


R157A

Description

Anti-condensation thermostatic mixing valves are used to adjust the temperature of the fluid in the return circuit to the generator, in solid fuel heating systems (boilers using wood/pellets/woodchips, thermo fireplaces, thermo heaters and thermo stoves).

Their job is to keep the temperature of the fluid entering the generator above a pre-fixed value; this reduces the steam condensate contained in the fumes, that dirties the heat exchange surfaces and smoke pipe. In this way, the valve maintains a high degree of boiler efficiency, and reduces the formation of unburnt fuel deposits and dust that could damage the device.

Versions and product codes

Product code	Connections	Calibration temperature [°C]
R157AY051	1" M (DN25)	45
R157AY052		55
R157AY053		60
R157AY054		70
R157AY061	1 1/4" M (DN32)	45
R157AY062		55
R157AY063		60
R157AY064		70

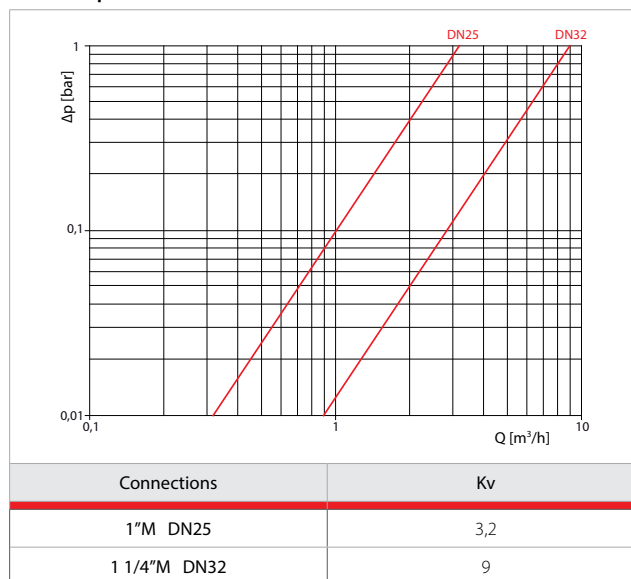
Technical data

- Working temperature range allowed: 5÷100 °C
- Max. working pressure: 10 bar
- Calibration temperature: 45 °C – 55 °C – 60 °C – 70 °C
- Compatible Fluids: water, glycol solution (max. 50 % glycol concentration)
- Connections: male threaded connections ISO 228/1

Materials

- Body: brass UNI EN 12165 CW617N (DN25)
brass UNI EN 1982 CB753S (DN32)
- Shutter: brass UNI EN 12164 CW614N
- Gaskets: EPDM
- Spring: stainless steel AISI 302

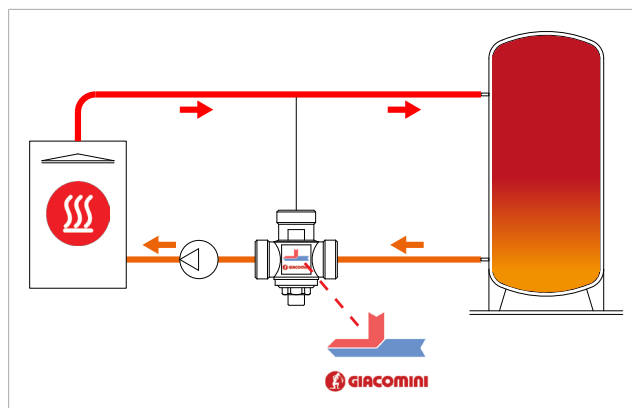
Losses of pressure



Operation

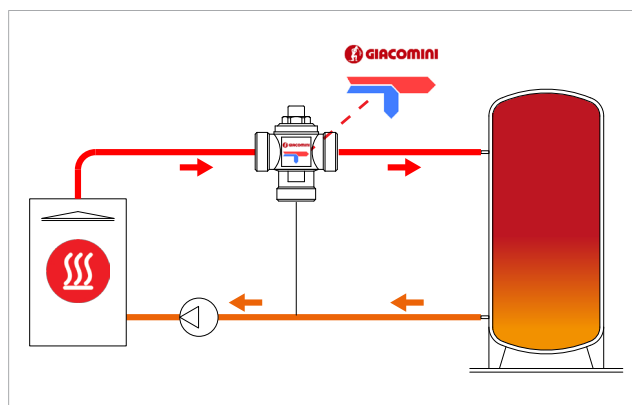
Operation in anti-condensation mode

Anti-condensation valves are normally used to maintain a high temperature at the generator inlet, where the formation of condensation must be avoided. The temperature is adjusted by a built-in thermostat element that extends or contracts according to the fluid temperature, and thereby regulates the openings of both inlets. These valves have a fixed calibration temperature that cannot be modified.



Operation as a diverting valve

The same valve can be used as a diverting valve, by connecting it in the appropriate manner and replacing the labels supplied. In this way, the valve activates or deactivates the user on the basis of the inlet temperature (high or low). This ensures that the delivery temperature is higher than the calibrated value of the valve itself.



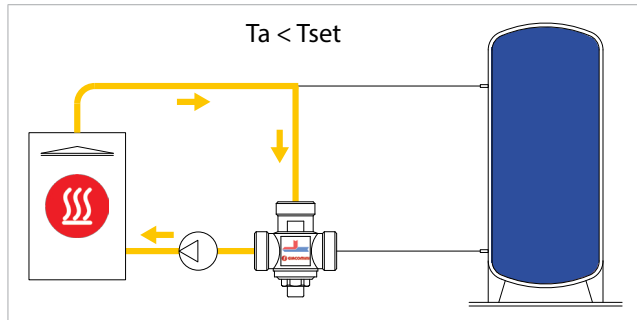


Operating principle of the Anti-condensation valve

Phase 1: $T_a < T_{set}$ – System start-up

Bypass open; return line closed.

The water leaving the generator flows back into it immediately, allowing the temperature to rise quickly.

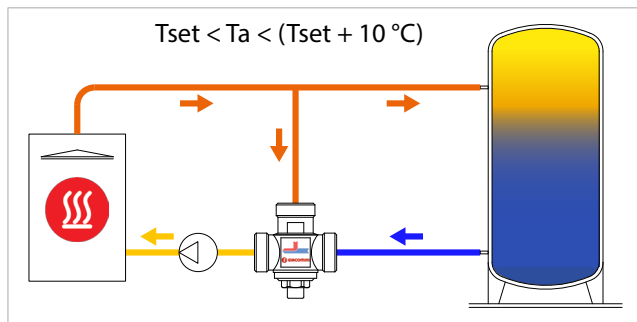


Phase 2: $T_{set} < T_a < (T_{set} + 10^\circ\text{C})$ – Operation with mixing

Bypass open; return line open.

When the water leaving the generator reaches the calibration valve temperature, it starts to open the user return circuit.

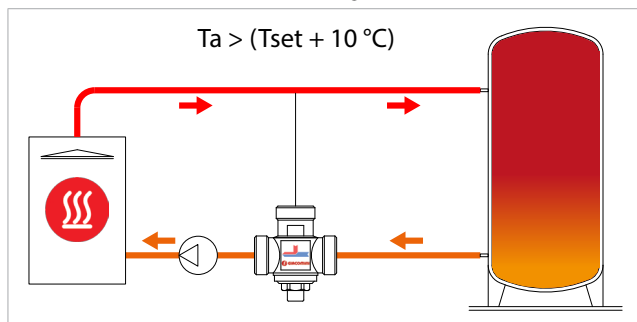
As the delivery temperature increases, the bypass flow rate gradually decreases in favour of the return circuit.



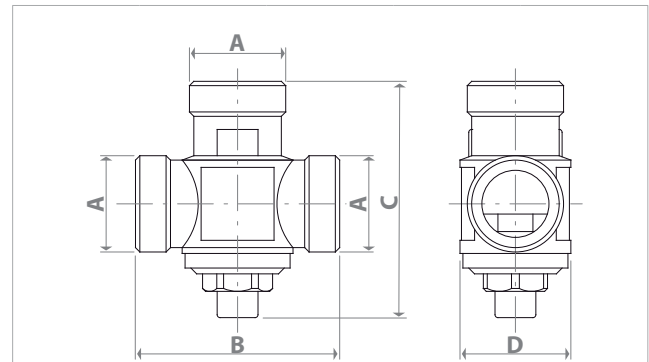
Phase 3: $T_a > (T_{set} + 10^\circ\text{C})$ – Full operation

Bypass closed; return line open.

When the water leaving the generator exceeds the calibration valve temperature by about 10°C , the bypass closes completely to allow the user to make full use of the flow rate from the generator.



Dimensions



Product code	A	B [mm]	C [mm]	D [mm]
R157AY051	1" M	70	81	39
R157AY052				
R157AY053				
R157AY054				
R157AY061	1 1/4" M	93	103	55
R157AY062				
R157AY063				
R157AY064				

Product specifications

R157A – DN25

Anti-condensation valve. Flow rate coefficient $K_v = 3,2 \text{ m}^3/\text{h}$. G1" male connections. Brass body, brass cap, brass shutter, stainless steel spring, EPDM gaskets. Max. working pressure 10 bar. Fluids: water and glycol solutions (max. 50% glycol). Operating temperature range: $5 \div 100^\circ\text{C}$. Calibration temperature: 45°C , 55°C , 60°C and 70°C , depending on the version. Calibration accuracy: $\pm 2^\circ\text{C}$.

R157A – DN32

Anti-condensation valve. Flow rate coefficient $K_v = 9 \text{ m}^3/\text{h}$. G1 1/4" male connections. Brass body, brass cap, brass shutter, stainless steel spring, EPDM gaskets. Max. working pressure 10 bar. Fluids: water and glycol solutions (max. 50% glycol). Operating temperature range: $5 \div 100^\circ\text{C}$. Calibration temperature: 45°C , 55°C , 60°C and 70°C , depending on the version. Calibration accuracy: $\pm 2^\circ\text{C}$.

Additional information

For further information, visit the website www.giacomini.com or contact the technical service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ consulenza.prodotti@giacomini.com
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