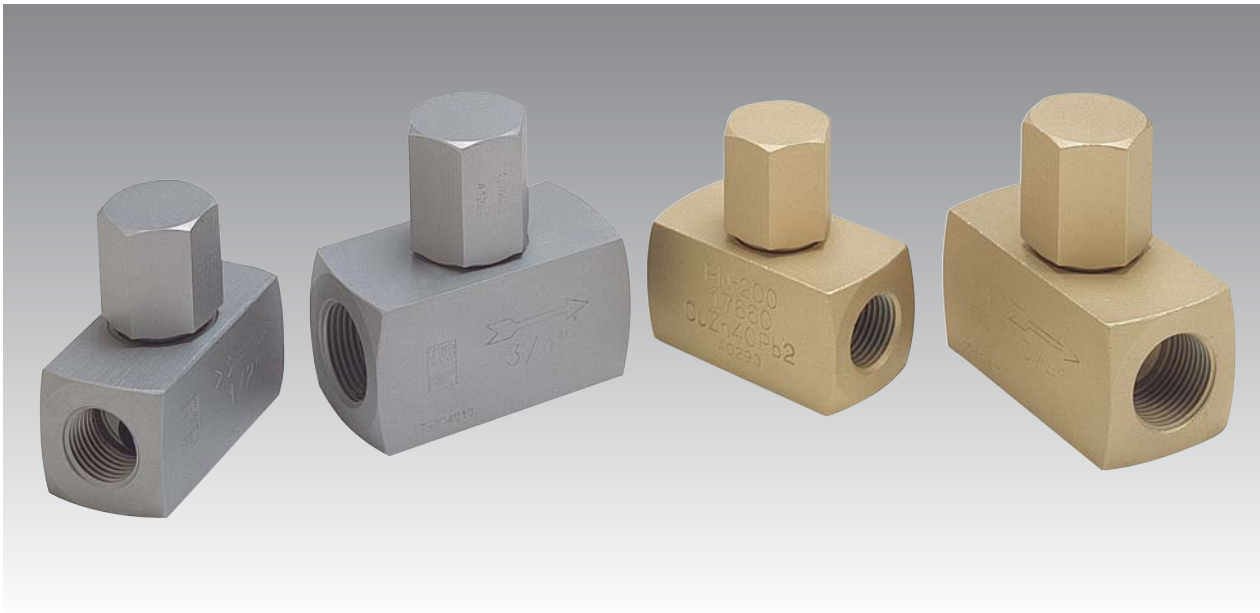


Piston check valve



Model 179



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 97/23/EC.

EC valve verification certified by: TÜV Internacional Grupo TÜV Rheinland, S.L. EC 1027.

Final product verification EC examination (Module A1) certified by: TÜV Internacional Grupo TÜV Rheinland, S.L.

In compliance with the ATEX 94/9/CE 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 DIN-3230. Page 3.
- 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.

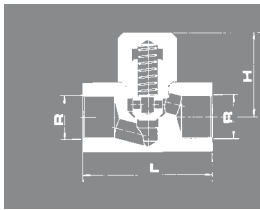
IMPORTANT

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" to 2" (GAS, NPT or 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 1978 (DIN-259) | | | | | | | | | |
| | | NPT thread ANSI - B 2.1 | | | | | | | | | |
| | | Socket welding ends SW ANSI - 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 | |
| | | 2003-179. | NTP | 00411 | 03811 | 00211 | 03411 | 01011 | 01411 | 01211 | |
| | CARBON STEEL | GAS | 0044 | 0384 | 0024 | 0344 | 0104 | 0144 | 0124 | 0204 | |
| | | 2003-179. | NTP | 00441 | 03841 | 00241 | 03441 | 01041 | 01441 | 01241 | 02041 |
| | | SW | 00442 | 03842 | 00242 | 03442 | 01042 | 01442 | 01242 | 02042 | |
| | STAINLESS STEEL | GAS | 0042 | 0382 | 0022 | 0342 | 0102 | 0142 | 0122 | 0202 | |
| | | 2003-179. | NTP | 00421 | 03821 | 00221 | 03421 | 01021 | 01421 | 01221 | 02021 |
| | | SW | 00422 | 03822 | 00222 | 03422 | 01022 | 01422 | 01222 | 02022 | |

| DIRECTION OF FLUID FLOW | OPENING PRESSURE IN mbar | | | | FLOW COEFFICIENT | | | | | |
|-------------------------|--------------------------|-------------|-------|-------|--------------------------|----------------|---------------------------------------|-------|---|-------|
| | | | | | Kv m³/h ΔP = 1 bar | | Cv l/min. ΔP = 1 Psi = 0,07 bar | | | |
| | WITHOUT SPRING | WITH SPRING | | | WITH SPRING | WITHOUT SPRING | WITH SPRING | | | |
| | | | | | | | | | | |
| | | | | | (1) | (2) | (2) | (3) | | |
| DN | 1/4" | 34,10 | 49,60 | 79,10 | 10,90 | 0,68 | 1,98 | 1,32 | — | 2,65 |
| | 3/8" | 35,50 | 51,00 | 81,50 | 10,50 | 1,10 | 2,76 | 2,22 | — | 4,20 |
| | 1/2" | 34,80 | 51,00 | 80,80 | 11,20 | 2,10 | 6,95 | 4,53 | — | 8,90 |
| | 3/4" | 32,80 | 44,00 | 76,80 | 10,20 | 4,10 | 11,76 | 9,06 | — | 16,70 |
| | 1" | 34,60 | 54,10 | 80,40 | 11,20 | 6,20 | 16,80 | 13,20 | — | 25,80 |
| | 1 1/4" | 34,80 | 55,40 | 86,90 | 11,10 | 9,80 | 33,00 | 21,90 | — | 40,80 |
| | 1 1/2" | 35,00 | 55,90 | 82,00 | 11,00 | 12,90 | 44,00 | 21,50 | — | 52,20 |
| | 2" | 34,00 | 56,00 | 76,10 | 10,40 | 19,40 | 58,20 | 45,90 | — | 71,50 |

- (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.

