



## Storage Water Heater

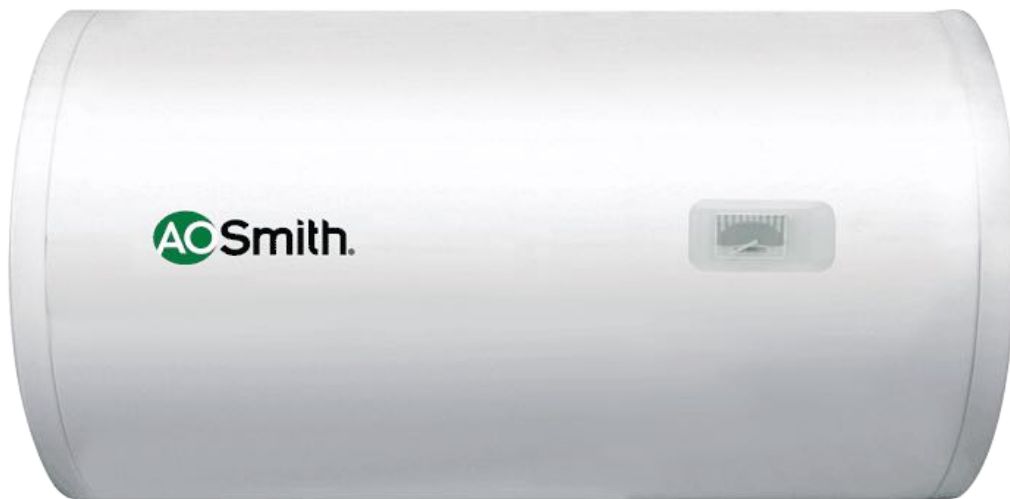
ELJH-30

ELJH-40

ELJH-50

ELJH-80

ELJH-100



User Guide

## About A.O. Smith

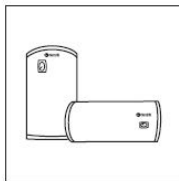
A. O. Smith Water Products Company is the largest water heater manufacturer in the world, a global leader in innovative technology and energy efficient solutions.

In 1936, A. O. Smith developed and patented a technology to glass-line water heaters.

Over the years, A. O. Smith has gained the respect and support of homeowners, contractors, architects and specifying engineers in over 60 countries by providing innovative energy efficient products designed for years of trouble-free service.

## What's in the box?

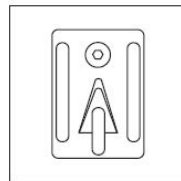
Electric  
Water Heater



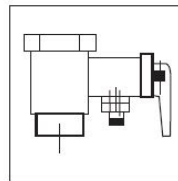
User  
Guide



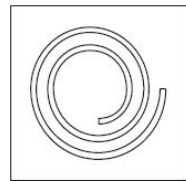
Wall Mounting  
Accessory



Safety Valve



Drain Pipe



## Contents

<b>Specifications</b> .....	<b>3</b>
<b>Component Description</b> .....	<b>4</b>
<b>Key Features</b> .....	<b>5</b>
Glass Coated Element	
Blue Diamond Glass Lining	
Anode Protection	
Safety Valve	
Thermal Cut Out	
<b>Installation</b> .....	<b>6</b>
Mounting	
Mounting procedures and precautions	
Mounting guidelines	
Plumbing connection	
Water inlet and outlet connection	
Power connection	
Wiring diagram of water heater	
Water filling	
<b>Directions of use</b> .....	<b>10</b>
Temperature setting operation	
<b>Maintenance Instructions</b> .....	<b>11</b>
Maintenance	
<b>Troubleshooting</b> .....	<b>12</b>

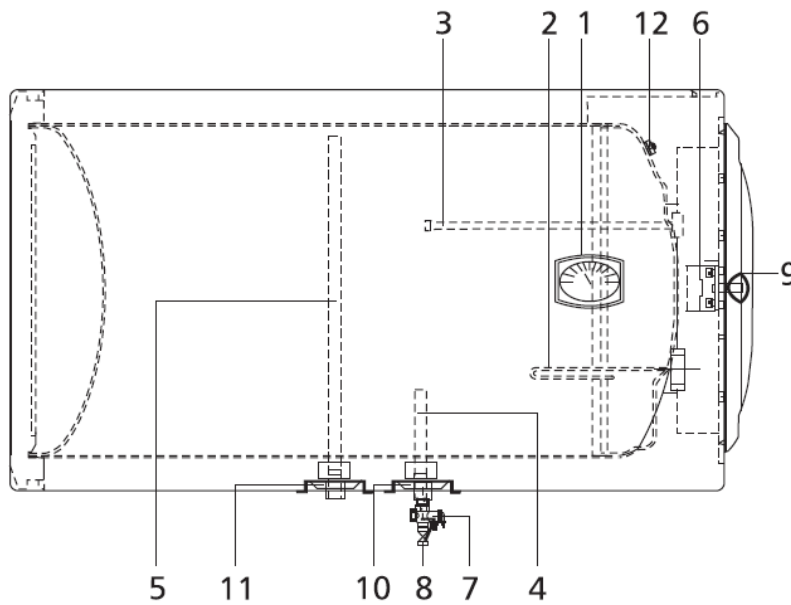
## Specifications

Gen 1 ELJH					
Rated volume (L)	30	40	50	60	80
Power (W)	2000-2200	2000-2200	2000-2200	2000-2200	2000-2200
Voltage/frequency (V/Hz)	220-230/50	220-230/50	220-230/50	220-230/50	220-230/50
Temperature range (°C)	35-75±5	35-75±5	35-75±5	35-75±5	35-75±5
Rated water pressure (MPa)	0.8	0.8	0.8	0.8	0.8
Minimum inlet water pressure (MPa)	2.0	2.0	2.0	2.0	2.0
Maximum inlet water pressure (MPa)	3.0	3.0	3.0	3.0	3.0
Inlet/outlet connection (inches)	½	½	½	½	½
Waterproof grade	IPX1	IPX1	IPX1	IPX1	IPX1
Weight (kg)	17	19	21	24	31
Overall dimensions (mm)	Ø360x605	Ø360x710	Ø360x830	Ø360x962	Ø463x860

A. O. Smith reserves the right to make product changes or improvements at any time without notice.

## Component Description

Part Description	
1. Temperature indicator	7. Multi-function safety valve
2. Heating element	8. Stopcock (not included with water heater)
3. Anode	9. Pilot light
4. Cold water inlet pipe with diffuser	10. Inlet
5. Hot water outlet pipe	11. Outlet
6. Thermostat	12. Thermal cut out



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## Key Features

### Glass Coated Element

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Scale and sediment build up on the surface of standard elements lead to premature failure. An A. O. Smith glass coated element helps to prevent scale formation on the element, extending the life of the element.

### Blue Diamond Glass Lining

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A. O. Smith water heaters come with Blue Diamond glass lined inner containers. This lining is achieved through a specialized fusion process carried out at 870°C. Inner tanks are designed to pass the 100,000 cycle fatigue life test in accordance with relevant UL (Underwriters' Laboratories) Standards. This makes our tanks one of the best inner containers, resistant to rust and scaling.

### Anode Rod Protection

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The tank has an anode rod system with a stainless core that is designed to protect the tank from corrosive elements. The system uses a special cathodic action to fight the corrosive elements, prolonging the life of the water heater.

### Safety Valve

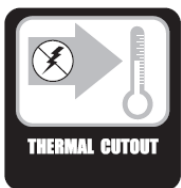
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This water heater has a pressure safety valve. This valve is designed to automatically relieve and discharge water in case the pressure or temperature exceeds the preset limits.

### Thermal Cut Out

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The water heater employs a thermal cut out. In case any fault occurs and the water temperature exceeds the highest preset temperature (93°C), the switch rapidly cuts off the live and neutral line for user's safety.

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## Installation

CAUTION: Please wait for 30 minutes before using the heater for the first time.

CAUTION:

- The heater should only be connected to a power source after a full installation which ensures secure mounting, piping, wiring and filling of the tank with water.
- To prevent injuries from lifting heavy equipment, the water heater should be installed by at least 2 persons.
- The water heater must be lifted in an upright position. Do not tilt over a 45° angle. Disassembly and assembly by end users are prohibited.
- The water heater must be installed by a qualified personnel

## Mounting

This water heater should be installed at a location that is close to a power source, floor drain and water utilization point. In the installation area, it should be ensured that the water leakage from the heater or pipeline joints may not cause damage to the articles in adjacent regions or lower layers of the building. When installing the water heater, be sure to mount the water inlet and outlet pipes at the bottom of the heater.

Vertical installation of the water heater is strictly prohibited.

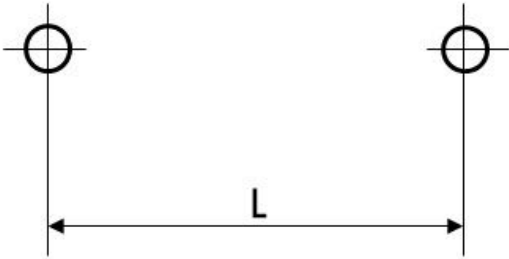
## Mounting procedures and precautions

The installation surface must be capable of supporting at least three times the weight of the water heater when filled with water. If the water heater is not installed on the weight bearing wall or is mounted on hollow brick wall, corresponding protective measures must be provided.

This water heater must be installed with the fixing accessories provided. The heater must be hung until the accessories are fixed firmly or else the heater may fall off, and serious injuries might be caused.

## Mounting guidelines

Drill two holes at least 90 mm in depth using an electric impact drill with a  $\varnothing$  10mm bit. The holes must be level. Space between the two holes should be as shown in the table.

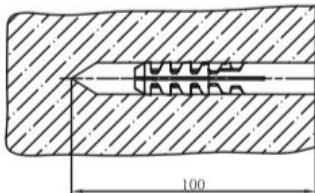


Model	L (mm)
ELJH-30	260
ELJH-40	260
ELJH-50	380
ELJH-60	380
ELJH-80	380
ELJH-100	380

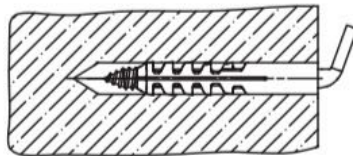
A plastic expansion tube must be placed into the drilled holes before the brackets are inserted.

It is necessary to use a special inner hexagon spanner to fasten the bolts into the expansion tubes, no other tools are permitted. Ensure the screw is not excessively tightened. This may damage the expansion tubes.

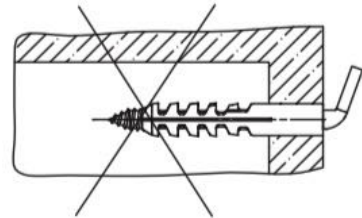
Insert the square holes of the upper of supporting rack at the back of the water heater onto the brackets, then press the water heater down firmly to ensure the holes are lodged against the brackets.



100mm depth



correct installation



incorrect installation

### CAUTION:

- The mounting accessories provided can only be used for solid walls, as shown in the drawing above. Improper installation may cause the water heater to dislodge.



## Plumbing connection

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Do not alter the installation position or block the relief valve. Connect the safety valve provided with this unit to the inlet of the water heater (inlet pipe has a blue cap). The arrow points to the direction of water flow (to the heater). The storage heater must be permanently connected to the water mains and the use of a hose set is prohibited. The safety valve must be connected to the discharge pipe, mounted downwards to a floor drain in a frostless environment. As water may drip from the discharge pipe during operation of the heater, a floor drain should be provided nearby. The pipes should not be blocked. The relief valve is to be operated regularly to remove lime deposits and to verify that it is not blocked.

The hot water pipe is connected to the water outlet (outlet pipe has a red cap). If the water pressure of the inlet pipe approaches or exceeds the relief limit (0.80 MPa) of the safety valve, the valve will relieve pressure automatically. Refer to the following diagram for the pipe connection. Nylon hoses should be used for the connection between the tapping pipe and the heater.

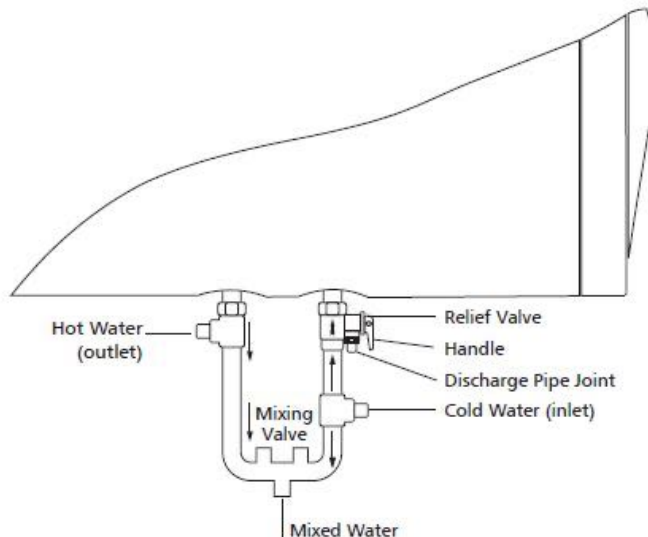
We recommend the use of a double check valve assembly for the installation of the water heaters. The double check valve assembly is a safe and effective measure for preventing backflow and back-siphonage of water from the water heaters through the inlet pipe.

### CAUTION:

- Apply proper sealant to the pipe joints to prevent leakage. Do not over-tighten the safety valve to avoid damage.

## Water inlet and outlet connection

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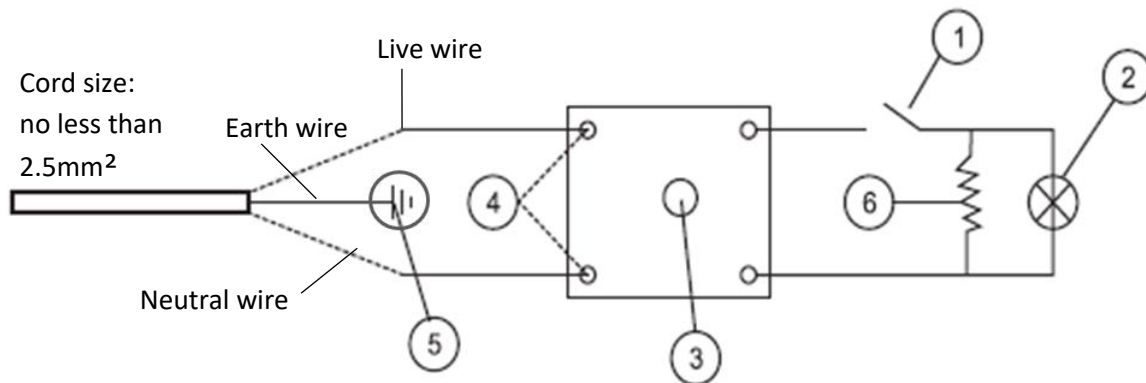


## Power connection

This water heater must be permanently connected to the electrical supply through a double pole switch having a contact separation of at least 3mm in all poles incorporated in the fixed wiring. Use an independent high-quality socket that is reliably grounded. Its rated current should not be less than 16A. Ensure reliable contact with the power source.

The maximum power of this water heater is 2000W, hence a single dedicated power supply circuit is proposed. The core area of the electric supply wire should not be less than 2.5 mm<sup>2</sup>. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

## Wiring diagram



1. Thermostat setting knob	250V ~ 50/60Hz 16(2.6)A	4. Power supply connection
2. Pilot light	220V ~ 50/60Hz	5. Ground connection
3. Thermal cut out reset button	220-277V a.c.	6. Heating element 2000W

## Water filling

After all the pipes are connected, open the discharge valve of the water heater and then the feed valve. Fill the water heater with water and exhaust the air till a uniform water stream flows out of the hot water outlet. This indicates that the water heater has been filled up. Close the hot water discharge valve and check all connections for any leakage. If leakage occurs, empty the water tank, repair the leaked connection and then refill the heater with water. Do not close the feeding valve during the filling of water.

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## **Directions for use**

Before using the water heater, make sure it is filled with water and that the power source has been connected properly. Please wait for 30 minutes before using the heater for the first time.

### **Temperature setting**

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Set the temperature by adjusting the temperature setting knob on the right side of the water heater. Turn knob clockwise to increase temperature. The knob will light up with heating is in progress.

### **Operation**

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After making sure the heater is filled up, turn the power on. The indication light will be lit as the water is heating. The indication light will go off when the water has been heated to the set temperature.

Note: Water dripping from the safety valve outlet during heating is a normal occurrence. Under normal conditions, the safety valve lever should be opened periodically. If water flows from the valve, it is in good working condition. Otherwise, please contact a local authorized A. O. Smith dealer.

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## Maintenance instructions

**DECLARATION:** Only an A. O. Smith authorized service personnel may maintain and repair this water heater. Improper methods could result in serious injury or property damage.

**WARNING - Electric shock:** Before repairing the water heater, be sure to disconnect the water heater from the power source.

**CAUTION:** Prior to repair works, please refer to the troubleshooting chart.

### Maintenance

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If the water heater needs to be serviced, shut off the water inlet valve, remove the relief valve and drain the tank from a discharge pipe connected to the water outlet.

The tank should be flushed periodically to remove sediment build up. The procedures are as follows:

1. Disconnect the power.
2. Shut off the water inlet and remove the relief valve before draining the heater.
3. Connect the water heater outlet to a tap water source and the outlet to a drainage pipe. Turn on the water source to the tank and allow the flow to discharge from the drainage pipe.
4. Increase the water flow and flush the tank till the water flowing from the drainage pipe runs clean.
5. Reconnect the inlet and outlet pipes. The tank flush is complete.

**CAUTION:**

- Drained water might be above 50°C and may scald.

## Troubleshooting

Problem	Possible causes	Corrective action
No indication light No hot water	1) No power to heater 2) No power at electric socket 3) Failure in control circuit or internal wiring	1) Switch on power to heater 2) Check power socket 3) Contact local authorized dealer
No indication light High water temperature	1) High temperature limit switch tripped 2) Electrical circuit failure	1) Switch off power supply 2) Contact local authorized dealer
Indicator light on, no hot water	Heating element or internal circuit failure	Contact local authorized dealer
Dripping from pipe joints	Unsealed joints	Reconnect pipes of the water heater and be sure to use sealant
Dripping from enclosure	1) Tank or accessories leakage 2) Drain blocked 3) Condensation pipe distorted or not downward facing	1) Disconnect power to heater immediately 2) Check and direct condensation pipe downwards 3) Contact local authorized dealer

### CAUTION:

- Before installing the heater, ensure that the power source and wires are suitable
- The heater should be earthed reliably. Ensure the earth wire is not in contact with the neutral wire or any pipes
- Once the temperature has been set and the relief valve installed, end users should not alter the installation location or tamper with the relief valve
- Hot water over 50°C will scald. Always test the water temperature by mixing it with cold water before coming into contact with it.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with appliance.