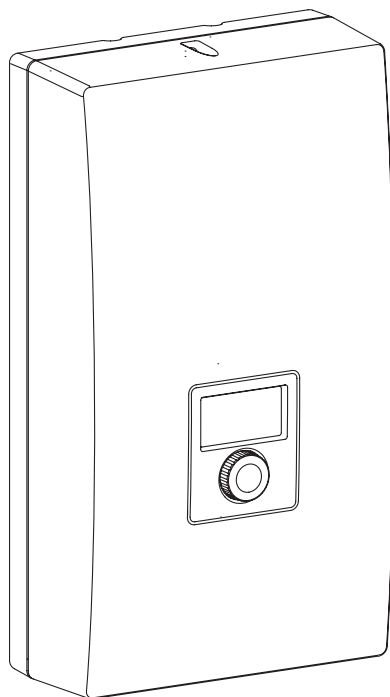




FLEXIHEAT UK LTD
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Electric Instantaneous Water Heater



EIWH5

Assembly and operating instructions

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Read this manual thoroughly before use.
Follow the manual to ensure safe and correct operation of the product.
Keep the manual for reference.

Explanation of symbols



Follow the safety instructions carefully in order to prevent injury and damage.



Danger

This sign warns against danger of injury.



Note

This sign warns against property damage and environmental pollution.

Tip

Text marked with the word Tip contains additional information.



Refer to this manual when operating the product or its controls labelled with this symbol.

Target group



Note

This manual is intended for the users of the product. This product can be operated by children at least 3 years old and individuals with impaired physical, sensory or mental capacity, or unexperienced and/or not knowledgeable in operation of the product only if instructed about its safe operation and understand all hazards involved. This product is not a toy for children. Children may only clean and maintain this product under supervision of an adult.

- Only qualified electricians may service electrical components.
 - The first commission of this product for operation shall be done by the installer or a designated individual with suitable authorisation.
-

Applicable laws and regulations

- National electrical wiring and water plumbing installation codes.
- Statutory occupational hygiene and safety regulations.
- Statutory environmental protection regulations.
- Regulations of professional and insurance associations.
- Prevailing national safety regulations.

Product connection requirements

- The device is intended only for mounting on a flat, vertical wall.
- The electrical system must be planned and executed in accordance with the applicable regulations.
- The heater should be installed in such a way that free maintenance access is ensured. This includes maintaining a minimum distance of 100 mm to walls and ceilings and a maximum distance of 200 mm between the front cover and the nearest partition.
- The device must not be installed in rooms at risk of explosion or where the ambient temperature can drop below 0°C.
- The use of plastic pipes at the inlet and outlet of the device is permissible, but the pipes used at the outlet should have a strength of at least 20 bar at a temperature of 70°C.
- The heater must be connected to the power grid, and the effectiveness of the electric shock protection (with a record) must be measured by a professional electrician.
- The heater absolutely must be connected to the protective earth, the quality of which (continuity of the protective conductor) should be regularly checked (in accordance with the applicable regulations) by a qualified electrician. It is recommended to install the heater on grounded steel or copper hydraulic fittings.
- According to the general regulations, the electrical system must be equipped with a highly sensitive residual current circuit breaker (with a maximum trigger current of 30 mA), whereby it is recommended to install a separate four-pole residual current circuit breaker (independent of the rest of the system) with a current of 10 or 30 mA in the heater's supply circuit.
- In accordance with installation regulations, a disconnecting device that has a contact opening width of at least 3 mm on each pole should be incorporated into the permanently installed electrical installation.
- The electrical system must be equipped with surge protection measures of at least class B.
- The device must be permanently connected to fixed wiring.
- The device must be grounded.

Working with this product

- The heater should only be used if it has been properly installed and is in technically perfect condition.
- The specific water resistance of the water supply network must not be less than:
 - 1100 Ω cm for a max. water inlet temperature of up to 25°C,
 - 1300 Ω cm for a max. water inlet temperature of > 25 up to a max. of 45°C.
- Before the initial commissioning and after each emptying of the water heater (e.g., in connection with work on the water supply system due to maintenance), it must be vented according to the „Venting” section.
- Storing the heater in a room with a temperature below 0°C can damage it (there may be water inside, which, when frozen, can cause the device’s components to burst).
- The absence of a sieve filter in the water supply can damage the heater.
- Lime deposits on the elements of the heater can restrict the water flow or cause damage to the heater. Damage caused by this is not covered by the warranty. The water heater and plumbing fixtures should be regularly descaled, and the frequency of descaling should be based on water hardness.
- A detailed description of the wall mounting, the position of the device, its attachment, and its connection to the power supply is described in detail in the Installation chapter.

Operation of the product



Danger

Note that water at more than 40°C is uncomfortably hot (especially to children); at temperatures above 50°C, hot water is a risk of scalding, resulting in 1st degree burns (especially in children).



Danger

Every time there is a water outage in the supply system of the heater, always disconnect the heater from electrical power and bleed air from the heater. Starting the water heater with no water supply to it may result in failure of the heater!



Danger

Do not open the heater enclosure before isolating the power supply.



Danger

Poor electrical wiring work may result in deadly hazards. Only qualified installers may service this product.

Product overview

The electric instantaneous water heater model EIWH5 is designed for heating potable water in households, sanitary facilities, laboratories, workshops, etc. The heater supports multiple outlets, allowing the heated water to be directed to several locations (sink, basin, bathtub, shower, etc.). Opening the hot water valve automatically switches on the heater and the corresponding power supply. The heater can also heat pre-warmed water (e.g., in collaboration with a hot water storage tank in a solar system).

Intended use

This product is intended for private household or similar use only. Commercial or industrial use that exceeds the duty limits is not intended. Non-intended use of this product or poor servicing are unacceptable and will void all liability of the product's manufacturer. Non-intended use also means repurposing the components of the heater systems for a different use.

Tip

The product is intended for private household or similar use only, which means that even untrained people can safely handle the product.

Product highlights

LCD display (EIWH5 version)

- Display of inlet and outlet water temperature,
- Flow rate display,
- Display of the device's currently activated power,
- Limitation of the maximum temperature setting,
- Storage of the 3 most frequently used temperatures.

Electronic Control

- Precise and comfortable water temperature control,
- The ability to set the temperature in the range of 30-60°C with an accuracy of 1°C.

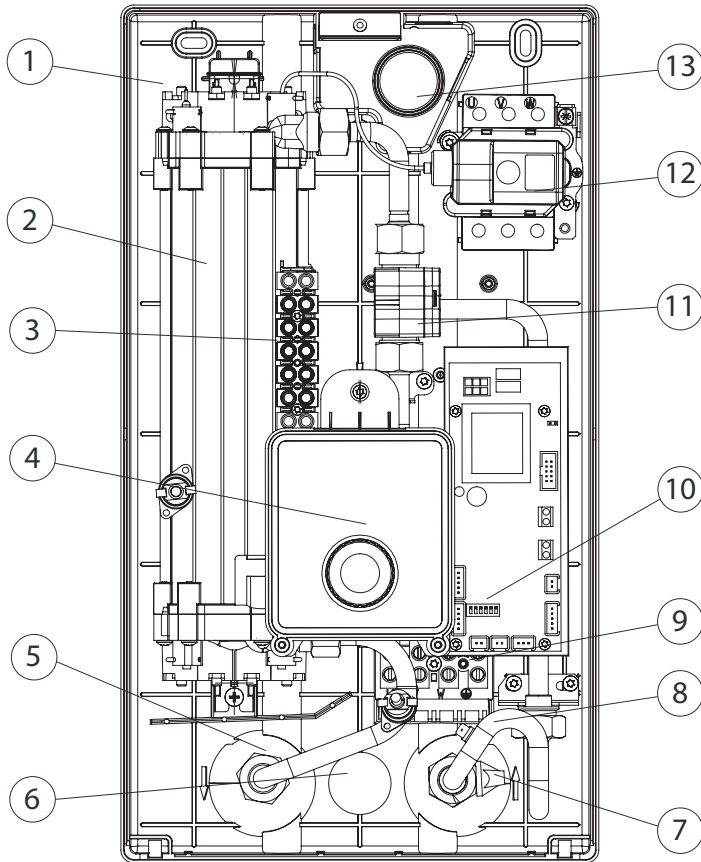
4 Powers in One Heater

- Selectable maximum power.

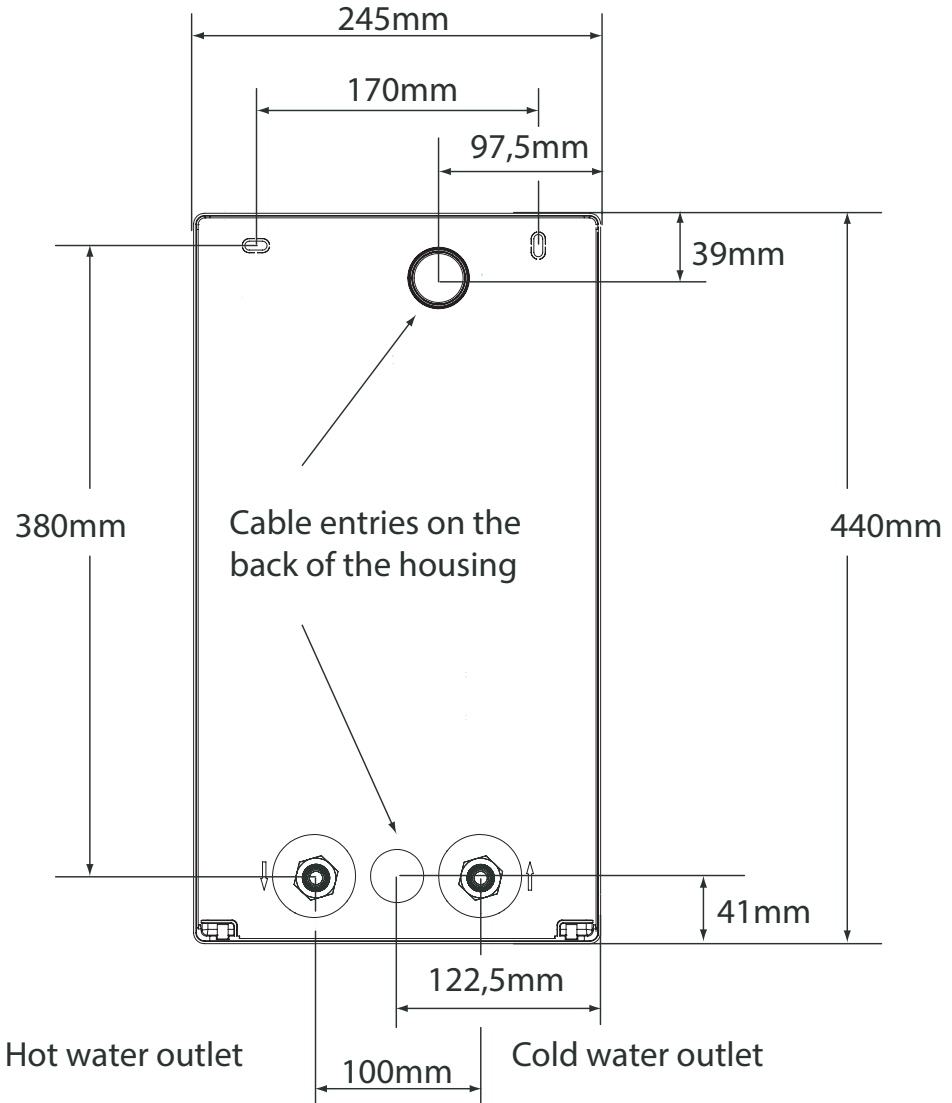
Ability to heat pre-warmed water:

- 1300 Ω cm for T_{in} max. $> 25^{\circ}$ and $\leq 45^{\circ}$ C
- 1100 Ω cm for T_{in} max. $\leq 25^{\circ}$ C.

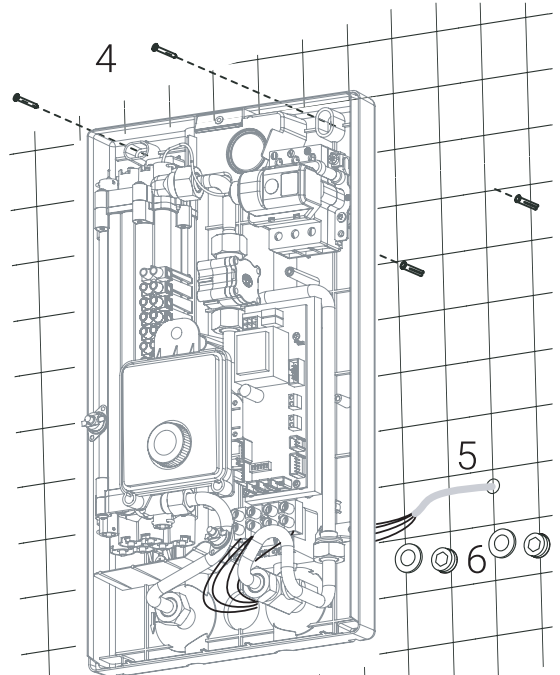
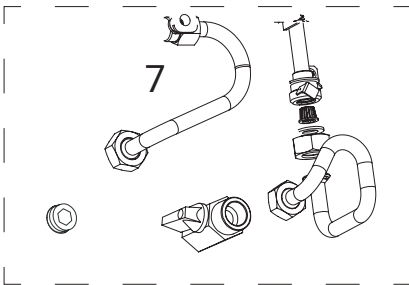
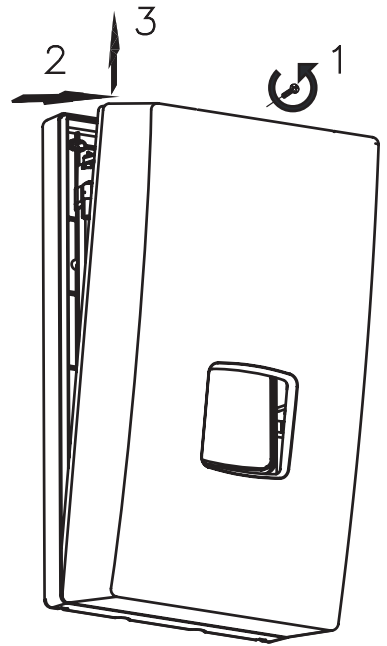
Construction



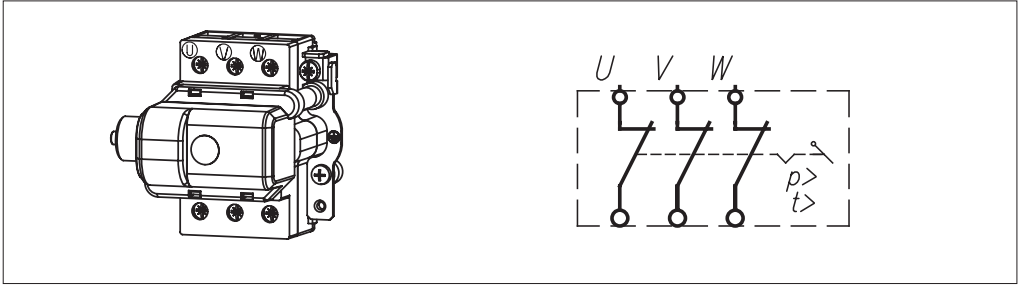
- [1] - Base
- [2] - Heating unit
- [3] - Terminal strip
- [4] - Control panel
- [5] - Outlet connection – Hot water
- [6] - Opening for inserting the power cable (bottom)
- [7] - Shut-off valve
- [8] - Inlet connection – Cold water
- [9] - Terminal strip
- [10] - Switch for adjusting the heating power
- [11] - Flow sensor
- [12] - Pressure switch
- [13] - Opening for inserting the power cable (top)



1. Using the provided template, please mark the mounting location.
2. Lay the water and electricity connections up to the marked points.
3. Remove the casing and assess the technical condition. Rule out any transportation damage and use a meter to check the activation of the safety switch (condition of NC contacts).
4. Install the instantaneous water heater onto the screw connection elements after previously inserting the electrical power cable. During installation, the internal components of the instantaneous water heater should not be held.
5. Connect the instantaneous water heater to the electrical installation.
6. Remove the cover from the cold and hot water pipes of the device.
7. Connect the instantaneous water heater to the water installation.
8. Open the cold water supply, and check the tightness of the water connections.
9. Vent the device (see Venting).
10. Attach the cover of the instantaneous water heater.
11. Care must be taken to ensure that nothing touches the live parts through the openings in the back wall.



Safety switch - main electrical connection



Danger

If the safety switch is triggered while the device is in operation, contact the service immediately.



Danger

Under no circumstances should the protective plugs of the connection wires be removed from the water connections.

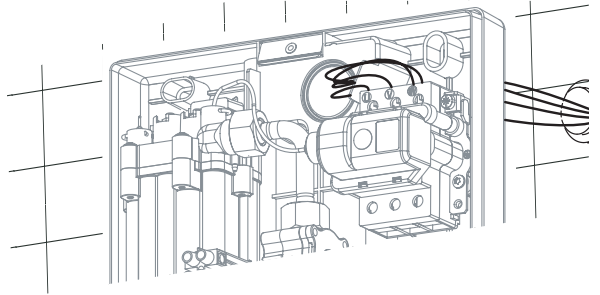
Top connection



Danger

When connecting from the top, use a cable gland.

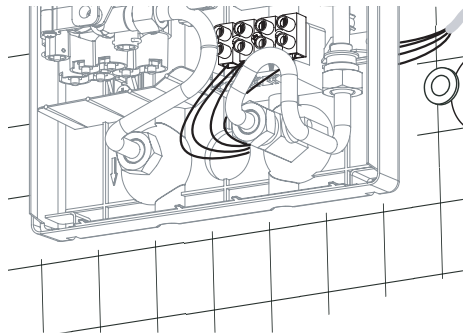
If the heater is factory-prepared for a bottom connection (i.e., the heater has a lower terminal block [9] connected to the safety switch [12] by wires), the existing electrical wires, along with the terminal block, must be removed. Before inserting the conductor, remove the top plug in the base [13] using a tool, such as a screwdriver.



Mount the cable gland to the supply cable and insert the cable with the cable gland into the heater. Connect the supply cable, as marked, to the upper terminals of the safety switch [12].

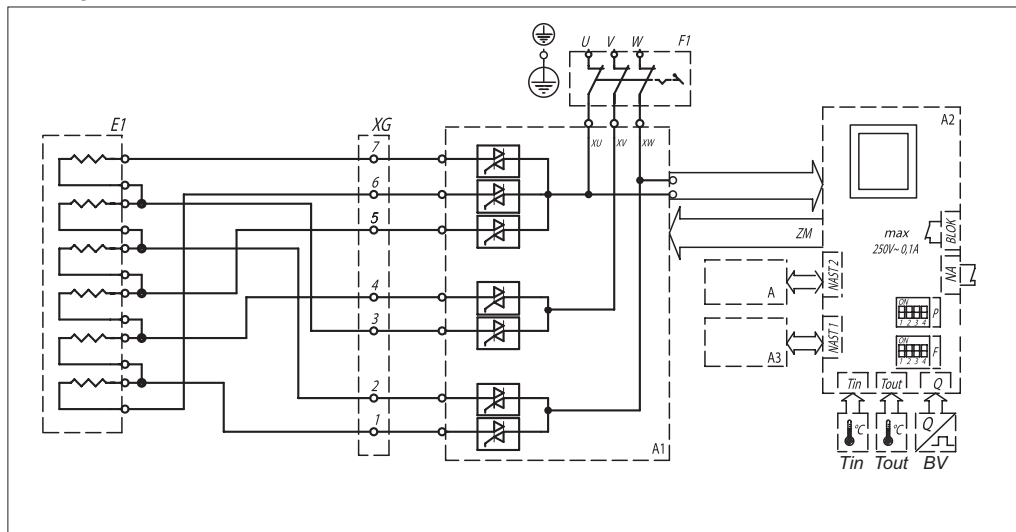
Bottom Connection

The bottom connection is only possible if the lower terminal block [9] is installed with the conductors connected to the safety switch [12]. Pass the supply line through the opening [6] and connect it as marked to the terminal block [9].



Electrical Schematic

EIWH5



Bleeding air

- Isolate the power supply from the heater.
- Open the water flow through the heater (by opening a hot water tap) and wait for the air to be bled out (for at least 30 seconds), after which the water should flow out of the tap with a steady stream without evidence of escaping air.
- Turn on the power supply.



Note

Perform this procedure after every water supply outage.

Configuration



Note

The power setting should be adjusted before the first commissioning when the power supply is not connected.

Water heater size 15 kW



9 kW



11 kW



12 kW



15 kW

Water heater size 24 kW



17 kW



18 kW



21 kW



24 kW

Water heater size 27 kW



27 kW

White square shows the switch position.

This is achieved by appropriately setting the two DIP switches (4-fold) located on the circuit board. The term **P** denotes the power setting, while **F** denotes other settings. The switch setting can be updated after adjusting the power supply. After powering on the EIW5, the panel software version (PW...), the software version (MSP...), and the set rated power will be displayed on the screen.

DIP Switch Settings **P**:

- 1, 2 - Nominal power of the instantaneous water heater.
- 3, 4 - Type of heating cartridge.

DIP Switch Settings **F**:

- 1, 2 - Do not adjust! - Maintain factory settings.
- 3 - ON - SHOWER mode/OFF - NORMAL mode.
- 4 - ON - Adjustment options in the instantaneous water heater are deactivated. In this case, the EIW5 display will show the set temperature (determined before turning off the water heater), heating mode, and other messages that might occur during operation.

The device's nameplate contains the factory setting for the device's performance. If you have changed the nominal power, please strike through the factory setting and tick the chosen power on the nameplate.



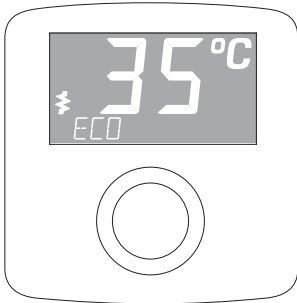
Note



The default heating setting is NORMAL 60°C.

If the heater is also used for showers, the authorized service must switch to SHOWER mode 50°C.

When using pre-heated water, ensure that the inlet temperature does not exceed 50°C.

EIWH5 Operation



The heater switches on automatically straight after reaching the flow rate over 2,5 l/min. The temperature control system adjusts the power rate according to the water flow rate, required temperature and the temperature of water in the mains. The LCD backlight and icon  signals the heating operation. If the unit reach the maximum power value which is too low for a given operating conditions the LCD display will show flickering icon . The LED display backlight also turns on while pushing or turning the setting knob. The backlight will automatically turn off when the

heating operation is turned off, or if more than 50 seconds have passed since the last adjustment.

If you block the unit by master appliance (NA entry) the display will show "EXT BLOCKED". If the fault occurs the display will show **E** icon and error message.

Error messages:

- ER>T INLET - inlet sensor failure,
- ER> T MAX - temperature has exceeded the maximum value,
- ER> AIR 1 - air bubbles in the heating box - equipment detection,
- ER> AIR 2 - air bubbles in the heating box - program detection.

If the display shows ER> T MAX, ER> AIR 1 or ER> AIR 2 the unit will stop heating. The unit will not heat again until the failure is resolved and the appropriate value of water flow is reached.

Temperature adjustment

The current temperature is displayed on LCD. Turn the knob to the right to increase the temperature value, or to the left to decrease it.

Push the knob to read the temperature value that is stored in memory. Push it again to read the next stored value. You can switch between the following settings: "ECO", "SINK" and "BATH".

To change the temperature setting in memory:

- select the temperature setting by pushing the control knob,
- push the knob and keep for about 3 seconds until the value starts to flashing,
- turn the knob to adjust the value,
- push the knob to save the value.

Save the new value within 10 seconds, otherwise you will lose it.

Configuration and parameters view

Set the minimum temperature value then push and keep knob for about 5 seconds until the display shows „>T SETPOINT“. Turn a knob to select the required value. There are some parameters that are not changeable by the user (e.g. >T INLET, >POWER), or can be used to change the work configuration only (e.g. display brightness, language version). To change the parameters value push (position flickering) and turn the knob. Push the knob to confirm a change.

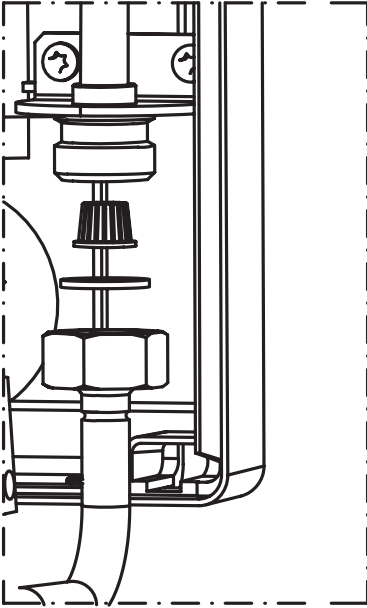
Notice: confirm a new parameter value within 10 seconds, otherwise you will lose it.
The new parameter value will be saved when you exit menu using [>EXIT].

You can switch between the following parameters:

- [>T SETPOINT] temperature (min-max) - °C,
- [>T INLET] inlet temperature value - °C,
- [>T OUTLET] outlet temperature value - °C,
- [>FLOW] flow rate - l/min,
- [>POWER] percentage of maximum power with which the unit currently heats, -%,
- [>T - h] work time,
- [>BRIGH MIN] minimum brightness / stand-by-mode (0 - BRIGH MAX),
- [>BRIGH MAX] maximum brightness / active (BRIGH MIN -25),
- [>ENGLISH] select language version,
- [>TEMP LIMIT] maximum temperature limit (min setting - max setting),
Notice: a new maximum temperature value will be saved in memory for other temperature settings as well,
If you try to set the temperature above the adjusted maximum value the display will show for about 1 second.
- [>TEST] for authorized service only,
- [>POWER SET] configured power value,
- push knob to check a software version (PW...,MSP...),
- restore to factory settings [FACTORY SET] or to restart controllers [RESET],
- push and keep knob (for about 5sec., until the display show [-]) to up grate [FACTORY SET] and [RESET] function,
- [>EXIT] save a new parameter and menu exit.

Parameters view mode will automatically exit (without saving changes) after 5 minutes since the last adjustment.

Maintenance



Filter cleaning:

1. **Cut off power and cold water supplies.**
2. Take off the unit's cover.
3. Undo the inlet fitting - on the cold water side.
4. Take the filter out from the inlet fitting.
5. Clean up the filter.
6. Fix the filter back, put the gasket and do up the inlet fitting.
7. Open the cut-off valve on cold water supply pipe - check connections for leaks.
8. Fix the unit's cover back.
9. Vent the water system - see "Venting section".



Danger

Do not open the heater enclosure before isolating the power supply. Electrocutation hazard.

Co-operation with other appliances

Unit is equipped with the BLOCK and NA clamps.

BLOCK - relay input that switches off the slave appliance, the circuit that is connected to the BLOCK clamps (max. 0.1A 250V-) will be opened at the time of heating operation starts up.

NA - input that locks the unit operation, opened NA contacts locks the heating operation-co-operation with the master appliance.

Wire (2 x 0.5sq mm) for BLOCK and NA clamps should be run inside the unit on the right side. The wire connections must be performed by a qualified person.

Technical data

Heater EIWH5		9/11/12/15					17/18/21/24				27
		9	11	12	15	17	18	21	24	27	
Rated power	kW	400V 3~									27
Rated voltage		400V 3~									
Rated current	A	3x13.0	3x15.9	3x17.3	3x21.7	3x24.7	3x26.0	3x30.3	3x34.6	3x39.0	
Efficiency (at $\Delta t = 30^{\circ}\text{C}$ and water pressure at 0,45 MPa)	l/min	4.3	5.2	5.8	7.2	8.1	8.7	10.1	11.6	13	
Indication of the load profile		XS									S
The daily electrical energy consumption (Qelec)	kWh	2.15									2.14
The indication of hot water preparation energy efficiency (η_{wh})	%	39.3									39.4
Power supply wiring conductor minimum size	mm ²	4 x 2.5									4 x 6
Power supply wiring conductor maximum size	mm ²	4 x 16									
Power mains system maximum impedance	Ω							0.43	0.37	0.30	
Supply water pressure	MPa	0.1 ÷ 1.0									
Heating start threshold (minimum flow rate)	l/min	2.5									
Control range for water temperature	NORMAL mode	60									
	SHOWER mode	50									
Inlet temperature		1300 Ω cm for Tin max. > 25° and ≤ 45°C									
		1100 Ω cm for Tin max. ≤ 25°C									
Overall dimensions (height x width x depth)	mm	440 x 245 x 126									
Weight	kg	~4,85									
Water connection ports		G 1/2" (port distance 100mm)									

Product disassembly

Disassemble the product in the reverse order of the installation procedure on p. 9.

Packaging contents

Heater	1	pc.
Gaskets	2	pcs.
Mounting screws	2	sets
Mesh filter	1	pc.
Warranty card with installation certificate	1	pc.

Packaging disposal

Recycle obsolete packaging according to the applicable regulations.



This product is labelled with waste segregation collection symbol, as established in EN 50419. This label also means that the product is marketed after 13 August 2005.



Households have an important contribution to reuse and recovery of materials, which includes recycling of waste electrical and electronic equipment (WEEE). Proper disposal of WEEE contributes to environmental protection and helps recover recyclable materials.

All packaging materials for our products are recyclable and can be converted into more products.

This product once spent shall not be disposed with mixed household waste. Return the product to a WEEE collection point for recycling. Proper disposal of the spent product prevents potential environmental impact from incorrect waste management.

For more detailed information on how to recycle this product, contact your local authorities, waste management operators or the original seller.

Declaration of conformity; reference standards and directives

FLEXIHEAT UK LTD declares with full responsibility that the electric instantaneous water heater EIWH5 mentioned in this operating manual comply with the requirements of the directives and the relevant safety standards for electrical household appliances:

LVD (2014/35/EU)

EMC (2014/30/EU)

and bear the following symbol **CE**

The full version of this declaration of conformity is available on the website:
www.flexiheatuk.com