

## Kospel PPE1 - 18/21/24

# Kospel PPE2 Electronic Instantaneous Water Heater User Manual

Model: PPE1 - 18/21/24

## INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Kospel PPE2 Electronic Instantaneous Water Heater. Please read this manual thoroughly before installation and use, and keep it for future reference.

The Kospel PPE2 Electronic LCD instantaneous water heater (18/21/24 kW) is designed for rapid hot water supply in households, sanitary facilities, workshops, and similar environments. Its high heating capacity allows it to serve multiple tap points simultaneously, providing hot water for sinks, washbasins, bathtubs, or showers.

The LCD display shows the current precise temperature, flow rate, and power. A maximum temperature can be locked via the LCD display, allowing for precise temperature setting to prevent scalding, especially for children. The fully electronic control system ensures precise temperature selection from 30 °C to 60 °C, accurate to 1 °C.

The PPE2 is suitable for solar energy systems, for reheating preheated water. The inlet temperature should not exceed 70 °C. A maximum temperature can be programmed. It features an aesthetic and modern design in a compact housing made of high-quality plastic material. The reliable copper tube heating system technology ensures high quality and protects against air bubbles. It includes overheating protection and offers simple installation due to flexible electrical and copper connections.

## PRODUCT OVERVIEW





Front view of the Kospel PPE2 Electronic Instantaneous Water Heater, highlighting its LCD display and control knob.



The Kospel PPE2 water heater mounted on a wall in a bathroom setting, demonstrating its compact design.

## Key Features

- **Adjustable Power Output:** Features 3 switchable power levels (18 kW, 21 kW, 24 kW) to suit various hot water demands.
- **LCD Display:** Provides real-time information on current temperature, flow rate, and power consumption.
- **Electronic Control System:** Ensures precise temperature selection from 30 °C to 60 °C, accurate to 1 °C.
- **Temperature Lock Function:** Allows setting a maximum temperature to prevent accidental scalding, especially important for households with children.
- **Solar Compatibility:** Designed to work with solar energy systems for reheating preheated water (inlet temperature not exceeding 70 °C).
- **Durable Heating System:** Utilizes reliable copper tube heating technology for high quality and protection against air bubbles.
- **Safety Features:** Includes overheating protection.
- **Easy Installation:** Designed for straightforward installation with flexible electrical and copper connections.

# PPE2 electronic LCD

Electronic controlled heater with LCD display

## Most important advantages



### LCD display

Display allows to read the inlet and outlet temperatures, the water flow rate and power with which the unit currently heats



### Electronic control

system ensures stability and smooth regulation of water temperature from 30°C to 60°C (1°C step).

9/12/15 kW

18/21/24 kW

### 3 powers in 1 heater

This allows the user to select the desired power level



### Suitable for cooperation with solar collectors and heat pumps

Can work on already pre-heated water. Inletting water temperature up to 70°C.



### Temperature lock

This allows the user to save the maximum temperature value e.g. in order to protect children against burn injuries.

T<sub>1</sub>



T<sub>2</sub>



T<sub>3</sub>



### Temperature memory

This allows the user to save three most frequently used water temperature

## Dimensions



Supply water pressure 0,1 - 0,6 MPa

Inlet and outlet section 1/2" inner thread

Safety class IP 25

## Application



from 12kW



from 18kW

## Technical data

| Type              | Rated power | Rated voltage | Rated current (A)  | Min. connecting wires section (mm <sup>2</sup> ) | Efficiency (Δt=30°C) (l/min.) |
|-------------------|-------------|---------------|--------------------|--------------------------------------------------|-------------------------------|
| PPE2-09/12/15.LCD | 9/12/15 kW  | 400V 3~       | 3 x 13,0/17,3/21,7 | 4 x 1,5/2,5/2,5                                  | 4,3/5,8/7,2                   |
| PPE2-18/21/24.LCD | 18/21/24 kW | 400V 3~       | 3 x 26,0/30,3/34,6 | 4 x 4/4/6                                        | 8,7/10,1/11,6                 |
| PPE2-27.LCD       | 27 kW       | 400V 3~       | 3 x 39,0           | 4 x 6                                            | 13,0                          |

All technical data is based on standards of Central European countries. However, Kospel S.A. is fully flexible to adjust its appliances to other standards.

## Safety Precautions

- Installation must be performed by a qualified electrician or plumber in accordance with local regulations and standards.
- Ensure the main power supply is disconnected before commencing any installation or maintenance work.
- Verify that the electrical supply matches the specifications of the water heater.
- Do not install the unit in areas prone to freezing temperatures.
- Ensure proper grounding of the appliance.

## Mounting the Unit

1. Choose a suitable location for indoor installation, ensuring adequate space for ventilation and maintenance.
2. Mark the drilling points on the wall using the provided mounting template or the unit's dimensions.
3. Drill holes and insert appropriate wall plugs.
4. Securely mount the water heater to the wall using screws.

## Water Connections

- Connect the cold water inlet to the designated connection point on the unit (typically G 1/2" thread).
- Connect the hot water outlet to your plumbing system.
- Ensure all connections are watertight and sealed properly.
- Flush the system to remove any air or debris before connecting to power.

## Electrical Connections

- Connect the electrical wiring according to the wiring diagram provided in the unit and local electrical codes.
- Ensure the correct cable cross-section is used for the selected power output (refer to specifications).
- Verify all electrical connections are secure and insulated.

## OPERATING INSTRUCTIONS

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### Initial Start-up

1. After installation, open a hot water tap to allow water to flow through the unit and expel any trapped air.
2. Once water flows steadily, close the tap.
3. Connect the unit to the main power supply. The LCD display should illuminate.

### Setting Temperature

- Use the control knob or buttons on the front panel to adjust the desired water temperature. The LCD display will show the selected temperature.
- The temperature can be set between 30 °C and 60 °C.

### Power Level Selection

- The unit offers 18 kW, 21 kW, and 24 kW power settings. Refer to the manual for specific instructions on how to switch between these power levels, usually through the control panel or internal settings.

- Higher power levels provide faster heating and higher flow rates, suitable for multiple tap points or bathtubs.

### Temperature Lock Function

- To activate the temperature lock, consult the detailed operating instructions in the full manual. This feature prevents accidental changes to the maximum temperature setting.

## MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your Kospel PPE2 water heater.

- **Cleaning:** Clean the exterior of the unit with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Descaling:** In areas with hard water, limescale buildup can affect performance. Regular descaling may be necessary. Consult a qualified technician for descaling procedures.
- **Filter Cleaning:** Check and clean any inline filters periodically to ensure unrestricted water flow.
- **Professional Inspection:** It is recommended to have the unit inspected by a qualified technician at least once a year to check for wear, leaks, and proper operation.

*Always disconnect the power supply before performing any maintenance.*

## TROUBLESHOOTING

| Problem                         | Possible Cause                                                                                                                                   | Solution                                                                                                                                                             |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No hot water / Unit not heating | No power supply; Overheating protection activated; Insufficient water flow; Heating element failure.                                             | Check circuit breaker/fuse; Allow unit to cool down and reset; Ensure adequate water pressure and flow; Contact qualified technician.                                |
| Water not hot enough            | Temperature setting too low; Insufficient power level selected; High incoming water temperature (for solar pre-heated water); Limescale buildup. | Increase temperature setting; Select higher power level; Check incoming water temperature (should not exceed 70°C); Descale unit (professional service recommended). |
| Water flow is weak              | Clogged filter; Low water pressure; Kinked hoses.                                                                                                | Clean or replace filter; Check main water supply pressure; Straighten hoses.                                                                                         |
| Unit leaking                    | Loose connections; Damaged seals or internal components.                                                                                         | Tighten connections; Contact qualified technician immediately.                                                                                                       |

For problems not listed here or if solutions do not resolve the issue, please contact a qualified service technician.

## SPECIFICATIONS

| Feature | Detail |
|---------|--------|
| Brand   | Kospel |

| Feature                          | Detail                                               |
|----------------------------------|------------------------------------------------------|
| Model Number                     | PPE1 - 18/21/24                                      |
| Part Number                      | 5906564110788                                        |
| Power Output                     | 18 kW, 21 kW, 24 kW (selectable)                     |
| Rated Voltage                    | 400V 3~                                              |
| Temperature Range                | 30 °C to 60 °C                                       |
| Product Dimensions (H x W x D)   | 43.99 x 24.51 x 12.6 cm (approx. 440 x 245 x 126 mm) |
| Weight                           | 4 kg                                                 |
| Material                         | Acrylonitrile Butadiene Styrene                      |
| Power Source                     | Electric Wired                                       |
| Efficiency Class                 | A                                                    |
| Water Fittings                   | G 1/2"                                               |
| Minimum Flow Rate for Activation | 2.5 l/min                                            |
| Minimum Inlet Pressure           | 0.1 - 0.6 MPa                                        |
| Style                            | Indoor Installation                                  |
| UPC                              | 700621907084                                         |

PL:DE:GB:RU-045AB/t.518

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| KDE                                                        |                  | 9       | 12                                                | 15       | 18       | 21       | 24       | 27       |          |
|------------------------------------------------------------|------------------|---------|---------------------------------------------------|----------|----------|----------|----------|----------|----------|
| PPE2, KDE2, PPVE                                           |                  | 9/12/15 |                                                   |          | 18/21/24 |          |          | 27       |          |
| Rated power                                                |                  | kW      | 9                                                 | 12       | 15       | 18       | 21       | 24       | 27       |
| Rated voltage                                              |                  |         | 400V 3~                                           |          |          |          |          |          |          |
| Rated current                                              |                  | A       | 3 x 13,0                                          | 3 x 17,3 | 3 x 21,7 | 3 x 26,0 | 3 x 30,3 | 3 x 34,6 | 3 x 39,0 |
| Efficiency (at Δt = 40°C and water pressure at 0,4 MPa)    |                  | l/min   | 3,3                                               | 4,3      | 5,4      | 6,5      | 7,6      | 8,7      | 9,8      |
| Min. connecting wires section                              | KDE              | mm²     | 4 x 1,5                                           | 4 x 2,5  |          | 4 x 4    |          | 4 x 6    |          |
|                                                            | PPE2, KDE2, PPVE |         | 4 x 2,5                                           |          | 4 x 6    |          |          |          |          |
| Max. connecting wires section                              |                  | mm²     | 4 x 16                                            |          |          |          |          |          |          |
| The maximum allowed network impedance                      |                  | Ω       |                                                   |          |          |          | 0,43     | 0,37     | 0,30     |
| Pressure in the water mains                                |                  | MPa     | 0,1 + 0,6                                         |          |          |          |          |          |          |
| Activation point (min. rate of flow)                       |                  | l/min   | 2,5                                               |          |          |          |          |          |          |
| Temperature adjustment range                               |                  | °C      | 30 + 60                                           |          |          |          |          |          |          |
| Overall dimension (height without tap set x width x depth) | KDE, KDE2        | mm      | 440 x 245 x 120                                   |          |          |          |          |          |          |
|                                                            | PPE2, PPVE       |         | 440 x 245 x 126                                   |          |          |          |          |          |          |
| Weight                                                     | KDE              | kg      | ~5,2                                              |          |          |          |          |          |          |
|                                                            | KDE2             |         | ~4,3                                              |          |          |          |          |          |          |
|                                                            | PPE2, PPVE       |         | ~4,0                                              |          |          |          |          |          |          |
| Water fittings                                             |                  |         | G 1/2" (distance between inlet and outlet 100 mm) |          |          |          |          |          |          |

The minimal resistivity of water at 15°C for PPE2, KDE2, PPVE is 1100 Ω cm.

Technical data

Detailed technical specifications for the Kospel PPE2, including electrical and hydraulic parameters.

## WARRANTY AND SUPPORT

For warranty information and customer support, please refer to the documentation included with your purchase or contact Kospel customer service directly. Details regarding warranty periods and terms of service are typically provided by the manufacturer.

Please have your model number (PPE1 - 18/21/24) and serial number ready when contacting support.

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### ASK A QUESTION ABOUT THIS MANUAL

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**Question**

Example: How do I reset this device or fix this error?

**Details**

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question