

**MODENA**

# **User Manual Book Electric Storage Water Heater**

**Unica Series**  
ES 10A3, ES 15A3

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This manual book explains everything you need to know about your new product. Please contact our Customer Care should you need further assistance through [www.modena.com](http://www.modena.com).

# PART 1: IMPORTANT SAFETY INFORMATION

## General Remark

The installation and maintenance has to be done by qualified professionals or authorized technicians of MODENA. MODENA is not responsible for any damage or malfunction caused by wrong installation or the failure in following instructions that are included in this manual book. For more information regarding to installation and maintenance guidelines in details, please refer to below chapters.

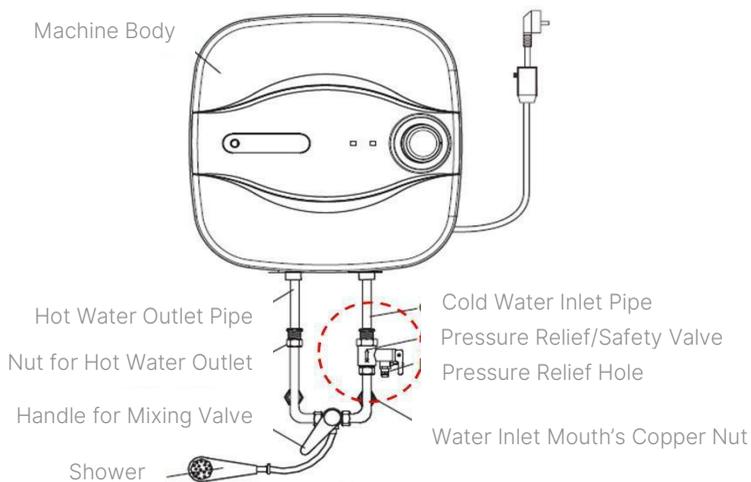
## Caution

Before installing this electric storage water heater, check and ensure that the power socket is properly functional and reliably grounded. Otherwise, this electric storage water heater cannot be installed and used yet. Do not use an extension cord if there is a problem with the power socket. Incorrect installation and use of this electric water heater may result in serious injuries and loss of property.

## Special Caution

- If the supply cord is damaged, it must be replaced by MODENA technicians, MODENA service agent or similarly qualified persons in order to avoid a hazard.
- The power socket must be *grounded* (earthed) reliably. The rated current of the power socket should not be lower than 16A. The socket and plug shall be kept dry to prevent electrical leakage.
- The installation height of the power socket shall not be lower than 1.8 m.
- The wall in which the water heater is installed should be able to bear the twice bigger load than the weight of this water heater filled fully with water without distortion and cracks. Otherwise, other strengthening measures shall be adopted.

- The pressure relief valve attached with the water heater must be installed at the cold water inlet of the appliance (Picture 1), and ensure it is not exposed in the foggy. The water may be flowed out from the pressure relief valve, so the outflow pipe must be opened wide towards the air. The pressure relief valve needs to be checked and cleaned regularly to avoid blockage.



Picture 1

- When using the water heater for the first time (or for the first use after maintenance), the water heater cannot be switched on until it has been filled fully with water. When filling it with water, at least one of the outlet valves of the water heater must be opened wide to exhaust the air. This valve can be closed after the water heater has been filled fully with water.
- This water heater is not intended to be used by persons with special needs for their physical, sensory or mental capabilities (including children), unless they have been given the supervision or instructions concerning the use of the appliance by a person who responsible for their safety. Children should be supervised to ensure that they are not playing with this water heater
- During the heating process, there may be drops of water dripping from the pressure relief hole, and this is a normal case. If there is an over-leaking, please contact **MODENA** Customer Care for repair. This pressure relief hole should, under no circumstances, be

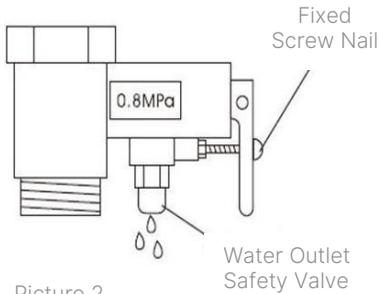
blocked; otherwise, the water heater may be damaged, even resulting on accidents.

- The drainage pipe connected to the pressure relief hole must be kept sloping downwards.
- Since the water temperature inside the tank can reach up to 75 °C, the hot water must not be directly flowed to human skin at the initial use. Adjust the water temperature to a suitable temperature to avoid scalding.
- If the flexible power supply cord is damaged, the special supply cord provided by MODENA must be selected, and replaced by MODENA maintenance personnel (technician).
- If any parts and components of this water heater are damaged please contact MODENA Customer Care for repair.

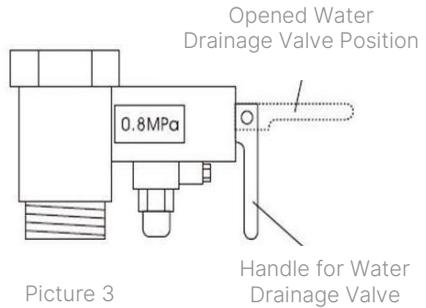
### **CAUTION!**

In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

- For the correct operation of the water heater, it is necessary to pay attention that the maximum inlet water pressure is 0.8 MPa (0.8 Bar), and the minimum inlet water pressure is 0.015 MPa (0.15 Bar).
- When the water pressure is over 0.8 MPa, the safety valve will automatically active. The water may drip from the drainage pipe of the pressure-relief device (Picture 2). Therefore, this pipe must be left open towards the air (atmosphere). The pressure-relief device should be operated/activated regularly to remove limestone deposits and to ensure that the pipe is free from blockage;
- Draining away the water inside the inner container can be done from the pressure relief/safety valve. Twist off the fixed screw nail of the safety valve, and lift the handle for water drainage upwards (Picture 3). A drainage pipe connected to the pressure relief device has to be installed in a continuously downward direction and in a frost-free environment.



Picture 2



Picture 3

## PART 2: PRODUCT INTRODUCTION

### Nomenclature (The Terms to Classified Product Types and Names)

ES XXA3 (e.g ES 10A3, ES 15A3)

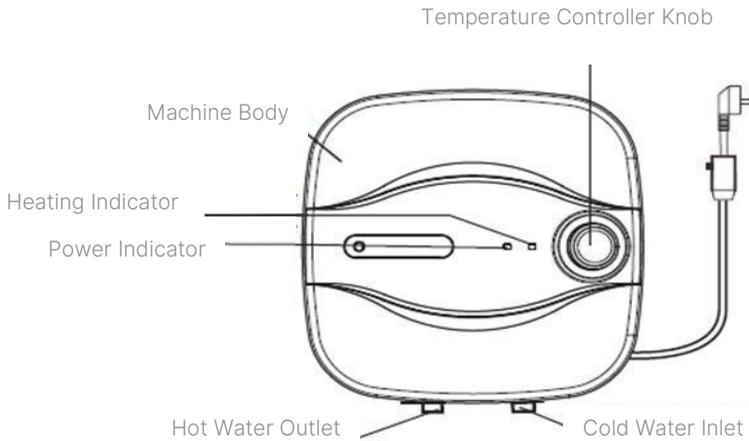
- ES = the product code of the water heater;
- XX = the capacity of the water heater (L);
- A3 = the series of the water heater;

### Technical Performance Parameters

<b>Rated Volume</b>	10 L, 15 L			
<b>Rated Voltage</b>	220 ~	<b>Rated Power</b>	10 L	250 W
			15 L	350 W
<b>Rated Pressure</b>	0.8 MPa	<b>Rated Frequency</b>	50Hz	
<b>Rated Water Temperature</b>	75 °C	<b>Heating Efficiency</b>	>90%	
<b>Water-proof Degree</b>	IPX4	<b>Structure Mode</b>	Hermetically Closed Type Water Storage Style	

Picture 4

## Brief Introduction of the Product Structure



Picture 5

## Product Features

- Super Tank, Single Weld Line with Titanium Porcelain Enamel coating which is rut-proof, erosion-proof and with higher efficiency and having a longer life span.
- Energy saving with minimum heat loss. The water temperature is able to be maintained up to 48 hours after the electricity is switched off.
- Rate power heating: 250W/350W.

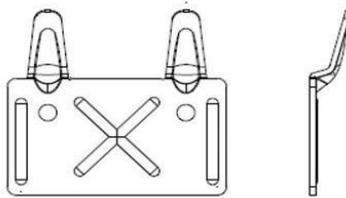
## PART 3: INSTALLATION

### Installation Instruction

- This electric storage water heater shall be installed on a solid wall. If the strength of the wall cannot bear the load equal to two times of the total weight of the water heater filled fully with water, it is then necessary to install a special support. In case of the hollow

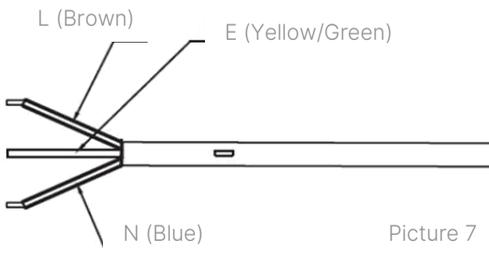
bricks wall, ensure to fill it with concrete cement completely, and use anchor fastener bolt in case of the hebel wall.

- After selecting a proper location, install the mounting bracket to a solid wall.
- **The methods of installation:** On the wall that is strong enough, drill 2 holes with a diameter of 8 mm, and the distance between one hole to another is 62 mm. The depth of the hole is approximately 45 mm. Use the anchor fastener bolts that are provided along with the product for securing the bracket (Picture 6) firmly on the wall.
- Align the slots on the back of the water heater with the projections on the bracket and mount the water heater on the bracket until it is locked.

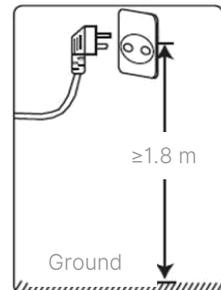


Picture 6

- Install the power plug to the supply socket in the wall. The suitable power supply is 220V. It is recommended to place the supply socket on the right above the water heater. The height of the power socket to the ground should not be less than 1.8 m (see Picture 7). If there is a problem on the power cord, the cord should be replaced by MODENA agencies, or qualified person to ensure the safety.



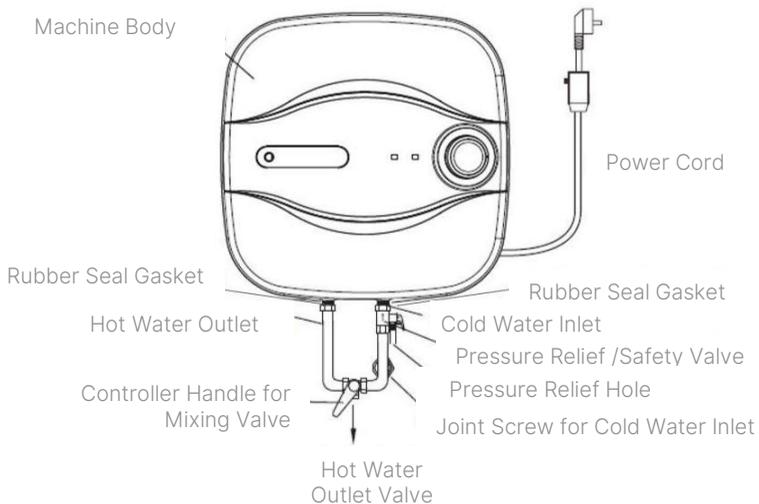
Picture 7



- If the bathroom size is too small, the water heater can be installed at another place. In one condition, the water heater should be installed closely to the set-point of its usage to optimize the heat of the water.

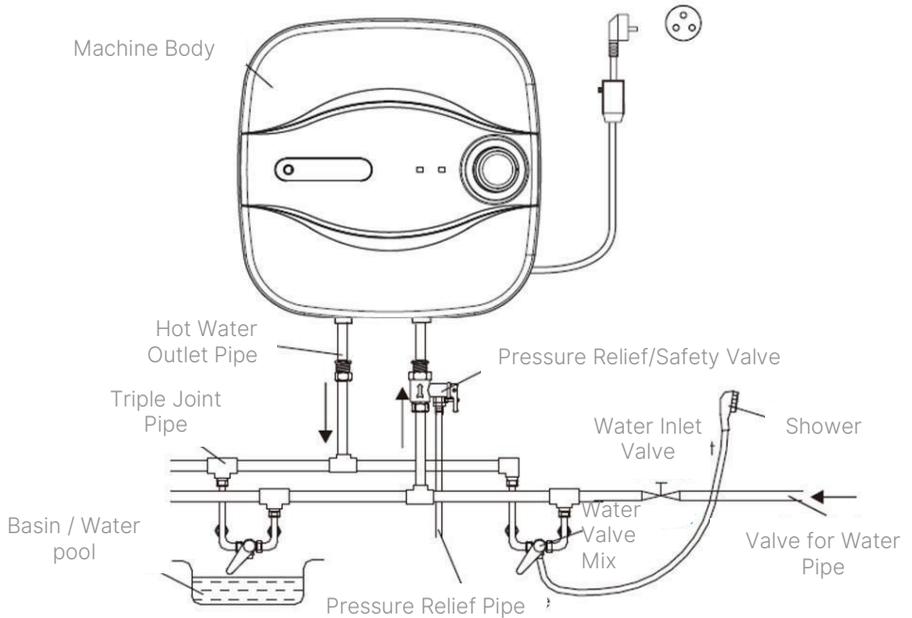
## Plumbing Connection

- The dimension of used pipe is G1/2 ("BSP 1/2"); the maximum and minimum pressures of inlet should use Pa (Bar) as the unit.
- Connect the pressure relief valve with the water heater on the inlet of the water heater.
- In order to avoid leakage when connecting the plumbing, the rubber seal gaskets that are provided with the water heater must be added at the end of the threads to ensure the connection is leak-proof (see Picture 8).



Picture 8

- If the users want to utilize a multi-way supply system, refer to the method shown in Picture 9 for the connection of the plumbing.



Picture 9

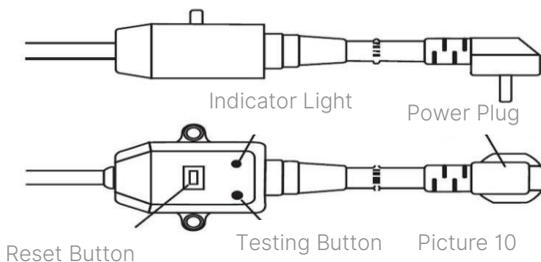
**NOTE**

Please be sure to use the accessories provided by MODENA to install this electric storage water heater. This water heater cannot be hung on the bracket that is not firm and reliable. Otherwise, this water heater may drop off from the wall, resulting to its damage, even serious accidents or injury to the user. When determining the locations for the holes of the bolt, ensure that there is a clearance not less than 0.2 m on the right side of this appliance, for the convenient maintenance, if necessary.

## PART 4: HOW TO USE

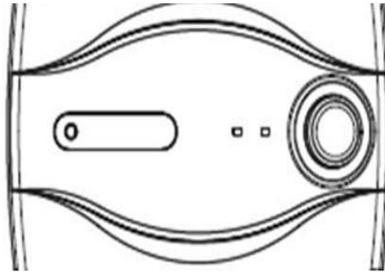
### Operating Procedure

- Check all the piping connection to avoid the leakage case before turning on this electric storage water heater.
- Open one of the outlet valves of the water heater; then, open the inlet valve to get the appliance filled with water.
- When the water flows out of the outlet pipe it implies that the water heater has been filled fully with water, and the outlet valve can be closed.
- Make sure that the tank is fully filled up with water to avoid the damage on the heating element. During the normal operation, the inlet valve should always be kept open.
- Insert the power plug into the power socket and check the reliability of the leakage protection device (ELCB). Press the testing button; the indicator light on the plug should be off; and the reset button should bounce up. Then, push down the reset button, and the indicator light will turn on to verify that the leakage protection works well (Picture 10). If the reset button cannot be pressed during the use, the leakage protection device (ELCB) might be error or fails to work. If the reset button is pressed down and bounce up again, then it shows the power circuit leaks or the power supply is disconnected.



- If the indicator lights up, the thermostat will automatically control the temperature. When the water temperature inside the heating tank has reached the set point, it will switch off this water heater automatically. When the water temperature falls below the set point, the water heater will be turned on automatically to restore the heating.

## Operating the Water Heater



Picture 11

- Rotate the knob according to the marking scale on the knob to increase or decrease the temperature.
- The green “Power” LED and red “Heating” LED will remain ON as long as the power is generated to the system. The red LED will turn off when the water temperature reaches the set scale, at the end of the heating phase.
- The water heater needs to be turned on for a certain period of time to reach the desired temperature.
- During the heating process, it is normal if there is a bit of drip from the safety valve. Please do not cover the safety valve of the water outlet hole.
- Connect this outlet hole to a drainage pipe; water may drip from the drainage pipe of the safety valve; therefore this pipe must be exposed towards the atmosphere (air).
- The safety valve has to be operated regularly (preferably at least every six months) to remove limestone deposit and to ensure that the safety valve is not blocked.

## Product Function Introduction

- **Heating function:** the heating temperature can be set within 30 °C to 75 °C.
- **Safety function:** use anti-dry protection or overheat protection to keep the water heater safe when using.

## PART 5: MAINTENANCE

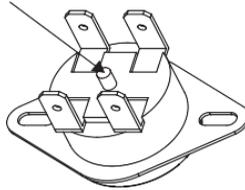
### WARNING!

Do cut off the power supply before maintenance, to avoid danger such as electric shock.

- Check the power plug and the power socket as often as possible. The power socket must be secured, and the proper grounding must be provided. The power plug and the power socket must not heat excessively.
- If the water heater has not been used for a long time, especially in the area with low air temperature (below 0 °C), it is necessary to drain the water from the heating tank to prevent damage, due to frozen water in the internal tank (refer to the “Important Safety Information” part in this manual book for the method of draining away the water from the inner tank).
- To make the water heater durable, it is recommended to regularly clean the internal tank and remove the deposits on its heating element. Check the condition of the magnesium anode (whether fully decomposed or not), and if necessary, replace it with a new one in case of full decomposition.
- The frequency of tank cleaning depends on the hardness of the water in each location where this water heater is applied. Cleaning must be performed by MODENA or authorized maintenance services.
- This water heater is equipped with a thermal switch, which cuts off the power supply of the heating element upon overheating or the absence of water in the tank. If the water heater is connected to the power supply, but the water is not heated and the indicator does not light up, then the thermal switch was off or not switched on. To reset the water heater to the operating condition, it is necessary to:
  1. De-energize the water heater; remove the plate of the front cover (upside).
  2. Press the button that is located at the center of the thermal switch (see Picture 12).

3. If the button is not pressed and there is no clicking, wait until the thermal switch cools down to the default temperature.

Manual Reset Button



Picture 12

### **WARNING!**

Non-professionals are not allowed to disassemble the thermal switch to do the reset. Please contact professionals of MODENA to maintain this electric storage water heater. Otherwise, MODENA will not take responsibility of any accidents.

## **Tank Cleaning**

After having been used in a long time, the storage (tank) of this water heater will have the dirt in it and therefore must be cleaned:

1. Turn off the power source.
2. Close the cold water valve.
3. Open the hot water valve.
4. Open the pressure relief valve (if it is used).
5. Flush / rinse the tank with cold water.
6. Repeat this process several times until the tank is completely clean.

## **Safety Valve Cleaning**

Safety valves should be cleaned regularly to prevent any dirt that clogs the valve:

1. Remove the safety valve, then clean and wash it.
2. Check if the parts of the valve are still able to move properly.
3. After cleaning the valve, install the safety valve back to its position by giving the seal tape around the end of valve.
4. Fill the water heater with water after pipes refitted.

## Magnesium Anode

Magnesium Anodes serves to neutralize corrosive substances in the water and will run out in a certain time depending on the corrosive properties of the water. If the water has good enough quality (PAM), Magnesium Anodes should be replaced within 2 (two) years. If the water quality is not good, Magnesium Anodes should be replaced in maximum 1 (one) year period of time. To replace Magnesium Anodes, contact MODENA Customer Care.

## Heating Element

If the water contains limestone (Mud), the heating element cannot function properly (slow heat) because it was covered by a crust of limestone (mud). Therefore, the heating element must be cleaned off from the sediment each year. To do this cleaning procedure, contact MODENA Customer Care.

# PART 6: TROUBLESHOOTING

Check the things below before contacting MODENA Customer Care in the event of disturbance while using this water heater:

Problem	Possible Cause	Recommended Action
Heating indicator light is Off.	Failures of the temperature controller.	Contact MODENA Customer Care for repair.
Power indicator light is off.	<ol style="list-style-type: none"><li>1. Power source is not connected or badly connected.</li><li>2. Indicator light is damaged.</li><li>3. Overheating sensor is activated.</li></ol>	Contact MODENA Customer Care for repairs.
No water flows out of the hot water outlet.	<ol style="list-style-type: none"><li>1. Running water supply is cut off.</li><li>2. Hydraulic pressure is too low.</li><li>3. The water inlet valve is closed.</li></ol>	<ol style="list-style-type: none"><li>1. Wait for the restoration of the running water supply.</li><li>2. Use the appliance again when the hydraulic pressure is increased.</li><li>3. Open the water inlet valve.</li></ol>

Problem	Possible Cause	Recommended Action
Water temperature is not warm enough.	<ol style="list-style-type: none"> <li>1. Heating element is deactivated.</li> <li>2. Temperature controller is malfunction.</li> <li>3. No power/current running to the water heater.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the heating element and contact MODENA Customer Care for repair.</li> <li>2. Contact MODENA Customer Care for repair.</li> <li>3. Check the power supply.</li> </ol>
Water temperature is over high.	Failures of the temperature control system.	Contact MODENA Customer Care for repair.
Water leak	<ol style="list-style-type: none"> <li>1. Seal problem on the joint (connection) of each pipe.</li> <li>2. Leaking from the plumbing connection.</li> <li>3. Leaking in the gasket.</li> </ol>	<ol style="list-style-type: none"> <li>1. Seal up the joints.</li> <li>2. Tighten the pipe connection.</li> <li>3. Tighten the element or replace the gasket and contact MODENA Customer Care for repair.</li> </ol>

## PART 7: DISPOSAL OF USED PRODUCT



This symbol on the product, or on its packaging, indicates that this product may not be treated as household waste. Instead, it should be taken to the appropriate waste collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed correctly, you will help preventing the potential of negative consequences for the environment and human health, which could otherwise

be caused by the inappropriate waste handling of this product. For more detailed information about the recycling of this product, please contact your local council or your household waste disposal service.

## PART 8: SPECIFICATION

Model	ES 15A3	ES 10A3
Type	Storage (Tank)	
Installation	Vertical	
Heat Source	Electric	
Heating Tank Material	Stainless Steel	
Heating Tank Coating	Titanium Porcelain Enamel	
Electric Safety (ELCB)	Yes	
Overpressure Safety	Yes	
Thermostat	Double	
Grounding Terminal	Yes	
Anti-rust	Magnihealth*	
Capacity	15 L	10 L
Power	350 W	250 W
Water Pressure	0.015-0.8 MPa	
Water Pipe Diameter	0.5 Inch	
Temperature	Max 75°C	
Insulation Material	PUF (Polyurethane)	
Product Dimension	389 x 389 x 301 mm	349 x 349 x 276 mm
Product Weight	8.6 kg	7.1 kg

Specifications of this appliance may change without notice to improve the quality of the product. Figures in this manual are schematic and may not match your product exactly. Values stated on the machine labels or in the documentation accompanying it are obtained in laboratory in accordance with the relevant standards. Depending on operational and environmental conditions of the appliance, values may vary.

## APPENDIX: WIRING DIAGRAM

