


**PI 2155**

For technical personnel only!

1/3

# PRODUCT INFORMATION

## COOLANT VALVES FROM PIERBURG

### THERMAL MANAGEMENT PERFORMANCE


**Two-way valve**

**Three-way valve**

The Motorservice product range now includes a variety of coolant switching valves (CSV) manufactured by Pierburg.

The two-way valves and three-way valves play a crucial role in the intelligent heat and energy management of vehicle engines. They guide heat flows or switch these off in a targeted manner. In modern hybrid and electric vehicles, the valves are used to cool the battery and power electronics.

#### CHARACTERISTICS

- Operating voltage: 12 V For water-glycol mixtures
- Excellent resistance up to 130 / 140°C High flow rates with low loss of pressure
- Compact model
- Low weight
- Increased vibration resistance
- Normally open / closed
- >4 million switching cycles
- Sealing elements and valve body made of EPDM elastomers and PTFE
- Housing made of PPA GF33

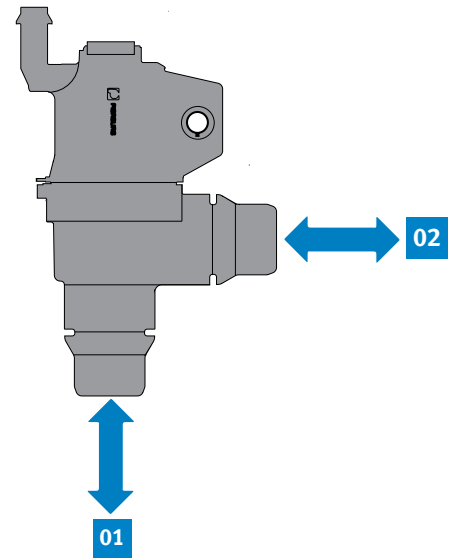


When the coolant valves were developed, particular attention was paid to making the flow design favourable. This minimises pressure losses.

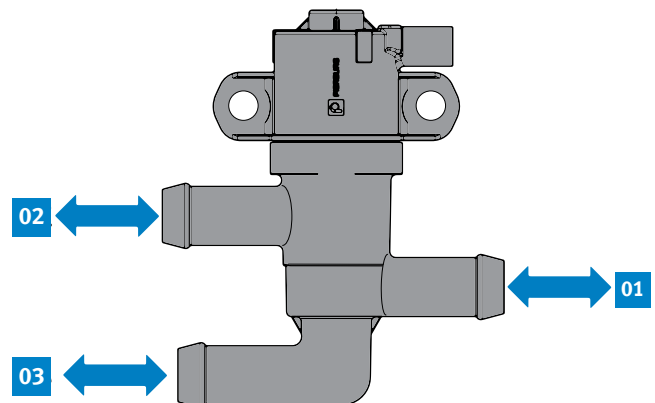
Integrated pressure-force compensation uses the flow pressure to reduce the holding force of the valve body. This made it possible to reduce the size of the pull magnet, which resulted in a more compact design and simplified mounting. The design also improved the vibration resistance.

The two-way valves switch the coolant flows on or off as required and are designed either as normally open or normally closed. Different connection diameters cover corresponding flow rates.

The three-way valves can be used both as a mixing valve and as a switchover valve. A three-way valve can switch between the circuits from connection 1 to 2 or from connection 1 to 3. If the three-way valve is used as a mixing valve by reversing the direction of flow (two inputs, one output), mixing is performed by periodic switching.

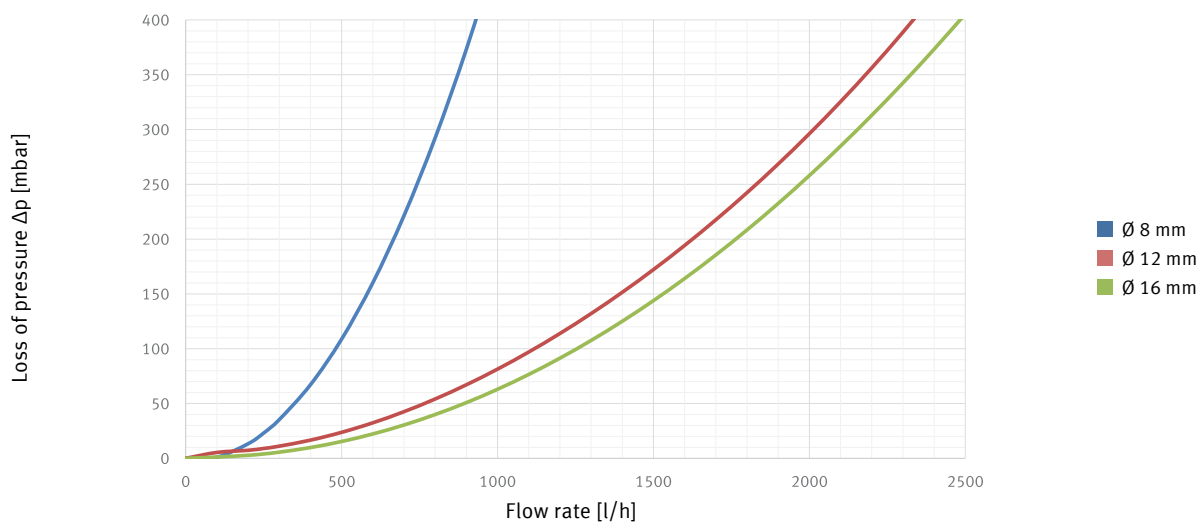


Two-way valve – inlet / outlet

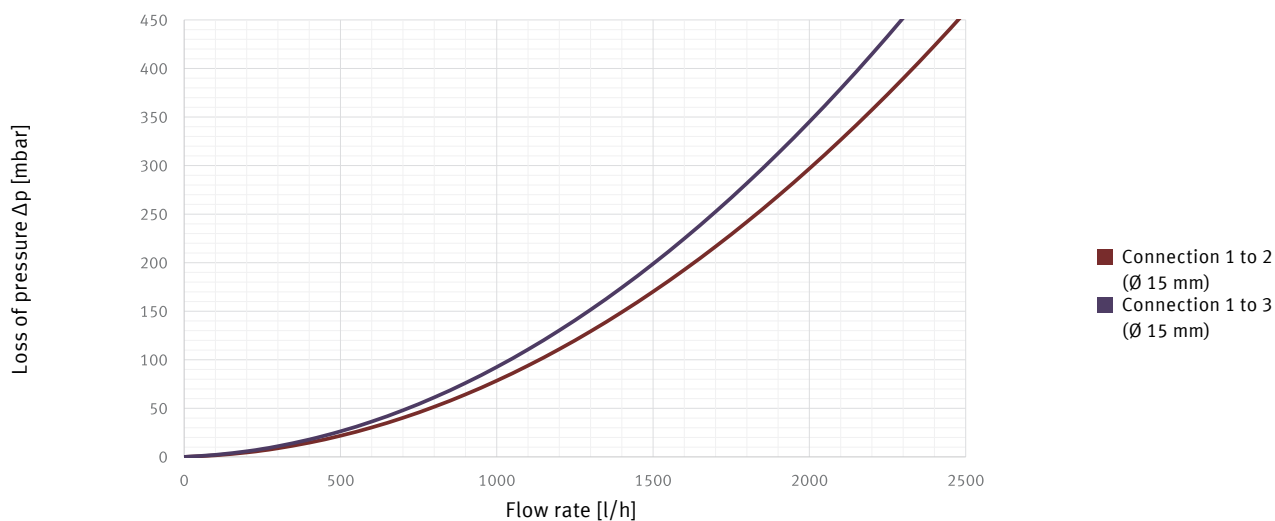


Three-way valve – switching between circuits

The coolant valves are available in different versions – with different connections, orientations and switching states (see next page).



Characteristic curve for two-way valves



Characteristic curve for three-way valves

	Valve type	Fail-safe switch state*	Connection (Inside diameter)	Media temperature	Loss of pressure	Weight
CSV 01	Two-way valve	NO	VDA NW 8	-40 ... +140°C	≤ 25 mbar at 250 l/h	220 g
CSV 02	Two-way valve	NO	VDA NW 8	-40 ... +130°C		
CSV 03	Two-way valve	NC	VDA NW 12	-40 ... +130°C	≤ 70 mbar at 1000 l/h	245 g
CSV 04	Two-way valve	NC	VDA NW 16	-40 ... +140°C	≤ 50 mbar at 750 l/h	245 g
CSV 05	Two-way valve	NO	VDA NW 16	-40 ... +140°C	≤ 60 mbar at 750 l/h	240 g
CSV 06	Two-way valve	NO	16 mm	-40 ... +130°C	≤ 140 mbar at 1500 l/h	280 g
CSV 07	Three-way valve	Connection 1 to 3: NO	15 mm	-40 ... +130°C	Connection 1 to 3: ≤ 191 mbar at 1500 l/h	310 g
CSV 08	Three-way valve	Connection 1 to 3: NO	15 mm	-40 ... +140°C	Connection 1 to 2: ≤ 167 mbar at 1500 l/h	

\*NO: normally open  
NC: normally closed