ARISTON

The home of sustainable comfort

UNVENTED WATER HEATER

ASSEMBLY AND OPERATION INSTRUCTIONS

VELIS

GENERAL SAFETY INSTRUCTIONS

1. **Read the instructions and warning in this manual carefully, they contain important information regarding safe installation, use and maintenance.**
   This manual is an integral part of the product. Hand it on to the next user/owner in case of change of property.
2. The manufacturer shall not liable for any injury to people, animals or damage to property caused by improper, incorrect or unreasonable use or failure to follow the instructions reported in this publication.
3. This electric storage water heater has been designed for domestic use and is specifically built to heat cold water (entering the product) for sanitary use. Any other use of the product is considered improper and therefore potentially dangerous. The manufacturer declines any responsibility arising from the improper use of the product and/ or for purposes other than those indicated in the relevant instruction manual.
4. Installation and maintenance must be performed by professionally qualified personnel as specified in the relative paragraphs.
   Only use original spare parts. Failure to observe the above instructions can compromise the safety of the appliance and **relieves** the manufacturer of any liability for the consequences.
5. DO NOT leave the packaging materials (staples, plastic bags, expanded polystyrene, etc.) within the reach of children they can cause serious injury.
6. **The appliance may not be used by persons under 3 years of age, with reduced physical, sensory or mental capacity, or lacking the re uisite experience and familiarity, unless under supervision or following instruction in the safe use of the appliance and the hazards attendant on such use. DO NOT permit children to play with the appliance. Children aged 3 to 8 can only operate the tap connected to the appliance. User cleaning and maintenance may not be done by unsupervised children.**
7. **DO NOT** touch the appliance when barefoot or if any part of your body is wet.
8. Before using the device and after routine or extraordinary maintenance, we recommend filling the appliance's tank with water and draining it completely to remove any residual impurities.

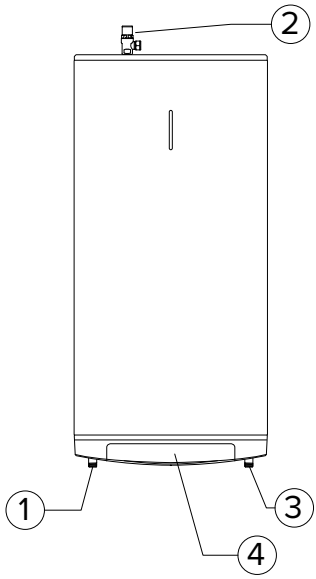
9. If the appliance is equipped with a power cord, the latter may only be replaced by an authorised service centre or professional technician.
10. It is mandatory to screw o the water inlet pipe of the unit a safety valve in accordance with national regulations. In countries which have enacted EN 1487, the safety group must be calibrated to a maximum pressure of 0,7 MPa (7 bar) and include at least a cock,
    check valve and control, safety valve and hydraulic load cut-out.
11. Do not tamper with the overpressure safety device (valve or safety group), if supplied together with the appliance; trip it from time to time to ensure that it is not jammed and to remove any scale deposits.
12. It is **normal** water drips from the overpressure safety device when the appliance is heating. For this reason, the drain must be connected, always left open to the atmosphere, with a drainage pipe installed in a continuous downward slope and in a place free of ice.
13. Make sure you drain the appliance and disconnect it from the power grid when it is out of service in an area subject to subzero temperatures.
14. Water heated to over 50 °C can cause immediate serious burns if delivered directly to the taps. Children, disabled persons and the aged are particularly at risk. We recommend installing a thermostatic mixer valve on the water delivery line, marked with a red collar.
15. Do not leave flammable materials in contact with or in the vicinity of the appliance.
16. Do not place anything under the water heater which may be damaged by a leak.

LEGIONELLA BACTERIA FUNCTION

Legionella are small rod shaped bacteria which are a natural constituent of all fresh waters. Legionaries' disease is a pneumonia infection caused by inhaling of Legionella species. Long periods of water stagnation should be avoided; it means the water heater should be used or flushed at least weekly.
The European standard CEN/TR 16355 gives recommendations for good practice concerning the prevention of Legionella growth in drinking water installations but existing national regulations remain in force.
This electronic storage water heater is sold with a thermal disinfection cycle function enabled by default. Every time the product is switched on and every 30 days, the thermal disinfection cycle runs to heat the water heater up to 60°C.

Warning: when this software has been carrying out the thermal disinfection treatment, water temperature can cause burns. Feel water before bathing or showering.

DESCRIPTION OF WATER HEATER



1. Hot water outlet (1/2 male BSP)
2. Temperature and pressure relief valve
3. Cold water inlet (1/2 male BSP)
4. Regulation keyboard

TECHNICAL CHARACTERISTICS

For the technical specifications, refer to the nameplate (the nameplate is located next to the water intake/outlet pipes).

TABLE 1 - PRODUCT INFORMATION					
Product range		**VELIS TECH WI-FI 45**	**VELIS TECH WI-FI 80**	**VELIS PRO 45**	**VELIS PRO 80**
Weight when empty	kg	25	35	25	35
Weight when full	kg	70	115	70	115
Installation		Vertical	Vertical	Vertical	Vertical
Model		Refer to the nameplate			
SMART		X	X	X	X
Q_{elec}	kWh	6,787	7,454	6,787	7,454
$Q_{elec\ ,\ week,\ smart}$	kWh	25,927	26,113	25,927	26,113
$Q_{elec\ ,\ week,}$	kWh	29,704	32,604	29,704	32,604
Load profile		M	M	M	M
L_{wa}	dB	15			
η_{wh}		39,6%	39,4%	39,6%	39,4%
V40	L	70	115	70	115
Heat loss	kWh/day	0,964	1,317	0,964	1,317
Heat up times [15-60°C]	minutes	60	112	29	56
Maximum inlet pressure [rated pressure]	bar	16			
Maximum design pressure	bar	6			
Set operating pressure expansion valve	bar	6			
Pre-charge pressure of the expansion vessel	bar	3,5			
Set opening T&P relief valve		7 bar - 95°C			
Capacity	L	45	80	45	80
The radio frequency band equipment operates is 2.4 GHz, and the maximum power of the transmitted signal is < 20dBm					

The power consumption data in the table and the other information given in the Product Data Sheet (Enclosure A to this manual) are defined in relation to EU Directives 812/2013 and 814/2013.
The products without the label and the data sheet for water heaters and solar devices, stipulated in regulation 812/2013, are not intended to be used in such assemblies.
The device is equipped with a smart function that allows you to adapt the consumption to the user profiles. If operated correctly, the device has a daily consumption of "Qelec ($Q_{elec,\ week,\ smart}$/$Q_{elec,\ week}$) less than that of an equivalent product with no smart function".

This appliance is conforming with the international electrical safety standards IEC 60335-1 and IEC 60335-2-21. The CE marking of the appliances attests its conformity to the following EC Directives, of which it satisfies the essential requisites:

- LVD Low Voltage Directive: EN 60335-1, EN 60335-2-21, EN 60529, EN 62233, EN 50106.
- EMC Electro-Magnetic Compatibility: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- RoHS 3 Risk of Hazardous Substances.
- ErP Energy related Products: EN 50440.
- EN 12897:2016

This product is in conformity with REACH regulations.

The UKCA marking of the appliances attests its conformity to the following UK legislations:

- Electromagnetic Compatibility Regulations 2016
- Electrical Equipment (Safety) Regulations 2016
- Radio Equipment Regulations 2017
- The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Water Regulations and Byelaws

These regulations and byelaws ensure a good supply of wholesome water, and that only approved materials, pipes and fittings are used to convey water.

Building Regulations

These are a statutory document and take priority over all other regulations and recommendations.
The installation of an unvented hot water system of over 15 litres is classified as a "Controlled Service" and Regulation G3 applies. To meet the requirements of the regulation, installation of an unvented system should be undertaken by a "competent installer".
All installations of unvented hot water storage systems having a capacity of more than 15 litres should be notified to the relevant Local Authority by means of building notice or by the submission of full plans. It is important to note that it is a criminal offence to install an unvented hot water storage system over 15 litres without notifying the Local Authority.

Delivery

The products are supplied with the following:

Unvented water heater (with factory-fitted T&P)	x1
Pressure relief valve set at 6 bar	x1
Dielectric junctions	x2
Tundish	x1
Expansion Vessel	x1
Check Valve	x1
Pressure reducing Valve	x1

Important note: Dielectric junctions must be fitted to all models as they prevent an electrolytic reaction and safeguard against potential aggressive corrosion.

If the supplied Dieletric Junctions are not fitted this could void the warranty.

INSTALLING NORMS (for the installer)

Before installing the heater read these instructions in full.
If you are unsure please contact our technical service department (03332407777).

The installation must comply with all relevant Water Regulations/Byelaws and Building Regulations. The installer should check with the local water authority for confirmation of the maximum water supply pressure.

The appliance should be left packed until it is ready to be installed. When unpacking take care not to damage the temperature and pressure relief valve on the top of the heater.
A drain has to be provided for any water discharged through the safety valves.
A cold water supply pressure between 1 and 3.5 bar is required (if the mains pressure is above 3.5 bar a pressure reducing valve must be installed). **Please note that turning down the stop-cock will reduce flow not pressure.**
The outlet pressure from the reducing valve (if supplied) is 3.5 bar.
A 240 VAC; 3 kW single phase electrical supply is required

This product is a device that must be installed vertically in order to operate correctly. Once installation is complete, and before any water is added or the power supply is connected, use a measuring instrument (i.e. a spirit level) to check that the device has been installed perfectly vertical.
The appliance heats water to a temperature below boiling point. It must be linked up to a mains water supply according to the appliance performance levels and capacity.
Before connecting the appliance, it is first necessary to:
- Check whether the characteristics (please refer to the data plate) meet the customer's requirements.
- Make sure the installation conforms to the IP degree (of protection against the penetration of liquids) of the appliance according to the applicable norms in force.
- Read the instructions provided on the packaging label and on the appliance data plate.

This appliance was designed to be installed only inside buildings in compliance with the applicable norms in force. Furthermore, installers are requested to keep to the following advice in the presence of:
- **Damp:** do not install the appliance in closed (unventilated) and damp rooms.
- **Frost:** do not install the appliance in areas where the temperature may drop critically and there may be a risk that ice may form.
- **Sunlight:** do not expose the appliance to direct sun rays, even in the presence of windows.
- **Dust/vapours/gas:** do not install the appliance in the presence of particularly dangerous substances such as acidic vapours, dust or those saturated with gas.
- **Electrical discharges:** do not install the appliance directly on electrical supplies that aren't protected **against sudden voltage jumps**.

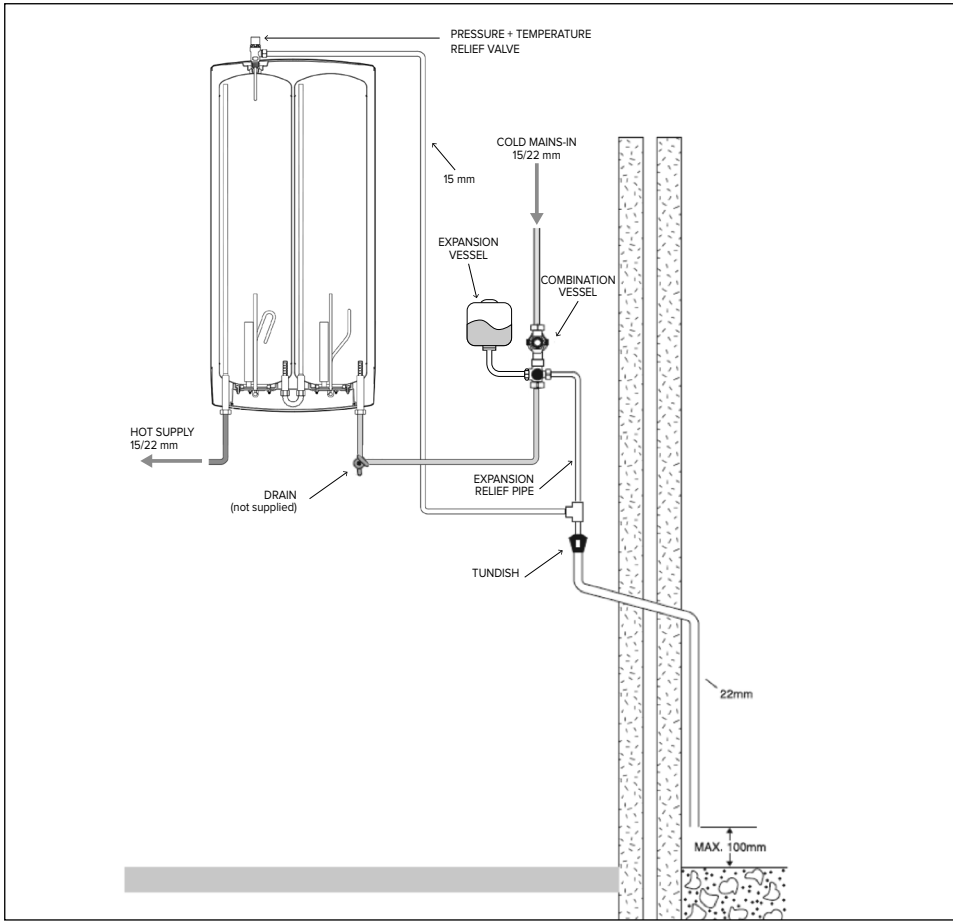
In the case of walls made of bricks or perforated blocks, partition walls featuring limited static, or masonry different in some way from those stated, you first need to carry out a preliminary static check of the supporting system.
The wall-mounting fastening hooks must be designed to support a weight that is three times higher than the weight of the water heater filled with water.
Fastening hooks with a diameter of at least 12 mm are recommended.
To facilitate maintenance, make sure there is a clearance of at least 50 cm inside the enclosure for access to the electrical equipment.

PLUMBING WARNING:

Note: If a valve i.e. a non return valve, water meter, pressure reducing valve or any type of valve or fitting that acts as a non return valve is installed on the cold water mains, this will prevent expansion. Therefore it will be necessary to install an expansion vessel (see figure below).

Note: If in doubt always install a pressure reducing valve (limited to 3.5bar) and expansion vessel.

The outlet from temperature and pressure relief valve/pressure relief valve must not be for any other purpose.
Take great care not to allow any swarf into the pipe work or fittings, as this might impair the operation of the safety valve(s). The water connection may be carried out as per the following:



Do not fit any stop cocks or isolating valves within the distance required for expansion. If a pressure reducing valve is needed, due to a mains pressure of over 3.5 bar, an expansion control kit must be fitted regardless of expansion pipework installed. The expansion distances quoted are for 15mm pipes and can be approximately halved for 22mm pipes.

The appliance must not be supplied with water of hardness less than 12°F, not with especially hard water (greater than 25°F); we recommend installing a water softener, properly calibrated and controlled - do not allow the residual hardness to fall below 15°F.

It's not allowed to connect to cold water inlet pipe any device that could bring water at temperature over 12°C (recirculation pump, solar system...).

The appliance is covered under the Building Regulations and therefore it is not possible to accommodate the expansion water within the system pipe work and consequently a set of expansion controls must be installed.
Note: The discharge from relief valves must be made in a safe and conspicuous manner.

Please note that in all cases the dielectric junctions must be connected to the heater before any other connection is made (these prevent an electrolytic reaction).

If the supplied Dielectric Junctions are not fitted this could void the warranty.

Only the use of copper pipe is recommended for connection to the heater. If any other material is used it must be able to withstand 90°C at 7 bar pressure for long periods.
No valves must be fitted between the expansion and pressure relief valves at any point along any of the safety relief pipework.
All other required safety components to install the model 30L are supplied as a kit with the appliance: 15mm pressure reducing valve set at 3.5 bar.
Expansion vessel (charge pressure set at 3.5 bar).

DISCHARGE PIPE WORK NOTE:

The following refers to Building Regulations G3. It is mandatory to follow these rules for all relief valve discharge pipe work.

1) The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the safety device, with no more than 600mm of pipe between the valve outlet and the tundish.
2) Discharge pipes from the temperature & pressure relief and pressure relief valve may be joined together. The pressure reducing valve should be installed between the nearest draw off and the non-return valve.
3) The pipe diameter of the D2 pipework must be at least one pipe size larger than the nominal outlet size of the safety device unless it's total equivalent hydraulic resistance exceeds that of a straight pipe 9 m long. i.e. Discharge pipes between 9 m and 18 m equivalent resistance length should be at least 2 sizes larger than the nominal outlet size of the safety device. Between 18 m and 27 m at least 3 times larger, and so on. Bends must be taken into account in calculating the flow resistance. See fig. 2 and Table 2.
4) The D2 pipe work from the tundish should have a vertical section of pipe at least 300mm long below the tundish before any elbows or bends in the pipework and should be at least one size larger than the pipe coming in.
5) The discharge pipe must be installed with a continuous fall.
6) The discharge must be visible at both the tundish and the final point of discharge, but where this is not possible or practically difficult; there should be clear visibility at one or other of these locations. Examples of acceptance are:
   i) Ideally below a fixed grating and above the water seal in a trapped gully.
   ii) Downward discharges at a low level; i.e. up to 100 mm above external surfaces such as car parks, hard standings, grassed areas etc. These are acceptable providing that where children may play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.
   iii) Discharges at high level; i.e. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not).
   Or onto a roof capable of withstanding high temperature discharges of water 3 m from any plastic guttering systems that would collect such a discharge (tundish visible).

iv) Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation can be traced reasonably easily. The single common discharge pipe should be at least one pipe size large than the largest individual discharge pipe to be connected. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by the blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place. Note: The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

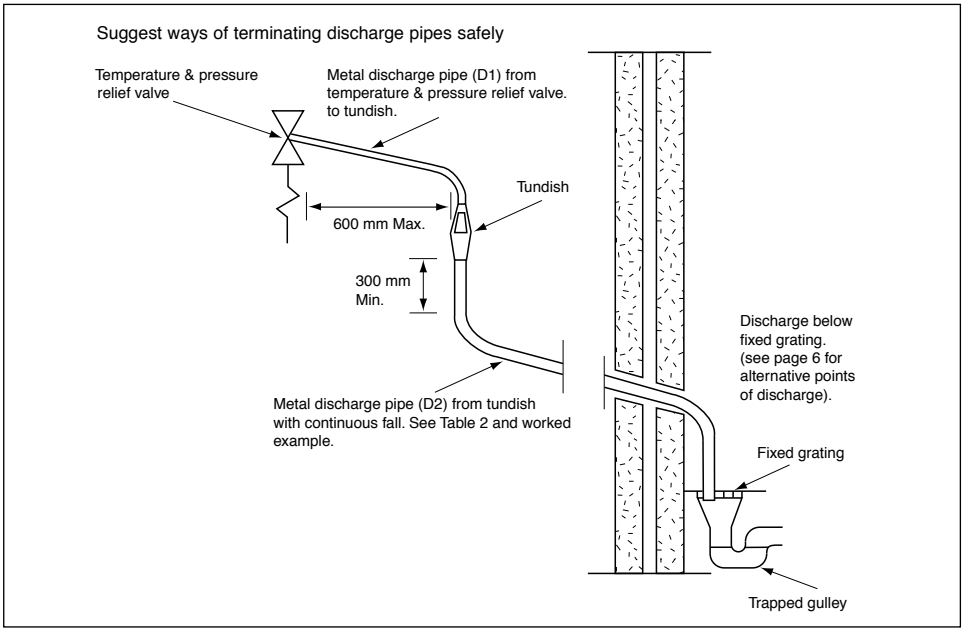


Table 2
Sizing of copper discharge pipe "D2" for common temperature valve outlets

Valve outlet size	Minimum size of discharge pipe D1*	Minimum size of discharge pipe D2* from tundish	Maximum resistance allowed, expressed as a length of pipe (i.e. no elbow or bends)	Resistance created by each elbow or bend
G 1/2	15 mm	22 mm 28 mm 35 mm	Up to 9 m Up to 18 m Up to 27 m	0.8 m 1.0 m 1.4 m
G 3/4	22 mm	28 mm 35 mm 42 mm	Up to 9 m Up to 18 m Up to 27 m	1.0 m 1.4 m 1.7 m
G 1	28 mm	35 mm 42 mm 54 mm	Up to 9 m Up to 18 m Up to 27 m	1.4 m 1.7 m 2.3 m

WORKED EXAMPLE

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

From Table 2

Maximum resistance allowed for a straight length of 22 mm copper discharge pipe (D2) from G 1/2" T & P valve is 9 m. Subtract the resistance for 4 no. 22 mm elbows at 0.8 m each = 3.2 m. Therefore the maximum permitted length equates to: 5.8 m.

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

Maximum resistance allowed for a straight length of 28 mm pipe (D2) from G 1/2" T & P valve equates to: 18 m.

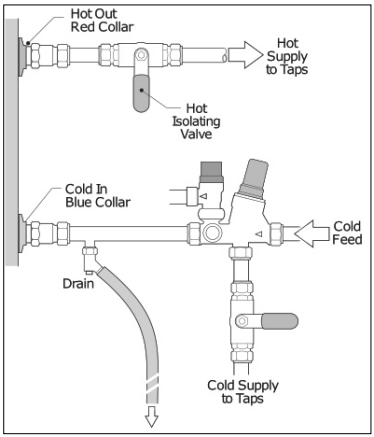
Subtract the resistance for 4 no. 28 mm elbow at 1.0 m each = 4 m. Therefore the maximum permitted length equates to: 14 m

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

DRAINING THE APPLIANCE

The appliance must be drained if left inactive in a room subject to frost and/or in the event of prolonged inactivity. Typical drain arrangement and system designs will vary:

1. Turn power off to ensure appliance is not operated when empty.
2. Turn off cold supply to appliance.
3. Shut off hot water feed from appliance.
4. Connect hose to drain cock and place other end in sink, basin etc.
5. Open drain cock and open TPR valve to vent cylinder.



ELECTRICAL WARNING

The appliance must be earthed

The electrical installation must be in line with the current IEE wiring regulations.

A mains supply of 240 VAC 3 kW.

Heat resisting cable, round 3 core 1.5 mm (to BS 6141 table 8) should be used to connect to the electrical supply through 20 amp double pole switch (conforming to BS EN 60669-1).

The appliance must have a dedicated incoming supply that must be protected by an industry standard MCB compliant with the current IEE wiring regulations.

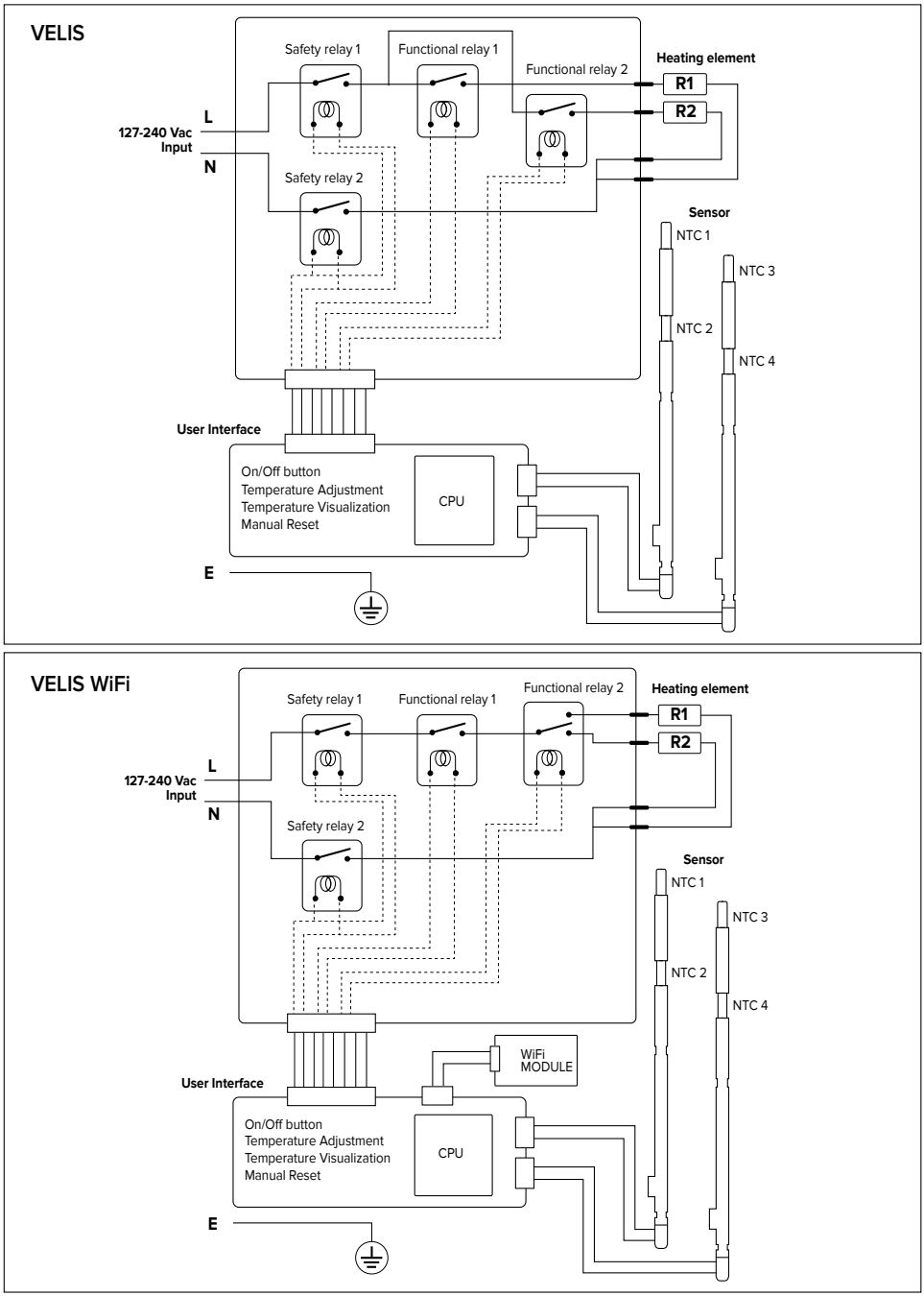
Flexible cables are colour coded as follows:

Brown .....live

Blue .....neutral

Green and yellow..... earth

Fig. 2 - Wiring diagram



To enter into the terminal compartment unscrew the 2 screws on the cover.
(To access the screws, remove the decorative caps on the control access panel).

It is mandatory, before installing the appliance, to perform an accurate control of the electrical system by verifying compliance with current safety standards, which is adequate for the maximum power absorbed by the water heater (refer to the data plate) and that the section of the cables for the electrical connection is suitable and complies with local regulations.
The manufacturer is not liable for damage caused by lack of grounding or anomalous power supply. Before starting up the appliance, check that the power rating matches that given on the nameplate. The use of multi plugs, extensions or adaptors is strictly prohibited.
It is strictly forbidden to use the piping from the plumbing, heating and gas systems for the appliance earthing connection. If the appliance is supplied with a power supply cable, should the latter need replacing, use a cable featuring the same characteristics . The power cord must be routed into the hole in the back of the appliance and connected to the thermostat terminals (**M Fig.7-8**).
The appliance must be grounded with a cable (yellow/green and longer than the phase cable) connected to the terminals marked ⏚ (**G Fig.7-8**).

COMMISSIONING

- Check that all the necessary components are supplied and for those not factory fitted, that they are the type recommended by the manufacturer for the particular water heater.
- Check that the water heater/components are undamaged.
- Check that the discharge pipe is plumbed so that it falls continuously and that no taps, valves or other shut-off devices are installed in the pipe.
- Check that the discharge pipe drains safely to waste and is readily visible.
- Check, in the case where some components are not factory fitted, that they are marked so as to refer to the warning label on the water heater.
- Open all outlet taps.
- Turn on the mains water supply.
- Close taps in turn as water flow stabilises with no air bubbles.
- Check for leaks.
- Check that no water is passing through the safety valve(s).
- Test the operation of the safety valve(s) by lifting/turning the lever/knob, and observing that water flows through and safely to waste.
- Switch on electricity and set thermostat to at 60°C to reduce the build up of scale in hard water areas.
- Check the water heats up.
- Check that <<warning to user label>> is secure and visible on the heater and related warning labels are fitted to the controls.
- Demonstrate operation to user, including operation of safety valve(s) and what to do if it/they operate(s).
- Give this handbook to the user and discuss future maintenance.
- Drain and refill the entire system ensuring it is flushed in accordance with BS6700.

MAINTENANCE REGULATIONS (for qualified personnel)

Before calling your Technical Servicing Centre, check that the fault is not due to lack of water or power failure.
Caution: disconnect the appliance from the mains before conducting any maintenance work.

REPLACEMENT OF PARTS WHEN NECESSARY

The electrical parts may be accessed by removing the cover (**Fig. 7**).
Intervene on the power board (**Fig. 7**, **Ref. Z**) by disconnecting the cables (**Fig. 7**, **Ref. C,Y and P**) and remove the screws. Intervene on the control panel by first removing the power board (**Fig. 7**, **Ref. Z**).
The display board is secured to the product with 2 screws (**Fig. 4, Ref. A**). After loosening the screws, press both the tabs with two fingers (**Fig. 4, Ref. B**) and remove the support (**Fig. 4, Ref. C**) from its housing, moving it towards the centre of the product.
After removing the control panel, you can disconnect the connectors of the rod carrying sensors and power board. Intervene on the rod carrying sensors (**Fig. 7**, **Ref. K**) by disconnecting the wires (**Fig. 7**, **Ref. F**) from the control panel and remove it from its seat, taking care not to excessively bend them.
During reassembly, make sure that all components are put back in their original positions.
To work on the heating elements and anodes, first drain the appliance.
Remove the bolts (**Fig. 5, Ref. C**) and remove the flanges (**Fig. 5, Ref. F**). The flanges are coupled to the heating elements and anodes. During reassembly, make sure to restore the rod carrying sensors and the heating elements to the original positions (**Fig. 7 and 5**). Make sure that the f lange plate with the coloured writing H.E.1 or H.E.2, is mounted in its position marked by the same writing.
We recommend replacing the f lange gasket (**Fig. 6, Ref. Z**) every time it is disassembled.
CAUTION! Swapping the heating elements will cause the appliance to malfunction. Work on one element at a time, and only disassemble the second one after the first one has been reinstalled.
Use only original parts from authorized service centres authorized by the manufacturer.

PERIODICAL MAINTENANCE

The heating element (**Fig. 6, Rif.R**) should be descaled every one years to ensure it works properly (the frequency must be increased, if water is very hard). If you prefer not to use special liquids for this operation, simply crumble away the lime deposit without damaging the heating element.
The magnesium anodes (**Fig. 6, 6a Rif.N**) must be replaced every two years or the warranty shall be voided (this does not apply to appliances with stainless steel boilers); however, the anode should be checked every year if the water is corrosive or chloride rich. To replace them, remove the heating elements and unscrew them from the brackets. The bypass pipe (**Fig. 5, Rif. X**) is inspected in the event of fault due to its obstruction. To inspect it remove the two rings (**Fig. 5, Rif. W**).
The immersion heater boss can be used as an access to view internal of the cylinder.
After routine or extraordinary maintenance, recommend filling its tank with water and draining it completely so as to remove any residual impurities. Use only original spare parts supplied by the manufacturer's authorised service centres.

USER INSTRUCTIONS

Advice for user

- Avoid positioning any objects and/or appliances that could be damaged by water leaks beneath the water heater.
- Should you not use any water for an extended period of time, you should:
  - disconnect the appliance from the electrical supply by switching the external switch to ''OFF";
  - turn off the plumbing circuit taps;
- Hot water at above 50°C flowing out of the taps at the point of use could cause serious scalds or even death from burns. Children, the disabled and the elderly are more exposed to the risk of burns. It is strictly forbidden for the user to perform any routine or extraordinary maintenance.
  To clean the external parts use a damp cloth soaked in soap and water.

OPERATION AND ADJUSTMENT OF THE OPERATING TEMPERATURE

The product is set to a temperature of 70°C for the 30, 50 and 80 l models and to 60°C for the 100 l model. The "ECO" function is active. In case of power shortages, or if the product is switched off using the ON/OFF button "⏻", the product memorises the last set temperature.
During the heating phase, slight noise may occur due to the heating of the water. Press the ON/OFF button "⏻" to switch the appliance on.
Use the "﹀" "﹀" buttons to set the desired temperature to a value between 40°C and 80°C as shown on the display. During normal operation, the display will show the temperature reached by the water inside the product. During the heating phase, the status indicator (**Fig. 8a/b, Ref. 1**) is red and turns blue once the set temperature is reached. If the water temperature drops, for example after a withdrawal, the heating function will be automatically activated.

HOT WATER LEVEL (models with the interface shown in Fig. 8a)

The indicators on the sides of the display (**Fig. 8a Ref. 2**) allow to check the level of hot water inside the water heater, on a four-segment scale. While the temperature is being set, the indicators light up to enable the user to visually check the set level.
During the heating phase the indicators light up gradually, indicating the increase in the temperature of the hot water inside the product, until the set temperature is reached.

ECO FUNCTION

The "ECO" function is a software programme that automatically "learns" the user's consumption levels, reducing heat dispersion to a minimum while maximising energy saving. The "ECO" software programme requires an initial memorisation period that lasts one week, during which the product starts operating at the set temperature. At the end of this "learning" week, the software programme adjusts the water heating according to the user's actual needs, which are automatically identified by the appliance.
The product guarantees a minimum hot water reserve also when there are no water withdrawals.
The learning process regarding the hot water requirements continues even after the first week.
The process reaches its full efficiency after four weeks of learning.
In order to ensure the programme's correct operation, the product should not be disconnected from the mains electricity.
An internal memory ensures that the data will be stored for a maximum of 4 hours without electricity. After this time, all the acquired data will be deleted and the learning process will start from the beginning.
To activate the function, press the "**ECO**" button, which will light up.
In this mode, the temperature can still be selected manually, but adjusting its value will deactivate the ECO function. This function can be deactivated by pressing the "**ECO**" button, which will turn off.
To reactivate it, press the "**ECO**" button again.
To voluntarily delete the acquired data, press and hold the "**ECO**" button for more than 3 seconds. Once the reset process has been completed, the "**ECO**" button will flash quickly to confirm the deletion of the

data.

BOOST FUNCTION (models with the interface shown in Fig. 8a)

The BOOST function temporarily sets the set-point temperature to 80°C, by-passing the previous operating mode (if the ECO function is active, the auto-learning function will be temperarily suspended an will resume automatically once the set-point is reached).
To activate or deactivate the BOOST function, press the corresponding buttons. If the function is active, the corresponding LED will be lit. If the product is switched OFF using the ON/OFF button "⏻", if the "﹀" "﹀" buttons are pressed to change the set-point or if a shut-off error appears, the BOOST function will be deactivated.

ANTI-FREEZE FUNCTION

The anti-freeze function automatically protects the appliance, preventing damages caused by very low temperatures, below 5°C, if the product is switched off during the winter season. We recommend leaving the product connected to the mains electricity, even in case of prolonged inactivity. Once the temperature rises to a safer level that prevents damages caused by ice or frost, the water heating function switches off again.
The function is enabled, but in case of activation it does not indicate whether the product is ON.
When the product is switched off using the ON/OFF button "⏻", if the anti-freeze function is active the display will show "AF" (Anti-Freezing).

WEEKLY PROGRAM FUNCTION (models with the interface shown in Fig. 8a)

The weekly program function can only be activated through the App.
Two different setpoint temperatures at two different times can be selected for each day of the week: the product will calculate the heating speed and, depending on the temperature, the best moment to start heating in order to reach the setpoint at the desired time.
Press the "﹀" or "﹀" buttons to deactivate the function.

THERMAL DISINFECTION FUNCTION (Anti-Legionella)

The Anti-Legionella function is activated by default. It consists of a water heating/60°C temperature maintenance cycle for 1 hour which has a thermal disinfection action on the relative bacteria.
The cycle starts when the product is started up and when it is restarted after a power outage. If the product always functions at temperatures lower than 55°C, the cycle is repeated after 30 days.
When anti-bacterial cycle is in progress the display shows "Ab"
When the product is switched off, the anti-Legionella function is deactivated. If the equipment is switched off during the anti Legionella cycle, the product switches off and the function is deactivated.
At the end of the cycle, the use temperature returns to the temperature previously set by the user.
To activate this function, simultaneously press and hold the "ON/OFF" and "﹀" buttons for 3 seconds; the display will show "A1" for 4 seconds to confirm the activation. To deactivate the function permanently, repeat the operations described above; the display will show "A0" for 3 seconds to confirm the deactivation.
Warning: when this software has been carrying out the thermal disinfection treatment, water temperature can cause burns. Feel water before bathing or showering.

WI-FI FUNCTION (models with the interface shown in Fig. 8a)

For further information about Wi-Fi configuration and the product registration procedure, refer to the enclosed quick start guide dedicated to connectivity, or visit the website:
https://discover.ariston-net.remotethermo.com

CONNECTION STATUS DESCRIPTION

Wi-Fi Button	Slow flashing	The Wi-Fi module is ON
	Rapid flashing	The Wi-Fi module is in Access Point mode
	Double flashing	The WI-Fi module is connecting to the home network
	ON	The Wi-Fi is ON and connected to the home network
	OFF	The Wi-Fi module is OFF

Wi-Fi RESET: to carry out a reset, press the“ ” and “ ” buttons simultaneously for 10 seconds

DIAGNOSTICS

Whenever one of the following faults occurs, the appliance enters the “fault mode” and the status indicator (**Fig. 8a/b Ref.1**) will be lit red and flashing.

ERROR TABLE

The type of malfunction is indicated on the display, which will show “Er” flashing, alternating with the relevant error code, according to the following Table:

CODE	DESCRIPTION
01	internal malfunction of the circuit board
61/62	internal malfunction of the circuit board (NFC communication or NFC data)
10	- broken temperature probes (open or short circuited) - boiler outlet
11	- excessive water temperature detected by single sensor - boiler outlet
12	- general excessive water temperature (circuit board fault) - boiler outlet
14	- Failure to heat water with powered heating element - boiler outlet
15	- overheating caused by lack of water - boiler outlet
20	- broken temperature probes (open or short circuited) - boiler inlet
21	- excessive water temperature detected by single sensor - boiler inlet
22	- general excessive water temperature (circuit board fault) - boiler inlet
24	- failure to heat water with powered heating element - boiler inlet
25	- overheating caused by lack of water - boiler inlet
60	Wi-Fi communication failure (models with the interface shown in Fig. 8a)

RESET

To reset an error, when possible, switching off and on from the ON/OFF “⏻” knob.
If the cause of the malfunction disappears immediately after resetting, the appliance resumes normal operation. If, on the other hand, the error code continues to appear on the display: contact the Technical Assistance Centre.

USEFUL INFORMATION

Before you clean the unit, make sure you have turned it off by setting its external switch to OFF. Do not use insecticides, solvents or aggressive detergents: these can damage the unit's painted and plastic parts.

IF THE WATER COMES OUT COLD

Disconnect the appliance from the power supply and have the following checked:
- the presence of voltage on the power terminal block (**Fig. 7, Rif. M**);
- the circuit board;
- the heating elements;
- inspect the bypass pipe (**Fig. 5, Rif. X**);
- the sensor holder rods (**Fig. 7, Rif. K**)

IF THE WATER COMES OUT BOILING HOT (STEAM IN THE TAPS)

Disconnect the appliance from the electricity supply and have the following checked:
- the circuit board
- the amount of scale on the boiler and components;
- the sensor holder rods (**Fig. 7, Rif. K**)

THE HOT WATER DELIVERY IS INSUFFICIENT

Disconnect the appliance from the electricity supply and have the following checked:
- the pressure of the water mains;
- the condition of the deflector on the cold water intake pipe;
- the condition of the hot water pipe;
- the electrical components

WATER TRICKLING FROM THE PRESSURE SAFETY DEVICE

During the healing phase, some water may trickle from the tap. This is normal. To prevent the water trickling, a suitable expansion vessel must be installed on the flow system. If the trickling continues even after the healing phase, have the following checked:
- device calibration;
- the pressure of the water mains.

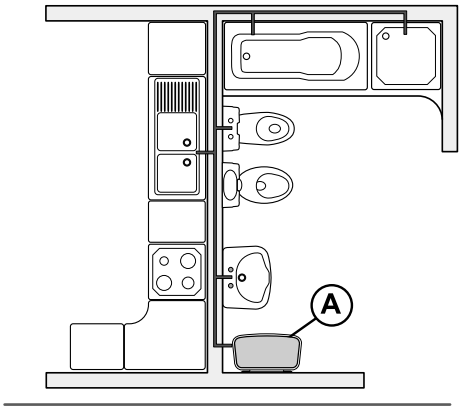
Caution: Never obstruct the appliance outlet

IF THE PROBLEM PERSISTS, NEVER ATTEMPT TO REPAIR THE APPLIANCE YOURSELF, BUT ALWAYS CONTACT QUALIFIED TECHNICIAN.

The indicated data and specifications are not binding; the manufacturer reserves the right to modify them at his own discretion notification or replacement.

This product conforms to Directive WEEE 2012/19/EU.
The barred wheeled bin symbol appearing on the appliance or on its packaging indicates that the product must be collected separately from other waste at the end of its useful life.
The user must therefore deliver the decommissioned product to an appropriate local facility for separate collection of electro-technical and electronic waste. Alternatively, the appliance to be scrapped can be delivered to the dealer when purchasing a new equivalent appliance. Proper separated collection of the decommissioned appliance for its subsequent recycling, treatment and eco compatible disposal helps to prevent negative effects on the environment and human health, besides encouraging reuse and/or recycling of its constituent materials.

1



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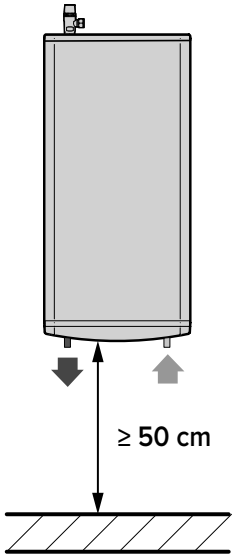

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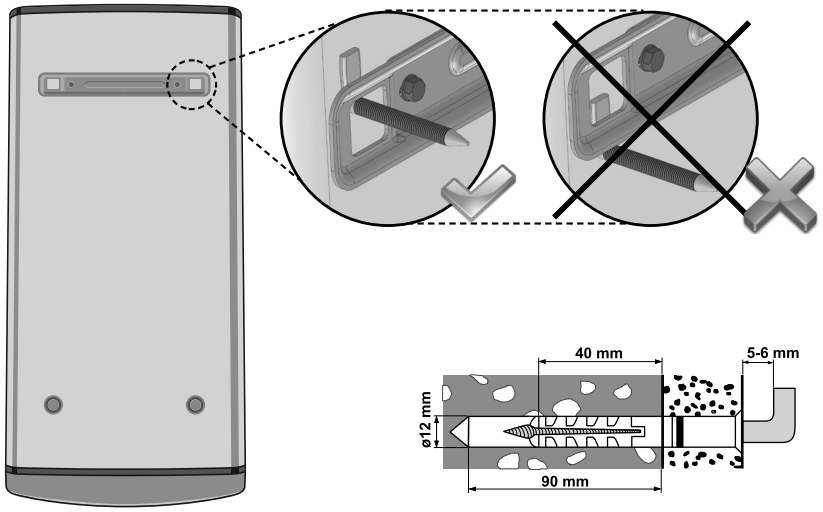
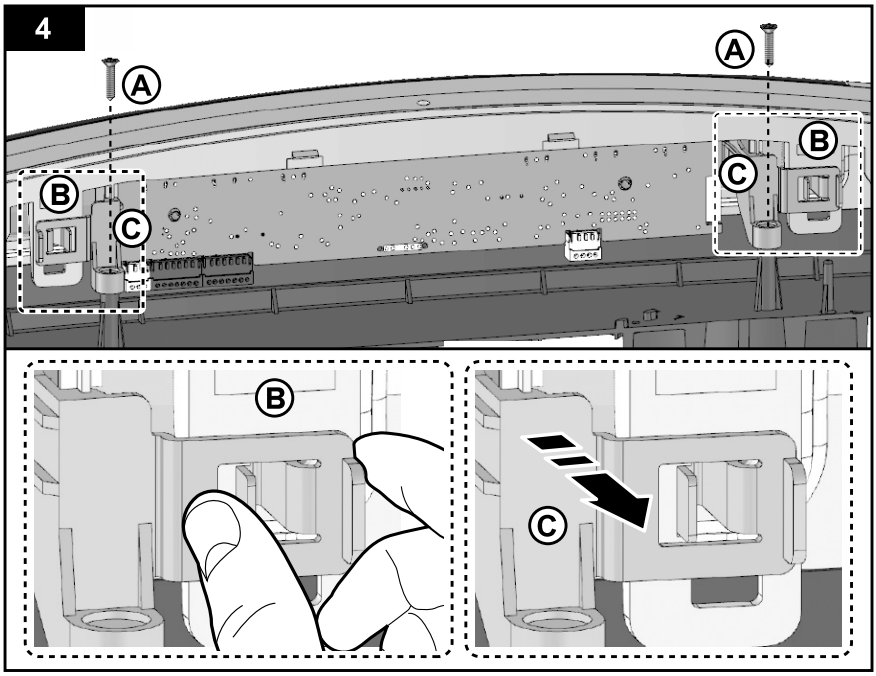
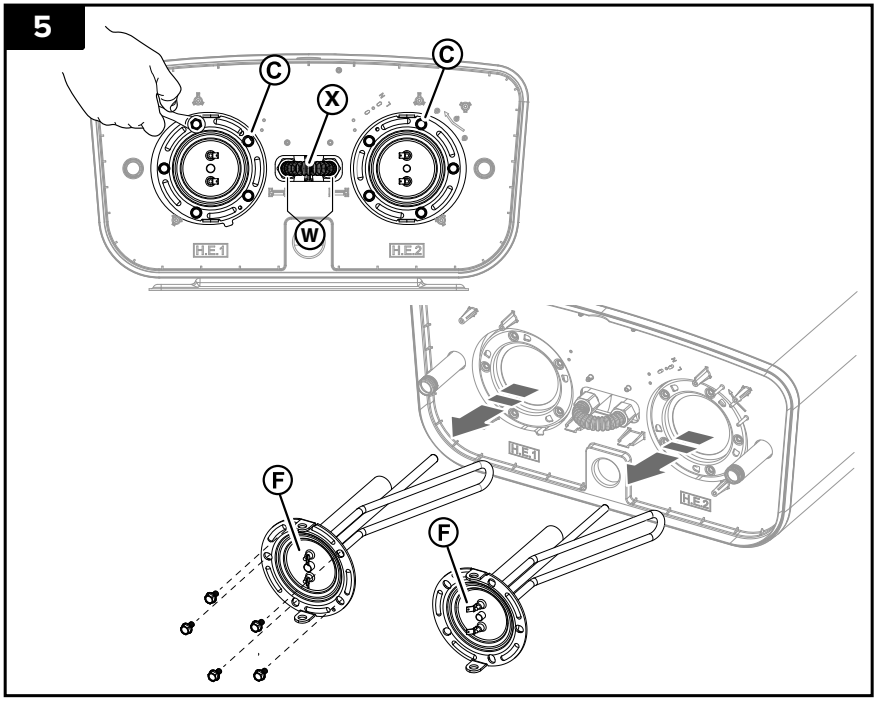



4
A
B
C
A
B
C
B
C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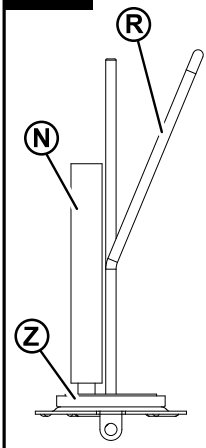
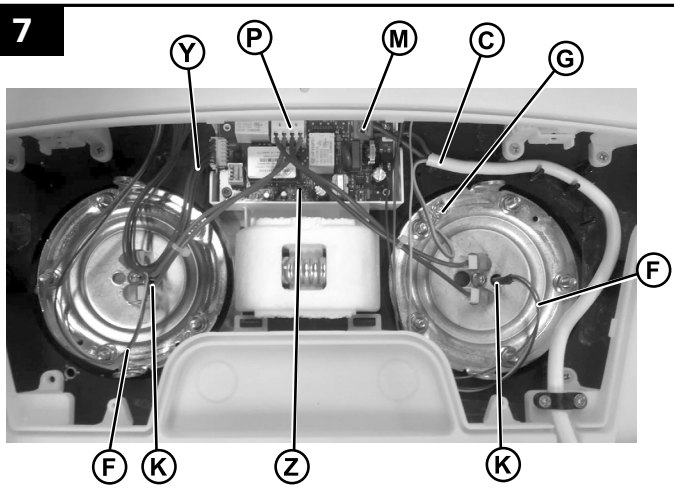
C
X
C
W
H.E.1
H.E.2
H.E.1
H.E.2
F
F

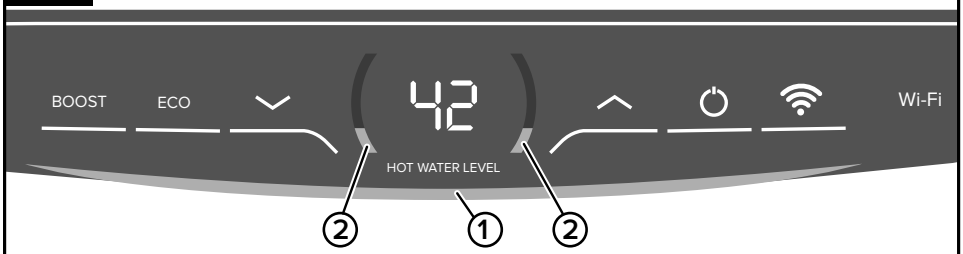
6


R
N
Z

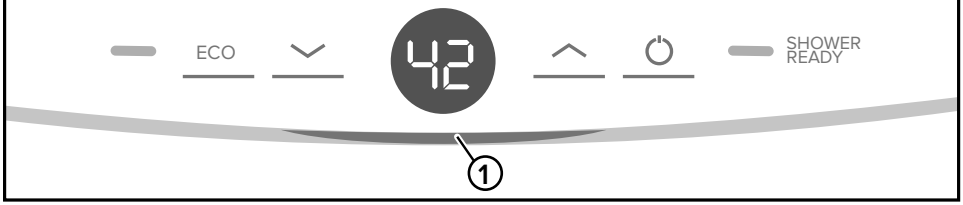
7


Y
P
M
C
G
F
F
K
Z
K

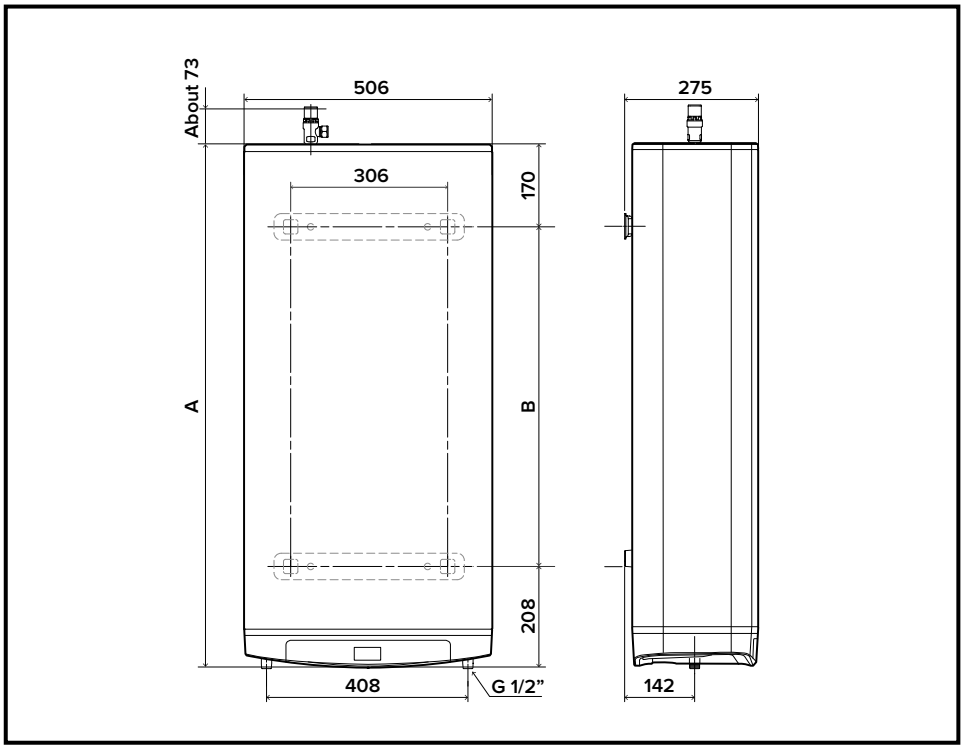
8a


BOOST
ECO
42
HOT WATER LEVEL
Wi-Fi
2
1
2

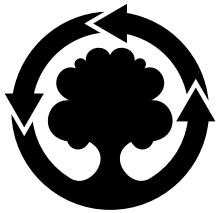
8b


ECO
42
SHOWER READY
1

Installation scheme



Model	A	B
VELIS TECH WIFI 45	797	405
VELIS TECH WIFI 80	1272	880
VELIS PRO 45	781	405
VELIS PRO 80	1256	880



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