Anti-condensation valve
131-132-133

Function

ICMA anti-condensation valve is designed to protect solid fuel boilers from excessively low return temperatures, thus preventing condensation on the walls of the generator and the chimney, increasing the efficiency and lifetime of the system.
ICMA anti-condensation valve constantly and automatically regulates the fluid temperature returning to the boiler from a storage tank or a heating circuit.

ICMA anti-condensation valves are available with the following setting temperatures:
45°C - 55°C - 60°C - 70°C.
The same range is available with male connections (article 131), male union connections (article 132) or female union connections (article 133).

It is possible to install our anti-condensation valves on all systems with solid fuel boilers with power up to 30 kW.

Products

Art.	Description
131	Male anti-condensation valve on the 3 way
132	Anti-condesation valve with male unions on the 3 way
133	Female anti-condensation valve on the 3 way

Technical features

Materials

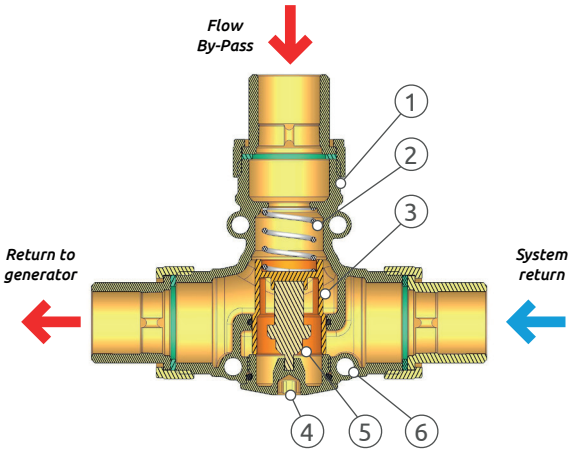
Body:	Brass CB 753 S - UNI EN 1982
Nuts and unions	Brass CW 617 N - UNI EN 12165
Cap / Shutter	Brass CW 614 N - UNI EN 12164
Spring:	Stainless Steel
Thermostatic element:	Composite
O-Rings:	EPDM Peroxide
Union seals:	Sesalit Plus-G Fibre

Performances

Fluids used:	Water, glycol solutions (glycol 50% max)
Setting temperatures:	45°C - 55°C - 60°C - 70°C
Complete closing temperature:	T setting + 10°C
Working temperature range	5°C - 100°C
Setting accuracy	+/- 2°C
Max. working pressure	10 bar

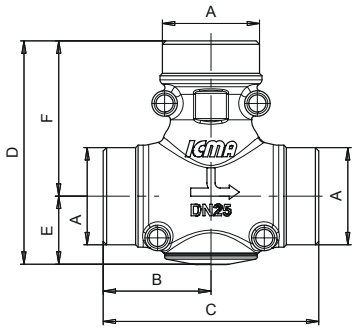
Components and working principle

1. Valve body
2. Spring
3. Shutter
4. Cap
5. Thermostatic element
6. Temperature gauge holders

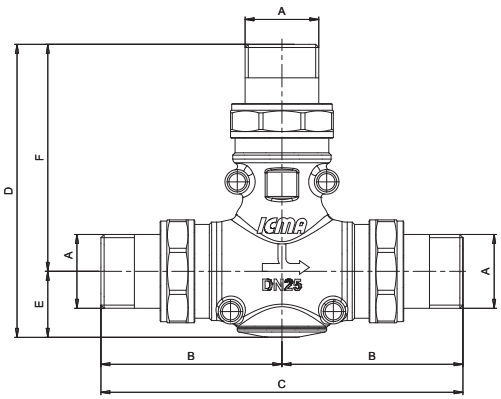


The thermostatic element (5) is completely immersed in the fluid; the fluid temperature changes always correspond to a variation in length of the thermostatic element and thus determining the movement of the shutter (3).
The shutter movement automatically regulates the opening or closing of the bypass port and the possible mixing with the fluid returning from the system to the boiler.
The body of the anti-condensation valve is equipped with temperature gauge holders (6) for housing the temperature gauges art. 134 which control the working temperatures of the valve: by-pass water from the flow line, water returning from the system and mixed water returning to the generator.

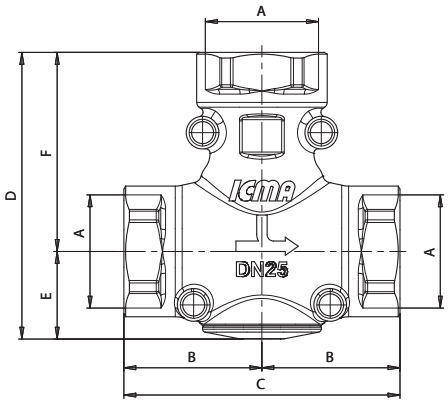
Dimensions



Code	DN	A	B	C	D	E	F
90131AF05XX	25	G1" ¼ M	47	93	97	30	67
90131AG05XX	32	G1" ½ M	53	105	106	34	72



Code	DN	A	B	C	D	E	F
90132AF05XX	25	G1" M	81	162	131	30	101
90132AG05XX	32	G1" ¼ M	88	176	141	34	107

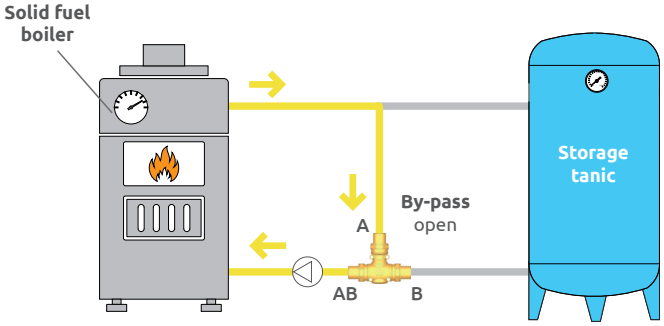


Code	DN	A	B	C	D	E	F
90133AF05XX	25	G1" F	47	94	97	30	67
90133AG05XX	32	G1" ¼ F	53	106	106	34	72

Application diagram

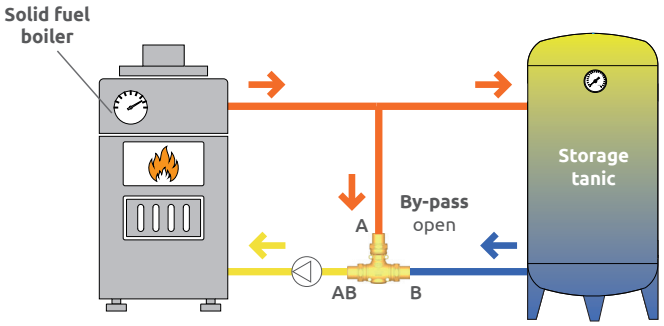
Start up

At the start-up of the heat generator, the flow temperature is much lower than the anticondensation valve temperature which is in by-pass open (A), while the system return port (B) is closed. The anti-condensation valve recirculates the flow water so as to bring the generator up to temperature as quickly as possible.



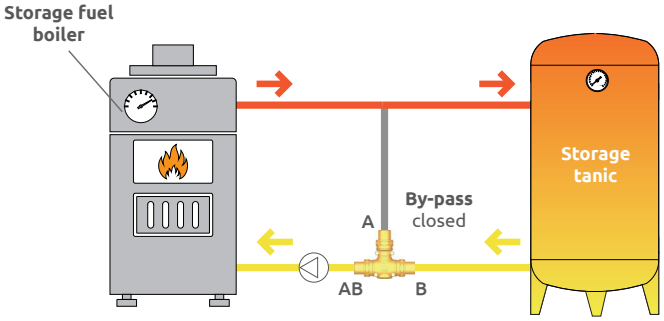
Start of system loading

When the flow temperature (A) exceeds the setting of the anti-condensation valve, the valve's cold port starts opening (B) to produce the water mixing (AB). The system loading begins.



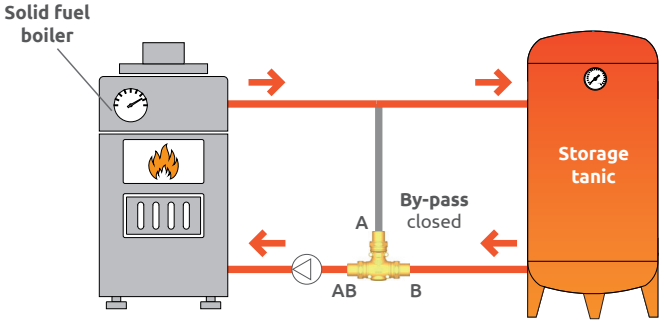
By-pass closing

When the return temperature to the generator is greater than the setting of the anti-condensation valve by approximately 10°C, the by-pass port closes (A) and the system return port (B) is open.
The system loading continues, all the flow coming from the boiler is sent directly to the system.

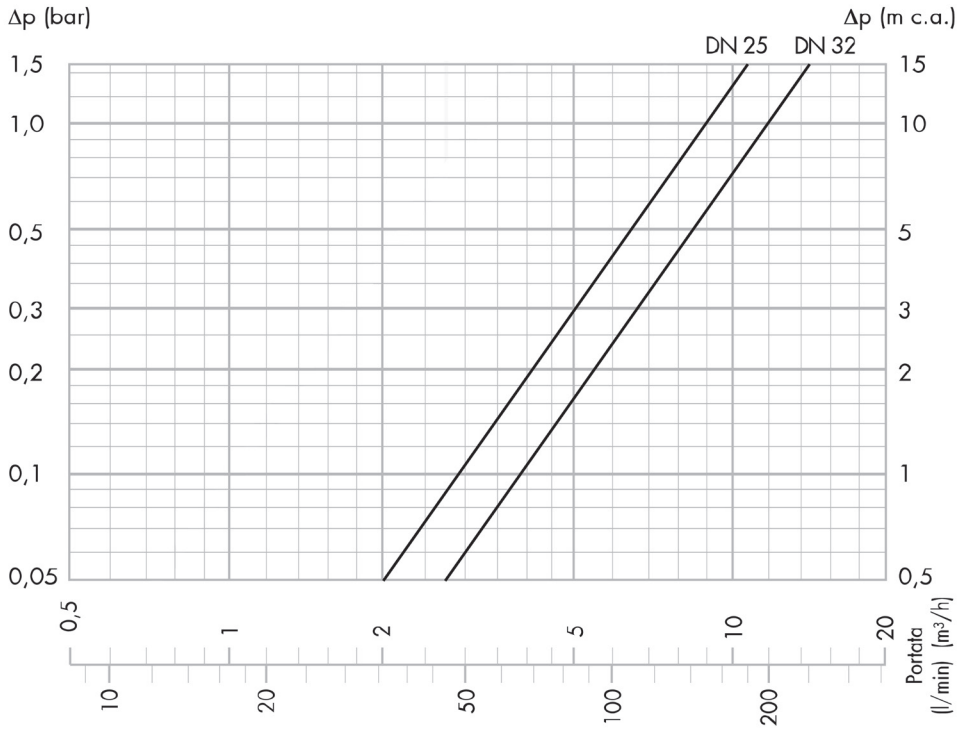


System loaded

The system loading continues until the system reaches the set temperature, at this point the generator regulates the temperature in the system.



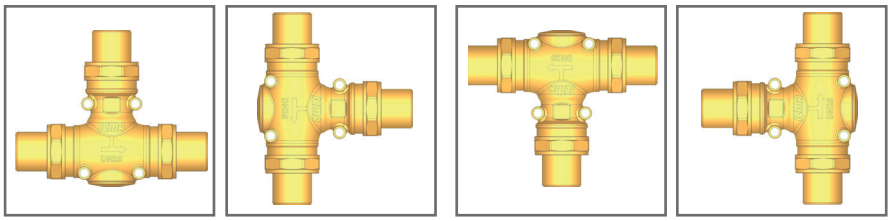
Hydraulic characteristics



	DN25	DN32
Kv (m³/h)	9	12

Installation

ICMA anti-condensation valve can be fitted in any position.
It is recommended to install ball valves on the pipes to make future maintenance easier.
In normal operating conditions, ICMA anticondensation valve requires no maintenance.



Safety

Read carefully the functioning and installation instructions before starting the system to prevent accidents and damage to the system caused by improper use.
Remember that the guarantee will be forfeited in the event of any unauthorised changes or tampering with the device during assembly and construction.

Operating conditions

The limit values must not be exceeded in any way. The operating safety is ensured according to the general conditions and operating limit values described in this sheet.