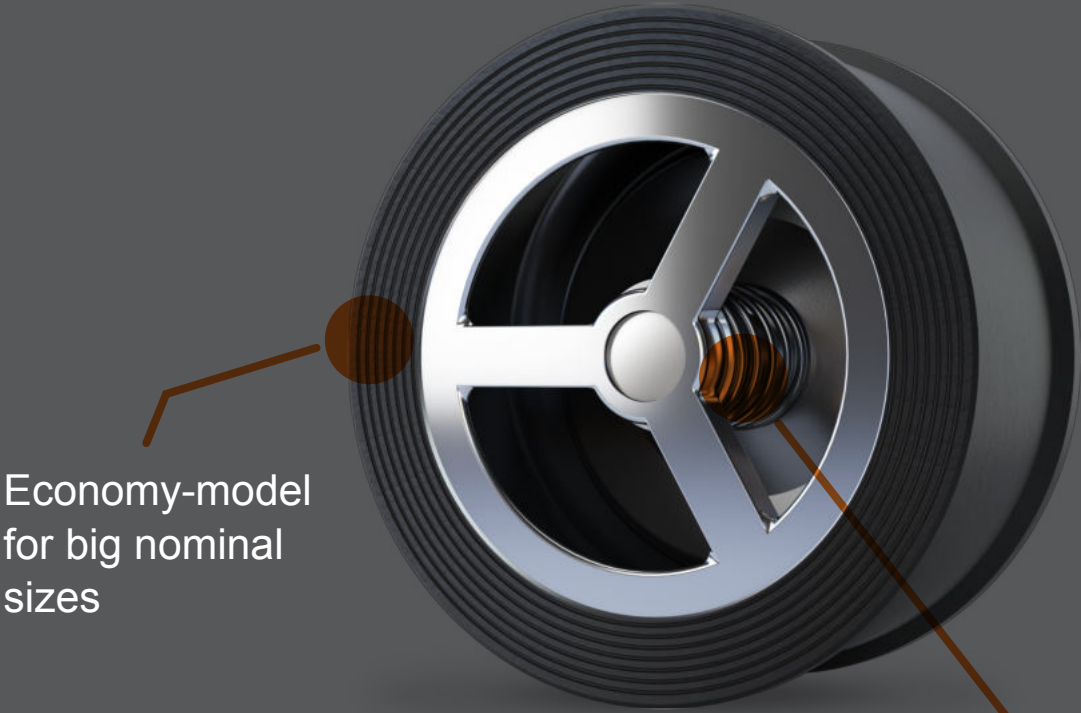
DISCO CHECK VALVE | SERIES 931

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.



TECHNICAL DATA  
DISCO CHECK VALVE | SERIES 931



Economy-model  
for big nominal  
sizes

High operational  
reliability by guided disc



**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 +200 °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<br>(GGG40.3) | EN-GJS-400-18-LT<br>(GGG40.3) | 1.4408       | 1.4571 | 0 to max. 16 bar |
| 9.1    | EN-GJS-400-18-LT<br>(GGG40.3) | 1.4308                        | 1.4408       | 1.4571 | 0 to max. 16 bar |

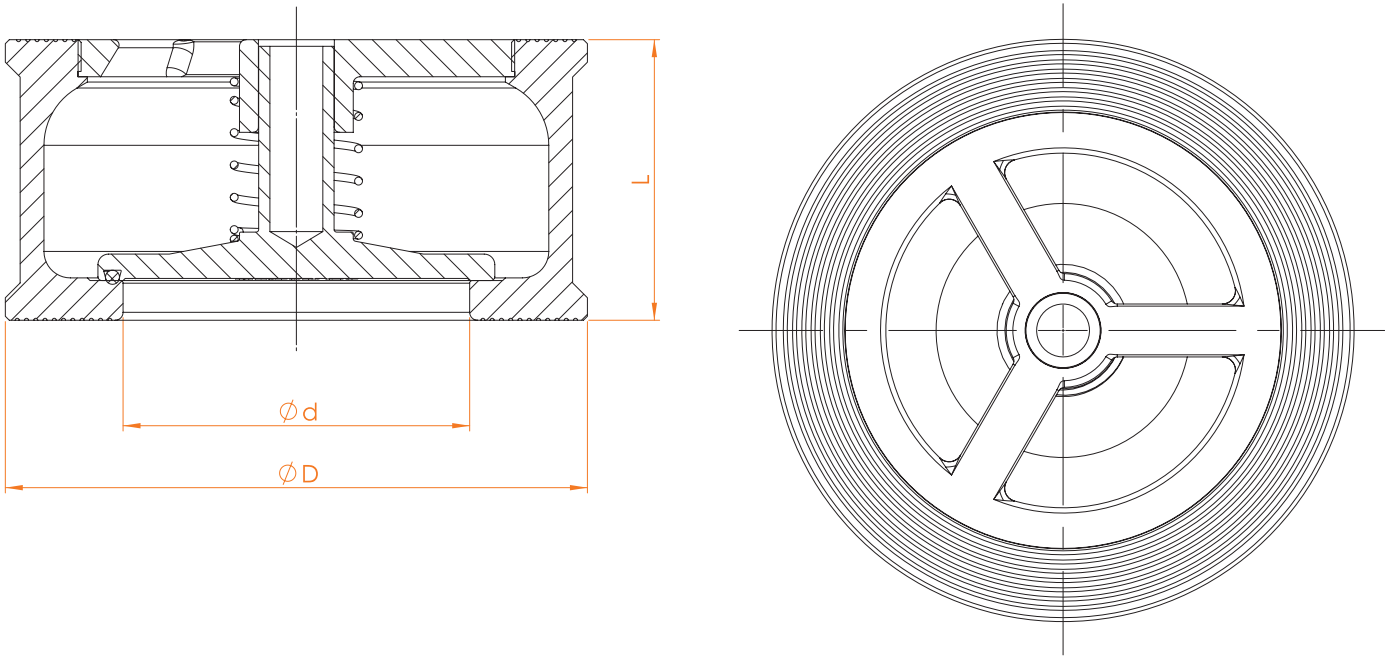
\*1 max. allowable pressure is dependent on the temperature

| Seal         | Temperature       | Leakage rate*2 |
|--------------|-------------------|----------------|
| Metal seated | -20 °C to +200 °C | G              |
| NBR          | -20 °C to +100 °C | A              |
| EPDM         | -20 °C to +150 °C | A              |
| FKM          | -15 °C to +200 °C | A              |

\*2 acc. to EN 12266-1



TECHNICAL DATA
DISCO CHECK VALVE | SERIES 931



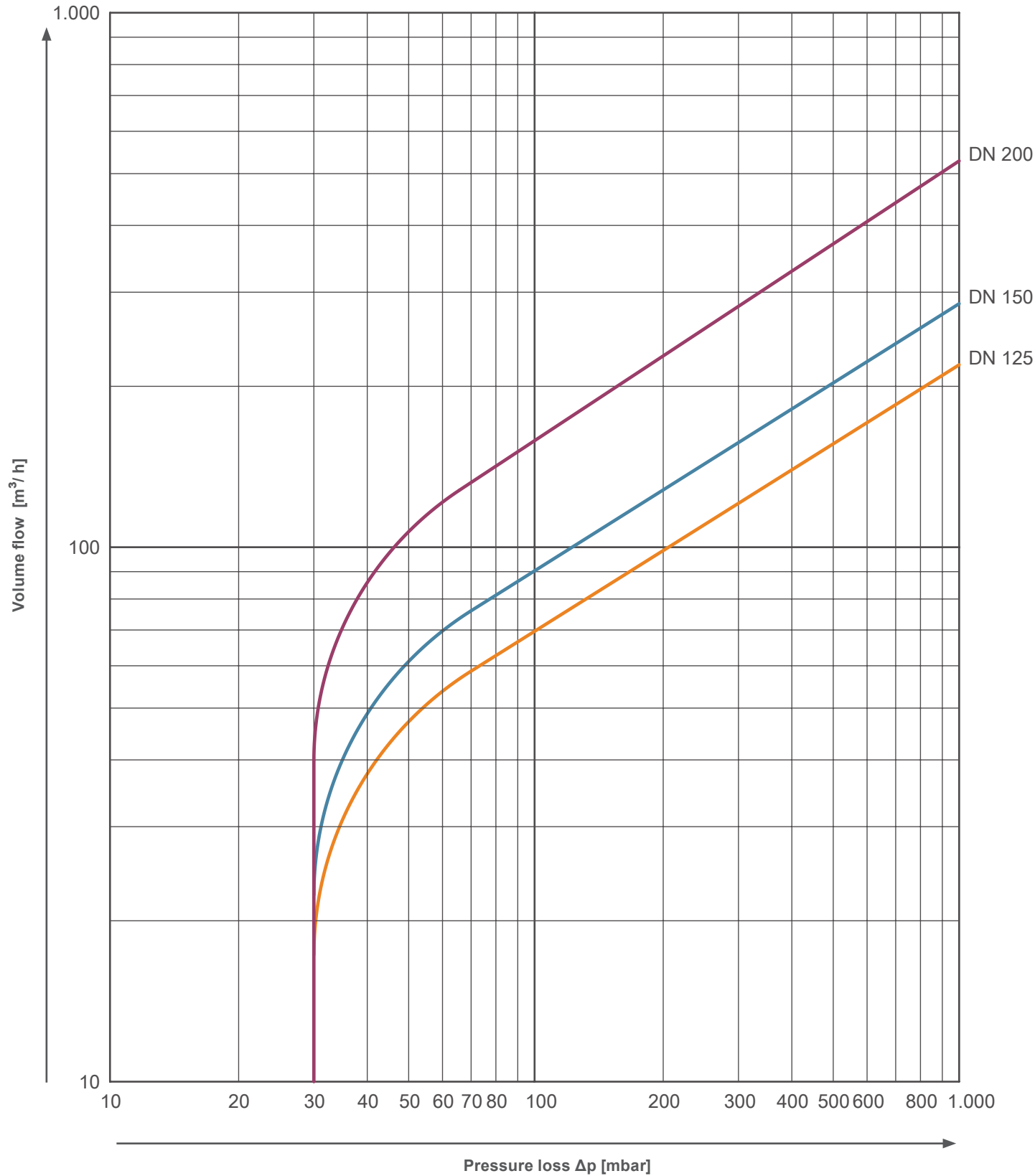
| Nominal size | Ø D  |            |         | Ø d | L   | Kv value<br>[m³/h] | Opening pressure [mbar] |      |      | w/o spring<br>↑ | Weight*3<br>[kg] |
|--------------|------|------------|---------|-----|-----|--------------------|-------------------------|------|------|-----------------|------------------|
|              | PN 6 | PN 10 / 16 | 150 lbs |     |     |                    | ↔                       | ↑    | ↓    |                 |                  |
| 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.





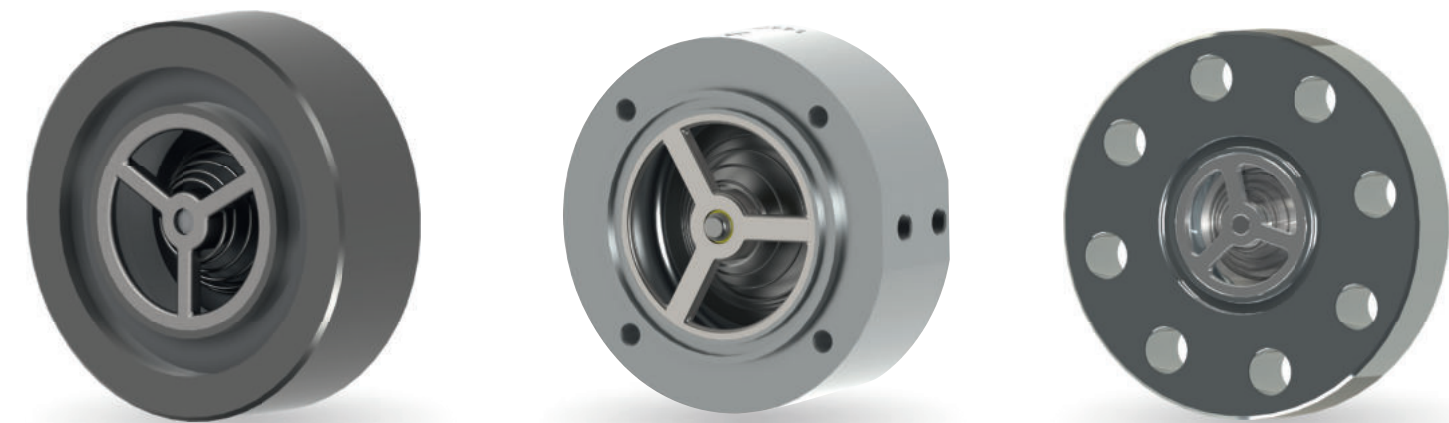
# SPECIAL OPTIONS

## 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

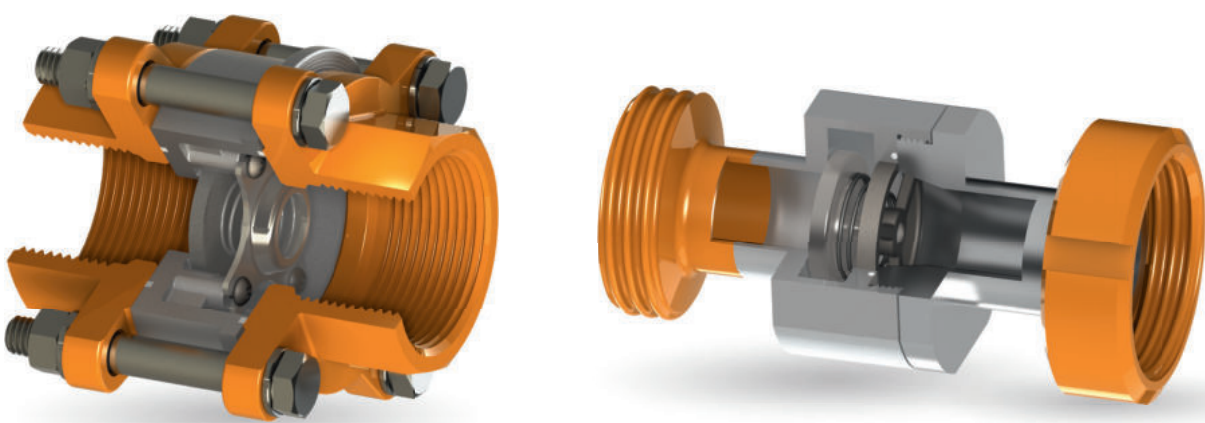


With various forms of flange sealing surfaces acc. to diverse standards

With thread holes

With lug type body

### With mounted connecting pieces for thread connections



#### 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



With attached ground cable



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