STS.S Series

Thermal safety drain

Technical Data Sheet

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WATTS®

Description

The **STS.S Series** thermal safety drain is a self-operated device designed to actuate when the water in a boiler running on non-atomised solid fuel reaches the maximum permissible temperature. Its purpose is to dissipate the residual power in systems with partial switch-off, such as pellet boilers, in which combustion cannot be stopped instantly when the maximum permissible temperature is reached.

STS.S

Thermal safety drain for non-atomised solid fuel boilers with double safety and 360° adjustable capillary connection. CW617N brass body.
Immersion probe with 145 mm sheath and 1/2"M connection.
Maximum drain capacity: 6500 l/h at 8 bar. Maximum operating pressure: 10 bar.

Compliant with PED Directive 2014/68/EU.
Meets the requirements of ISPESL/INAIL "R" regulations.

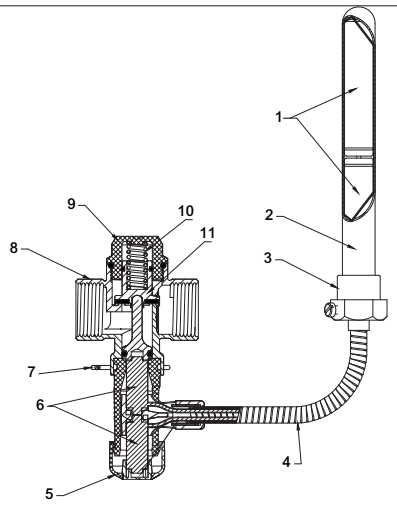
Type	Part No.	Setpoint T [°C]	Capillary L [mm]	Weight (kg)
STS.S	0232620	97	1300	0.5
STS.S	0232621	85	1300	0.5
STS.S	0232622	93	1300	0.5
STS.S	0232623	55	1300	0.5
STS.S	0232624	103	1300	0.5
STS.S	0232625	97	2000	0.6
STS.S	0232626	97	4000	0.8

Technical features				
Part No.	Setpoint temperature	Capillary L [mm]	Drain temperature (max. flow rate)	Max. operating pressure [bar]
0232620	97 ± 2°C	1,300	110 °C	10
0232621	85 ± 3°C	1,300	100 °C	10
0232622	93 ± 3°C	1,300	110 °C	10
0232623	55 ± 3°C	1,300	80 °C	10
0232624	103 ± 3°C	1,300	110 °C	10
0232625	97 ± 2°C	2,000	110 °C	10
0232626	97 ± 2°C	4,000	110 °C	10

Features	
Body	CW617N brass
Bellows mounting head	technopolymer
Disc seal	viton
Other seals	NBR70, EPDM
Spring	stainless steel
Valve connections	3/4" F x 3/4" F
Probe sheath connection	1/2" M

Operation

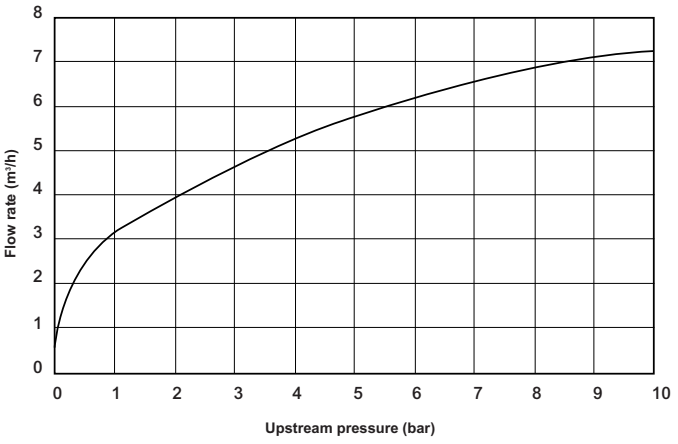
The heat-sensitive element immersed in the boiler water contains a substance that expands as the temperature increases, causing the two independent bellows to expand. When the setpoint temperature is reached, their expansion causes the valve disc to open, even in the event of failure of one of the two sensitive elements with which the device is equipped.



Key

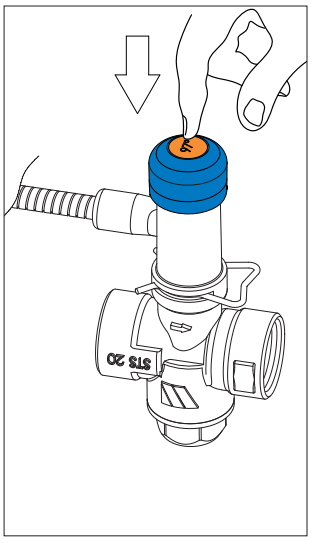
1. Immersion probe with two sensitive elements
2. Probe sheath
3. Sheath connection
4. Capillary protection
5. Drain pushbutton
6. Expansion bellows
7. Head retaining pin
8. Valve body
9. Disc cap
10. Disc spring
11. Disc
12. Setpoint temperature on disc cap

Chart



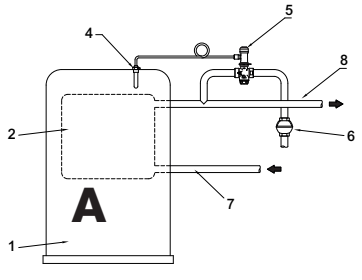
Maintenance

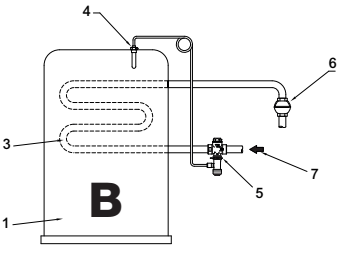
To ensure correct long-term operation of the thermal safety drain, periodic manual drainage of the valve is required (at least once a year). To do this, press the blue drain pushbutton on the top of the valve head. This will clean the seal seat where debris tends to accumulate.



Installation

As indicated in the “R” regulations - CHAP R.3.C - paragraphs 1.4, 3.2 and 3.3, thermal drain valves are installed to dissipate the residual power in systems running on non-atomised solid fuel, with either an open or closed expansion vessel.
For systems up to a power of 100 kW with partial switch-off, the residual power dissipation device can consist of thermal drain valves only.



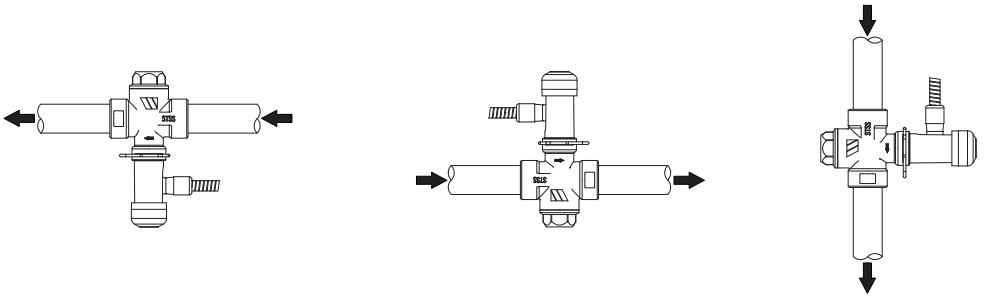


Key

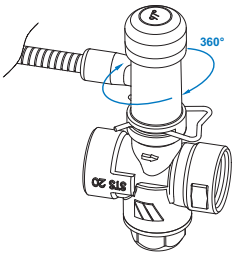
1. Boiler
2. Built-in water heater
3. Safety heat exchanger
4. Sensitive element
5. STSS Series safety drain
6. IS Series drain funnel
7. Inlet from mains
8. DHW flow

The thermal drain valve must be installed near the boiler, with the heat-sensitive element immersed in the flow of hot water and the valve body installed:

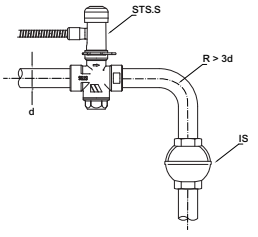
A. on the domestic hot water outlet pipe, for boilers with built-in water heater;
B. upstream of the heat exchanger in the incoming cold water flow, for boilers equipped with safety heat exchanger.



The valve can be installed in any position in relation to the pipe, provided it complies with the direction of fluid flow shown by the arrow cast into the valve body.



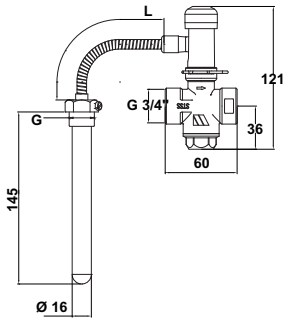
A unique technical solution enables the bellows mounting head to rotate freely around the valve axis. The orientation of the sheath outlet can therefore be adjusted without unscrewing any components.



The valve discharge pipe must be visible and routed to a siphon or receptacle (IS Series) so as not to cause injury to persons or damage to property, and to facilitate inspection in the event of opening In order not to impair correct valve operation on the discharge pipe, you are strongly advised to use curves with a radius of at least 3 times the diameter of the pipe.

Overall dimensions (mm)

STS.S



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

Specification text

STS.S Series - Thermal safety drain **STS.S Series** – WATTS brand – for non-atomised solid fuel boilers with double safety and 360° adjustable capillary connection. CW617N brass body. DN 3/4” female connection. 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. Setpoint temperature: 55°C, 85°C, 93°C, 97°C and 103°C. Complies with PED 2014/68/EU. Meets the requirements of INAIL “R" regulations.

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