

## 681

### Bronze Pressure Reducing Valve For Water, Air & Neutral Gases Direct Acting BSPT Threaded Male Unions



The 681 is an extremely sturdy pressure reducing valve which is suitable for water up to 95°C, compressed air, neutral gas, neutral and non-sticking liquids. Used in domestic water supply systems as well as commercial and industrial plants, this is a versatile valve suitable for many duties.

The 681 has an integral filter which prevents debris from entering the valve which may affect its performance.

The valve has 1/4" BSP pressure gauge ports on both sides so that the pressure can be accurately monitored and adjusted.

#### Approvals, Features & Benefits

- WRAS (EPDM up to 85°C only)
- ACS & DVGW (EPDM up to 80°C only)
- IMPA coded for marine duty
- Direct acting
- Quiet operation
- Economical & efficient
- Pressure gauge port
- Can be installed in any position

#### Pressure & Temperature

Max upstream pressure:-

- 681-SP : 40 bar
- 681-HP : 40 bar
- 681-LP : 25 bar

Downstream pressure range:-

- 681-SP : 1 to 8 bar (DVGW 6 bar)
- 681-HP : 5 to 15 bar
- 681-LP : 0.5 to 2 bar

Temperature range:-

- EPDM (Standard) : -20°C to 120°C\*
- FKM : -10°C to 120°C\*
- \* 95°C for outlet pressures over 8 bar

DN	15	20	25	32	40	50
I	80	90	100	105	130	140
L	142	158	180	193	226	252
h	33	33	45	45	70	70
H***	102 (128)	102 (128)	130 (150)	130 (150)	165 (185)	165 (185)
G (BSP)	1/2	3/4	1	1 1/4	1 1/2	2
Gauge Port (BSP)	1/4	1/4	1/4	1/4	1/4	1/4
Strainer Mesh (mm)	0.60	0.60	0.60	0.60	0.75	0.75
Flow K <sub>vs</sub> (m <sup>3</sup> /h) <sup>1</sup>	3	3.5	6.7	7.6	12.5	15
Weight Kg***	1.2 (1.5)	1.3 (1.6)	2.4 (2.9)	2.6 (3.1)	5.5 (6.2)	6.0 (6.7)

\*\* Figures in brackets for low pressure version (681-LP)

<sup>1</sup> The K<sub>vs</sub> value was determined according to DIN EN 60534-2-3. Instructions on how to determine size and capacity are to be found on following page.

#### MATERIALS

Inlet Body	Bronze (CC499K)
Outlet Body	Bronze (CC499K)
Internal Parts	Bronze (CC499K) & Stainless Steel (316L)
Spring	Steel (Anti-rust protection)
Strainer	Stainless Steel (316L)
Seals	EPDM (Standard) • FKM

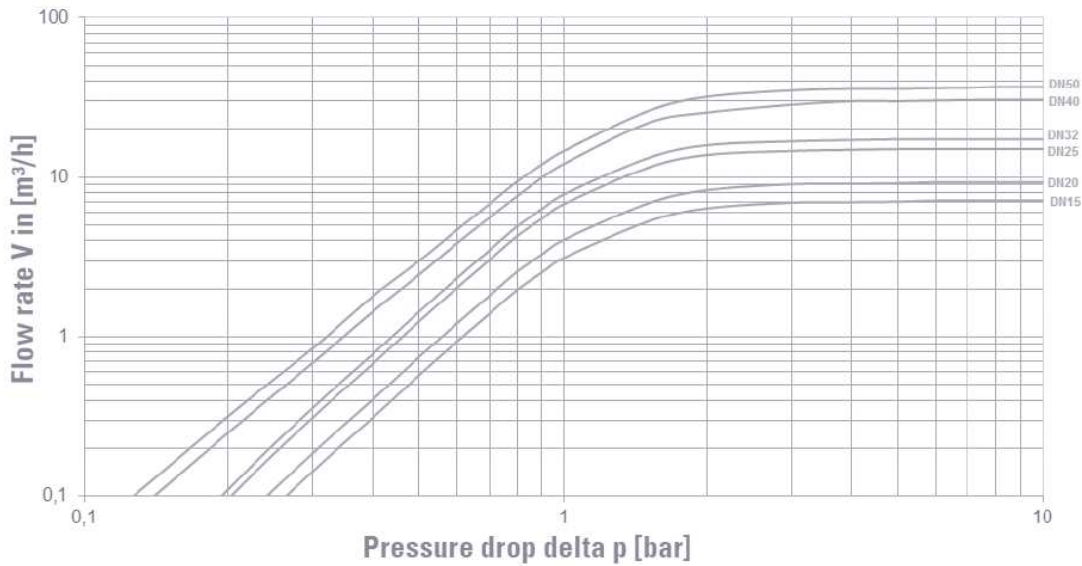
#### OPTIONS

Female Threaded BSPP	DN15 to DN25 only (contacts sales for dimensions)
Female Threaded NPT	DN15 to DN25 only (contacts sales for dimensions)
FKM Seals	-10°C to 120°C (not WRAS approved)
Complete Valve Insert Replacement	Can be exchanged without removing the valve
Pressure Gauges	63mm dial 1/4" BSP connection - various pressure ranges

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## Capacity Charts/Sizing

### Dimensioning by pressure loss on the outlet pressure side



### Dimensioning by flow velocity

#### For liquids:

With help of the chart you can determine the nominal diameter (DN) for a given flow volume V (m³/h). According to DVGW-guidelines (DIN 1988) a flow velocity of 2 m/s in domestic water supply systems should not be exceeded.

#### For compressed air and other gaseous media:

The usual flow velocity for compressed air is 10 - 20 m/s. For gaseous media the flow volume V should always be shown in actual cubic meters/hour. If the flow volume is given in standard cubic meters, these should be converted into actual cubic meters before using the diagram.

$$V (\text{m}^3/\text{h}) = \frac{V_{\text{Norm}} (\text{Nm}^3/\text{h})}{p_{\text{absolut}} (\text{bar})} = \frac{V_{\text{Norm}}}{p_{\text{u}} + 1}$$

Actual cubic meters are based on the prevailing pressure of the medium on the outlet side of the pressure reducer.

