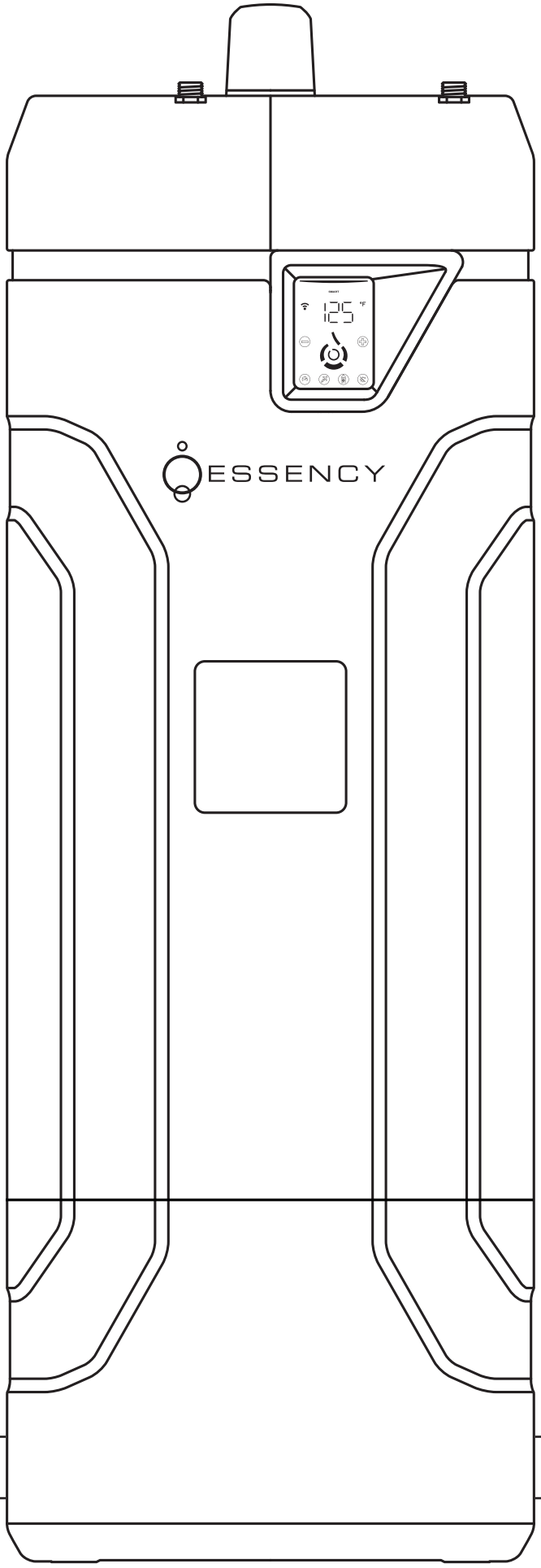
ESSENCY

EXR
EXR-D
WATER HEATER



Installation & Operation Manual

Water is essential to life. And Essency brings water to your life in amazing ways. We design water heaters built to outlast other tanks. Water heaters intelligent enough to give you greater control and peace-of-mind. All while delivering the highest performance in the industry in a design that's both aesthetically appealing and ecologically attentive. Our water heaters turn the essential into the exceptional.

UL LISTED

N09040000D1 November 2024

In this box, you will find :

1. Your Essency EXR or EXR-D water heater.
The EXR-D has an additional CTA-2045 port available compared to the EXR. This port allows to connect to the electric grid to optimize energy usage and savings.

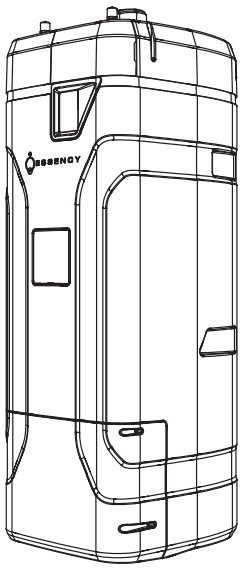
2. This Installation & Operation manual.

3. One bag containing:

- (2x) M4x20 metric screws,
- (2x) M4x50 metric screws,
  Intended as spares should you lose some screws during installation.

- (4x) Flat gaskets ½",
- (6x) Flat gaskets ¾",
  Intended as spares, should you wish to replace them during routine maintenance such as flushing.

EXR / EXR-D water heater



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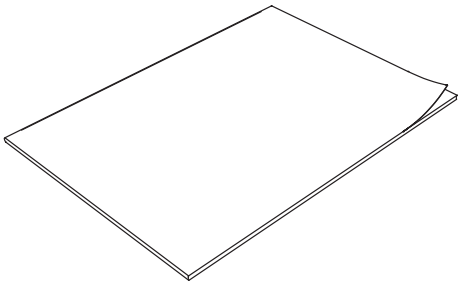
Installation & Operation manual



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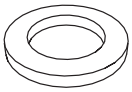
Flat gasket ½"



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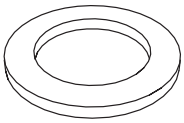
Flat gasket ¾"



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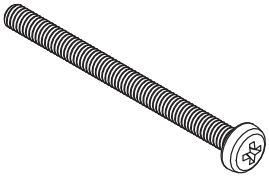
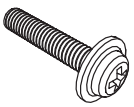
M4x50 screw



x2

M4x20 screw



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CONGRATULATIONS!

By purchasing an Essency EXR Water Heater, you have chosen the most innovative technology in domestic water heating on the market. Once properly installed, you can relax and enjoy many years of trouble-free service.

Thanks to their innovative design, Essency water heaters offer a much longer life span than traditional water heaters, as well as superior performance for optimal user comfort.

In the following pages you will find information about how to install and how to operate your water heater, as well as useful tips on how to reduce water and energy consumption.

PLEASE READ THIS MANUAL CAREFULLY AND KEEP IT WITH THE WATER HEATER FOR FUTURE REFERENCE

This manual contains all basic directions and recommendations for the installer to ensure proper installation and adjustment of the water heater. For the owner/operator, it includes the features, operation, safety precautions, maintenance and troubleshooting of the water heater. It also includes information on *Service Parts section (see page 47)*.

All persons who are expected to install, operate or adjust this water heater should read the instructions carefully so they may understand how to perform these operations. We require that you contact a plumbing professional for the installation of this water heater.

If you have any specific questions regarding the operation, maintenance, service or warranty of this water heater please contact the seller from whom it was purchased. If additional information is required, *refer to the Troubleshooting & Service section page 44* of this manual.

⚠ RECOGNIZE THIS SYMBOL AS AN INDICATION OF IMPORTANT SAFETY INFORMATION

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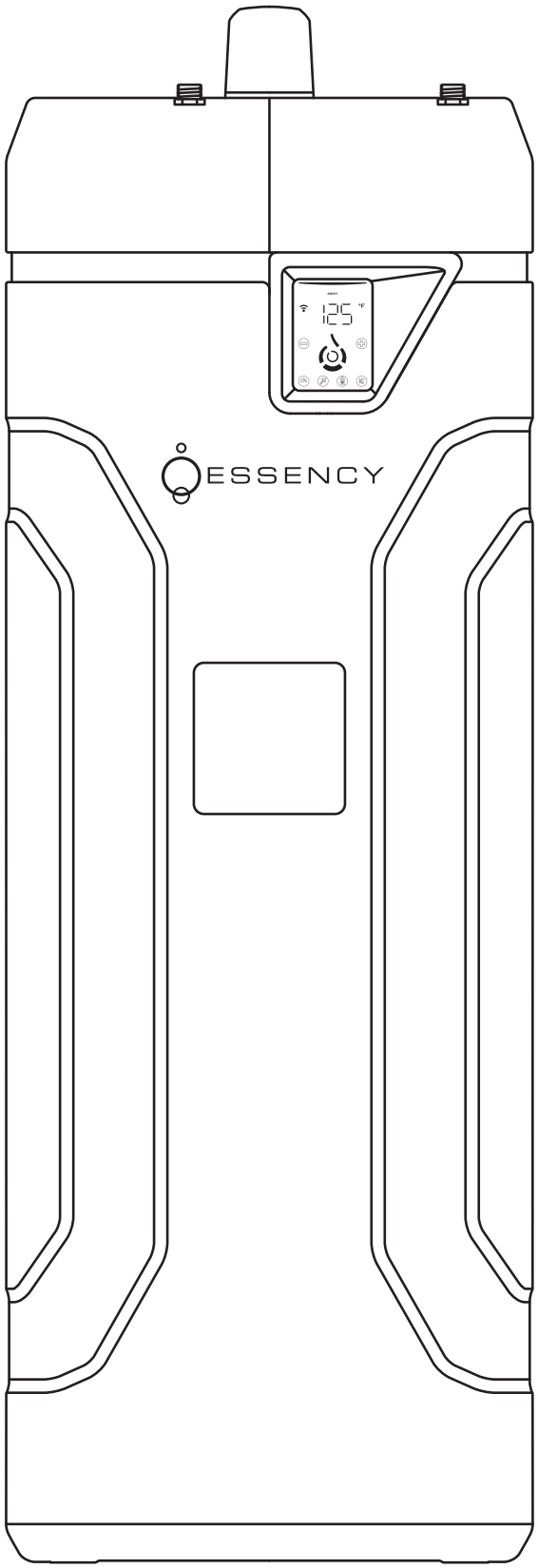


GENERAL INFORMATION

This water heater's design is certified by UL and listed in accordance with UL 174.

This water heater must be installed in accordance with local codes. In the absence of local codes, install this water heater in accordance with the N.E.C. Reference Book (latest edition). The warranty for this water heater is in effect only when the water heater is installed, adjusted, and operated in accordance with these Installation and Operating Instructions. The manufacturer will not be held liable for damage resulting from alteration and/or failure to comply with these instructions. This water heater has been designed and certified for the purpose of heating potable water. The installation and use of this water heater for any purpose other than the heating of potable water, may cause damage to the water heater and create a hazardous condition and nullify the warranty. Do not use this appliance if any part has been submerged in water. The plumbing professional responsible for the installation of this water heater should be contacted to inspect the appliance and to replace any part of the control system, including thermostat, which has been submerged in water. Make sure that the rating plate on the water heater is referenced for certainty that the correct voltage is being supplied to the water heater.

IMPORTANT: Do not unpack or attempt to install if packaging appears to be damaged in shipping/handling. Before proceeding, please inspect the water heater and its components for possible damage.

DO NOT install any damaged components. If damage is evident, please contact the supplier where the water heater was purchased or the manufacturer listed on the rating plate for replacement parts.

Once installed, ***DO NOT*** return to wholesaler. Professional installers should contact Essency for troubleshooting according to warranty terms.

FOR YOUR RECORDS

Write the model and serial numbers here:
The model and serial number can be found on the identification label, located on top of the water heater.

Model #: _____

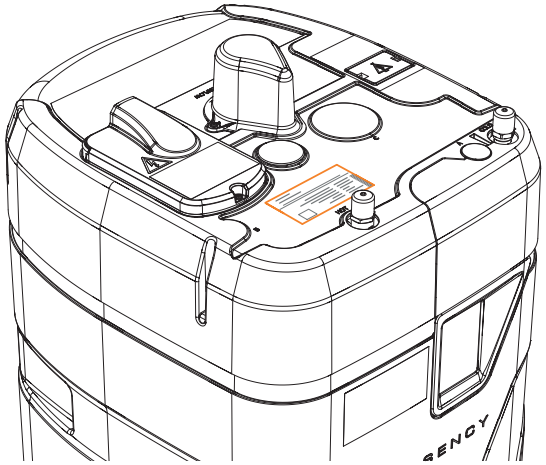
Serial #: _____

Installing Company: _____

Installing Technician: _____

Installation Date: _____

Contact Phone Number: _____



Staple sales receipt here.
Proof of the original purchase date is needed to obtain service under the warranty.

Register Warranty at ***https://essencyhome.com/product-registration/***

READ THIS MANUAL

This manual contains useful and important information for proper installation and operation of your water heater, as well as information and recommendations for maintenance to ensure that you will obtain the best performance and life span of your Essency water heater.

At the end of the manual you will find a *Troubleshooting & Service section page 44* with diagnostic codes, which will allow you to solve most common problems.

Your water heater is FCC compliant.

Essency is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device must be professionally installed.

This equipment complies with FCC's radiation exposure limits set forth for an uncontrolled environment under the following conditions :

This equipment should be installed and operated such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and user's/nearby person's body at all times.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

READ THE SAFETY INFORMATION

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels or to important product information. These words mean:

DANGER! An imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING! A potentially hazardous situation which, if not avoided, could result in death or serious injury and/or damage to property.

CAUTION! A potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE: Attention is called to observe a specified procedure or maintain a specific condition.

IMPORTANT SAFETY INSTRUCTIONS

Read all instructions before using this water heater.

WATER TEMPERATURE SETTING

⚠ DANGER!

Safety and energy conservation are important factors to be considered when selecting the water temperature setting of your water heater. Water temperatures above 125°F, and above 120°F for households with small children, disabled, or elderly persons, can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined on the label pictured below. This label is also located on the water heater near the touchscreen.

APPROXIMATE TIME/TEMPERATURE RELATIONSHIP IN SCALDS	
Temperature	Time To Produce a Serious Burn
120°F	More than 5 minutes
125°F	1½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1½ seconds
155°F	About 1 second

NOTICE: Mixing valves may be required by local codes for reducing point of use water temperature by mixing hot and cold water in branch water lines. If required, a mixing valve complying with the Standard for Temperature Actuated Mixing Valves for Hot Water Distribution Systems, ASSE 1017 should be installed. For more details contact a licensed plumber or the local plumbing authority for further information.

Water temperature over 125°F can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded. See instruction manual before setting temperature at water heater. Feel water before bathing or showering. Temperature limiting values are available, please check with your installer.

NOTICE: Your water temperature setpoint is 125°F by default.

IMPORTANT SAFETY INFORMATION

Read all instructions thoroughly before installing or operating.

⚠ WARNING!

This manual provides information on the installation, operation and maintenance of the water heater.

To reduce the risk of property damage, electric shock, serious injury or death, it is important to read the precautions below, all labels on the water heater, and the safety messages and instructions throughout this manual.

Be sure to read and understand the entire Installation and Operation Manual before installing or operating this water heater, and pay particular attention to the Safety Instructions.

A licensed professional must install the water heater in accordance with the instructions in this manual. The consumer must read the entire manual to properly operate the water heater. Should you have problems understanding the instructions in this manual, or have any questions concerning installation or operation of the water heater, please get help from a qualified service technician, or the local electric utility.

⚠ **WARNING! Proposition 65 California:** This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SAFETY PRECAUTIONS

It is important to know where the circuit breaker is located. Please ask the installer to show you its location and how to shut it off if necessary. Turn off the circuit breaker if the water heater has been subjected to overheating, fire, flood or physical damage.

- Read this manual entirely before installing or operating the water heater.
- Use this appliance only for its intended purpose as described in this Installation and Operation Manual.
- Be sure your appliance is properly installed in accordance with local codes and the provided installation instructions.
- ***DO NOT*** attempt to repair or replace any part of your water heater unless it is specifically recommended in this manual or advised to you by an Essency representative.

All other servicing should be referred to a profesionnal service contractor.

TRANSPORTATION & STORAGE (AT WAREHOUSE)

Do not lift or carry using the front bottom part of the water heater. The water heater should be stored in a dry place, and at a temperature between 32°F and 140°F. In case the water heater is stored without its packaging, the floor's slope should be less than 7° to prevent the water heater from falling over.

NOTICE: Long exposure to temperatures above 140°F can cause permanent deformation of the water heater.

NOTICE: If needed, the water heater can be transported horizontally, however do not lay nor transport the water heater with the front side facing down (see pictogram on packaging if not removed).

WATER QUALITY

Proper care for your water heater must include evaluation of local water quality conditions. The water must be potable, free of corrosive chemicals, sand, dirt, and other contaminants. It is up to the installer to ensure the water fed to the heater does not contain corrosive chemicals or elements that can affect operation or damage the heat exchanger. Refer to the table below for the maximum allowable limits of specific parameters according to the EPA in the Code of Federal Regulations. The installer is responsible for understanding local conditions pertaining to these and other parameters and treating the water as necessary. Replacement of the heat exchanger and other components due to damage caused by water quality is not covered by the warranty.

MAXIMUM LEVEL	
Total Hardness	Up to 200 mg / L
Aluminum *	Up to 0.2 mg / L
Chlorides *	Up to 250 mg / L
Copper *	Up to 1.0 mg / L
Dissolved Carbon Dioxide (CO2)	Up to 15.0 mg / L
Iron *	Up to 0.3 mg / L
Manganese *	Up to 0.05 mg / L
pH *	6.5 to 8.5
TDS (Total Dissolved Solids) *	Up to 500 mg / L
Zinc *	Up to 5 mg / L

** Source: Part 143 National Secondary Drinking Water Regulations*

INSTALLING THE WATER HEATER

LOCATION AND SPECIFICS

When choosing the location of the water heater, please take into consideration the following recommendations.
(*Disregarding these recommendations will void the warranty)*

WATER SUPPLY PRESSURE

Minimum Water Pressure: 50 PSI *(Recommended 60-80 PSI for maximum performance)*

Maximum Water Pressure: 150 PSI

LOCAL INSTALLATION REGULATIONS

This water heater must be installed in accordance with these instructions, local codes, utility codes, utility company requirements or, in the absence of local codes, the latest edition of the National Electrical Code, which can be found in some local libraries or can be purchased from the National Fire Protection Association *(website link: https://nfpa.org/).* In case of any doubt or you have tighter clearances, please check your local codes or contact Essency.

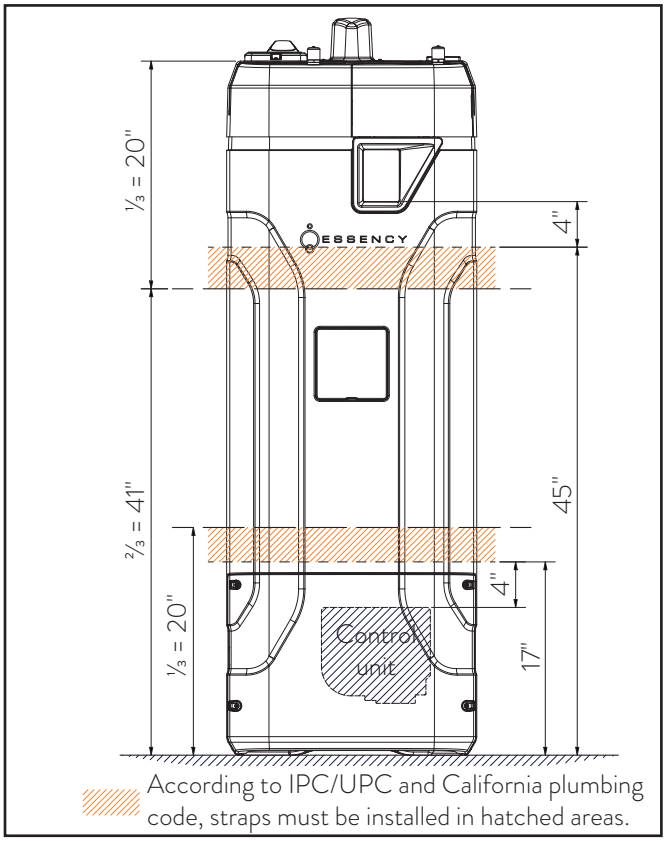
NOTICE: Please be aware that installation of the water heater in attics in regions where the outside air temperature is commonly above 105°F (and therefore attic temperature can be greater than 140°F) could affect the life of your water heater electronic controls.

INSTALLATIONS IN CALIFORNIA

For California installation, this water heater must be braced, anchored, or strapped to avoid falling or moving during an earthquake.

See following instructions for correct installation procedures. Detailed instruction may be obtained from California's Division of the State Architect at *https://dgs.ca.gov/DSA/Contact* and from

DSA Headquarters Office
1102 Q Street, Suite 5100
Sacramento, CA 95811.



LOCATION & WATER HEATER CLEARANCE

Locate the water heater in a clean dry area as near as practical to the area of greatest heated water demand. Long uninsulated hot water lines can waste energy and water.

Place the water heater in such a manner that the electric junction box, the overflow line cover, the upper element cover and the lower access panel can be removed to permit inspection and servicing such as removal of elements or checking controls.

The water heater and water lines should be protected from freezing temperatures.

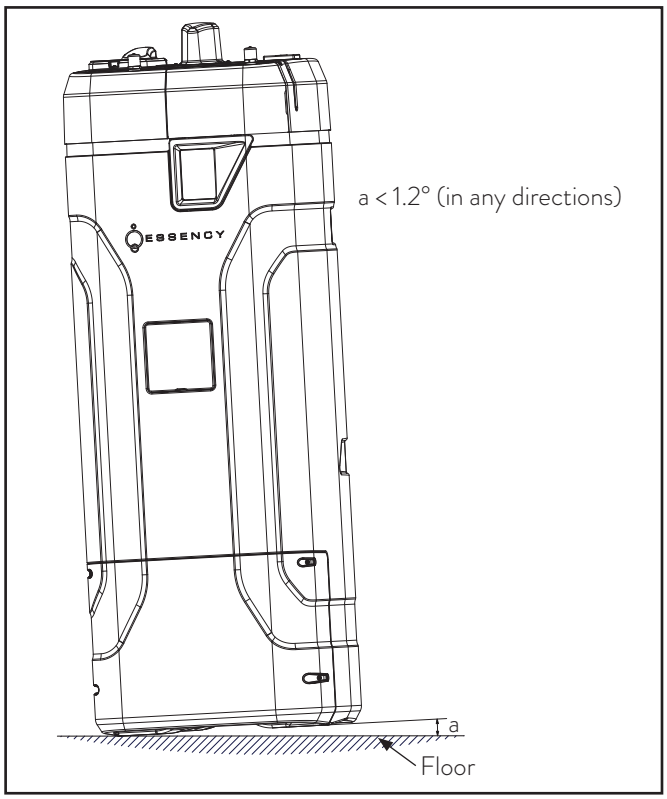
To allow easy access for operation and maintenance, we recommend leaving the following clearances around the water heater: At the front and above the water heater: 25”. Left and right: 4”. Back: 1” provided that the overflow line can be correctly installed. In case of any doubt, please check your local codes.

To help avoid any potential damage, the water heater should not be pushed against the back wall.

DO NOT *install the water heater OUTDOORS. To ensure its long life, your water heater MUST be installed indoors.*

CAUTION! Make certain the floor underneath the water heater is :

- strong enough to sufficiently support the weight of the water heater once it is filled with water.
- straight and level, and does not exceed an angle of 1.2°, or ¼ inch per foot.



CAUTION! The water heater should not be located in an area where leakage of the tank or connections will result in damage to the area adjacent to it or to lower floors of the structure. Where such areas cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the water heater.

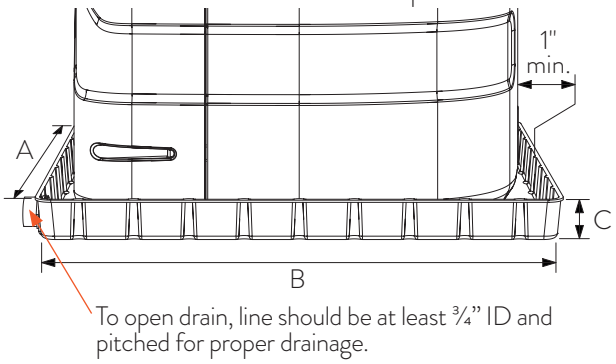
DRAIN PAN

NOTICE: Auxiliary drain pan MUST conform to local codes. Drain Pan Kits are available from the store where the water heater was purchased, or any water heater distributor.
Essency manufactures a custom fit drain pan.

NOTICE: We recommend the use of a drain pan, especially if the water heater is installed in the attic.

A. Width of water heater plus 2" min (22+2")
B. Depth of water heater plus 2" min (26+2")
C. Height, maximum 4"

For proper operation of the drain pan, the water heater must be centered in as far as possible.



SEASONAL DWELLINGS

Never switch off the water heater. If the water heater is not going to be used for a period of time please use the "vacation" temporary function. This will help to avoid damage caused by freezing.

NOTICE: For condominiums and other seasonal dwellings, when the water supply will be off for more than 2 months:

- If not in freezing conditions, keep the power on. You may get an alarm that can be easily reset through the touchscreen or the app.
- When in freezing conditions, you must drain the unit & cut power *(see page 41)*.

INSULATION BLANKETS

Insulation blankets, available to the general public, for external use on electric water heaters are not necessary. The purpose of an insulation blanket is to reduce the standby heat loss encountered with storage tank heaters. This water heater meets or exceeds the National Appliance Energy Conservation Act standards with respect to insulation and standby loss requirements making an insulation blanket unnecessary.

The manufacturer's warranty does not cover any damage or defect caused by installation, attachment or use of any type of energy saving or other unapproved devices (other than those authorized by the manufacturer) into, onto or in conjunction with the water heater.

The use of unauthorized energy saving devices may shorten the life of the water heater and may endanger life and property.

The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized devices.

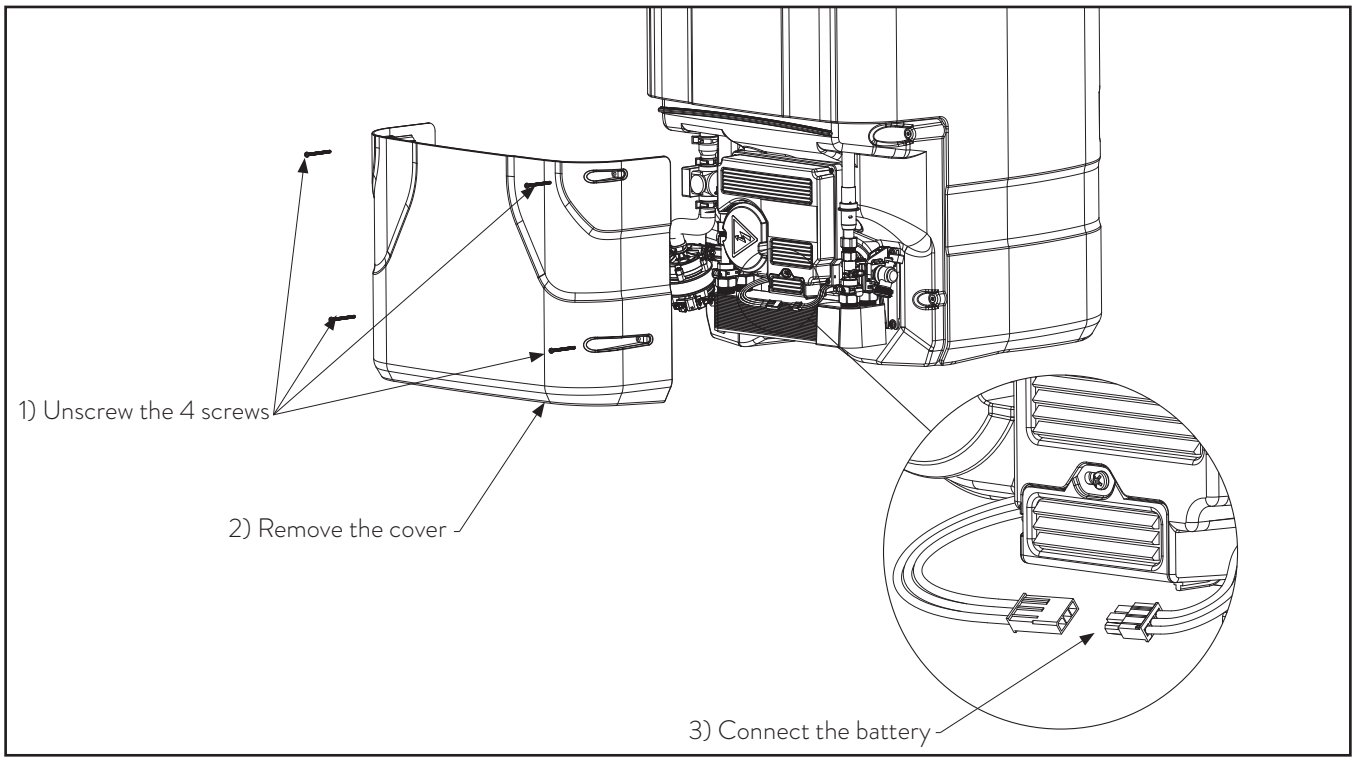
⚠ **WARNING!** If local codes require external application of insulation blanket kits, the manufacturer's instructions included with the kit must be carefully followed.

⚠ **CAUTION!** If local codes require the application of an external insulation blanket to this water heater, pay careful attention to the following so as not to restrict the proper function and operation of the water heater:

- ***DO NOT*** cover the operating or warning labels attached to the water heater or attempt to relocate them on the exterior of insulation blanket.
- ***DO NOT*** apply insulation to the top of the water heater. This could interfere with the safe operation of the electrical junction box.
- ***DO NOT*** cover the access panel(s) to the thermostat(s) and heating element(s).
- ***DO NOT*** restrain access to lower cover of the unit. It will result in an overheating of the electronic controls.
- Inspect the insulation blanket frequently.

1. CONNECTING THE BATTERY

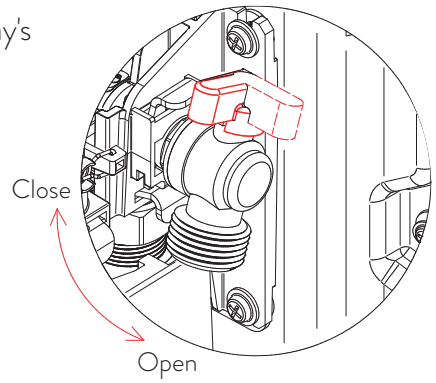
As a back-up in case of power failure, the water heater is equipped with a lithium-ion battery located behind the lower cover of the unit. To connect this battery, before powering the unit, follow the steps as indicated on the illustration below:



NOTICE: When reinstalling the cover, do not over-tighten the screws. The applied torque shall not exceed 1.1 lb.ft. After battery connection, the front cover is to be put back on, and left on, for the duration of the installation.

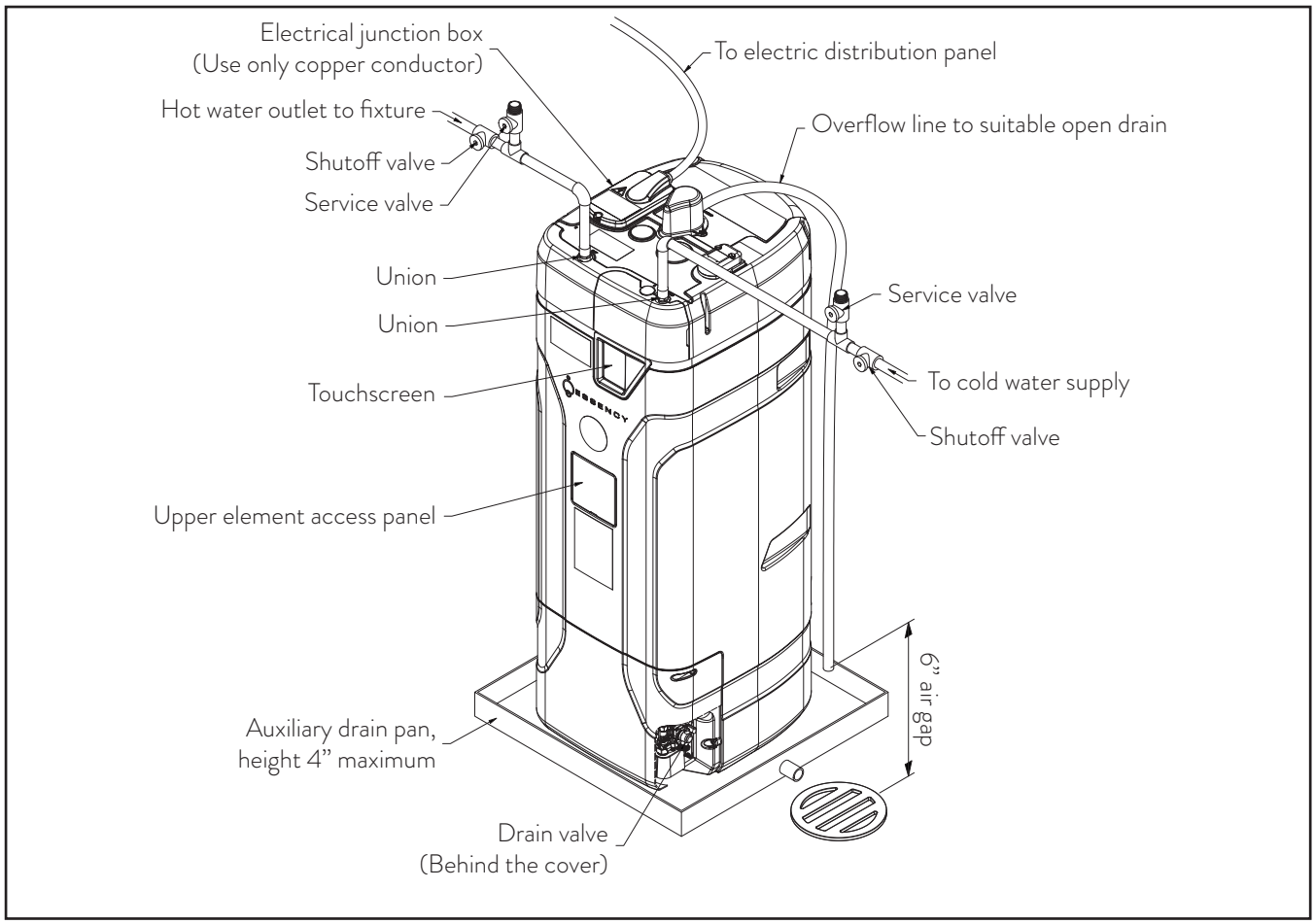
NOTICE: The battery is intended to be used as an emergency back-up only, in case of power failure, and will allow you to use the amount of hot water available in your tank at the time of power failure. It will not operate the water heater heating elements, but only the internal variable speed pump at a moderate flow rate (corresponding to a shower flow rate). Neither the touchscreen display nor the WiFi will be operational. It is not meant to be used continually.
If tank is fully heated at time of power outage, you will have roughly one day's worth of normal hot water usage available.

NOTICE: The water heater's internal drain valve is closed by default from the factory. Before proceeding with '*Filling the Water Heater' step (see page 21)*, ensure the valve is still closed. In the closed position, the red valve handle will be facing out. In the open position, the red handle will be facing right.



2. CONNECTING THE WATER SUPPLY

2.1. TYPICAL INSTALLATION



WATER SUPPLY CONNECTIONS

Refer to the illustration above for suggested typical installation. The installation of unions or flexible connectors is recommended on the hot and cold water connections so that the water heater may be easily disconnected. To tighten the water connectors, use a back-up wrench. For ease of maintenance, we strongly recommend to install service valves in inlet and outlet water circuits (*see Flushing the water heater section page 42*). Over-tightening or tightening without a back-up wrench may cause flow sensor damage. Take special care.

TIP: Water connections are located further to the front of the unit than many other storage water heaters. Plan accordingly. For example, longer water flexes may be required.

FILTER

Before connecting the cold water supply to the unit, check that the filter is still well installed in the cold inlet brass fitting. If sediment in the local water supply is an issue, we recommend installing an external Y strainer.

OVERFLOW LINE CONNECTION

For ease of installation, the protective cap can be taken off by removing the 2 screws.
We recommend the use of CPVC for the overflow line.

DO NOT over-tighten the connector. The applied torque shall not exceed 2 lb.ft. Make sure the overflow line opening is at least 6" from the ground.

⚠ **WARNING!** In any case, water shall be fully drained to a suitable floor open drain. Respect the correct slope so that no water can be trapped in the overflow line.

⚠ **WARNING!** Use a ¾" MNPT fitting compliant with ASTM D2846 or ASME B16.22 or other standard, and ensure an inner diameter not less than ⅝" (0.625").

⚠ **WARNING!** The overflow line piping shall have an inner diameter not less than ¾".

⚠ **WARNING!** The protective cap is to be reinstalled after connection of the overflow line.

NOTICE: The overflow line connection is non-pressurized. Using glue for line connection is NOT recommended as the unit fitting can be damaged in case of future operation on the line. Do not remove the blue foam pieces. They are an important part of the operation and help to control splashing and evaporation.

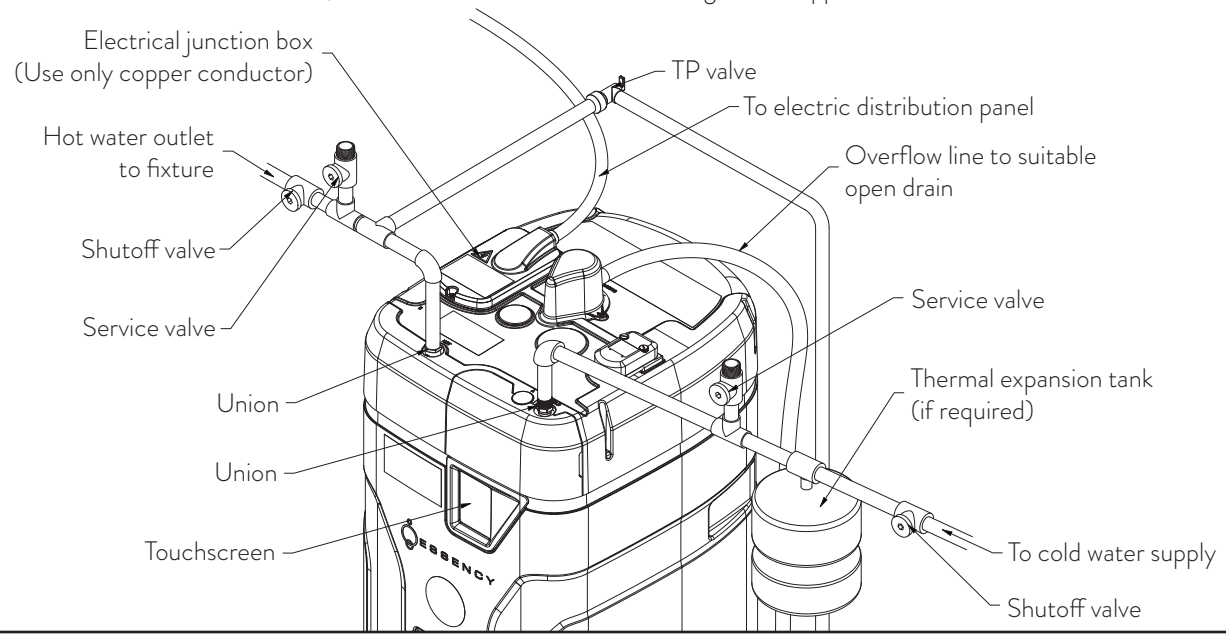
T/P VALVE

Unlike other tank water heaters, the water in the tank of the Essency EXR is at atmospheric pressure. Per its construction, UL has evaluated that this water heater does not need a T/P valve. However please refer to your local codes for specific local requirements (*See Recirculation Section for exceptions page 16*).

EXPANSION TANK

This water heater operates at atmospheric pressure. No expansion tank is therefore required. However please refer to your local codes for specific local requirements (*See Recirculation Section for exceptions page 16*).

Although we don't require an expansion tank or relief valve for standard installations (see recirculation exception), you may refer to this illustration in special local cases where one or the other, or both, may be required. Make sure the expansion tank is not putting stress on the union, the flowmeter in the unit is not designed to support such a load.



HARD WATER INSTALLATION

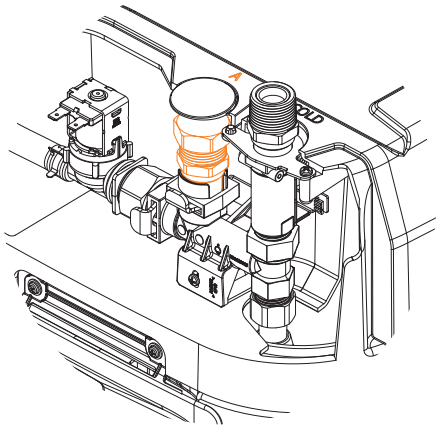
Based on your water conditions, the heat exchanger may need to be flushed. Contact Essency for more information. See the Care and Cleaning section on how to proceed *(see page 42)*.

NOTICE: ***DO NOT*** apply heat to the hot or cold water connections. If sweat connections are used, sweat tubing to adapter before fitting adapter to the water connections on the water heater. Any heat applied to the water supply fittings will permanently damage them or other plastic parts.

NOTICE: Make sure the overflow line is well connected and not obstructed.

NOTICE: ***DO NOT*** put any liquid other than water, without any additives, into the tank of the water heater.

2.2. RECIRCULATION



NOTICE: You will find a marking on top of the water heater "A".
This marking and fitting below it are for a future model. Do not use.

The EXR is recirculation compatible and can be accomplished in one of two ways:

1. With a dedicated return line
2. Without a dedicated return line

In both cases, installers should keep the following in mind when setting up the recirculation pump:

- Flow rate delivered by recirculation pump should be between 0.3 and 1 GPM. Ideally, the flow rate would be 0.8 GPM.
- Recirculation pump should be operating as little as possible and no more than 6 hours per day (for example 3 hours in the morning, 3 hours in the evening).
  In case the ON cycle is 2 hours or more, turn Recirc mode ON (*see page 36*) to avoid nuisance alarm.
- Failure to follow these flow rate and timing guidelines will result in the premature failure of certain components which are designed for a certain number of cycles or hours, or gallons of operations, namely the internal pump and the flowmeter. In this case, the warranty to these 2 items is reduced to 2 years/ please refer to your warranty card – “Recirculation exception”.
- In any case, it is recommended to limit the velocity in piping < 4 ft/s to avoid any erosion issue.

NOTE: A recirculation system can lead to high heat losses. It is strongly recommended the hot water and dedicated return lines to be fully insulated.

Following these guidelines will help maintain the full warranty, reduce wear and tear on the entire plumbing system, save energy, and keep your water heater in optimum operating condition.

If you don’t have another way of confirming flow rate delivered by the recirculation pump, the EXR’s touchscreen does have the capability of displaying real-time flow rate by following the instructions in the Useful tips section (*see page 38*).

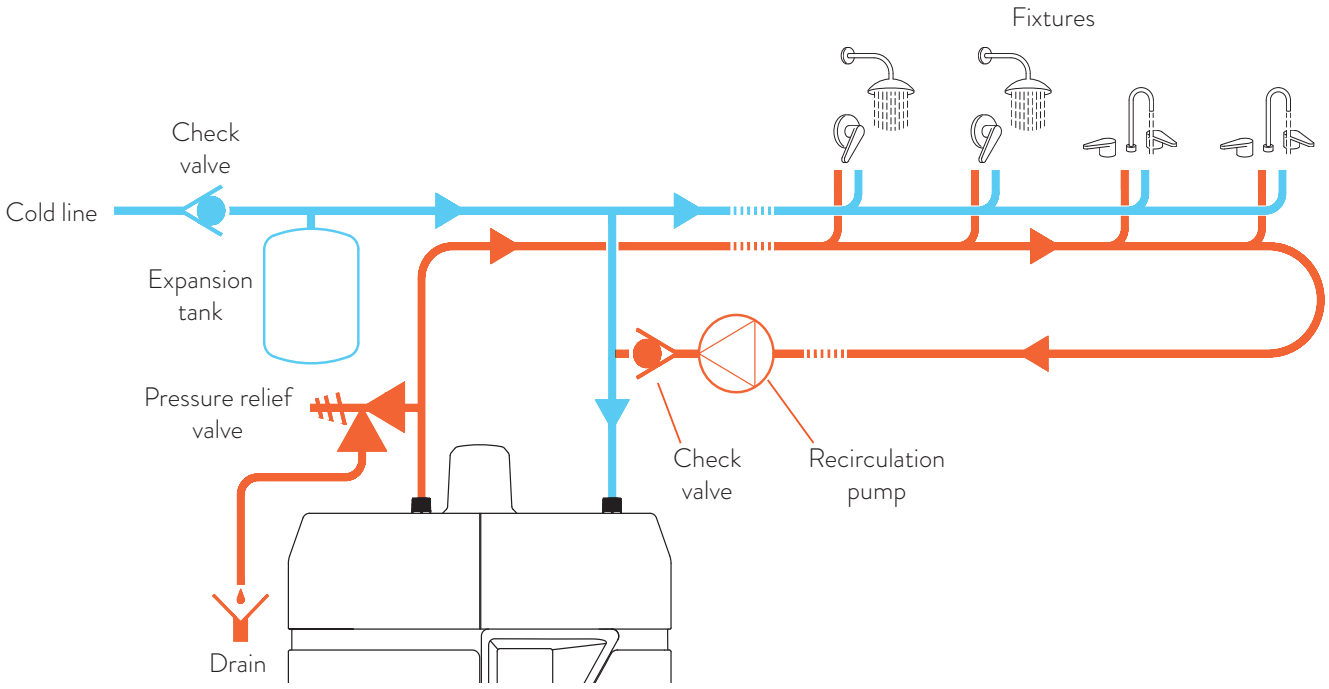
Make adjustments to valves, recirculation pump speed, etc... until the value on the touchscreen is between 0.3 and 1 GPM (displayed as 3 - 10).

In addition to the guidelines above, installers must follow all applicable codes and recirculation pump manufacturer instructions.

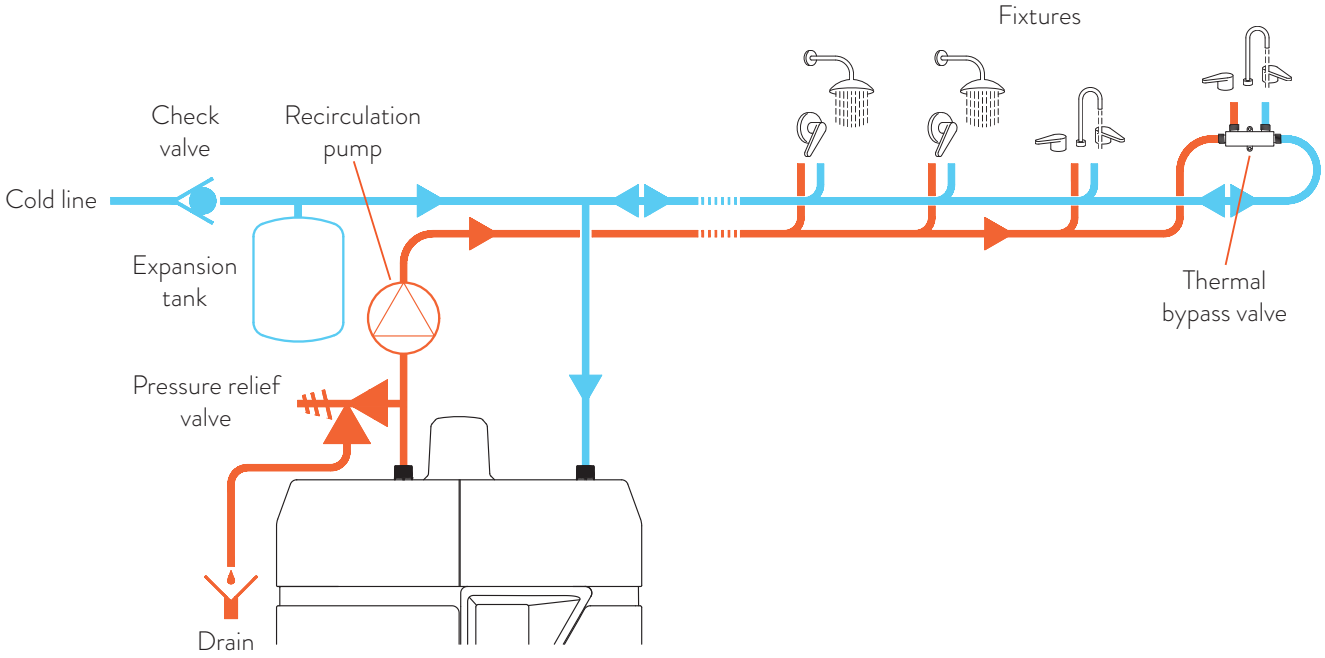
For the unit to refill properly and to avoid unwanted alarms, the recirculation pump must be programmed to shut off at least once per day.

Recirculation pumps designed for systems without a dedicated return line typically generate lower flow rates. Take special care. In some cases, upgrading the crossover valve may improve flow.

1. With a dedicated return line :



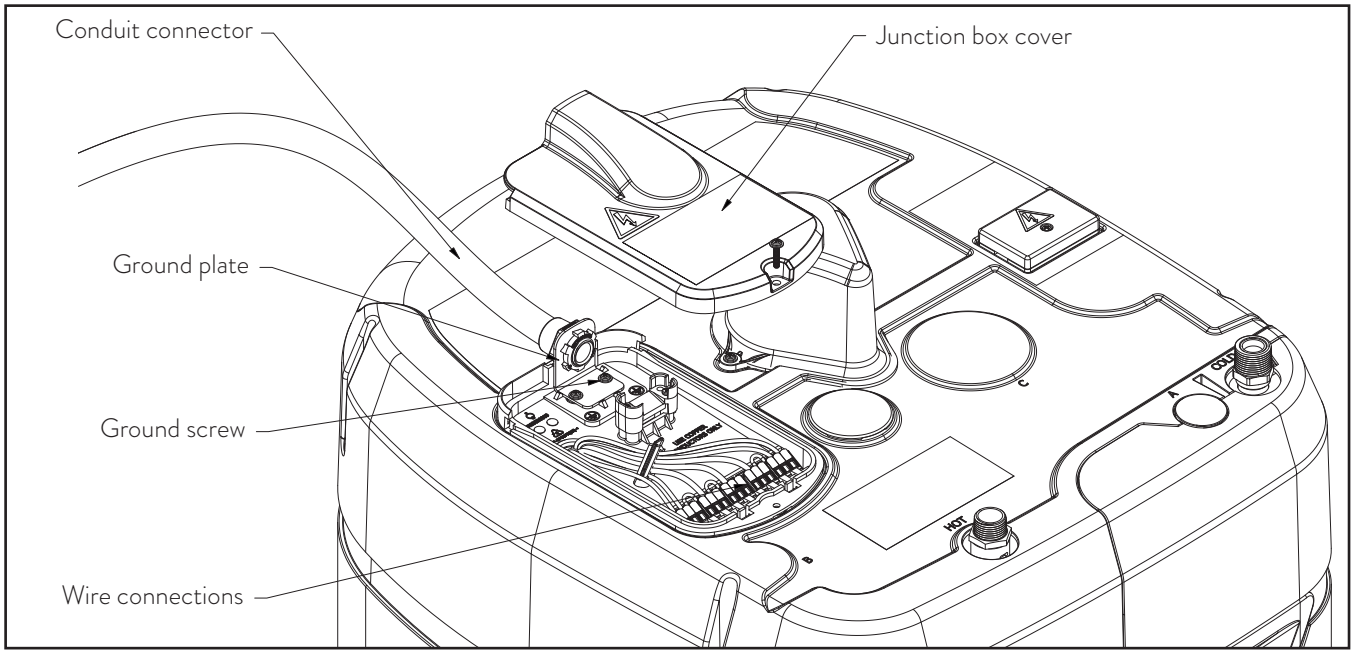
2. Without a dedicated return line :



3. ELECTRICAL CONNECTION

We require that you contact a fully licensed plumbing or electrical professional for the electrical installation of the water heater. A separate branch circuit with copper conductors, overcurrent protective device and suitable disconnecting means must be provided by a qualified electrician. All wiring must conform to local codes or latest edition of National Electrical Code ANSI/NFPA 70. The water heater is completely wired to the electrical connection box located at the top of the water heater. An opening for ½" electrical fitting is provided for field wiring connections. If more than 3 wires need to be connected, for instance for Off-Peak installations, the use of a ½" to ¾" adapter is recommended.

The voltage requirements and wattage load for the water heater are specified on the rating plate located at the top of the water heater.



The branch circuit wiring should include either:

1. Metallic conduit or metallic sheathed cable approved for use as a grounding conductor and installed with fittings approved for the purpose.
2. Non-metallic sheathed cable, metallic conduit or metallic sheathed cable not approved for use as a ground conductor shall include a separate conductor for grounding. It should be attached to the ground terminals of the water heater and the electrical distribution box.

⚠ **CAUTION!** The presence of water in the piping and water heater does not provide sufficient conduction for a ground. Non-metallic piping, dielectric unions, flexible connectors etc. can cause the water heater to be electrically isolated.

SINGLE PHASE WIRING

WARNING: Poor wiring connections, incorrect wire size/type, or wires with too much tension may result in loss of conductivity or overheating. Take special care that wire jacket is securely connected with proper means of strain relief before connecting ground and phase wires. Confirm wire connection tabs are securely closed, tight, and secure before installing junction box cover or turning on power.

WARNING: Be especially careful about the existing wiring on a retrofit. If it is not appropriate for this application, be sure to upgrade it accordingly. We recommend "SOOW" or "SJOOW" type cords which are readily available. The key features are stranded wires (which make better contact than solid-core wires), a voltage rating of 300V or more, and relative flexibility which does not produce any undue strain on the connectors.

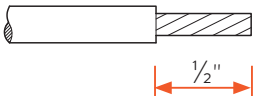
BRANCH CIRCUIT SIZING AND WIRE SIZE GUIDE *(use copper conductors only)*			
Water Heater Wattage	Power Supply Voltage	Recommended Over Current Protection *	Copper Wire Size required **
4500 W	240 V	25 A	10 AWG

**Fuse or circuit breaker amperage rating based on National Electric Code (Article 240.4). 30A allowed for copper conductor only.*

***Branch circuit sizing and wire size based on National Electric Code (N.E.C. Table 310-16 at 167°F)*

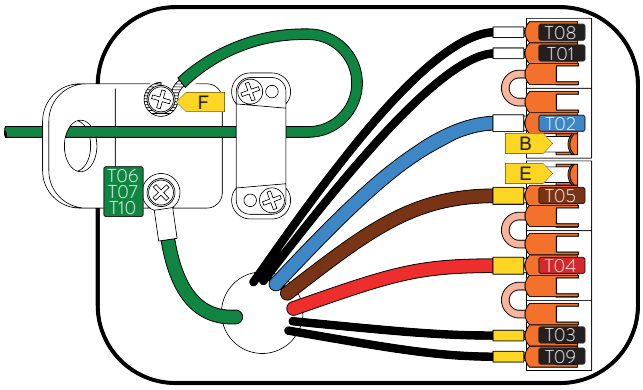
ELECTRICAL TERMINAL BOX CONNECTION

WARNING: Wires need to be stripped to ½", and fully inserted into the connectors. Make sure each lever is closed and gently tug on wires to ensure a secure connection. Ensure there is no exposed copper. There should be no wire nuts or excess wire in the junction box.



To avoid any electrical problem, make sure the position of the shunts corresponds to your connection as shown below. Please remove the unnecessary shunts from the connection box.

A. Typical connection



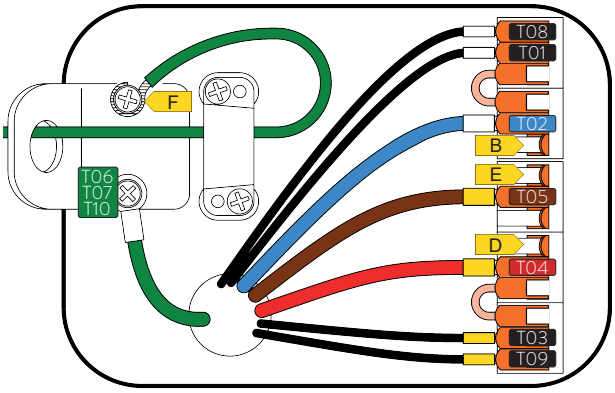
This configuration is a standard 2-phase grounded connection, see other configurations in case of power supply scheduling or non permanent power supply.

B Ph 1 - 208VAC/240VAC - 19A.
Phase 1 to heating elements (T02), electronic control (T01) and CTA module (T08).

E Ph 2 - 208VAC/240VAC - 19A.
Phase 2 to heating elements (T04 and T05), electronic control (T03) and CTA Module (T09)

F Ground connection (T06, T07 and T10).

B. Off-Peak



This configuration is for Off-Peak installations and ensures a minimum hot water capacity at any time and a full capacity when Off-Peak is powered. Upper and lower heating elements are wired separately.

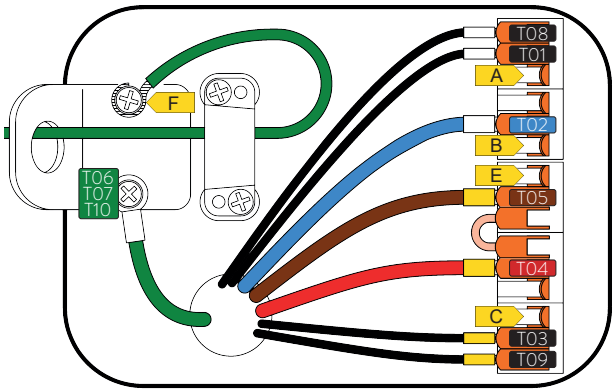
B Ph 1 - 208VAC/240VAC - 19A.
Phase 1 to heating elements (T02), electronic control (T01) and CTA module (T08).

D Ph 2 - 208VAC/240VAC - 19A.
Phase 2, Permanent, to upper heating element (T04), electronic control (T03) and CTA module (T09).

E Ph 2 Off Peak - 208VAC/240VAC - 19A.
Phase 2, from the Off-Peak meter, to lower heating element (T05).

F Ground connection (T06, T07 and T10).

C. Electronics Separated



This configuration allows your water heater to provide hot water if the tank is hot without powering heating elements in case of non permanent power supply to the water heater. The heating elements and the electronic control are wired separately.

A Ph 1' - 120VAC/240VAC-50W max.
Phase 1' to electronic control (T01) and CTA module (T08).

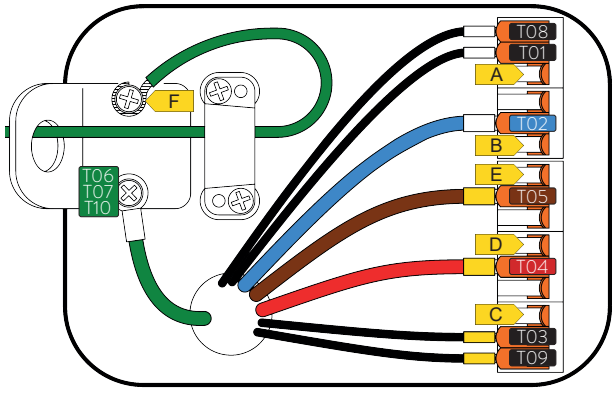
C Ph 2' - 120VAC/240VAC-50W max.
Phase 2' to electronic control (T03) and CTA module (T09).

B Ph 1 - 208VAC/240VAC-19A.
Phase 1 to heating elements (T02).

E Ph 2 - 208VAC/240VAC-19A.
Phase 2 to heating elements (T04 and T05).

F Ground connection (T06 and T07).

D. Off-Peak - Electronics Separated



This configuration combines both "Off-Peak" and "Electronics Separated" advantages.

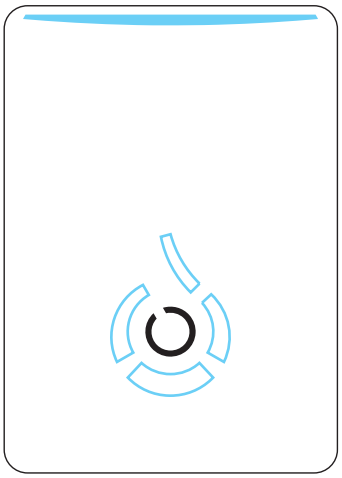
4. FILLING THE WATER HEATER

NOTICE: Remain close to the water heater during the filling process to avoid any potential damage due to faulty installation or maintenance. It is normal to see a small amount of water in the overflow line during the fill process.

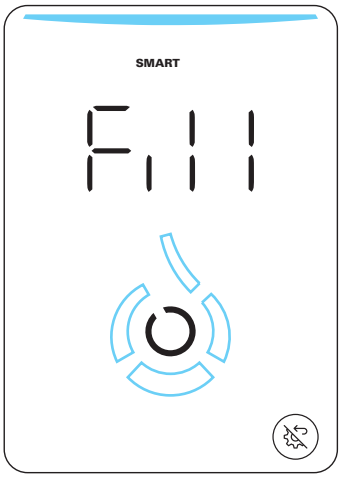
NOTICE: In case an external leak detector is installed, do not switch it on until the filling cycle is completed and the drain pan is dry.

1. Open the shut-off valve on the cold water supply line.

2. Make sure the water heater is electrically supplied. The unit will turn on and a white circle will appear in the center (the **(Confirm)** button).



3. Press the **(Confirm)** button to activate the touchscreen. The word "Fill" will appear. The unit will then try one short 30-second filling attempt and will wait 30 minutes for further instructions. If no action is performed in the meantime the warning code 225 will be displayed.



4. Press the **(Confirm)** button to start the filling process. The unit will start filling automatically. The water drop icon animation will light up during this process. Once the correct water level is reached, the unit will automatically stop the filling process.

5. If you need to stop the filling process, press the **(Confirm)** button. The unit will automatically stop. If the minimum water level needed for operation has not been reached, the word "Fill" will appear again. Restart step 4 to resume filling the unit.

NOTICE: Unlike traditional storage water heaters, the Essency water heater doesn't require to open any hot water fixture for the filling process. Opening the cold water supply shutoff valve is sufficient.

NOTICE: You can connect your water heater without interrupting the filling process.

5. CONNECTIVITY

5.1. UPDATING SOFTWARE

Upon completion of the previous steps, **it is mandatory for the installer to upgrade the software of the water heater to the latest version.** Upgrading can be done by the installer, using a mobile phone, as follows (keep in mind the installer should not pair their phone to the water heater) :

1. Download and install the *"MyEssency" mobile application* from your preferred mobile application store.

2. Launch the mobile application and create an account.

3. Click on 'Change my WiFi settings' and follow the steps on the mobile application to connect the water heater to a WiFi network.

4. Once the procedure is completed, go to the settings menu on the water heater's touchscreen, (*see page 36*) then UPd. After confirmation, the software upgrade will be started.

5. When the software upgrade is completed successfully, UPdAtEd is displayed. Turn the WiFi connection off if the water heater owner doesn't want to use the App : SEt -> Con -> OFF (*see page 36 for Parameter Settings*). In case an issue occurs during the software upgrade, 'Err' will be displayed and the procedure should be repeated.

5.2. PAIRING OWNER'S SMART DEVICE TO THE WATER HEATER

As mentioned above, the installer should not pair their device to the water heater. If done by mistake, the owner can override it once they pair their own device to the water heater, using the following process:

1. Download app.

2. Open app.

3. Add a new device by clicking  .

4. Scan QR code on top of water heater (not on front of the unit). Your QR code will either walk you through pairing by WiFi or Bluetooth depending on its unique serial number.

5. Follow the instructions from the app.

TIP: For tutorials and instructions please visit our website ***www.essencyhome.com.***

TIP: The yellow Energy Guide label is easily removable. During the installation, or later, don't hesitate to remove it so that your Essency water heater will look even better!

5.3. CTA-2045 INSTALLATION

The CTA-2045 describes a standard socket and communication protocol allowing utilities to communicate with appliances aiming to manage the electric load on the network. With renewable energies growing, the CTA-2045 is helping to keep balance between production and energy consumption making the electrical network more robust.

Your water heater makes sure CTA-2045 goal is fulfilled while ensuring hot water when needed.

I HAVE AN EXR-D

Your water heater is ready to be connected using its existing CTA-2045 port, please contact your electric utility to provide a UCM (Universal Control Module). Further instructions will be provided by the utility.

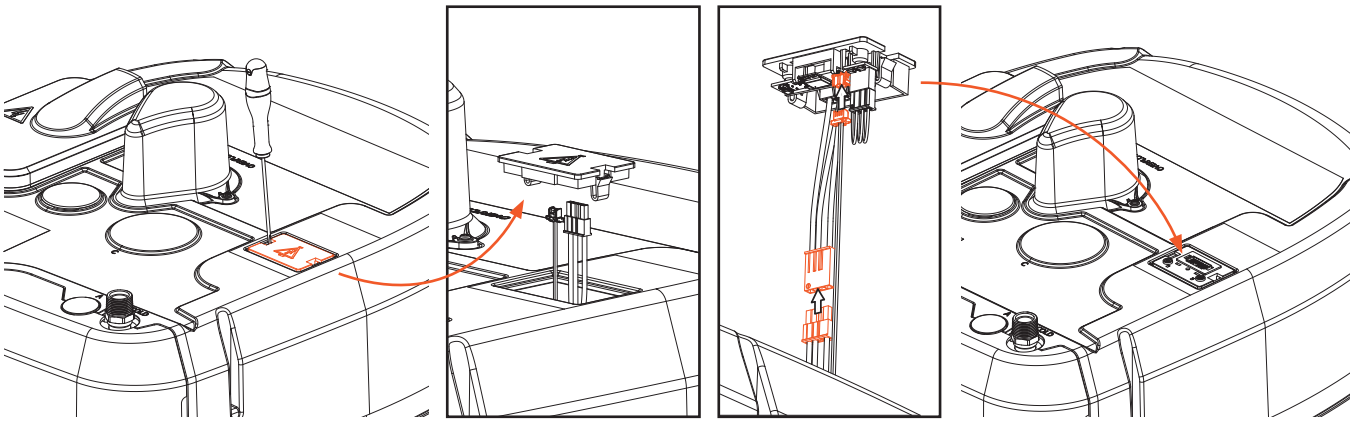
I HAVE AN EXR

Your water heater is pre-wired and needs the CTA kit to make it CTA-2045 compatible. The procedure to install the kit is the following:

1. Switch off the water heater using the circuit breaker.

2. Remove the plastic shutter covering the CTA connector location with a screwdriver.

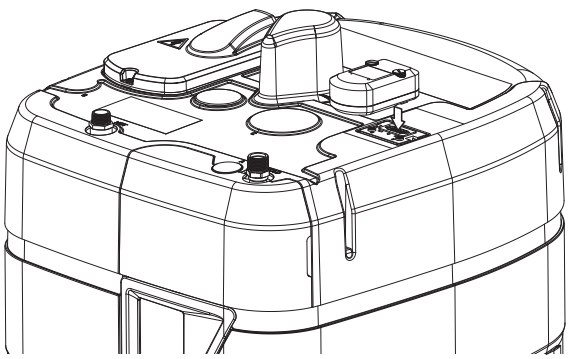
3. Plug the 2 connectors to the CTA kit and insert the plastic part in the appropriate location.



Once the kit is installed, you can switch on the circuit breaker, perform a reboot *(see page 36)* then proceed to the pairing. For the pairing, perform a long press on the touchscreen central button. When the touchscreen banner turns green (quickly), the kit is ready to be used. You can leave the pairing mode by pushing the multi-function button. If you missed the green light, check the status through Info menu of the touchscreen *(see page 36)*.

HOW TO INSTALL THE UCM

Remove the plastic lid covering the CTA connector then plug the UCM (Universal Control Module) on it.
Further instructions will be provided with the module.



INSTALLATION CHECKLIST

A. Water Heater Location

☐ Close to area of heated water demand.

☐ Indoors and protected from freezing temperatures.

☐ Area free of flammable vapors.

☐ Provisions made to protect area from water damage.

☐ Meets requirements in location and water heater clearance section.

B. Water Supply

NOTICE: To prevent internal damage, use backend wrench on water connections so they don't spin while tightening.

☐ Water heater completely filled with water.

☐ Air purged from water heater and piping.

☐ Water connections tight and free of leaks.

C. Overflow

NOTICE: To prevent damage to fitting, do not overtighten adapter.

☐ Overflow line correctly connected and protected from freezing.

D. Wiring

⚠ **WARNING:** Use only 10 AWG copper conductors.

☐ Power Supply voltage agrees with water heater rating plate.

☐ Branch circuit wire and fusing or circuit breaker of proper size.

☐ Electrical connections tight and unit properly grounded.

⚠ **WARNING:** Before applying power, confirm hot leads have no exposed copper outside of connectors.

E. Connectivity

☐ Update water heater's software.

☐ Pair owner's smart device to the water heater.

SAFETY PRECAUTIONS

1. ***DO*** turn off power to water heater if it has been subject to overheating, fire, flood, physical damage.

2. ***DO NOT*** turn on water heater if cold water supply shut-off valve is closed.

3. If there is any difficulty in understanding or following the Operating Instructions or *the Care and Cleaning section page 41*, it is recommended that a qualified person or serviceman perform the work.

GENERAL PRINCIPLE OF OPERATION

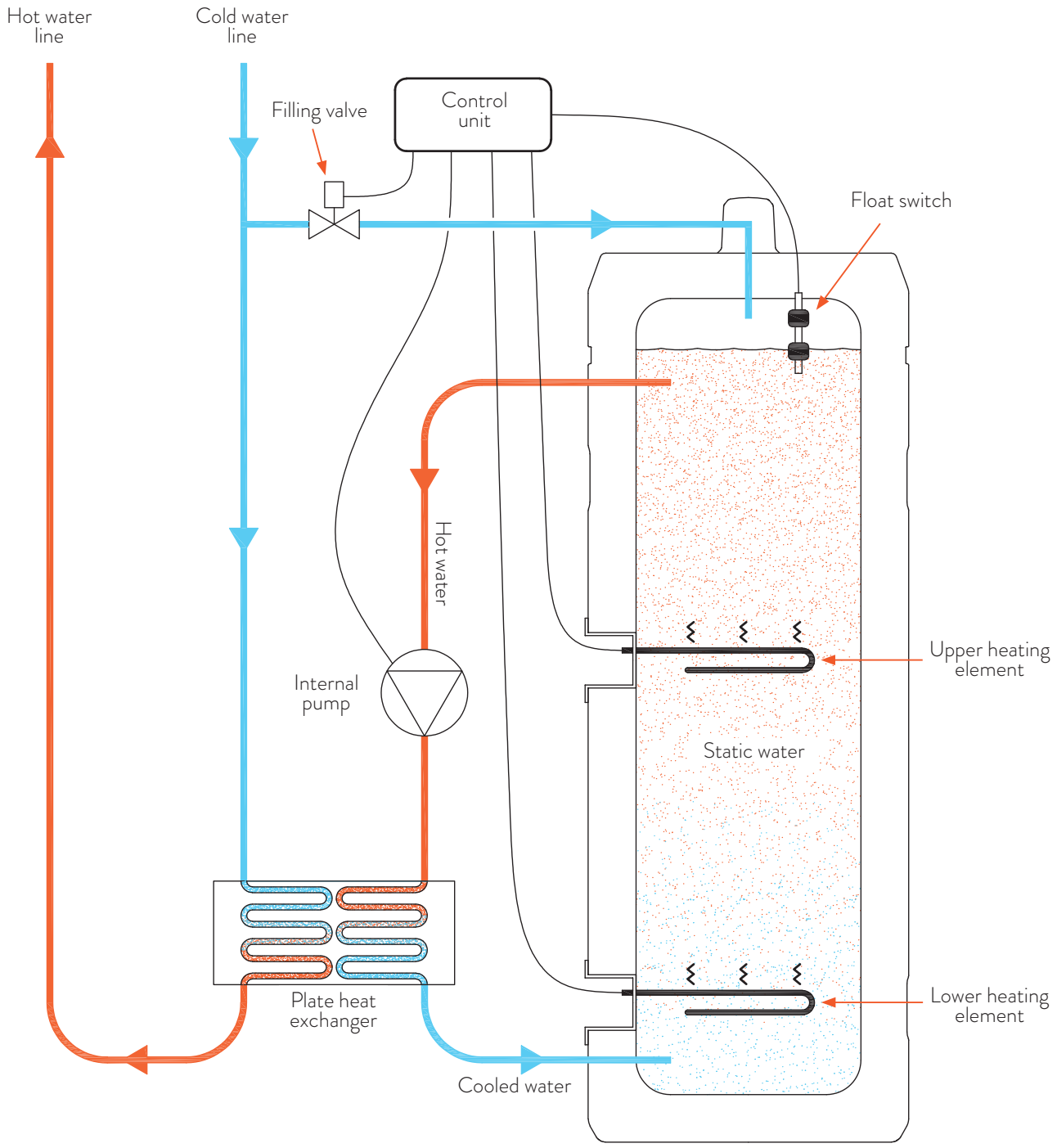
HOW DOES IT WORK?

Your EXR is the first water heater of its kind: it brings you the advantages of tankless combined with a tank: that's how we achieve performance and durability.

Your Essency water heater works a bit differently from other water heaters: you are not consuming the 55 gallons of water that are stored in the tank, but this "static water" is only acting as a heat source. When you draw hot water, the pump pushes the static water (heated up to 160°F, depending on the selected operation mode) into the heat exchanger. The heat is then transferred to the domestic water to reach the desired set temperature. All you have to do is to select the temperature of the water you want to get out of the faucet (you can set from 104°F to 140°F) and Essency does the rest!

- Essency uses two electric heating elements to heat the static water, one in the lower section of the tank, and one in the upper section.
- The tank is only filled once, during initial installation of the unit, and the water remains in there throughout the life of the water heater with a refilling of a few gallons per year. This greatly reduces the formation of scale inside the tank, thus increasing the life of the tank itself and key components, such as the heating elements.
- The EXR is not an endless supply of hot water. We provide an 80g First Hour Rating, and roughly 100 gallons in Heat+ Mode. See flow charts for expected performance in your climate.
- No water heater is instantaneous. Delivery time to fixtures depends on many factors, mainly distance from source to fixture, whether you have a recirculation system and how it is controlled.
- You can control your water heater directly on the unit using the touchscreen, or from your smartphone with the Essency App, which can be downloaded from the *Apple* and *Google* stores.

SCHEMATIC DIAGRAM :



SOFTWARE UPDATES

NOTICE: It is important to always keep the software of your water heater updated with the latest available version. Software updates may be needed to address cyber security issues, fix bugs, improve existing features and/or install new functionalities, help to reduce energy consumption, and optimize the hot water production process.

HOW DO I MAKE SURE THAT MY SOFTWARE IS UPDATED REGULARLY?

1. Software updates are done automatically, provided that your water heater is connected to a WiFi network, and you have downloaded the *Essency App* on your smartphone or tablet. Every time a software update has taken place, you will be notified via the App.

You can also manually update your water heater by following the steps below:

- Open your *MyEssency mobile application*
- Select the water heater to upgrade

If a software upgrade is available, a blue cloud icon will be displayed. Click on this icon  and follow the instructions.

In addition, the App will allow you to control the heating modes and temporary functions, and get real time information about the status of your water heater, including any fault messages. For more details on the App, please refer to the section "App" *(see page 40).*

NOTICE: Without the App, the water heater *CANNOT* be connected to the WiFi.

2. In case you decide to uninstall the App, after having connected the water heater, your water heater will remain connected to the WiFi network, and software updates will still be done automatically. However you will not be notified of any updates. Furthermore, you will not have access to any other features of the App.

WHAT HAPPENS IF I DO NOT CONNECT MY WATER HEATER TO WIFI?

If you do not connect your water heater to a WiFi network, no software updates will happen throughout the life of the machine, which may affect the functioning and performance of your water heater over time. Furthermore, you will not benefit from any improvements or new functionalities that may become available in the future. Therefore, in order to get the most out of your water heater, we strongly recommend to connect the water heater.

TOUCHSCREEN

Installers: before you install your first unit, we highly recommend familiarizing yourself with the touchscreen. We've built a comprehensive tool, called the 'Touchscreen Simulator', which simulates the physical touchscreen very accurately. Go take a look at ***www.essencyhome.com*** - we think it will really help with your knowledge and efficiency.

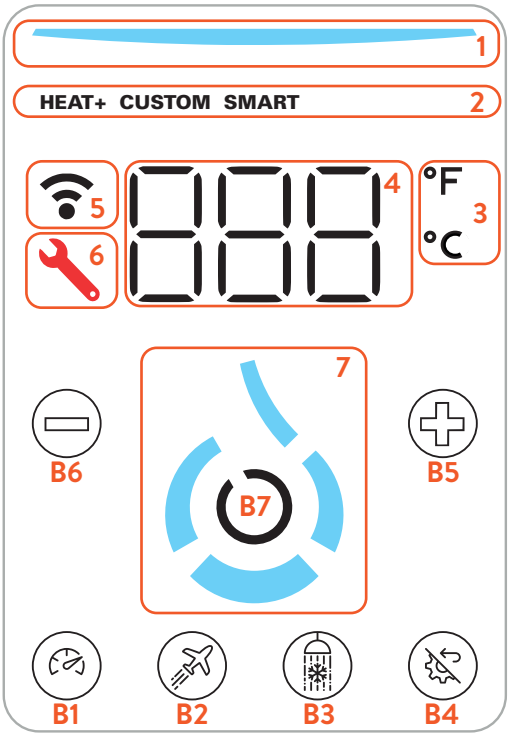


FIGURE	DESCRIPTION
1	**Status indicator**
2	Active mode
3	Temperature unit
4	Alphanumeric display
5	**WiFi status**
6	**Fault indicator**
7	**Capacity indicator**
B1	Boost (temporary function)
B2	Vacation (temporary function)
B3	Water Saver (temporary function)
B4	Multi Function button
B5	+ Button
B6	- Button
B7	Confirm button

Fig 1. Status Indicator

The color of the banner indicates the heating mode or the water heater status:

- Light blue: Normal operation.
- Red: An alarm has been triggered and needs to be acknowledged (*see Troubleshooting & Service section page 44*).
- White: Service menu.

Fig 5. WiFi Status

- The indicator is ON when the WiFi is connected.
- The indicator flashes when the water heater is searching for WiFi.

Fig 6. Fault Indicator

- The indicator is ON when a fault is active (*see Troubleshooting & Service section page 44*).
- The indicator is OFF when there is no active fault.

Fig 7. Capacity Indicator

- When static, the water drop icon indicates the quantity of hot water available.

  Smart mode optimizes hot water storage. It is normal, from time to time, to see some segments of the indicator unlit, according to hot water usage and elements activation.

  In **Heat+ mode**, the 4 segments are more likely to be all lit, as Heat+ mode provides 25% more hot water compared to Smart mode.

- The animation of the drop indicates whether the water tank is filling or heating.

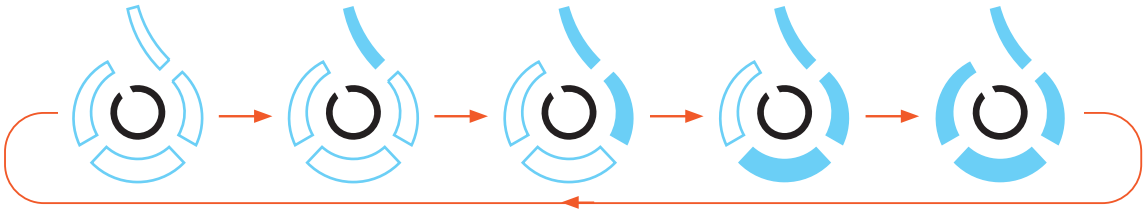
CAPACITY INDICATOR

The Essency EXR is equipped with two heating elements, one at the bottom of the tank and one at the top, that operate independently. When the water heater starts cold, it will always start by switching on the upper element first, so as to ensure that hot water is available as quickly as possible. When the top third of the water in the tank has reached its desired temperature, the electronics will switch off the upper element and switch on the lower element, until all the water in the tank is fully hot.

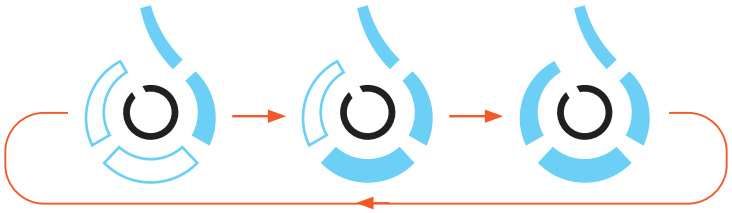
Heating of the water:

As static water begins heating up, the 4 segments of the water drop icon display which element is in operation.

Upper element :

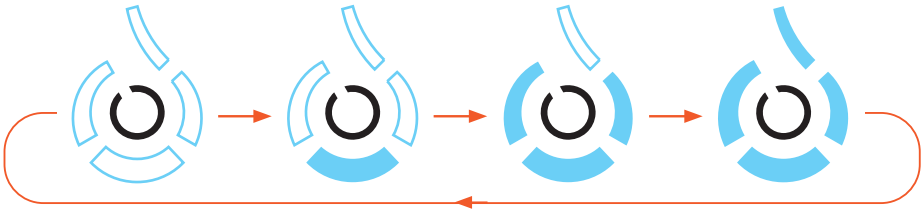


Lower element :



Filling of the tank:

When the tank is filling (at first startup or occasional refill), the 4 segments of the water drop icon blink the following way.



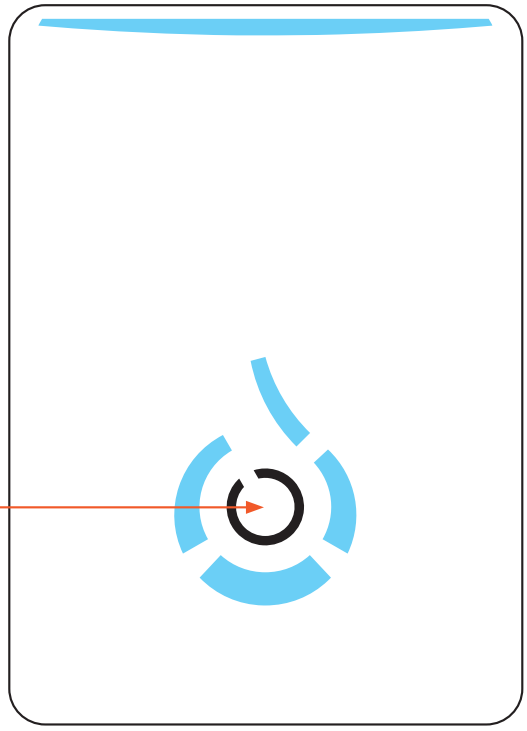
Hot water quantity available:

The drops indicates the approximate amount of hot water available for use.

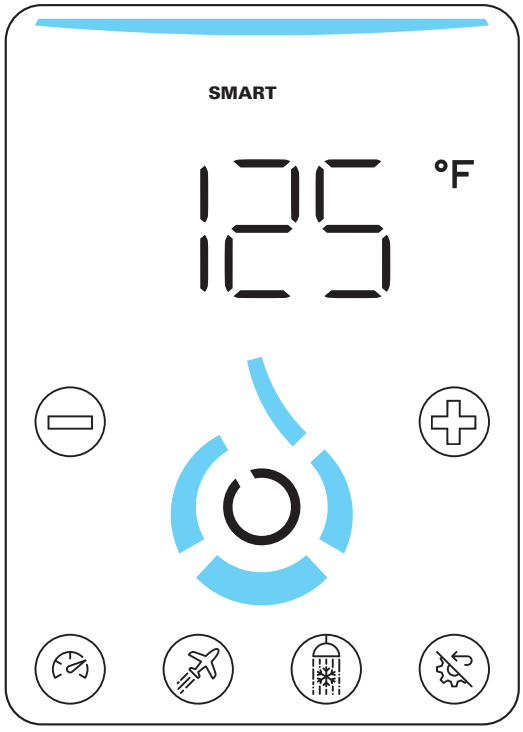
SCREENSAVER AND HOMEPAGE

Home Screen Inactive State

Press the **(Confirm)** button to activate the screen



Home Screen Active State

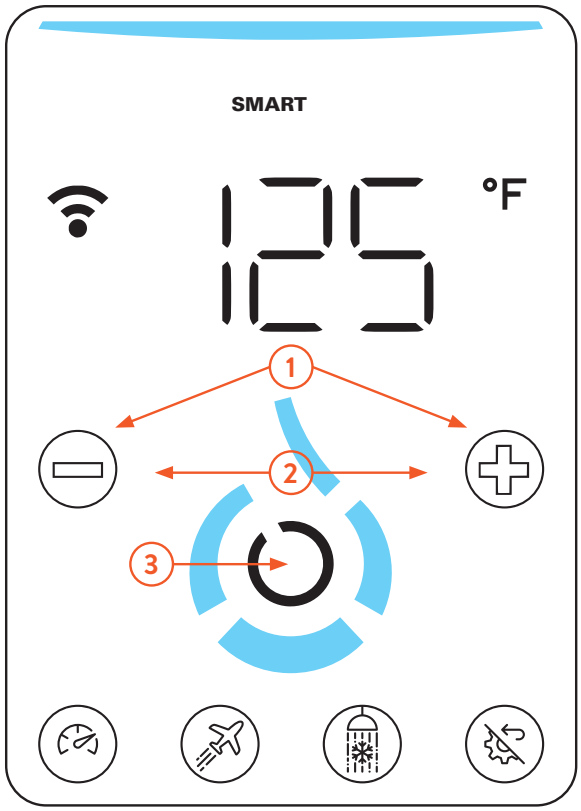


SETTING THE WATER TEMPERATURE

To set the temperature, use the + and – buttons on the touchscreen until the desired temperature is shown, and press the "confirm" button.

1. To set the temperature, press and hold the **(-)** or **(+)** button.
2. Once the temperature indication flashes, press the **(-)** button to decrease the temperature OR press the **(+)** button to increase the temperature.
3. Press and hold the **(Confirm)** button until temperature setting validation.

TIP: Press the **(Multi Function)** button to cancel.



WATER TEMPERATURE SET POINT

Water temperatures above 125°F can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined in this manual and on the label on the water heater.

The electronic control allows the water temperature to be set from 104°F to 140°F. Please note that this is the temperature of the water delivered at the outlet of your water heater, but not the temperature of the static water stored inside the tank (this temperature is defined by the mode you chose to operate in).
Decreasing the setpoint won't save energy, only the mode chosen is able to do so.

Refer to the chart as a guide to determine the maximum water temperature for your application.

APPROXIMATE TIME/TEMPERATURE RELATIONSHIP IN SCALDS	
Temperature	Time To Produce a Serious Burn
120°F	More than 5 minutes
125°F	1½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1½ seconds
155°F	About 1 second

Table courtesy of Shriners Burn Institute

DANGER! Water temperatures over 125° F can cause severe burns or scalding. Households with small children, disabled, or elderly persons may require a 120°F or lower temperature setting to prevent contact with HOT water.

NOTICE: In case of very hard water, setting the temperature at more than 125°F can increase the risk of scale build-up.

HEATING MODES

SMART

This is the default mode in which the water heater operates. In Smart mode the electronic control system will automatically manage the 2 heating elements, according to the quantity of hot water used, so as to optimize delivery and consume the least amount of energy. In Smart mode the set temperature of the upper element is 150 °F, whereas the lower element will heat between 110 °F and 150°F.

Smart is the recommended mode for families of 4 or 5 with average water use, and will allow for a FHR of up to 80 gallons.

HEAT+

The Heat+ mode optimizes performance over energy savings, allowing the water heater to produce larger quantities of hot water. In Heat+ mode, both heating elements will heat up to 160°F. This mode allows the water heater to deliver, in the same conditions as the FHR test, 100 gallons of hot water.

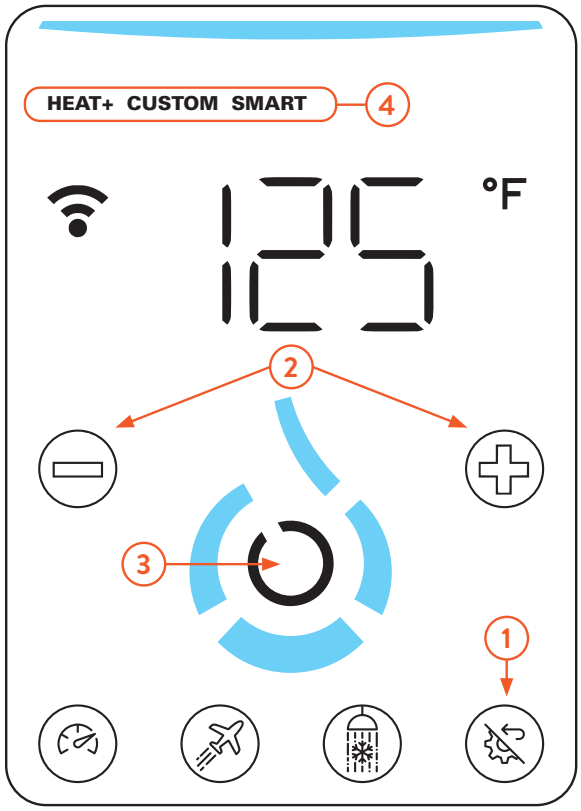
CUSTOM *(Available in future update)*

The Custom mode allows you to program a typical weekly cycle of use: you can select the Smart mode or Heat+ mode for a certain period of time by one hour increments, depending on your hot water requirements.

NOTICE: Never switch off the water heater. Refer to *page 11* for more information.

NOTICE: The hot water capacity is reduced in case of cold city water.

TO SELECT A HEATING MODE:



1. Quickly tap on the **(Multi Function)** button.
2. Press **(+)** or **(-)** to navigate between the 3 modes (Smart / Heat+ / Custom). The selected mode will blink.
3. Press the **(Confirm)** button to confirm the selected mode.
4. Once the heating mode is selected, the homepage will appear following your choice.

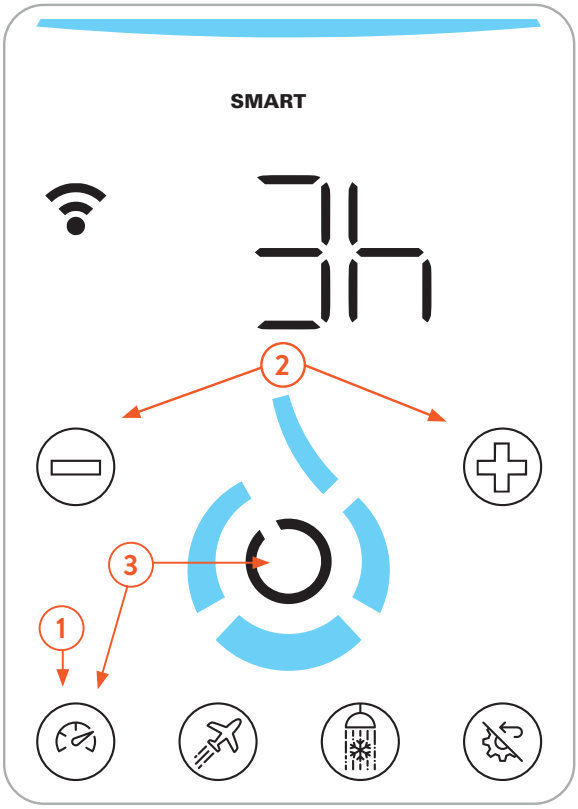
TEMPORARY FUNCTIONS

The water heater features a number of temporary functions (also available *in the App*), which allow you to temporarily override the active heating mode for a selected period of time. At the end of the selected period of time, the water heater will return automatically to the initial setting.

A temporary function can be interrupted at any time before the end of the selected period by selecting OFF. To do so, select the appropriate temporary function (Boost / Vacation / Water Saver) and press the **(-)** button until OFF is displayed. Then press the **(Confirm)** button.

BOOST

The boost temporary function will heat up the tank to its maximum temperature and will keep it hot, from 3 to 48 hours, or until the function is deselected.

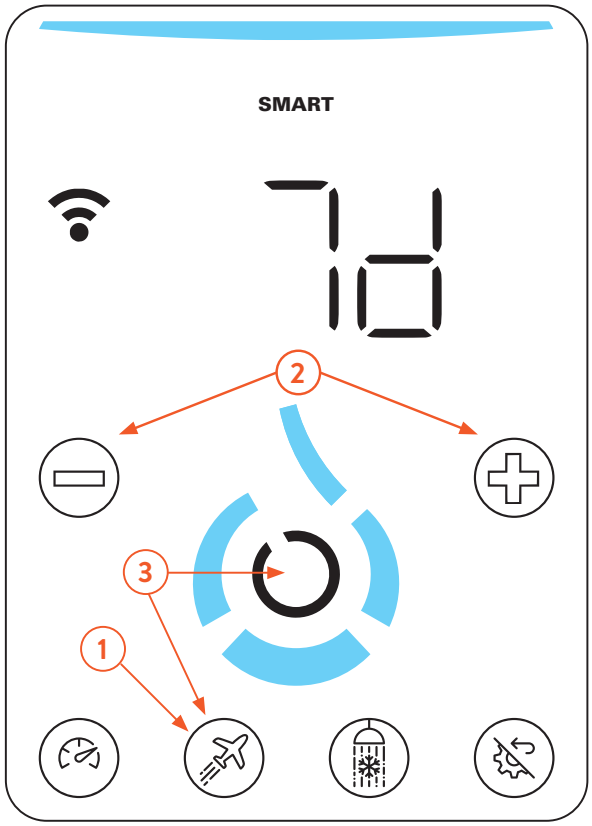


1. Press the **(Boost)** button to activate the boost temporary function.
2. Press the **(+)** button to increase the number of hours wanted in boost mode OR press the **(-)** button to reduce the number of hours wanted in boost mode.
3. Press the **(Confirm)** button to validate the number of hours and to launch the boost mode OR press the **(Boost)** button to exit the boost menu without activating the temporary function.
4. The **(Boost)** button will blink to indicate that the boost function is active.

The boost temporary function is deactivated by changing the time to OFF. To do so, press the **(-)** button until OFF is displayed. Then press the **(Confirm)** button.

VACATION

The vacation function aims to keep the tank at low temperature to save energy while preventing water from freezing. In this mode, only the low heating element is used to keep the tank at a minimum fixed temperature. Vacation mode can be programmed by the user for a fixed duration in days or for an infinite period of time.



1. Press the **(Vacation)** button to activate the vacation temporary function.

2. Press the **(+)** button to increase the number of the days wanted in vacation temporary function OR press the **(-)** button to reduce the number of the days wanted in vacation temporary function.

3. Press the **(Confirm)** button to validate the number of days and to launch the vacation temporary function OR press the **(Vacation)** button to exit the vacation menu without activating the temporary function.

4. The **(Vacation)** button will blink to indicate that the vacation function is active.

To ensure that hot water is available when you get back home, make sure to program the end 3 hours before your return. If any doubt, as the touchscreen timer can only be set in days, program 1 day less than your absence.

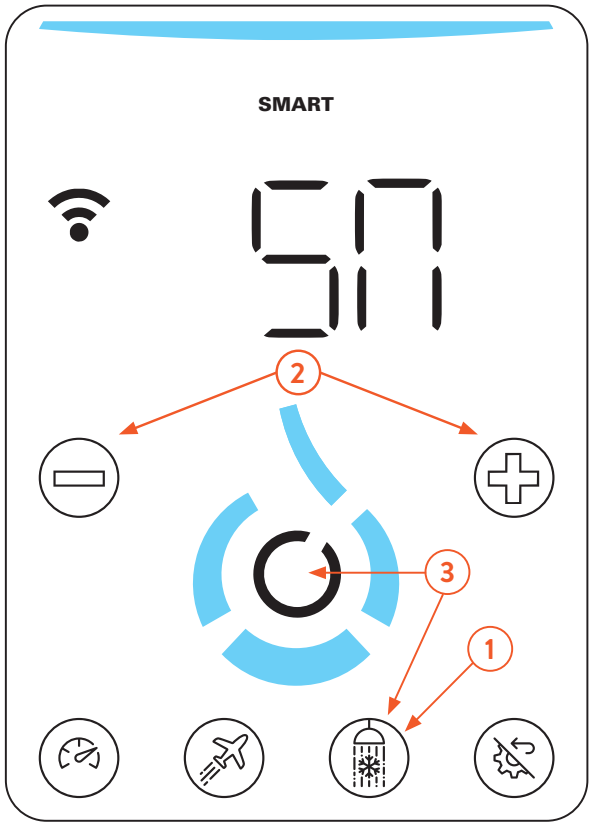
The default time is set to 7 days, and can be incremented to 99 days or infinite (INF). The vacation temporary function is deactivated by changing the time to OFF. To do so, press the **(-)** button until OFF is displayed. Then press the **(Confirm)** button.

TIP: We highly recommend to use the *Essency App* to program the Vacation function with a better accuracy (date to date).

WATER SAVER

This function is intended to limit the time spent in the shower by an overly indulgent user. It was specifically designed for parents of teenagers, to act like a remote control to turn off the hot water if they're spending too much time in the shower. It is not only a matter of peace at home, but also of water and energy conservation, hence its name.

Activating the water saver temporary function will gradually reduce the hot water temperature for 1 minute until reaching cold water. By default, the hot water will return only 5 minutes later, but can also be manually set between 1 and 30 minutes using the **(+)** or **(–)** buttons while in the function.



1. Press the **(Water Saver)** button to activate the water saver temporary function.

2. Press the **(+)** button to increase the number of minutes without hot water OR press the **(-)** button to decrease the number of minutes without hot water.

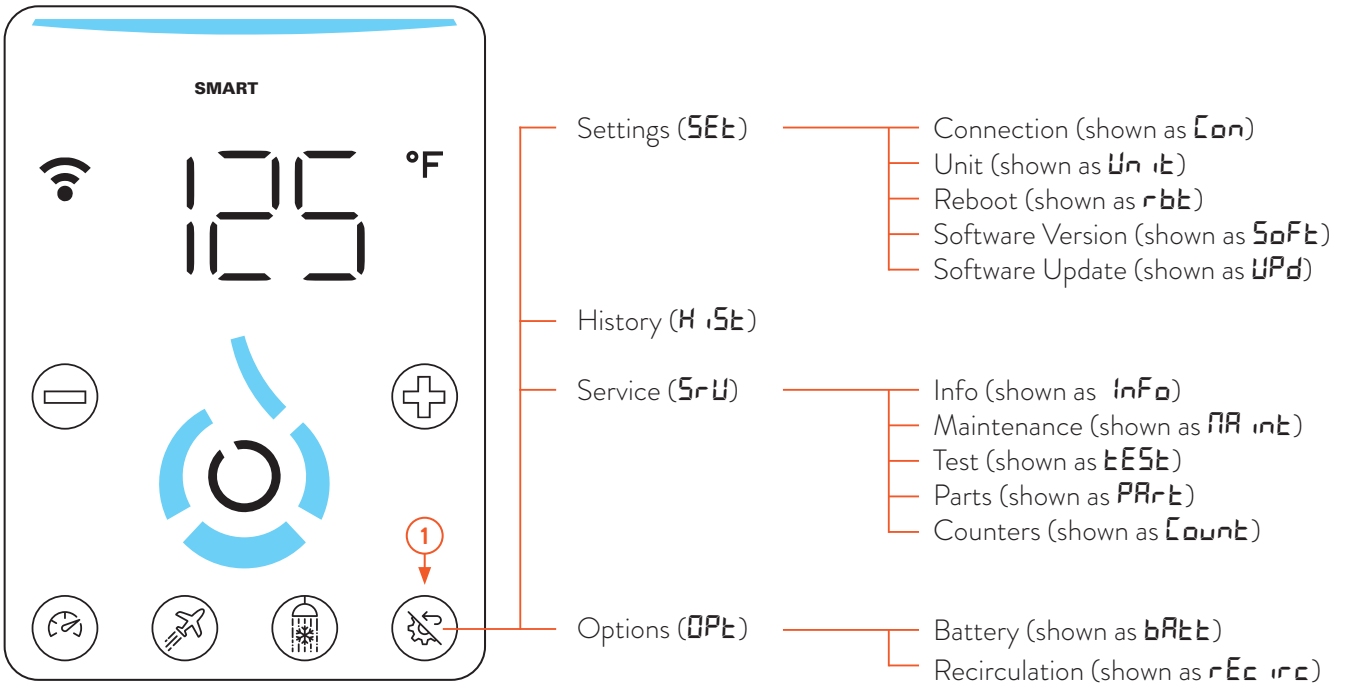
3. Press the **(Confirm)** button to validate the number of minutes and to launch the water saver temporary function OR press the **(Water Saver)** button to exit the water saver menu without activating the temporary function.

4. The **(Water Saver)** button will blink to indicate that the water saver function is active.

Please note that there will be no hot water in the house during the time selected, unless you cancel the function at any time by setting it to OFF.

PARAMETER SETTINGS

To explore the useful menus, make a long press on the **(Multi Function)** button for 2 seconds **(1)**.
You can navigate through the menus described below by using **(+)** and **(-)** button, validate with the **(Confirm)** button, and go back with short tap on the **(Multi Function)** button.



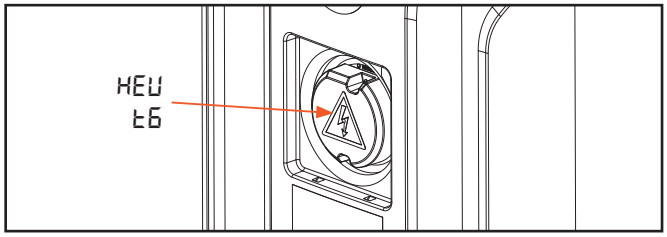
MENU	SUBMENU	DESCRIPTION
Settings	Connection	on, oFF, PA ir - selects Wifi status of the water heater.
	Unit	FAHRENHE it, CELS IUS - selects water heater unit.
	Reboot	Performs a complete reboot of the unit.
	Software Version	U, HF, CB, CF, UF - U being the overall software version.
	Software Update	ConF irM - launches a software update if new version available.
History	-	Alarm history
Service	Info	t 1, t2, t3, t4, t5, t6, t7, F 1, F2, HEL, HEU, P 1, LSL, LSU, u 1, AtU, ctA see description on the next page.
	Maintenance	HEL, HEU, P 1, u 1, AtU, rSt - see description on the next page.
	Test	St - self-test for heating elements activation.
	Parts	PuMP - selects the type of pump mounted on the water heater.
	Counters	c 1 to c 15 - see description on the next page.
Options	Battery	Disables battery fault (or missing) detection if oFF is selected.
	Recirculation	Disables leak detection on hot water line if on written on the HMI manner.

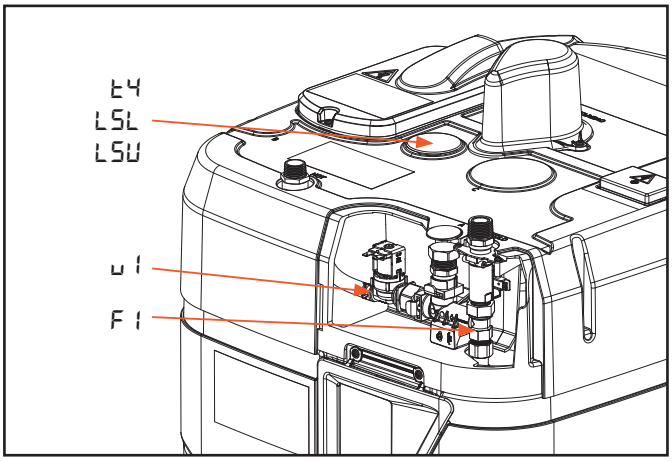
In the Service menu, through the Info section, you will be able to check the status of the sensors and actuators of your water heater.

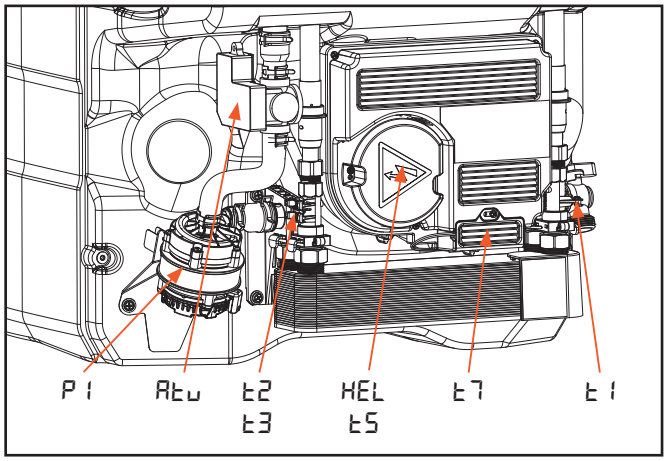
Through the Maintenance section, you can also activate the actuators. These options allow you to perform a self-diagnostic of your water heater for troubleshooting if needed.

The functions, sensors and actuators available are the following :

t 1: Domestic Cold Water Temperature (DCWT)
t2: Domestic Hot Water Temperature (DHWT1)
t3: Domestic Hot Water Temperature (DHWT2)
t4: Static Hot Water Temperature (SHWT)
t5: Static Hot Water Temperature Lower (SHWTL)
t6: Static Hot Water Temperature Upper (SHWTU)
t7: Battery Temperature
F 1: Water Flow Rate (Tenth of Gallons per Minute)
F2: Water volume since the last start-up (Hundreds of Gallons)
HEL: Lower Heating Element [1]
HEU: Upper Heating Element [1]
P 1: Internal Pump Command (%) [2]
LSL: Lower Level Sensor [3]
LSU: Upper Level Sensor [3]
u 1: Status of the filling valve [4]
AtU: Status of the internal pump valve [4]
ctA: Status of CTA-2045 [5]
rSt: Erase the alarm history







[1] *The status of the heating element is either ON or OFF (shown respectively as* on *or* oFF*).*
[2] *The internal pump command is the signal to the internal variable speed pump, as a % of speed (from 0 to 100%), related to the flow rate of the domestic water side. Useful to control the proper operation of the internal pump.*
[3] *The status of the level sensors is either Low or High (shown respectively as* Lo *or* H i*).*
[4] *The status of the valve is either Open or Closed (shown respectively as* OPn *or* CLo*).*
[5] *The status of CTA-2045 is either Connected or Not Connected (shown respectively as* on *or* oFF*).*

Counters descriptions are the following :

#	DESCRIPTION	UNIT
c 1	Upper element activations	Qty
c2	Upper element operating time	Days
c3	Lower element activations	Qty
c4	Lower element operating time	Days
c5	Internal pump starts	Qty
c6	Internal pump operating time	Days
c7	Filling valve openings	Qty
c8	Filling valve operating time	Minutes

#	DESCRIPTION	UNIT
c9	Anti-thermosiphon valve openings	Qty
c 10	Volume through the flowmeter	Cubic Meters
c 11	Low level sensor transitions	Qty
c 12	High level sensor transitions	Qty
c 13	Unit starts/reboots	Qty
c 14	Unit operating time	Days
c 15	Unit in safe mode	Days

USEFUL TIPS

FEATURE	PATH	WHY?
Acknowledging/clearing alarm	1. From the home page, short tap on the **(Confirm)** button (B7) to check the alarm code. 2. Long tap on the **(Confirm)** button if the alarm needs/can be acknowledged.	• The unit can clear auto-reset alarms. When the source of the fault disappears (sensor fault for example), the unit can work normally with no action required on the touchscreen. • The unit cannot manage manual reset alarms. A manual reset is required for the unit to work normally again.
Checking Alarm History	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to History (H ISt). **(Confirm)**. 3. Scroll through the history with **(+)** or **(-)**.	• Each time an alarm occurs, the unit stores it in the alarm history (also available in the App). Up to 16 of the most recent alarms are stored.
Resetting Alarm History	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to Service (SrU). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Maintenance (MA int). **(Confirm)**. 4. Scroll with **(+)** or **(-)** to Reset (rSt). **(Confirm)**.	• In case of maintenance, it can be useful to reset the alarm history.
Turning On/Off WiFi	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to Settings (SEt). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Connection (Con). **(Confirm)**. 4. Scroll with **(+)** or **(-)** to On (on) or Off (oFF).	• If you want to benefit from all the smart functions of your water heater, we recommend you connect your unit to WiFi. You can just update the software (highly recommended at the unit installation) or pair the unit to your Essency account and use all the features of the MyEssency App.

FEATURE	PATH	WHY?
Checking Current Software Version	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to Settings (SEt). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Software (SoFt). **(Confirm)**.	• In case of software issue or if you want to get the documentation in relation with your software version.
Updating software	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to Settings (SEt). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Update (UPd). **(Confirm)**.	• *See page 27*, Software update section.
Reboot	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or **(-)** to Settings (SEt). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Reboot (rbt). **(Confirm)**.	• In case of software malfunction.
Confirming Recirculation Flow Rate	1. From the home page, long tap on the **(Multi Function)** button. 2. Scroll with **(+)** or (-) to Service (SrU). **(Confirm)**. 3. Scroll with **(+)** or **(-)** to Info (InFo). **(Confirm)**. 4. Scroll with **(+)** or **(-)** to F1 (F 1). **(Confirm)**.	• In case of recirculation loop connected to the unit, check the real time flow rate of the loop. *See Recirculation section page 16.*

OCCASIONAL REFILL OF THE TANK

1. MANUALLY REFILL YOUR WATER HEATER AFTER MAINTENANCE

During the life of the water heater there may be occasions where the tank has to be refilled manually, such as after draining the tank in order to perform maintenance on the static water circuit, or change a heating element or the heat exchanger.

For the filling procedure, please refer to *Filling the water heater section (see page 21)* and follow the procedure.

2. AUTOMATIC REFILL OF YOUR WATER HEATER AND LEAK DETECTION

Due to water expansion and condensation, your water heater will lose tiny quantities of water each day, through the overflow drain. Per month, it is estimated to lose less than a quarter of a gallon — which is how much a traditional electric tank water heater loses per day.

Your water heater will compensate for this lost volume by automatically refilling to reach the desired water level. It will activate a solenoid valve approximately once every 3 months, during which you will hear water running inside the tank for a few seconds.

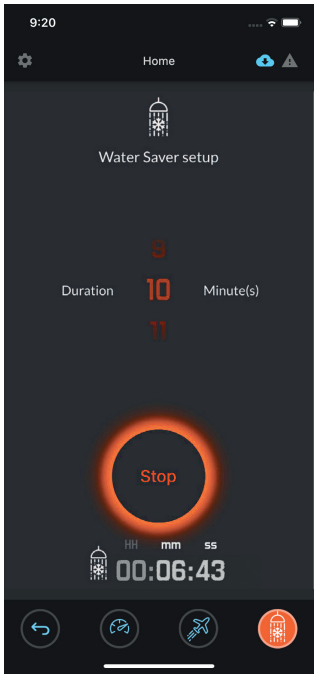
Your water heater will also detect if it's refilling too frequently, which would indicate that there is a leak on the static water circuit or the tank and will therefore alert you (*see Troubleshooting & Service section page 44*).

MYESSENCY CLIENT APP

Thanks to the MyEssency App, it is possible to control one or several Essency water heaters from your smart phone.
The App can be downloaded from the *Apple* and *Google* stores.

Once installed, please follow the instructions.

Should you encounter any problem during the connection procedure through the App, please reboot the electronics by using the Reboot function described in the Parameter Settings section (*see page 36)*. Then start the procedure again.



The App offers you a variety of functionalities such as:

- Status monitoring: active heating mode, current temperature settings
- Get information on available quantity of hot water
- Change active Heating mode
- Activate a Temporary Function (Boost/Vacation/ Water saver)
- Alarm information
- Access to online help and many more features...

NOTICE: For safety purposes, changing the temperature set point from the App is not allowed.

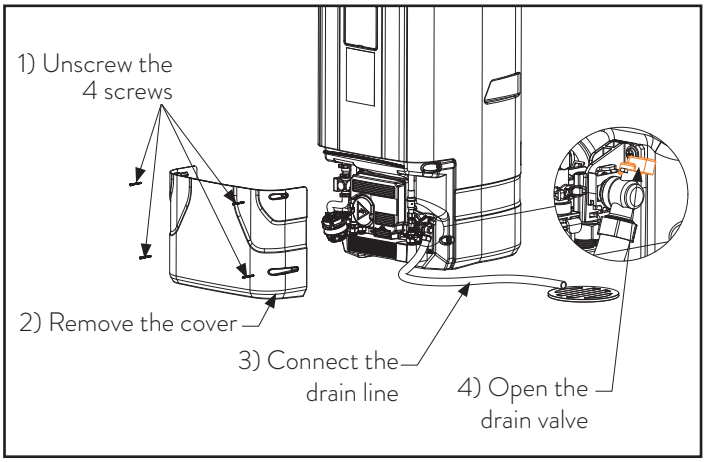
⚠ **CAUTION!** Shut off power to the water heater before draining your unit.

⚠ **DANGER!** Before manually operating the drain valve, make certain no one will be exposed to the hot water released by the valve. The water drained from the tank may be hot enough to present a scald hazard and should be directed to a suitable drain to prevent injury or damage.

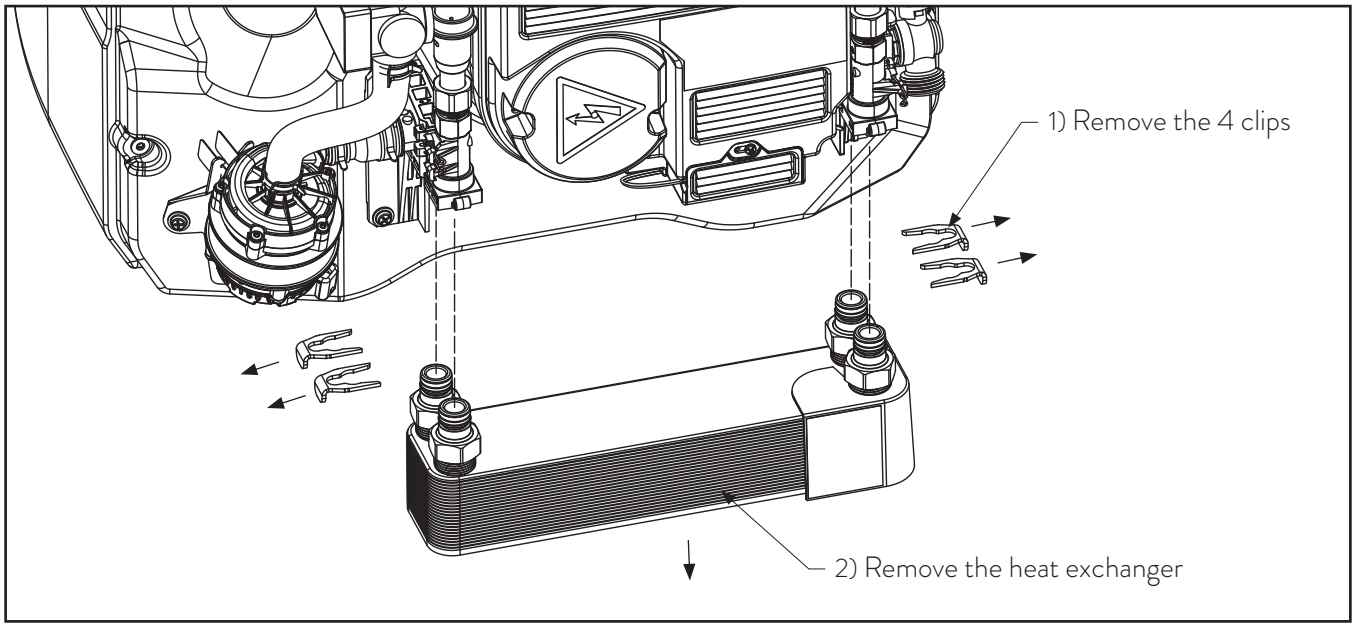
DRAINING THE WATER HEATER

To perform certain acts of maintenance or repair, it may be necessary to drain the tank.

In order to drain the water contained inside the tank, make sure the water supply is shut off and the battery disconnected. Then fix a garden hose to the drain valve on the water heater and direct the stream of water to a drain. Once the water supply valve of the water heater is closed, you can open the drain valve. The water heater's internal drain valve is closed by default from the factory. In the closed position, the red valve handle will be facing out. In the open position, the red handle will be facing right.



In order to drain the water contained inside the heat exchanger and only after the tank has been emptied, make sure the water supply is shut off and open a faucet to relieve the pressure. Then remove the heat exchanger by removing the four clips and disconnect heat exchanger from the water heater. Empty the contents of the device in a sink. When reassembling the heat exchanger, check that the o-rings and other parts near the exchanger are in good condition. Make sure the battery is reconnected. When reinstalling the cover, do not over-tighten the screws. The applied torque shall not exceed 1.1 lb.ft.



FLUSHING THE WATER HEATER

Based on your water conditions, the heat exchanger may need to be flushed. *Contact Essency* for more information. Save time and money by installing service valves in outlet and inlet water circuits of the water heater.

HOW TO PROCEED:

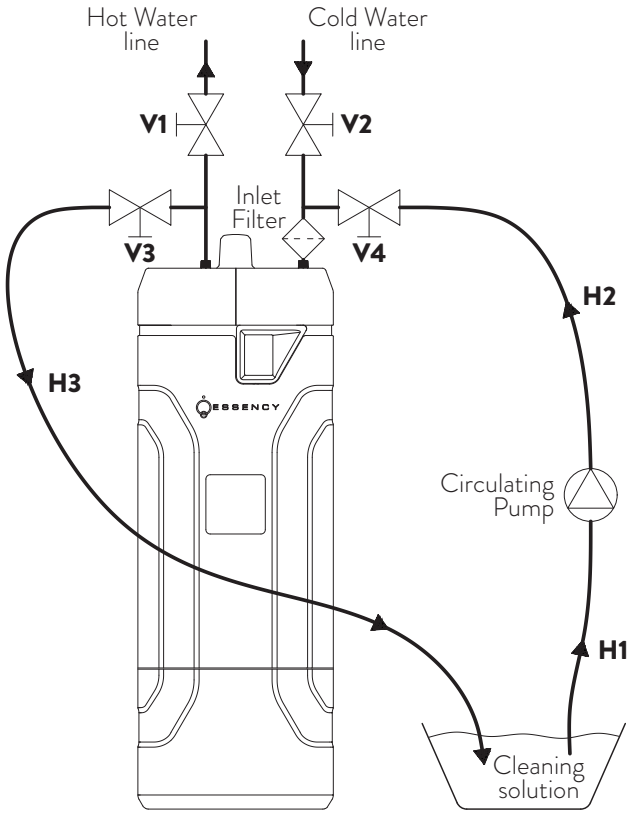
1. Disconnect electrical power to the water heater.

2. Disconnect the battery *(see page 13)*.

3. Place towels around hot water outlet and cold water inlet to avoid water on your water heater.

4. Close the shutoff valves on both the hot water and cold water lines (V1 and V2).

5. Connect circulating pump outlet hose (H2) to the cold water line at service valve (V4).Connect drain hose (H3) to the hot water line at service valve (V3) and place the free end of H3 into the solution.



6. Pour 4 gallons of undiluted virgin, food grade, white vinegar into pail.

7. Place the end of the hose to the circulating pump inlet (H1) into the cleaning solution.

8. Open V3 and V4.

9. Operate the circulating pump and allow the vinegar to circulate through the water heater for at least 1 hour at a rate of 4 gallons per minute.

10. Turn off the circulating pump.

11. Rinse the vinegar from the water heater as follows:

- **a.** Remove the free end of H3 from the pail and place it in a sink or outside to drain.
- **b.** Close V4 and open V2. Do not open V1.
- **c.** Allow water to flow through the water heater for 10 minutes.
- **d.** Close V2. When unit has finished draining, remove the inlet filter at the cold water line and clean out any residue. Place the filter back into its place and close V3.
- **e.** Open V1 and V2.

12. Disconnect all hoses.

13. Dry the potential wet surface then restore electrical power to the water heater.

CLEANING THE WATER HEATER

In order to clean the outside surfaces of the water heater, use a damp soft/microfiber cloth. Do not use any aggressive chemicals/cleaning products/tool. Avoid any direct water spray to the water heater (garden hose). Do not spray water on the active parts of the water heater.

ROUTINE INSPECTION

When installed properly and operated in normal standard conditions, your water heater will require very little periodic maintenance.
Like any electric appliance, we recommend that you inspect your unit periodically for malfunctions or defects.

WE RECOMMEND:

- Open the drain valve once a year to make sure it is moving freely (be careful with the hot water going out).
- Check the cold water inlet filter. If clogged, remove and clean it then put it back in place.
  Excessive sediment may indicate a need for an external Y strainer.
- Check the absence of water drops or discoloration on the plate heat exchanger.
- Check that the overflow line is not clogged.

Please contact your installing contractor if you detect any abnormal condition.

CONDENSATION

Condensation will likely form on top of the tank during its initial fill cycle. It is mostly contained underneath and immediately in front of the overflow cap and can be easily dried.

Inherent to the design of the EXR, condensation may also form during normal operation (heavy water draws and very cold inlet water temperatures), especially in high humidity & low ambient temperature environments.

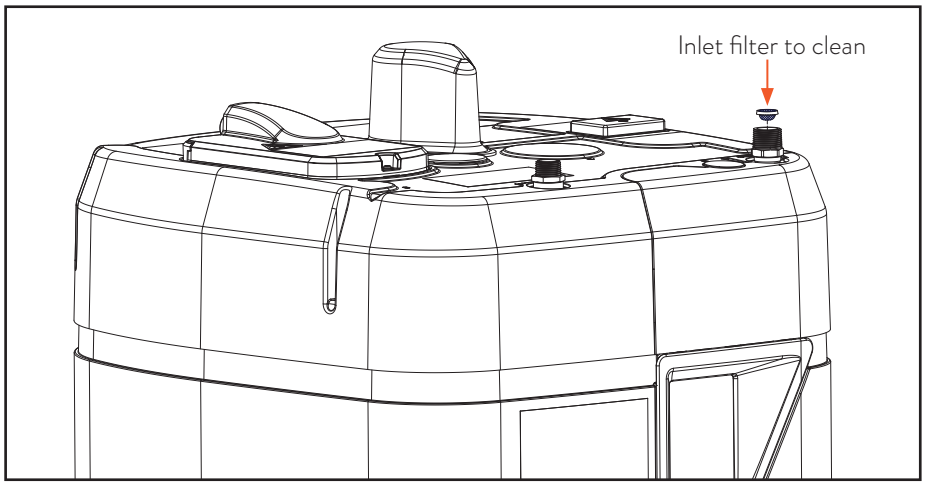
If it seems excessive, (more than a few tablespoons) examine piping and fittings for possible leaks. It is typically not noticeable. If it is dripping down the back or side of the water heater, ensure the unit is level.

WATER HAMMER

Rapid closing of faucets or solenoid valves in automatic water using appliances can cause a banging noise heard in a water pipe. Strategically located risers in the water pipe system or water hammer arresting devices can be used to minimize the problem.

HIGH CHLORIDES AREA

In order to extend your EXR lifetime, we recommend draining the tank every 10 years *(see Draining the water heater section, page 41)*. In case of installation close to the coast, or if your water has a high chlorides (salt) concentration (> 125 mg/l), we recommend draining the tank every 5 years.



CAUTION! For your safety, do not attempt to repair thermostat(s), heating elements, or electrical wiring. Refer such repairs to a qualified service technician.

TROUBLESHOOTING CHART

Before calling for service, you can find below some troubleshooting tips. To go further, our *website* can help you to find the root cause of most problems which could be encountered. Most of the time you won't need any mechanical dismounting action to find where the problem comes from.

If the status indicator is red, an alarm has been detected. This alarm is still active if the red wrench is displayed. To display this alarm, perform a short push on the confirm button from the homepage.

TIP: With the alarm number you can have detailed information and self-diagnose your water heater using the step-by-step Troubleshooting Tool on our website *https://essencyhome.com/troubleshooting-guide-exr/*.

WARNING CODE	EXPLANATION	WHAT TO DO
101	Outlet water temperature is too high.	• See our *website* for Troubleshooting tool if this alarm appears too regularly.
102	Inside temperature of the water heater reached 185°F.	• A failure occurred regarding the activation of the heating elements. See our *website* for Troubleshooting tool.
103-OH	Water outlet temperature reached a too high temperature too fast.	• Perform a long push on the central button to acknowledge the alarm and have hot water back. • See our *website* for Troubleshooting tool if this alarm appears too regularly.
107	Tank temperature sensor error.	• A temperature sensor of your water heater needs to be replaced. • When this alarm appears, the water heater is in safe mode for 30 days. Once the 30 days expired, the water heater will not provide hot water unless you perform a reboot or replace the part. • Once the component replaced, perform a reboot to reset the safe mode *(see page 36)*.
211 to 216	Temperature sensor error.	• A temperature sensor of your water heater needs to be replaced. .

WARNING CODE	EXPLANATION	WHAT TO DO
226	No flow has been detected during a filling or a water adjustment.	• Check that the shutoff valves are open. • Wait for 10 minutes before attempting a new filling in case the filling valve overheated *(see page 21)*.
231	Continuous flow detected on hot water line for 2 hours straight or more than 100 Gal drawn in a row.	• In case of recirculation system, check Recirculation section *(see page 16)*. • Check if a faucet has been left open or if a leak occurred on hot water line. • Use the touchscreen *(see page 36)* if you want to disable this alarm.
232	Battery fault.	• Check that the battery is well connected *(see page 13)*. • Disconnect the battery *(see page 13)* then disable it using the touchscreen *(see page 36)*. • Replace the battery *(see page 13)*.
224 to 235	Component fault.	• A component of your water heater may need to be replaced. See our *website* for Troubleshooting tool.

PROBLEM	POSSIBLE CAUSES	WHAT TO DO
Not enough or no hot water	Electric supply may be off.	• Make sure your water heater is electrically connected and the circuit breaker is not tripped. • Contact the local electric utility if your house is not electrically supplied. • Contact your plumber or electrician to check the electric connection of your water heater.
	Water usage may exceed the capacity to deliver the water at the desired temperature.	• Make sure no faucet is inadvertently open.
	Water usage may have exceeded the capacity of the water heater.	• Wait for the water heater to recover after an abnormal high demand. • Switch to a more adapted mode if it happens regularly *(See Heating modes section page 32)*.

PROBLEM	POSSIBLE CAUSES	WHAT TO DO
Not enough or no hot water	The temperature set point may be set too low.	• *See Setting the temperature section page 31.*
	The heat exchanger is scaled.	• In case of very hard water, the heat exchanger of your water heater may need to be descaled *(see page 42).*
	• If none of the previous causes is responsible for this problem, see our *website* for Troubleshooting tool.	
Water is too hot	The temperature set is too high.	• Decrease the temperature setpoint *(See Setting the temperature section page 31).*
Setpoint can't be changed	Somebody is using hot water.	• The setpoint cannot be changed if someone is using the hot water, dancing lines are displayed instead of (+) and (-) buttons.
Water leaks	Water drops on top of the unit.	• Confirm that the overflow line is well connected and sealed. • Due to little evaporation from the tank, water may condensate on top of the unit in case of highly humid and cold room ambiance. Water should evaporate by itself.
	Leakage from threaded connection. ⚠ **CAUTION!** Cut the water and electricity supply in this situation to avoid any hazard. Leaking water may be hot.	• The gaskets used don't need a high torque to keep the sealing; tighten the connection a bit more to stop the leak. • If the leak remains or comes from somewhere else contact your installing plumber.

Once the alarm is not active anymore you can acknowledge it by making a long push on the confirm button.

⚠ **CAUTION!** For your safety ***DO NOT*** attempt repair of electrical wiring, temperature sensor, electronic control, heating elements or other safety devices. Refer repairs to qualified service personnel.

⚠ **WARNING!** The static water in the tank may be hot, therefore any intervention on the static water circuit can cause burns.

⚠ **WARNING!** After every maintenance intervention, perform a water drawing of approx 2 gallons to evacuate potentially too hot water, and thus avoid the risk of burns.

NOTICE: when reinstalling any parts or covers, do not over-tighten the screws.
For more information on the applicable torque, please refer to the maintenance section of our website at ***www.essencyhome.com***. If you are not sure of your understanding regarding the instructions provided in our website or any terms within them, please contact a qualified service professional.

SERVICE PARTS

Service parts may be ordered through your plumber or local distributor.
When ordering repair parts always give the following information:

1. Model, Serial, and Product Numbers

2. Item Number

3. Parts Description

The procedure to order service parts can be found on our website at ***www.essencyhome.com***

⚠ **CAUTION!** The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 160°F, or incinerate. Replace battery with Essency original part only (refer to our *website* for the service part list). Use of another battery may present a risk of fire or explosion.

Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

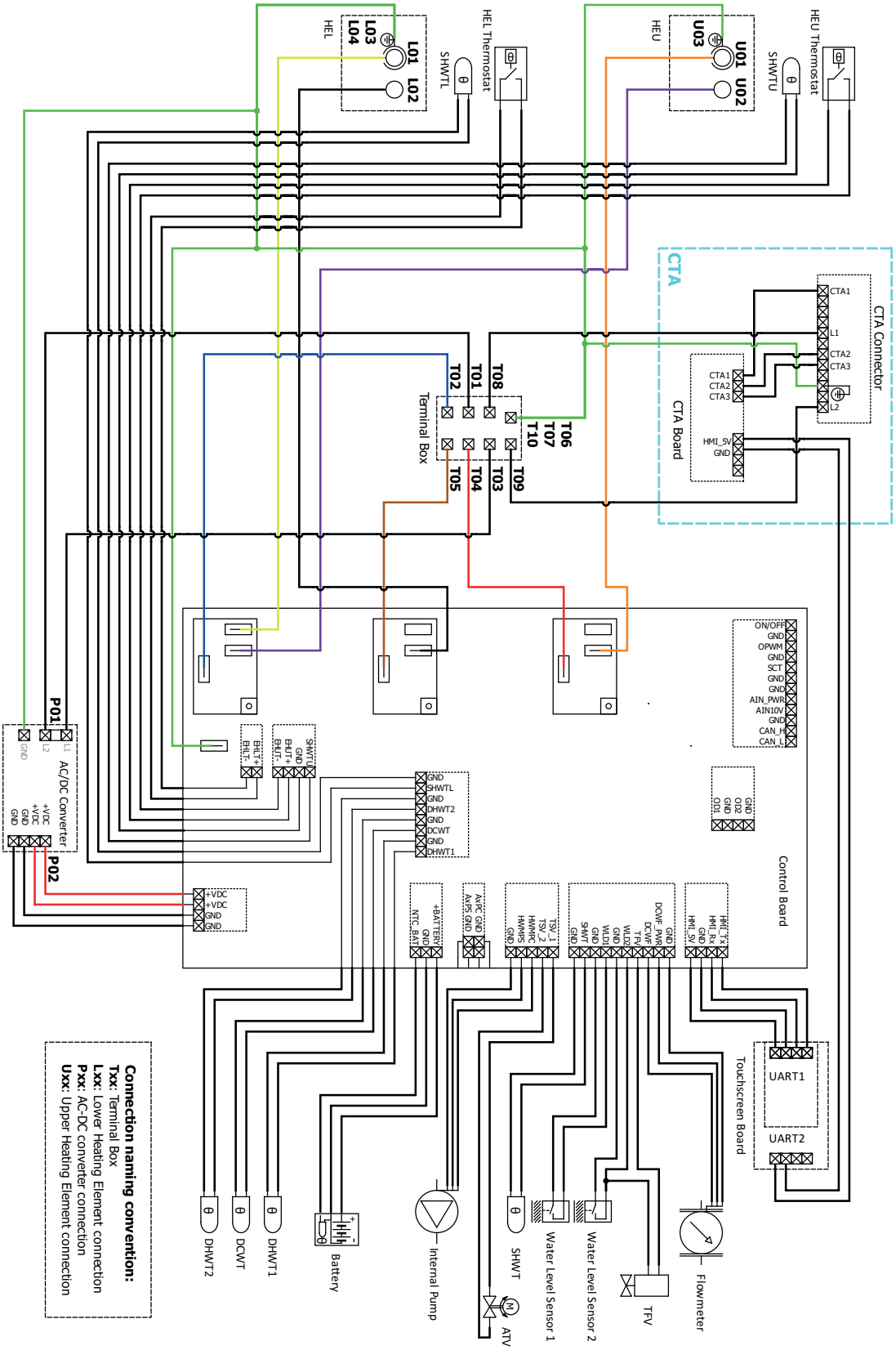
SERVICE LOG

Please record any replacement of components below to allow proper tracking of the water heater status.

DATE	PART NUMBER	OBSERVATION

WIRING DIAGRAM

This water heater is wired as indicated in the schematic below.



ESSENCY RESIDENTIAL WATER HEATER LIMITED WARRANTY POLICY

Please refer to the warranty card located in your EXR packaging.

TIPS FOR WATER CONSERVATION

Save the planet *(and money)*. Water is a gift of nature, and necessary for life on Earth. Here are some useful tips to save water :

1. Don't let water run unnecessarily.
2. Take a shower rather than a bath.
3. Limit the duration of each shower. A 7-minute shower is typically sufficient to be clean and relaxed.
4. Use the « water saver » temporary function if members of your family are extending their stay under the shower a bit too long...
5. Repair any leaks as soon as identified: Essency has a leak detector, which will alert you in case of leaks, not only in the water heater itself, but also in any hot water outlets connected to the water heater.
6. Use the dishwasher only when it is full.
7. Water plants selectively and without excess.
8. Select plants that don't need much water.
9. Collect rain water to water plants.
10. Use recycled paper for printing. The production of paper requires large amounts of water, especially for the whitening process. Using recycled paper reduces water consumption by 90%.

IF YOU NEED HELP

Should you have any questions about your new water heater, or if it requires adjustment, repair, or routine maintenance, it is suggested that you first contact your installer, plumbing contractor or previously agreed upon service agency. In the event the firm has moved or is unavailable, refer:

1. To the telephone directory, commercial listings or local utility for qualified service assistance.
2. Should your problem not be solved to your complete satisfaction, you should then contact the Essency's National Service Department.

HOUSTON OFFICE
27351 Spectrum Way
Oak Ridge North, TX 77385 -2101
USA
Toll free number : +1-888-229-6285

When contacting the manufacturer, the following information will be requested:

- Model and serial number of the water heater as shown on the rating plate attached to the jacket of the water heater.
- Address where the water heater is located and physical location.
- Name and address of installer and any service agency who performed service on the water heater.
- Date of original installation and dates any service work was performed.
- Details of the problems as you can best describe them.
- List of people, with dates, who have been contacted regarding your problem.

NOTES:

AFFIX LABEL HERE

ESSENCY

2, rue J. Gutemberg
85500 Les Herbiers, France

www.essencyhome.com