

TEMPERATURE SAFETY RELIEF VALVE

Description

The temperature safety relief valve limits the temperature of the water contained in the multifuel or non-pulverized solid fuel generators, equipped with an emergency heat exchanger or integrated storage. When reaching the setting value, the valve opens to:

- make water pass through the emergency heat exchanger, withdrawing heat from the technical water contained in the boiler body;
- discharge water from the integrated storage which is therefore replaced by new cold water, thus withdrawing heat from the technical water contained in the boiler body.



TH1258

Range of articles

Series 03C Temperature safety relief valve

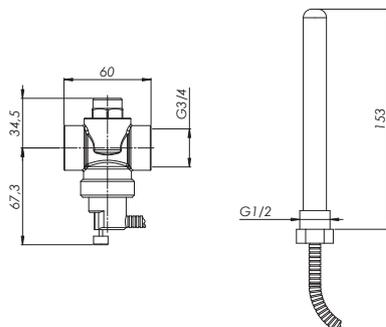
Features

Maximum working pressure: **10 bar**
 Working temperature range: **5–110 °C**
 Ambient temperature range: **0–60 °C**
 Setting temperature: **95 °C (±3 °C)**
 Maximum temperature of the sensor: **125 °C**
 Discharge flow rate: **1350 l/h (Δp=1 bar, T=95 °C)**
 Mode of operation (EN 14597): **2 KP**
 Suitable fluid: **water**
 Threaded connections: **G 3/4 F**
 Sensor pocket: **G 1/2 M**
 Capillary length: **1300 mm**

Materials

Body: **brass EN 12165 CW617N**
 Control stem: **brass EN 12164 CW614N**
 Obturator: **brass EN 12164 CW614N**
 Obturator gasket: **EPDM**
 Gaskets: **EPDM**
 Spring: **stainless steel**
 Thermal element (bellows) protective cover: **POM**

Dimensions



Code	Connection	Weight [kg]	N. P/B	N. P/C
03C 020 000	G 3/4 F	0,63	1	-

N. P/B: number of pieces in box - N. P/C: number of pieces in carton

Reference standards

Reference standards that require the application of the temperature safety relief valve:

- conformity to EN 14597 for use on non-pulverized solid fuel generators with power output lower than 100 kW;
- use according to the indications provided by the system standards EN 12828, UNI 10412-2 and product standard EN 303-5;
- INAIL Collection "R" - ed. 2009 (Italian standard): chapter R.3.C. (paragraph 1, point 1.4), chapter R.3.C. (paragraph 2, point 2.1, letter i2), chapter R.3.C. (paragraph 3, point 3.1, letter i and point 3.3).

The above standards provide information for the installation of solid fuel generators with open and closed vessel. The respect of the requests in terms of safety, protection and control devices is strictly recommended.

Working way

The sensor (1) of the valve (2) detects the temperature of the technical water contained inside the biomass generator (3). The sensor expands/contracts depending on the temperature variations. Through the capillary system (4), the sensor mechanically acts on the bellows (5) located inside the valve body: when the setting temperature is reached, the bellows open the valve obturator. In this way the mains water (6) passes through the valve and the emergency heat exchanger (5) to draw heat from the technical water contained in the generator body, preventing its overheating.

Advantages

1) Double safety sensor (bellows). Inside the valve body it is placed a double bellow that opens the obturator. Even in case of failure of one of the two bellows, the remaining one is still able to open the obturator in case of need.

2) Adjustable bellows. To facilitate the installation of the capillary, the bellow protective cover can be rotated 360° by loosening the locking ring.

3) Verification button. The functionality of the valve can be checked by periodically pressing the red button located on the black protective cover of the bellows.

Installation and maintenance

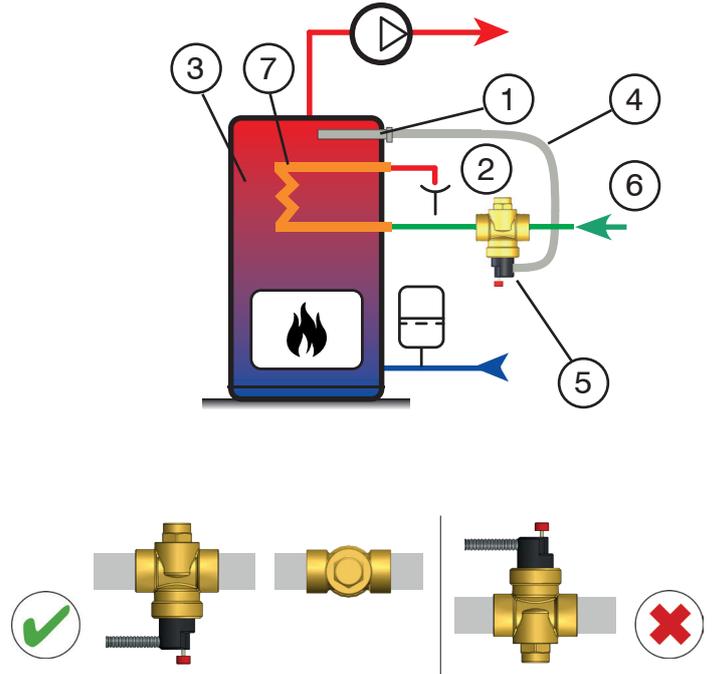
Valve

- The valve must be installed on a horizontal pipe (with the obturator axis in vertical position) or laying on a side. The upside-down position is not allowed;
- the valve must be installed on the pipe at the inlet of the emergency heat exchanger to avoid encrustations;
- the valve must be installed on the pipe at the outlet for the generators equipped with built-in storage (see System diagrams).

Sensor

The reference standards indicate the precise application point of the temperature safety relief valve sensor, depending on the generator fuel loading system (manual or automatic) and the expansion system (open or closed vessel). These are the possibilities:

- in the specific connection on board the generator (with the pocket immersed in the technical water)
- on the flow pipe, upstream of all shut-off devices (as close as possible to the generator or within the distance indicated by



the respective reference standard: for the Collection R the distance is 1 m, for UNI 10412-2 it is required on board the generator or within the first 30 cm).

Installation procedure (see instructions for details)

- Install the valve on the pipe by respecting the flow direction indicated by the arrow on the body;
- insert the pocket with the sensor in the position prescribed by the reference standard and lock the sensor with its anti-slip pin;
- orient/extend the capillary to obtain a comfortable position;
- lock the capillary to the valve by fully screwing the locking ring of the bellow protection cover;
- convey the discharge into a specific tundish.

Depending on the water quality and the reference standards, carry out maintenance at least once a year or, if necessary, more frequently.

System diagrams

03C coupled to: safety heat exchanger/built-in storage



Specifications

Temperature safety relief valve. With CE marking and certified to German DIN standards. With double safety sensor. Body, control stem and obturator in brass, EPDM gaskets, stainless steel spring. Maximum working pressure 10 bar. Working temperature range 5–110 °C. Setting temperature 95 °C (±3 °C). Discharge flow rate 1350 l/h (Δp=1 bar, T=95 °C). Suitable fluid water. Threaded connections G 3/4 F. Sensor pocket G 1/2 M. Capillary lenght 1300 mm.