Safety unit GSM 1”

- Hydraulic safety unit high capacity.
- WRAS approved, comply with standard EN1487 (NF for France - BELGAQUA for Belgium).
- Complete set for boiler DN 1"1/4.
Application:
- The hydraulic safety units 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 storage water heater: draining is ensured by the relief valve which can be actuated manually. Once opened pressurised water contained in the storage heater is evacuated.

The certified hydraulic safety units 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 unit with diaphragm
- High capacity: flow rate 5m³/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
- For boiler 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:

<table>
<thead>
<tr>
<th>N°</th>
<th>description</th>
<th>material</th>
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<tbody>
<tr>
<td>1</td>
<td>body</td>
<td>CB752S</td>
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<tr>
<td>2</td>
<td>head tap</td>
<td>CW614N</td>
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<tr>
<td>4</td>
<td>check valve spring</td>
<td>SS 1.4310</td>
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<tr>
<td>5</td>
<td>seal 7,2 x 1,9</td>
<td>NBR 70SH</td>
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<tr>
<td>6</td>
<td>isolating tap</td>
<td>PP +20% talc</td>
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<tr>
<td>7</td>
<td>tap shaft</td>
<td>CW614N</td>
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<tr>
<td>8</td>
<td>relief valve shaft</td>
<td>PA 6.6 +30% F.V.</td>
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<td>seal 25,12 x 1,78</td>
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<td>angle discharge port</td>
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<td>spring</td>
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<td>Polysulfone</td>
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<td>22</td>
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<tr>
<td>25</td>
<td>plug</td>
<td>PA</td>
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<tr>
<td>26</td>
<td>seal 26,7 x 1,78</td>
<td>NBR 70SH</td>
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</table>
**Recommendations / Installation:**

**Water 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 water 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 Unit is working correctly. There is no need for troubleshooting and remedies.

**Water heater working abnormally**
The water heater's 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 unit allowing steam to escape with a characteristic whistle. You should cut off the water heater power source immediately and contact the installer who will change the thermostat. The safety unit 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 water heater when there is a risk of frost, it is recommended that you empty it: turn off the power source, close the Safety Unit stop valve, open one of the hot water taps of the system and open the drain valve.

**Impurities**
If the Safety Unit 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 unit 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 unit. Please refer to the range available from Watts Industries.
5. This Safety Unit may be fitted to a water heater of maximum 18 kW working power.
6. Subject to plumbing regulations.
7. To prevent the two metal corrosion phenomenon, fitting Di-electric Unions on piping between the water heater and the safety unit as well as the water heater hot water outlet is recommended. Please refer to the range available from Watts Industries.
Pressure drop curve / headloss:

![Pressure drop curve graph]

Connection diameter to the water heater | Type of Safety Unit | Max power of the hot water storage heater in kW | Maximum capacity of the hot water storage heater in litres
--- | --- | --- | ---
G 1/2" | SFR 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 units GSM 1"
- 2 connection brass set
- 2 chromed fittings MM 1"
- 2 funnel kit with deflector

For high capacity hot water storage.

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