Accu Geocoil - AGC

300 l.

EN

SAFETY INFORMATION
O&M INFORMATION
INSTALLATION MANUAL
TDS - TECHNICAL DATA SHEET

OSO HOTWATER

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1. SAFETY INSTRUCTIONS

1.1 General information

- Read the following safety instructions carefully before installing, maintaining or adjusting the buffer tank.
- Personal injury or material damage may result if the product is not installed or used in the intended manner.
- Keep this manual and other relevant documents where they are accessible for future reference.
- The manufacturer assumes compliance (by the end user) with the safety, operating and maintenance instructions supplied and (by the installer) with the fitting manual and relevant standards and regulations in effect on the date of installation.

Symbols used in this manual:

⚠ WARNING	Could cause serious injury or death
⚠ CAUTION	Could cause minor or moderate injury or damage to property
⊘	DO NOT
❗	DO

❗	This document should be kept in a suitable place where it is accessible for future reference.

1.2 Safety instructions for users

⚠ WARNING	
⊘	The overflow from the safety valve must NOT be sealed or plugged.
⊘	The product must NOT be modified or changed from its original state.
⊘	Children must NOT play with the product or go near it without supervision.
❗	Maintenance/settings should only be carried out by persons over 18 years of age, with sufficient understanding.

⚠ CAUTION	
⊘	The product must not be exposed to frost, over-pressure, over-voltage or chlorine treatment. See warranty provisions.
⊘	Maintenance/configuration should not be carried out by persons of diminished physical or mental capacity, unless they have been instructed in the correct use by someone responsible for their safety.

1.3 Safety instructions for installers

⚠ WARNING	
⊘	The product is supplied with a safety valve (supplied loose). The overflow from the safety valve must NOT be sealed or plugged.
❗	Any overflow pipe from safety valves must be of a suitable size, clear, undamaged and frost-free with a fall to the drain.
❗	The relevant regulations and standards, as well as this installation manual, must be followed.

⚠ CAUTION	
❗	The product should be placed in a room with a drain, in accordance with the wetroom standard / latest TEK. Alternatively, fit an automatic stop valve with sensor and overflow from safety valve to drain. Liability for consequential damage will only apply if this is followed.
❗	The product should be properly aligned vertically and horizontally, on a floor or wall suitable for the total weight of the product when in operation. See rating plate.
❗	The product must be installed with clearance for servicing of 40 cm in front of the junction box/10 cm above the highest point.

To be completed by installer:

CONTACT DETAILS	
Installed by (company):	
Company address:	
Company phone:	
Company email:	
Installer name:	
Installation date:	

2. PRODUCT DESCRIPTION

2.1 Product identification

Identification details for your product can be found on the rating plate affixed to the product. The rating plate contains details of the product in accordance with EN 12897:2016 and EN 60335-2-21 in addition to other useful data. See the Declaration of Conformity at www.osohotwater.com for more information.

OSO products are designed and manufactured in accordance with:

- Pressure vessel standard EN 12897:2016
- Safety standard EN 60335-2-21

OSO Hotwater AS is certified for

- Quality ISO 9001
- Environment ISO 14001
- Working Environment ISO 45001

2.2 Intended use

Accu Geocoil is intended for use as an accumulator for heating systems and has been designed for use in closed systems. The product is supplied with electric peak load from the factory.

2.3 CE marking

CE

The CE mark shows that the product complies with the relevant directives. See Declaration of Conformity at www.osohotwater.com for more information.

The product complies with directives for:

- Low voltage LVD 2014/35/EU
- Electromagnetic compatibility EMC 2014/30/EU
- Pressurised equipment PED 2014/68/EU

The safety valve(s) used must be CE marked and conform to PED 2014/68/EU.

2.4 Technical data

OSO Model no.	Product code:	Capacity, persons	Weight, kg.	Dia. x Height mm.	Freight vol. m^3	Volume 40°C water	Thermostat setting °C
801 1314	AGC 300 - 9kW / 3x230V + HX 2,6m^2	-	66	ø595x1750	0.64	-	45
The products are classified as IP21.							

2.5 ErP data - Technical Data Sheet

Brand	OSO Model no.	Model name	Actual volume L	Heat loss W	ErP Rating
OSO Hotwater AS	11009867	AGC 300	296	68	B
Regulation: 2017/1369/EU - Regulation: EU 812/2013		Directive: 2009/125/EC - Regulation: EU 814/2013			
Heat loss tested acc. to standard EN 12897:2016					

2.6 Spare parts

Item no.	NRF no.	Designation	Product description:	Dimension
11000888	8015194	RG 1 1/4"	Element - 9 kW - 3x230V, 3-tube	Length 460 mm
11001073	8015892	TS2	Thermostat - 59T/66T 30-60°C 1-phase	2-pole
11001170		Connecting cable	Internal wire - 4#, black	On reel
11001177	8015295	Connecting cable	Internal wire - 4#, black, fork+eye	Length 180 mm
11001181		Connecting cable	Internal wire - 4#, black, fork/jack+eye	Length 180 mm
11001197	8004015	Connector	Ouneva - VC05-0011	3x1x2.5-35mm^2
11001440	8405007	SV-381	Safety valve - 3 bar - 4MS, EN1489	ø15xG1/2"M

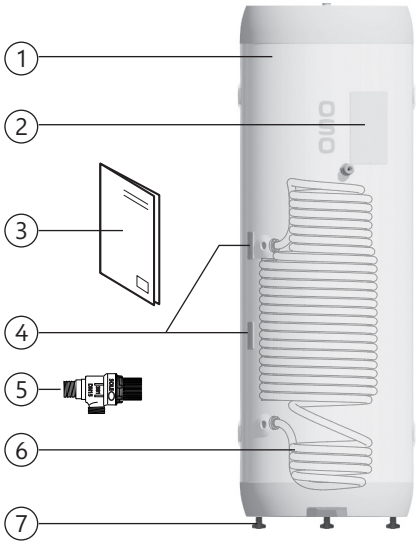
3. INSTALLATION INSTRUCTIONS

3.1 Products covered by these instructions

Accu Geocoil - AGC 300

3.2 Included in delivery

Ref no.	Pcs.	Description
1	1	Buffer tank with electric peak load
2	1	Junction box 9 kW - 3x230V
3	1	Installation manual (this document)
4	2	Temperature sensor bracket
5	1	3-bar safety valve (supplied loose)
6	1	Stainless steel coil HX 2.6 m^2
7	3	Feet (factory-fitted)

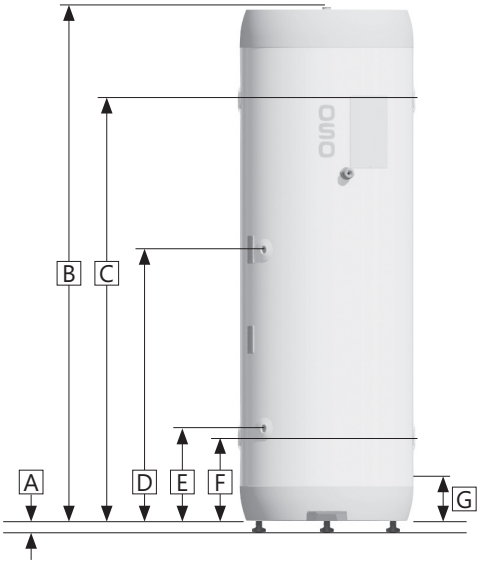


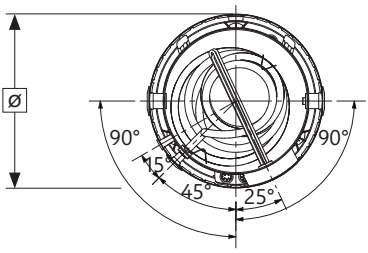
3.3 Product dimensions

All dimensions in mm.

Product.	A	B	C	D	E	F	G	ø
AGC 300	0-40	1750	1436	926	316	286	155	595

Tolerance +/- 5 mm (not dimension A).

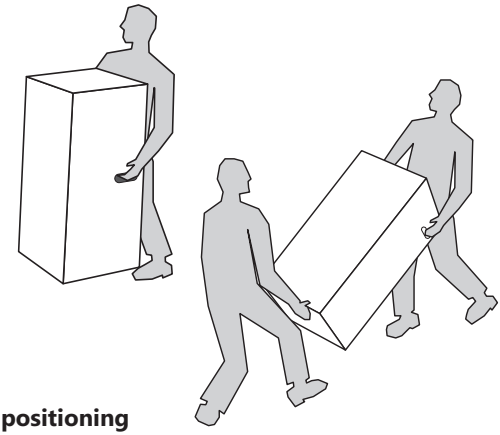




3.3.1 Delivery

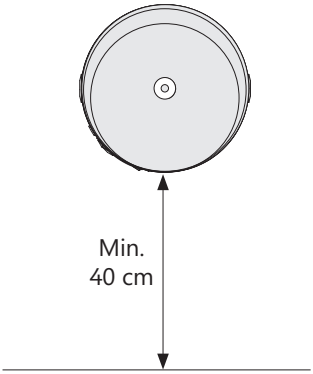
The product should be transported carefully as shown, with packaging. Use the handles in the box.

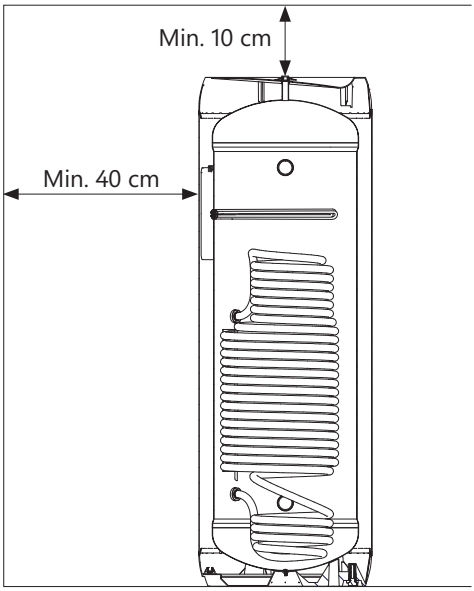
⚠ CAUTION
Pipe stubs, valves etc. should not be used to lift the product as this could cause malfunctions.



3.4 Requirements for installation location and positioning

⚠ CAUTION	
❗	The product should be placed in a room with a drain, in accordance with the wetroom standard / latest TEK. Alternatively, fit an automatic stop valve with sensor and overflow from safety valve to drain.
❗	The product should be placed in a dry and permanently frost-free position.
❗	The product should be placed on a floor suitable for the total weight of the product when in operation.. See data plate.
❗	The product must be installed with clearance for servicing of 40 cm in front of the junction box/10 cm above the highest point.
❗	The product should be easily accessible for servicing and maintenance.

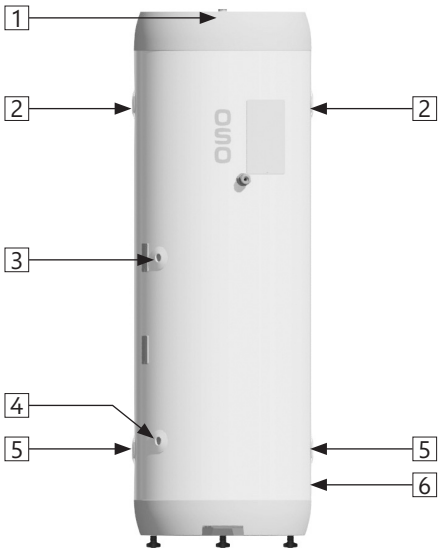




3.5 Pipe installation

Approved pipes of the correct size should be used for installation. The relevant standards and regulations must be followed.

No.	Dimension	Connection description
1	G 3/4" F	Ventilation / hot water - plugged
2	G 1 ½" F	Upper cylinder connection
3	G 3/4" F	Upper coil connection
4	G 3/4" F	Lower coil connection
5	G 1 ½" F	Lower cylinder connection
6	G ½" F	Draining/safety valve



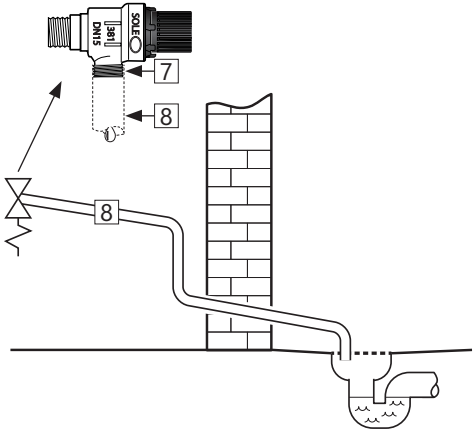
3.5.1 Fitting pipes

A) Run a pipe of suitable size to the connections shown and affix with suitable sealant. Unused connections must be plugged securely.

3.5.2 Fitting overflow pipes

If necessary, an overflow pipe (8) of a suitable dimension should be run to the safety valve;

- Connect this to the overflow (7) of the safety valve.
- Clear, undamaged and frost-free with a fall to the drain.

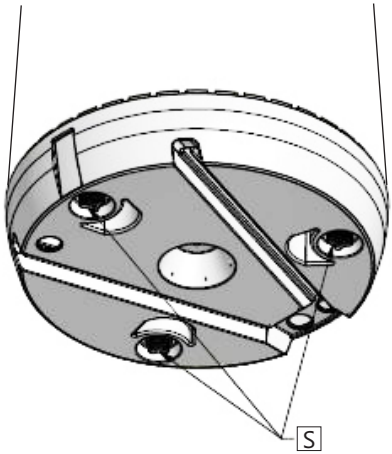


3.5.4 Fitting instructions

⚠ CAUTION	
❗	The product should be placed in a room with a drain, in accordance with the wetroom standard / latest TEK. Alternatively, fit an automatic stop valve with sensor and overflow from safety valve to drain.
❗	The product should be properly aligned vertically and horizontally, on a floor suitable for the total weight of the product when in operation. See rating plate.
❗	The product must be installed with clearance for servicing of 40 cm in front of the junction box/10 cm above the highest point.

3.5.5 Fitting recommendation

RECOMMENDATION	
-	Allow clearance to the floor. Screw the factory-fitted feet (S) out a minimum of 15 mm from the bottom of the product.
-	For installation in rooms that do not conform to the wetroom standard, a watertight drip tray with overflow pipe of ≥ 18 mm inside diameter should be fitted under the product, in addition to an automatic stop cock with sensor. This will prevent potential material damage.



3.6 Electrical installation

Fixed electrical fittings must be used for installation. Any electric fittings must be installed by an authorised electrician. The relevant standards and regulations must be followed.

3.6.1 Electrical components

Component	Note
Safety thermostat	70°C thermal cut-out
Work thermostat	30-60°C adjustable
Heating element	9 kW - 3-phase 230V
Internal wires	Heat-resistant

3.6.2 Electrical connections in the junction box

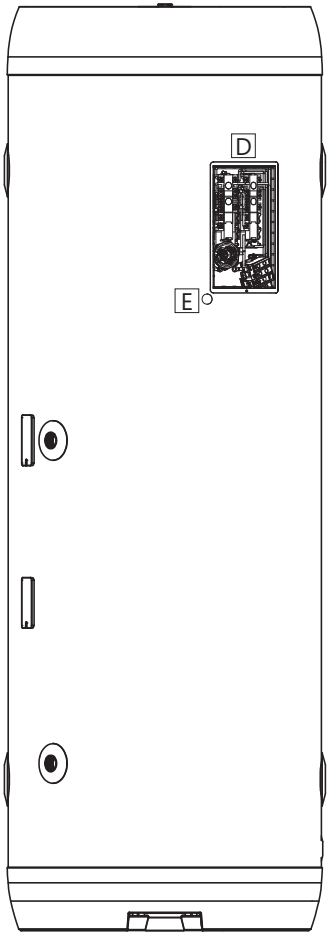
⚠ WARNING
Constant voltage present at the terminals. Before any electrical work is done, the power supply must be disconnected and secured against activation while the work is in progress.

A) Supply cable to be disconnected from the terminal (1) by an authorised electrician as shown. Supply wires should be secured with suitable strain relievers.
B) Internal wires from the connection piece (1) to thermostats and the wires from thermostats to elements are pre-connected at the factory.
C) Make sure that the earth wire (yellow wire with green stripe) is connected to the earthing point ⏚

Cover of junction box should be correctly mounted before the power is switched on. The power must not be switched on until the product has been filled with water.

3.6.3 Torque settings

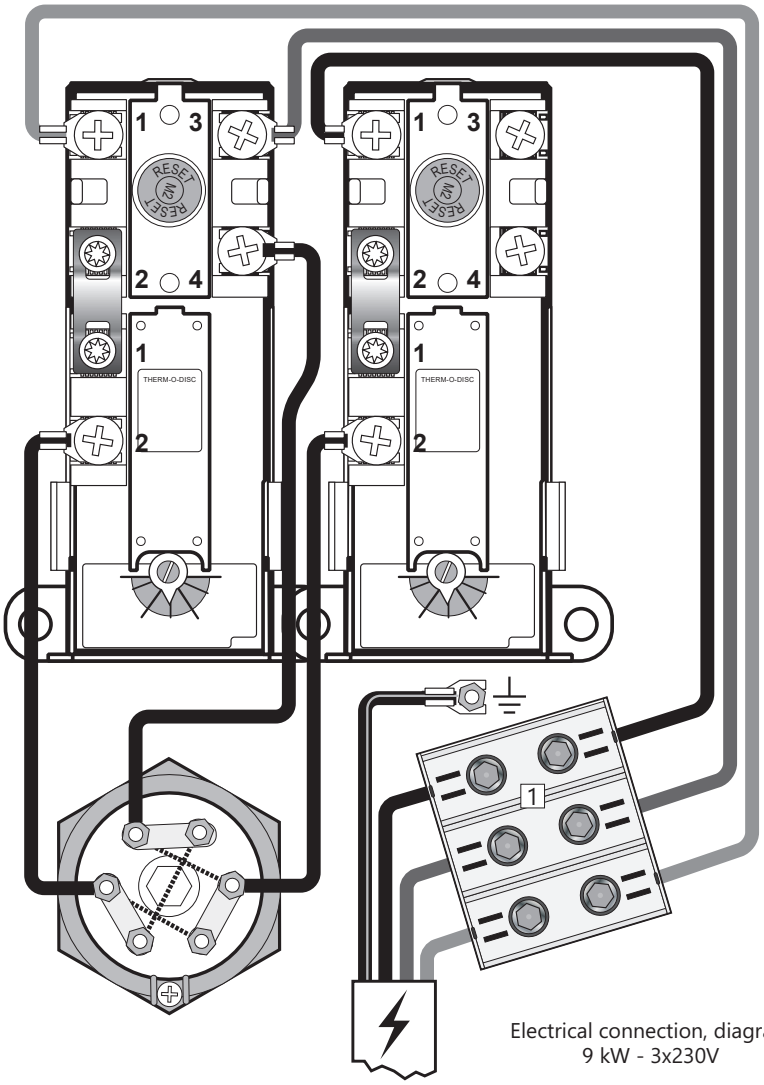
Component	Torque
G 1.1/4"M heating element	60 Nm (+/- 5)
Thermostat screws	2 Nm (+/- 0.1)
Screw on the element head	2 Nm (+/- 0.1)



Circuit diagram shows standard wiring from the factory (3x230V).
The product is equipped with a junction box (D), which must be connected to a dedicated power supply via the cable opening (E). A suitable strain reliever must be used (supplied).

Alternative electrical connection is possible, see section 3.6.4 on the next page.

⚠ WARNING
Continuous voltage is present at the terminals in the junction boxes. Before any electrical work is done, the power supply must be disconnected and secured against activation while the work is in progress.



Electrical connection, diagram
9 kW - 3x230V

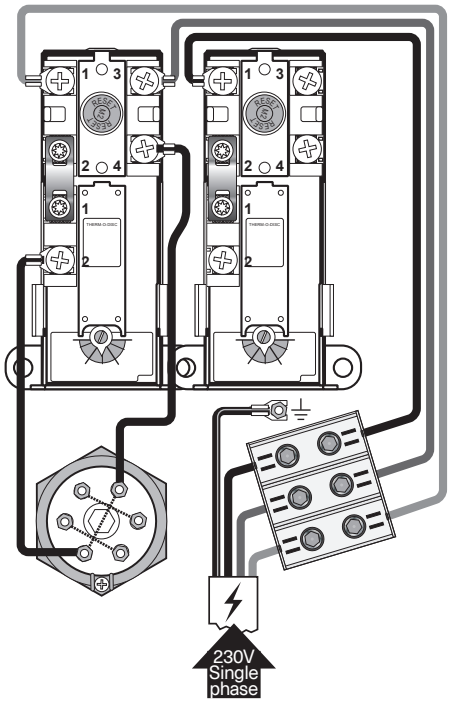
3.6.4 Alternative electric power layouts

⚠ WARNING
Continuous voltage is present at the terminals in the junction boxes. Before any electrical work is done, the power supply must be disconnected and secured against activation while the work is in progress.

Accu Geocoil AGC 300 can be switched over to alternative power and voltage via the junction box. Switchover must be carried out by an authorised electrician.
The standard electrical connection from the factory is shown on page 11.

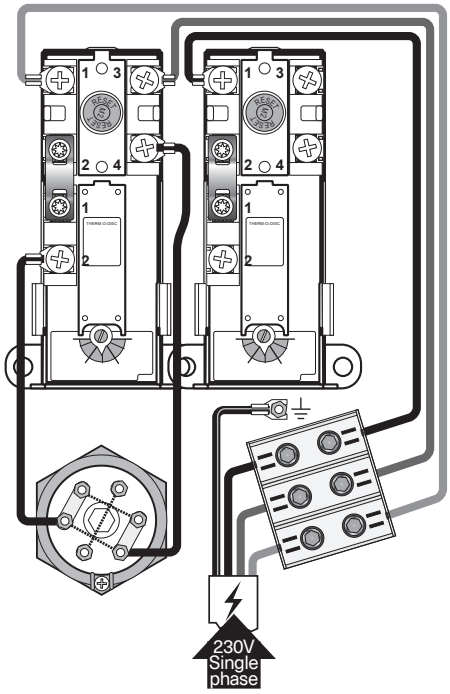
Circuit diagram (A):
Power:: 3 kW - 1x230V

A



Circuit diagram (B):
Power: 6 kW - 1x230V

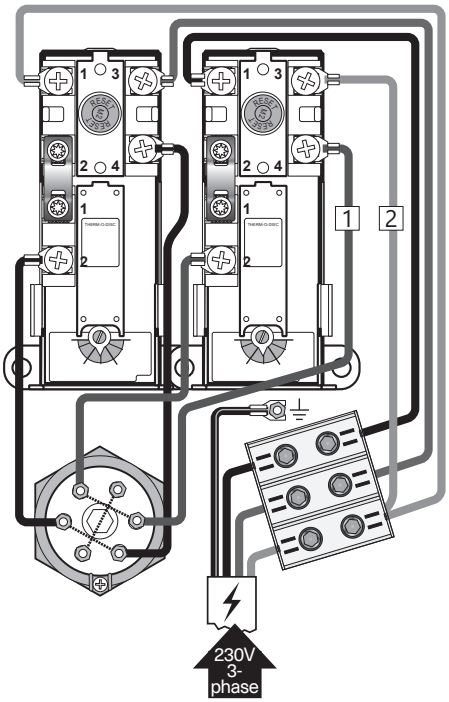
B



⚠ WARNING
Continuous voltage is present at the terminals in the junction boxes. Before any electrical work is done, the power supply must be disconnected and secured against activation while the work is in progress.

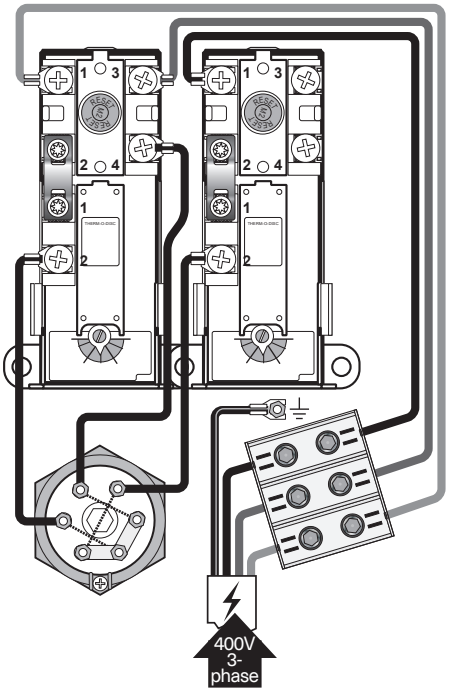
Circuit diagram (C):
Power: 6 kW - 3x230V
Wires (1) and (2) are supplied loose.

C



Circuit diagram (D):
Power: 9 kW - 3x400V

D



3.6.5 Fitting instructions

⚠ WARNING	
❗	The product should be filled with water before the power is switched on.
❗	Fixed electrical fittings must be used for installation according to the regulations. Any electrical fittings must be installed by an authorised electrician.
❗	The mains cable must be able to withstand 90°C. A suitable strain reliever must be installed (supplied).

⚠ CAUTION	
❗	The product must be installed with clearance for servicing of 40 cm in front of the junction box/10 cm above the highest point.
❗	In case of damage to the power supply cable, this should be replaced with a new cable with the correct specifications for the installation. All electrical work should be performed by an authorised electrician.

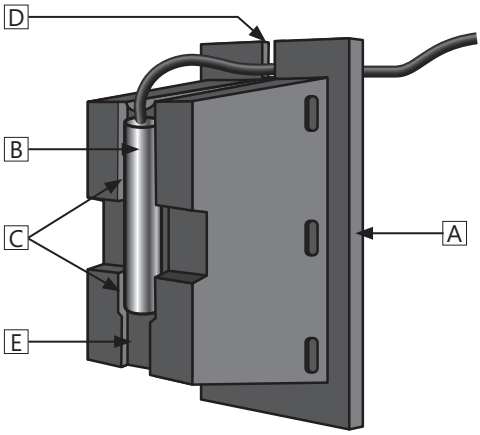
3.6.6 Fitting recommendation

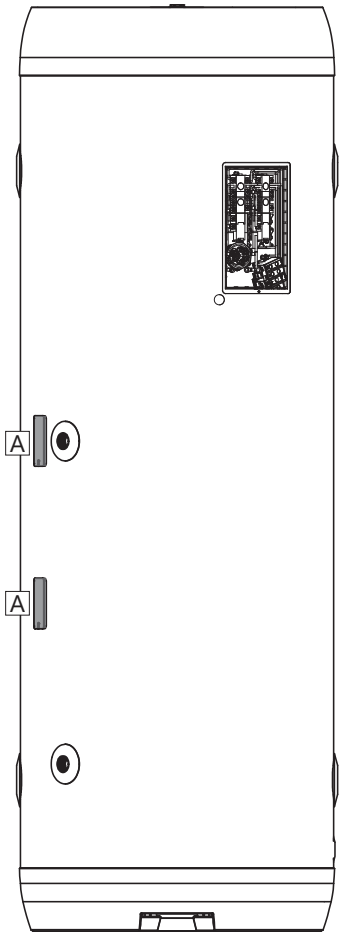
RECOMMENDATION	
-	An authorised electrician must determine the correct supply cable and fuse according to the applicable standards and regulations.

3.6.7 Installation of temperature sensor

The product is equipped with two temperature sensor brackets that can be used to install temperature sensors of 6 or 8 mm. Please follow the procedure below for installing temperature sensors:

1. Remove the temperature sensor bracket (A) from the tank by grasping it and pulling it straight out.
2. Install the temperature sensor (B) in the channels on the sensor bracket and place the sensor cable in the cable channel (D). An 8 mm sensor (shown) fits the upper channels (C), while a 6 mm sensor fits the lower channel (E).
3. Reinstall the sensor bracket in the tank. Make sure that the bracket is pushed all the way in to ensure good contact between the sensor and the stainless steel interior tank surface. Make sure that the sensor cable is correctly placed in the cable channel (D) so that the cable does not become damaged.





4. INITIAL COMMISSIONING

4.1 Filling with water

First check that all pipes are connected correctly. Then fill the tank according to the needs/requirements of the system. Make sure that the tank is vented during filling to prevent air pockets. The product is equipped with a plugged vent at the top (1).

4.2 Turning on the power

When the cylinder has been filled with water, the power can be switched on. Switch on breaker/fuse.

4.3 Control points

A) Check that all pipe connections to/from the product are tightened and not leaking.
B) Check that the power supply to the product is not at risk of exposure to mechanical, thermal or chemical damage.
C) Check that any overflow pipe from the safety valve is clear, undamaged and frost-free with a fall to the drain.
D) Check that the product is in a stable position both vertically and horizontally.

4.4 Emptying of water

⚠ WARNING
The water temperature in the product is up to 60°C and could cause scalding. Special care should therefore be taken when emptying the product.

A) Disconnect the power supply.
B) Close the incoming water supply.
C) Open the product's vent (1). Leave open while emptying (prevents vacuum).
D) The product is emptied using the safety valve/drain pipe (2)

After emptying, close the safety valve/drain pipe (2). Close vent (1).

4.5 Handover to end-user

THE INSTALLER MUST:
Brief the end-user on safety and maintenance instructions.
Brief the end-user on settings and emptying the product.
Hand this installation manual over to the end-user.
Remember to enter your contact details in the form on page 4 of this manual.

5. SETTINGS

5.1 Settings

5.1.1 Thermostat setting

The product thermostats can be set to between 30 and 60°C. Here are the steps for adjusting the temperature:

A) Disconnect the power supply.
B) Remove the cover (5) with a screwdriver.
C) Adjust the temperature on the thermostats (3) with a screwdriver.

Important: Refit the cover (5) BEFORE connecting the power supply.

5.1.2 Resetting the safety thermostat

The safety thermostats on the product cut out when there is a risk of overheating. These are reset by switching off the power supply, removing the cover (5) and pressing the red 'RESET' button (4). If the thermostat cuts out repeatedly, contact the installer.

5.1.3 Adjusting the feet

The product is supplied with three factory-fitted feet, adjustable from 0 to 40 mm. Screw the feet out a minimum of 15 mm from the bottom of the product. Adjust the feet individually until the product is in a stable position both vertically and horizontally.

5.2 Maintenance

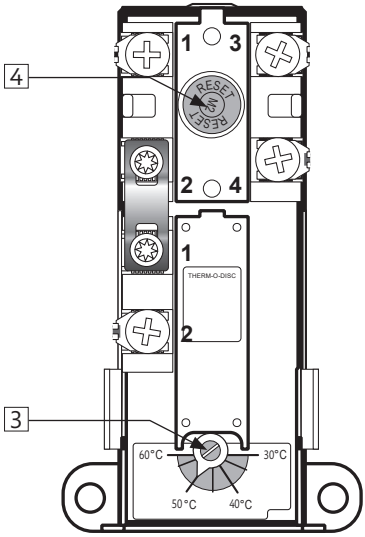
An annual inspection of components must be carried out for the product. Maintenance should be carried out by persons over 18 years of age with sufficient expertise. Annual inspections include:

- Annual inspection of leaktightness at all components and pipe fittings.
- Tightening of all electrical connections in the junction box:

A) Disconnect the power supply to the product and make sure that the power cannot be turned on while work is ongoing.
B) Remove the cover (5) and tighten all electrical connections, see torque settings in Table 5.2.1.
C) Install the cover (5) before turning the power back on again.

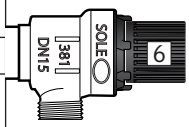
Annual inspections of safety valves must be carried out in accordance with the procedure below.

⚠ WARNING
Continuous voltage is present at the terminals in the junction boxes. Before any electrical work is done, the power supply must be disconnected and secured against activation while the work is in progress.



3.6.4 Torque settings

Component	Torque
G 1.1/4"M heating element	60 Nm (+/- 5)
Thermostat screws	2 Nm (+/- 0.1)
Screw on the element head	2 Nm (+/- 0.1)

MAINTENANCE INSTRUCTIONS		
❗	Annual inspection of safety valve:	
-	Open valve for 1 minute by turning the knob (6) approx. 90 degrees to the open position.	
-	Visually check that the water is flowing freely to the drain.	
-	YES = OK. Close the valve by turning the knob a further 90 degrees to the closed position.	
-	NO = NOT OK. Disconnect power supply / shut off water supply. Contact installer.	

6. TROUBLESHOOTING

6.1 Faults and fixes

If problems arise when the product is in use, check for possible faults and fixes in the table. If you are unsure what is wrong, contact the installer (see product type plate) or OSO Hot-water AS - see section 7.1.

TROUBLESHOOTING		
Problem	**Possible cause of fault**	**Possible solution**
There is leakage/dripping from the safety valve/ there is often water on the floor by the cylinder in the morning	The safety valve is worn or there are particles stuck between the membrane and the valve seat because the water is dirty	Try to flush with water through the safety valve. Open valve for approx. 1 minute. See section 5.2. If the valve still leaks, it must be replaced. Contact auth. installer.
	Leak from heating element.	Verify as follows: a) cut the electric supply, b) unscrew the cover, c) visually check whether there is a leak from the heating element. If so, replace the gasket/heating element. Contact auth. installer.
No hot water	Power supply interrupted.	Verify that the fuse is on / the plug is plugged in to the wall contact / the earth breaker has not tripped.
	Thermostat has cut out.	Press the 'RESET' button on the safety thermostat; see 'User guide'.
	Heating element is defective.	Replace heating element. Contact auth. installer.
Not high enough temperature	The thermostat is set for low temperatures.	Check the thermostat settings. Turn up to 60°C; see 'User guide'.
Fuse/earth breaker trips repeatedly	Possible fault in the heater's electrical system.	Verify as follows: a) cut the electric supply, b) unscrew the cover, c) visually check the junction box for any problems. If so, contact auth. installer to check. Fit the cover.

7. WARRANTY CONDITIONS

1. Scope
OSO Hotwater AS (hereinafter called OSO) warrants for 2 years from the date of purchase, that the Product will: i) conform to OSO specification, ii) be free from defects in materials and workmanship, subject to conditions below. All components carry a 2-year warranty.
The warranty is voluntarily extended by OSO to 5 years for the stainless steel inner tank. This extended warranty only applies to Products purchased by a consumer, that has been installed for private use and that has been distributed by OSO or by a distributor where the Products have been originally sold by OSO. The extended warranty does not apply to Products purchased by commercial entities or for Products that have been installed for commercial use. These shall be subject only to the mandatory provisions of the law. The conditions and limitations set out below shall apply.

2. Coverage
If a defect arises and a valid claim is received within the statutory warranty period, at its option and to the extent permitted by law, OSO shall either; i) repair the defect, or; ii) replace the product with a product that is identical or similar in function, or; iii) refund the purchase price.
If a defect arises and a valid claim is received after the statutory warranty period has expired, but within the extended warranty period, OSO will supply a product that is identical or similar in function. OSO will in such cases not cover any other associated costs.
Any exchanged Product or component will become the legal property of OSO. Any valid claim or service does not extend the original warranty. The replacement Product or part does not carry a new warranty.

3. Conditions
The Product is manufactured to suit most public water supplies. However, there are certain water chemistries (outlined below) that can have a detrimental effect on the Product and its life expectancy. If there are uncertainties regarding water quality, the local water supply authority can supply the necessary data.
The warranty applies only if the conditions set out below are met in full:

- The Product has been installed by a professional installer, in accordance with the instructions in the installation manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- The Product has not been modified in any way, tampered with or subjected to misuse and no factory fitted parts have been removed for unauthorized repair or replacement.
- The Product has only been connected to a domestic mains water supply in compliance with the European Drinking Water Directive EN 98/83 EC, or latest version. The water should not be aggressive, i.e. the water chemistry shall comply with the following:

- Chloride	< 250 mg / L
- Electric Conductivity (EC) @25°C	< 750 uS / cm
- Saturation Index (LSI) @80°C	> - 1,0 / < 0,8
- pH level	> 6,0 / < 9,5

- The immersion heater has not been exposed to hardness levels exceeding 10°dH (180 ppm CaCO3). A water softener is recommended in such cases.
- Any disinfection has been carried out without affecting the Product in any way whatsoever. The product must be isolated from chemically treated water.
- The Product has been in regular use from the date of installation. If the Product is not intended to be used for 60 days or more, it must be drained.
- Service and/or repair shall be done according to the installation manual and all relevant codes of practice. Any replacement parts used shall be original OSO spare parts.
- Any third-party costs associated with any claim has been authorized in advance by OSO in writing.
- The purchase invoice and/or installation invoice, a water sample as well as the defective product is made available to OSO upon request.

Failure to follow these instructions and conditions may result in product failure, and water escaping from the Product.

4. Limitations
The warranty does not cover:

- Any fault or costs arising from incorrect installation, incorrect application, lack of regular maintenance in accordance with the installation manual, neglect, accidental or malicious damage, misuse, any alteration, tampering or repair carried out by a non-professional, any fault arising from the tampering with or removal of any factory fitted safety components or measures.
- Any consequential damage or any indirect loss caused by any failure or malfunction of the Product whatsoever.
- Any pipework or any equipment connected to the Product.
- The effects of frost, lightning, voltage variation, lack of water, dry boiling, excess pressure or chlorination procedures.
- The effects of stagnant (de-aerated) water if the Product has been left unused for more than 60 days consecutively.
- Damage caused during transportation. Buyer shall give the carrier notice of such damage.
- Costs arising if the Product is not immediately accessible for servicing.

These warranties do not affect the Buyer's statutory rights.

7.1 Customer service

In case of problems that cannot be resolved with the aid of the troubleshooting guide in this installation manual, contact either:

A) The installer who supplied the product.
B) OSO Hotwater AS: Tel.: +47 32 25 00 00 oso@oso.no / www.oso.no

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8. REMOVING THE PRODUCT

8.1 Removal

A) Disconnect the power supply.
B) Shut off incoming cold water supply.
C) Empty the product of water – see section 4.4.
D) Disconnect all pipes.
E) The product can now be removed.

8.2 Returns scheme

This product is recyclable and should be taken to the environmental recycling centre. If the product is to be replaced with a new one, the installer can take the old cylinder away for re-cycling.

OSO
HOTWATER

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