

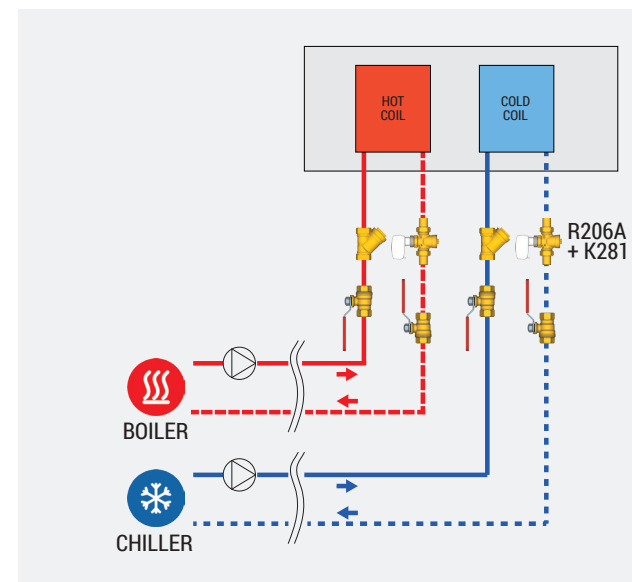
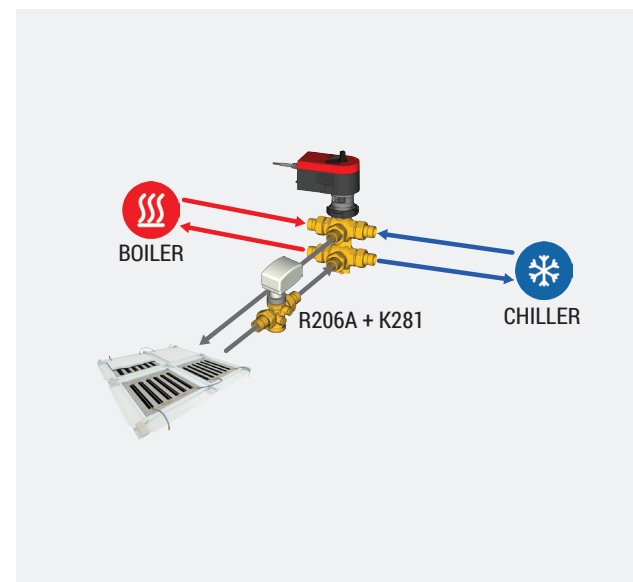
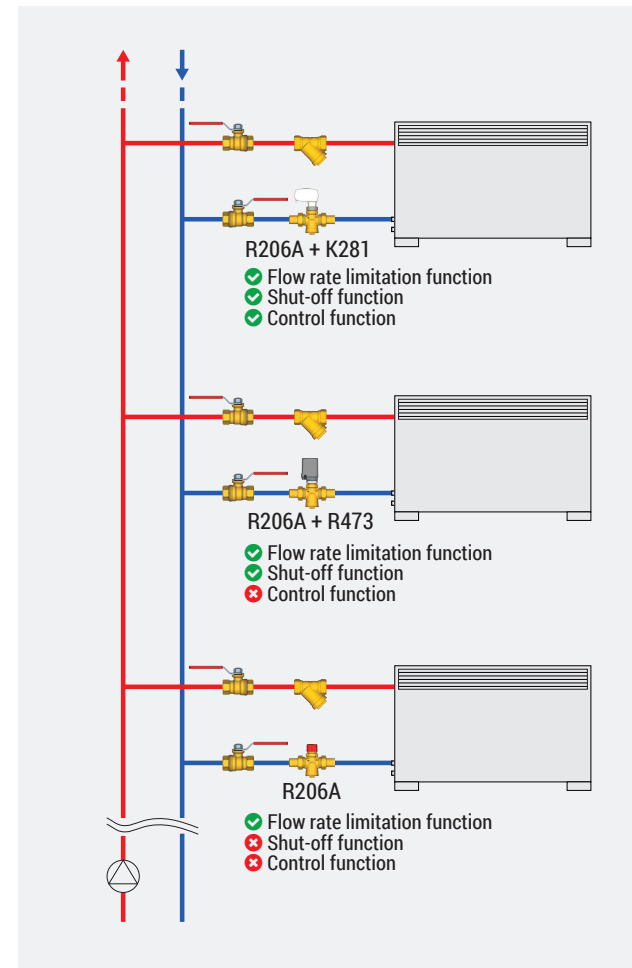
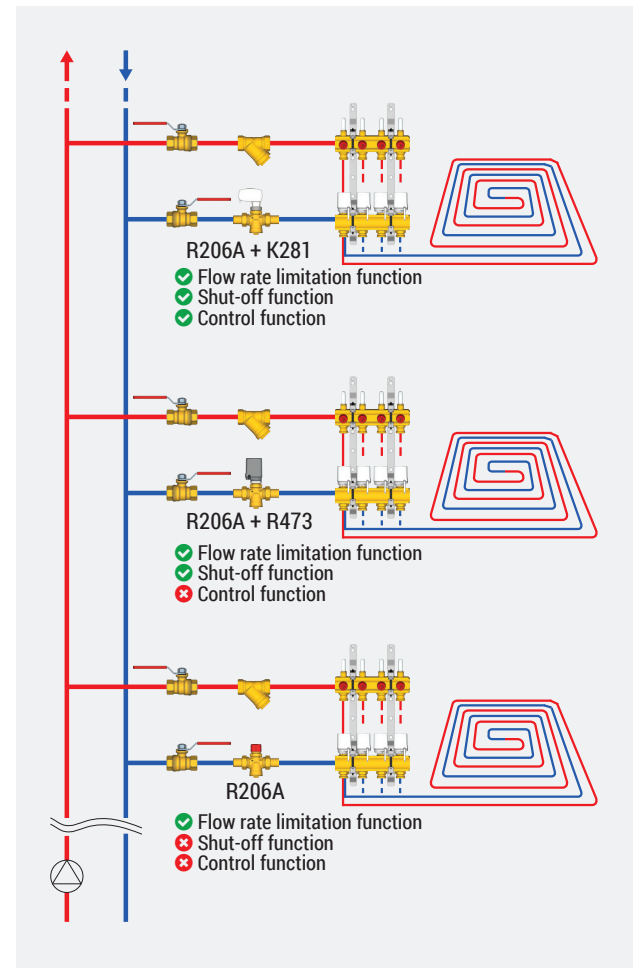
Dual regulation scale: two valves in one

The dual flow regulation scale is Giacomini's second patent for the R206A PICV: Low setting for low flow rates, High setting for high flow rates. The PICV designed by Giacomini basically consists of two valves built in the same body and makes it possible to select the required flow rate without replacing the valve.

This is not the only advantage offered by this valve: the shift from one regulation scale to the other can be implemented any time, even when the system is running.

The dual scale makes designers and installers' work much easier: it assures great precision setting the flow rate as the range of the controlled flow rate is smaller; it sensibly reduces the number of models required in catalogue or stock; it limits the risk of errors when ordering, installing and commissioning the valve. From this standpoint, the choice is made even easier by the various colors - blue, black, green - available for the dual scale ring according to the valve size.

Application diagrams

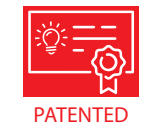


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admetron



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Pressure Independent Control Valve (PICV)

The solution that makes designers and installers' work easier assuring at the same time comfort and energy efficiency as well.

Dual regulation scale (High and Low), water-tight seal, highly reliable, extremely compact: these are the exclusive characteristics of the new R206A PICV (Pressure Independent Control Valve) patented by Giacomini.

Fit for use in HVAC systems, residential or commercial installations, the R206A PICV can set and control the flow rate when the differential

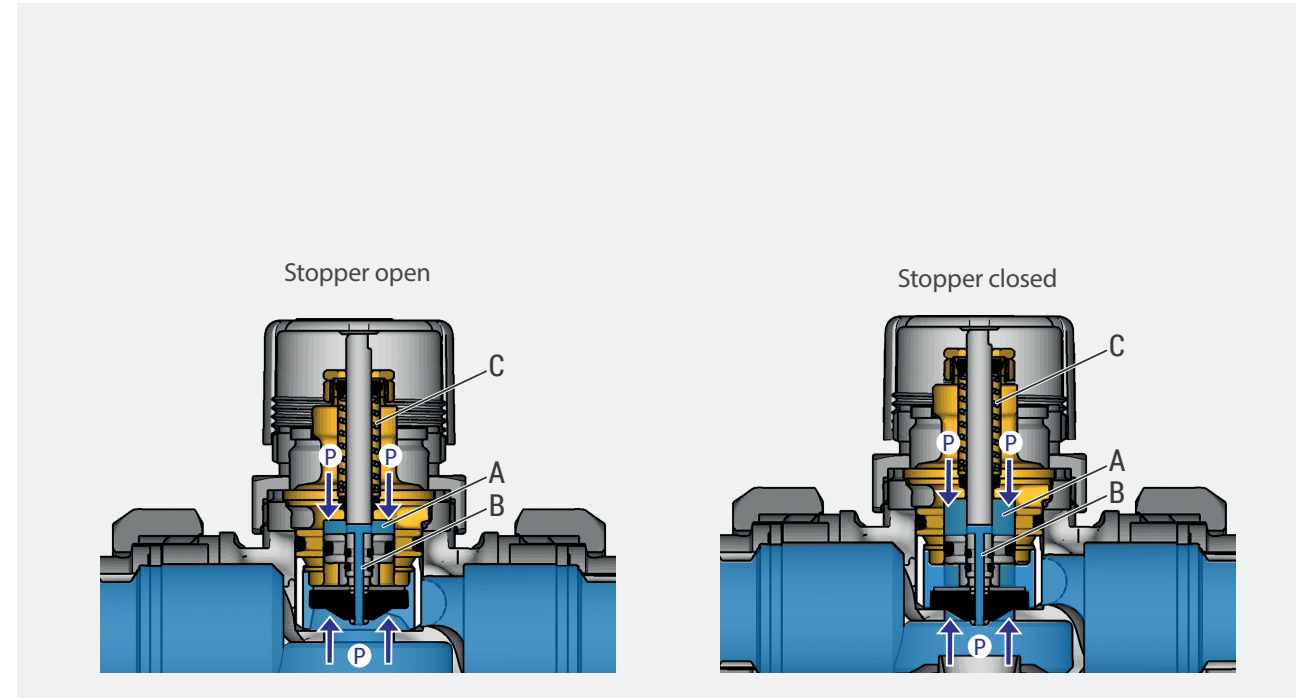
Pressure compensation system: the benefits
Inside the R206A PICV there is a bonnet with a pressure compensation system. Giacomini patented this device which offers great advantages when using the PICV.

First, thanks to the balancing chamber (A) built inside the bonnet, the valve requires less strength to close even at very high differential pressure. The balancing chamber (A) is exposed to the pressure

pressure within the hydraulic circuit of the installation varies, assuring high energy efficiency and perfect comfort in every room.

The valve features two different working modes while the dual regulation scale makes designers and installers' work easier and faster; it offers greater precision in flow control, and makes it easier to choose the most suitable product.

on the stopper through the perforated stem (B) of the bonnet. This allows the actuators installed on the valve to function with less strength while providing a state-of-the-art hydraulic seal of the housing. In addition to that, the counter-spring (C) with a sealed chamber prevents possible blockages caused by water and the formation of limestone on the spring seat.





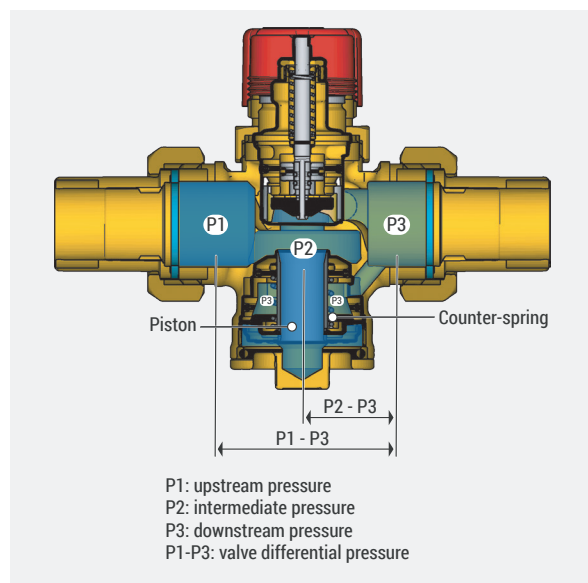
Product range PICV 1/2" - 3/4" - 1"

PICV applications

The R206A PICV by Giacomini features two different working modes based on needs. To achieve independent pressure control according to the thermal load required for the interested circuit section, a proportional linear actuator must be installed (K281 by Giacomini).

The second mode enables to automatically set the maximum flow rate and/or shut off the flow, manually, without an actuator, using the handwheel, or automatically, installing an On/Off thermo-electric actuator (R473 by Giacomini).

Operation



The valve differential pressure P1-P3 must be within 25÷400 kPa or 25÷800 kPa range, depending on whether actuators are installed or not, to ensure the valve keeps the flow rate constant.

The valve controls and maintains differential pressure P2-P3 constant through the piston movement, resulting from the force generated by the pressure difference and the counter-spring. When the valve differential pressure P1-P3 increases, the piston rises and squeezes the port to maintain P2-P3 constant; under such conditions, flow rate Q will always be constant as the valve flow coefficient Kv decreases.

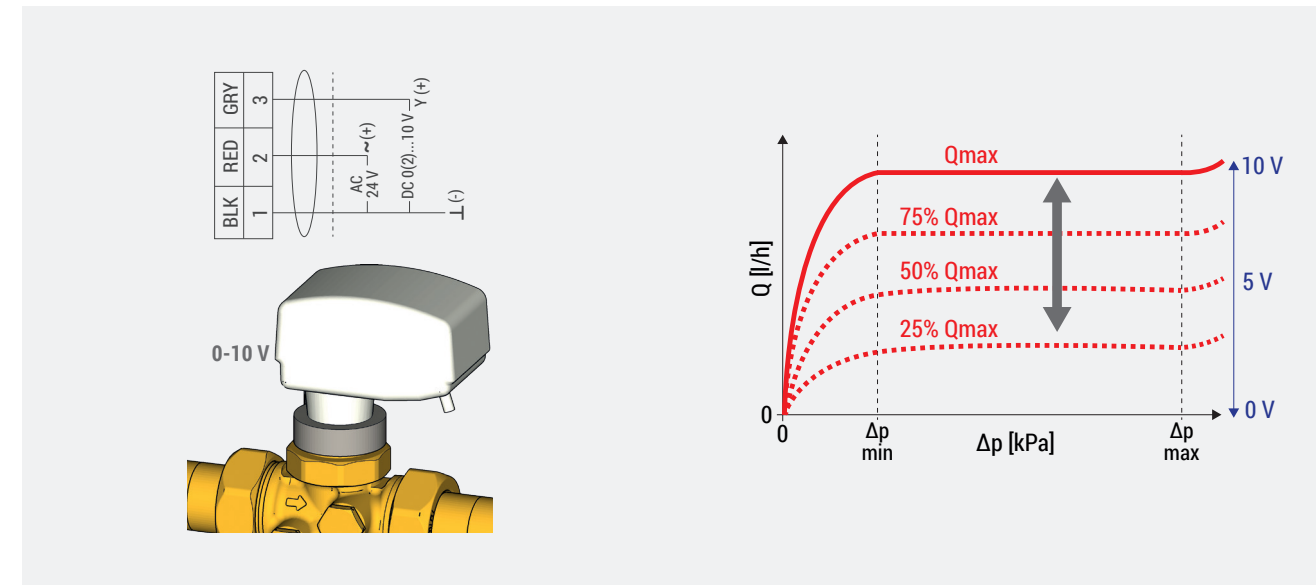
$$Q = K_v \cdot \sqrt{\Delta p}$$

Q constant	Δp	Kv
	Δp	Kv

Pressure independent control

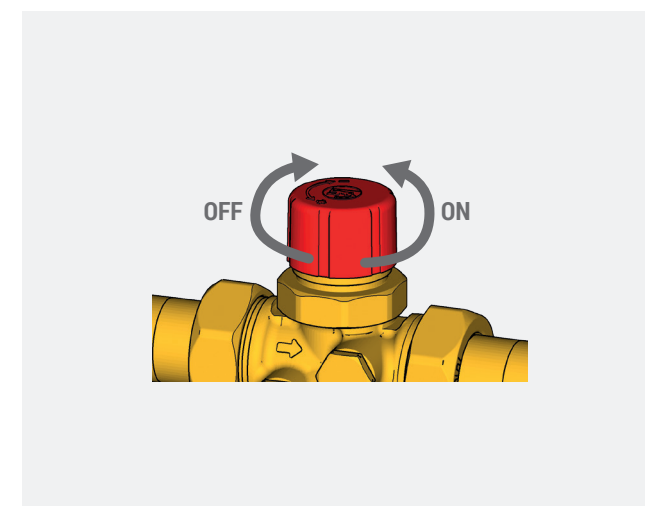
The R206A valve works at its best in combination with a K281X062 proportional linear actuator. When combined to an electronic unit, it can control the flow automatically from the maximum

value set Qmax (see "Flow rate presetting") up to the minimum value, depending on the thermal requirements.

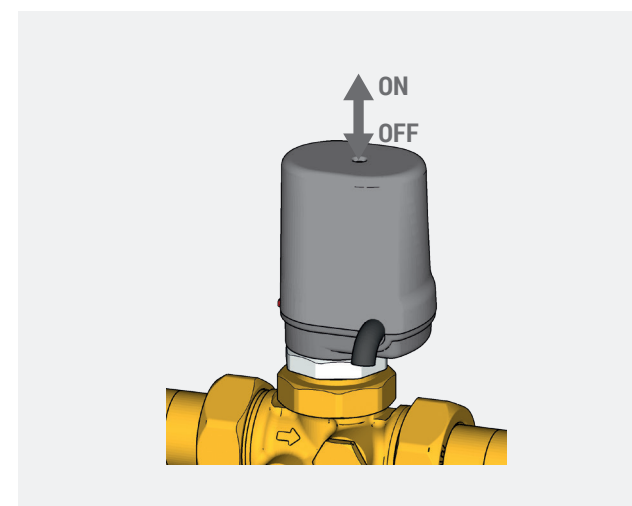


Flow rate limitation and/or shut-off feature

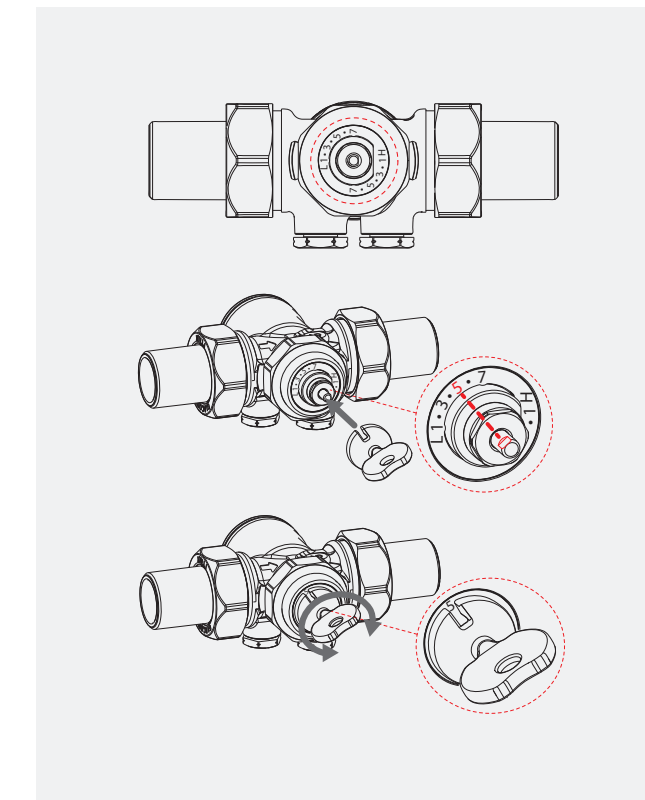
The circuit controlled by the valve can be shut off by turning the knob clockwise to close the handwheel and counterclockwise to open it. The valve is completely shut off when the handwheel is closed while the flow rate is maintained to the pre-set value when the handwheel is open.



This can be achieved also automatically by installing a R473 ON/OFF thermo-electric actuator properly wired. Once again, the valve is completely shut off when the thermo-electric actuator is closed and the flow rate is maintained to the pre-set value when the R473 thermo-electric actuator is open.



Flow rate pre-setting



The R73PY010 key (included with the PICV) can be used to set the valve, based on the desired flow rate, by turning the valve stem clockwise or anticlockwise to reach the required value (1-7) printed on the plastic disk of the bonnet, as shown in the table below.

The shift from one scale to the other, as discussed above, can be carried out any time, even when the system is running: this makes it possible to select the required flow rate value without replacing the valve. In addition to that, the dual scale limits the range of the controlled flow, allowing to adjust the flow with greater precision.

The R206AY113/125/106 valves, instead, are equipped with a single regulation scale of the flow rate, with 8 adjustment positions (MIN - 1 - 2 - 3 - 4 - 5 - 6 - 7).

Versions and product codes

PRODUCT CODE	DN VALVE BODY SIZE	CONNECTIONS	INDICATOR COLOUR	HANDWHEEL COLOUR	WORKING FLOW RATE RANGE [l/h]		WORKING DIFFERENTIAL PRESSURE RANGE [kPa]	
					L (LOW)	H (HIGH)	WITH R473 THERMO-ELECTRIC ACTUATOR	WITH K281 ACTUATOR OR WITHOUT ACTUATOR
R206AY113	15	G 1/2" M with tail pieces	RED	GREY	35÷520 l/h		25÷400 kPa	25÷800 kPa
R206AY103	15	G 1/2" M with tail pieces	BLUE	RED	150÷380 l/h	180÷630 l/h	25÷400 kPa	25÷800 kPa
R206AY104	20	G 3/4" M with tail pieces	BLACK	RED	320÷910 l/h	700÷1175 l/h	25÷400 kPa	25÷800 kPa
R206AY105	20	G 1" M with tail pieces	GREEN	BLUE	290÷1000 l/h	860÷1500 l/h	25÷400 kPa	25÷800 kPa
R206AY125	25	G 1" M with tail pieces	RED	RED	350÷3200 l/h		N/A	25÷400 kPa
R206AY106	25	G 1-1/4" M with tail pieces	BLUE	BLUE	450÷4800 l/h		N/A	25÷400 kPa
R206AY057	50	1-1/2" F	BLACK	N/A	2000÷7000 l/h		N/A	25÷400 kPa
R206AY058	50	2" F	BLACK	N/A	5000÷12000 l/h		N/A	25÷400 kPa

EXAMPLE
DESIGN FLOW RATE 300 L/H
DN15 PIPES

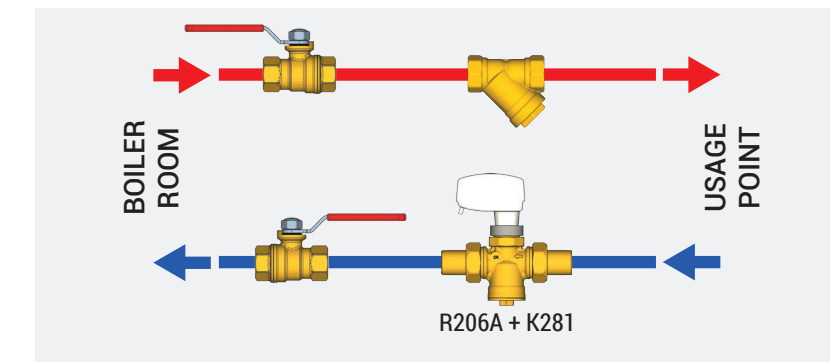
Valve required: R206AY103
Regulation scale: L (LOW)
Position: 5

The valve performance has been tested by a third-party lab, according to the BTS 1/2019.

Installation

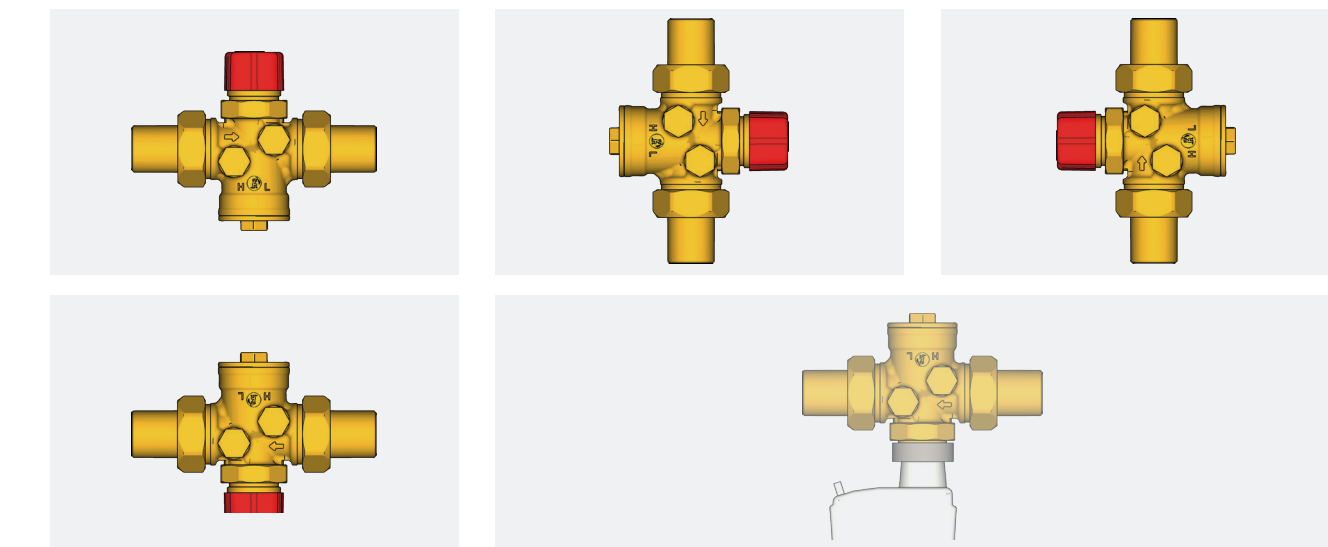
The R206A valve should be installed preferably on the system return circuit.

We recommend installing a filter upstream the valve to prevent damages and blockages caused by debris.



Installation positions

The R206A valve can be installed in any position with no actuator; the only not allowed position for valves with actuator (R473 or K281) is the upside down position.



Installation of P206Y001 pressure outlets and flow rate testing through a differential pressure gauge R225EY001

The valve is equipped with connections for installation of the P206Y001 pressure outlets. The installation should be carried out when the system is OFF and not pressurized. The R225EY001 differential pressure gauge with its probes properly seated inside the P206Y001 pressure outlets allows to measure the valve differential pressure Δp (P1-P3) while the system is running. When the measured value is in the Δp operational range, it is possible to confirm that the actual flow rate of the valve is equal to the pre-set value (see "Flow rate setting").

