

thermo**flow**™



Electrically Controlled Tankless Water Heater

Installation Guide, User Manual, and Warranty Information



thermoflow**™**

**Electrically
Controlled
Tankless Water
Heater**

Elex 8.5 / Elex 12 /
Elex 15 / Elex 18 /
Elex 21 / Elex 24

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Use of the manual

Congratulations and thank you for choosing our instant water heater. The instruction contains important information about commissioning, switching the device on and maintenance. To ensure your safety and that of others we recommend you read through this safety manual carefully. Please refer to the back of the manual for details about the warranty. Keep this manual for future reference.

If you lose the manual, contact your local distributor or manufacturer. When you call, please tell us the model number and the serial number of your unit written on the rating plate of the water heater.

Symbols used in this manual

The following symbols are used in this manual and on the appliance:



Fail to observe this instruction may expose you or others to danger.
Fail to observe this instruction may lead to damage to the device.



Indicates live parts.
Fail to observe this instruction may lead to damage to the device or damage to others.



Please read the manual



Hazardous materials and waste electrical and electronic equipment should be taken to a designated recycling location.

Use of the manual



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities if they are supervised during use of the appliance and understand the hazards involved.



This is not a toy. Children shall not play with this appliance.



Standards and regulations



The installation (plumbing and electrical work), commissioning and maintenance of this appliance should only be undertaken by personnel with electrical qualifications and in accordance with the relevant standards and codes and this manual.

Correct and reliable operation of this unit will only be ensured if the original accessories and spare parts are used.

The following should also be observed:
the appliance name plate;
the technical specifications.



Connection to the water supply

Compatible cold water pipe material: steel, copper and plastic.
There is no need to install a relief valve.

Compatible hot water pipe material: copper, approved plastic piping systems.



Electrical installation

This unit may only be connected to a fixed cable.



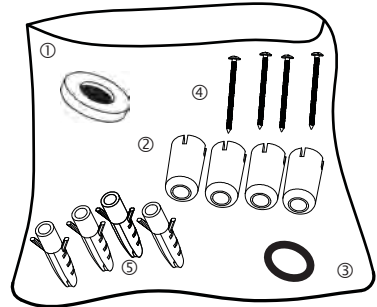
This appliance must be connected to a dedicated breaker.

Mounting instructions

Contents

- 1 device (Elex 8.5 / Elex 12)
- 1 mounting template
- 1 bag of installation materials, contents:

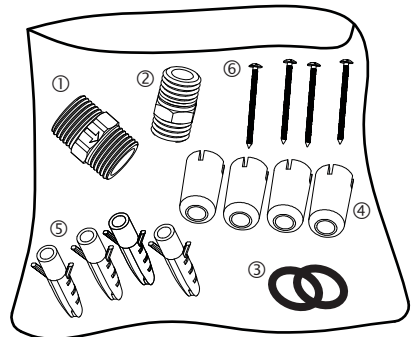
- ① 1 filter mat
- ② 4 spacers
- ③ 1 gasket
- ④ 4 screws
- ⑤ 4 anchors



Contents

- 1 device (Elex 15 / Elex 18 / Elex 21 / Elex 24)
- 1 mounting template
- 1 bag of installation materials, contents:

- ① 1 inlet connector kit (combined with filter mat)
- ② 1 outlet connector
- ③ 2 gaskets
- ④ 4 spacers
- ⑤ 4 anchors
- ⑥ 4 screws



Mounting instructions



Unpacking

Check if the device has been damaged in any way.



Environment

To prevent damage during transport this unit is shipped in sturdy packing. Please recycle the packaging where possible.



Disposal of the appliance

Old appliances must not be disposed of in your household waste! Please bring old appliances to the appropriate recycling center nearest to you.

Tools

You will require the following tools for installation:

- Phillips-head screwdriver
- Open-ended wrenches
- Teflon tape
- Drill
- Stone or concrete drilling bits
- Pencil
- Adhesive tape
- Wire strippers



All the devices require a single phase 220-240V supply .

If the electrical installation does not meet these requirements then it will need to be modified. This should be done by a qualified electrician in accordance with the relevant regulations (IEC, NEC, etc.)

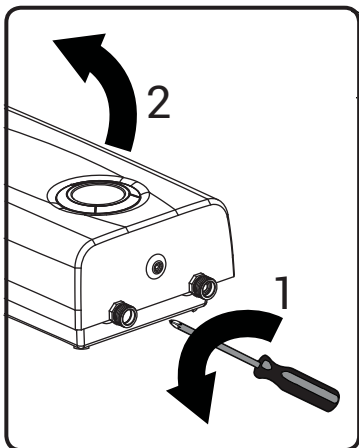
Preparing for installation

The water and electrical supply need to be available at the place where the device is to be supplied. If the electricity cable is buried in the wall then use the supplied spacers. If the electrical cable is fixed to the wall then the device can also be fixed straight to the wall.

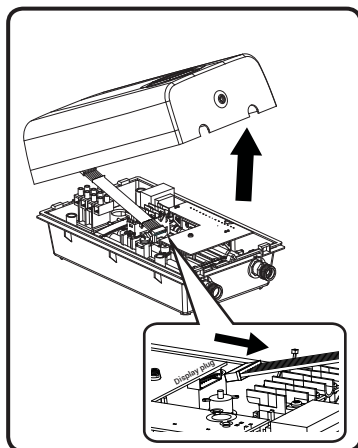
Mounting instructions

Elex 8.5 / Elex 12

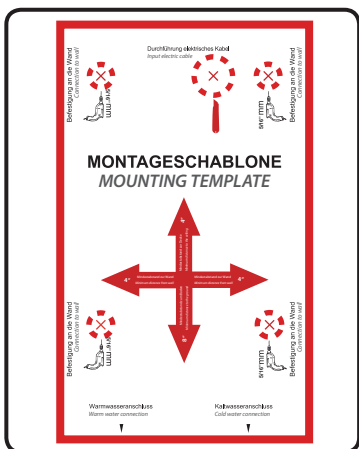
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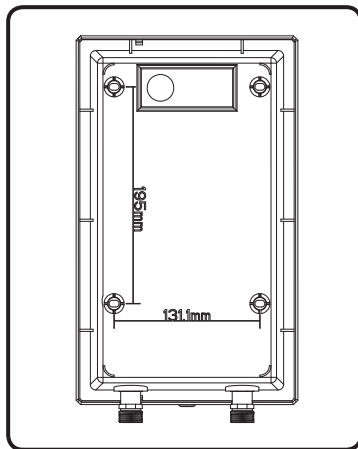
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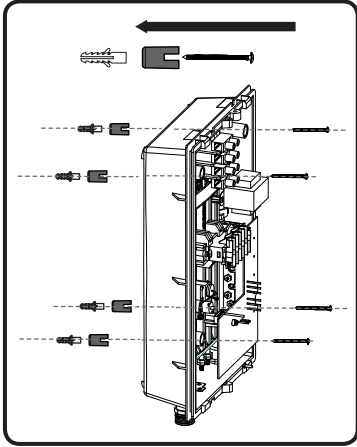


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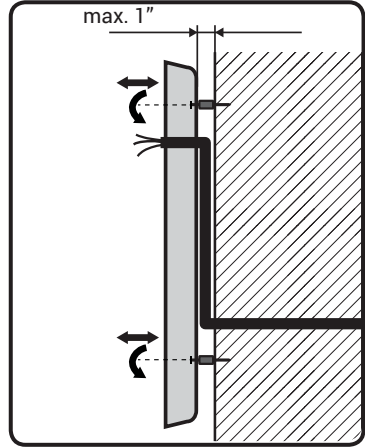


Mounting instructions

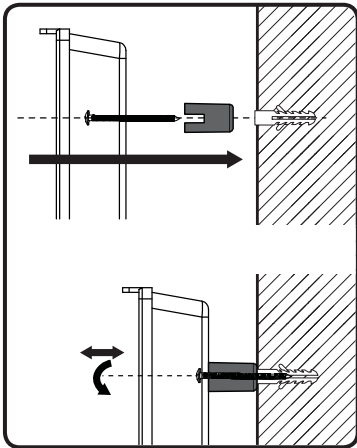
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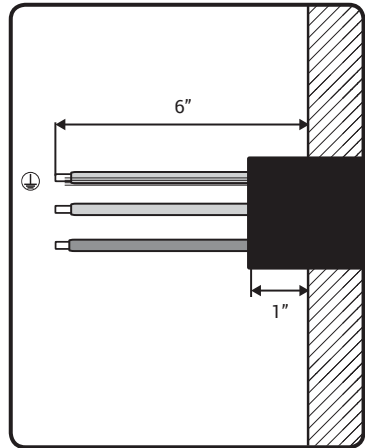
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A7.

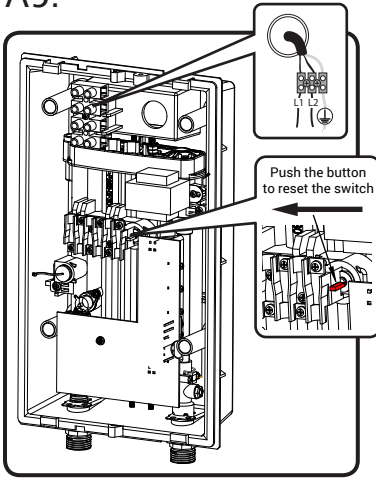


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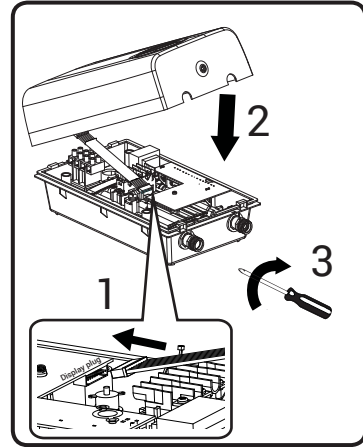


Mounting instructions

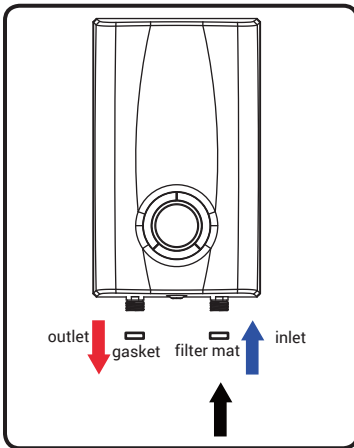
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A10



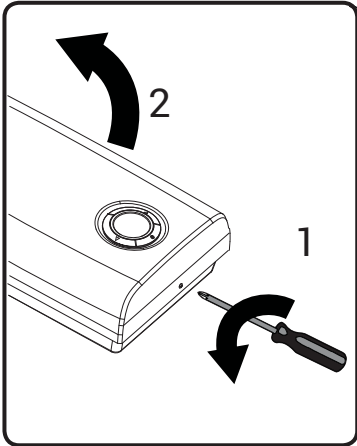
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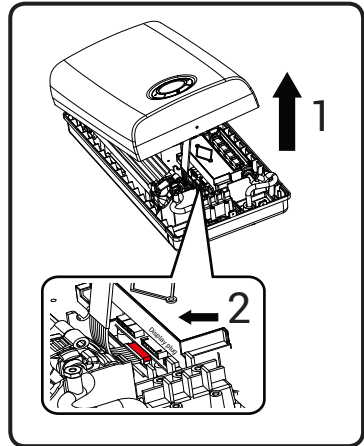
Mounting instructions

Elex 15 / Elex 18 / Elex 21 / Elex 24

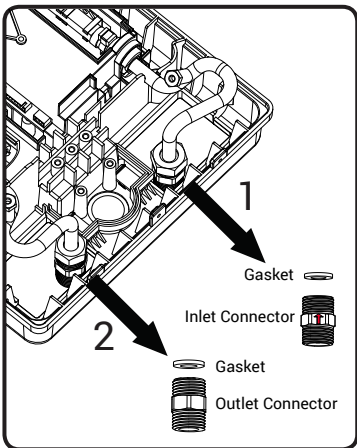
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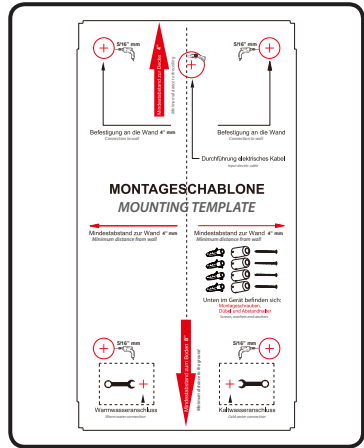
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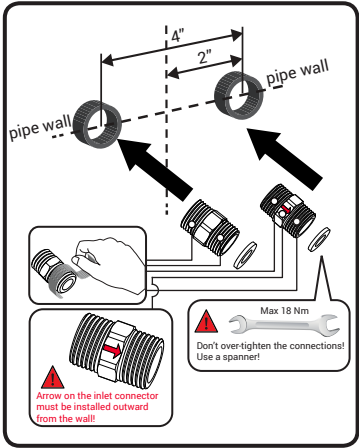


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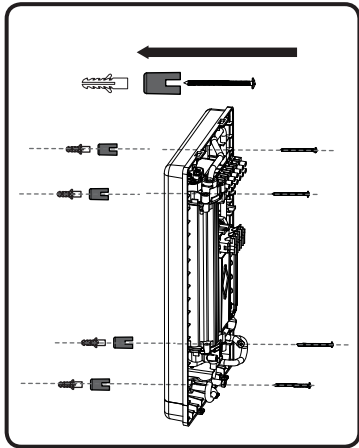


Mounting instructions

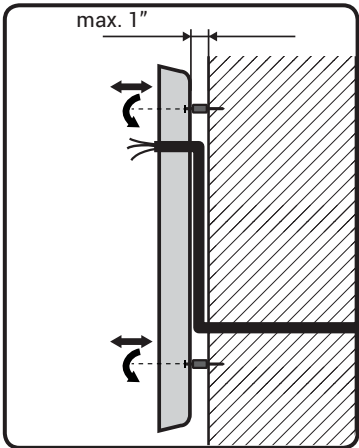
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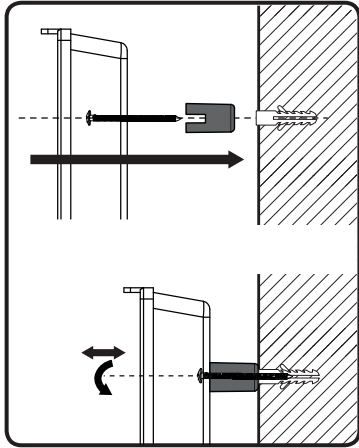
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B7.

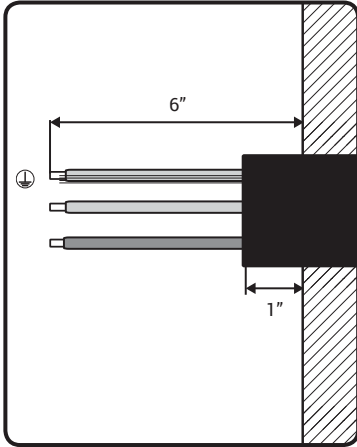


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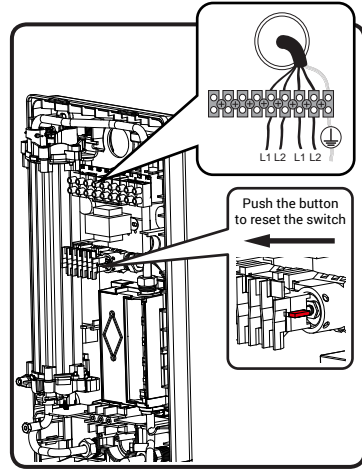


Mounting instructions

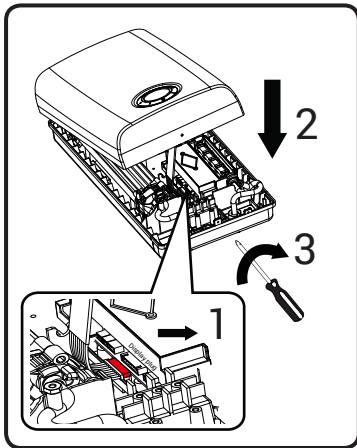
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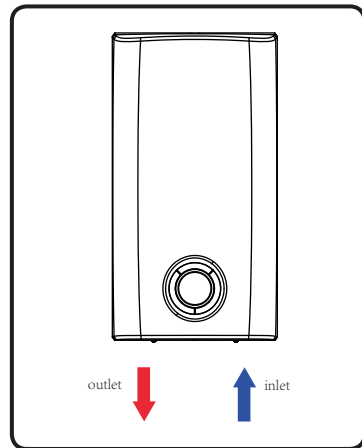
B10.



B11.



B12.



Mounting instructions



The appliance must be earthed properly!



**The filter mat contained in accessory bag must be installed when connecting with inlet(cold) water pipe or hose!
Circuit breaker must be installed with the appliance, please take page.15 to 17 for the selection of circuit breaker.**

See image A1, A2

Remove the screw with a philips-head screwdriver and open the top cover. Remove the display plug and remove the top cover and put aside.

See image A3, A4

1. Use two pieces of tape to fix the template on the wall where the device is to be installed.
2. Drill four 5/16" holes through the template, as indicated in **A4**.



See image A5, A6, A7, A8, A9

1. Insert the anchors into the holes drilled at last step.
2. Install the appliance with the supplied screws and spacers.
3. Install the hot water pipe to the left, and install the cold water supply to the right. Make sure the connections are watertight! To prepare the connection to the water supply, Teflon tape must be used for sealing the threads.
4. Cut the cable to the required length and connect it to the terminal block, press the button to reset the switch, as **A8** and **A9** shown.

The electrical connection should be made by a qualified electrician, in accordance with the relevant regulations (IEC, NEC, etc.)

This appliance must be earthed properly!

Circuit breaker must be installed!



See image A10, A11

1. Insert the display plug.
2. Install the top of the housing.
3. Insert the screw at the bottom.
4. Switch on the circuit breaker, turn on the appliance and open the hot water tap, wait for about 20 secs before the appliance start working.

Mounting instructions

See image B1, B2

Remove the screw with a philips-head screwdriver and open the top cover. Remove the display plug and remove the top cover and put beside.

See image B3

Install the supplied plumbing components as illustrated. The filter mat must be installed on the inlet of the appliance.

See image B4, B5

1. Use two pieces of tape to fix the template on the wall where the device is to be installed.
2. Drill four 5/16" holes through the template, as indicated in **B4**.
3. Install cold water inlet connector and filter mat to cold water supply (in the wall) on the right, and hot water outlet connector to hot water supply (in the wall) on the left, as shown in **B5**. Teflon tape must be used for sealing the threads. **Make sure the arrow on the inlet connector outward from the wall.**



See image B6, B7, B8, B9, B10

1. Insert the anchors into the holes drilled at last step.
2. Install the appliance with the supplied screws and spacers.
3. Install the hot water pipe to the left, and install the cold water supply to the right. Make sure the connections are watertight! To prepare the connection to the water supply, Teflon tape must be used for sealing the threads.
4. Cut the cable to the required length and connect it to the terminal block, press the button to reset the switch, as **B9** and **B10** shown.

The electrical connection should be made by a qualified electrician, in accordance with the relevant regulations (IEC, NEC, etc.)

**This appliance must be earthed properly!
Circuit breaker must be installed!**



See image B11, B12

1. Insert the display plug.
2. Install the top of the housing.
3. Insert the screw at the bottom.
4. Switch on the circuit breaker, turn on the appliance and open the hot water tap, wait for about 20 secs before the appliance start working.

Mounting instructions



Commissioning

- Fill the device and vent it by opening a hot water tap connected to it.
- Only switch on the electrical supply once the device is clear of any air.
- Check the operation of the device.



Frost

This device should be installed in a climate-controlled location, protected from freezing temperatures.

Technical specifications

Instant water heater model	Elex 8.5	Elex 12
Electric supply	220-240V 50/60Hz	220-240V 50/60Hz
Nominal power rating	8.5 kW	12 kW
Nominal current	35-39 A	50-55 A
Circuit Breaker	2-POLE 40A	2-POLE 60A
Flow rate ($\Delta t=45^{\circ}\text{F}$)	1.3 GPM	1.8 GPM
Flow rate ($\Delta t=65^{\circ}\text{F}$)	0.9 GPM	1.3 GPM
Cable size	10 AWG	8 AWG
Temperature range	104-140 °F	104-140 °F
Switch on flow rate	0.58 GPM	0.58 GPM
Non-usage consumption	<1 Wh/h	<1 Wh/h
Protection class	I	I
Type of protection	IP 24	IP 24
Unit Dimensions	13 $\frac{3}{4}$ x 7 $\frac{7}{8}$ x 4 $\frac{3}{4}$ "	13 $\frac{3}{4}$ x 7 $\frac{7}{8}$ x 4 $\frac{3}{4}$ "
Unit weight	5.4 lb	5.4 lb
Water connections	1/2" NPT	1/2" NPT
Max. pressure water mains	115 PSI	115 PSI
Switch on flow pressure	15 PSI	15 PSI

Mounting instructions

Technical specifications

Thermostat model	Elex 15	Elex 18
Electric supply	220-240V 50/60Hz	220-240V 50/60Hz
Nominal power rating	15 kW	18 kW
Nominal current	2 x 32 A	2 x 38 A
Circuit Breaker	2 x 2-POLE 40A	2 x 2-POLE 50A
Flow rate ($\Delta t=45^{\circ}\text{F}$)	2.3 GPM	2.7 GPM
Flow rate ($\Delta t=65^{\circ}\text{F}$)	1.6 GPM	1.9 GPM
Cable size	2 x 10 AWG	2 x 10 AWG
Temperature range	104 - 140 °F	104 - 140 °F
Switch on flow rate	0.66 GPM	0.66 GPM
Non-usage consumption	<1 Wh/h	<1 Wh/h
Protection class	I	I
Type of protection	IP 24	IP 24
Unit Dimensions	18 $\frac{3}{4}$ x 10 $\frac{1}{8}$ x 4 $\frac{7}{8}$ "	18 $\frac{3}{4}$ x 10 $\frac{1}{8}$ x 4 $\frac{7}{8}$ "
Unit weight	8.4 lb	8.4 lb
Water connections	1/2" NPT	1/2" NPT
Max. pressure water mains	115 PSI	115 PSI
Switch on flow pressure	15 PSI	15 PSI

Mounting instructions

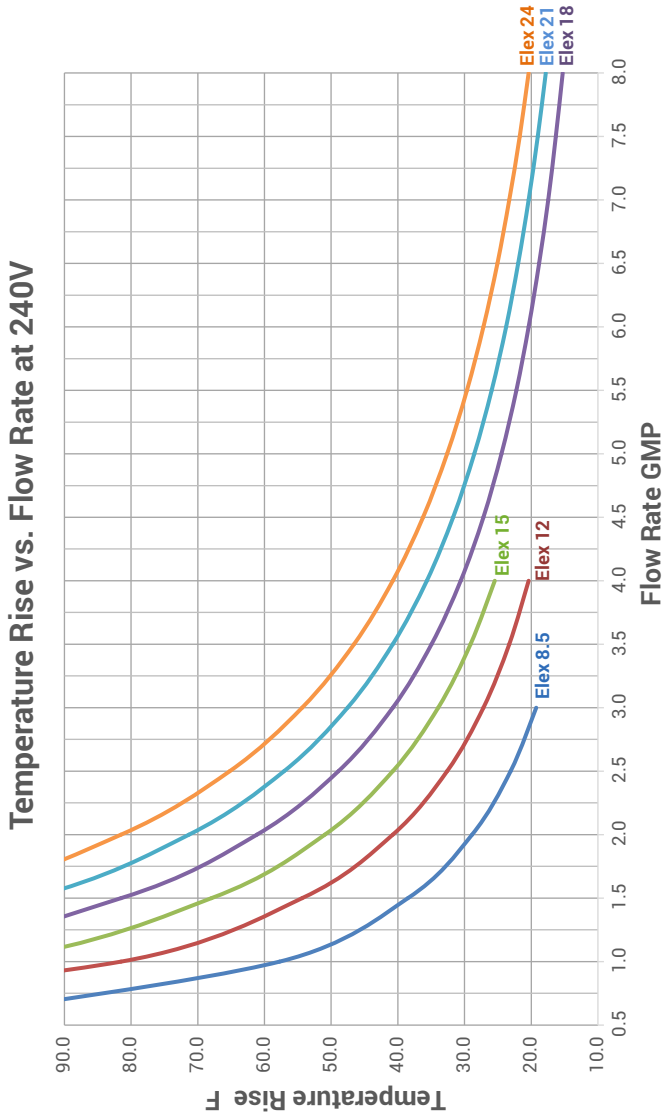
Technical specifications

Thermostat model	Elex 21	Elex 24
Electric supply	220-240V 50/60Hz	220-240V 50/60Hz
Nominal power rating	21 kW	24 kW
Nominal current	2 x 44 A	2 x 50 A
Circuit Breaker	2 x 2-POLE 50A	2 x 2-POLE 60A
Flow rate ($\Delta t=45^{\circ}\text{F}$)	3.1 GPM	3.6 GPM
Flow rate ($\Delta t=65^{\circ}\text{F}$)	2.2 GPM	2.6 GPM
Cable size	2 x 10 AWG	2 x 8 AWG
Temperature range	104 - 140 °F	104 - 140 °F
Switch on flow rate	0.66 GPM	0.66 GPM
Non-usage consumption	<1 Wh/h	<1 Wh/h
Protection class	I	I
Type of protection	IP 24	IP 24
Unit Dimensions	18 $\frac{3}{4}$ x 10 $\frac{1}{8}$ x 4 $\frac{7}{8}$ "	18 $\frac{3}{4}$ x 10 $\frac{1}{8}$ x 4 $\frac{7}{8}$ "
Unit weight	8.4 lb	8.4 lb
Water connections	1/2" NPT	1/2" NPT
Max. pressure water mains	115 PSI	115 PSI
Switch on flow pressure	15 PSI	15 PSI

Mounting instructions

Temperature Rise vs. Flow Rate at 240V

Note: Temperature rise = Hot Water Temp. - Cold Water Temp.



User manual

Operation

The integrated flow control valve accommodates changes in water pressure and thus maintains a fairly constant temperature.



Commissioning

If the selected outflow temperature is not reached when the tap is fully opened, then the water flow through the device exceeds the capacity of the device (Thermoflow™ Elex 8.5/12/15/18/21/24). In this case, the flow should be reduced with the hot water valve. There is a danger of scalding at outflow temperatures exceeding 108°F.



This unit is intended for use with shower heads with a low pressure loss. Mixer taps and thermostatic mixer taps should be of a design compatible with devices with flow control.



Fittings for vented systems should not be used!

Suggestion: To ensure that the minimum flow (switch-on flow) of a water-pressure operated device is reached, the pressure loss (head loss) of the device, fittings, shower head, shower hose and piping should all be considered when installing the device.

Typical pressure losses at a water flow of approx. 2.6 GPM:

- Mixer tap: 5.8 - 11.6 PSI
- Thermostatic mixer tap: 4.4 - 7.3 PSI
- Shower head: 4.4 - 21.8 PSI

The electronically regulated continuous-flow water heater with automatic temperature adjustment keeps the outflow temperature constant. This takes place regardless of the feed temperature, up to the temperature limit.

The device has push-buttons to switch it on and off, and arrow keys to adjust the heating. Blue: decrease heating performance, red: increase heating performance.

Adjust the temperature settings as desired.

User manual



Without a temperature limiter, high temperatures may be reached at usage points. Keep children away from the usage points.
Danger of scalding!



The device should be isolated from the electric supply before any work is done on live components.



Disconnect this appliance from the power source in a safe way.



The main water valve should be closed before any work is done on the water pipe.



If the water supply is interrupted, e.g. due to maintenance on the main water supply, then the following steps should be undertaken before returning the device to operation:

1. Turn off power to device.
2. Open a hot water valve connected to the device until the air is vented from both the device and the cold water supply pipe.

Maintenance



Maintenance

This device does not require any maintenance by the user. Professional maintenance may only be carried out by authorized technical staff. Maintenance, e.g. verifying electrical safety, should only be undertaken by a qualified electrician, observing the relevant regulations (IEC, UL, etc.).



If faulty, please take follow the trouble shooting in page.22 to make the diagnosis. If still have problem, never try to repair the hot water device yourself, please contact the nearest service specialist for help.



Care

The enclosure can simply be cleaned with a damp cloth. Do not use harsh chemicals or abrasives!

Descaling

A service inspection should be performed by authorized and qualified technical staff every year. Descaling of the device during this inspection is highly recommended, especially when you live in an area with hard water exceeding 12 dH. Higher water temperature will intensify calcification. It is therefore recommended to set the device at maximum 131°F(55°C).

Legionella prevention

Do not use heater water as drinking water.

After prolonged shutdown of the device, for example while on vacation, the device should be fully heated up to the maximum temperature (tap at minimum flow) before resuing. It is recommended to flush the pipes for one minute.

Trouble shooting

First aid

- Check the fuses / breakers.
- Check if any fittings or shower head are affected by the build-up of limescale or dirt.
- See also “Troubleshooting”.

Troubleshooting		
Problem	Cause	Solution
Water heater is not heating at all (water is flowing but the unit is not heating - the outgoing water temperature is the same as the cold water supply) - the digital display does NOT light up.	No power or incorrect wiring.	Make sure the breakers at main electrical panel are ON. You may have a faulty breaker or unit may be wired incorrectly.
Water heater is not heating at all (water is flowing but the unit is not heating - the outgoing water temperature is the same as the cold water supply) The digital display DOES light up.	Flow rate is too low / water pressure is too low.	Your water heater has an activation flow rate of approximately 0.6 GPM (2.5 LPM). If your water flow rate is less than this level, your unit will not activate. Increase the flow rate or check the filter mat inside the inlet connector.
	The air bubbles in the water heater have not been purged out.	Make sure the breakers at main electrical panel are ON, turn on the unit and open the hot water tap for about 20s.
Water heater is not heating at all. The LCD display shows “E2”	Internal part failure	Please call for your local service.
Flow rate is too low	Something was blocked in the filter mat / Pipe was blocked	Check and clean the filter mat inside the inlet connector.

Trouble shooting

Troubleshooting		
Problem	Cause	Solution
Water heater is heating, but the water temperature is not hot enough.	User temperature setting too low.	Increase the temperature setting on the unit.
	Flow rate is too high.	Depending on your incoming water temperature and the kW of your heater, your water flow rate may exceed the physical heating capacity of your water heater. Reduce the flow rate by installing a Flow Regulator.
	Crossed wires.	If it's a new installation, have your electrician double check the wiring. Is possible that the wiring is incorrect.
	Voltage less than 240 volts.	The heating elements on your water heater are design for 240 volts. When used with a lower voltage, they produce less heating power. You may need to upgrade to a larger input heater.
	Mixing too much cold water.	You do not need to mix as much cold water with your tankless water heater compared to when you use a conventional water heater. You may also have an anti-scald feature on your faucet that is mixing cold water. These types of faucets can usually be adjusted to reduce the amount of cold water mixed.

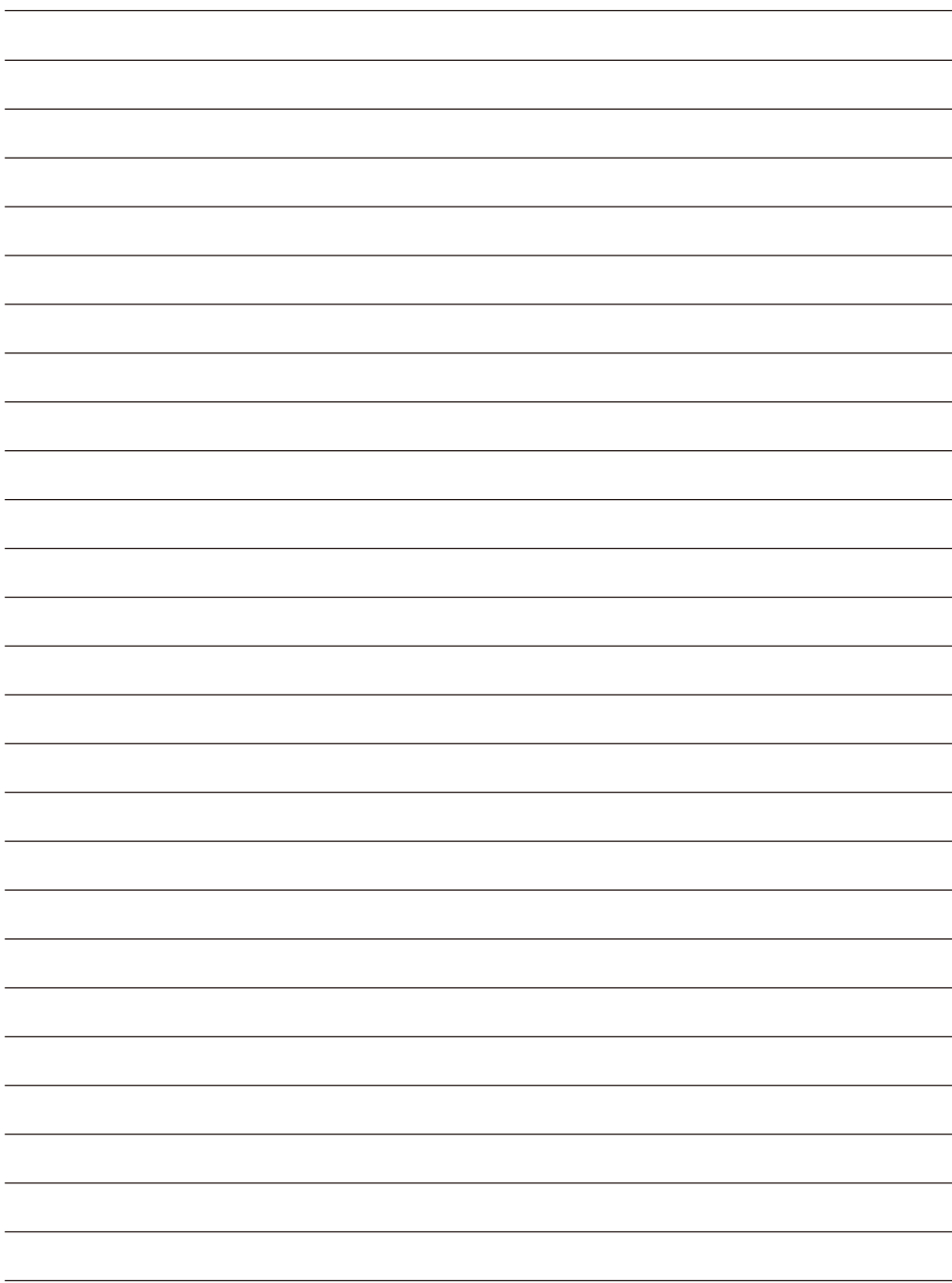
Trouble shooting

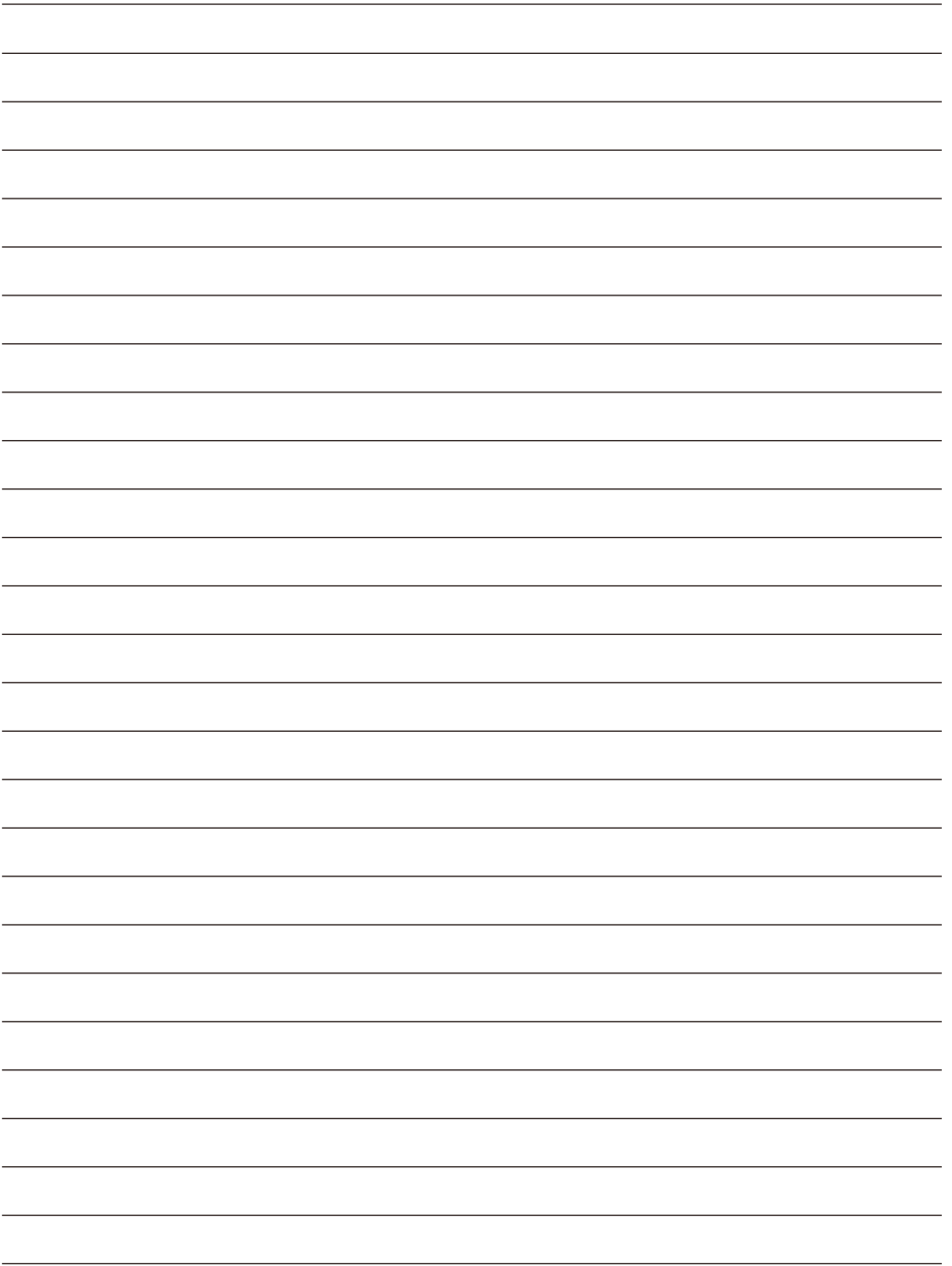
Troubleshooting		
Problem	Cause	Solution
The water temperature at the faucet is less or greater than the temperature setting of my water heater.	Anti-Scald pressure/balancing valve or tempering valve.	Your faucet may have an anti-scald feature or a tempering valve that automatically mixes cold water even when you turn your control lever or handle to full hot. These devices are usually adjustable so you can turn off the cold mix completely. You can compensate for this by increasing the setting on your water heater if you need/want hotter water.
	Thermal loss due to long pipe run	As the hot water from the heater runs through the hot water delivery system to your faucet, some heat will be lost especially if it has long distance to travel or the pipes are cold. This is normal. You can compensate for this by increasing the setting on your water heater if you need/want hotter water.
	Water temperature at the faucet is too hot	Check your flow for too little flow, set point temperature is too high.

If the appliance still fails to operate after you have executed this procedure, please inform customer service.

Warranty conditions

Warranty	The rights under this manufacturer's warranty shall apply in addition to the buyer's statutory rights. This warranty shall in no way restrict the buyer's statutory rights in particularly towards the seller.
Entitlement	The claiming of rights under this warranty shall be subject to the submission of the respective proof of purchase.
Content	<p>We shall guarantee as the manufacturer that this product is free of material and manufacturing errors. Material and manufacturing errors arising during the warranty period shall justify the rights under the warranty. This warranty shall not cover errors due to improper installation or incorrect usage, incorrect operating conditions or defective maintenance or repair work.</p> <p>Normal wear and tear such as lime scaling shall also be excluded under this warranty. The warranty will not be valid if the problem is caused by extreme values of drinking water (pH value not between 7 and 9.5 and/or Cl above 150 mg/l and/or Fe above 0.2mg/l).</p>
Claims	The warranty shall be valid for 24 months. The warranty period shall commence on the day on which the product is purchased. Warranty services provided shall neither prolong the warranty period nor initiate a new warranty period.
Invalidity of warranty	Attempted repairs carried out by a customer or third party that are not authorized by us shall invalidate the warranty. The same shall apply if parts are installed in the product or connected to the product that are not original parts from us.
Restriction	<p>This warranty shall be restricted to rectification and subsequent delivery. This warranty shall not include compensation, withdrawal from the agreement, reduction in price or any reimbursement for consequential loss due to defects.</p> <p>The statutory provisions and delivery conditions of the national company or importers must be observed.</p>





Elex 8.5 / 12 / 15 / 18 / 21 / 24



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thermoflow™