

# Safety group GSM 1"



- Hydraulic safety group high capacity.
- WRAS approved, comply with standard EN1487 (NF for France - BELGAQUA for Belgium).
- Complete set for hot water storage heater DN 1"1/4.

**WATTS**  
**INDUSTRIES**

A Division of Watts Water Technologies Inc.

**Application :**

The hydraulic safety groups are used in domestic water systems to protect hot water storage heaters.

They combine different components with the following functions:

- Safety function to prevent the pressure of the water in the storage heaters reaching dangerous levels.
- Backflow prevention to prevent hot water return into the cold water mains supply – the check-valve can be controlled with a special gauge port,
- A shut-off function to isolate the mains supply for maintenance or inspection of the heater system,
- To drain the hot water storage heater: draining is ensured by the relief valve which can be actuated manually. Once opened pressurised water contained in the hot water storage heater is evacuated.

The certified hydraulic safety groups conform to European Standard EN 1487.

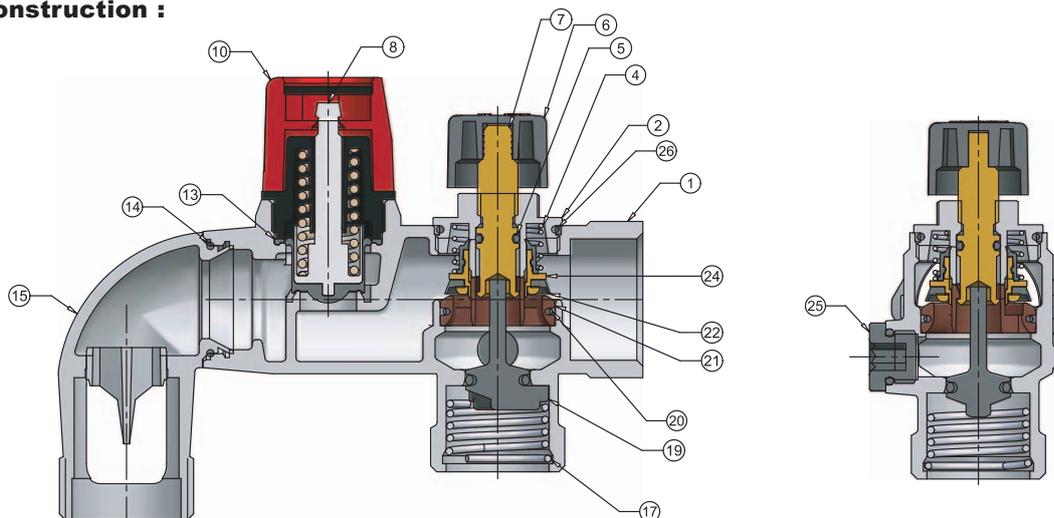
GSM 1" is designed specifically for "horizontally installed" hot water storage heaters where the safety valve function can be subjected to the risks of scaling or filling by impurities such as sand or silica.

**Features and benefits :**

- Safety group with diaphragm.
- High capacity : flow rate 5m<sup>3</sup>/h.
- Metallic angle discharge port with swivelling air gap.
- Shut-off valve and controllable check valve.
- Max. working pressure: 10 bar.
- Max. working temperature: 120°C.
- Set pressure: 6 bar for UK (article number 54557).
- Set pressure: 7 bar for France and Belgium (article number 54555).
- For hot water storage heater of max. power rating: 18 kW.

**Approvals :**

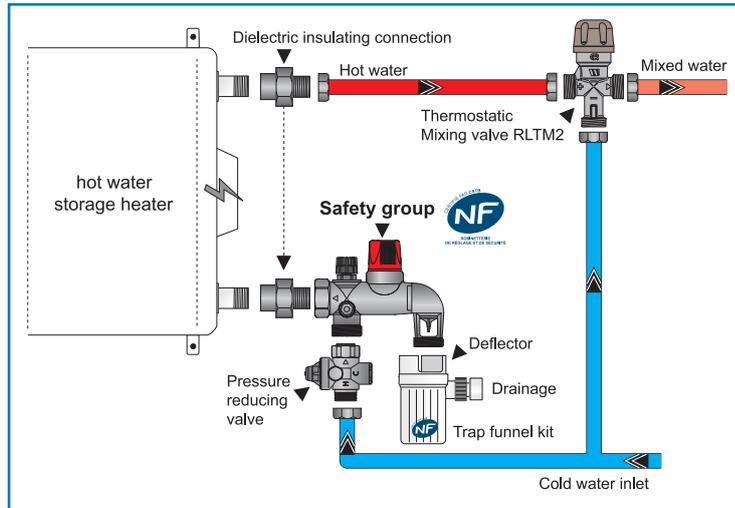
- Certified to EN 1487.
- WRAS approved certificate N°0503065 (UK) - NF EN 1487 (F) – ACS (F) – BELGAQUA (B).

**Construction :**

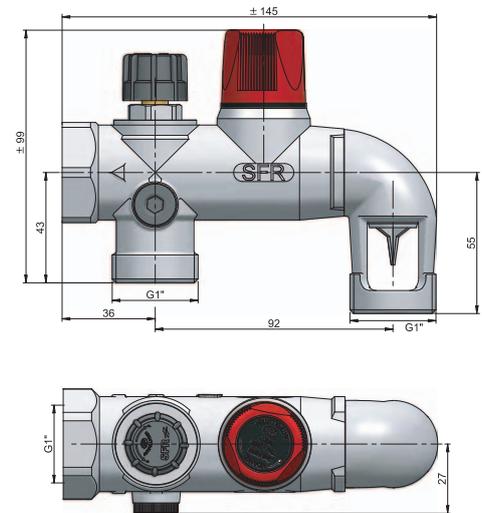
N°	description	material
1	body	CB752S
2	head tap	CW614N
4	check valve spring	SS 1.4310
5	seal 7,2 x 1,9	NBR 70SH
6	isolating tap	PP +20% talc
7	tap shaft	CW614N
8	relief valve shaft	PA 6.6 +30% F.V.
10	relief valve	PA 6 +15% F.V.
13	relief valve diaphragm	EPDM 70SH
14	seal 25,12 x 1,78	NBR 70SH

N°	description	material
15	angle discharge port	CB753S
17	spring	SS 1.4310
19	tap check-valve	PA 6.6 +30 F.V.
20	seal 23,52 x 1,78	NBR 70SH
21	check-valve seat	Polysulfone
22	check-valve seal	EPDM 70SH
24	check-valve	CW614N
25	plug	PA
26	seal 26,7 x 1,78	NBR 70SH

**Typical installation :**



**Dimensions :**



Net weight : 0,752 Kg.

**Recommendations / Installation :**

**Hot water storage heater working normally**

The stop valve is in the "open" position and the valve is in the "on" position under normal working. During heating, pressure rises inside the hot water storage heater and the non-return valve closes. When the pressure reaches 7 bar, the safety valve opens slightly and allows some water to escape and this occurs intermittently throughout the heating time. Exhausting water like this is normal ; it proves that the Safety Group is working correctly. There is no need for troubleshooting and remedies.

**Hot water storage heater working abnormally**

The hot water storage heaters thermostat can malfunction and fail to cut off the heat source. This causes pressure and temperature to rise which lifts the valve in the safety group allowing steam to escape with a characteristic whistle. You should cut off the hot water storage heater power source immediately and contact the installer who will change the thermostat. The safety group should be replaced: the temperature of steam at 7 bar is 165°C and could damage the valve seals.

**Frost**

If you are using your hot water storage heater when there is a risk of frost, it is recommended that you empty it: turn off the power source, close the Safety Group stop valve, open one of the hot water taps of the system and open the drain valve.

**Impurities**

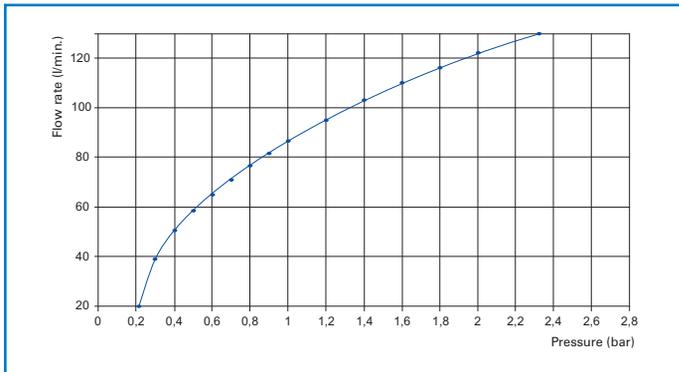
If the Safety Group keeps on emptying itself, the drain valve should be opened several times to blow off the impurities blocking the seal.

**Maintenance**

If properly fitted, the safety group needs no maintenance. However, we recommend that the drain valve be opened at least once a month.

**Recommendations / Installation**

- 1 - Make sure there is no seal mastic, oakum or other waste preventing its proper working.
- 2 - Operate the isolating valve and safety valve at least once a month.
- 3 - The drain pipe should be 25 mm minimum. A suitable tundish/airgap (not supplied) should be fitted.
- 4 - If the cold water supply pressure exceeds 3 bar, a pressure reducing valve should be fitted UPSTREAM of the safety group. Please refer to the range available from Watts Industries.
- 5 - This Safety Group may be fitted to a hot water storage heater of maximum 18 kW working power.
- 6 - Subject to plumbing regulations.
- 7 - To prevent the two metal corrosion phenomenon, fitting Dielectric insulating connection R.I.D. on piping between the hot water storage heater and the safety group as well as the hot water storage heater hot water outlet is recommended. Please refer to the range available from Watts Industries.

**Pressure drop curve / headloss :**

Connection diameter to the hot water storage heater	Type of Safety Group	Max power of the hot water storage heater in kW	Capacity of the hot water storage heater in liters
G 1/2"	NA53M2 1/2"	4 kW	50 L
G 3/4"	SFR 3/4"	10 kW	300 L
G 1"	GSM 1"	18 kW	600 L
G 1 1/4"	Set 1 1/4"	24 kW	1000 L

## Complete Set for hot water storage heaters DN 1 1/4

### This complete set for hot water storage heaters with high capacity includes:

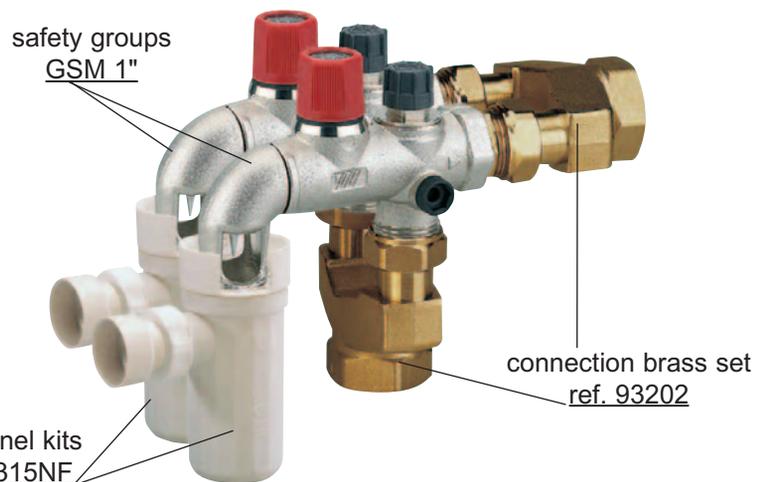
- 2 safety groups GSM 1"
- 2 connection brass sets
- 2 chromed fittings MM 1"
- 2 trap funnel kits with deflector

For high capacity hot water storage heater.

KIT with safety groups - set pressure 6 bar :  
art. 54562 (for UK)

KIT with safety groups - set pressure 7 bar :  
art. 54560 (for France - Belgium)

trap funnel kits  
ref. 92315NF



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