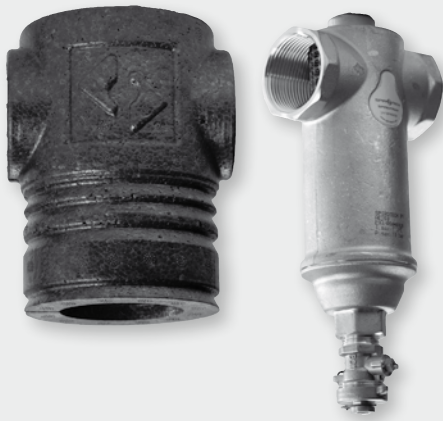


SLUDGE SEPARATOR FOR HEATING CIRCUITS



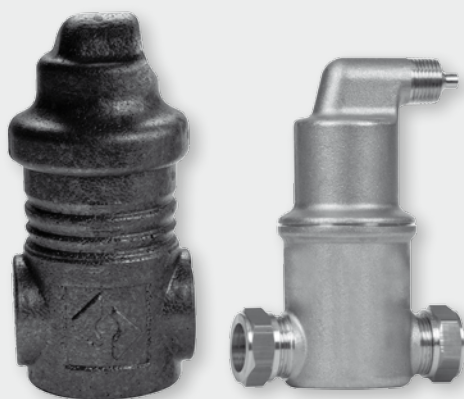
Sludge separator for heating circuits

The sludge separator removes sludge particles with dimensions greater than 5 μm from the system water. The captured sludge particles can be rinsed away while the system is in operation. When the drainage tap is opened the accumulated contamination can be quickly pushed out. The ready-to-use insulation has a low thermal conductivity as well as excellent temperature stability and can be easily fitted to the sludge separator by separation along the cutting marks with a cutting knife.

Specifications

Designation	Sludge separator for heating circuit
Item no.	1610604
Type	SA 64
Material	Brass
Connection (dimension d)	G 6/4"
Max. operating pressure	10 bar
Max. temperature	110 °C
Dimensions	H=197 mm, L=88 mm
Weight	1.5 kg
Insulation	EPP hard foam (CFC-free, 100% recyclable), H=180 mm, insulation thickness 18 mm, $\lambda=0.035$ W/mK

MICROBUBBLE DEAERATOR FOR HEATING CIRCUITS



Microbubble deaerator for heating circuits

The microbubble deaerator has been developed for fully automatic removal of air from water/glycol mixtures (max. 40% glycol). The ready-to-use insulation has a low thermal conductivity as well as excellent temperature stability and can be easily fitted to the microbubble deaerator by separation along the cutting marks with a cutting knife.

Specifications

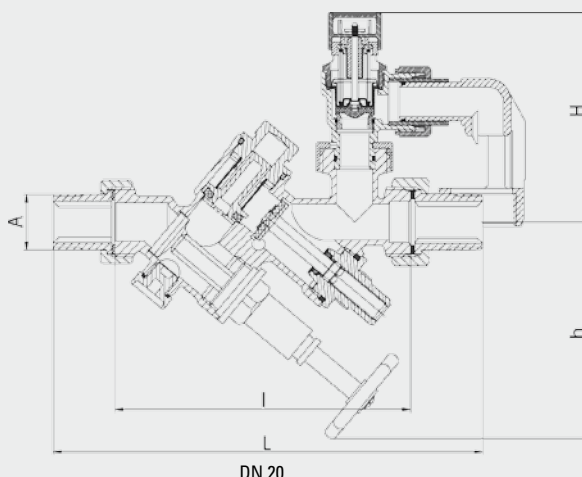
Designation	Microbubble deaerator for heating circuits
Item no.	1610606
Type	LA 64
Material	Brass
Connection (dimension d)	G 6/4"
Max. operating pressure	10 bar
Max. temperature	110 °C
Dimensions	H=234 mm, L=88 mm
Weight	1.6 kg
Insulation	EPP hard foam (CFC-free, 100% recyclable), H=275 mm, insulation thickness 18 mm, $\lambda=0.035$ W/mK

TANK ACCESSORIES

BOILER SAFETY GROUP



DVGW Certified



Nominal width		DN 20
		G 3/4"
	A	3/4"
Unit dimensions	L (mm)	205
	l (mm)	140
	H (mm)	100
	h (mm)	115
Max. nominal volume of the drinking water heater (TWE)	(l)	1000
TWE heating power	(kW)	max. 150

Boiler safety group

Boiler safety group 24 provides optimum protection from exceeding permissible pressures in closed drinking water heaters (TWE), in compliance with DIN 1988, part 2; DIN 4753, part 1 and DIN EN 1488. It meets noise protection standards in compliance with DIN 4109 (noise protection in high-rise construction) Class 1 and contains, in compact form, all the components that must be fitted to drinking water heaters as stipulated by DIN 1988 and DIN EN 1488. The pressure relief valve protects the downstream drinking water heater and the return flow inhibitor prevents the heated drinking water from flowing back.

Specifications

Type	BSG 3/4 "
Item no.	1610487
Dimensions	DN20
Connection	G 3/4"
Input pressure	10 bar in compliance with DIN EN 1488
Operating pressure	max. 80% of the pressure relief valve response pressure
Operating temperature	max. 30 °C inlet temperature
Response pressure	factory-set 6 bar
Component test no.	TÜV-SV-05-545-DN-W-p
Installation position	any
Flow rate	4.0 m ³ /h at Δp 1.0 bar
ABP-No.	PA-IX 1794/I
DVGW-No	DVGW NW-6311AP2713
Pressure relief valve response pressure	6 bar

BOILER SAFETY GROUP

Design

The safety group consists of a shut-off valve and a return flow inhibitor with testing device (2 shut-off valves with DN 20), pressure gauge connection and diaphragm pressure relief valve as well as drain funnel with pipe interrupter, which prevents siphoning back of the draining water. The easily exchangeable diaphragm pressure relief valve, with wear-resistant stainless-steel seat, adapts to different installation conditions thanks to a threaded connection that can be turned through 360 degrees.

Materials

All materials used for the safety group, meet the high requirements of DIN 1988. Plastics and elastomers coming into contact with water conform to the German plastics and drinking water (KTW) recommendations of the German Public Health Department. In particular, all materials are corrosion resistant. Housings, internal components and screw connections are manufactured from high-quality, low-lead brass alloy. The sprung caps of the pressure relief valve are made from glass reinforced plastic, the springs of the pressure relief valve are made from spring steel wire and the return flow inhibitors from stainless-steel.

Installation

The response pressure of the pressure relief valve may not exceed the permissible operating pressure of the drinking water heater. The dimensions of the safety group depend on the volume and heating power of the drinking water heaters. The safety group is engaged if the supply pressure does not exceed 80% of the response pressure on the pressure relief valve.

Assembly

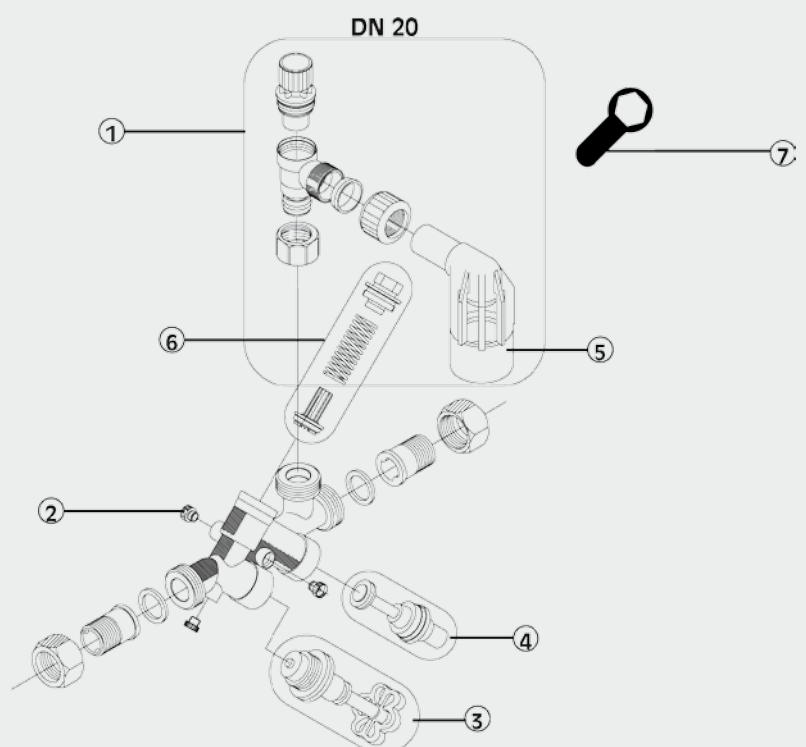
The safety group must always be installed, tension-free, upstream of the drinking water heater, paying attention to the flow direction, in the cold water inlet line which has been well flushed beforehand. The special design of the group makes installation possible with an angle type or straight through type configuration, in horizontal or vertical pipes. The installation is carried out so that no shut-off valves, filters or narrowing of the pipe are located between the pressure relief valve and the drinking water heater. The fitting should be easily accessible for maintenance and service work. Therefore, the safety group should be arranged above the drinking water heater. This location facilitates straightforward exchange of the pressure relief valve without the necessity of first emptying the drinking water heaters. Should this not be possible, due to the particular installation conditions, then the soldered fittings set (accessories) enables an extension of the connecting pipe to the pressure relief valve.

Maintenance

To achieve a long operating life for the safety group it is advisable to carry out regular maintenance work in accordance with DIN 1988, part 8. The seat and seals on the pressure relief valve can be cleaned without altering the pressure. Exchange of the stainless-steel seats is equally problem free. The nominal size DN 20 allows replacement of the return flow inhibitors without emptying the drinking water heaters. The component-tested, exchangeable pressure relief valve makes replacement possible without dismantling the complete fitting.

Components

- 1) Integrated pressure relief valve
6 bar
- 2) Pressure-gauge plug
- 3) 1. Shut-off valve
- 4) 2. Shut-off valve
- 5) Funnel
- 6) Return flow inhibitor
- 7) Assembly spanner for exchanging upper part
Max. torque 15 Nm

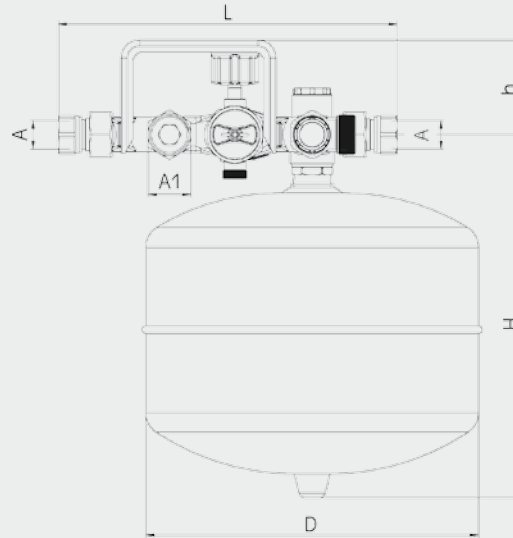


TANK ACCESSORIES

BOILER SAFETY CENTRE



DVGW Certified



Nominal width	–	DN 20
	A	G ¾"
	A1	G 1"
Unit dimensions	L (mm)	285
	h (mm)	80-90 (adjustable)
	H (mm)	305 (12 litre MAG), 385 (18 litre MAG)
	D (mm)	280

Boiler safety centre

The boiler centre safeguards closed drinking water heaters, up to a maximum volume of 560 l, in compliance with DIN 1988, part 2; DIN 4753, part 1; DIN 4807, Part 5 and DIN EN 1488. In compliance with DIN 1988 and DIN EN 1488 it contains the components that are required to be fitted to the input side of drinking water heaters. This equipment includes a flow unit with integrated maintenance shut-off, as well as a compact flow-through membrane expansion tank (MAG) with a nominal volume of 12 l or 18 l, in compact form.

Specifications

Type	BCS-12I	BCS-18I
Item no.	1610488	1610489
Dimensions	DN20	
Connection	G ¾"	
Inlet pressure	10 bar in compliance with DIN EN 1488	
Operating pressure	max. 80% of the pressure relief valve response pressure	
Operating temperature	max. inlet temperature 30 °C	
Response pressure	6, 10 bar through enclosed cartridges	
Component test no.	TÜV-SV-05-545-DN-W-p	
Installation position	any	
Flow rate	1.9 m³/h at 0.2 bar Δp/4.5 m³/h at 1.0 bar Δp	
ABP-No.	PA-IX 7728/I	
DVGW-No.	NW-6160AT2654	
Membrane expansion tank (MAG)	12 litres	18 litres
Pressure relief valve response pressure	6 bar	10 bar
Max. drinking water heater volume	200 l	560 l

BOILER SAFETY CENTRE

Design

The safety centre contains a connection for an additional cold water application, a double shut-off valve with integrated test capability for the return flow inhibitor, a return flow inhibitor, a pressure relief valve with stainless-steel seat and drain funnel, a flow unit with integrated maintenance shut-off valve for the membrane expansion tank as well as a mounting plate with spacer fitting. The special design of the group makes installation possible with an angle type or straight through type configuration, in horizontal or vertical pipes. The diaphragm pressure relief valve adapts to different installation conditions and can be turned through 360°. The mounting plate is designed for safe and rapid installation. The safety centre is tested for sound insulation and meets the requirements of sound insulation class 1.

Materials

The housing is made from low lead content, red brass alloy which is resistant to loss of zinc plating. All wearing parts are made from stainless-steel and all pressure bearing plastic parts are made from glass reinforced plastic. Diaphragms and sealing rings are made from heat and ageing resistant plastics with rubber-elastic properties and the springs are wound from corrosion protected spring steel wire and/or rustproof steel. The membrane expansion tank is constructed from coated steel and the membrane of the tank from Nitril rubber NBR. All plastic parts which come into contact with the drinking water meet the German plastics and drinking water (KTW) recommendations of the German Public Health Department.

Installation

The installation can be carried out either in proximity to the drinking water heaters or in the area where services enter the house. The water supply connection to the building must be fitted with a filter and a pressure reducer. The output pressure adjusted here must not exceed 80% of the response pressure on the pressure relief valve. For wall-mounted installations, the mounting plate provides the required gaps to the wall for the membrane expansion tank as well as the complicated attachment of the membrane expansion tank with the console and mountings. The various installation types make all flow directions possible.

Assembly

Before assembly, the piping should be carefully flushed. After this the unit should be installed tension-free. A distance of 80 mm to the wall is achieved using the mounting plate supplied. A spacer fitting can be used to adjust this distance between 80 and 95 mm. The drain funnel of the pressure relief valve has a length spacer which can be extended to 20 mm. In place of this funnel, and in order to extend it, it is possible to use a drain line of (22 mm) copper tube.

Maintenance

The forward gas pressure in the membrane expansion tank must be set 0.2 bar below the static pressure of the installation. To ensure the enduring operation of the safety centre, regular maintenance of the unit's components is required (see DIN 1988, Part 8). Yearly inspection should be performed on the forward pressure of the membrane expansion tank and on the operation of the return flow inhibitor. The pressure relief valve can be cracked open by the turning handle. The sensible construction of the unit allows problem free maintenance or repair of all the individual components.

Components

1) Exchangeable upper part

- 6 bar
- 10 bar

2) Niro seat

3) Diaphragm pressure relief valve, complete

4) Pressure-gauge plug

5) Double shut-off valve

6) Assembly spanner for exchanging upper part

- Max. torque 15 Nm

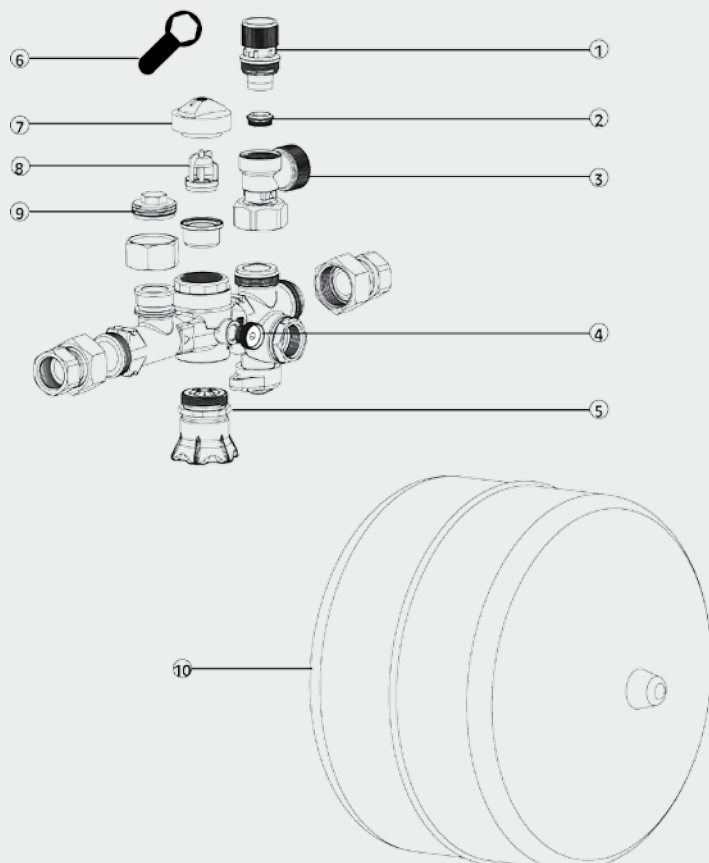
7) Maintenance cap

8) Return flow inhibitor

9) Plug

10) Membrane expansion tank

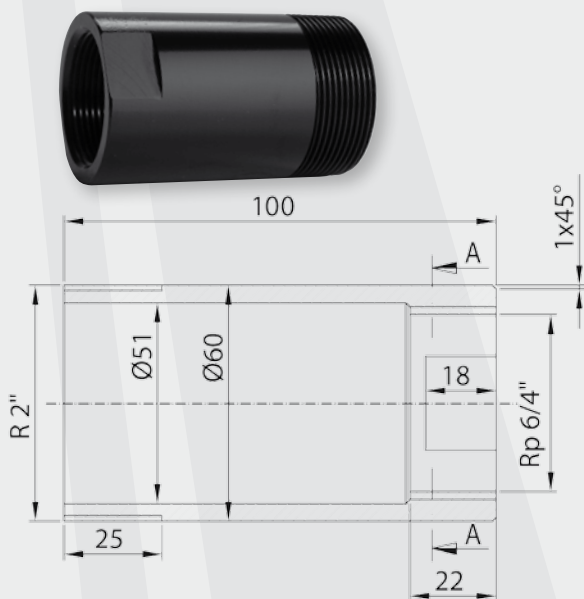
- 12 litres
- 18 litres



Not illustrated: Drain funnel to the pressure relief valve

TANK ACCESSORIES

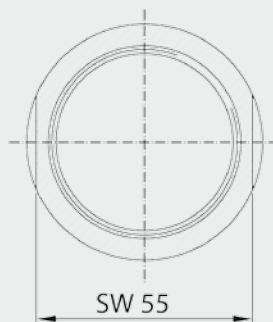
EXTENSION SLEEVE



VM extension sleeve

for EHH electric screw-in heating element

For installation of an electric screw-in heating element in a Pro-Clean®, Pro-Heat or FS tank. EPD-coated.



Specifications

Type	VM
Item no.	1610609
Material	S 235 JR

BOILER THERMOSTAT



Boiler thermostat

Boiler thermostat for floating switching of an external consumer, installed in a hot water tank with thimble and open/close contact. Control range 30-90 °C.

Specifications

Type		BT 210	BT 100
Item no.		1610318	1610320
Control unit housing	Material	synthetic resin	
	Max. temperature	55 °C (approx.)	
	Protection class	IP 40	
	Strain relief	provided (cable clip in housing)	
Thimble	Dimensions (D x W x H)	45 mm (without control unit button)/55 mm/86 mm	
	Material	tin-plated copper	
	Total length	210 mm	100 mm
	Tube length	190 mm	80 mm
Thermostat	Thread	R 1/2"	
	Spanner size	22	
	Cable inlet	rubber grommet	
	Control range	30-90 °C	
	Switch power 250 V	16 (8) A	
	Switch power 400 V	16 (4) A	
	Terminal clamps	3 pieces using (enclosed) screws	
	Sensor	capillary tube sensor 300 mm	
	Contact	1 opener and 1 closer	

