

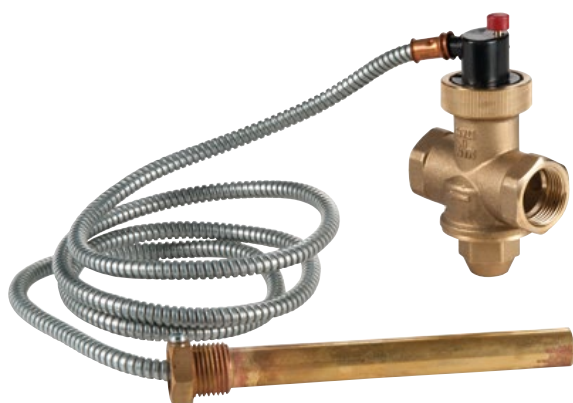
# R144ST

## Thermal safety relief valve



Energy  
Management

Datasheet  
0727EN 08/2023



The R144ST thermal safety relief valve is a device that limits the temperature of the water in multi-fuel or solid (non-pulverized) fuel generators equipped with a built-in storage tank or emergency heat exchanger (for immediate cooling). When the calibration temperature is reached, the valve begins discharging the right amount of water to keep the generator temperature within the safety limits. The R144ST valve complies with EN 14597 Standard. It can be combined with solid (non-powdered) fuel generators with a power level lower than 100 kW, in accordance with the plant engineering layouts of the EN 12828 Standard.

### ➤ Versions and product codes

PRODUCT CODE	CONNECTIONS	CALIBRATION TEMPERATURE [°C]
R144SY001	G 3/4" F	95

#### **⚠ WARNING: PRODUCT INSTALLATION IN ELECTRICAL OR ELECTRONIC EQUIPMENT (EEE)**

The product can be installed only if the EEE - Electrical and / or Electronic Equipment - is excluded or not falling within the scope of Directive 2011/65/EU according to the provisions at point e) of par. 4 of art. 2 of the Directive itself, as a product intended for large fixed installations.

### ➤ Technical data

- Fluids: water
- Max. working pressure: 10 bar
- Calibration temperature: 95 °C
- Working temperature range: 92÷112 °C
- Ambient temperature range: 0÷80 °C
- Drainage flow rate with  $\Delta p = 1$  bar: 3 m<sup>3</sup>/h
- Probe housing: G 1/2" M
- Capillary pipe length: 1,3 m
- Dual safety sensor
- Adjustable blower-holder support with drain button

#### Materials

- Body: brass UNI EN 12165 CW617N
- Command stem: brass UNI EN 12164 CW614N
- Gaskets: EPDM
- Spring: carbon steel C70
- Blower-holder support and reset button: nylon PA66

## ► Operation

As the temperature of the water in the circuit rises, the liquid in the sensitive element (dual safety sensor) evaporates and, as it expands, it opens the valve shutter and thereby allows the water to circulate.

The sensor has two expansion elements to ensure the valve can work even if one sensitive part is faulty.

The blower-holder support can be adjusted. It has a manual button for drain operations.

## ► Installation

Before installing the valve, make sure there are no impurities in the system that could obstruct or damage the seal of the valve itself.

Install a Y-filter on the cold water inlet and, if necessary, a pressure reducer calibrated at the required operating pressure.

The valve temperature sensor should be assembled on the machine or on the delivery pipe, as close as possible to the heat generator or at least at a distance compatible with the reference standard.

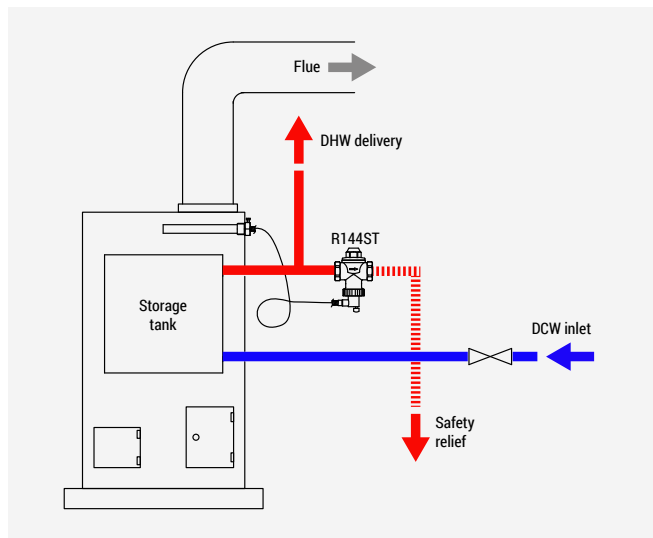
The valve must be installed on a horizontal pipe with a diameter equal to the valve outlet (do not use reduction units); there must be no more than two bends.

The drainage section must not have any upward facing parts; use a visible relief funnel in the connection with the drainage pipe.

The drain button allows the device to drain off the water manually; this operation should be carried out at regular intervals (at least every time the system is restarted) to check the device is working properly.

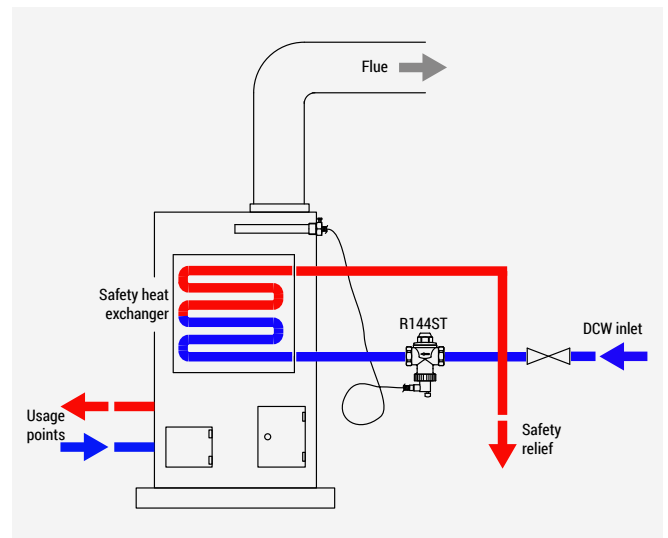
### Installation with heat generators with a built-in storage tank

When the calibration temperature is reached, the R144ST valve opens to discharge the hot water from the generator's built-in storage tank, in order to lower its temperature.



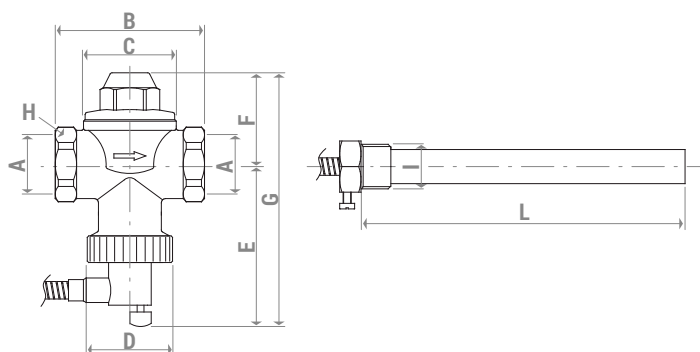
### Installation with heat generators with an emergency heat exchanger

When the calibration temperature is reached, the R144ST valve opens to let cold water circulate in the safety heat exchanger, in order to lower its temperature.



**⚠ WARNING.** The thermal drain valve is intended to avoid exceeding the maximum allowed temperature in the system; according to the norm 4.6.1 EN 12828, the installation of a safety device preventing overheating above the maximum allowed temperature is required.

## ➤ Dimensions



PRODUCT CODE	CONNECTIONS A	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	CONNECTION I	L [mm]
R144SY001	G 3/4"F	70	Ø 43	Ø 40	76	43	119	wr.42	G 1/2"M	152

## ➤ Product specifications

### R144ST

Thermal safety relief valve, with dual safety sensor. Connections G 3/4"F. Complete with remote probe with housing and connection G 1/2"M. Capillary pipe length 1,3 m. Brass body, steel spring, EPDM gaskets. Fluids: water. Max. working pressure 10 bar. Calibration temperature 95 °C. Working temperature range: 92÷112 °C. Ambient temperature range: 0÷80 °C.

**⚠ Safety Warning.** Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

**♻ Package Disposal.** Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

**ℹ Additional information.** For more information, go to [giacomini.com](http://giacomini.com) or contact our technical assistance service. This document provides only general indications. Giacomini S.p.A. may change at any time, without notice and for technical or commercial reasons, the items included herewith. The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

**♻ Product Disposal.** Do not dispose of product as municipal waste at the end of its life cycle. Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.