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MODENA

User Manual Book

(Electric Storage Water Heater)

Tondo Series
ES 30VD, ES 50VD, ES 80VD
ES 100VD

Disteso Series
ES 30HD, ES 50HD, ES 80HD
ES 100HD

MODENA

Thank you for your trust in choosing MODENA products for your household needs. With your satisfaction as our priority, we constantly aim to deliver stylishly designed products equipped with state-of-the-art technology to assist you in your daily activities.

This is your guidebook containing everything you need to know about our product. Please reach us if you need further assistance or other information via our Customer Care or our official website www.MODENA.com.

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Part 1: Important Safety Information

General Remark

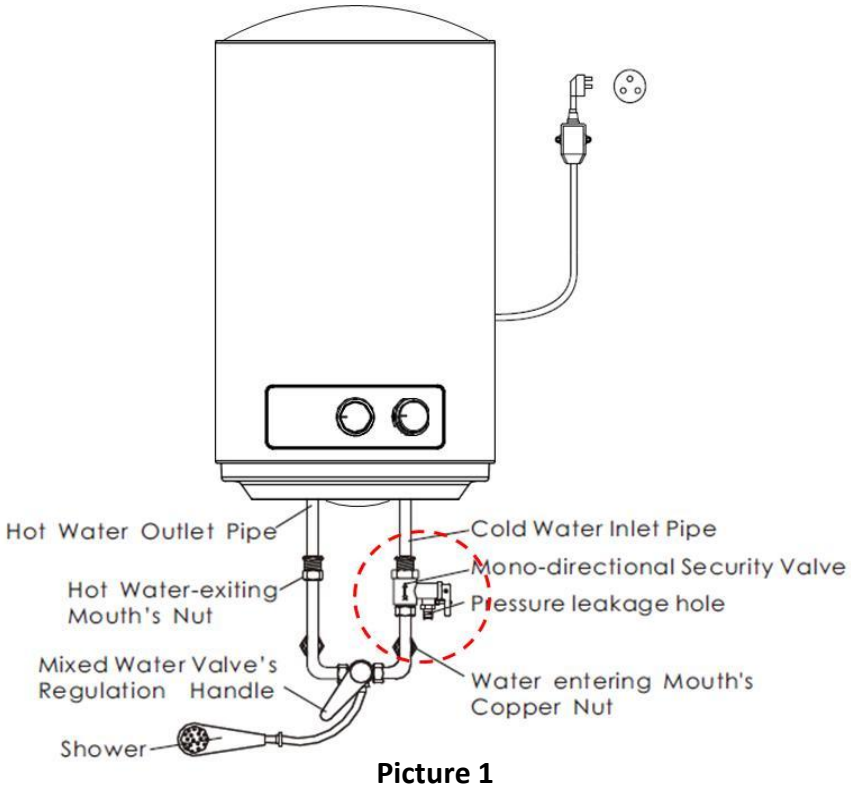
The installation and maintenance has to be done by qualified professionals or authorized technicians of MODENA. MODENA is not responsible for any damage or malfunction caused by wrong installation or the failure of following instructions that are included in this manual book. For more information regarding 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) electrical socket is properly functional and reliably grounded. Otherwise, the electrical storage water heater cannot be installed and used. Do not use an extension cord if there is a problem with the power socket. Incorrect installation and use of this electrical water heater may result in serious injuries and loss of property.

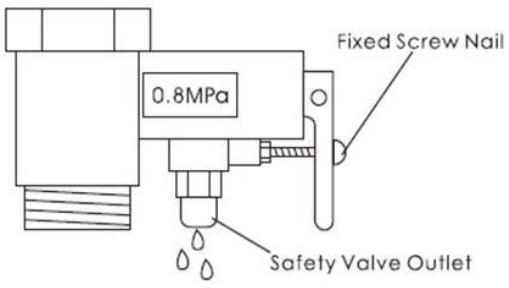
Special Caution

- Warning: 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 socket shall 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 1.8m.
- The wall in which the electrical storage water heater is installed shall 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 heater must be installed at the cold water inlet of this heater (Picture 1), and make sure it is not exposed in the foggy. The water may be out flowed from pressure relief valve, so the outflow pipe must open wide towards the air; The pressure relief valve need to be checked and cleaned regularly, so as to make sure it will not be blocked.

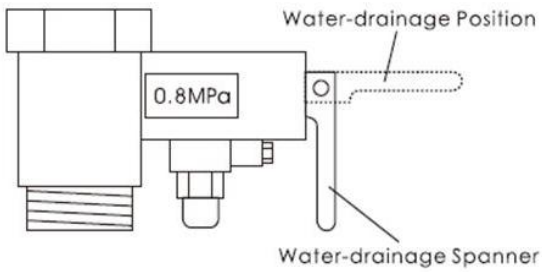


Picture 1

- When using the heater for the first time (or the first use after maintenance), the heater cannot be switched on until it has been filled fully with water. When filling the water, at least one of the outlet valves at the outlet of the heater must be opened to exhaust the air. This valve can be closed after the heater has been filled fully with water.
- This appliance (water heater) is not intended to be used by persons with special needs for their physical, sensory or mental capabilities, or lack of experience and knowledge (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. This is a normal case. If there is an over-leaking, please contact MODENA customer call center for repair. This pressure relief hole shall, under no circumstances, be blocked; otherwise, the heater may be damaged, even resulting on accidents.
- The drainage pipe connected to the pressure release hole must be kept sloping downwards.
- Since the water temperature inside the heater can reach up to 75^{o}C, the hot water must not be directly flowed to human bodies 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 electrical storage water heater are damaged please contact MODENA Call Center for repair.
- Caution: In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must be not 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 appliance, it is necessary to pay attention that the maximum inlet water pressure is 0.8MPa, and the minimum inlet water pressure is 0.015MPa.
- When the water pressure is over 0.8MPa, this will be automatically activated the safety valve, the water may drip from the discharge 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 valve. Twist the thread screw of the pressure relief valve off, and lift the drain handle upwards (Picture 3). A discharge 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 XXVD, ES XXHD

ES = the product code of the electric storage water heater;
XX = the capacity of the water heater (L);
VD, HD = the series of the water heater

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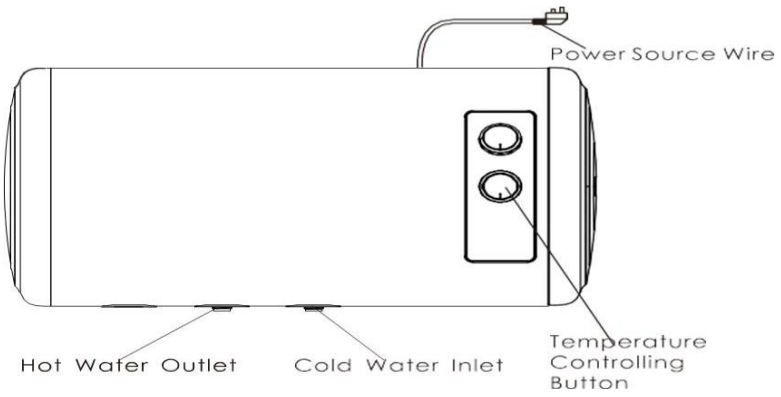
Technical Performance Parameters

Rated Volume	30L , 50L, 80L, 100L		
Rated Voltage	220-240V~	Rated Power	1200W/1200W/1200W/1500W
Rated Pressure	0.8MPa	Rated Frequency	50Hz
Rated Water Temperature	75°C	Heating Efficiency	>90%;
Water-proof Degree	IPX4	Structure Mode	Hermetically closed typed water storage style

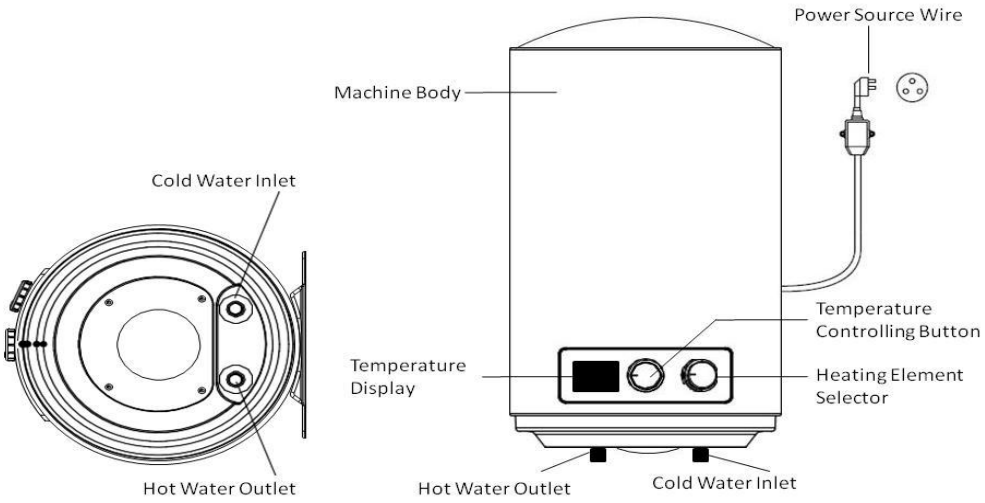
Picture 4

Brief Introduction of Product Structure

ES XXHD



ES XXVD

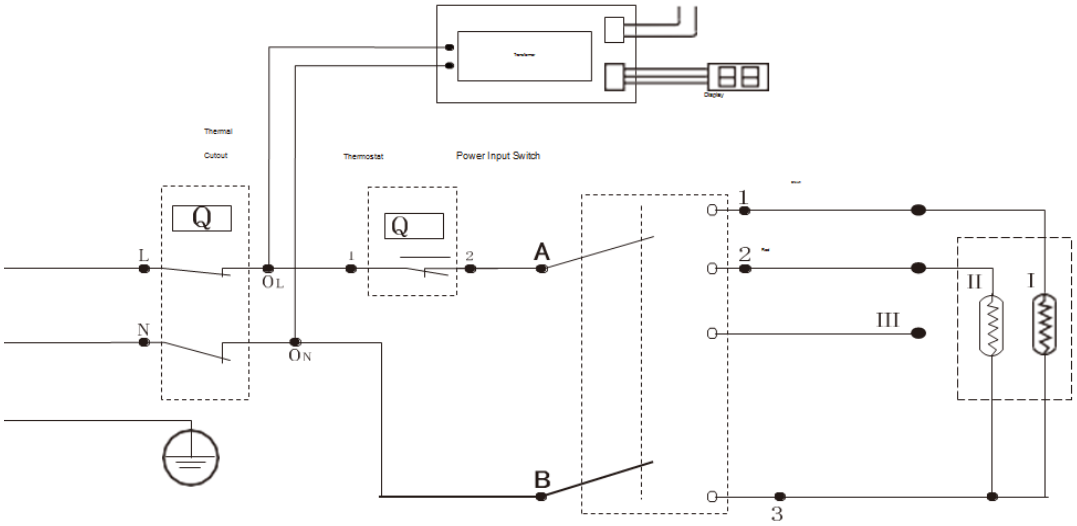


Picture 5

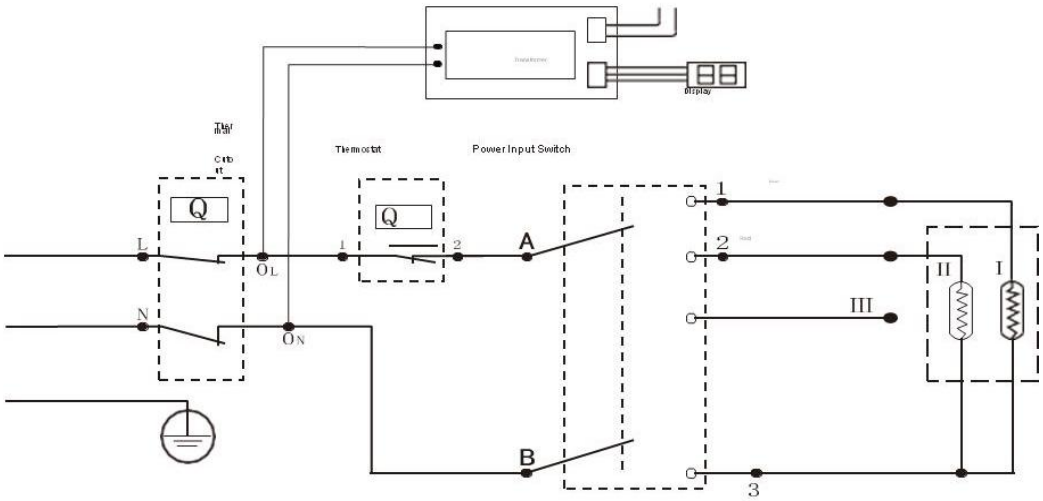
* The features and product specifications depend on the product type.

Internal Wiring Diagram

ES XXHD



ES XXVD



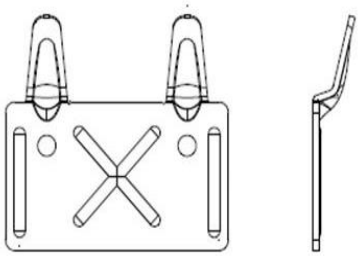
Picture 6

Part 3: Installation

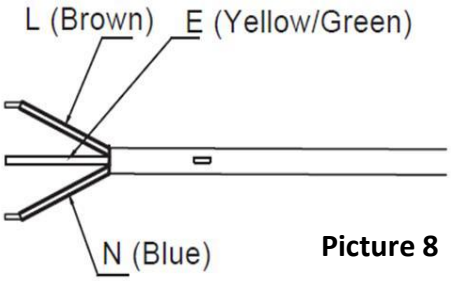
Installation Instruction

- 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 (expansion bolt) in case of the hebel wall.
- Before determined the location of the holes for the bolt, make sure that the right side of the water heater has more than 200 mm distance from the floor (ground), so that there is a space for the repairment process (if necessary).
- After selecting a proper location for the bolts holes, install the mounting bracket to a solid wall.

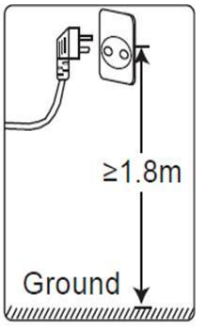
- Methods of installation : On the wall that is strong enough, drill 2 holes with a diameter of 8 mm, and the distance between the hole with another hole is 62 mm. Hole depth of approximately 45mm.Use the anchor fastener bolt provided along with the product for securing the bracket (Picture 7) firmly in the wall
- Align the slots on the back of the water heater with the projections on the bracket and install the water heater on the bracket. Thereafter, slide the water heater gently towards the bottom side of the bracket to be locked.
- The power supply must have good quality and adopts the mono-phase tri-pole that complies with the corresponding standard. Also, the power supply must suitable with the *ground* line where it must be installed properly in a high position and not easily splashed by water.
- Install the power plug to the supply socket on the wall. The power supply for this appliance must be 220V. It is recommended to place the power socket on the right above the heater. The height of the socket to the ground shall not be less than 1.8m (see Picture 8). If there is problem on the power cord, it should be replaced by MODENA, agencies or qualified person who is able to do the replacement and repairment so as to ensure the safety.



Picture 7



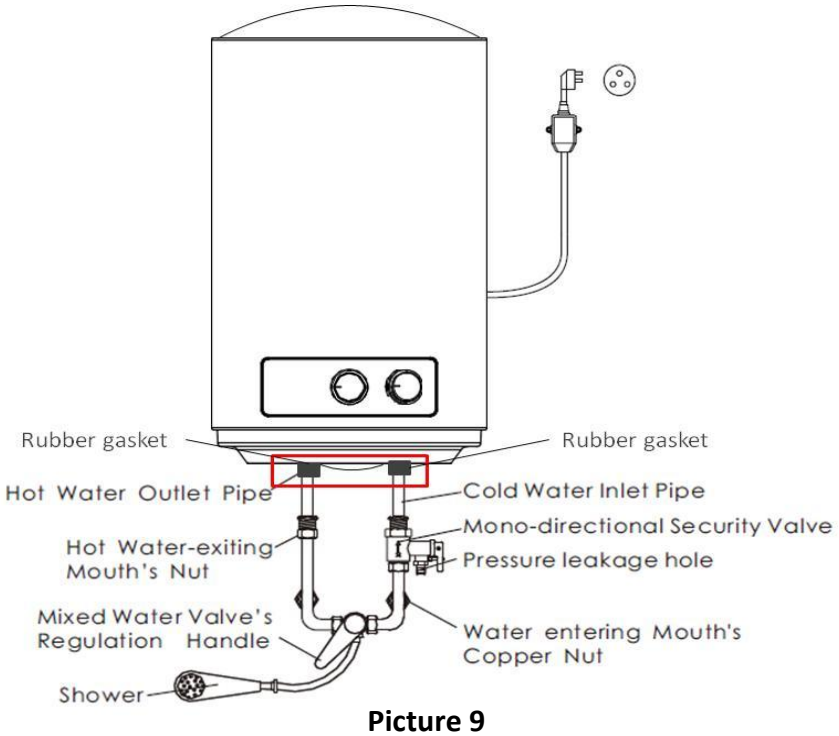
Picture 8



- If the size of the bathroom is too small, the water heater can be installed at another place. However, the water heater shall be installed closely to the stand-point of its usage to optimize the heat of the water.

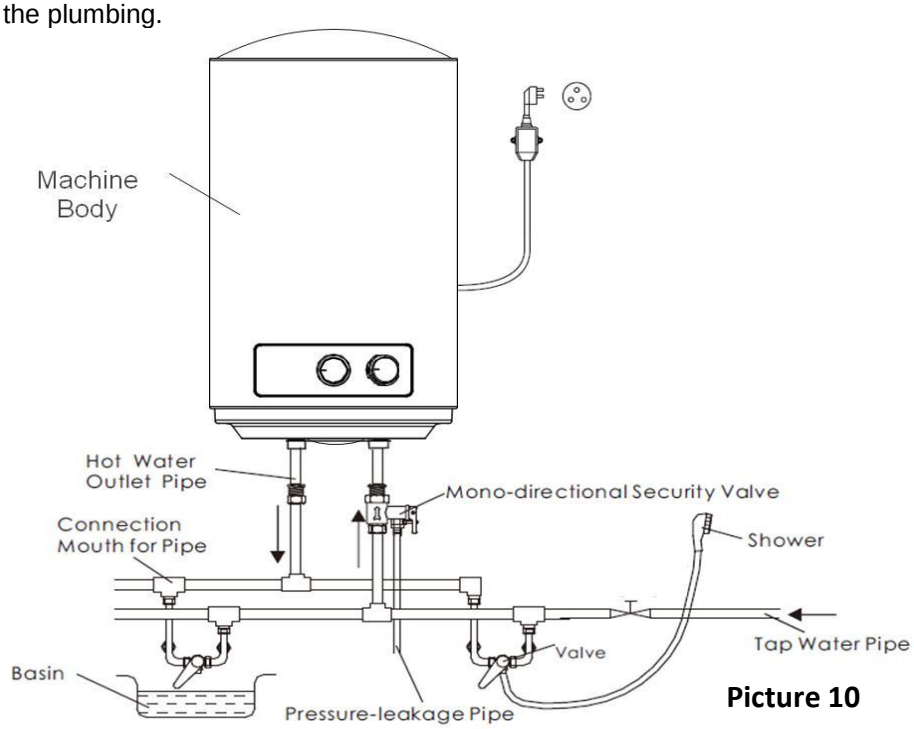
Plumbing Connection

- The dimension of each used pipe is G1/2 (”BSP ½”) ; 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 provided with the water heater must be added at the end of the threads to ensure the connection is leak-proof (see Picture 9).



Picture 9

- If the users want to utilize a multi-way supply system, refer to the method shown in Diagram 10 for connection of the plumbing.



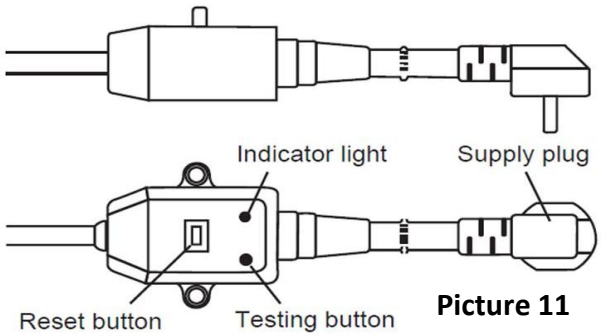
Picture 10

Note:
Please be sure to use the accessories provided by MODENA to install this electric storage water heater. This electric storage water heater cannot be hung on the bracket until it has been confirmed to be firm and reliable. Otherwise, this water heater may drop off from the wall, resulting to its damage, even serious accidents of injury to the user. When determining the locations for the holes of the bolt, it shall be ensured that there is a clearance not less than 0.2m on the right side of the electric heater, for the convenient maintenance of this water heater, 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 water heater filled with water.
- When the water flows out of the outlet pipe it implies that the 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; otherwise it will cause the heating elements to be damaged. Note: During normal operation, the inlet valve shall be always 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 power plug should be off, and the reset button should bounce up; then push down the reset button, the indicator light will turns on to verify that the leakage protection works well (Picture 11). If the reset button cannot be pressed during the process of using, 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.



Picture 11

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

Operating of the Water Heater

Picture 12

- Rotate the knob according to the marking (indicator) to increase or decrease the temperature setting.
- Rotate the power adjustment knob to the position I, II, or III, and the water heating process starts.
- The water heater needs to be turned on for a certain period of time to reach the desired (set) temperature.
- During the heating process, it is normal to see the slight drip at the safety valve. Please do not cover the hole of the safety valve outlet.
- Connect this outlet hole to a discharge pipe. The water may drip from the discharge pipe of the safety valve; therefore this pipe must be exposed to the atmosphere.
- The safety valve has to be operated regularly (preferably at least every six months) to remove the limestone deposit and to ensure that it is not blocked.

Function Introduction

- Display function: displays the actual temperature and the temperature setting.
- Heating function: within 30^{o}C to 75^{o}C to set the heating temperature.
- Safety function: with anti-dry protection, overheat protection to keep safe when using.

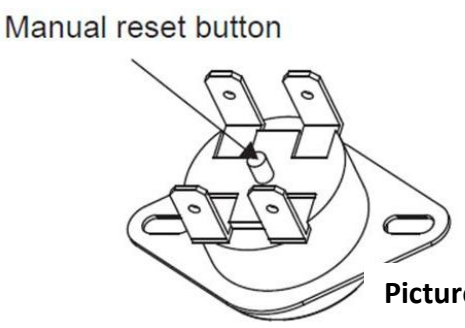
Product Features

- Super tank (Single Weld Line) with Titanium Porcelain Enamel coating which is rut-proof, erosion-proof, 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.

Part 5: Maintenance

Warning: Do cut off the power supply before maintenance, to avoid danger like electric shock.

- Check the power plug and the power socket as often as possible. Secure electrical contact and also proper grounding must be provided. The power plug and the power socket must not heat excessively.
- If the heater is not used for a long time, especially in the area with low air temperature (below 0^{o}C), it is necessary to drain the water from the heater to prevent damage of the water heater, due to water-freezing in the internal tank.(Refer to the “Cautions” chapter in this manual book for the method of draining away the water from the inner container).
- To make the water heater operation durable, it is recommended to regularly clean the internal tank and remove deposits on the electric heating element of the water heater, as well as 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. Tank cleaning frequency depends on the hardness of the water in each location where this water heater is applied. Cleaning must be performed by MODENA or special maintenance services.
- The water heater is equipped with a thermal switch, which cuts off the power supply of the heating element upon overheating water or the absence of water in the water heater. If the water heater is connected to the power supply (electricity), but the water is not heated and the indicator does not light up, then the thermal switch was switched 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 13;
  3. If the button is not pressed and there is no clicking, then you should wait until the thermal switch cools down to the initial temperature.



Picture 13

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:

- Turn off the power source.
- Close the cold water tap.
- Open the hot water tap.
- Open the pressure relief valve (if it is used).
  Flush / rinse with cold water tanks.
- 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:
- Remove the safety valve, then clean and wash it.
- Check if the parts of the valve are still able to move well.
- After cleaning, replace the safety valve in its place by giving the seal tape.
- 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 Call Center.

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, heating element must be cleaned off from the sediment each year. To do this cleaning procedure, contact MODENA Call Center.

Part 6: Troubleshooting

Check the things below before contacting MODENA Call Center in the event of interruption of operation:

Problem	Possible Cause	Recommended Action
Heating indicator light is off.	Failures of the temperature controller.	Contact MODENA Call Center for repair.
Power indicator light is off.	1. Power source is not connected or badly connected 2. Indicator is damaged 3. Overheating sensor is overly activated.	Contact MODENA Call Center for repair.
No water coming out from hot water outlet.	1. Running water supply is cut off 2. Hydraulic pressure is too low 3. Inlet valve of running water is not open	1. Wait for the restoration of running water supply. 2. Use the heater again when the hydraulic pressure is increased. 3. Open the inlet valve of running water.
Water temperature is not warm enough.	1. Heating element is deactivated. 2. Temperature controller is malfunction. 3. No power to the water heater.	1. Replace the heating element and contact MODENA Call Center for repair. 2. Contact MODENA Call Center for repair. 3. Check the power supply.
Water temperature is too high.	Failures of the temperature control system.	Contact MODENA Call Center for repairs.

Water leak	1. The seal for each connected pipes is in trouble. 2. Leaking from the piping connection 3. Leaking at the gasket	1. Seal up the piping connection 2. Tighten the connection 3. Tighten the element or replace the gasket and Contact MODENA Call Center for repairs

Part 7: Disposal of Used Product

This symbol on the product or in its packaging indicates that this product must 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 of correctly, you will help prevent potential 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: Specifications

Model	**ES 100VD**	**ES 80VD**	**ES 50VD**	**ES 30VD**
Type	Tank (Storage)			
Installation	Vertical			
Heat Source	Electricity			
Heating Tank Material	Stainless Steel			
Heating Tank Coating	Titanium Porcelain Enamel			
Temperature Setting	Yes			
Power Selection	Yes			
Temperature Display	Yes			
Electric Safety (ELCB)	Yes			
Overpressure Safety	Yes			
Thermostat	Double			
Grounding Terminal	Yes			
Anti-Rust	Magnihealth^{+}			
Capacity	100 L	80 L	50 L	30 L
Power	500/1000/1500 W	400/800/1200 W	400/800/1200 W	400/800/1200 W
Water Pressure	0.015 - 0.8 MPa			
Water Pipe Diameter	0.5 Inch			
Temperature	Max 75^{o}C			
Insulation Material	PUF (Polyurethane)			
Product Dimension	410 x 410 x 1110 mm	410 x 410 x 920 mm	410 x 410 x 675 mm	340 x 340 x 620 mm
Product Weight	29.2 kg	25 kg	17.5 kg	14 g

Specifications of this appliance may change without notice to improve the quality of the product. Pictures 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.

Model	ES 100HD	ES 80HD	ES 50HD	ES 30HD
Type	Tank (Storage)			
Installation	Vertical			
Heat Source	Electricity			
Heating Tank Material	Stainless Steel			
Heating Tank Coating	Titanium Porcelain Enamel			
Temperature Setting	Yes			
Power Selection	Yes			
Temperature Display	Yes			
Electric Safety (ELCB)	Yes			
Overpressure Safety	Yes			
Thermostat	Double			
Grounding Terminal	Yes			
Anti-Rust	Magnihealth^{+}			
Capacity	100 L	80 L	50 L	30 L
Power	500/1000/1500 W	500/1000/1500 W	500/1000/1500 W	500/1000/1500 W
Water Pressure	0.015 - 0.8 MPa			
Water Pipe Diameter	0.5 Inch			
Temperature	Maks 75^{o}C			
Insulation Material	PUF (Polyurethane)			
Product Dimension	1095 x 410 x 410 mm	918 x 410 x 410 mm	910 x 340 x 340 mm	650 x 340 x 340 mm
Product Weight	31 kg	25 kg	19 kg	13.6 kg

Specifications of this appliance may change without notice to improve the quality of the product. Pictures 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.

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