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IE

IMPORTANT

FOLLOW COMMISSIONING INSTRUCTIONS
OBSERVE THE WARRANTY CONDITIONS
READ THE WHOLE MANUAL CAREFULLY
NO SAFETY DISCHARGE TO BE REDUCED IN SIZE.



EBS-1

GEMINOX

CHAUDIERES

High fidelity heat

TECHNICAL INSTRUCTIONS



T30.39005.04

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I - SAFETY PRECAUTIONS

1 - SYMBOLS

In this document:



Safety recommendations, warnings and recommendations are by a warning-triangle symbol accompanied by bold text.

2 - SAFETY PRECAUTIONS

2.1 - Fitting, commissioning

- **The fitting**, the electrical connection **and commissioning or any modifications** must be carried out by a competent, qualified engineer **in accordance with the relevant requirements**.

Respect the electrical connection plan! (§ 7 - page 20)

- Before installation: make sure the appliance is turned-off at all points. Secure against involuntary re-triggering.
- The domestic hot water tank must only be used to heat water for domestic purposes.

Statutory conditions for installation and maintenance in residential buildings.

- **Decree of 23 June 1978 and modifying decree of 30 November 2005**

Heating instructions, hot water supply, layout and safety rules. In particular, ensure that the maximum temperature for distributing hot water is respected.

A thermostatic mixer must be placed on the domestic hot water distribution to limit the temperature at the drawing point (50 °C).

- **Decree from the Ministry of Health relating to protection of water for human consumption.** In particular, the need to place a disconnection system on the installation's filling system and to use materials and accessories that benefit from a sanitary conformity certificate for domestic water distribution circuits.



-Never place the insulation valve between the safety control box and the tank.

-Respect the recommended pressure.

2.2 - Operation

- Respect these installation instructions to ensure flawless operation
- **Do not block the safety valve's evacuation pipe:**
It is normal that the domestic hot water safety box lets a little water escape when heating the hot water tank (water dilation of the tank).

2.3 - Maintenance

- Recommendations for the user:
 - take out an inspection/maintenance contract with an competent and qualified engineer.
 - have the appliance serviced at regular intervals (annually)
 - **ensure that** the safety and control devices (3 bar safety valve, air bleed, safety control box, etc.) are operating properly - § 3 - page 24.
- Respect the safety recommendations of chapitre VI - MAINTENANCE - page 24.
- Also check that neither the installation nor the domestic hot water tank present any water leaks (leaks may produce a risk for safety and shorten the lifespan).
- Only use original spare parts.

2.4 - User information from the installer

- Inform the user on the operating modes of the appliance and show him how to use the controls.
- Inform the user that he must never undertake any modifications or repairs of the appliance.
- Inform the user of the various possible operating faults and dangers.
- Give the user instructions to the user.

II - PRESENTATION

1 - DESCRIPTION

The EBS-1 domestic hot water production systems are used to produce domestic hot water when the installation contains a boiler that only produces heat.

Under their casing, they have, in thermoformed ABS:

- a stainless steel tank (100/150/200 or 300 litres) comprising:
 - a stainless steel exchanger,
 - an access flap,
 - polystyrene insulation that can be easily removed.

- a domestic hot water temperature adjustment thermostat,
- a thermometer,
- a water overheating safety thermostat (90°C),
- a 7 bar P&T valve,
- an immersion heater kit,
- an elbow and a tube for the domestic cold water intake,
- insulation to be installed in the base under the tank,

OPTIONAL:

- Selective valve kit (THI.C/EBS-1)
- Selective valve kit (ZEM.C/EBS-1)

2 - RANGE

Models	Capacity
EBS-1 100	100 litres
EBS-1 150	150 litres
EBS-1 200	200 litres
EBS-1 300	300 litres

III - TECHNICAL SPECIFICATIONS

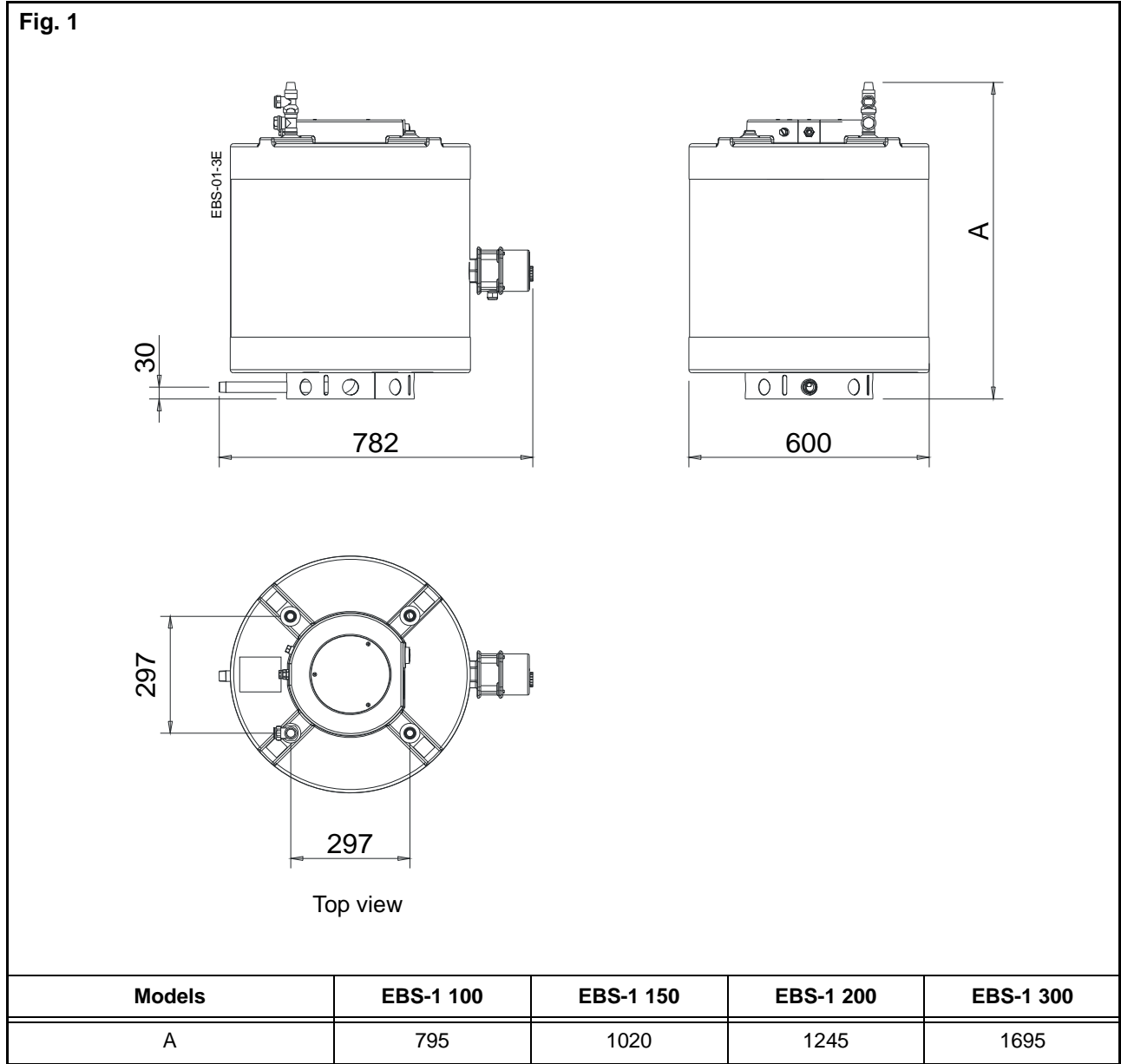
1 - CHARACTERISTICS FOR THE EBS-1

Models		EBS-1			
		100	150	200	300
WRC number		0210132			
Tank water capacity	litre	100	150	200	300
Tank useful volume	litre	98.8	148.6	192.6	292.2
Primary capacity (internal exchanger volume)	litre	4,1	4,3	9,4	9,7
Exchanger surface	dm ²	78,5	81,7	177,5	184,6
Nominal exchanger power	kW	29	29	55	57
Exchanger load losses	mCE	0.7	0.7	2.8	3.2
Continuous flow rate at 40°C	l/min	13.88	13.88	26.32	27.27
Load losses at continuous flow rate	mCE	0.021	0.021	0.074	0.080
Primary flow rate	l/h	1249	1249	1895	1964
Maximum domestic hot water storage temperature	°C	80			
Domestic hot water temperature safety thermostat	°C	90			
Tank cooling constant according to EN 625	Wh/24h.l.°C	0.31	0.27	0.26	0.24
Static tank heat losses (maintenance consumption)	kWh/24h	1.390	1.852	2.331	3.266
Heat losses (tank at 65°C)	W	58	77	97	136
Max service pressure	bar/MPa	10/1			
Thermostat preset	°C	20 to 80			
Thermostat differential	°C	6			
∅ Domestic cold water intake	inch	3/4	3/4	3/4	3/4
∅ Domestic hot water outlet	inch	3/4	3/4	3/4	3/4
∅ Primary inlet	inch	3/4	3/4	3/4	3/4
∅ Primary outlet	inch	3/4	3/4	3/4	3/4
∅ Recycling	inch	3/4	3/4	3/4	3/4
∅ Access flap	mm	100			
∅ Exchanger tube	mm	25 x 1			
Max electrical power with the immersion heater kit*	W	3000			
Empty weight	kg	27.5	38	49	63.5
Packaged weight	kg	40	51	62.5	79

* the electrical power may be reduced to 2000 W or 1000 W if necessary. This choice is made by the installer during electrical connection - refer to the

immersion heater kit's manual.

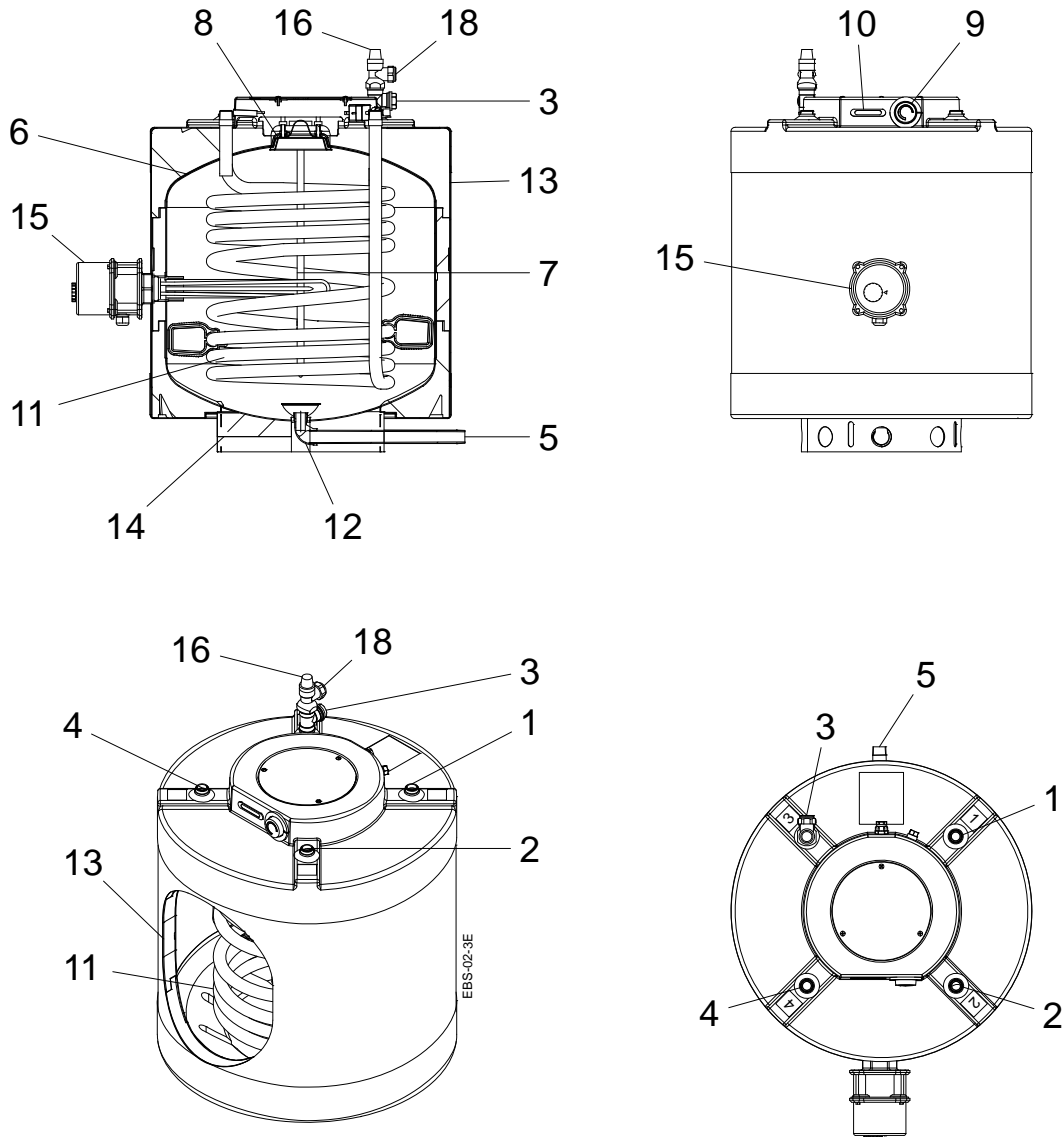
2 - DIMENSIONS



3 - LIST OF COMPONENTS

3.1 - EBS-1 models

Fig. 2



- | | |
|--|---|
| 1) Primary inlet | 10) Thermometer |
| 2) Domestic hot water outlet | 11) Stainless steel coiled pipe |
| 3) Domestic hot water recycling | 12) Domestic cold water elbow and tube* |
| 4) Primary outlet | 13) Polystyrene insulation |
| 5) Domestic cold water inlet | 14) Base insulation under tank* |
| 6) Hot water tank | 15) Immersion heater kit |
| 7) Pocket for domestic hot water setting thermostat bulb | 16) 7 bar P&T valve |
| 8) Access flap | 17) Water overheating safety thermostat (90°C), |
| 9) Domestic hot water temperature setting thermostat | 18) P&T valve drain |
- * Accessories to be installed on the tank before it is put in place

4 - DOMESTIC HOT WATER PRODUCTION BY THE EXCHANGER

	Power exchanged at ΔT 30°K	Continuous flow rate at 40°C	Specific flow rate	Heating time at 60°C (*1)	Load time	Drawable volume at 40°C in 10 min	Drawable volume at 40°C in 1 hour	Drawable volume at 40°C in 10 min	Drawable volume at 40°C in 1 hour
						Storage at 80°C		Storage at 65°C	
						litres	litres	litres	litres
	kW	l/min	l/min	min	min	litres	litres	litres	litres
EBS-1 100	29	13.9	20.1	9	16	251	944	201	895
EBS-1 150	29	13.9	24.3	14	24	317	1011	243	936
EBS-1 200	55	26.3	38.5	9	17	481	1797	385	1701
EBS-1 300	57	27.3	47.7	14	24	623	1987	477	1841

Cold water temperature = 10°C

Primary temperature = 80°C

Performances obtained with a power generator at least equal to that of the exchanger.

(*1): after 10 mins' drawing.

IV - INSTALLATION

1 - GENERAL

These rules are specific to the buildings where the appliances are installed.

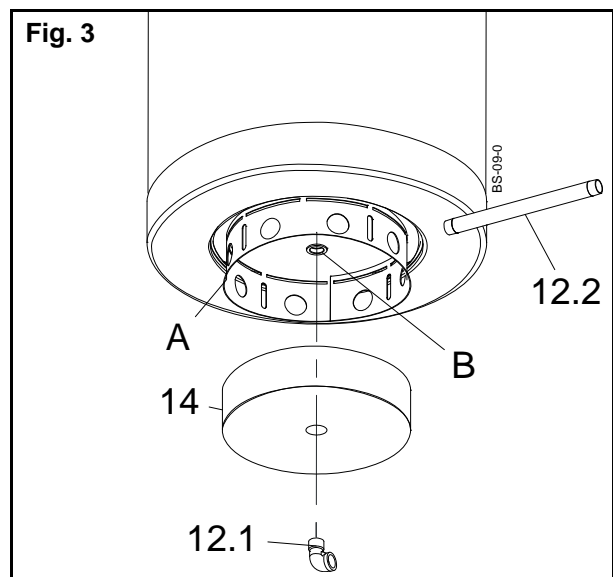
The appliance must be installed and maintained by a qualified professional, according to current

statutory texts and industry standards.

The tanks must be installed by a qualified unvented installer in accordance with G3 Building Regulations.

2 - ASSEMBLING THE ACCESSORIES DELIVERED WITH THE DOMESTIC HOT WATER PRODUCTION SYSTEM (ELBOW + TUBE + INSULATION)

- Install the insulation (14) in the base (A),
- fit the elbow (12.1) to the cold water intake weld (B) below the tank (put it in the required position to connect the cold water intake),
- Screw the cold water intake tube (12.2) onto the elbow (12.1) by running it through one of the openings provided for the purpose in the base (A).



3 - FITTING THE IMMERSION HEATER KIT

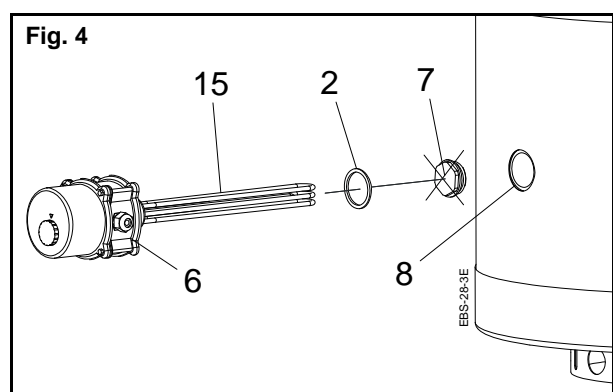


Only Geminox immersion part number C70.38447 should be used, no other immersion should be used with the EBS-1 tank.

Remove the 1"1/2 male plug (7) originally fitted to the sleeve (8) of the domestic hot water production system.

Manually screw the immersion heater kit (17) into the 1"1/2 sleeve (8) while positioning the flat seal (2).

And follow the kit assembly instructions delivered with the DHW production system.

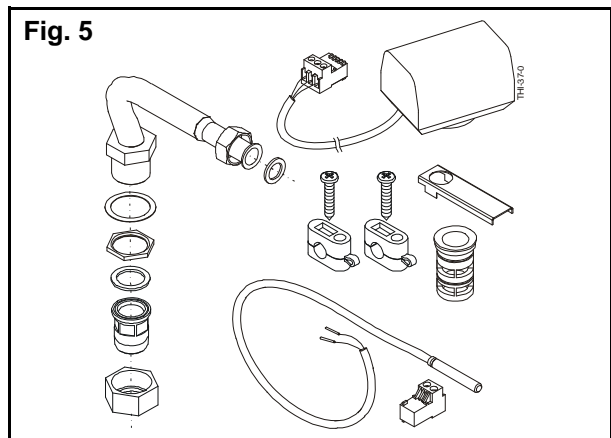


4 - SELECTIVE VALVE KIT (EBS-1 CONNECTION WITH A THI.C OR ZEM.C BOILER - OPTION)

The selective valve kit enables the hydraulic connection of the EBS-1 with the THI.C or ZEM.C boilers.

- Refer to the kit assembly instructions.

ref : W07.31709

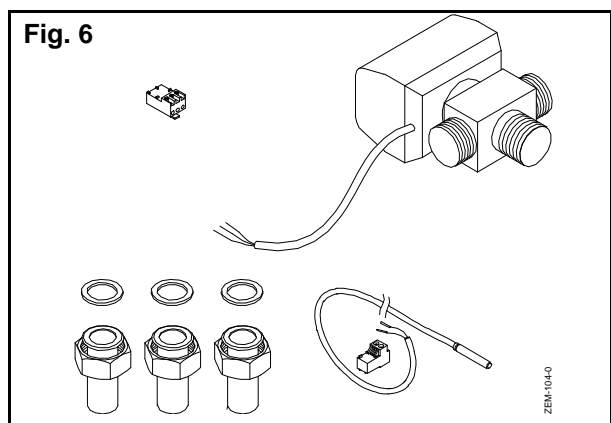


5 - SELECTIVE VALVE KIT (EBS-1 CONNECTION WITH A ZEM.C BOILER - OPTION)

The selective valve kit enables the hydraulic connection of the EBS-1 with the ZEM.C boilers.

- Refer to the kit assembly instructions.

ref : V09.37990



6 - HYDRAULIC CONNECTION

6.1 - GEMINOX recommendations

Burn risk:



Never place the isolation valve between the safety control box and the tank.

When required by Building control or local bylaws, a thermostatic mixer must be placed on the domestic hot water supply system to limit the temperature at the drawing point (50°C).

Check that the primary circuit pressure (exchanger) does not exceed 10 bars or the maximum acceptable boiler pressure if this is less than 10 bars.

When the domestic hot water production system has been selected to provide its maximum performance, check that the boiler's flow rate, primary temperature and power are respected according to those of the tank exchanger.

6.2 - EBS-1 WRc approval amendment

NOTE TO INSTALLER :

Please read fully prior to commencing installation. Leave Manual with householder after installation.

6.2.1 - TECHNICAL INFORMATION

MODELS	EBS-1			
	100	150	200	300
Operating Pressure	3.5 Bar			
Max Water Supply Pressure	12 Bar			
Exp Relief Valve Setting	6 Bar			
Nominal Storage Capacity (litres)	100	150	200	300
Pressure & temperature Relief Valve	7 Bar/90°C			
Expansion Vessel Charge Pressure	3.5 Bar			
Weight without water (kg)	27.5	38	49	63.5
Connections				
Cold Water Inlet	3/4"			
Domestic Hot Water Flow	3/4"			
Hot Water Secondary Returns	3/4"			
Primary Flow from Boiler	3/4"			
Primary Return to Boiler	3/4"			

6.2.2 - MAINTENANCE



BEFORE COMMENCING ANY MAINTENANCE WORK, ISOLATE ALL MAINS ELECTRICITY SUPPLIES TO THE SYSTEM

The tank and Cold Water Supply Kit should be inspected annually.

- Close mains supply cock.
- Drain down hot water system including the tank (Use drain cock and/or the expansion relief valve).
- Check pressure in expansion vessel(s) and recharge to 3.5 Bar, if necessary.
- Remove filter in line strainer. Clean or replace. Reassemble. Refill system.
- Check all pipework for leaks.
- Open P&T valve and check that it discharges water.
- Open expansion relief valve and check that it discharges water.
- Check operation of all controls.

Every two years, the following additional maintenance should also be carried out after draining down.

- Remove Electric Immersion Heater cover (if fitted).
- Disconnect wiring to Immersion Heater Boss (if fitted).
- Undo securing nuts on heater flange and remove flange complete with Electric Immersion Heater.
- Inspect heater elements and de-scale if necessary.
- Inspect interior of tank and clean out any debris.
- Re-assemble using a new gasket on the flange and tighten bolts.
- Re-connect Immersion Heater wiring.
- Refill system and check for leaks around flange.
- Replace Electric Immersion Heater cover.
- Carry out annual inspection as above.

6.2.3 - The opening temperature of the P&T valve is 90 °C

The position of the tundish shall be visible to the occupants and shall be positioned away from any electrical devices.

See fig. 7 - page 17 for tundish position and dischar-

ge pipe.

The connection details are shown on fig. 7 - page 17. The relief valve connections should not be altered or used for any other type of connection.

Details of the discharge pipe and installation requirements can be seen on drawing no. fig. 7 - page 17 and Table 2, Page 11.

Before connecting pipework, fit the Siemens safety shut off zone valve to the primary return outlet.

The incoming cold water supply pipe must be fitted with a stopcock before the cold water unvented kit. A drain cock must be fitted between the unvented kit and the tank.

The unit should be carried into position within its packaging and on its pallet.

Once in position, the pallet should be removed.

The tank should be installed on a floor designed to take the weight of the tank when full of water. Each litre of water weighs 1 Kg. The actual water content of each tank should be added to the tank weight to obtain the total weight of the tank when full to ascertain if the floor is of suitable construction.

300mm clearance should be left on the top of the tank for access to the anode and inspection door.

No valve shall be fitted between the tank and the expansion valve.

No other immersion, other than our EBS-1 Immersion Heater should be used on our EBS-1 cylinders.

The EBS-1 range of cylinders is ideally suited for connection to our Geminox boilers to match the coil ratings. However, connection to non - Geminox boilers can be carried out if required. Please contact our Technical Department for installation assistance on + 44 (0)1372 722277.

To flush through the tank, simply open inspection door, disconnect unvented kit and flush through the tank to the drain by using a hose through the inspection door.

	100	300
Results of supply temperature 1-50 - 220	19 mins	26 mins
Results of the reheat time 1-50 - 222	13 mins	16 mins

- This unit is only to be used with our oil or gas boiler with a thermostatic control. It should not be used with a solid fuel appliance.
- Please note that if a secondary circuit is used then an additional expansion vessel may be required.
- In hard water areas you should not exceed 60°C as a store temperature.

Commissioning

- Check all pipe connections for tightness. Close drain cock.
- Check pressure(s) in expansion vessel(s) 3.5 bar. Recharge if necessary.
- Fill primary circuits, vent and check for leaks.
- Chock open P&T valve on top of tank (by fitting manual lever).
- Open stopcock and fill tank with water until it freely discharges through the outlet from the P & T valve.
- Remove chock and close P&T valve.
- Test delivery of water from tank by opening and running all taps, both hot and cold water and any other water discharges points (showers etc).
- Check operation of expansion relief valve on Cold Water Supply kit by lifting manual release lever and discharging water.
- Check all pipework and connections for leaks

Heating of tank by the boiler

Check any programmers are calling for HOT WATER. Set hot water thermostat on tank to Maximum. Run heating boiler until the temperature gauge on the cylinder indicates approximately 50°C.

Turn down the hot water thermostat and check that motorised valve closes and loading pump stops.

Check that the boiler shuts down. If the boiler is also feeding a heating circuit, make sure that there is NO demand from the heating circuit (Room Stat, Programmer, Zone Valve etc).

Heating of tank from electric immersion heater

- Switch on the power supply to the Electric Immersion Heater.

- Turn Electric Heater thermostat up and down to check that heater is turning on and off correctly.
- Select the desired hot water temperature.

The total fuse rating for the immersion heater is 13.04A, a suitable protective device should be selected. The boiler should be protected by a fused spur with a cartridge fuse of no higher than 3A.

Please Note

The Geminox range of products are designed to be used in installations where the complete system is supplied by Geminox therefore when used in conjunction with other products some slight alterations to the Electrical installation may have to be made.

Important Notice

When the system installed is "Unvented" controlling the Zone valve by way of the cylinder and overheat thermostats, follow the steps on section 6.2.3 - page 12 in this instance the zone valve is called the "Safety shut off zone valve", the valve is supplied with the Unvented Kit and must be installed.

The safety shut off zone valve is an important safety device of the unvented EBS-1 tank and must be installed. Fit the valve to the return connection of the tank connection No. 4. The valve is to be controlled via the brown wire of the tank top cable. Please find the attached photos and fig. 10 how to connect the "Safety shut off zone valve".

Safety Discharge Pipe from Tundish

See Table 2 below for sizing details of safety discharge pipe from our tundish.

Worked example :

The example below is for a G 1/2 temperature relief valve with a discharge pipe (D2) having 4 no. elbows and length of 7m from the tundish to the point of discharge.

From table 2

Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G 1/2 temperature relief valve is 9.0m.

Subtract the resistance for 4 no. 22mm elbows at 0.8m each = 3.2m

Therefore, the maximum permitted length equates to : 5.8m

5.8m is less than the actual length of 7m, therefore calculate the next largest size.

Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valve equates to 18m.

Subtract the resistance for 4 no.28mm elbows at 1.0m each = 4m

Therefore the maximum permitted length equates to : 14m

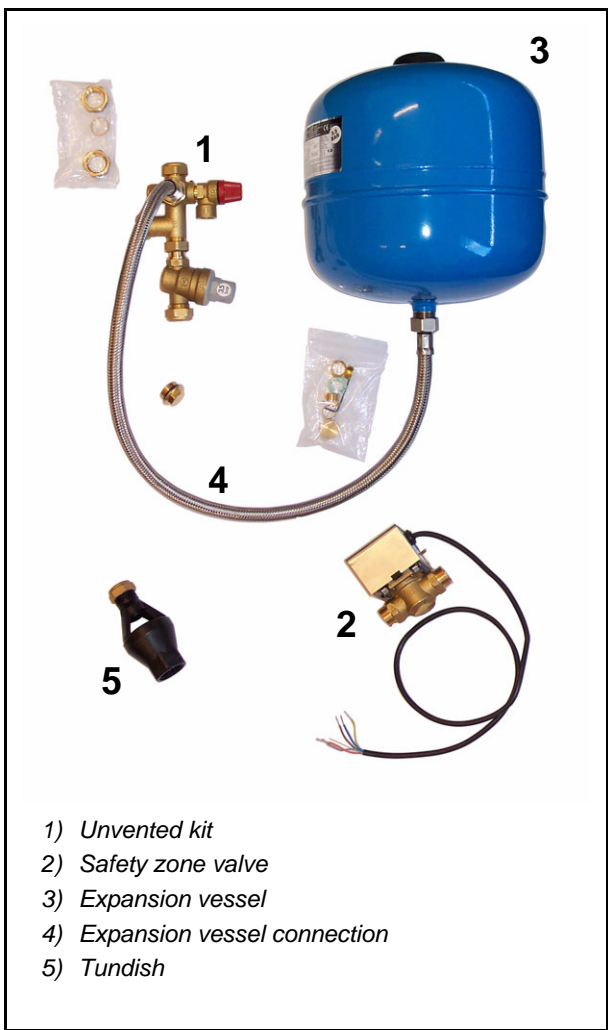
As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

Table 2 Sizing of copper discharge pipe D2 for common temperature relief valve outlet sizes				
Valve Outlet size	Minimum Size of Discharge Pipe D1	Minimum Size of Discharge Pipe D2 from tundish	Maximum resistant allowed, expressed as a length of straight pipe (ie. no elbows or bends)	Resistance created by each elbow or bend
G 1/2	15mm	22mm 28mm 35mm	Up to 9m Up to 18m Up to 27m	0.8m 1.0m 1.4m
G 3/4	22mm	28mm 35mm 42mm	Up to 9m Up to 18m Up to 27m	1.0m 1.4m 1.7m

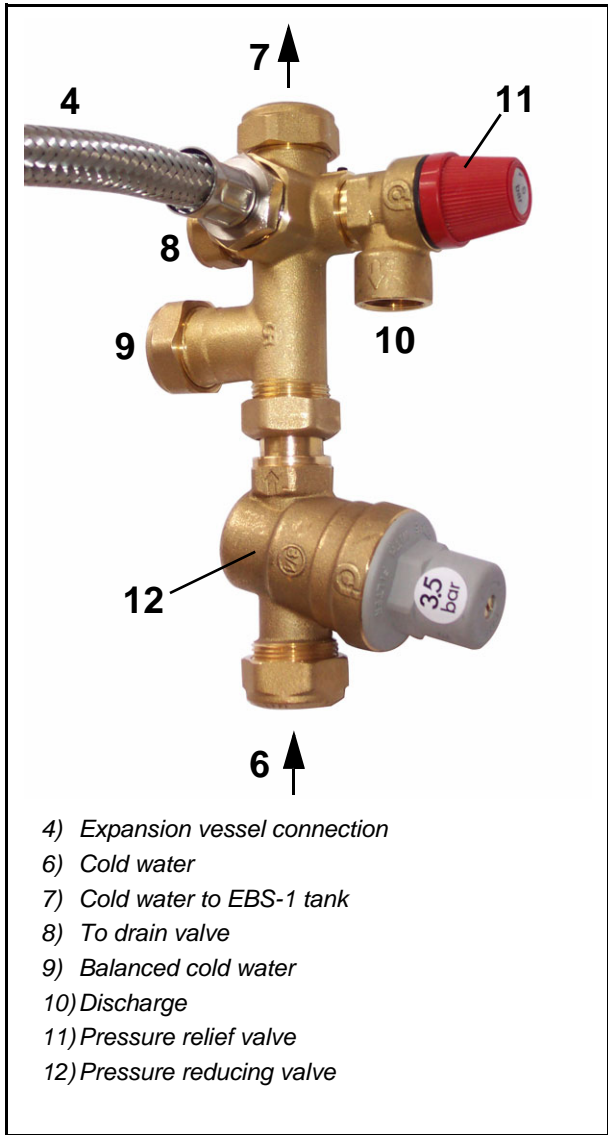
6.3 - Hydraulic connections for cylinders

When the system installed is "Unvented" it is necessary to fit the "unvented kit" on the cold water supply. The "Unvented kit" contains pressure reducing valve, non-return valve, pressure relief valve and optional use balanced cold water connector. It is good practice to fit the "unvented kit" above the top level of the EBS-1 tank. In this way if it is required to replace the "unvented kit" it is not necessary to drain all tank. Please find below how to install the "unvented kit"

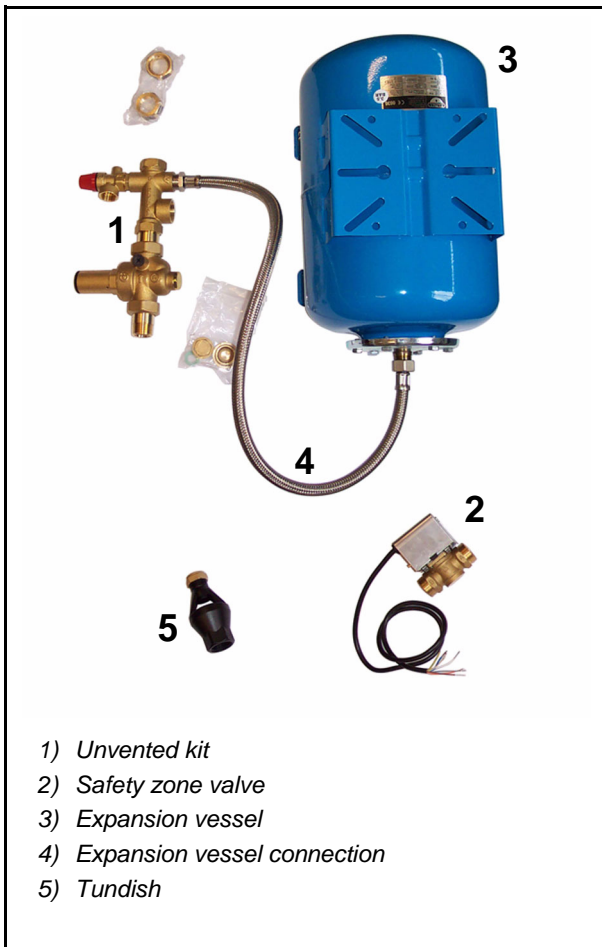
6.3.1 - 3/4" Unvented kit for EBS-1 cylinders



6.3.2 - 3/4" Unvented kit for EBS-1 cylinders



6.3.3 - 1" Unvented kit for EBS-1 cylinders



6.3.4 - 1" Unvented kit for EBS-1 cylinders

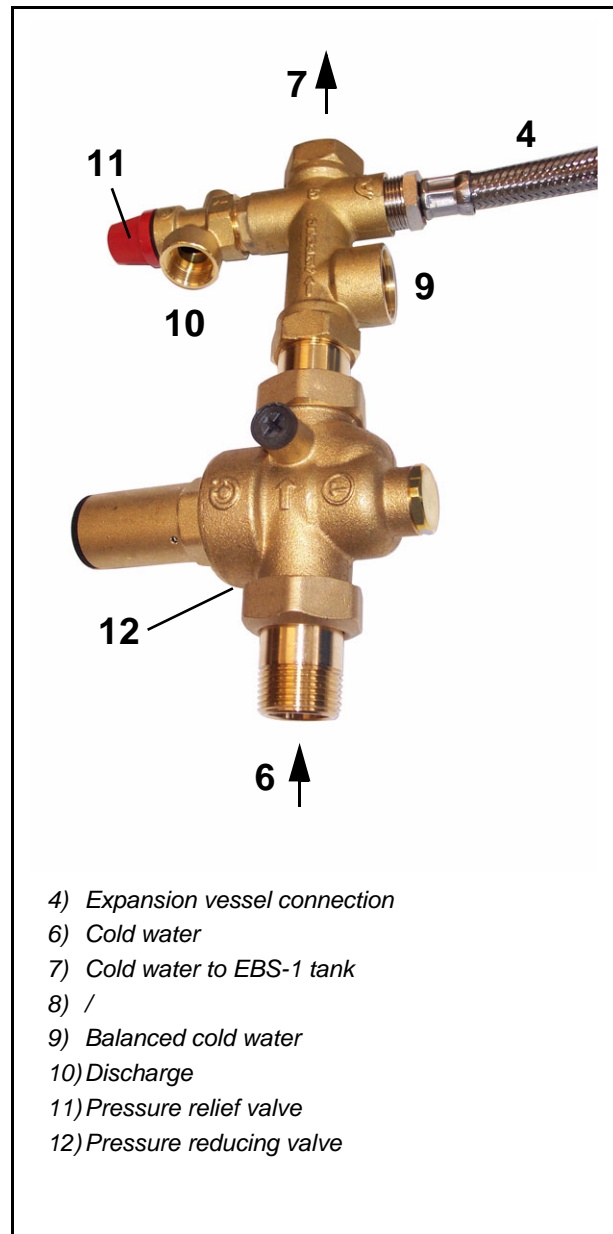
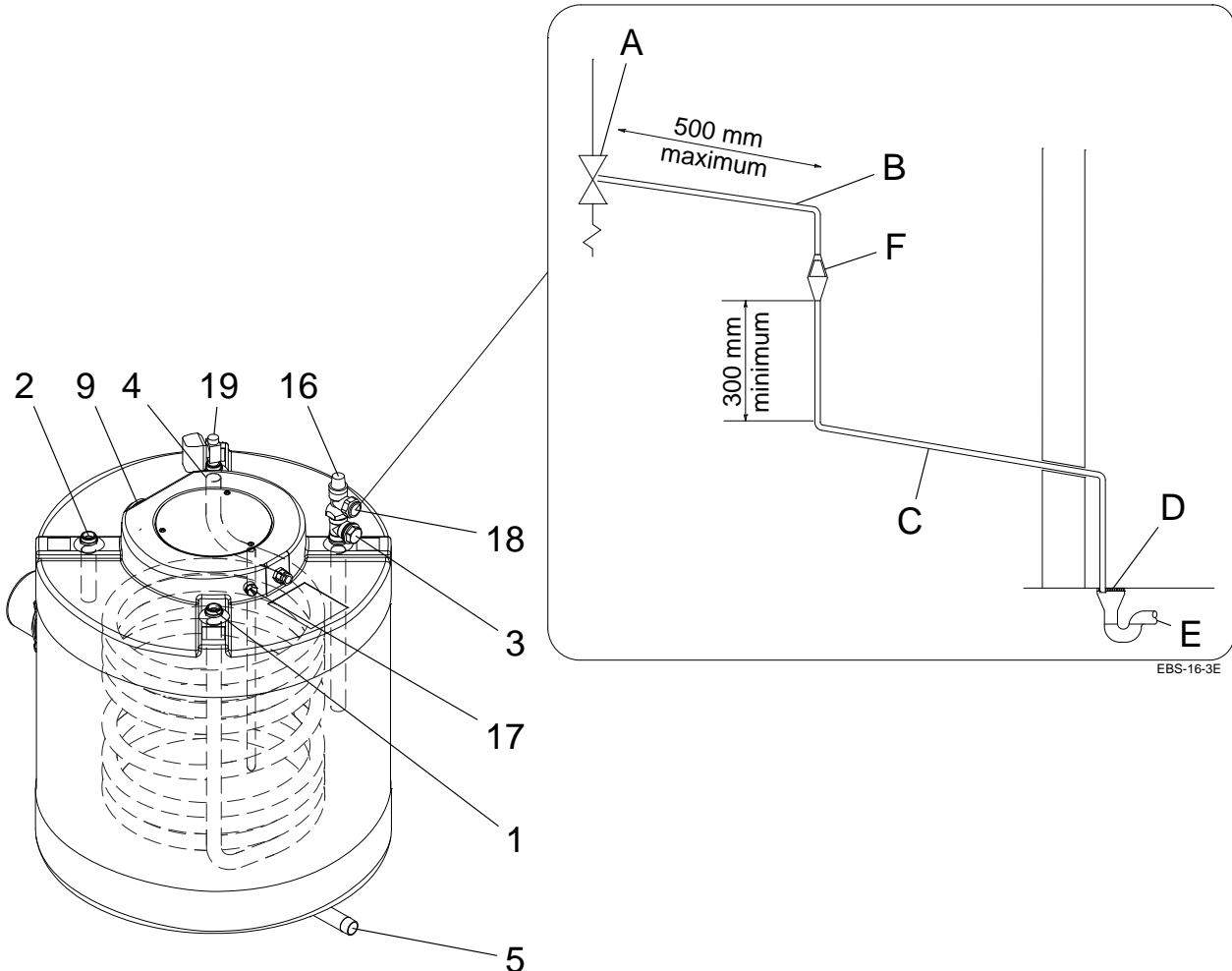


Fig. 7



This drawing has to be read in conjunction with the full installation manuals supplied



- 1) Primary inlet
- 2) Domestic hot water supply outlet
- 3) Domestic hot water return
- 4) Primary outlet
- 5) Mains cold water supply inlet via unvented kit
- 9) Domestic hot water temperature setting thermostat
- 16) Pressure and temperature relief valve
- 17) High limit cut off thermostat
- 18) P&T valve drain
- 19) Safety zone valve

- A) Safety device (e.g. temperature relief valve)
- B) Metal discharge pipe (D1) from temperature relief valve to tundish
- C) Metal discharge pipe (D2) from tundish with continuous fall. see table section 6.2.1 - page 12 for sizes
- D) Fixed grating
- E) Trapped gully
- F) Tundish

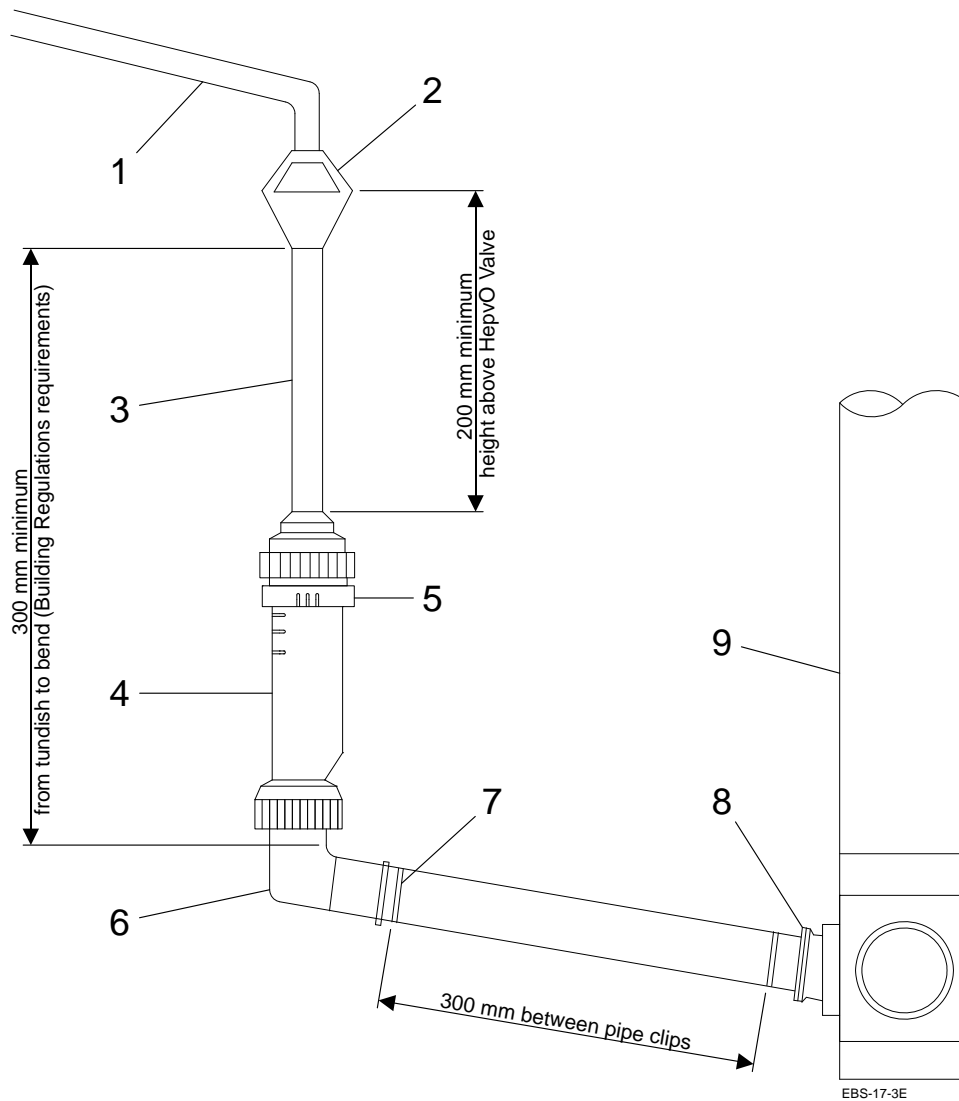
Fig. 8



This drawing has to be read in conjunction with the full installation manuals supplied

Note :

- This detail is only to be used where there is no other alternative. It is strictly subject to local Dispensation and approval must be sought from NHBC and Building Control inspector prior to installation.



- | | |
|--|--|
| 1) 22 mm copper discharge pipe | 7) Pipe clip to be positioned close to valve to provide additional support |
| 2) Tundish - visible point off discharge | 8) Waste typically discharged to soil stack through boss adapter |
| 3) 28 mm copper discharge pipe | 9) Soil stack |
| 4) 32 mm HepvO valve | |
| 5) HepvO valve must be vertical and adjacent to the water unit, to be visible & easily accessible. | |
| 6) 32 mm polypropylene waste pipe | |

6.4 - Accessories to connect, install or adjust

- Piping thermal insulation:

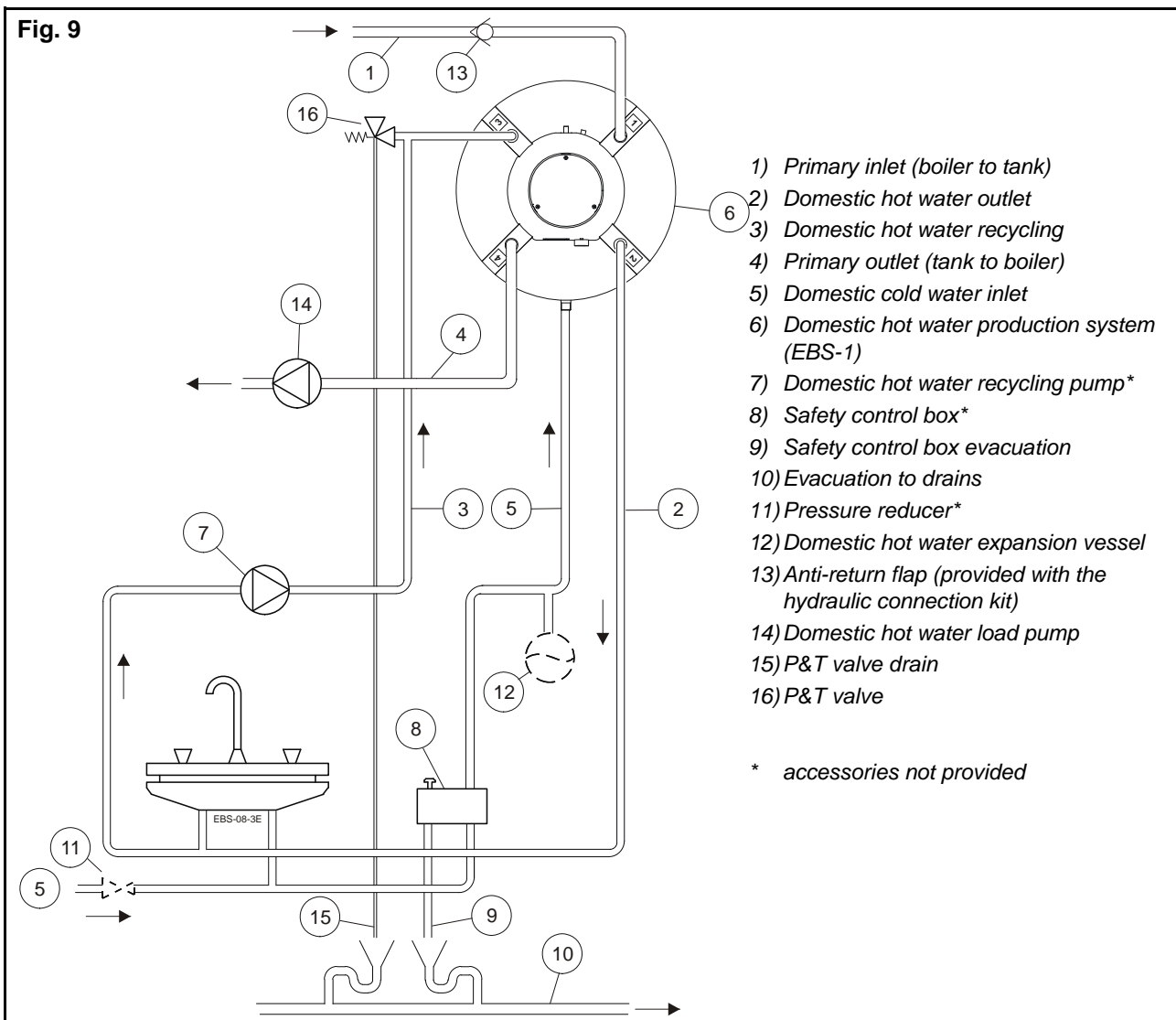
To limit heat loss to a minimum, insulate the boiler link tubes and the tank's domestic hot water outlet tube.

If domestic hot water recycling is connected, you must thermally insulate the domestic hot water recycling pipes.

- Access flap access:

Leave enough room above the tank to enable access to the stainless steel tank access flap (scaling check) - (refer to section 1 - page 24 - chapter VI - MAINTENANCE)

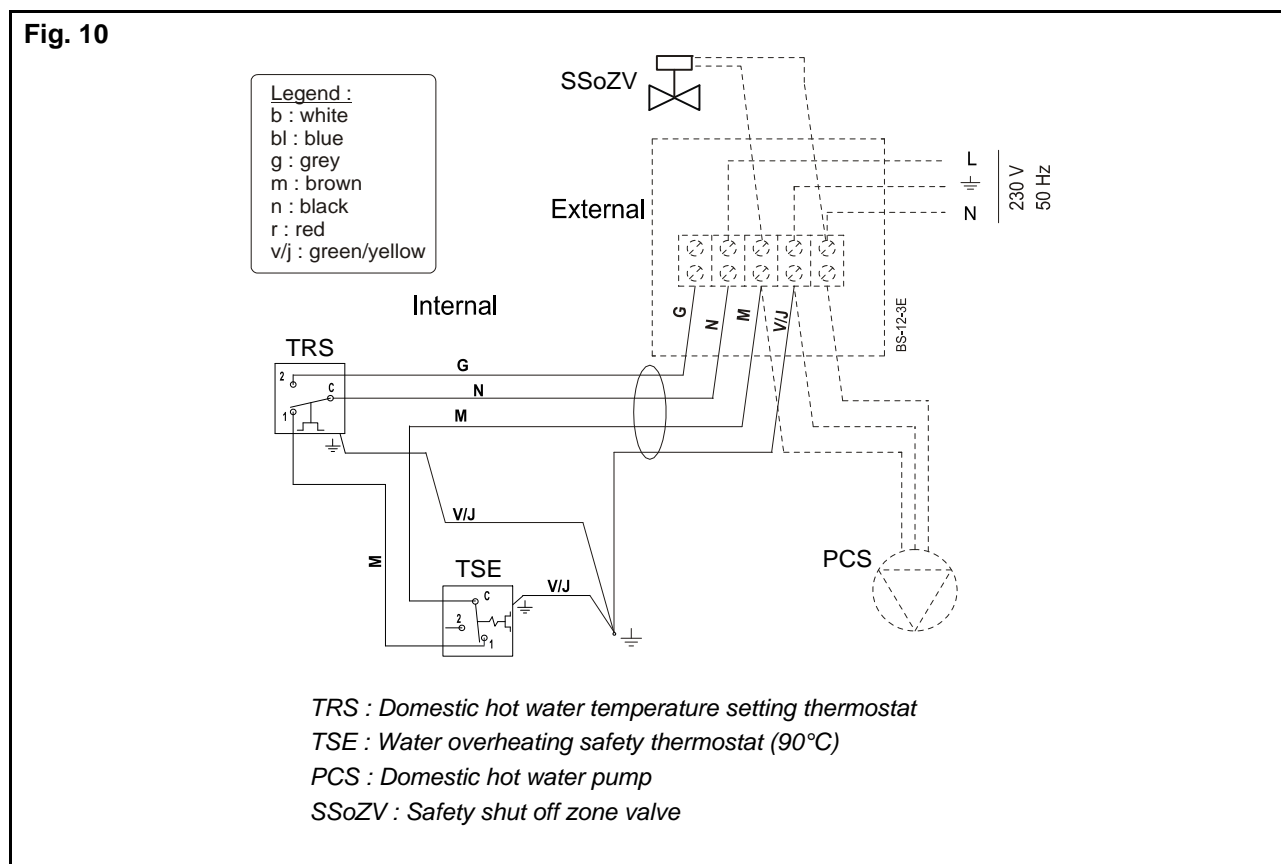
6.5 - Hydraulic diagram



7 - ELECTRICAL CONNECTION

- The electrical connection and all the equipment used to make this connection must be in conformity with the codes of practise in force (according to the installation standards),
- the place where the electricity connection is installed must be suitable for the domestic hot water production system's level of protection IP20,
- Power supply: 230 V - 50 Hz (single phase),
- Earth connection compulsory.
- the electricity supply must contain a circuit breaker, preferably bipolar, with a 6 A trip switch or fuse.
- Respect the Live-Neutral polarities,

7.1 - EBS-1 electrical diagram



7.1.1 - Boiler with domestic hot water load pump

The thermostat (9, fig. 10) starts up the load pump that supplies the tank's exchanger when there is a request for domestic hot water.

- Connect the domestic hot water load pump as indicated in fig. 10.

7.1.2 - Boiler equipped with electronic regulation

The domestic hot water temperature will be adjusted on the boiler's regulator. (In this application the setting thermostat (9) is not required as the temperature is set by the electronic control of the boiler).

- remove the setting thermostat bulb (9) and set to one side (see the picture fig. 11),
- remove the safety thermostat bulb (17) and the thermometer bulb (10) from the pocket (7) - access from the top of the tank (fig. 11).
- push the safety thermostat bulb (17) as far as possible in the pocket (7) to ensure satisfactory thermal contact.

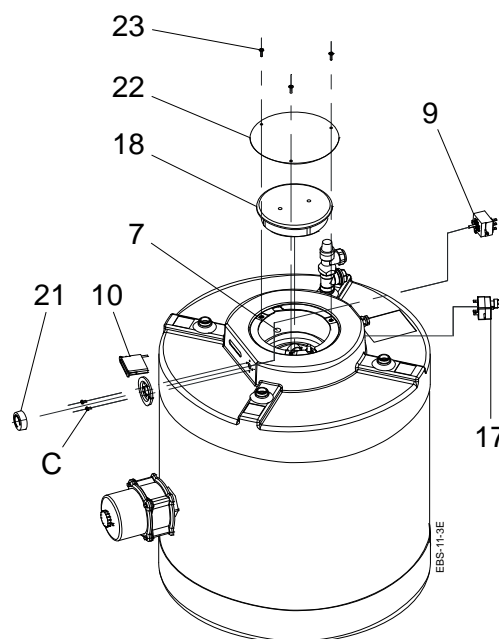
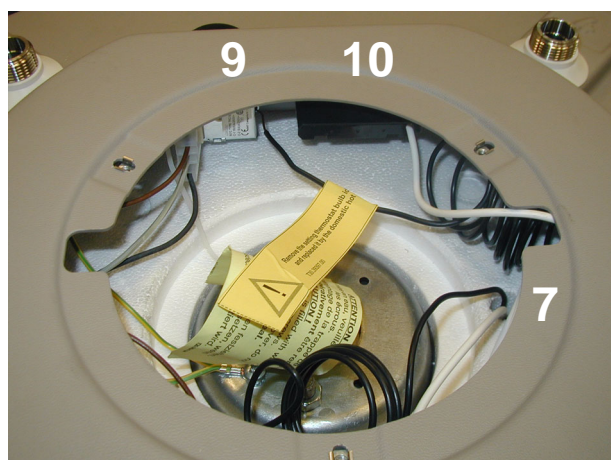
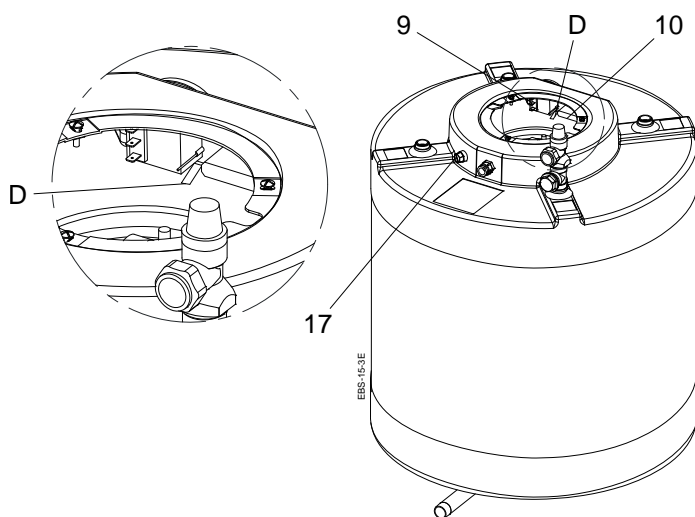
- drill a hole in the upper thermoformed base.
- run the domestic hot water sensor bulb delivered with the boiler through this opening,
- position the domestic hot water sensor bulb in the pocket (7).
- Reposition the thermometer bulb as far as possible into the pocket (D) planned for this purpose in the polystyrene insulation.



The bulb of the safety thermostat (17) will always be inserted in the pocket (7) before the bulb of the domestic hot water sensor.

Leave the setting thermostat (9) on "Maximum" when tank is heated by a boiler.

Fig. 11



V - COMMISSIONING

1 - FILLING THE INSTALLATION WITH WATER

- Filling the installation:
 - before you fill, rinse the installation's pipes, except for the tank.Refer to the boiler's manual
- Filling the tank:
 - fill the domestic hot water production system using the installation's safety control box (8, fig. 9 - page 19 - chapter IV - INSTALLATION) taking care to open a hot water tap.
 - After the system is full, check that the tank's access flap is tightly shut.
- Drain the tank and the installation thoroughly before filling.

2 - VERIFICATIONS PRIOR TO COMMISSIONING

- Check that the tank access flap is tight and waterproof (8, fig. 2 - page 8 - chapter III - TECHNICAL SPECIFICATIONS,
- Check the waterproofing of the various seals and connectors in the installation,
- Check that the primary circuit is drained,
- Check that the electrical connection is correct.
- To guarantee the stated performances, check that the security control box's cold water tap is set to obtain a maximum flow rate for the hot water of the value indicated in section 1 - page 6 - chapter III - TECHNICAL SPECIFICATIONS).

3 - USER INFORMATION

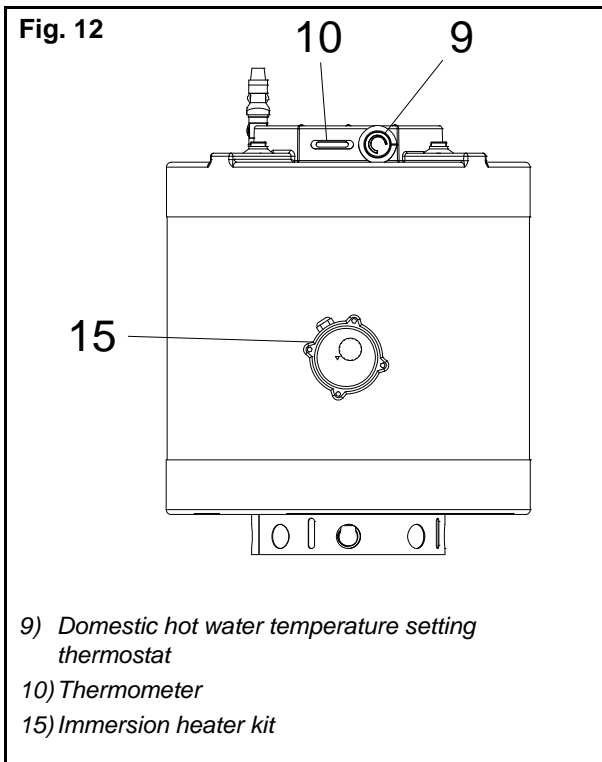
The installer must train the user in how the appliance works. In particular, the user must be informed of the role and operation of the safety mechanisms and the need to have the appliance maintained regularly by a qualified professional.

WARNING TO THE USER

Do not remove or adjust any component part of unvented water heater :contact the installer.

If this unvented water heater develops a fault, such as flow of hot water from the discharge pipe, switch the heater off and contact the installer.

4 - COMMISSIONING



- Commissioning the boiler,

4.1 - Boiler with domestic hot water load pump

- Adjust the domestic hot water temperature setting thermostat (9, fig. 12) according to the selected temperature - **Recommended setting 55/60 °C (read on the thermometer (10))**. This setting is used to limit heat loss and scaling while preventing legionella from spreading if the domestic cold water is contaminated. A temperature of less than 60°C also limits the spread of limescale (refer to section 1 - page 24 - chapter VI - MAINTENANCE)
- Set the boiler's thermostat to a temperature greater than that of the domestic hot water production system.

Always set to a value greater by at least 10°C than the desired storage temperature in the domestic hot water production system, but never to a value of over 85°C to avoid any unplanned triggering of the thermal safety devices (ideal boiler setting = 75°C, domestic hot water production system = 60°C).

4.2 - Boiler equipped with electronic regulation

- When the boiler is fitted with electronic regulation, the domestic hot water temperature is set on the boiler's regulator.

Refer to the Commissioning chapter in the boiler's technical instructions.



Leave the setting thermostat (9) on "Maximum" when tank is heated by a boiler.

VI - MAINTENANCE

An annual inspection of the tank is compulsory. It must be carried out by a qualified professional.

All spare parts will be original parts and must be ordered using the references in chapter VII - PARTS LIST - page 26, specifying the appliance

type and serial number.



Disconnect the electricity supply before carrying out any action on the tank.

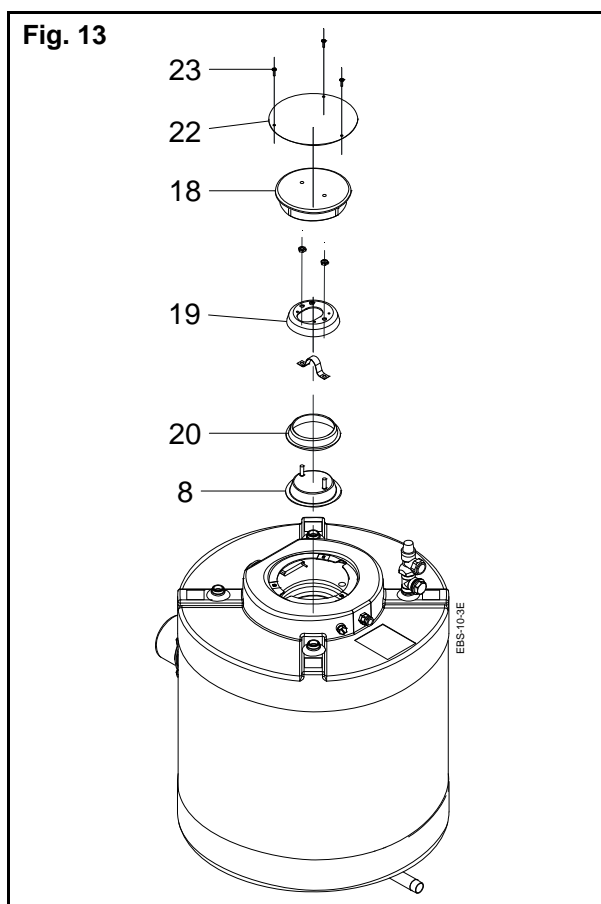
1 - TANK MAINTENANCE

- In very hard water regions (TH > 30) if the tank needs to be cleaned frequently, the ideal solution is to add a water softener to the installation or to install an anti-limescale treatment system on the installation's cold water inlet.

Adjust the domestic hot water temperature to a value of less than 60°C. Limescale spreads quicker above 60°C.

- If the tank is inspected through the access flap (8, fig. 13) provided for the purpose:
 - remove the protective plate (22) - remove the 3 screws (23),
 - remove the insulation (18),
 - remove the access flap (8), flap flange (19) and seal (20),
 - replace the flap (20) each time it is removed,
 - refit the assembly,
 - after filling:
 - . check that the tank is watertight,
 - . drain the tank thoroughly.

Fig. 13



2 - DRAINING

The hot water tank may be drained by siphoning through the safety control box as long as this is installed on the lower part of the tank.

Provide an air inlet by opening a hot water tap.

3 - P&T VALVE

Check the operation of the P&T valve every year and rinse it by briefly bleeding it several times.

A safety valve that is not working correctly may cause damage due to excessive pressure.

If necessary, replace it if it stops working correctly or begins to leak (permanent flow through the valve).

4 - CHANGING THE THERMOSTATS OR THE THERMOMETER

4.1 - Bulbs positioned in the pocket (7)

- Domestic hot water temperature setting thermostat (9).
- Water overheating safety thermostat (17).

4.2 - Bulb positioned in the pocket (D)

- Thermometer (10).

4.3 - Changing the thermostats or the thermometer

- remove the protective plate (22) - remove the 3 screws (23),
- remove the insulation (18),

4.3.1 - Thermostats

- gently take the bulbs out of the pocket (7),
- remove the button (21) from the setting thermostat (9)
- unscrew the 2 attachment screws (C) on the thermostat (9),
- remove the cap from the safety thermostat (17),

- unscrew the attachment screw on the thermostat (17)
- remove the defective thermostats (9 / 17) and replace it,
- position the bulbs in the pocket (7). Push the safety thermostat bulb as far as possible into the pocket to ensure satisfactory thermal contact and then the setting thermostat bulb.

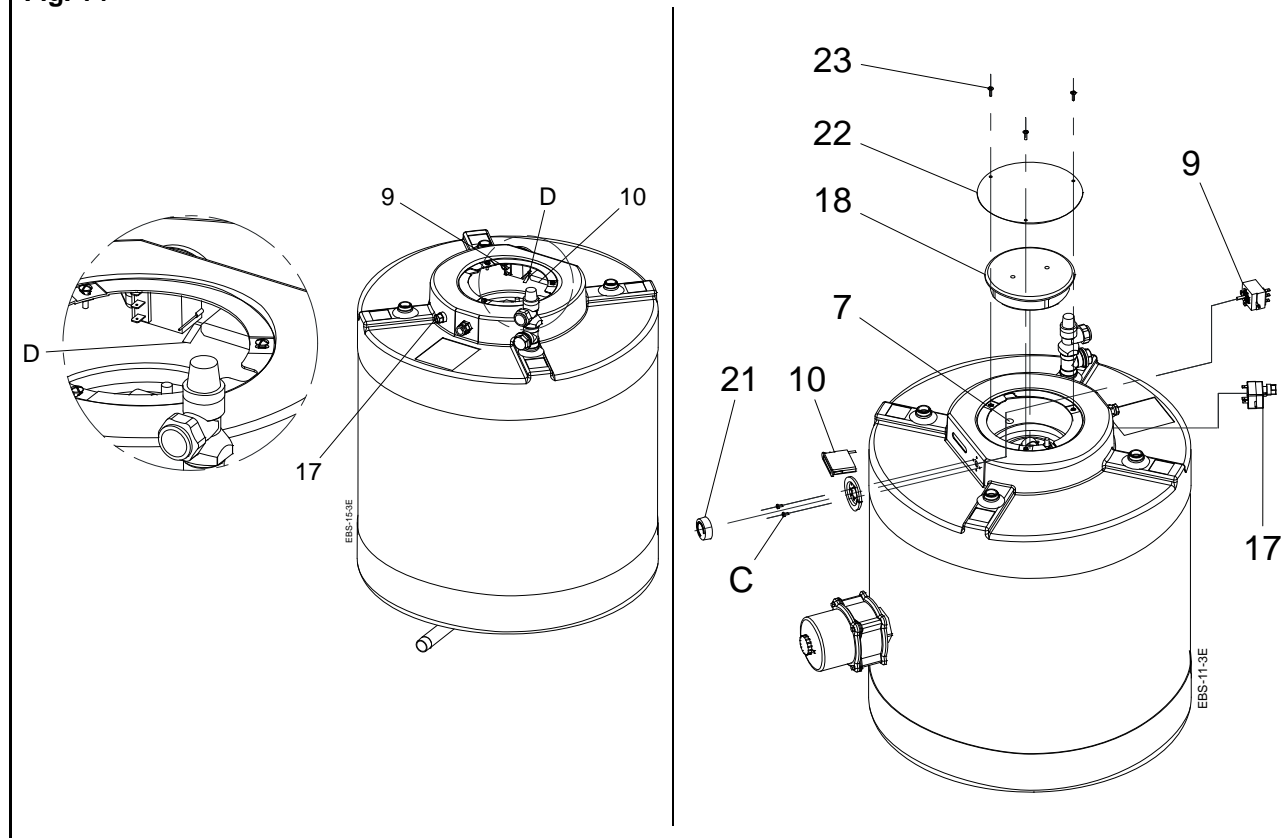


If the tank is heated by a boiler, the setting thermostat bulb will be replaced by the domestic hot water sensor bulb in the pocket (7).

4.3.2 - Thermometer

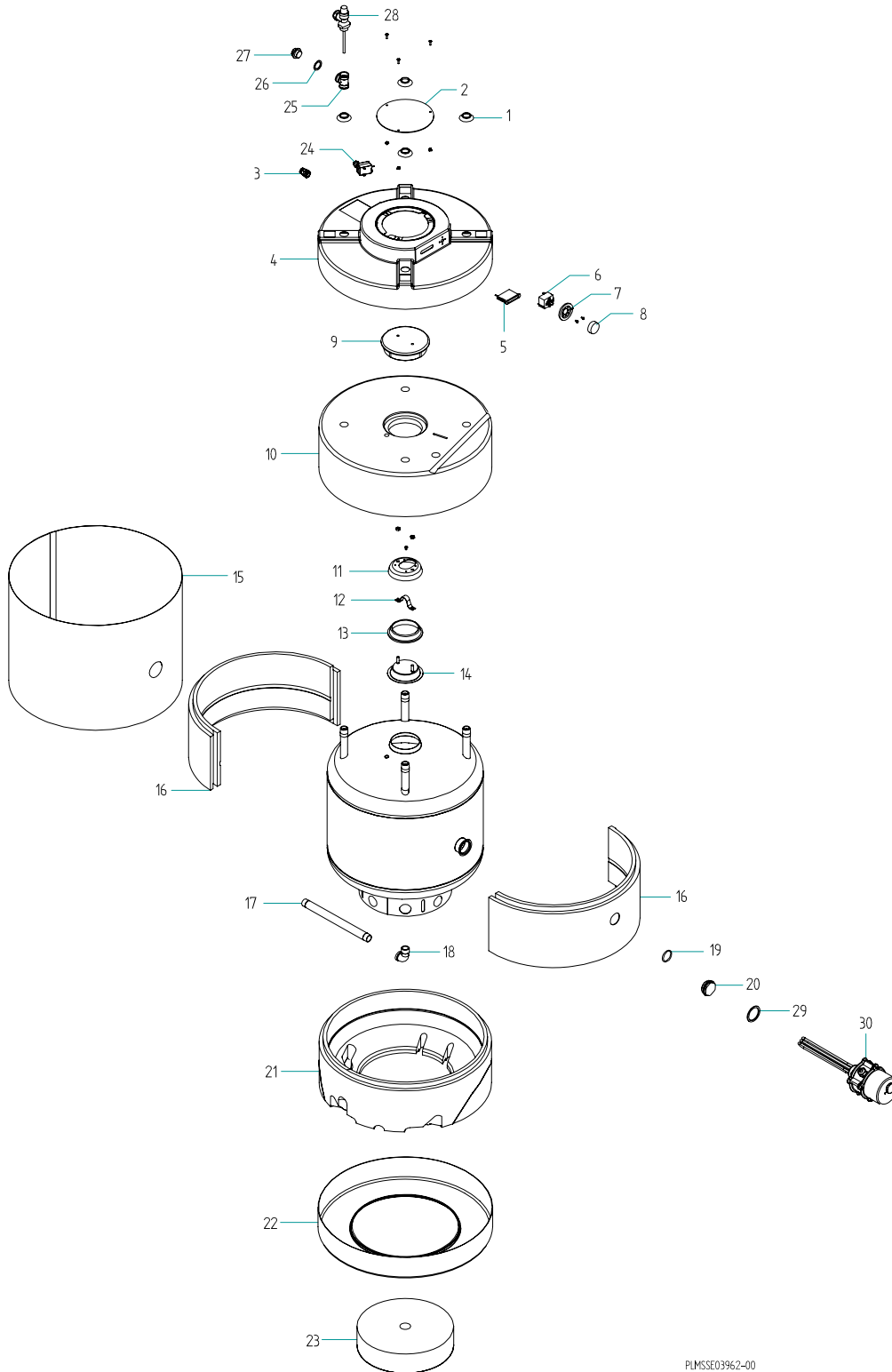
- gently take the bulb out of the pocket (D),
- remove the defective thermometer (10) and replace it,
- position the thermometer bulb in the pocket (D). Push it as far as possible into the pocket to ensure satisfactory thermal contact.

Fig. 14



VII - PARTS LIST

EBS-1 100/150/200/300



PLMSSE03962-00

Item.	Reference	Description
1	A00.03749	FLANGE PLASTIC D.27 WHITE
2	A90.15475	GREY PS CLEANING DOOR
3	C91.20704	CABLE BUSHING; GLAND N° 11 + NUT
4	A90.38569	THERMOFORMED BOTTOM GREY
5	L60.01135	THERMOSTAT RECT HORIZ 69X14 LG CAPIL.1500 MM
6	L71.10972	THERMOSTAT 20/80°C
7	L71.15349	BLACK THERMOSTAT KNOB
8	L71.16695	BLACK CAP FOR THE THERMOSTAT
9	D20.34129	PLASTIC STOPPER TANK SERANE THRI
10	D20.15476	UPPER INSULATION PART IN POLYSTYRENE
11	I10.29477	FLANGE FOR CLEANING DOOR
12	A90.20473	HANDLE FOR CLEANING DOOR, POLYETHYLENE
13	E20.10187	SEALING / CLEANING DOOR
14	V90.26382	CLEANING DOORD (WITHOUT ANODE)
15	A90.16622	ABS SHEET ; EP:0,8 1935X440 (BS100)
15	A90.16623	ABS SHEET; EP:0,8 1935X665 (BS150)
15	A90.16624	ABS SHEET ; EP:0,8 1935X890 (BS200)
15	A90.16625	ABS SHEET ; EP:0,8 1935X1340 (BS300)
16	D20.16720	HALF-SHELL INSULATION IN POLYSTYRENE
17	U49.16629	DOMESTIC COLD WATER PIPE LENGTH 310
18	K12.18141	SAINLESS STEEL BEND 90° M3/4-F3/4
19	E00.39026	O'RING Ø 44,5X3,5
20	K20.38355	CAP MALE 1"1/2 HEAD Ø 55 + 6 SIDES
21	D20.38765	LOWER CAP DN 535
22	A90.15474	THERMOFORMED
23	V49.19366	BS BASE INSULATION WASHER
24	L71.37019	SAFETY THERMOSAT LIM. 90°C CAP.1,5M TG400
25	K20.19420	BRASS T-PIECE F3/4
26	E20.18103	SEALING AFM34 D.36X26X2
27	K20.33078	BRASS STOPPER M3/4"SE 120
28	L90.37687	VALVE PTEM 575 901 3/43 22MM 7 BAR
29	E20.38927	RING Ø49X59X3
30	C70.38447	IMMERSION HEATER 3000W WITH WIRING BOX
*	W00.25016	EARTH WIRE
*	W49.38571	INTERNAL WIRING
*	W49.39027	WIRING SAFETY THERMOSTAT EBS-1 GB

VIII - RATING PLATE ABBREVIATIONS

Abbreviation	Description
Vt	Total volume of the tank
Vu	Useful volume of the tank
Vech	Internal volume heat exchangers
Pn ech	Rated power heat exchangers
T max	Maximum domestic hot water storage temperature
PMS	Maximum operating pressure
Qst	Static heat losses of the tank

IX - WARRANTY TERMS

1

From commissioning, GEMINOX type EBS-1 appliances are guaranteed against all manufacturing faults and material defects for a period of:

- five years for the stainless steel tank and its integrated exchange
- two years for accessories.

This guarantee is strictly limited to the supply, free of charge, of parts acknowledged as being defective after inspection by our technical departments, with the exclusion of labour and transport costs arising from this. These parts once again become the property of GEMINOX and must be returned to them without delay.

Specific conditions in Great Britain (Distributor EVINOX) :

In addition to the factory warranty, the distributor, Evinox, also provides a further 5-year warranty on the tank. Labour warranty applies for the 1st year only. To validate the warranty, annual checks must be carried out in accordance with G3 Building Regulations.

2

The warranty is applicable under the following conditions:

- a) Our appliances must have been installed by a qualified professional, according to the rules of good practice and current standards and taking into account the special instructions given in this technical manual.
- b) The warranty must become effective within a maximum of SIX MONTHS following the date of delivery by GEMINOX.
- c) The warranty is subject to use of conditioning products in the heating circuit water (inhibitor and anti-freeze) as recommended by the manufacturer, or equivalent.
- d) Maintenance must be carried out annually by a qualified company from the first year of use.

3

The warranty excludes all compensation for any reason whatever.

4

The warranty is not applicable in the event of replacement and repair resulting from normal wear and tear of appliances, deterioration following operation at greater outputs than those recommended, accidents arising from negligence or interventions by third parties, monitoring or maintenance faults and faults due to improper use of appliances, particularly by the use of inappropriate fuels or electrical voltages.

5

The repair, modification or replacement of parts during the warranty period may not have the effect of extending the original warranty period of the equipment.

6

EXCLUSIONS FROM THE WARRANTY

The following are not covered by the warranty :

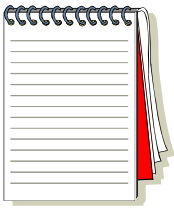
- damage to electrical parts resulting from installations and connections to the mains where the measured input voltage to the equipment is 10% lower or greater than the rated voltage of 230 volts.
- damage to parts originating from elements external to the appliance (storm effect, humidity, flashback, frost etc).
- the seals.
- all incidents resulting from failure to check safety elements.
- scale formation and its consequences.
- corrosion due to chloride concentrations in domestic hot water greater than 60 mg/L or a pH below 7.
- damage to parts resulting from silting in the heating circuits.

SHIPMENT COSTS FOR PARTS, LABOUR AND TRAVELLING COSTS

Note: As we are constantly trying to improve our equipment, any modification considered useful by our technical and sales departments may be made without notice.



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GEMINOX

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