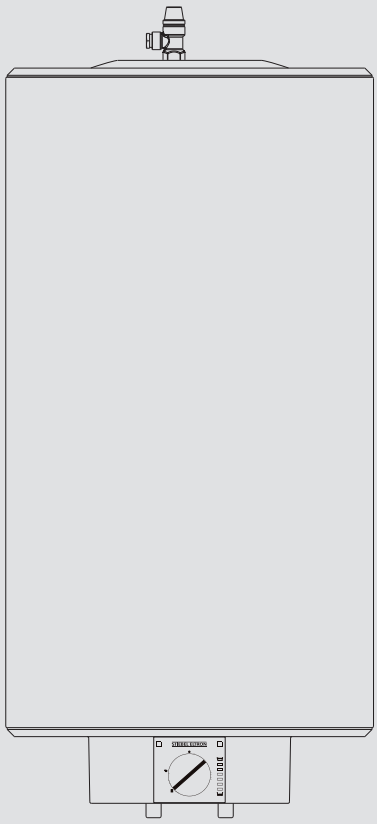
OPERATION AND INSTALLATION

SEALED UNVENTED WALL MOUNTED DHW CYLINDER

- SH 30 S (GB)
- SH 50 S (GB)
- SH 80 S (GB)
- SH 100 S (GB)
- SH 120 S (GB)
- SH 150 S (GB)



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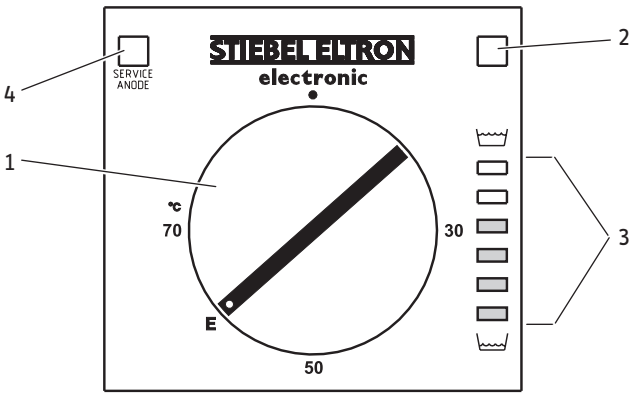
A



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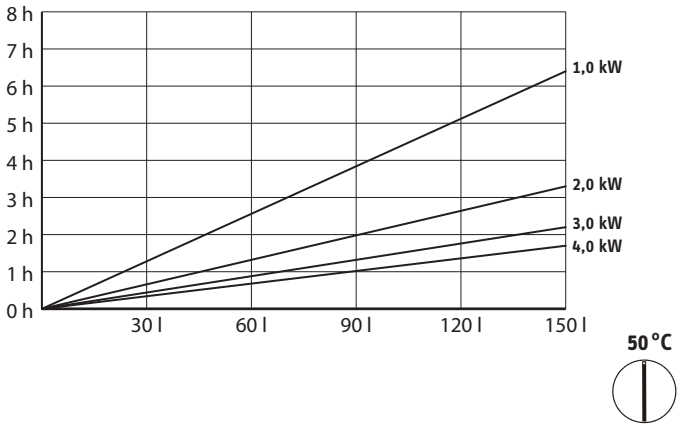
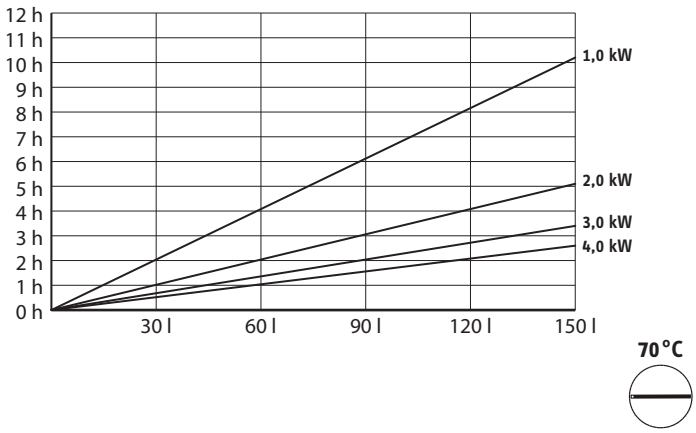
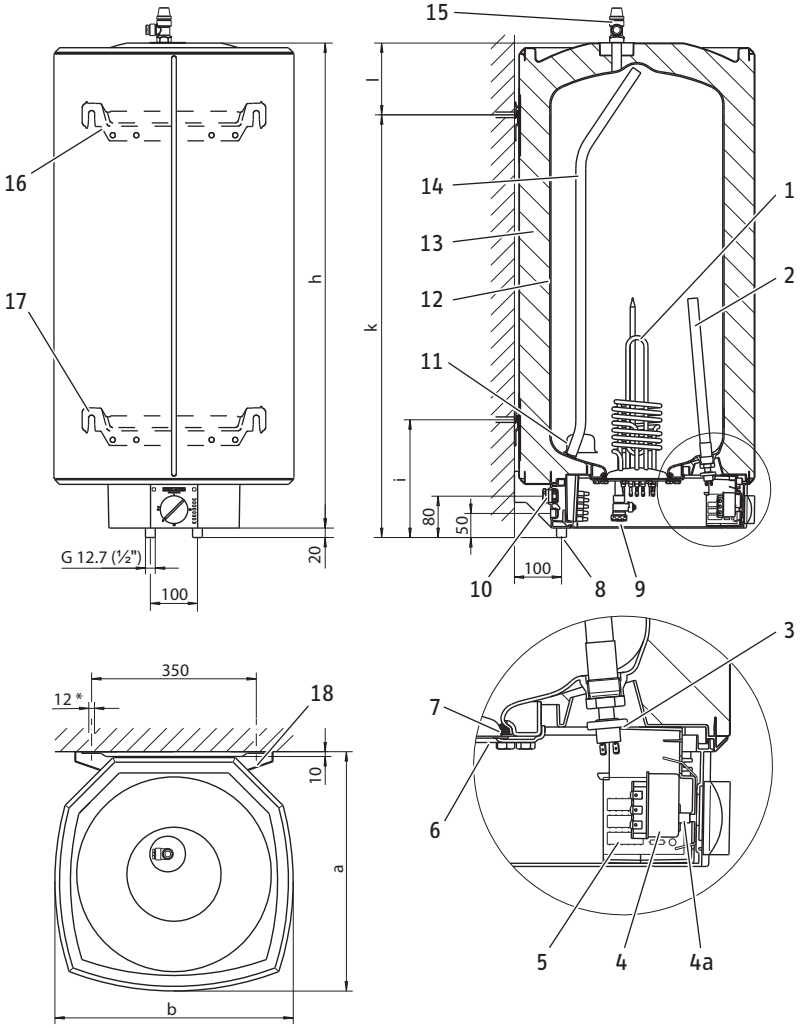




C

SH 30 S (GB)	10 l	20 l	30 l	40 l	50 l	60 l
SH 50 S (GB)	13 l	30 l	45 l	65 l	80 l	100 l
SH 80 S (GB)	20 l	50 l	75 l	100 l	130 l	160 l
SH 100 S (GB)	25 l	60 l	90 l	130 l	160 l	200 l
SH 120 S (GB)	30 l	70 l	110 l	155 l	195 l	235 l
SH 150 S (GB)	40 l	90 l	135 l	190 l	240 l	295 l

D



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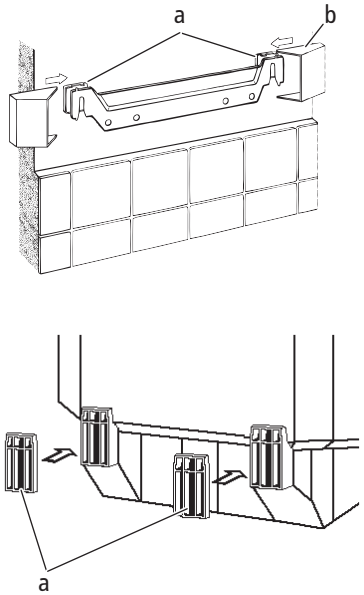

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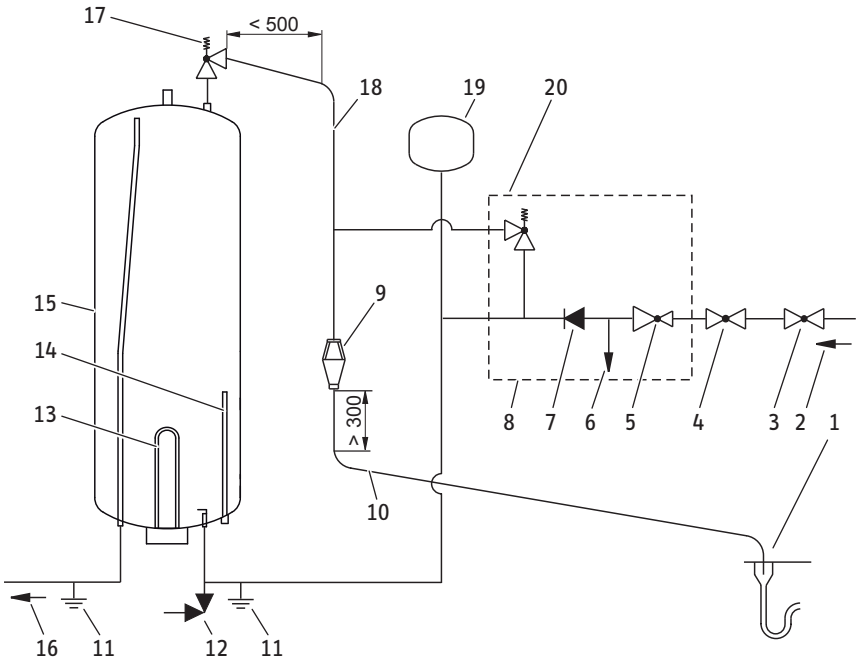

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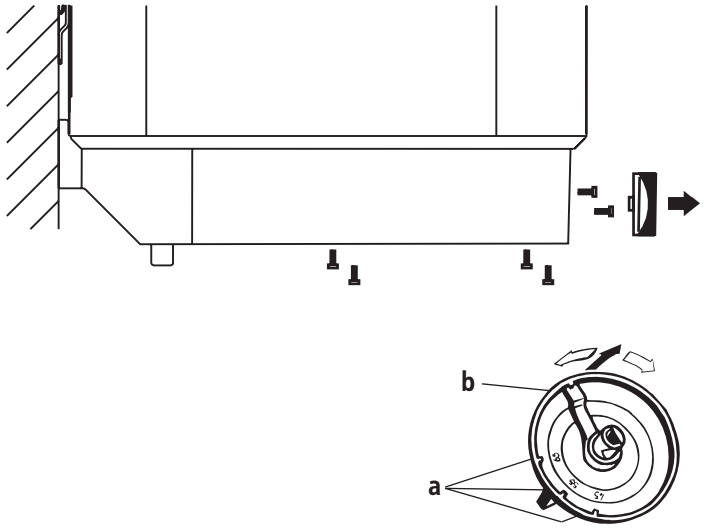

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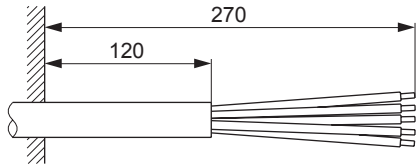

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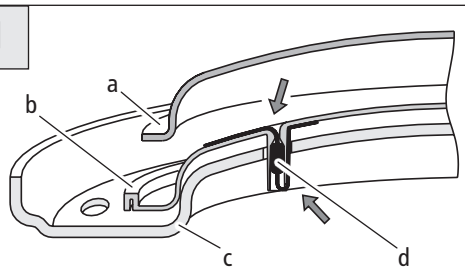

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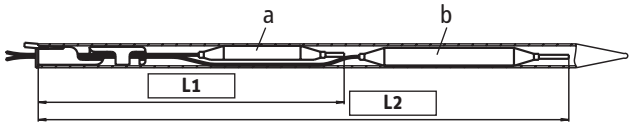

	L1	L2
SH 30 S (GB), SH 50 S (GB), SH 150 S (GB)	260 mm	380 mm
SH 80 S (GB), SH 100 S (GB), SH 120 S (GB)	240 mm	350 mm

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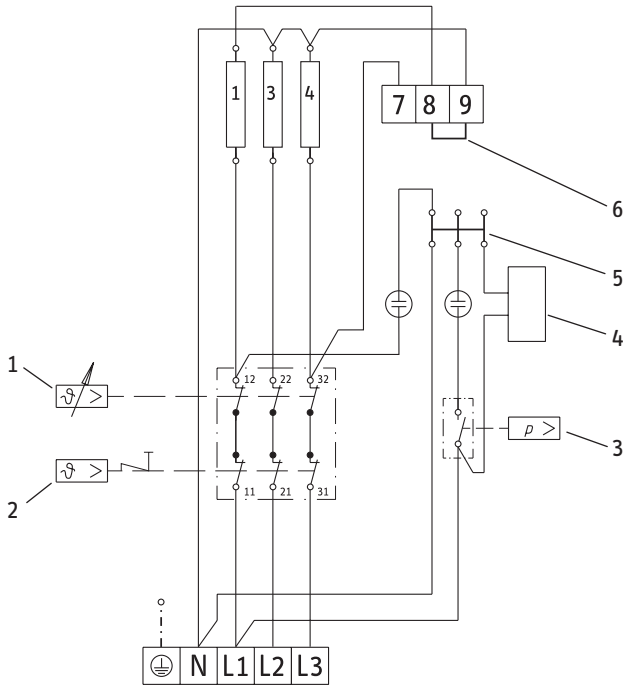
K



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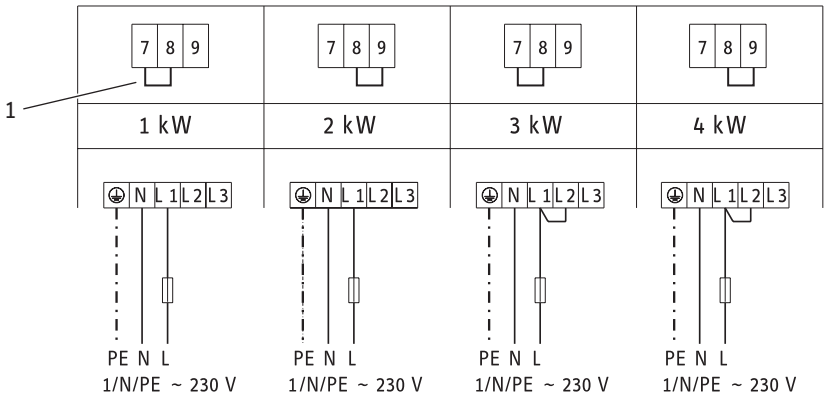

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1. General information

1.1 Document information

The chapter **Operation** is intended for the equipment user and the heating contractor.

The chapter **Installation** is intended for contractors.

Please read!
Read these instructions carefully before using the appliance and retain them for future reference. If the appliance is passed on to a third party please hand these instructions to the new user.

1.2 Key to symbols

Symbols in these installation instructions:
In this documentation you will come across symbols and highlights. These have the following meaning:

Risk of injury!
Information concerning possible risk of injury.

Danger of electrocution!

Risk of scalding or burning!

Possible damage!
Information concerning damage to the appliance, environmental damage or material losses.

Please read!
Text next to this symbol is particularly important.

» The „**»**“ symbol indicates that you have to do something. The action you need to take is described step-by-step.

Symbols on the appliance:

Disposal!
Appliances with this marking are not suitable for general waste disposal, and should therefore be disposed of separately.

Units of measurement
All measurements are given in mm unless stated otherwise.

2. Operating instructions

2.1 Description of unit

SH 30 - 150 S (GB) wall-mounted water heaters are intended for heating cold water. To suit requirements, they can provide hot water up to about 70 °C and can supply one or more draw-off points depending on the operating mode. The water is heated electrically in single-circuit operation. Automatic reheating to the preset temperature takes place automatically. The water volume available in each situation is indicated by lights (LED's) on the control panel. The wall-mounted water heater is provided with corrosion protection by means of an incorporated signal anode.

The unvented (pressurized) wall-mounted water heater can be for the supply of several draw-off points.

Infinite temperature adjustment is possible from about 35 °C to about 70 °C A (1).

The heating-up process is indicated by the signal lamp A (2).

The time required for heating up is dependent on the storage content, the cold water temperature, and the heating capacity, see Diagram B.

Hot water availability at 40 °C

Bath	Shower	Hand
≙ 120 - 150 l	≙ 30 - 50 l	≙ 2 - 5 l

The electronic heat content display with 6 lights A (3) on the operating panel shows the heat quantity available at a particular time. With the temperature setting you are selecting the usable quantity of hot water.

The display C shows the quantity of water available as mixed water at 40 °C (15 °C cold water inlet temperature: 65 °C temperature setting). The number of diodes which light up is a measure of the minimum amount of mixed water still available at about 40 °C for bathing and showering.

The mixed water volume is derived from the storage size, the temperature setting of the storage unit (from 40 °C) and the cold water inlet temperature.

Example:

If 4 LED's light up on the SH 80 S (GB), there are about 100 litres of water at 40 °C available. This means the storage unit has enough water to fill one bath. The LED's show at a glance whether the storage content is still sufficient for filling a bath or for a shower, or whether the heating-up time must be run through first.

A used-up signal anode is indicated by the „SERVICE ANODE“ signal lamp A (4).

2.2 The most important points in brief A

1 Temperature selection button
2 Signal lamp for operating mode
3 Lights for the heat content display
4 „SERVICE ANODE“ signal lamp

2.3 Operation

Temperature selection button (1)

• = cold (see also Instructions, Risk of Freezing)
E = (approx. 60 °C) Recommended energy economy setting, low limescale formation
70 °C = Maximum temperature which can be set.
Depending on the system, the temperatures may deviate from the reference value.

2.4 Safety information

Risk of scalding!
There is a risk of scalding at outlet temperatures in excess of 43 °C.

Risk of injury!
Where children or persons with limited physical, sensory or mental capabilities are to be allowed to control this appliance, ensure that this will only happen under supervision or after appropriate instructions by a person responsible for their safety.
Children must be supervised to ensure that they do not play with the appliance.

The appliance is under mains water pressure.
During heat-up, expansion water drips from the safety relief valve and the T&P valve. If water continues to drip when heating is completed, please inform your heating contractor.

2.5 Important notes

» Arrange to have the wall-mounted water heater and the safety group checked regularly by a qualified installer.

» Check your fittings regularly. Remove limescale from the fitting outlets with conventional scale removal products.

Freezing risk
The unit is protected against freezing in all operating modes, however the safety group and the water pipe are not.

Energy saving tip
The heat content display allows you to obtain a hot water supply which is optimum for you, energy-saving, and matched to suit your usual consumption requirements.

How to proceed:
Start with a temperature setting of 65 °C. If, after the largest draw-off (e.g. filling the bath), more than one LED lights up, reduce the temperature setting. By following this procedure, you will determine the optimum low storage temperature for your usual requirements, and so reduce possible heat losses to a minimum.

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3. Safety

Only qualified contractors should carry out installation, commissioning, maintenance and repair of the appliance.

3.1 General safety instructions

We guarantee trouble-free function and operational reliability only if the original accessories and spare parts intended for the appliance are used.

3.2 Instructions, standards and regulations

Observe all applicable national and regional regulations and instructions.

3.3 Water installation

3.3.1 Cold water line

Steel or copper pipes or plastic pipework are approved as materials.

A safety relief valve is required.

3.3.2 DHW line

Copper or plastic pipework are approved as materials.

Plastic pipe systems with the instantanous water heater the operating temperature can be adjusted upto max. 70 °C. The maximum temperature can be limited to 65 °C. In case of failures temperatures can rise up to 85 °C (max. 0.6 MPa).

» The appliance must be operated with mains pressure taps.

The installation (water and electrical installation) and first start-up, as well as the maintenance of this unit may only be carried out by an approved specialist installer in accordance with these Instructions.

Perfect function and operational safety are only guaranteed with original accessories and spare parts intended for the unit.

The installation should be carried out in accordance with the relevant water (WRAS) and electrical (IEE) guidelines and regulations.

Installation should be carried out in accordance with the relevant water and electricity supply companys regulations.

3.4 Electrical installation

Electrical connection only with fixed-laid leads in association with removable cable bushings.

The unit must be capable of all-pole disconnection from the mains, for example by fuses, with an isolating distance of at least 3 mm.

3.5 Operating and installation instructions

Keep these Instructions carefully. In the event of a change of ownership, hand them over to the new owners, and give them to the qualified installer to read in the event of maintenance and possible repair work being carried out.

4. Equipment description

The system is designed to operate with mains water pressure, and a set of fittings is provided for this purpose.

5. Installation instructions

Delivered with the appliance are:

– Mounting bracket (2 pce. for appliances > 120 l)

– Spacers (2 pce. for above, 2 pce. for underneath)

– Safety assembly

– Comp Adapter

– Flat gasket

– Expansion vessel 8 litre

– Bracket for expansion vessel

– Tundish

5.1 Structure of the device

A - D

1 Heating element
2 Service anode
– SH 30 S (GB)- M 8: Replace with heating element fitting
– SH 50 - 150 S (GB) - G 19.05 (¾"): Replace without heating element fitting
3 Pressure switch for service anode
4 Combined thermostat and high-temperature cut-out
4a High temperature cut-out reset button (accessible from the front)
5 Electronic stored heat display
6 Heating element flange
7 Gasket
8 Drain valve and hose connector G 19.05 (¾")
9 Pipe connection
10 Cable feed holes
11 Cold water inlet
12 Cylinder
13 Insulation
14 Outlet pipe
15 Teperature / pressure relief valve
16 Upper wall support *
17 Lower wall support (only on Model SH 120 S (GB) and SH 150 S (GB) *
18 Protective caps
* For screws dia. 12 mm provided by customer

5.2 Installation location

» In an area not subject to the risk of freezing.

» Install close to the water tap.

5.3 Unit installation E

5.3.1 Fit the suspension bracket

» Select the securing material to suit the strength of the wall. With SH 120 S (GB) and SH 150 S (GB), two suspension brackets are required.

» Any unevenness in the wall is to be compensated for by the spacer elements provided (a. approx. 5 mm thick).

» Install in a vertical position; see D.

» Push the cover caps onto the suspension bracket E (b).

5.3.2 Fitting the water connection and safety assembly

Risk of damage
Carry out all water connection and installation work in accordance with regulations.

» Flush the pipework thoroughly.

See chapter „Specification / Hydraulic diagram“ for general arrangement in schematic form. You can fit the safety assembly in various positions to suit the space available but it must be placed in the same order as shown. The safety assembly provided in the pack is fitted to the cold water supply with the exception of the T&P valve which is fitted at the top of the DHW cylinder.

» To obtain a balanced water pressure in the cold water and DHW lines, position the cold water outlet directly on the outlet side of the pressure relief valve.

» The T&P valve should not respond under normal operating conditions as the expansion vessel will accommodate the water as it expands during the heating process.

» Run the safety relief valve outlet and that of the T&P valve to a drain via a tundish. The purpose of the tundish is to let water be seen should these valves respond. The outlet pipe should not exceed 9 metres in length without forming an air break, i.e. tundish. The pipe must fall continuously throughout its length with no additional 90° bends. It must be heat resistant and discharge to a safe visible position. The pipe diameter must not be smaller than the valve outlet. The two discharge pipes can be joined together at the point of discharge into a single tundish if required.

Key to schematic diagram F

1 Discharge below fixed grate
2 Cold water supply
3 Shut-off valve
4 Line strainer
5 Pressure relief valve
6 Balanced pressure; cold water outlet
7 Check valve
8 Safety assembly
9 Tundish
10 Metal discharge pipe (D2) from tundish, with continuous fall
11 Equipotential bond
12 Drain valve
13 Immersion heater, thermostat and high limit safety cut-out
14 Anode
15 Cylinder
16 DHW outlet
17 T&P valve
18 Metal discharge pipe (D1) from T&P valve to tundish
19 Expansion vessel
20 Safety relief valve

Minimum size of dischareg pipe D1	mm			15
Minimum size of dischareg pipe D2 from tundish	mm	22	28	35
Maximum resistance allowed, expressed as a	m	9	18	27
Length of straight pipe (i. e. no elbows or bends)				
Resistance by each elbow or bend	m	1.0	1.4	1.7

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5.4 Electrical connection

» Remove the bottom cap from the device by drawing off the regulator button and removing the screws G.

» Electrical connection lead H.

5.4.1 Electrical circuit diagram K

1 Thermostat
2 Safety temperature limiter
3 Pressure switch for signal anode
4 Heat content display
5 Plug distributor for N-lead
6 Terminal for power switchover

5.4.2 Connection variant L

» Connect the power rating required in accordance with the connection example and, if appropriate, replug the terminal bridge (1).

5.5 Temperature selection limitation G

For:

– Greater safety against scalding

– Less energy consumption

– Less limescale formation

– The temperature can be limited.
a Adjustment possibility of the temperature limitation
b Customer to prepare position for

5.6 Installation conclusion

» Mark the connection power and voltage on the device rating plate with a ball-point pen.

» Place the bottom flap in position and secure it with screws G.

» Press the temperature selector button into position G.

5.7 First start-up

(may only be carried out by a qualified installer)

» 1 Fill the unit, deaerate it, and flush it through thoroughly!

» 2 Turn temperature selector switch to the right as far as the stop!

» 3 Switch on mains electricity supply!

» 4 Check the operation of the appliance!

» 5 Check the safety group for functional performance!

» 6 Check the T&P valve for tightness.

Delivery status:

» At temperatures of below - 15 °C (e.g. transportation/storage) the safety thermal cut-out may trip. Press the reset button (D 12).

Handing over the unit:
Explain the function of the unit to the users and familiarise them with its use.

Important note:
Advise the users about possible hazards (such as scalding).

5.8 Maintenance

» When carrying out any work, disconnect all poles from the mains supply.

» Check the safety group regularly.

» Descale the element only after dismantling. Do not treat the reservoir surface and parasitic current anode with descaling agents.

Safety device

» Regulator-limiter combination immersion depths J:
a - Limiter sensor
b - Regulator sensor

Draining the storage water heater cylinder

» Before draining the cylinder, disconnect the unit from the mains supply.

» Close the isolating valve in the cold water feed line.

» Open the hot water fittings fully at all draw-off points.

» Unscrew the cap from the drainage nozzle (D 10).

Risk of scalding or burning!
Hot water may come out during draining.

» The corrosion protection resistor I on the insulating plate must not be damaged or removed during servicing work. When replacing the corrosion protection resistor the assembly is to be re-established in the correct manner.
a Copper heating element
b Insulating plate
c Pressure plate
d Corrosion protection resistor

» Check the signal anode and replace it as soon as the „SERVICE ANODE“ signal lamp on the operating panel lights up. When replacing the anode, it is essential for the pressure switch to be screwed in tight.

5.9 Specification

Model			SEALED UNVENTED wall mounted DHW cylinder					
Type			SH 30 S (GB)	SH 50 S (GB)	SH 80 S (GB)	SH 100 S (GB)	SH 120 S (GB)	SH 150 S (GB)
Part number			228948	228949	228950	228951	228952	228953
Operating details								
Rated output		kW	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4
Connectable to power			1/N/PE	1/N/PE	1/N/PE	1/N/PE	1/N/PE	1/N/PE
		V / Hz	~ 230 / 50	~ 230 / 50	~ 230 / 50	~ 230 / 50	~ 230 / 50	~ 230 / 50
Capacity		l	30	50	80	100	120	150
Adjustable temperature								
minimal about		°C	35	35	35	35	35	35
maximum about		°C	70	70	70	70	70	70
Permissible operating pressure		MPa	0.6	0.6	0.6	0.6	0.6	0.6
Water connection (external thread)		mm (")	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
Protection class EN 60529			IP 25 D	IP 25 D	IP 25 D	IP 25 D	IP 25 D	IP 25 D
Maximum flow rate		l/min	18	18	18	18	18	18
Response pressure, safety relief valve		MPa	0.6	0.6	0.6	0.6	0.6	0.6
Response pressure, T&P valve		MPa	0.6	0.6	0.6	0.6	0.6	0.6
Temperature setting, T&P valve		°C	90	90	90	90	90	90
Pressure reducing valve		MPa	0.35	0.35	0.35	0.35	0.35	0.35
Expansion vessel, volume		l	8	8	8	8	8	8
Dimensions and weights								
Height	h	mm	750	720	1030	1030	1190	1425
Width	b	mm	410	510	510	510	510	510
Depth	a	mm	420	510	510	510	510	510
	i	mm	--	--	--	--	300	300
	k	mm	700	600	900	900	900	1100
	l	mm	70	140	150	150	310	345
Weight empty		kg	23.5	28.4	38.4	39.9	45.4	53.7
Inlet connection, male, BSP		mm (")	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)
Outlet connection T&P valve		mm	15	15	15	15	15	15
Connection expansion vessel on								
controls, female BSP		mm (")	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
Connection expansion vessel male BSP		mm (")	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)

Guarantee

For guarantees please refer to the respective terms and conditions of supply for your country.

The installation, electrical connection and first operation of this appliance should be carried out by a qualified installer.

The company does not accept liability for failure of any goods supplied which have not been installed and operated in accordance with the manufacturer's instructions.

Environment and recycling

Please help us to protect the environment by disposing of the packaging in accordance with the national regulations for waste processing.

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