TS131

Temperature relief valve

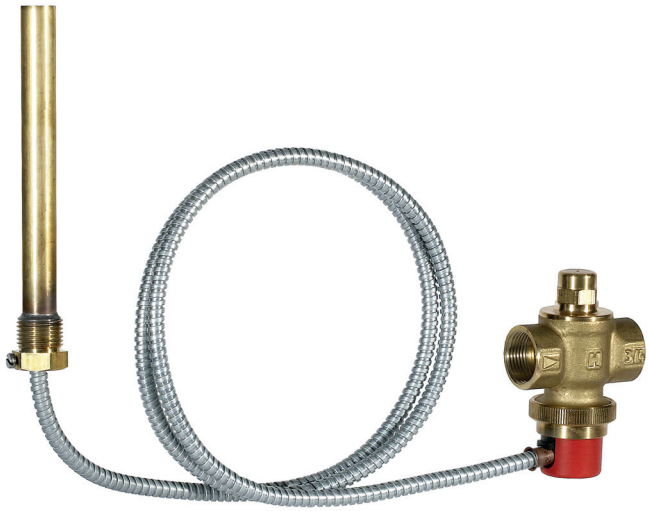
With test facility and double sensor

APPLICATION

The TS131 temperature relief valve for heating systems according to EN 12828 is a self-acting valve which is activated by the flow temperature of the heat generator. It opens and discharges water from the heat generator or condensing coil at a flow temperature of 95 °C and thereby prevents a significant temperature rise in the heat generator.

SPECIAL FEATURES

- Construction tested to EN 14597
- Immersion pocket with double heat sensors
- Test facility
- Capillary tube protected against kinking by steel sheath
- Immersion pocket with external thread
- Pressure balanced construction



TECHNICAL DATA

Media	
Medium:	Drinking water
Connections/Sizes	
Connection sizes:	Rp $^{3}/_{4}$" (DIN EN 10226)
Pressure values	
Max. operating pressure:	10 bar
Operating temperatures	
Operating temperatures:	see Options
Max. ambient temperature:	70 °C
Specifications	
Heating system capacity:	max. 100 kW
Capacity:	2800 kg/h water at the pressure drop Δ p=1 bar (Inlet pressure 5 bar; Outlet pressure 4 bar; 110°C medium temperature) (1 capillary tube)
Mode of operation:	2 Kp Solid/dual-fuel boilers with integrated water heater or cooling coil in closed heating systems according to EN 12828

CONSTRUCTION

Overview		Components	Materials
	**1**	Immersion sleeve G1/2" (ISO 228)	Brass
	2	Immersion pocket	Brass
	3	Bonnet	Brass
	4	Housing	Brass
		Not depicted components:	
		Valve piston	Brass
		Spring	Spring steel
		Remote double temperature sensor with capillary tube	Copper
		Seals	Heat-resistant elastomer

METHOD OF OPERATION

The temperature relief valve is controlled by the supply temperature of the heat exchanger. It consists of a spring-loaded valve and a temperature sensor, which is acting on a bellows system. When the supply temperature in the boiler reaches the specified opening temperature (see versions), the force in the bellows system exceeds the spring force of the valve, and the valve opens.

In case of installation upstream of the boiler, in the cold water supply of the boiler's integrated heat exchanger:

The temperature relief valve closes the supply to the heat exchanger. The heat exchanger itself remains dry in normal operation. If the temperature relief valve is opened, the heat exchanger fills up and dissipates excessive heat from the heating water to the drain.

In case of installation downstream of the boiler, at the hot-water outlet:

The temperature relief valve closes the outlet. If the temperature relief valve opens, the heated city water is drained from the heater and replaced with cold water from the supply. This water can now absorb the excessive heat from the water heater to prevent overheating.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	5 °C
Max. ambient temperature:	55 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	85 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- The valve and the sensor must be installed carefully to avoid any damage to the capillary tube
- The opening on the blow-out line must be clear and easy to monitor
- Ensure no persons are in danger when blowing off the valve
- A sufficiently dimensioned discharge line must be provided
- This valve requires regular inspections according EN 806-5 to ensure correct function
- Installation max. 10 x DN according to DIN 1988-100
- Requires regular maintenance in accordance with EN 806-5

Installation Example

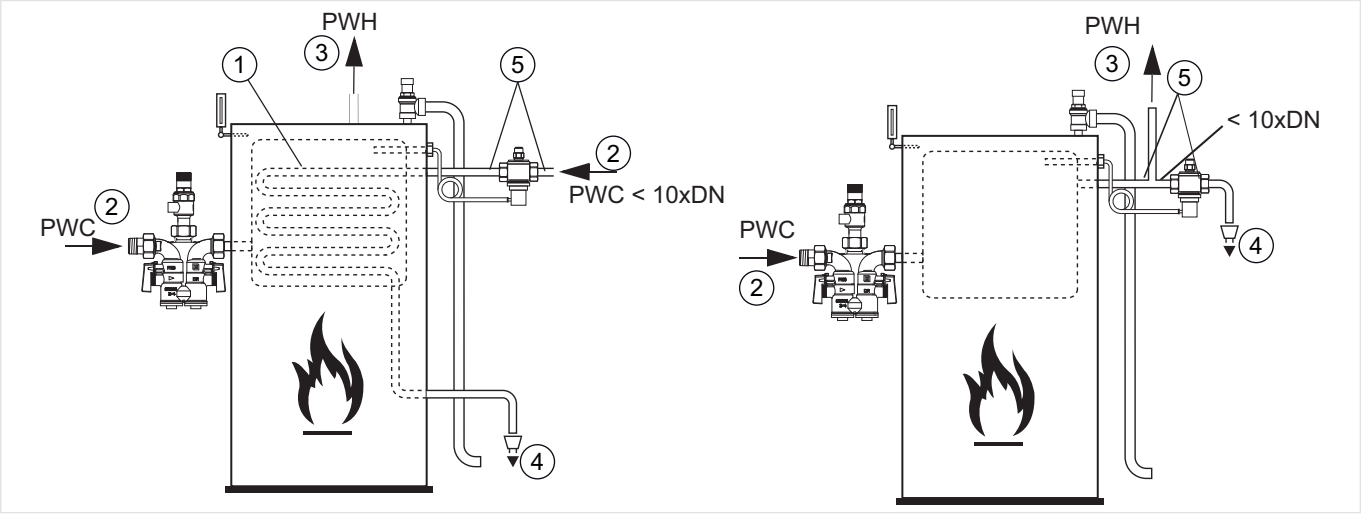


Fig. 1 Standard installation example for the temperature relief valve

1 Safety heat exchanger
2 Potable water cold (PWC)
3 Potable water hot (PWH)
4 Outlet
5 min. DN20 ($^3/_4$")

TECHNICAL CHARACTERISTICS

kvs-Values

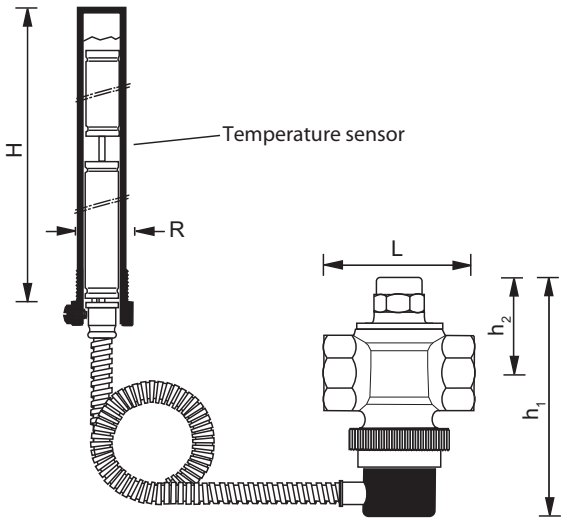
	with 2 intact sensor systems	with 1 intact sensor system
k_{vs}-value (m^3/h):	3	2.1

Note: kvs-value at Δp = 1 bar and at 110°C medium temperature

Attention! Installation of the thermal discharge safety valve does not replace the diaphragm relief value in the cold water supply line to the water heater.

DIMENSIONS

Overview



Parameter		Values
Connection size:	R	$^1/_2$"
Dimensions:	H	152
	h_1	98.5
	h_2	40
	L	62
Weight:	kg	0.76

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: $^{3}/_{4}$"

• standard

- not available

		TS131-3/4A	TS131-3/4B	TS131-3/4ZAx
Opening temperature:	95 °C	•	•	–
	x =50 / 100 / 110 °C	–	–	•
Capillary tube with protection sheath:	1300 mm *	•	–	•
	4000 mm	–	•	–

* with approved construction

Spare Parts

Temperature relief Valve TS131, from 2011 onwards

Overview
 TS131TWG-3/4  TS131K-3/4S  TS131IP-3/4A

	Description	Dimension	Part No.
1	**Piston guide, complete, for TS131**		
	Only suitable for batches 1141 and up (2011, calendar week 41 and later)		TS131K-3/4S
2	**Thermal expansion element for TS131**		
	Opening temperature: 95° Type A = capillary with protection sheath, 1300 mm Type B = capillary with protection sheath 4000 mm Type ZAx = opening temperature according to type (x = 50°C or 100°C), capillary with protection sheath, 1300mm		TS131TWG-3/4S
3	**Immersion sleeve for TS131**		
			TS131IP-3/4

For more information

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