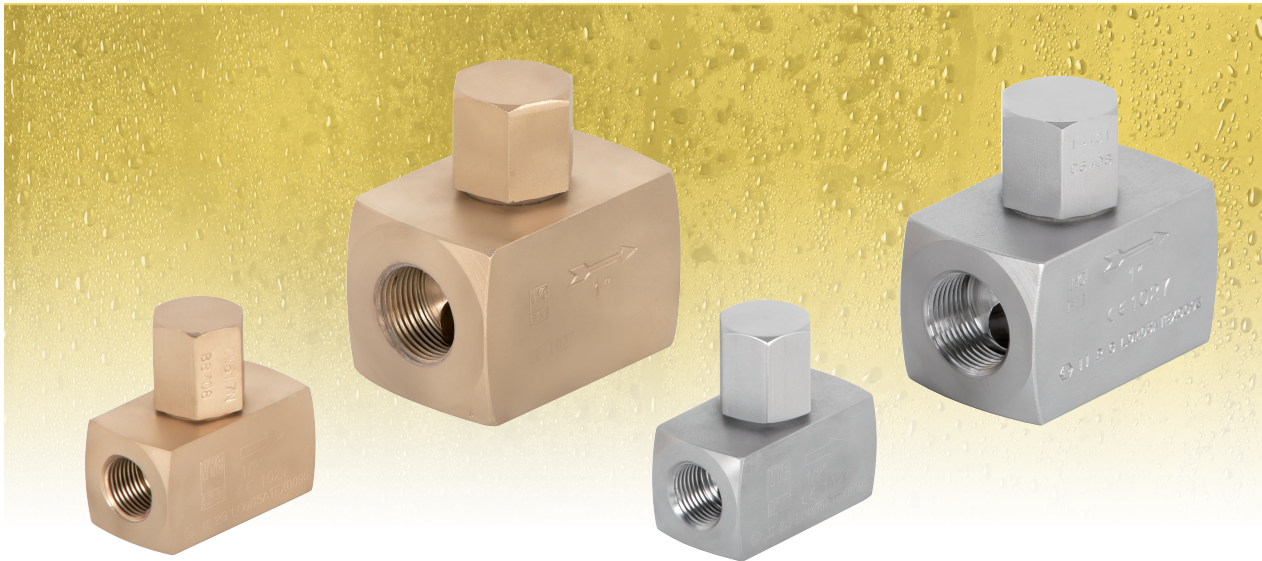


Piston check valve

Model 179



EN ASME/FNPT ASME/SW

For liquids, gases and steam.

For use in hydraulic, pneumatic, heating and steam systems, chemical and food industries, etc.

In accordance with the requirements of directive 2014/68/EU.

EC valve verification certified by: TÜV Rheinland Industrie Service GmbH, Notified Body for Pressure Equipment ID-No. 0035.

Final product verification EC examination (Module B) certified by: TÜV Rheinland Ibérica ICT, S.A.

In compliance with the ATEX 2014/34/EU directive "Protective equipment and systems for use in potentially explosive atmospheres".

Specifications

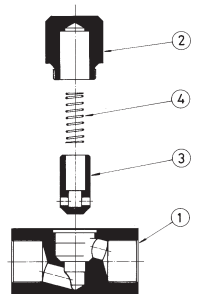
- Spring operated piston closure.
- Reduced pitch.
- Avoids ram shock when closing at zero pressure, remaining completely watertight at the time of fluid reversion.
- Highly tightness, exceeding the requirements of EN 12266-1.
- Easily assembled in any position in accordance with the direction of the fluid flow. Without spring only for horizontal mounting.
- Fully constructed from laminated bars.

IMPORTANT

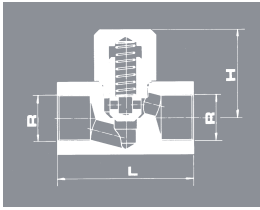
Depending on demand:

- Possibility of manufacture in other types of material, for use in special working conditions (high temperatures, fluids, etc.).
- Other connections.
- O-ring gasket closure.

| Nº. PIECE | PIECE | MATERIAL | | | | | | | | | | | |
|----------------------|---------------------|-----------------------------|-----|-----|-----------------------------|-----|--------------------|--------------------|-----------------------------|-----|--------------------|--------------------|--|
| | | BRASS | | | CARBON STEEL | | | | STAINLESS STEEL | | | | |
| 1 | Body | Brass (EN-CW617N) | | | Carbon steel (EN-1.1191) | | | | Stainless steel (EN-1.4401) | | | | |
| 2 | Cap | Brass (EN-CW617N) | | | Carbon steel (EN-1.1191) | | | | Stainless steel (EN-1.4401) | | | | |
| 3 | Piston | Stainless steel (EN-1.4401) | | | Stainless steel (EN-1.4401) | | | | Stainless steel (EN-1.4401) | | | | |
| 4 | Spring | Stainless steel (EN-1.4571) | | | Stainless steel (EN-1.4571) | | | | Stainless steel (EN-1.4571) | | | | |
| DN | | 1/4" à 2" (GAS, NPT ou SW) | | | | | | | | | | | |
| PN | | 200 | | | 250 | | | | 250 | | | | |
| OPERATING CONDITIONS | PRESSURE IN bar | 200 | 175 | 34 | 250 | 211 | 180 | 167 | 250 | 207 | 170 | 164 | |
| | MAXIMUM TEMP. IN °C | 120 | 150 | 200 | 120 | 300 | 350 ⁽¹⁾ | 400 ⁽¹⁾ | 120 | 200 | 350 ⁽¹⁾ | 400 ⁽¹⁾ | |
| | MINIMUM TEMP. IN °C | -60 | | | -10 | | | | -60 | | | | |



(1) For temperatures exceeding 300°C without spring only or depending on demand, with special spring.



| R | | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | | |
|-------------------|-----------------|---|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| CONNECTIONS | | Whitworth gas-tight cylindrical female thread ISO 228/1 (DIN-259) | | | | | | | | | |
| | | NPT thread ASME - B 1.20.1 | | | | | | | | | |
| | | Socket welding ends SW ASME - B 16.11 | | | | | | | | | |
| H | | 34 | 39 | 48 | 55 | 62 | 64 | 82 | 85 | | |
| L | | 50 | 55 | 65 | 75 | 90 | 95 | 100 | 112 | | |
| REDUCED PITCH Ø | | 6,00 | 8,00 | 9,50 | 11,50 | 15,00 | 17,00 | 21,00 | 25,00 | | |
| WEIGHT IN kgs. | BRASS | 0,31 | 0,47 | 0,92 | 0,95 | 2,21 | 2,66 | 3,82 | 6,43 | | |
| | CARBON STEEL | 0,29 | 0,44 | 0,78 | 0,88 | 2,05 | 2,47 | 3,56 | 6,16 | | |
| | STAINLESS STEEL | 0,29 | 0,44 | 0,79 | 0,90 | 2,07 | 2,50 | 3,61 | 6,24 | | |
| CODE | BRASS | GAS | 0041 | 0381 | 0021 | 0341 | 0101 | 0141 | 0121 | 0201 | |
| | | NPT | 00411 | 03811 | 00211 | 03411 | 01011 | 01411 | 01211 | 02011 | |
| | 2003-179. | CARBON STEEL | GAS | 0044 | 0384 | 0024 | 0344 | 0104 | 0144 | 0124 | 0204 |
| | | | NPT | 00441 | 03841 | 00241 | 03441 | 01041 | 01441 | 01241 | 02041 |
| | | SW | 00442 | 03842 | 00242 | 03442 | 01042 | 01442 | 01242 | 02042 | |
| | 2003-179. | STAINLESS STEEL | GAS | 0042 | 0382 | 0022 | 0342 | 0102 | 0142 | 0122 | 0202 |
| | | | NPT | 00421 | 03821 | 00221 | 03421 | 01021 | 01421 | 01221 | 02021 |
| | | SW | 00422 | 03822 | 00222 | 0342 | 01022 | 01422 | 01222 | 02022 | |

| | | OPENING PRESSURE IN mbar | | | | FLOW COEFFICIENT | | | | |
|-------------------------------|--------|--------------------------|----------------|-------|-------|---------------------------------------|-------------------|---------------------------------------|-------|------|
| | | | | | | Kv m ³ /h ΔP = 1 bar | | Cv US gpm ΔP = 1 Psi = 0,07 bar | | |
| | | WITHOUT SPRING | WITH SPRING | | | WITH SPRING | WITHOUT SPRING | WITH SPRING | | |
| DIRECTION OF FLUID FLOW | | | | | | | | | | |
| | | | | | | (1) | (2) | (2) | (3) | |
| DN | 1/4" | 34,10 | 49,60 | 79,10 | 10,90 | 0,51 | 1,72 | 1,15 | — | 0,59 |
| | 3/8" | 35,50 | 51,00 | 81,50 | 10,50 | 1,05 | 3,04 | 2,46 | — | 1,22 |
| | 1/2" | 34,80 | 51,00 | 80,80 | 11,20 | 1,22 | 4,67 | 3,05 | — | 1,42 |
| | 3/4" | 32,80 | 44,00 | 76,80 | 10,20 | 2,08 | 6,90 | 5,33 | — | 2,41 |
| | 1" | 34,60 | 54,10 | 80,40 | 11,20 | 4,39 | 13,80 | 10,84 | — | 5,09 |
| | 1 1/4" | 34,80 | 55,40 | 86,90 | 11,10 | 5,19 | 20,22 | 13,47 | — | 6,02 |
| | 1 1/2" | 35,00 | 55,90 | 82,00 | 11,00 | 7,82 | 30,89 | 15,06 | — | 9,07 |
| 2" | 34,00 | 56,00 | 76,10 | 10,40 | 10,67 | 37,13 | 29,21 | — | 12,38 | |

(1) For other mounting positions, with or without spring, the flow coefficient varies by ± 2%.
 (2) Flow coefficient for orientation. The volumetric flows which cause loss of pressure to 0,07 bar = 1 Psi are in unstable areas (See diagram of pressure loss).
 (3) Opening pressures are greater than 0,007 bar = 1 Psi. The Cv coefficient cannot be determined.

Load losses

The adjoining diagram reflects the load loss curves for water at 20°C. Values are based on valves without springs and installed horizontally. In order to determine other fluids load losses, calculate the flow of these equivalent to water.

$$Q_A = \sqrt{\frac{\rho}{1.000}} \cdot Q$$

Q_A = Flow equivalent to water in m³/h.

ρ = Fluid density in operating conditions in kg/m³.

Q = Fluid flow in operating conditions in m³/h.

