Pressure Retaining Valve Type 586
Compact, Easy to adjust, Flexible

Benefits

**Easy Installation:**
- Compact design enables installation even when space is limited
- Radially dismountable
- Integrated assembling aid enables direct assembly of the valves to mounting sets
- Significantly shorter take-out length with union connections

**Easy Operation:**
- No re-torquing needed anymore due to central housing nut
- Easily adjustable set pressure
- Constant and low vibrating control behavior
- Tightness resistant with temperature cycles
- Low-maintenance
- Pressure setting even during operation

**Flexible:**
- Manometer optional for neutral and aggressive media
- Various connection options due to the true union or spigot version.
- Low pressure spring set available
- Easy on spare parts due to modular design, one part might fit more than one valve

Market Segments
- Water Treatment
- Chemical Process Industry
- Microelectronics
- Solar industry

Function
The pressure retaining valve maintains the line pressure to a set value on the valve inlet. The inlet pressure is in direct relation to the flow. Independent of pressure fluctuations the system pressure stays largely constant.

Flow Media
Neutral and aggressive media with low number of particles/solids.
Depending on selected valve material mind the chemical resistance. ➔ Please refer to Georg Fischer Piping System Chemical Resistance List

Media Temperature
See pressure-/temperature diagram

Pressure Rating
PN 10 @ +20°C (150 psi @ 68°F)

Set-Range
Standard: 0.5–9.0 bar (7–130 psi)
Optional: 0.3–3 bar (4–44 psi)

Hysteresis
Difference between opening and closing pressure:
Approx. 0.1 – 0.4 bar (1.5 – 5.8 psi)

Dimensions
DN 10 - DN 50 (3/8” – 2”)

(c) 2014, Georg Fischer Rohrleitungssysteme AG
Wetted Parts (Body, Piston, Inner-housing)
• PVC-U / CPVC (Polyvinylchlorid)
• PP (Polypropylen)
• PVDF (Polyvinylidenfluorid)

Valve Housing
PP-GF (orange)

Diaphragm
• EPDM/PTFE

Seals
• EPDM
• FPM

Connections
• Body with cementing resp. welding spigots
• Body true union type connection to match all standard GF unions and inserts (similar to diaphragm valve)

Available on request:
Various inserts from the GF range, e.g. transition to metal or PE.

Mounting
Threaded inserts available for safe mounting

Flow Direction
Always according to arrow on body

Valve Function and Design
The piston/diaphragm position of the valve is in balance between the inlet pressure P1 (primary side) and set spring force.
If the inlet pressure rises above the set value, the diaphragm is lifted against the spring force. The valve opens until a balanced condition is reached again.
If the inlet pressure drops below the set value, the diaphragm is pressed down by the spring force. The valve starts closing until a balanced condition is reached again.
Hence the inlet pressure remains largely constant independent of increasing or decreasing system pressure (as long as the inlet pressure > set pressure).

Pressure-Temperature Diagram
The following Pressure-Temperature Diagrams are based on a lifetime of 25 years with water or similar media.

Flow Values
\[
\begin{array}{|c|c|c|c|c|c|}
\hline
\text{DN} & \text{inch} & d & K_{V100} & C_{V100} \\
\hline
10 & 3/8 & 16 & 50 & 3'020 & 3.5 \\
15 & 1/2 & 20 & 53 & 3'150 & 3.6 \\
20 & 3/4 & 25 & 114 & 6'840 & 7.9 \\
25 & 1 & 32 & 125 & 7'500 & 8.6 \\
32 & 1 1/4 & 40 & 263 & 15'760 & 18.1 \\
40 & 1 1/2 & 50 & 286 & 17'140 & 19.7 \\
50 & 2 & 63 & 293 & 17'610 & 20.2 \\
\hline
\end{array}
\]

Standards
• Tightness according to ISO 9393
• Leak rate according to EN 12266
Sectional View Pressure Retaining Valve Type 586

Dimensions Type 586 with Unions, Cementing resp. Welding Sockets

(c) 2014, Georg Fischer Rohrleitungssysteme AG
Characteristic Curve Type 586

The curves below are valid for the set range 0.5-9.0 bar (7 – 130 psi) and show the secondary or outlet pressure P2 over the flow Q in l/h. Parameter is the set pressure pE at Q = 0 l/h. There curves are valid for water at +20 °C for a flow velocity of 2 m/s. Special version set range 0.3 – 3 bar (4 – 44 psi) available on request.