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BSB safety group for DHW systems with a connection to an expansion vessel

NOTE!

The product may only be used if you have fully read and understood these operating instructions. The manual is also available on the AFRISO websites in the Internet.

WARNING!



The product may only be installed, commissioned, and dismantled by trained personnel.

Changes and modifications carried out by unauthorised persons may cause danger and are prohibited for safety reasons.

Risk of scalding from hot medium! All installation and maintenance work must be carried out only after the system has cooled down.

APPLICATION

The BSB safety group is designed to protect domestic hot water systems with a system capacity not exceeding 111.5 kW and a maximum storage tank volume of 200 litres.

The group is fitted with a connection for an expansion vessel with a capacity of up to 25 litres, an MSW safety valve to prevent the system pressure from rising above 6 bar, and a pressure gauge for monitoring the pressure.

PREDICTABLE INCORRECT APPLICATION

The BSB safety group must not be used in the following cases:

- for liquids other than domestic water,
- when the safety valve's discharge port is closed or blocked,
- when the calculated opening pressure of the safety valve differs from that specified on the product,
- if the upper or lower permissible temperature of the medium is exceeded.

DESCRIPTION

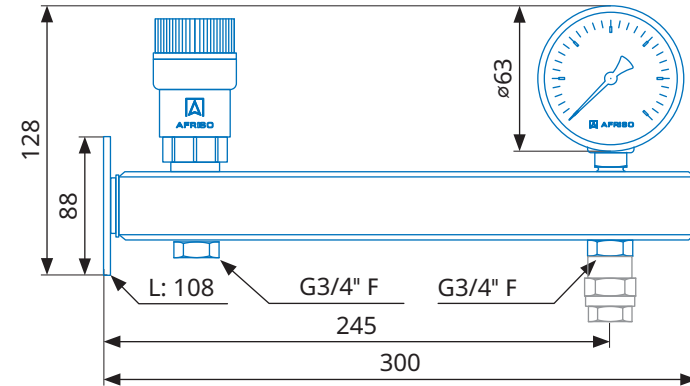
The housing of the BSB safety group is made of brass. The safety group features a mounting bracket for fixing it to the wall using plugs and screws. The group is designed for expansion vessels with a capacity of up to 25 litres and a diameter of no more than 320 mm. The safety group is available in a version with a quick-release connection (Art. No. 90 621 00) and without a quick-release connection (Art. No. 90 620 00).

OPERATION

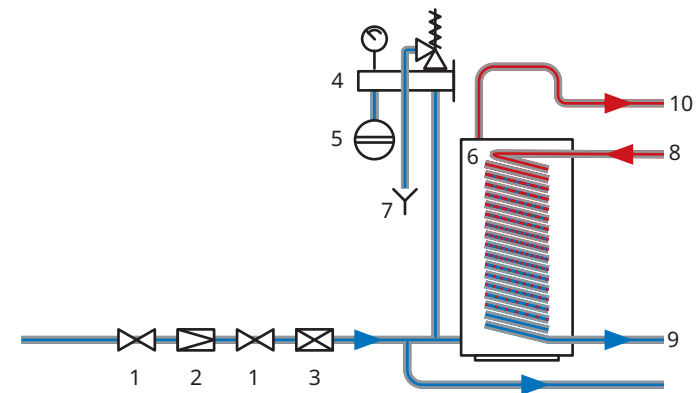
When the pressure in the domestic hot water system does not exceed 6 bar, the MSW safety valve, which is a component of the BSB safety group, remains closed. An increase in pressure above the valve's set pressure causes its diaphragm to move and the passage to open, allowing excess medium to be removed from the system whilst simultaneously reducing the pressure to a proper (safe) level.

The pressure at which the valve opens is factory-set at 6 bar. The knob located at the very top of the MSW safety valve allows for temporary manual opening of the passage at a pressure lower than the safety valve's set pressure, in order to check that it is functioning correctly.

DIMENSIONS [mm]



APPLICATION DIAGRAM



- | | | |
|-----------------------|--|---|
| 1. shut-off valve | 5. expansion vessel | 9. return from the tank to the central heating system |
| 2. pressure regulator | 6. DHW tank | 10. hot water outlet from the tank |
| 3. non-return valve | 7. cooling sump or drain grate | |
| 4. BSB safety group | 8. system supply from the central heating system | |

INSTALLATION



During the installation, commissioning and maintenance of the safety group, every possible precaution must be taken to prevent scalding from hot water.

The safety group must be positioned in such a way as to allow for its subsequent removal and maintenance.



There must be no shut-off valves or non-return valves between the tank and the safety group. The safety group should be positioned as close as possible to the tank.

The safety group must be secured to the wall using the mounting bracket. The mounting bracket should be secured with screws driven into proper wall plugs for the specific wall type. The best way to determine the position of the wall plugs is to mark the mounting holes on the wall with a pencil. The holes in the bracket are designed to allow easy vertical alignment of the entire safety group

Connect the expansion vessel to the connection at the end of the previously installed BSB safety group. In the version without a quick-release connection (Art. No. 90 620 00), connect the thread of the expansion vessel directly to the thread of the safety group. In the version with a quick-release connection (Art. No. 90 621 00), screw the expansion vessel into the lower part of the quick-release connection, which is supplied separately in the box, and only then press the vessel, together with the screwed-on lower part of the quick-release connection, into its upper part located at the end of the BSB safety group, after which tighten with the nut.



Connect a discharge pipe to the safety valve outlet (Rp $\frac{3}{4}$ " internal thread) and route it to a drain grate or cooling sump.

APPROVALS AND CERTIFICATES

The AFRISO MSW diaphragm safety valve, which has been installed in the BSB safety group, has been tested by TÜV Rheinland and holds a CE declaration confirming compliance with the Pressure Equipment Directive (PED) 2014/68/EU, as well as the proper Type Examination Certificate issued by the Office of Technical Inspection (UDT). The product holds a hygiene certificate issued by the National Institute of Public Health – National Institute of Hygiene, confirming its safety for use with water intended for human consumption.

TECHNICAL DATA

Parameter / part	Value / material
Dimensions	295 x 154 x 88 mm
Heating capacity of the protected installation according to UDT	max. 111,5 kW
Expansion vessel connection	G3/4" F / quick-release connection G3/4" F
Connection to the system	G3/4" F
Pressure gauge range	0-10 bar
Safety valve opening pressure	6 bar
Pressure gauge dial size	Ø63 mm
mmThe smallest diameter of the inlet port <i>d</i> of the MSW safety valve	13 mm
mmFlow coefficient α for vapours and gases α for the MSW safety valve	0,37
Flow coefficient for liquids α_c of the MSW safety valve	0,31

MAINTENANCE

The BSB safety group itself does not require any maintenance. The expansion vessel connected to the safety group must be serviced annually. During servicing of the expansion vessel, check it for any visible damage or signs of corrosion.

DECOMMISSIONING, DISPOSAL

1. Dismount the product.
2. Dispose of the product in accordance with applicable regulations, standards and safety guidelines. The product is made from recyclable materials. If you have any questions or problems with disposal, please contact the relevant distributor or manufacturer.

WARRANTY

Product guarantee in accordance with the general conditions of sale and delivery.

CUSTOMER SATISFACTION

For AFRISO customer satisfaction is paramount. If you have any questions, suggestions or product problems, please contact us.