

PROWATT SERIES ELECTRIC WATER HEATER



HIGH CAPACITY, UNINTERRUPTED PERFORMANCE!



What Is an Electric Water Heater?

Electric water heaters are hot water solutions designed to meet fast, practical, and independent hot water needs. They operate solely on electrical energy without requiring an external heat source (boiler systems, solar energy, etc.).

Thanks to the heating elements inside, electrical energy is converted into heat. By keeping the water at the set ideal temperature and ready for use at all times, they provide uninterrupted comfort. With easy installation and flexible usage areas, these devices stand out as one of the most practical ways to ensure reliable and convenient hot water.

Prowatt Series Electric Water Heater

General Features

- It is delivered with stainless steel electric heaters in different electrical power options according to customer needs.
- Long-lasting operation is ensured with separate control for each heating element.
- Thanks to the optimum design of the heating element, it provides a high volume of hot water for all domestic hot water needs with high performance and efficient heat transfer.
- In addition to producing hot water solely with electricity, it offers the possibility of operating in the most efficient way by using other energy sources together with a water coil or plate heat exchanger.
- It is offered to our customers with various storage capacities ranging from 100 liters to 5000 liters.
- The surfaces of the tank that come into contact with water are coated with high-quality enamel, ensuring both protection against corrosion and the surface smoothness required for hygiene.
- With connection ports of suitable diameter and positioning, it is ready to be installed into the system. It is equipped with a magnesium anode for cathodic protection.
- It is delivered with excellent insulation to minimize energy loss.
- Before delivery to the customer, it is tested under a pressure equal to 1.3 times the design pressure in accordance with the test standards for pressure vessels.



Advantages of Electric Water Heaters

Independent Operation and Flexible Installation

The most striking advantage of an electric water heater is the absolute freedom it offers. It completely eliminates the need for a central heating system (boiler, heat pump, etc.) or a flue connection. This provides unique flexibility, especially in places where the existing installation is complex, where retrofitting is difficult, or where there is no gas line available. It can be easily installed anywhere with an electrical connection. Since it does not require fuel storage, complex piping systems, or periodic flue maintenance, it both reduces installation costs and significantly speeds up the installation process.

Hot Water Ready at All Times

Modern electric water heaters are equipped with high-density, eco-friendly, and robust insulation layers designed to retain heat inside the tank for the maximum possible duration. This advanced insulation technology ensures that once heated, the water remains hot for hours with minimal energy loss. As a result, the unit does not consume energy unnecessarily by operating continuously. It provides uninterrupted and stable hot water whenever needed.

High User Comfort and Easy Control

It offers an effortless “Set and Forget” feature that perfects the user experience. Thanks to the precise thermostat on the unit, it is sufficient to set the ideal water temperature for users (for example, 60°C) just once. From that point on, the unit takes full control; it remembers this setting and automatically activates when the water temperature in the tank drops, keeping the water ready for use at all times.

Safe and Clean Energy

Safety is one of the most important features of electric water heaters. Since they do not use fossil fuels such as natural gas, LPG, or fuel oil to operate, they fundamentally eliminate the potential risks associated with these fuels. There is no need for fuel storage, no requirement for a flue connection, and no risk of gas leaks or, most importantly, carbon monoxide poisoning, which poses a major danger in enclosed spaces. Operating cleanly on electrical energy, they emit no harmful exhaust gases and ensure safe use with complete peace of mind, even in indoor environments.

Key Features

- ✓ It is an easy solution in locations where natural gas and other energy sources are not available.
- ✓ Its initial investment, installation, and setup are simple and practical.
- ✓ It is easy to operate, requires minimal maintenance, and has short maintenance intervals.
- ✓ Since it is generally installed close to the hot water usage area, energy transmission losses are low.
- ✓ It has the capability to send information to the building automation system.

What Is the Operating Principle of an Electric Water Heater?

The operating principle of an electric water heater is based on controlled and direct heating.

The user sets the desired ideal water temperature (for example, 65 °C) once via the precise thermostat on the unit.

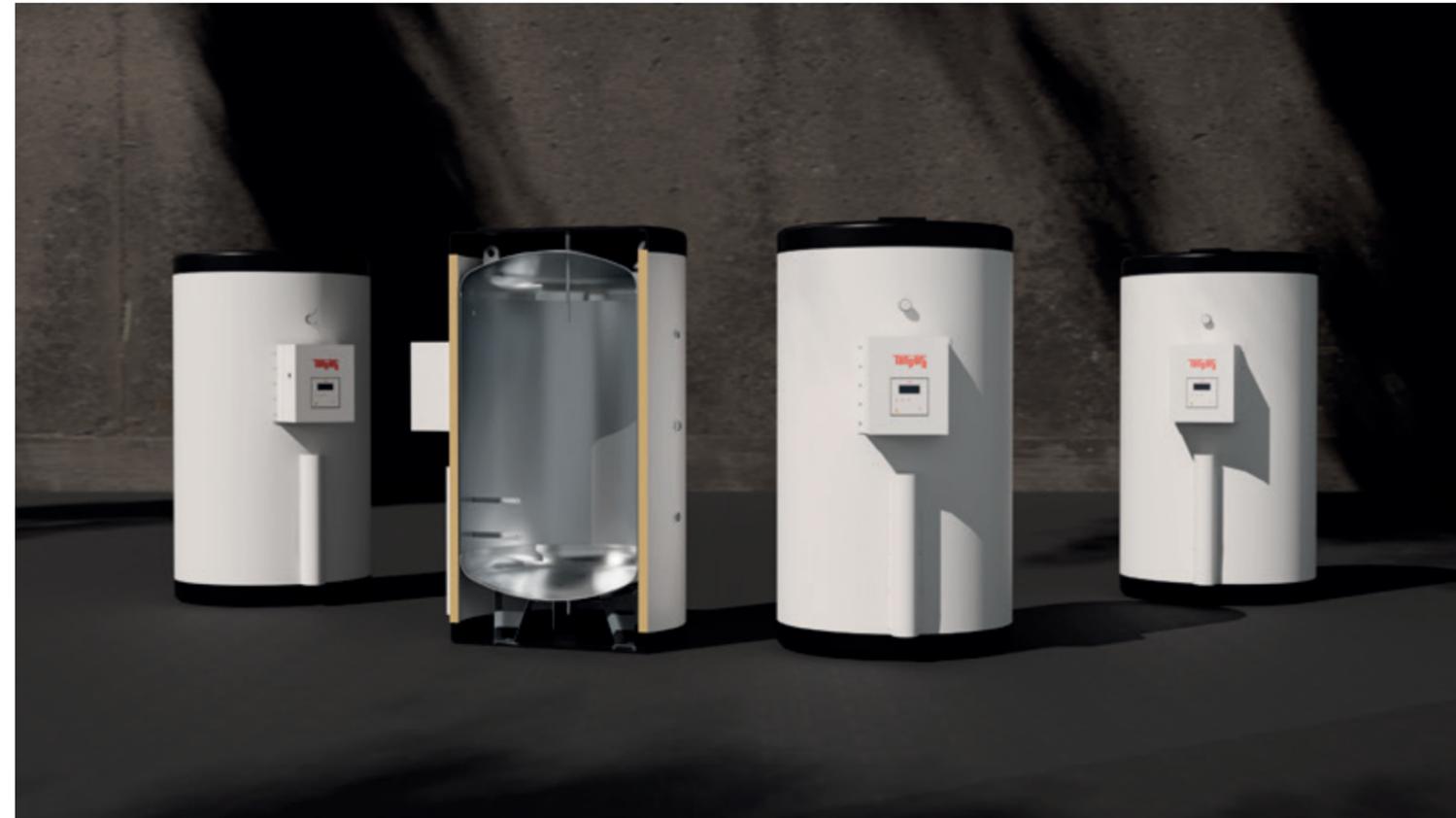
The thermostat continuously monitors the temperature of the water inside the tank. When the water temperature falls below the set value, the electric heating element automatically activates.

Thanks to the smart control panel, temperature sensors, and automation system, energy management is optimized and unnecessary consumption is prevented.

High-efficiency heating elements bring the water to the set temperature, while the double-layer glass enamel coating minimizes heat loss.

The heating element rapidly converts electrical energy into heat, transfers it directly into the water, and heats the water up to the set temperature.

When the water reaches the desired temperature, the thermostat automatically stops the heating process. The unit's strong insulation layer maintains the water temperature for a long time, thereby keeping energy consumption to a minimum. The Legionella protection program ensures hygiene by periodically raising the water to high temperatures, while the residual current protection system provides safe operation.



Why Should an Electric Water Heater Be Used?

For comfort or industrial hot water systems to operate reliably, hygienically, and without interruption, water must be kept ready at the correct temperature and in sufficient volume. Electric water heaters store hot water at the desired temperature and keep it ready for use at all times by operating solely on electrical energy, without the need for an external heat source. This reduces system complexity, increases operational safety, and offers a flexible solution for various usage scenarios.

Electric water heaters stand out especially in applications where fossil fuel infrastructure is not available or is not preferred, thanks to their emission-free, silent, and safe design. With a wide capacity range, they can meet hot water demands at different scales, from a single residence to high-volume industrial facilities.

Because;

In Commercial and Collective Usage Areas

In areas with heavy usage such as gyms, restaurant kitchens, hairdressers, and beauty salons, it reliably meets high simultaneous hot water demand. It provides uninterrupted hot water comfort even during peak hours.

In Applications Requiring Precise Temperature Control

It reliably produces water at a constant and precise temperature required in hospitals, food production facilities, and industrial kitchens. With control systems designed to reduce the risk of Legionella, it supports hygiene standards.

In Facilities Without Gas Infrastructure

It offers the most practical and safe hot water solution in areas where there is no natural gas line, where flue permits cannot be obtained, or where the use of fossil fuels is costly.

In Projects Requiring Environmentally Friendly Solutions

It operates without producing flue gases, carbon emissions, or combustion residues. With this feature, it is an ideal choice for environmentally conscious facilities and green building projects.

In Systems Requiring Backup

In critical facilities such as hospitals, hotels, and similar buildings, it serves as an effective backup hot water source that ensures system safety in the event that the main heating system becomes inoperative.

Application Areas

Thanks to its structure compatible with building automation systems, it has a wide range of applications from residential to industrial use. It is used in areas such as construction sites, factories, sports facilities, dormitories and boarding schools, social facilities and complexes, shopping malls and lifestyle centers, tourism and accommodation facilities, residential complexes, apartment buildings and detached houses, military facilities, and hospitals.



Residential and Luxury Living Areas

It is used for heating especially in residences where natural gas infrastructure is not available or where the central system is insufficient. Studio apartments, apartment flats, multi-bathroom villas, duplex residences, mountain houses, and summer homes.

Commercial Facilities and Service Sector

It seamlessly supports scenarios such as dozens of people showering simultaneously during peak hours in a gym, the supply of water at a constant temperature of 85°C required for industrial dishwashers in a restaurant kitchen, or the full-capacity operation of all hair-washing units in a hair salon. In locations where installing fossil fuel (natural gas, fuel oil) infrastructure is costly, legally impossible (such as flue permit restrictions), or polluting, it offers the cleanest, quietest, and most reliable hot water solution. Boutique hotels, guesthouses, gyms, fitness centers, hairdressers and beauty salons, restaurants, café kitchens, office buildings.



Industrial Facilities and High-Volume Usage

Electric water heaters with a capacity range of 1000–5000 liters (5 tons) go beyond conventional use to offer a heavy-duty industrial hot water solution. Ideal for organized industrial zones and rural facilities without gas infrastructure, these systems produce hygienic, stable, and precise-temperature process water required in hospitals and food facilities in an emission-free manner. They can independently handle the entire hot water load in factories, barracks, dormitories, and collective shower areas with high instantaneous demand; additionally, they ensure system continuity by serving as a safe backup solution for boiler systems in hotels and hospitals.

Technical Specifications

The Electric Water Heater, which provides high-efficiency storage capability for every need and every heating system;

- Suitable water heaters that can vary from 2 kW to 120 kW, according to customer preferences.
- 100 – 5000 L highest hot water comfort for every need
- Maximum operating pressure: 10 Bar
- Maximum operating temperature: 95 °C
- Construction: S235JR Steel
- Thanks to its smooth surface, it ensures minimal limescale formation. With its superior-quality enamel coating compliant with DIN 4753-3, it provides hygienic hot water protection and optimum corrosion protection.
- Magnesium anode protection
- High thermal insulation
- Installation-friendly and largely maintenance-free design
- Protection against corrosion with external enamel coating
- With sensor sleeve (1/2") and thermometer
- Recirculation connection option
- Insulation

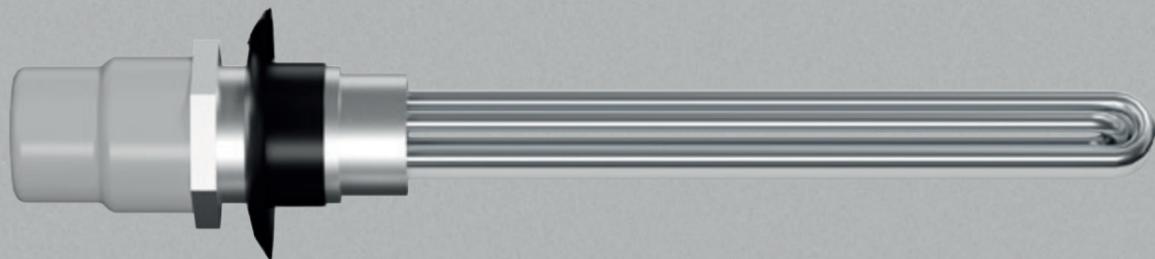
100 – 1000 L: 50 mm, 42 kg/m³ rigid polyurethane insulation
 1500 – 5000 L: 80 mm, 18 kg/m³ open-cell soft polyurethane insulation

- Outer Casing Coating

100 – 1000 L: Termowen Coating
 1500 – 5000 L: Vinyl Cover (Vinilex)

- Designed in accordance with TS EN 13445-3 standards.

Thanks to this smart cycle, stable and reliable hot water can be accessed whenever needed, without requiring any intervention.



Control Panel Technical Specifications

Features	Prowatt B
Protection Class	IP 54
Frequency Standard	50 Hz
Programmable with Real-Time Clock	Available
Turkish / English Menu	Available
Microprocessor	16 Bit
LCD Display and Keypad Panel	Available
Voltage Reading on the Display	Available
Water Temperature Reading on the Display	Available
Fault Reading on the Display	Available
Residual Current Protection	Available
High / Low Voltage Protection	Available
Overcurrent Protection	Available
Microprocessor	Available
Sending Operation and Fault Information to the Building Automation Panel	Available



Upon special request;

- ➔ Products can be delivered in non-standard storage capacities.
- ➔ Products can be delivered in non-standard pressure classes.
- ➔ Products can be delivered with non-standard additional accessories and/or features. They can be manufactured and delivered with the addition of a water coil.
- ➔ Products can be delivered with non-standard insulation and protective casing. (Such as non-flammable jackets over rock wool, aluminum/galvanized sheet over rock wool, etc.)
- ➔ If requested, it can be delivered with a 60 Hz power supply.

Wide Capacity Range (100 L – 5000 L)

Starting from domestic use (100 L) up to heavy industrial facilities (5000 L), this wide capacity range ensures that the exact solution required is provided for projects of every scale. It meets every demand, from a single apartment to the entire hot water load of a factory.

Stainless Steel Heating Elements

The heating elements, which are the heart of the unit, are manufactured from high-quality stainless steel (or copper) designed to transfer energy to the water in the fastest and most efficient way. These heating elements, highly resistant to limescale formation, operate for many years without performance loss and provide energy savings.

Automation System, Thermostat, and Safety Limit

It allows you to precisely set the water to the desired temperature (for example, between 30°C – 85°C). In addition, in the event of any malfunction, a secondary safety thermostat that detects overheating automatically locks the system to ensure complete safety. The residual current protection system also provides safe operation.

Magnesium Anode Corrosion Protection

The anode rod proactively protects the tank's metal structure by attracting corrosive elements in the water to itself. This active protection shield, which extends the service life of the tank, is designed to be periodically replaceable.

High-Density Insulation

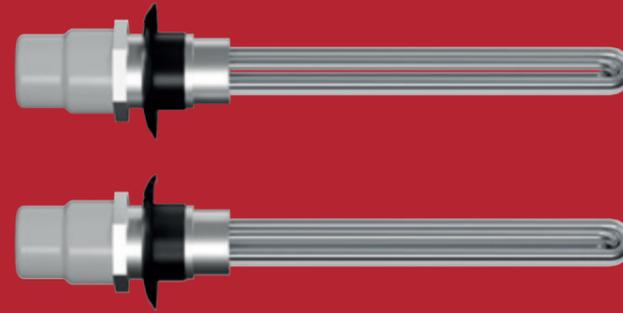
This thick, high-density insulation layer surrounding the tank reduces heat losses to a near "zero" level. By keeping the water hot for hours, it prevents the heating element from operating unnecessarily. This translates directly into significant energy savings reflected on the electricity bill.

PROWATT

What Are the Components of the Product?

■ Electric Heating Element

It is the component that receives electrical energy and converts it into thermal energy with high efficiency to heat the water. Manufactured from stainless steel (or copper) material with high resistance to limescale formation, this part provides rapid heating and long-lasting performance.



■ Magnesium Anode Rod

No matter how pure the water is, it attracts corrosive elements (corrosion) that may penetrate micro-cracks forming on the enamel surface over time. By sacrificing itself to prevent tank perforation, this active protection system directly extends the service life of the unit.



■ Thermostat and Automation Control Panel

It allows the user to precisely set the water temperature (e.g., 30°C – 85°C). The thermostat stops the operation of the heating element when the water reaches the desired temperature and reactivates it when the water cools down, ensuring automatic control and energy savings.



■ High-Density Polyurethane Insulation

Thanks to the flanged connection ports, it offers fast and easy installation, saving time.

■ Outer Body (Jacket)

It is the outermost layer that protects the inner tank and insulation material against environmental factors (impact, moisture, dust).

■ Product Coding

PROWATT 1000 / 10 - 3x15 - B - OP



What Are Design Recommendations / Capacity Selection Guidelines?

Example calculation and selection in a production facility with 30 workers per shift, 6 showers have been installed so that workers can complete their showers within 1 hour at the end of the shift, based on the assumption that a single shower can be used by a maximum of 5 people per hour. Selection of the required Tanpera PROWATT Electric Water Heater for this facility.

Depending on the tank's operating condition, the weight of the water stored inside varies. A weight sensor is installed on one of the legs. The digital data received from the weight sensor is processed by the control panel. The amount of water inside the tank is displayed on the screen.

It has been assumed that one person will take a shower using a maximum of 60 liters of 45°C water; the mains water temperature will be at least 10°C; the water in the heater will be heated up to a maximum of 60°C; and 70% of the heater can be filled with water at the desired temperature. The total amount of 60°C water to be used by the workers is 30 people × 60 L/person × [(45 – 10)°C / (60 – 10)°C] = 1260 liters. For the most optimal selection, it would be appropriate for half of this amount to be supplied by the hot water already stored in the heater, and the other half to be supplied by heating it instantaneously during the 1-hour shower period.

Accordingly, the capacity required to store (1260 / 2) = 630 liters of 60°C water that is desired to be ready in advance must be at least (630 / 0.70) = 900 liters due to the thermosiphon effect. On the other hand, the amount of energy required to instantaneously heat the 630 liters of water that is not pre-available during shower use is 630 L × (60 – 10)°C = 31,500 kCal/h. The required power (1 kW = 860 kCal/h) is 31,500 / 860 = 36.6 kW. As a result, for this facility, from the table above, the model that meets 900 liters of storage and 36.6 kW of heating capacity;

Tanpera PROWATT 1000/10 – 3×15
Electric Water Heater has been selected.



PROWATT SERIES ELECTRIC WATER HEATER



By achieving efficient heat exchange between the blood flowing from its heart at 40°C and the blood returning from its feet at 1°C, it can remain in cold waters for long periods without freezing. Using these wonders of nature as inspiration, we design our own engineering marvel heat exchangers.

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