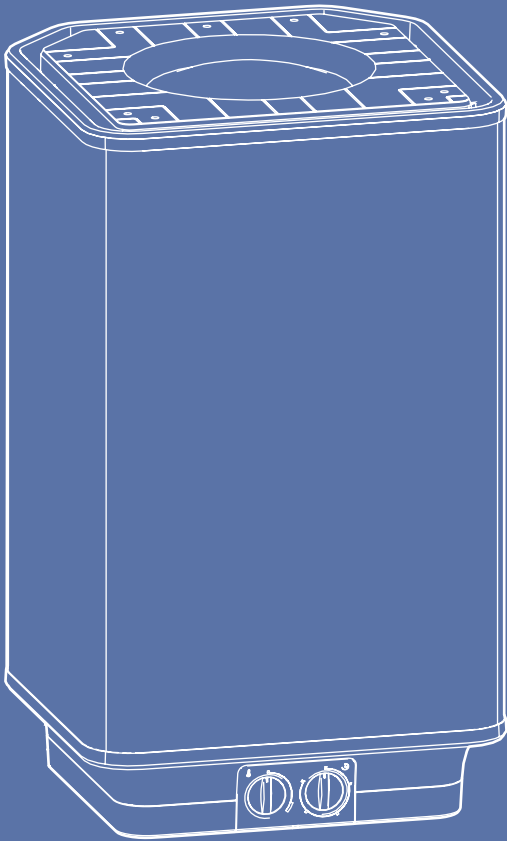


Itho Daalderop
Electric storage water heater
Mono/Mono-plus/Mono-3/Duo

C

Manual



Introduction

This manual contains important information about the safe and proper installation and commissioning of the product.

Read this manual carefully before commencing with the installation.

The following definitions are used in this manual to draw attention to hazards, instructions or indications related to people, products, installations and/or the surroundings.

Danger!

Indicates that action may result in serious or fatal injuries.

Warning!

Indicates a hazard that can cause severe injury and/or severe damage to the product, system or surrounding area.

Caution!

Instructions important for the installation, functioning, operation or maintenance of the product. Failure to observe these instructions can result in minor injury and/or severe damage to the product, system or surrounding area.

Note

Instructions important for the installation, functioning, operation or maintenance of the product. Failure to observe these instructions can result in minor damage to the product, system or surrounding area.

Tip

Instructions that may be important for the installation, functioning, operation or maintenance of the product, but are not related to injury or material damage.

Itho Daalderop retains the right to make changes without prior notification. Due to our continuous product improvement process, the illustrations in this document may not match the delivered appliance.

The latest version (if available) can be downloaded from our website.

Itho Daalderop cannot be held responsible for costs, damage or personal injury if the product is not used in accordance with the instructions given in the manual.

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1. Safety and other regulations

1.1. Safety

- Install the product as outlined in this manual and according to the relevant installation and safety instructions.
- The installation, commissioning, inspection, maintenance and repair of this product and/or system may only be carried out by a qualified installer (*) in accordance with the (safety) requirements set out in the manual. Only original accessories and parts prescribed by the manufacturer may be used.
- Do not use the product for purposes other than those for which it is intended, as described in this manual.
- The safety instructions must be followed in order to prevent physical injury and/or damage to the product.
- The product may not be modified.
- Ensure that the electrical system to which the product is connected meets the necessary conditions.
- This product and/or system may be operated by children aged 8 years and over and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they are under supervision or have been instructed on safe use of the product and/or system and understand the hazards involved.
- Children between the ages of 3 and 8 may only operate the water tap.
- Cleaning and maintenance by the user must not be performed by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless under supervision.
- Children must not play with the product and/or system.
- This product or system is intended for use in domestic and similar environments such as office kitchens in shops, offices and other working environments; on farms; by customers in hotels, motels and other residential establishments and 'bed and breakfast'-style establishments.
- Use in other environments in consultation with the product and/or system manufacturer.
- Do not expose the product to the elements.
- The water heater and safety group must be installed in frost-free rooms to avoid risk of freezing.
- This product must be permanently connected to the water pipe and not by means of hoses.
- If the power connection is damaged, it must be replaced by the manufacturer, its agent or similarly qualified persons in order to avoid a hazard.
- The electrical connection must always be readily accessible for disconnection of power.
- Do NOT connect the appliance to mains power until the heater has been filled with water and vented.
- Maintenance instructions must be followed to prevent damage and excessive wear and tear.

- Inspect the product for defects regularly.
- In the event of any defects, switch off the unit and contact your installer or service organisation.
- Regularly operate the safety group to test that it is not blocked by a build-up of dirt.
- Only use those parts specified by Itho Daalderop when replacing parts.
- Take the following steps before carrying out work on an open appliance:
 - Switch the power off.
 - Make sure that the power cannot be switched back on accidentally.
 - Avoid contact with electrical components when power is required for working. Risk of electric shock.

***) The Netherlands:**

A qualified installer is an installer employed by a central heating or mechanical installation company registered with the Chamber of Commerce and listed in the SEI accreditation register (Foundation for Accreditation of Installation Companies) or which has a Sterkin accreditation.

Belgium

A qualified installer is a technician employed by an HVAC or electrical installation company registered with the Crossroads Bank for Enterprises with a valid VAT number.

1.2. Water quality requirements

| WATER QUALITY | |
|-----------------------|---|
| Acidity (pH) | 7-8.5 |
| Iron content (Fe) | < 0.2 mg/l |
| Chlorine content (Cl) | < 150 mg/l |
| Conductivity | < 125 mS/m |
| Hardness | 3-12 °dH / 5-22 °fH / 0.53-2.14 mmol/l CaCO ₃ |
| Chemical additives | Not permitted |

A softening filter must be used in areas where the water hardness exceeds the values stated in the table. You can contact your water supplier to find out the water hardness level.

1.3. Recycling

This product was manufactured using sustainable materials. It should be disposed of in a responsible manner at the end of its life cycle. Your local authorities can provide you with information on how to do so.

The product's packaging can be recycled. These materials should be disposed of in a responsible manner in accordance with government regulations.



As a reminder of the need to dispose of batteries and electrical household appliances separately, the product features a symbol consisting of a crossed-out wheeled bin. This means that the product should not be disposed of with the rest of your domestic waste at the end of its life cycle. It must be taken either to a special separate waste collection centre operated by the local council or to an outlet specified by this service.

Any adverse effects on the environment and human health are minimised by handling batteries and household appliances separately. This ensures that the materials comprising the appliance can be recycled, thereby saving a significant amount of energy and raw materials.

2. Product information

2.1. Application

The **Electric storage water heater** is a hot water heater designed for use in the kitchen, shower and/or bath.

The water heater operates completely independently and is not connected to a boiler. This water heater heats the water using electricity instead of gas. The water heater is capable of supplying a comfortable flow of hot water to multiple tap points simultaneously.

The water heater is equipped with a copper inner tank.

Itho Daalderop offers a variety of different electric storage water heaters.

The right choice of model depends on average hot water consumption and the power supply.

Mono

The **Mono** is a low-power water heater with one heating element and is suitable for consistent daily hot water consumption.

By preference, heating is done using off-peak tariff electricity (variable rate plan). To switch on the water heater during off-peak hours, an external device such as a timer is required.

Mono-plus

The **Mono-plus** is a low-power water heater with two heating elements and is suitable for hot water consumption that is normally variable.

The stored water is maintained at the same temperature throughout the day.

By preference, heating is done using single tariff electricity.

Mono-3

The **Mono-3** is a high-power water heater with three heating elements and is suitable for highly variable hot water consumption by large consumers such as hospitality establishments and sports clubs.

The stored water is maintained at the same temperature throughout the day.

By preference, heating is done using single tariff electricity.

Duo

The **Duo** is a low-power water heater with two heating elements and is suitable for variable hot water consumption.

By preference, heating is done using off-peak tariff electricity (variable rate plan). To switch on the water heater during off-peak hours, an external device such as a timer is required.

The internal boost timer can be used to heat the stored water once additionally during peak hours (variable rate electricity tariff) for a maximum of 120 minutes.

The heater can be connected in one of the following ways:

- **Water pressure principle with safety group.**
This connection method is described in this manual.
- **Water pressure principle with safety mixer tap.**
See the installation instructions for the safety mixer tap.
- **Low pressure principle with special low pressure mixer tap.**
See the installation instructions for the low-pressure mixer tap.

2.2. Technical data

| Description | Symbol | Unit | Mono | | | | | Mono-plus | | | | |
|---|-------------------|-----------|-------------------------------|-------|-------|--------|--------|-------------------------------|-------|-------|--------|--------|
| | | | 30 | 50 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| Weight (empty) | — | kg | 20 | 24 | 32 | 40 | 48 | 20 | 24 | 32 | 40 | 48 |
| Weight (filled) | — | kg | 50 | 74 | 112 | 160 | 198 | 50 | 74 | 112 | 160 | 198 |
| Storage volume | V | l | 30 | 50 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| Supply voltage | — | V] | ~230 VAC, 50 Hz | | | | | ~230 VAC, 50 Hz | | | | |
| Power | — | W | 450 | 650 | 1000 | 1500 | 1750 | 2500 | | | | |
| Load | — | A | 2.0 | 2.8 | 4.3 | 6.5 | 7.6 | 10.9 | | | | |
| IP classification | — | — | IPX5 | | | | | IPX5 | | | | |
| Temperature setting | — | °C | 65–85 | | | | | 65–85 | | | | |
| Warm-up time ($\Delta T=75^{\circ}\text{C}$) ⁽¹⁾ | — | hour(s) | 6:00 | 6:45 | 7:00 | 7:00 | 7:30 | 1:00 | 1:45 | 2:45 | 4:15 | 5:15 |
| Mixed water at 40°C | V40 | l | 51 | 91 | 137 | 199 | 255 | 51 | 91 | 137 | 199 | 255 |
| Standing loss | S | W | 21 | 29 | 35 | 48 | 55 | 21 | 29 | 35 | 48 | 55 |
| Water connection | — | inch/mm | 1/2" flat / 15 mm compression | | | | | 1/2" flat / 15 mm compression | | | | |
| Maximum operating pressure | Pmw | kPa / bar | 800 / 8 | | | | | 800 / 8 | | | | |
| Daily water heating electricity consumption | Q _{elec} | kWh | 6.159 | 6.159 | 6.441 | 12.750 | 12.749 | 6.159 | 6.159 | 6.441 | 12.750 | 12.749 |
| Energy-efficient water heating | η_{wh} | % | 38.4 | 37.0 | 37.2 | 37.2 | 37.3 | 38.4 | 37.0 | 37.2 | 37.2 | 37.3 |

| Description | Symbol | Unit | Mono-3 | | | | | Duo | | | | |
|---|-------------------|-----------|-----------------------------------|--------|-----------------|--------|--------|-------------------------------|-------------|-------------|-------------|-------------|
| | | | 80 | 120 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| | | | 5250W | | 7500W | | | | | | | |
| Weight (empty) | — | kg | 35 | 46 | 36 | 47 | 52 | 20 | 24 | 32 | 40 | 48 |
| Storage volume | V | l | 80 | 120 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| Supply voltage | — | V | ~230 VAC, 50 Hz / ~400 VAC, 50 Hz | | ~400 VAC, 50 Hz | | | ~230 VAC, 50 Hz | | | | |
| Power | — | W | 5250 | | 7500 | | | 450 / 1950 | 650 / 2150 | 1000 / 2750 | 1500 / 3250 | 1750 / 3500 |
| Load ⁽²⁾ | — | A | 3.0 / 7.6 | | 3.0 / 10.9 | | | 2.0 / 8.4 | 2.8 / 9.3 | 4.3 / 12.0 | 6.5 / 14.1 | 7.6 / 15.2 |
| IP classification | — | — | IPX5 | | | | | IPX5 | | | | |
| Temperature setting | — | °C | 85] | | | | | 65–85 | | | | |
| Warm-up time ($\Delta T=75^{\circ}\text{C}$) ⁽¹⁾ | — | hour(s) | 1:20 | 2:00 | 0:55 | 1:25 | 1:45 | 6:00 / 1:20 | 6:45 / 1:20 | 7:00 / 2:30 | 7:00 / 3:15 | 7:30 / 3:45 |
| Mixed water at 40°C | V40 | l | 137 | 199 | 137 | 199 | 255 | 51 | 91 | 137 | 199 | 255 |
| Standing loss | S | W | 35 | 48 | 35 | 48 | 55 | 21 | 29 | 35 | 48 | 55 |
| Water connection | — | inch/mm | 1/2" flat / 15 mm compression | | | | | 1/2" flat / 15 mm compression | | | | |
| Maximum operating pressure | Pmw | kPa / bar | 800 / 8 | | | | | 800 / 8 | | | | |
| Daily water heating electricity consumption | Q _{elec} | kWh | 6.441 | 12.750 | 6.441 | 12.750 | 12.749 | 6.159 | 6.159 | 6.441 | 12.750 | 12.749 |
| Energy-efficient water heating | η_{wh} | % | 37.2 | 37.2 | 37.2 | 37.2 | 37.3 | 38.4 | 37.0 | 37.2 | 37.2 | 37.3 |

¹⁾ At a cold water temperature of 10°C.

²⁾ ~230 VAC/~400 VAC

2.3. Product fiche information

| Itho Daalderop | | | Mono | | | | | Mono-plus | | | | |
|--|-------------|------|---|------|------|------|------|-------------------|------|------|------|------|
| Description | Symbol | Unit | 30 | 50 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| Declared load profile | — | — | M | M | M | L | L | M | M | M | L | L |
| Water heating energy efficiency class | — | — | C | C | C | C | C | C | C | C | C | C |
| Energy-efficient water heating | η_{wh} | % | 38 | 37 | 37 | 37 | 37 | 38 | 37 | 37 | 37 | 37 |
| Annual water heating electricity consumption | AEC | kWh | 1337 | 1384 | 1378 | 2744 | 2744 | 1337 | 1384 | 1378 | 2744 | 2744 |
| Thermostat temperature setting | — | °C | 68 ^[1] | | | | | 68 ^[1] | | | | |
| Specific precautions to be taken for assembly, installation or maintenance | | | Read the manual before installation and use | | | | | | | | | |

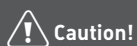
1) To be set by the user

| Itho Daalderop | | | Mono-3 | | | | | Duo | | | | |
|--|-------------|------|---|------|-------|------|------|-------------------|------|------|------|------|
| Description | Symbol | Unit | 80 | 120 | 80 | 120 | 150 | 30 | 50 | 80 | 120 | 150 |
| | | | 5250W | | 7500W | | | | | | | |
| Declared load profile | — | — | M | L | M | L | L | M | M | M | L | L |
| Water heating energy efficiency class | — | — | C | C | C | C | C | C | C | C | C | C |
| Energy-efficient water heating | η_{wh} | % | 37 | 37 | 37 | 37 | 37 | 38 | 37 | 37 | 37 | 37 |
| Annual water heating electricity consumption | AEC | kWh | 1378 | 2744 | 1378 | 2744 | 2744 | 1337 | 1384 | 1378 | 2744 | 2744 |
| Thermostat temperature setting | — | °C | 85 ^[2] | | | | | 68 ^[1] | | | | |
| Specific precautions to be taken for assembly, installation or maintenance | | | Read the manual before installation and use | | | | | | | | | |

1) To be set by the user

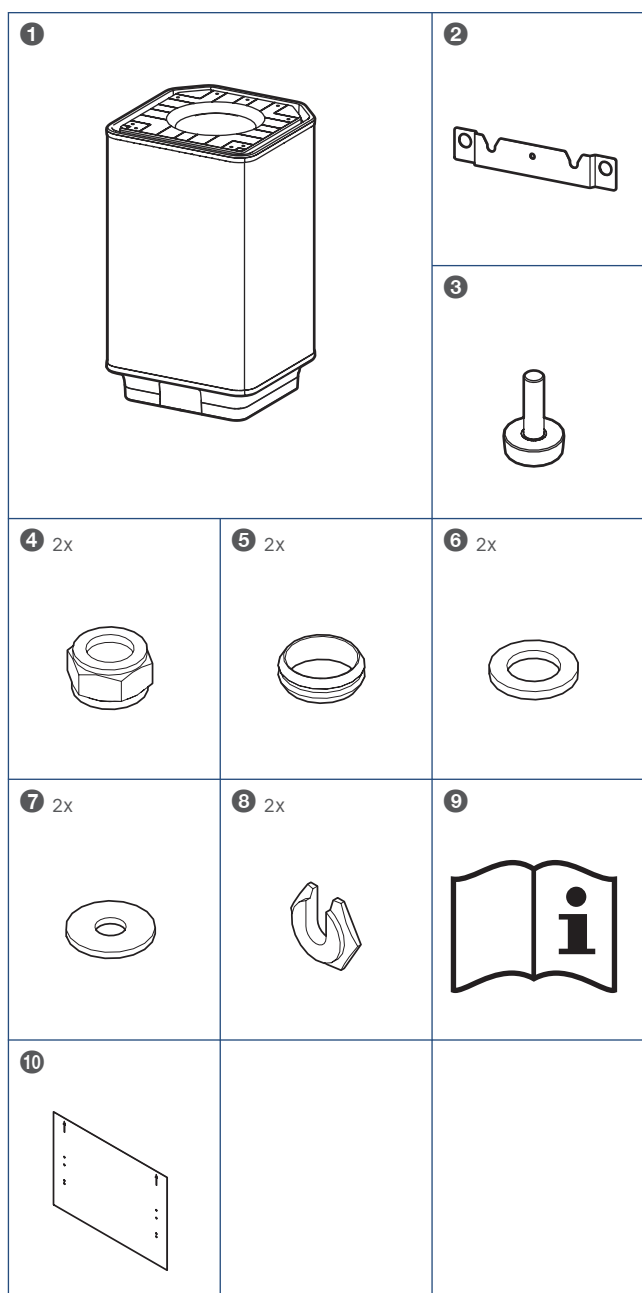
2) Not adjustable.

2.4. Package contents



Caution!

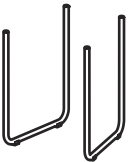




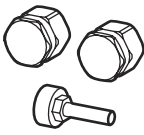
Report damages and/or missing parts to your outlet.

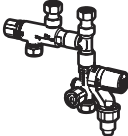






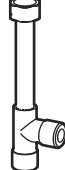
Legend

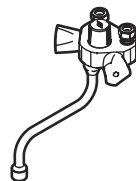


- 1 Electric storage water heater
- 2 Wall bracket
- 3 Adjustable foot Ø24-M8x36
- 4 Clamping nut 15 mm
- 5 Compression ring 15 mm
- 6 Gasket ring 1/2"
- 7 Washer ELVZ M10x30
- 8 Centring ring
- 9 Documentation set
- 10 Drilling jig

2.5. Accessories

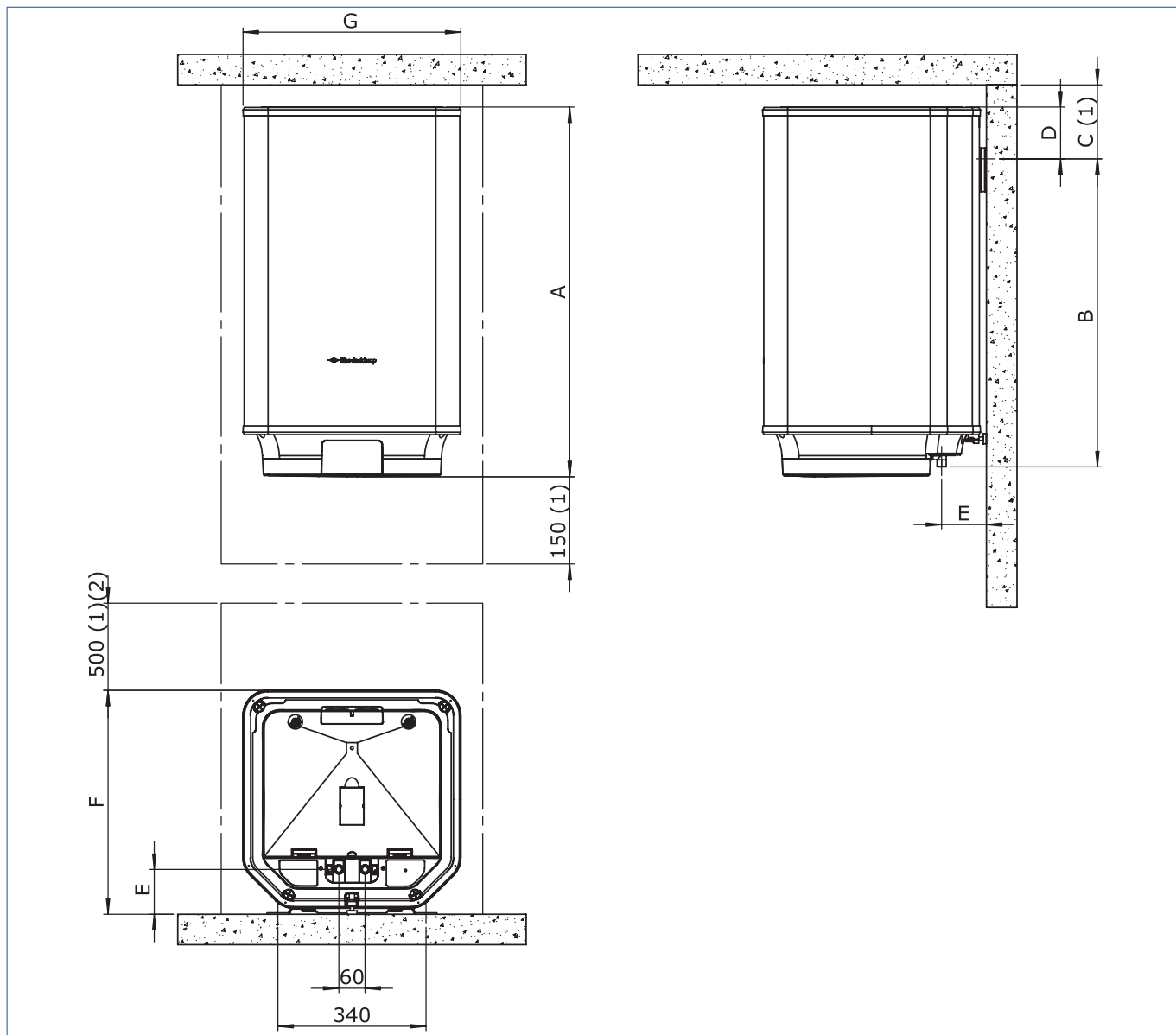
| MOUNTING | |
|---|---|
|  | <p>04-00203 Boiler Seating</p> <p>Support frame; suitable to support wall mounting if the wall's load-bearing capacity is insufficient.</p> |
|  | <p>04-00204 Extended Suspension Mount</p> <p>Wall bracket; suitable for creating a greater distance between the heater and the wall to accommodate (existing) piping behind the heater.</p> |
|  | <p>04-00205 Marine Bracket Set</p> <p>Mounting bracket; suitable as wall mounting protection for the water heater when used in sanitary water systems for marine applications.</p> |
|  | <p>04-00206 Ceiling Bracket Set</p> <p>Mounting bracket; suitable for mounting the wall bracket to the ceiling if the load-bearing capacity of the wall is insufficient.</p> |
|  | <p>04-00207 Universal Interchangeable Bracket</p> <p>Wall bracket; suitable for bridging larger distances between the heater and existing piping.</p> |
|  | <p>04-00208 Extended Lug Set</p> <p>Tall lugs; suitable for creating a greater distance between the heater and the wall to accommodate (existing) piping.</p> |

| INSTALLATION MATERIALS | |
|---|---|
|  | <p>04-00118 Thermostatic Mixing Safety Group 8 bar</p> |
|  | <p>07.92.64.051 Safety Group Set 8 bar</p> |

| INSTALLATION MATERIALS | |
|--|--|
|  | <p>07.92.70.001 Connection Tube Set Ø15x620 - 1/2" flat connection</p> |
|  | <p>07.92.70.004 Connection Tube Set Ø15x700</p> |
|  | <p>07.92.72.006 Tube Adapter Set 1/2" OD x 3/4" ID</p> |
|  | <p>07.92.78.005 T-piece with Extension Tube 1/2" ID x 1/2" OD x 1/2" OD</p> |

| TAPS | |
|---|--|
|  | <p>03-00003 Safety Mixer Tap</p> <p>Wall-mounted mixer tap; suitable for hot water appliances connected according to the water pressure principle; the mixer tap has an integrated safety group.</p> |
|  | <p>03-00096 WD Wall-mounted Mixer Tap</p> <p>Wall-mounted mixer tap; suitable for hot water appliances connected according to the water pressure principle.</p> |
|  | <p>03-00097 LD Wall-mounted Mixer Tap</p> <p>Wall-mounted mixer tap; suitable for hot water appliances connected according to the low-pressure principle.</p> |

2.6. Dimensional sketch



1) Minimum free space required for installation and service.

2) When installed, this dimension must be at least 50 mm, with the appliance having to remain accessible for service at all times.

| Dimension | Unit | Heater model | | | | |
|-----------|------|--------------|-----|-----|------|------|
| | | 30 | 50 | 80 | 120 | 150 |
| A | mm | 640 | 731 | 849 | 1118 | 1322 |
| B | mm | 463 | 555 | 707 | 1007 | 1211 |
| C | mm | 210 | 200 | 150 | 125 | 125 |
| D | mm | 154 | 153 | 119 | 88 | 88 |
| E | mm | 85 | 85 | 85 | 85 | 85 |
| F | mm | 481 | 481 | 514 | 514 | 514 |
| G | mm | 437 | 437 | 500 | 500 | 500 |

3. Installation

Warning!

NEVER turn on the power during installation to prevent damage to the product.

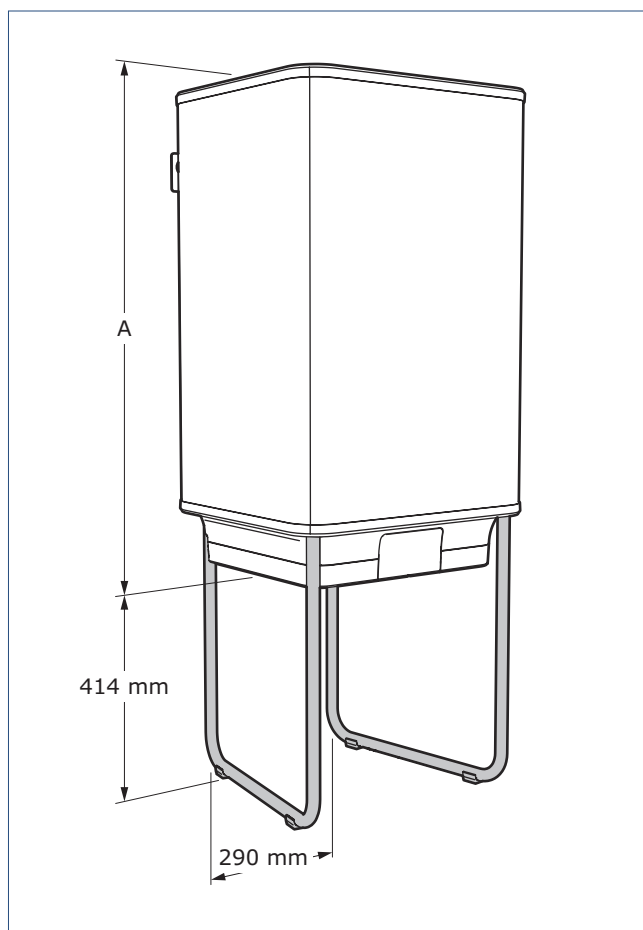
Make the following preparations

- Switch off the power supply to the water heater in the meter cabinet or at the maintenance switch.
- Shut off the main water supply valve and release the pressure in the system before starting work.
- Mark the hot and cold water connections.
- Remove the current heater, if present.
- Flush the water pipes before connecting them.

To replace an existing heater, follow the instructions under **Replacement of existing heater on page 14.**

Otherwise, continue from **New installation on page 16.**

3.1. Water Heater Support



Dimension A, see *Dimensional sketch on page 12.*

If the wall is not strong enough to support the filled heater on its own, Itho Daalderopwater heater support can be used **instead** of wall mounting.

Caution!

The water heater support must always be combined with a wall bracket to prevent tipping.

Caution!

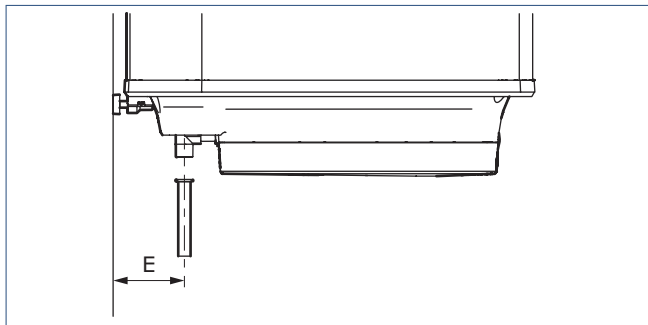
When using water heater support, the wall bracket is mounted at a different height.

3.2. Replacement of existing heater

The wall bracket's design enables replacement of most common existing heaters without drilling any new holes or replacing the piping.

If this is not possible, install the heater according to the instructions under **New installation on page 16**.

- a) Remove the old heater and wall bracket.
- b) Measure the distance **E** (distance between the wall and the centre of the pipes).



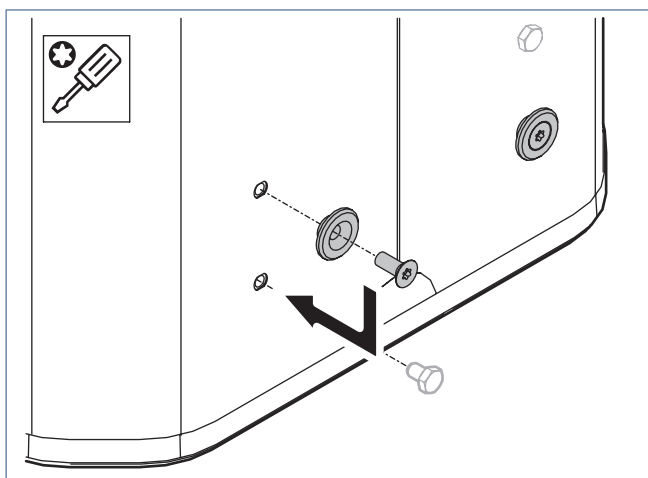
- c) If the distance is 100 mm, either 1) re-route the existing piping, or 2) replace the installed lugs with the taller version (not included).

| | Standard | Tall |
|----------|----------|--------|
| E | 85 mm | 100 mm |

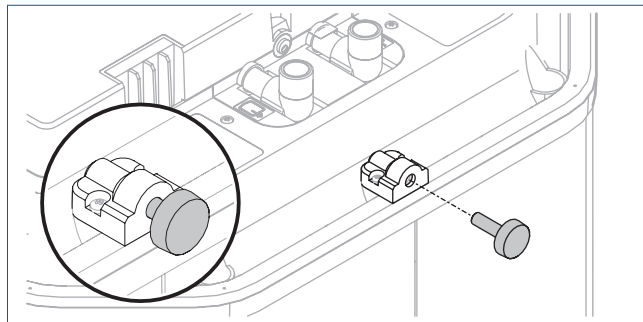
- d) **FOR HEATER MODEL 50 ONLY:**

When installing a new heater, the distance between the ceiling and the lug centres (dimension **C** in **Dimensional sketch on page 12**) may be reduced. In that case, move the heater's lugs to the threaded M8 holes.

Moving the lugs will require adaptation of the pipe lengths.

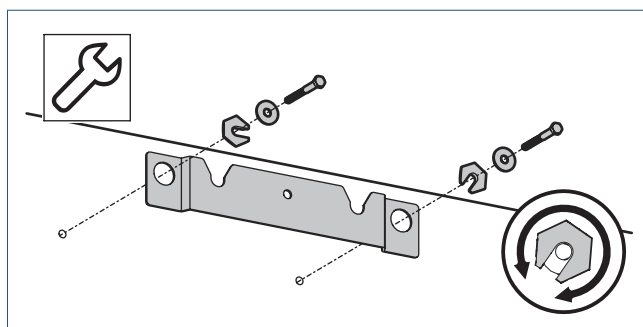


- e) Twist the levelling foot all the way to the back of the heater.

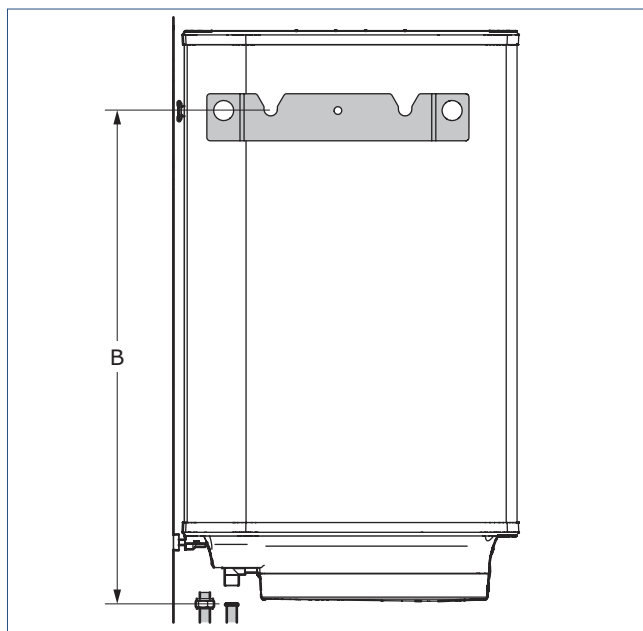


IMPORTANT! If using the tall lugs, use the supplied long levelling foot.

- f) Mount the wall bracket into the existing mount with the recesses facing upwards.
 - Rotate the centring rings to adjust the bracket horizontally.



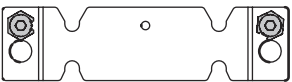
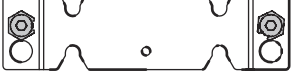
- g) Measure the distance **B** (distance between the pipes and the centre of the lug in the wall bracket).



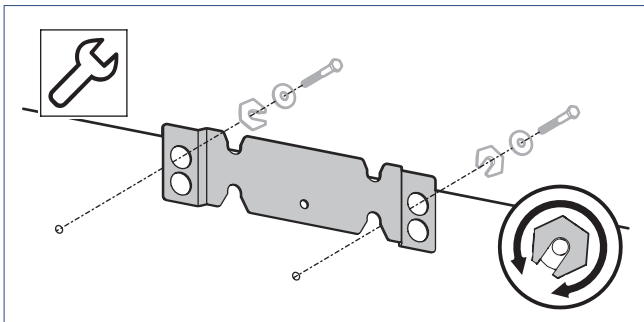
| | Heater model | | | | |
|---------------|--------------|-----|-----|------|------|
| Dimension | 30 | 50 | 80 | 120 | 150 |
| B (mm) | 463 | 555 | 707 | 1007 | 1211 |

INTERCHANGEABLE BRACKET GRB (optional)

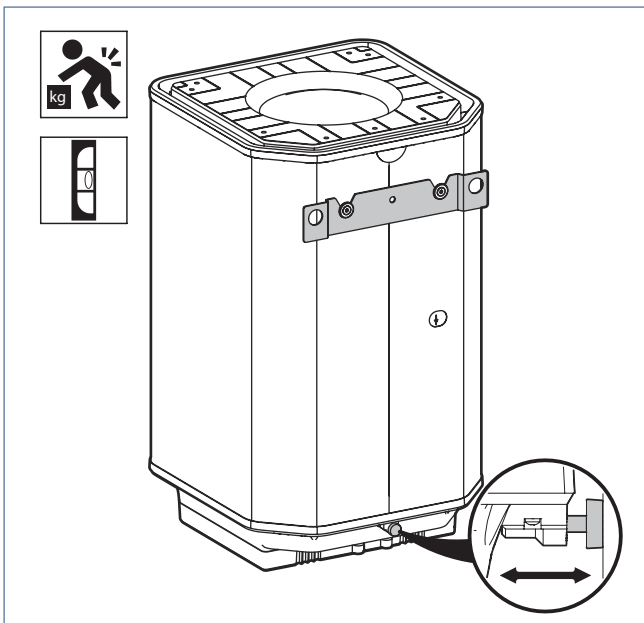
h) Install the **Interchangeable Bracket** in the **REVERSE** position if the measured distance is not equal to distance **B** in the table.

| Standard | Reverse |
|---|---|
|  |  |

- Always use the mounting bracket's topmost mounting holes.
- Rotate the centring rings to adjust the bracket horizontally.

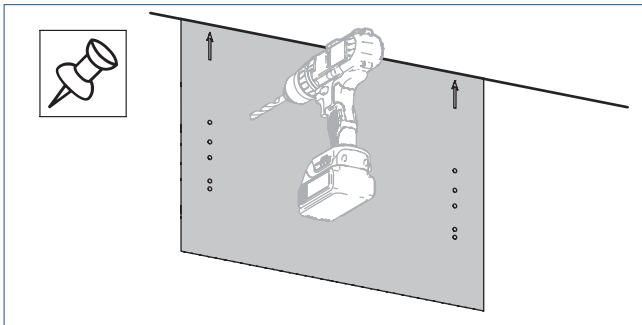


- i) Mount the heater on the wall bracket.
- j) Level the heater vertically by rotating the levelling foot in or out.



3.3. New installation

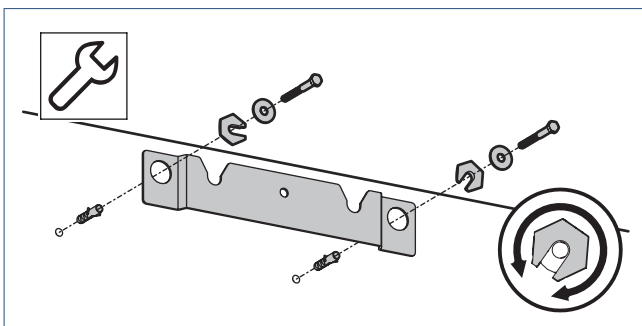
- a) Position the drilling jig with the arrow up against the ceiling.
- b) Mark the hole positions for the relevant heater model on the wall.
- c) Drill the necessary holes to install the wall bracket.



⚠ Caution!

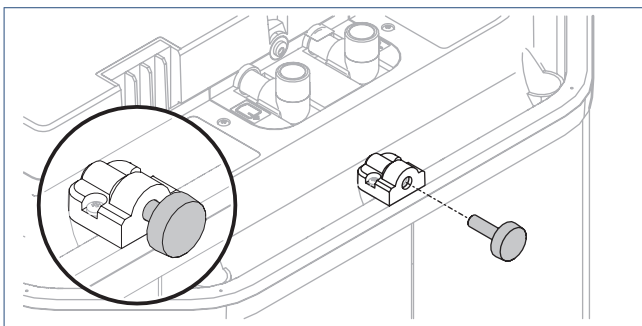
Use a bracket that is suitable for your type of wall.

- d) Mount the wall bracket with the recesses facing upwards.
 - Rotate the centring rings to adjust the bracket horizontally.

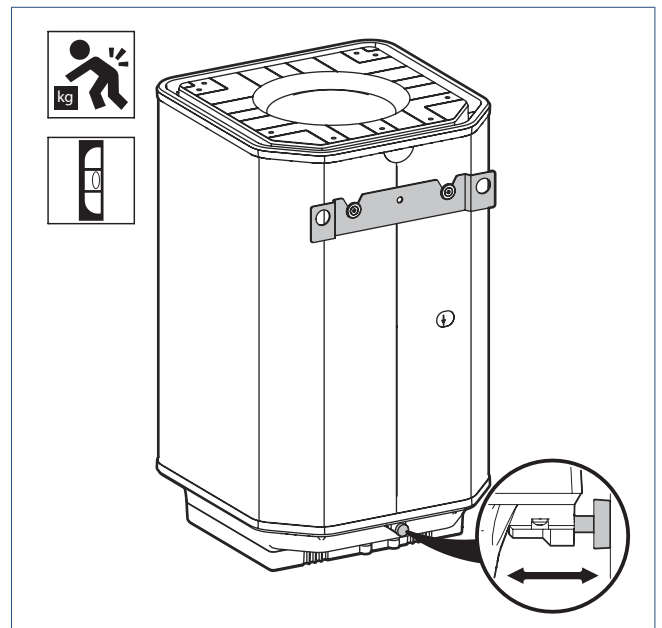


Example of wall mounting

- e) Twist the levelling foot all the way to the back of the heater.

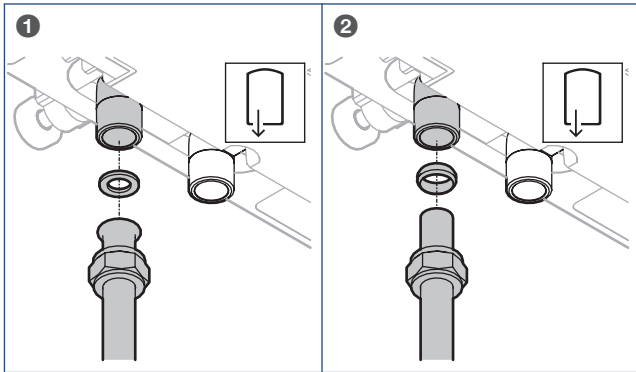


- f) Mount the heater on the wall bracket.
- g) Level the heater vertically by rotating the levelling foot in or out.



3.4. Connecting hot water

Connect the hot water pipe to the heater's hot water connection using a flat gasket **1** or compression fitting **2**.



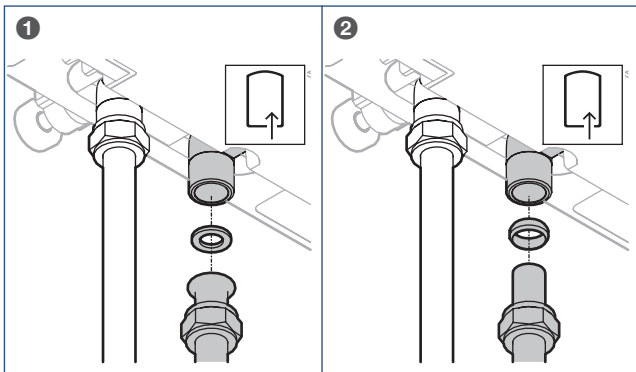
3.5. Connecting cold water

! Caution!

A mandatory safety group and its accompanying installation materials are not included.

The maximum operating pressure for the safety group is 800 kPa.

a) Connect the cold water pipe to the heater's cold water connection using a flat gasket **1** or compression fitting **2**.



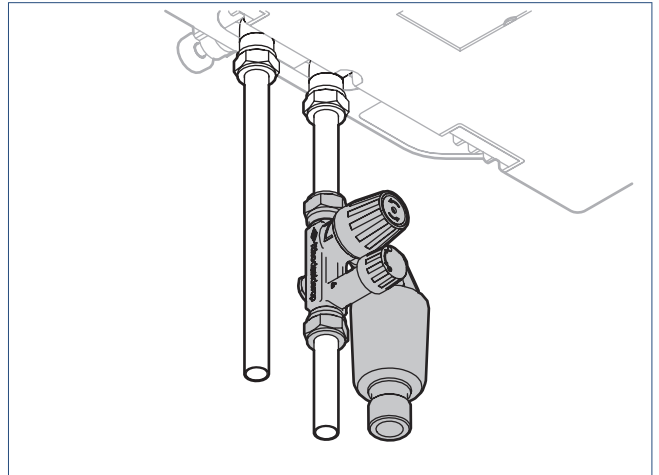
b) Mount a safety group approved for use in the country of installation onto the cold water pipe.

When doing so, please note the following instructions:

- Position the safety group so the flow direction is either horizontal or vertical from bottom to top.
- The expansion outlet of the safety group should face downwards.
- The expansion outlet of the safety group must remain unobstructed. Only the funnel may be connected to the expansion outlet. Do not connect a hose or pipe to the expansion outlet.
- The length of the hose between the safety group and the water heater should be no more than two metres.

! Caution!

Take note of the direction in which the water flows through the safety group. The direction is indicated by an arrow on the safety group.



c) Connect the funnel's expansion outlet to the domestic drainage system.

4. Electrical connection

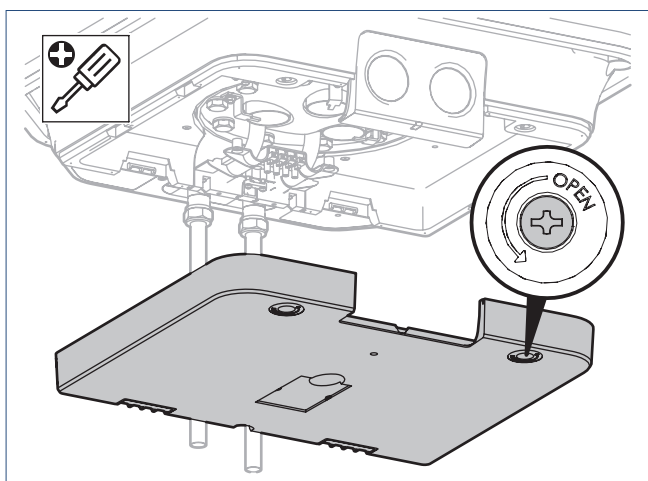
⚠ Caution!

The unit must be connected in accordance with national and local regulations for electrical installations to a fixed connection that can be disconnected from mains power by means of a (built-in) on/off control (e.g. a maintenance switch).

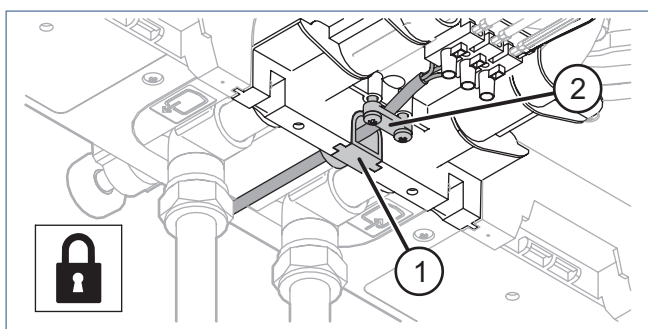
⚠ Caution!

Switch off the power supply to the water heater in the meter cabinet or at the maintenance switch.

a) Remove the cover.



b) Feed the power cable through the cable gland **1** and the strain relief **2**.



Proceed with...

- Mono on page 18
- Mono-plus on page 19
- Mono-3 on page 19
- Duo on page 20

4.1. Mono

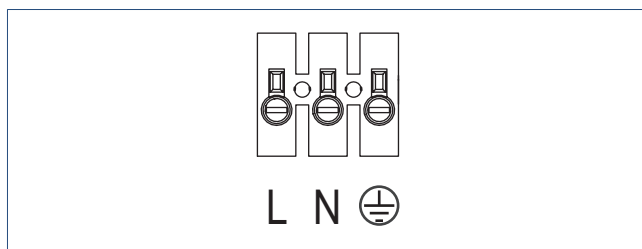
⚠ Caution!

Connect the water heater supply via an external timer to use off-peak tariff electricity (variable rate plan).

⚠ Caution!

Use a multi-core power cable (minimum H05VV-F) 3 x 2.5 mm², equipped with wire end ferrules.

a) Connect the power cable to the terminal block in accordance with the following instructions:



| | Colour | Function |
|---|--------------|----------|
| L | Brown | Live |
| N | Blue | Neutral |
| ⊕ | Green/yellow | Earth |

b) Secure the strain relief by tightening the two screws.
c) Replace the closing cap on the heater.

⚠ Caution!

Do not turn on the power to the appliance yet. Only do so when this is expressly required during commissioning.

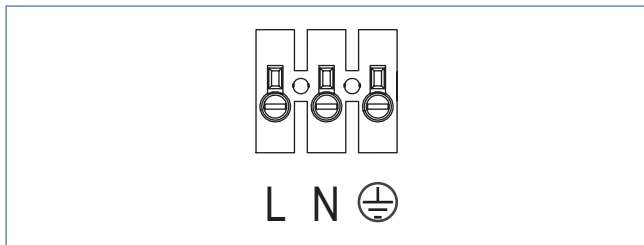
- Filling and first use on page 22.

4.2. Mono-plus

⚠ Caution!

Use a multi-core power cable (minimum H05VV-F) 3 x 2.5 mm², equipped with wire end ferrules.

- a) Connect the power cable to the terminal block in accordance with the following instructions:



| | Colour | Function |
|---|--------------|----------|
| L | Brown | Live |
| N | Blue | Neutral |
| ⊕ | Green/yellow | Earth |

- b) Secure the strain relief by tightening the two screws.
c) Replace the closing cap on the heater.

⚠ Caution!

Do not turn on the power to the appliance yet. Only do so when this is expressly required during commissioning.

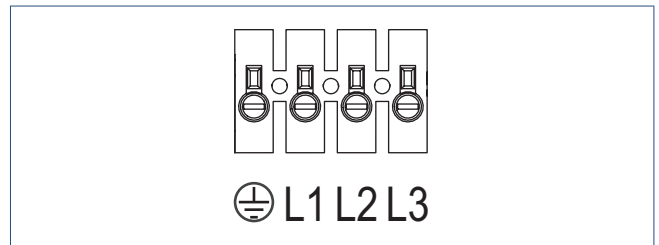
- Filling and first use on page 22.

4.3. Mono-3

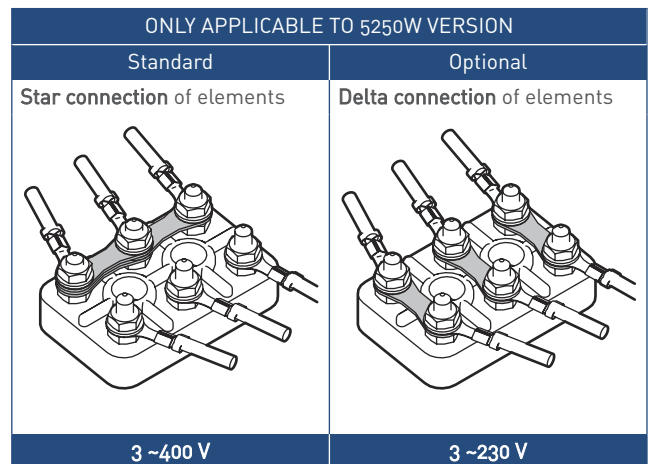
⚠ Caution!

Use a multi-core power cable (minimum H05VVF) 4 x 2.5 mm², with wire end ferrules.

- a) Connect the power cable to the terminal block in accordance with the following instructions:



| | Colour | Function |
|----|--------------|----------|
| ⊕ | Green/yellow | Earth |
| L1 | Brown | Live 1 |
| L2 | Black | Live 2 |
| L3 | Grey | Live 3 |



- b) Secure the strain relief by tightening the two screws.
c) Replace the closing cap on the heater.

⚠ Caution!

Do not turn on the power to the appliance yet. Only do so when this is expressly required during commissioning.

- Filling and first use on page 22.

4.4. Duo

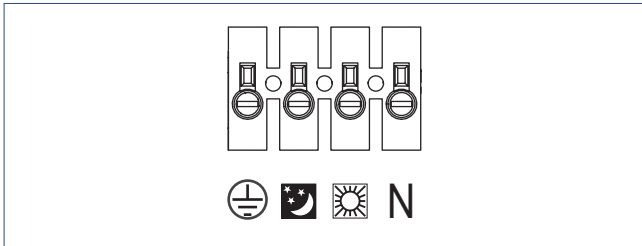
! Caution!

Connect the water heater supply via an external timer to use off-peak tariff electricity (variable rate plan).

! Caution!

Use a multi-core power cable (minimum H05VVF) 4 x 2.5 mm², with wire end ferrules.0

- a) Connect the power cable to the terminal block in accordance with the following instructions:



| | Colour | Function |
|----------|--------------|---------------|
| | Green/yellow | Earth |
| | Black | Live off-peak |
| | Brown | Live peak |
| N | Blue | Neutral |

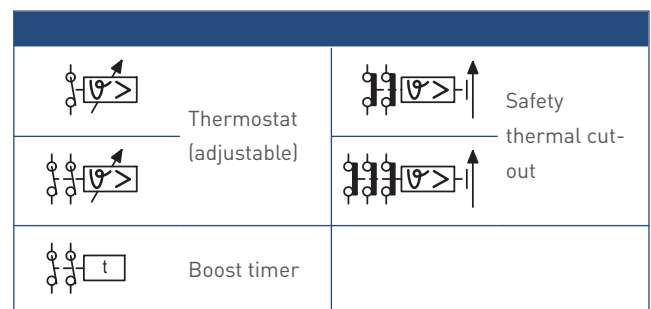
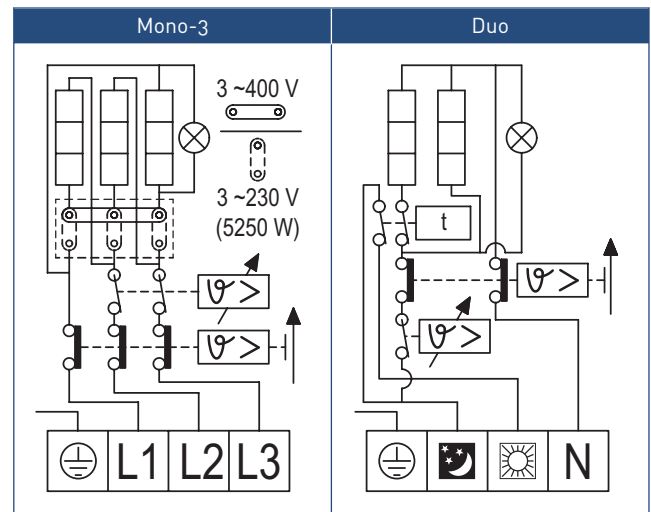
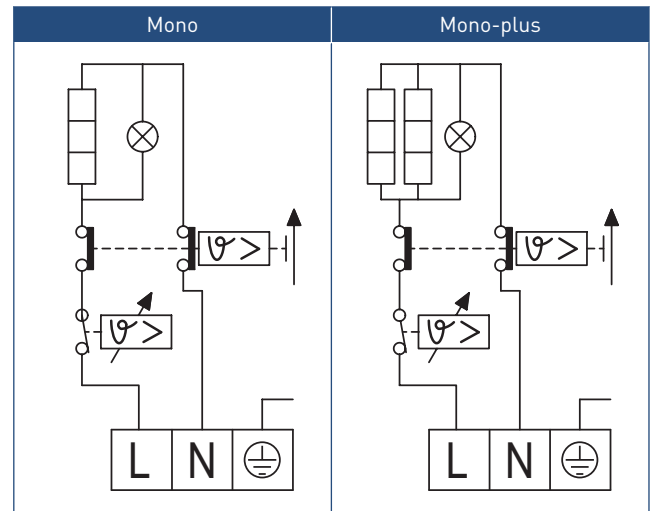
- b) Secure the strain relief by tightening the two screws.
c) Replace the closing cap on the heater.

! Caution!

Do not turn on the power to the appliance yet. Only do so when this is expressly required during commissioning.

- Filling and first use on page 22.

4.5. Electrical diagram

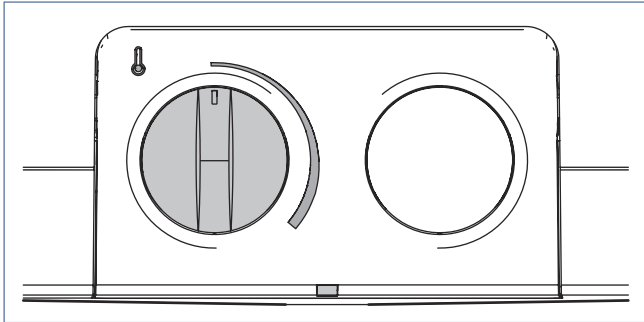


5. Operation

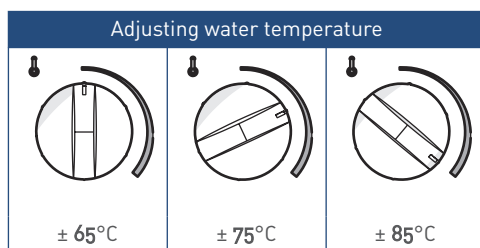
5.1. Mono | Mono-plus

The **Mono** and **Mono-plus** use a thermostat to set the desired water temperature.

The temperature can be adjusted between 65°C and 85°C using the dial.



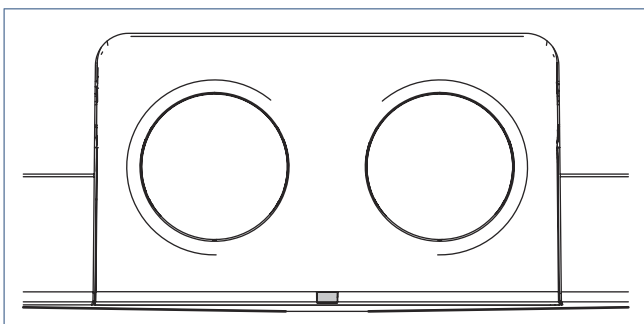
The LED lights up when the stored water is being heated.



5.2. Mono-3

The **Mono-3** has a thermostat with a fixed water temperature setting.

By default, the stored water is maintained at a temperature of 85°C throughout the day.

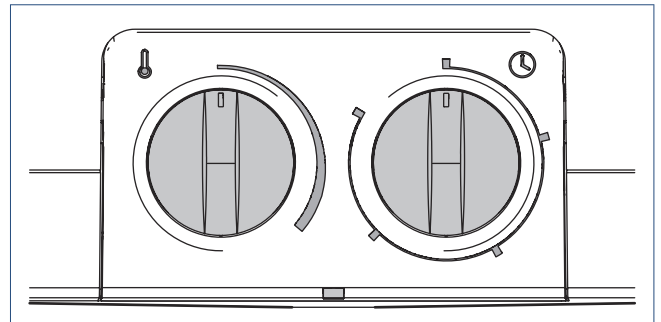


The LED lights up when the stored water is being heated.

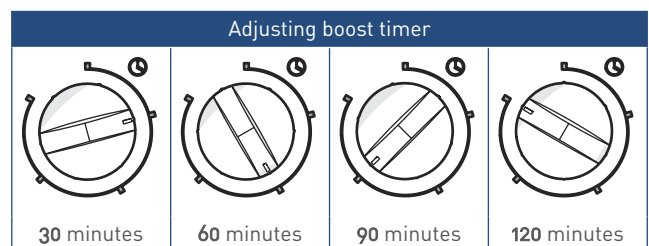
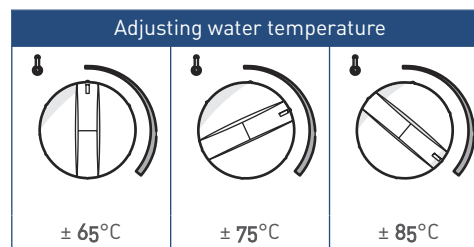
5.3. Duo

The **Duo** has:

- A thermostat to set the desired water temperature.
The temperature can be adjusted between 65°C and 85°C using the dial.
- A boost timer for one-time instantaneous heating of the stored water at any time for a specific duration.
The heating time can be set to up to 120 minutes using the dial.



The LED lights up when the stored water is being heated.



6. Use

6.1. Filling and first use

Caution!

Do not turn on the power to the appliance yet. Only do so when this is expressly required during commissioning.

FILLING THE WATER HEATER

- a) Open the main valve.
- b) Open the valve on the safety group.
- c) Open all hot water taps.
- d) When water comes out of the tap, the water heater is full. Flush the water heater for 3 minutes.

Caution!

Check the system for leaks during filling and initial heating.

- e) Shut off the hot water tap.

FIRST USE

- f) Turn on power to the water heater.

If the appliance does not have power, check the fuse at the consumer unit and replace it if necessary. If replacing the fuse does not solve the problem, contact the installation engineer.

Mono

- g) Temporarily turn the external timer **OFF**.
- h) The stored water is now being heated.

The LED lights up when the stored water is being heated.

- i) Use the thermostat knob to set the desired water temperature.
- j) Proceed with the steps starting from checking the safety group.

Mono-plus

- k) The stored water is now being heated.

The LED lights up when the stored water is being heated.

- l) Use the thermostat knob to set the desired water temperature.
- m) Proceed with the steps starting from checking the safety group.

Mono-3

- n) The stored water is now being heated.

The LED lights up when the stored water is being heated.

- o) Proceed with the steps starting from checking the safety group.

Duo

- p) Temporarily turn the external timer **OFF**.
- q) The stored water is now being heated.

The LED lights up when the stored water is being heated.

- r) Use the thermostat knob to set the desired water temperature.
- s) Proceed to the steps from **CHECK SAFETY GROUP**.

CHECK SAFETY GROUP

- t) Check the safety group regularly during heating. There should be expansion water draining away via the outlet of the safety group.

Warning!

Switch off the power supply immediately if none of the expansion water drains during heating. Open the hot water tap to relieve the water pressure.

The most frequent complaints on page 24 for more information.

- u) When the LED is no longer lit, the water is at the set temperature.

WATER HEATER RINSE

Caution!

The flushing procedure is a strict requirement.


1. Wait until the stored water has reached the desired temperature **for at least 10 minutes**.
2. Open the hot water tap until cold water runs out.
3. Repeat steps **1** and **2** twice more.

6.2. Legionella prevention

Leaving the water heater turned off for more than a week may lead to the presence of legionella bacteria. After turning on again, the stored water must be heated to maximum and the hot water pipes rinsed before use.

1. Switch on the water heater and set the maximum water temperature.
2. Wait until the stored water has reached maximum temperature for **at least 10 minutes**.

3. Flush the hot water pipes for 1 minute. Let the water flow and avoid water misting.

 **Warning!**

Avoid inhaling water vapour when rinsing.

4. After rinsing, the desired water temperature of the water heater can be set again.

7. The most frequent complaints

The following is an overview of the most common complaints known to Itho Daalderop. For each of these complaints there are a number of possible causes with a solution given in each case, however, further research may be needed to resolve a complaint.

Tip

If you cannot resolve the complaint yourself, please contact your installer or service organisation.

| Water leak. | |
|---------------------------|---|
| Cause | Solution |
| a) Connection is leaking. | <ul style="list-style-type: none"> Check the coupling(s) and tighten if necessary. Replace the coupling(s) if necessary. |
| b) Heater is leaking. | <ul style="list-style-type: none"> Shut off the water supply. Disconnect the appliance from the mains power. Contact your installer or service organisation. |
| c) Tap is leaking. | <ul style="list-style-type: none"> Shut off the water supply. Contact your installer or service organisation. |

| Mixer tap does not dispense water. | |
|---|---|
| Cause | Solution |
| a) The mains water tap is shut off. | <ul style="list-style-type: none"> Open the mains water tap. |
| b) The valve of the safety group is shut off. | <ul style="list-style-type: none"> Open the valve of the safety group. |

| Mixer tap only dispenses cold water. | |
|---|---|
| Cause | Solution |
| a) There is no power to the heater. | <ul style="list-style-type: none"> Check the mains power and reset the tripped circuit. |
| b) The heater has encountered an error. | <ul style="list-style-type: none"> The heater must be reset. Contact your installer or sales outlet. |

| Reduced water flow or excessive splashing. | |
|---|---|
| Cause | Solution |
| a) Scaling and/or dirt on perlator. | <ul style="list-style-type: none"> Descale and/or rinse the perlator. |
| b) Water pressure is too low (< 2 bar). | <ul style="list-style-type: none"> Contact your water supplier. |
| c) The valve of the safety group is not fully open. | <ul style="list-style-type: none"> Open the valve of the safety group. |
| d) The safety group is fouled. | <ul style="list-style-type: none"> Replace the safety group. |

| Steam is coming out of the mixer tap. | |
|--|---|
| Cause | Solution |
| a) The thermostat or safety thermal cut-out is faulty. | <ul style="list-style-type: none"> Disconnect the appliance from the mains power. Contact your installer or service organisation. |

| The heater is causing a short circuit | |
|---|---|
| Cause | Solution |
| a) There is a short circuit in the electrical wiring or the heater element. | <ul style="list-style-type: none"> Disconnect the appliance from the mains power. Contact your installer or service organisation. |

| No expansion water is coming out of the safety group | |
|--|---|
| Cause | Solution |
| a) Defective safety group. | <ul style="list-style-type: none"> Disconnect the appliance from the mains power. Replace the safety group. |
| b) No water in the heater. | <ul style="list-style-type: none"> Fill the heater with water. |
| c) The heater is OFF (standby) [dependent on model]. | <ul style="list-style-type: none"> Switch the heater ON. |
| d) The heater has encountered an error. | <ul style="list-style-type: none"> The heater must be reset. |
| e) Heating element is broken. | <ul style="list-style-type: none"> Disconnect the appliance from the mains power. Contact your installer or service organisation. |

8. Service and maintenance

8.1. Reset safety thermal cut-out

⚠ Caution!

If the unit was enabled without being filled with water, **DO NOT** reset the unit. Instead, replace the thermostat and safety thermal cut-out.

⚠ Caution!

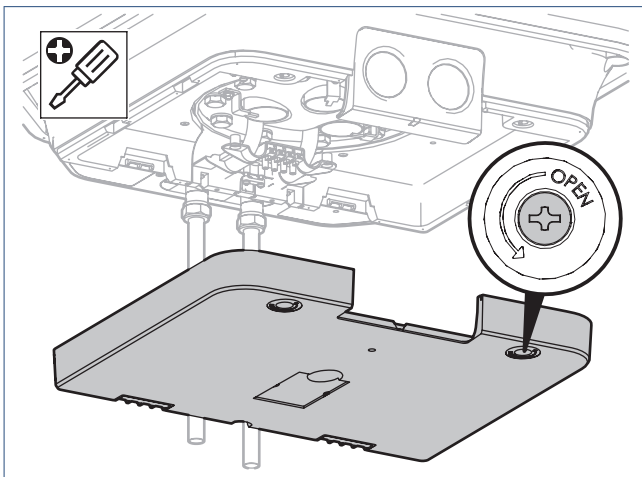
The work may only be carried out by the manufacturer, its agent or a qualified person.

Turn off the power supply

- Switch off the power supply to the water heater in the meter cabinet or at the maintenance switch.
- Draw off hot water so that the water heater is filled with cold water again. This cools the stored water to below the maximum temperature.

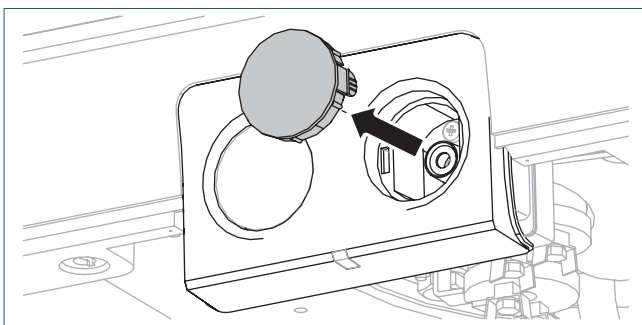
Removing the cover

- Remove the cover.



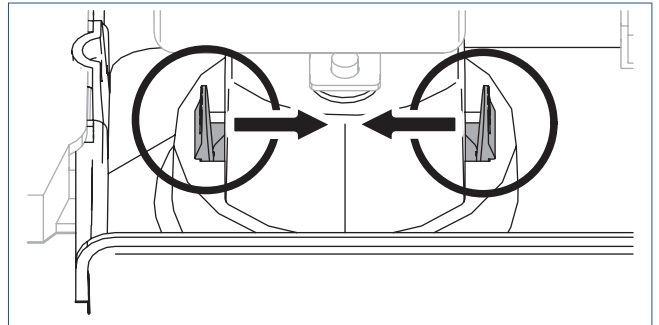
Mono | Mono-plus | Mono-3

- Remove the blanking plug on the right from the frame.

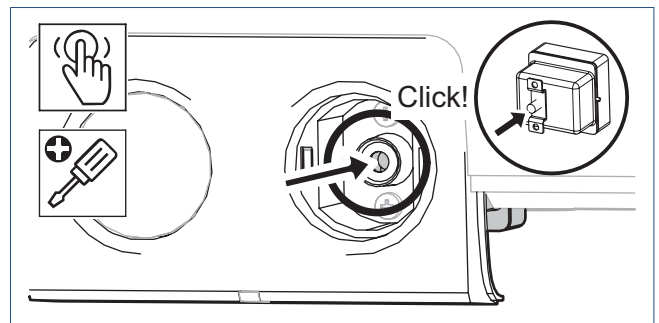


Tip

At the back of the frame, push together the two snap-fit hooks on the plug.



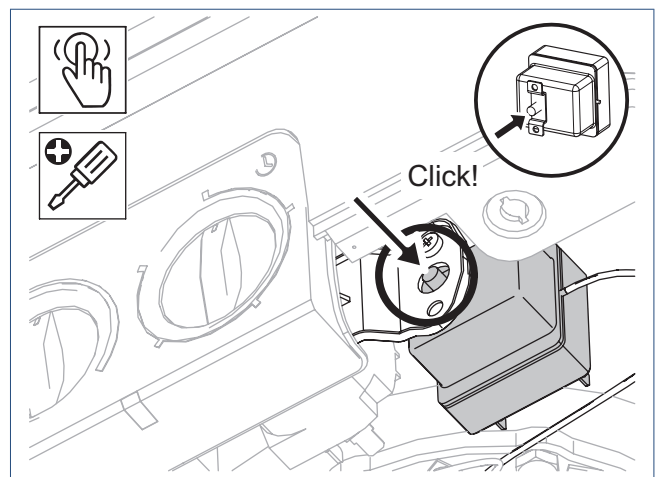
- Use a screwdriver inserted through the hole to press the reset button. When you hear a click, the safety thermal cut-out has been reset.



- Put the blanking plug back in the frame.
- Proceed with the steps starting from replacing the closing cap.

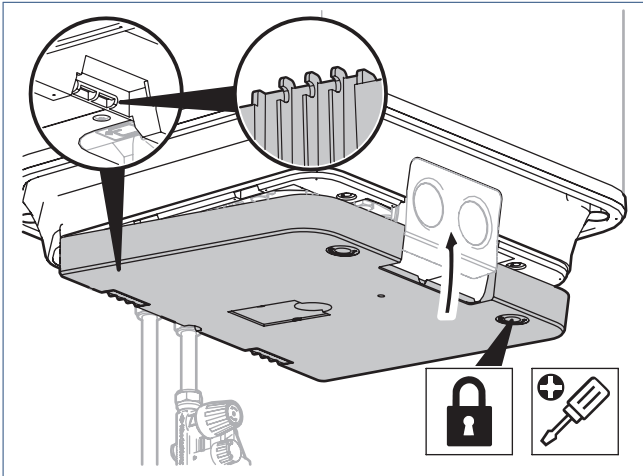
Duo

- Use a screwdriver or finger to press the reset button. When you hear a click, the safety thermal cut-out has been reset.



Replace the cover

- i) Install the cover.



Turn on the power supply

- j) Turn on power to the water heater.

If the appliance does not have power, check the fuse at the consumer unit and replace it if necessary. If replacing the fuse does not solve the problem, contact the installation engineer.

Caution!

If the safety thermal cut-out continues to disable the water heater after a reset, de-activate the water heater and contact your installer.

8.2. Water heater is leaking

- Turn off power to the water heater.
- Open the hot water tap until cold water runs out.
- Shut off the main water valve or the shut-off valve for the safety group.
- Open a hot water tap to de-pressurise the system.
- Turn off the hot water tap if no more cold water runs out.

Caution!

A small amount of water may run out of the water heater during the following steps.

- Disconnect the cold water pipe from the water heater.
- Connect a flexible hose to the appliance's cold water connection.
- Drain the water heater via the hose into a water drain.

Open the hot water tap so that the water heater can draw in air.

Note

Once the water heater is empty, a small amount of water remains in the storage tank.

9. Warranty

All Itho Daalderop products are covered by a standard two-year factory warranty.

The full warranty conditions and/or additional warranty periods can be found on the product's page on our website.

Only products supplied with a warranty registration card and serial number, or a QR registration code can be registered for parts warranty.

If there are problems with the operation of our product, we recommend that the consumer first reads the manual.

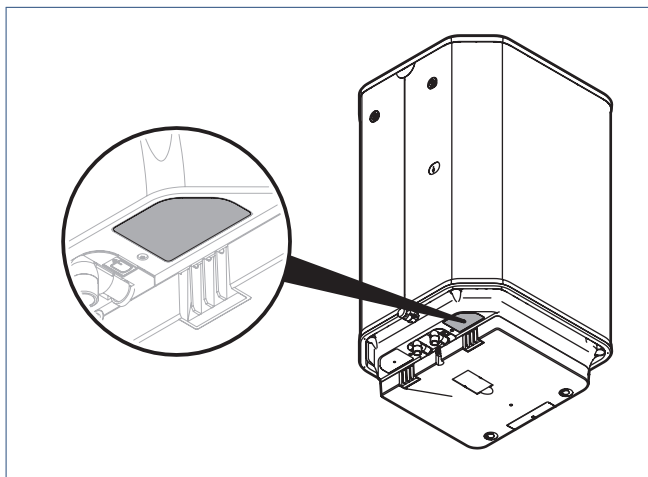
If problems persists, please contact the installer that installed the product or the Itho Daalderop service department.

9.1. Date of Manufacture

The date of manufacture can be deduced from the serial number on the rating plate.

For example: **#GRBYDDDDXXXX**

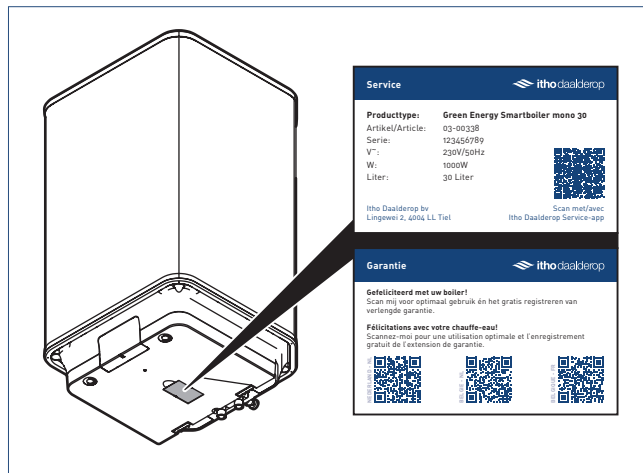
| | |
|------|-------------------------------|
| # | Initial characters. |
| GRB | Internal code Itho Daalderop. |
| YY | Year number. |
| DDD | Day number. |
| XXXX | Sequence number. |



The product's rating plate is located on the underside, behind the cover.

9.2. Product ID Card

A **Product ID Card** is placed in the cover to make it easy to retrieve rating plate information after installation.



The Product ID Card is located on the underside, in the cover.

The information can be used for:

- **SERVICE**
This data is a copy of the rating plate and is used to identify the product for service and repairs.
- **WARRANTY**
You can register the product on our website to obtain an extended warranty. Use the QR code.

10. Declarations

EU declaration of conformity

This declaration of conformity is issued under the sole responsibility of :

Itho Daalderop bv

Postbus 7
4000 AA Tiel
The Netherlands

and concerns the type variants of the product **Electric Storage Water Heater, Itho Daalderop** brand :

- 03-00775 - 30L Mono 450W
- 03-00776 - 50L Mono 650W
- 03-00777 - 80L Mono 1000W
- 03-00778 - 120L Mono 1500W
- 03-00779 - 150L Mono 1750W
- 03-00780 - 30L Mono-plus 2500W
- 03-00781 - 50L Mono-plus 2500W
- 03-00782 - 80L Mono-plus 2500W
- 03-00783 - 120L Mono-plus 2500W
- 03-00784 - 150L Mono-plus 2500W
- 03-00785 - 30L Duo 1950W
- 03-00786 - 50L Duo 2150W
- 03-00787 - 80L Duo 2750W
- 03-00788 - 120L Duo 3250W
- 03-00789 - 150L Duo 3500W
- 03-00790 - 80L Mono-3 5250W
- 03-00791 - 120L Mono-3 5250W
- 03-00792 - 80L Mono-3 7500W
- 03-00793 - 120L Mono-3 7500W
- 03-00794 - 150L Mono-3 7500W

The product is in conformity with the relevant Union harmonisation legislation.

| | |
|---|--|
| Directive 2009/125/EC (Ecodesign) | - EN 50440:2016 +A1:2020 |
| Commission delegated Regulation (EU) 812/2013 | |
| Regulation (EU) 814/2013 | |
| Regulation (EU) 2017/1369 | |
| Directive 2011/65/EU (RoHS) | |
| Directive 2014/30/EU (EMC) | - EN 61000-3-2:2019 +A1:2021 - EN 61000-3-3:2013 +A1:2019 |
| Directive 2014/35/EU (LVD) | - EN 60335-1:2012 +AC:2014 +A11:2014 +A13:2017 +A1:2019 +A2:2019 +A14:2019 +A15:2021 - EN 60335-2-21:2021 +A1:2021 - EN 62233:2008 +AC:2008 |

Signed for and on behalf of:




Tiel, 1 August 2024.



Folco van Oosterhout
Innovation Manager DHW

11. Heating elements

All water boilers from Itho Daalderop are equipped with high-quality heating elements, suitable for Shipping and marine applications

| | | | | | |
|---|----------------|------|-------------------------|-------------------------|--------|
| <p style="text-align: center;">Mono</p>   | 30 ltr. | 22 | 0,45 | 1x230/50Hz | 101650 |
| | 30 ltr. | 22 | 2,5 | 1x230/50Hz | 106279 |
| | 50 ltr. | 25,5 | 0,65 | 1x230/50Hz | 110460 |
| | 50 ltr. | 25,5 | 2,5 | 1x230/50Hz | 101745 |
| | 50 ltr. | 25,5 | 2,5 | 1x254/60Hz | 108938 |
| | 50 ltr. | 25,5 | 2,5 | 3x440/60Hz (zonder nul) | 106738 |
| | 80 ltr. | 35 | 2,5 | 1x220/50Hz | 100911 |
| | 80 ltr. | 35 | 5,25 | 3x220/50Hz (zonder nul) | 102217 |
| | 80 ltr. | 35 | 5,25 | 3x380/50Hz (zonder nul) | 100578 |
| | 80 ltr. | 35 | 5,25 | 3x400/50Hz (zonder nul) | 100668 |
| | 80 ltr. | 35 | 5,25 | 3x415/60Hz (zonder nul) | 103892 |
| | 80 ltr. | 35 | 5,25 | 3x440/60Hz (zonder nul) | 100545 |
| | 80 ltr. | 35 | 5,25 | 3x480/60Hz (zonder nul) | 104227 |
| | 120 ltr. | 44 | 5,25 | 3x220/50Hz (zonder nul) | 104775 |
| | 120 ltr. | 44 | 5,25 | 3x380/50Hz (zonder nul) | 102466 |
| | 120 ltr. | 44 | 5,25 | 3x400/50Hz (zonder nul) | 100544 |
| | 120 ltr. | 44 | 5,25 | 3x415/60Hz (zonder nul) | 101248 |
| | 120 ltr. | 44 | 5,25 | 3x440/60Hz (zonder nul) | 100756 |
| | 120 ltr. | 44 | 5,25 | 3x480/60Hz (zonder nul) | 104228 |
| | 120 ltr. | 44 | 6 | 3x400/50Hz (zonder nul) | 102579 |
| | 120 ltr. | 44 | 6 | 3x415/60Hz (zonder nul) | 101942 |
| | 120 ltr. | 44 | 6 | 3x440/60Hz (zonder nul) | 101302 |
| | 120 ltr. | 44 | 7,5 | 3x400/50Hz (zonder nul) | 107069 |
| | 120 ltr. | 44 | 7,5 | 3x440/60Hz (zonder nul) | 105351 |
| | 150 ltr. | 55 | 7,5 | 3x230/50Hz (zonder nul) | 105925 |
| | 150 ltr. | 55 | 7,5 | 3x380/50Hz (zonder nul) | 102720 |
| | 150 ltr. | 55 | 7,5 | 3x400/50Hz (zonder nul) | 108578 |
| 150 ltr. | 55 | 7,5 | 3x440/60Hz (zonder nul) | 103959 | |
| 150 ltr. | 55 | 7,5 | 3x480/60Hz (zonder nul) | 104229 | |
| <p style="text-align: center;">Toebehoren</p> <p>Regel thermostaat 30-85°C, 3P 16A. Max. thermostaat 95°C, 3P 16A Set Scheepsbeugels 30/50 Ltr. Set Scheepsbeugels 80/120/150 Ltr. Inlaatcombinatie Ø15mm Inlaatcombinatie Ø22mm Aansluitset/afvoerset Close-in/Hotfill Pakkingring rubber Hotfill Pakkingring rubber 30-150 Ltr. Flensplaatetelement</p>  | Auto reset | 0,1 | | | 100072 |
| | Hand reset | 0,1 | | | 100077 |
| | RVS uitvoering | 2 | | | 100755 |
| | RVS uitvoering | 3 | | | 100754 |
| | Max. 8 BAR. | 0,3 | | | 113256 |
| | Max. 8 BAR. | 0,3 | | | 100547 |
| | 07.92.64.047 | 0,5 | | | 102788 |
| | Hotfill | 0,5 | | | 107379 |
| | Mono | 0,5 | | | 100185 |
| | 30 ltr. | 2 | 2,5 | 1x230/50Hz | 107110 |
| | 50 ltr. | 2 | 2,5 | 1x230/50Hz | 105066 |
| | 80 ltr. | 2 | 5,25 | 3x400/50Hz (zonder nul) | 102309 |
| | 80 ltr. | 2 | 5,25 | 3x415/60Hz (zonder nul) | 105348 |
| | 80 ltr. | 2 | 5,25 | 3x440/60Hz (zonder nul) | 104224 |
| | 120 ltr. | 2 | 5,25 | 3x380/50Hz (zonder nul) | 101900 |
| | 120 ltr. | 2 | 5,25 | 3x400/50Hz (zonder nul) | 101819 |
| | 120 ltr. | 2 | 5,25 | 3x415/60Hz (zonder nul) | 104569 |
| | 120 ltr. | 2 | 5,25 | 3x440/60Hz (zonder nul) | 102160 |
| | 120 ltr. | 2 | 6 | 3x400/50Hz (zonder nul) | 111954 |
| | 120 ltr. | 2 | 6 | 3x440/60Hz (zonder nul) | 101315 |
| | 120 ltr. | 2 | 7,5 | 3x440/60Hz (zonder nul) | 108856 |
| | 150 ltr. | 3 | 7,5 | 3x440/60Hz (zonder nul) | 111193 |
| | 150 ltr. | 3 | 7,5 | 3x480/60Hz (zonder nul) | 105684 |

- Andere vermogens en aansluitspanningen op aanvraag
- Genoemde prijzen zijn netto, exclusief B.T.W.