Thermal safety drain valve Series STS.S

Main features

- Double safety
- 360° swivel connection of capillary
- Available with different drain temperature settings: 55 °C, 85 °C, 93 °C, 97 °C and 103 °C
- Installation in any position
- Removable head and capillary for fast installation
- Compliant to the directive 97/23/EC (PED)

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Description

The thermal safety drain valve is a self-operated device, installed in non atomized solid fuels boilers to intervene when the water temperature reaches the maximum operating value. Its purpose is to dissipate the residual power in heating system with partial disconnection. Example in pellet boilers where it's not possible to instantaneously interrupt the combustion when the maximum temperature is reached.

STS.S

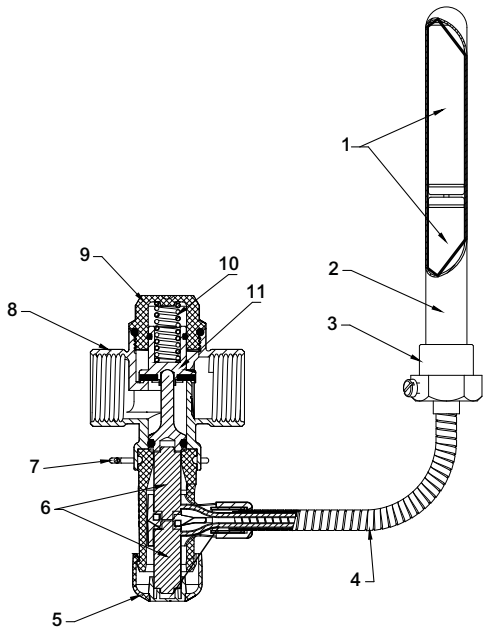
Thermal safety drain valve for non atomized, solid fuel boilers with double safety and capillary with 360° swivel connection.
Brass CW617N body.
Immersion probe with 145 mm sheath and 1/2"M connection.
Max. drain capacity: 6500 l/h at 8 bar. Max. operating pressure: 10 bar.

Compliant to the Directive 97/23/EC (PED). Identification number CE1115.
According to DIN – TÜV approval pending

Type	Part. No.	T set [°C]	L Capillary [mm]	Weight [kg]
STS.S	0232620	97	1300	0,5
STS.S	0232621	85	1300	0,5
STS.S	0232622	93	1300	0,5
STS.S	0232623	55	1300	0,5
STS.S	0232624	103	1300	0,5
STS.S	0232625	97	2000	0,6
STS.S	0232626	97	4000	0,8

Operation

The heat sensitive element, immersed in the boiler water, contains a fluid that, expanding when the temperature increases, causes the expansion of the two independent bellows connected to the valve plug.
When the drain setting temperature is reached, the valve opens, even in case of failure of one of the two sensing elements.



1. Immersion probe with double sensing element
2. Sheath
3. Sheath connection
4. Capillary protection
5. Manual drain plug
6. Expansion bellows
7. Spring pin of head locking
8. Valve body
9. Plug cap
10. Valve plug spring
11. Valve plug
12. Setting temperature onto plug cap

Technical characteristics

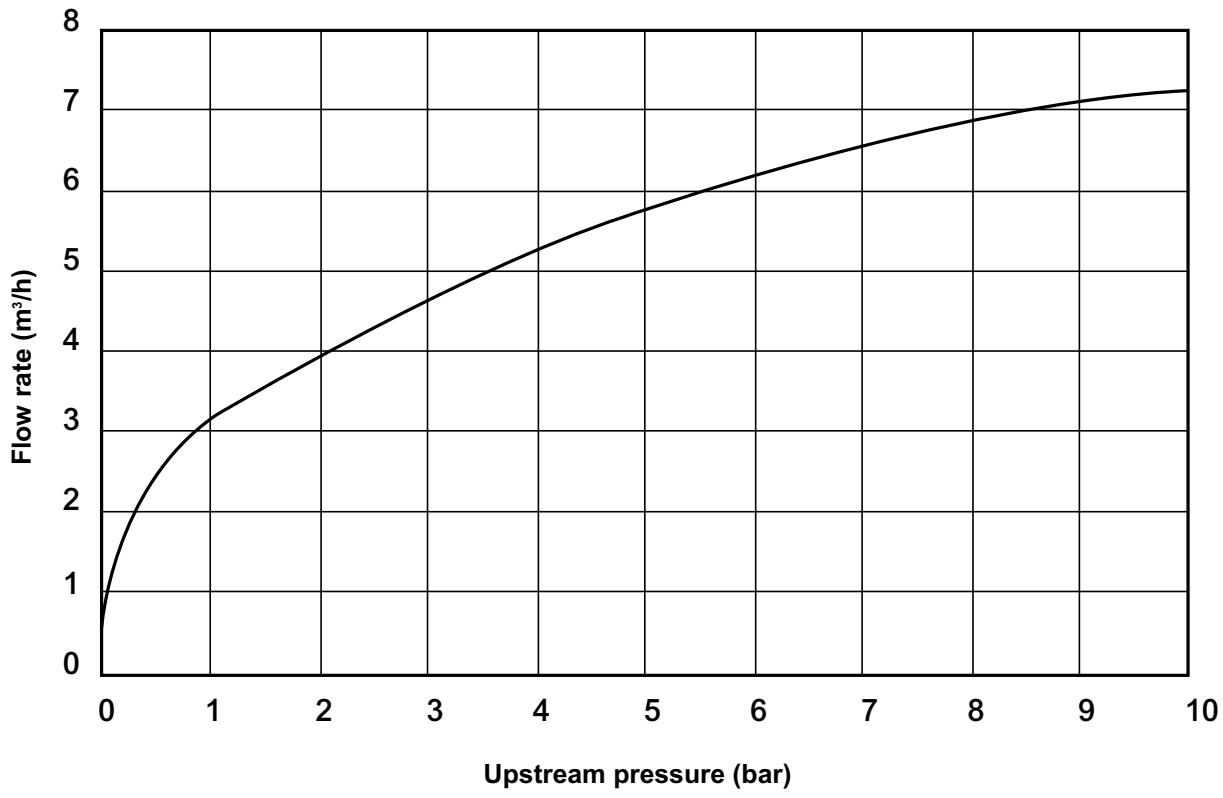
The thermal safety drain valve series STS.S is available in several versions according to the drain setting temperature and capillary length.

The STS.S, is manufactured in compliance with the Directive 97/23/EC (PED) and is equipped with two sensing elements that ensure the valve operation even in case of failure of one of the two.

Technical features				
Part. No.	T setting	L capillary [mm]	Drain temperature (max. flow rate)	Max. operating pressure [bar]
0232620	97 ± 2 °C	1300	110 °C	10
0232621	85 ± 3 °C	1300	100 °C	10
0232622	93 ± 3 °C	1300	110 °C	10
0232623	55 ± 3 °C	1300	80 °C	10
0232624	103 ± 3 °C	1300	110 °C	10
0232625	97 ± 2 °C	2000	110 °C	10
0232626	97 ± 2 °C	4000	110 °C	10

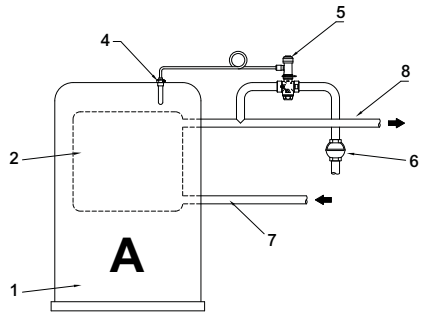
Design features	
Body	Brass CW617N
Head	Resin
Plug seal	Viton
Other seals	NBR70, EPDM
Spring	Stainless steel
Valve connections	3/4”F x 3/4”F
Probe sheat connection	1/2” M

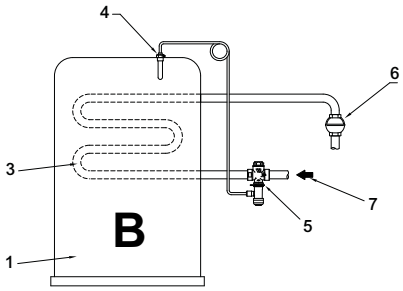
Diagram Upstream pressure – drain flow rate



Installation

The thermal safety drain valves are used to dissipate the residual power in non atomized solid fuel boilers, in both heating systems with closed expansion vessel and those with open vessel.



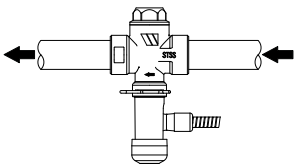


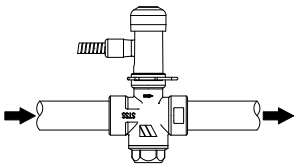
1. Heat generator
2. Internal boiler
3. Safety heat exchanger
4. Sensing element
5. Thermal safety drain series STS.S
6. Drain funnel series IS
7. Inlet from network
8. DHW supply

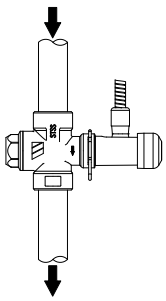
The thermal safety drain valve has to be mounted close to the heat generator, with the sensing element immersed in the hot water flow and with the valve body installed:

A. Onto the DHW outlet pipe, for heat generators with internal boiler.

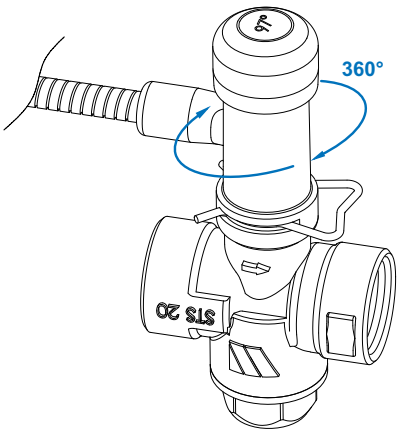
B. Upstream of the heat exchanger onto the cold water inlet pipe, for heat generators with safety heat exchanger.

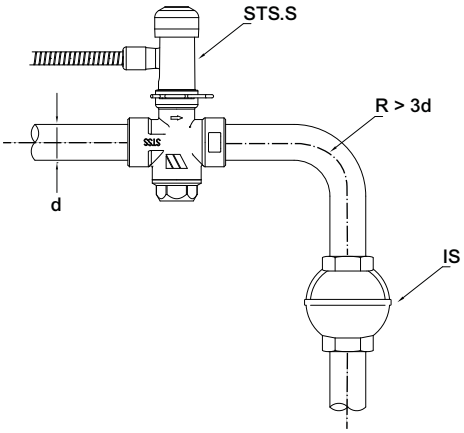






The valve can be installed in any position respect to the pipe, with the fluid flow according to the direction indicated from the arrow marked onto the valve body.





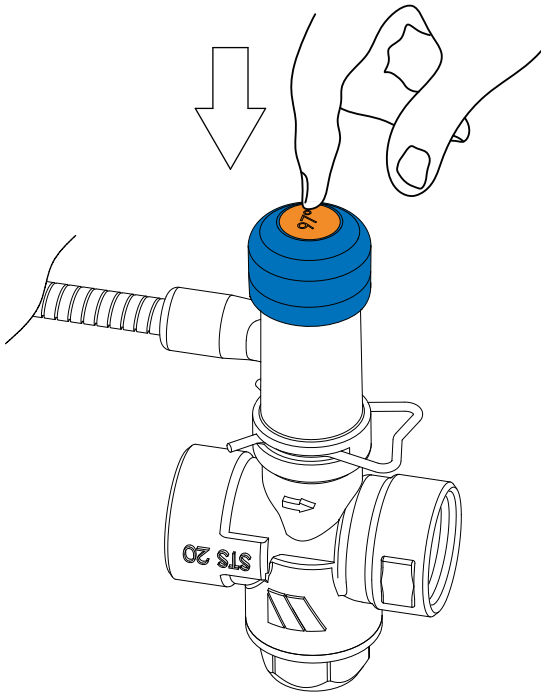
Thanks to an exclusive technical solution, the head with bellows can freely turn around the valve axis; It is possible to turn the capillary outlet without unlocking any component.

Discharge of the valve should be visible and must be directed in appropriate discharge funnel (model IS) to allow checking for opening of the valve and not to cause injury.

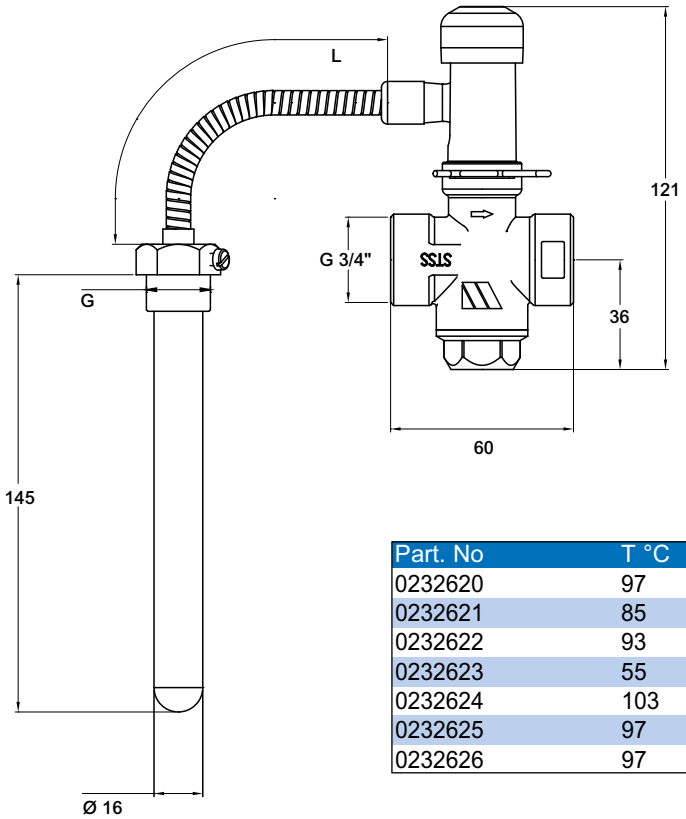
In order not to impair correct valve operation, it is recommended not to install an elbow in the pipe work, rather a pipe bent with a radius equal to at least 3 times the diameter of the pipe.

Maintenance

To ensure correct operation of the thermal safety drain valve over the long-term, periodic drainage of the valve is required (at least once a year); to perform such operation, press the drain button at the top of the valve head. Such operation allows cleaning the seal seat where particles are usually deposited.



Overall dimensions (mm)



Part. No	T °C	G	L
0232620	97	1/2”	1300
0232621	85	1/2”	1300
0232622	93	1/2”	1300
0232623	55	1/2”	1300
0232624	103	1/2”	1300
0232625	97	1/2”	2000
0232626	97	1/2”	4000

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