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-torqueing 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”)

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)

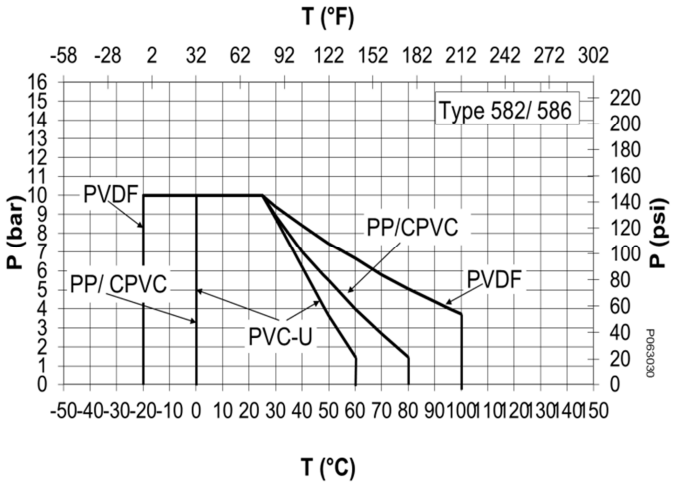
Available on request:
Various inserts from the GF range, e.g. transition to metal or PE.

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.



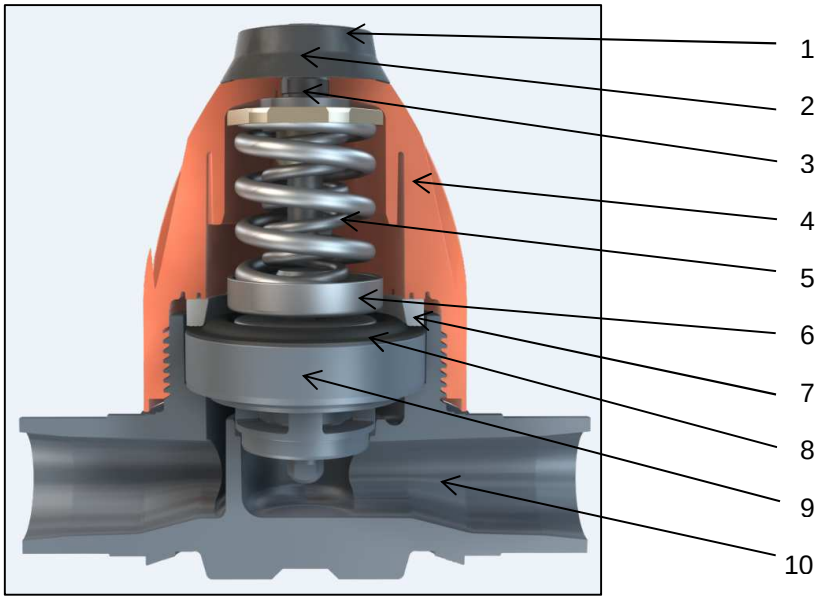
P *Permissible pressure in bar, psi*
T *Temperature in °C, °F*

Flow Values
K_{V100} @ delta p = 1 bar
C_{V100} @ delta p= 1 psi

DN [mm]	inch	d [mm]	K_{V100} [L/min]	K_{V100} [L/h]	C_{V100} [gpm]
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

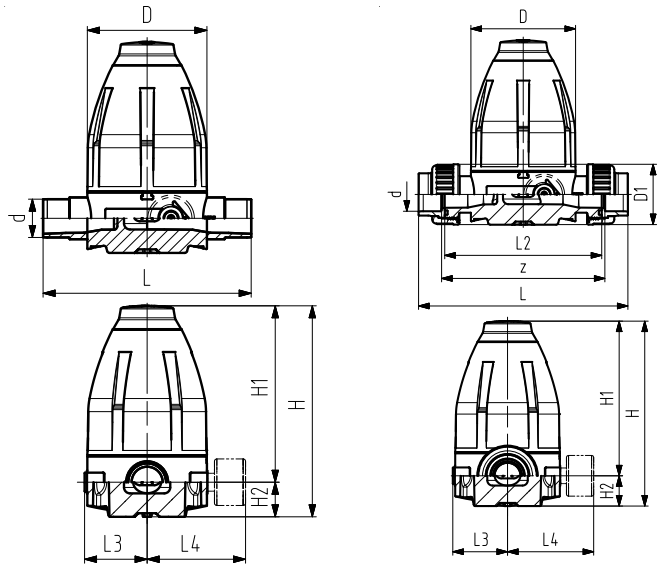
Standards
• Tightness according to ISO 9393
• Leak rate according to EN 12266

Sectional View Pressure Retaining Valve Type 586



No.	Description
1	Protecting Cap
2	Lock-Nut
3	Spindle
4	Housing
5	Spring(s)
6	Spring Retainer
7	Retainer Ring
8	Diaphragm
9	Cartridge with Piston
10	Body

Dimensions Type 586 with Unions, Cementing resp. Welding Sockets



	d (mm)	DN (mm)	DN (inch)	D	H	H1	H2
All Materials	16 | 20	10 | 15	3/8 | ½	79	132	111	21
	25 | 32	20 | 25	¾ | 1	100	177	148	29
	40 | 50	32 | 40	1 ¼ | 1 ½	147	251	207	44
	63	50	2	147	251	207	44

	d (mm)	DN (mm)	DN (inch)	L* PVC/ PP	L* PVDF	L2	L3	L4	z PVC/ PP	z PVDF
All Materials if not indicated	16 | 20	10 | 15	3/8 | ½	134	150	120	42	77	126	130
	25 | 32	20 | 25	¾ | 1	174	190	150	53	88	156	160
	40 | 50	32 | 40	1 ¼ | 1 ½	224	240	205	76	111	211	215
	63	50	2	244	260	205	76	111	211	215

* L for Spigot Version only

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.