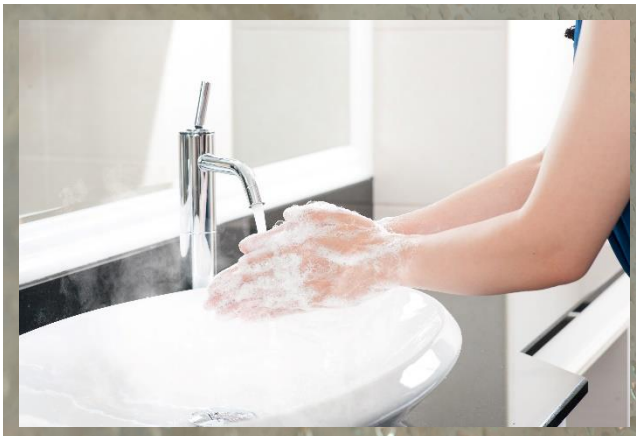
MicroHeat

Smarter Water Heating

A new approach to heating water, a new benchmark in safety & performance



CFEWH Series 6

Point-of-use and
Whole of House Solution

Electric Tankless Water Heaters

- Next generation technology
- On demand, continuous Flow
- Market leading temperature control
- Advanced energy control
- Disinfects the water
- No scale due to heating
- Scald prevention on all models
- Flexible installation and space saving

AUSTRALIAN MADE AND OWNED

Market leading safety, performance and flexibility

MicroHeat's direct energy transfer technology is applied to on-demand, continuous-flow, electric tankless water heating to deliver world first safety, temperature and energy control. Unlike conventional electric water heating, MicroHeat's technology does not rely on heating elements. Instead uses MicroHeat's patented direct energy transfer technology via the use of electrodes. This technology exploits the natural electrically conductive properties of water. Hence, does not suffer the same failures experienced by existing heating element technologies, such as overheating, dry firing, scale heating element burn out. The appliance delivers hot and warm water safely via an advanced digital control system that repeatedly monitors and reacts to changes in the characteristics of the water being heated many times a second. The technology does all that while simultaneously disinfecting the water by killing bacteria and viruses.

Next generation technology – The Technology combines molecular (ohmic) heating with advanced digital control technology. MicroHeat microprocessor includes highly complex algorithms and safety protocols that incorporate over 10,000 lines of code, making MicroHeat products the smartest and electronically the safest in any market.

Market leading temperature control - The Technology calculates the exact amount energy required every 100th of a second based on the water temperature increase required and flow rate. Ensuring the output temperature is accurate and safe even when water flow and or water pressure changes.

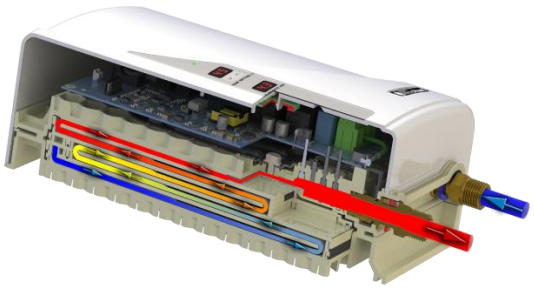
Water disinfection - The Technology disinfects the water by generating Hydroxyl Radicals formed naturally from the water. The electrode technology used allows the combination of voltage and water to produce the Hydroxyls at the electrode surface. Hydroxyls kill bacteria and viruses before converting back to water in milliseconds. Absolutely safe, clean and natural, without chemical additives.

Water pressure and flow flexibility – The appliance does not require complex pressure and flow management to protect the heating method as other products do. There is no low flow restriction and units operate either in open or closed outlet configurations, with gravity feed or low/high pressure pumps or mains pressure. Making application more flexible than other products on the market.

Underfloor hydronic heating – MicroHeat units can be be installed in the underfloor hydronic heating circuits as the water heating method. This without the need for external cold water mixing, Accurate temperature control delivers the temperature required in the reticulated circuit by digitally controlling the power accordingly ensuring a safe and reliable, zoned hydronic system.

Boosting existing water heating systems – All units can accept hot water up to 140°F at the inlet. If the set temperature of the unit is less than the hot water coming in, the unit will simply not heat. The units can be used as a booster at the end of a long run to reduce heated water wait times, or as a pre/post booster combined with storage tanks.

Thermo-mixing or tempering valves not required – MicroHeat accurately applies only the energy needed to deliver the set temperature without dangerous hot water spiking that can cause scalding. Making appliances ideal for applications where tepid and scald free hot water is required by regulation. This delivers a maintenance free water heating capability without the need for costly tempering valves or thermo-mixing valves.



No scale - The Technology uses the water as the energy transfer method, unlike traditional heat exchange technology that have extremely hot heating elements. As such, the electrodes used will always only attain the same temperature as the heated water, that prevents scale forming on the electrodes. Scale forms on the very hot heating element surface when the heating element transfers its heat into the colder body of water. Since scale does not form on the electrodes, operational efficiency and product robustness is maintained.

Hard water models – Product models are available for hard water environments where other water heating product will fail due to excessive scale that causes heating element burnout. Unlike other products that fail, MicroHeat units will continue to operate.

No dry firing / burnout - The Technology uses the water as the energy transfer method, unlike traditional heat exchange technology that use resistance heating elements. Heating element failure will occur if the unit is turned on without water, insufficient water, where there is air in the water. Where MicroHeat is concerned, even if there is no water or less water than required, there's no opportunity for failure.

Voltage fluctuation – MicroHeat applies the power to the water differently water heaters that use fixed resistance heating elements. As such MicroHeat product is immune to voltage fluctuation that would otherwise cause traditional heating elements to fail. In addition, when used in lower voltage installations such as 208VAC, the system will continue to apply the rated power.

Whole house solutions – MicroHeat units are able to be installed in tandem or can be manifolded in parallel in any power configuration to deliver whole house flow rate requirements. The power draw will be controlled to suit the heated water requirement of either single or multiple hot water fixtures.

Power adjustment to reduce energy use – All units have a feature that enables the installer/plumber to reduce the rated power after installation. This can assist the consumer to reduce energy consumption if so required.

MicroHeat's leading installation flexibility

MicroHeat's Electric Tankless Water Heaters can be installed into more diverse installations than other Electric Tankless Water Heaters. MicroHeat's direct energy transfer method of heating water does not use heat exchange technology, hence does not experience thermal inertia. This technology advantage results in immediate and predictive temperature control. The list below tables mains water or gravity fed water supply applications or storage tank heating applications that the full range of MicroHeat products are ideally suited to.

Applications

Handwashing
Kitchen, bar, utility sinks
Single bathroom dwellings - warmer climates
Eyewash fountains - 90°F (unit can be software set)
Fixtures without cold water mixing
Bidets
Underfloor hydronic heating
Boosting existing water heating supplies
Building/facilities management system capable
Low pressure pump water supplies
Preheating water in advance of the central system in long hot water runs
Preheat for dishwashers in hospitality
Photographic dark room warm water
Hospital/Aged Facility showers and hand basins
Fixed and variable flow
Ideal for multiple sensor or metering faucets
Multi-outlet
Double flow rate by installing in tandem/parallel
Low flow showers
Reticulation circuits
Boosting points off warm water ring mains
Heats water from water tanks
Heats water from gravity fed systems
Warm water for micro food processing
Commercial hair washing

MicroHeat's Electric Tankless Water Heaters have been installed and validated across the full breath of the building industry and DIY markets as follows.

Residential | Commercial | Industrial | Institutional | Public

Point-of-use	Photographic darkroom	Office buildings	Stores
Bathroom basins	Public and disabled ablution	Gas stations	Hotels/Motels
Kitchen sinks	Low/Medium/High rise	Townhouses	Recreational Vehicles
Laundry areas	Warehouses	Restaurants	Schools
Showers	Manufacturing facilities	Production tool heating circuits	Kindergartens
Whole of house	Universities	Cabins/cottages	Sheds
Outdoor BBQ areas	Gyms	Factories	Micro bakeries
Pool side studios	Hair salons	Churches	Farms

Examples of installations showing how compact the units are and indicating that venting is not required.









MicroHeat CFEWH Range Specifications

CFEWH Series 6 Range of Water Heaters

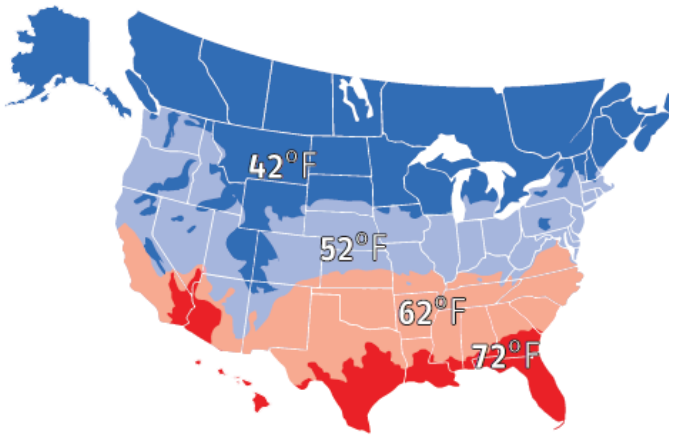
The MicroHeat Series 6 product range can be installed in point-of-use and whole of house applications across the building and construction industries. The units can be installed individually or in tandem/parallel to double the overall available flow rate delivered to the property.

All units have a digital display with temperature setting capability that allows the user to set the desired water temperature in single degree increments.

ITEM		MODEL CFEWH Series 6-13
Wattage		13 kW
Phase Frequency		50 / 60 Hz
Voltage		240 V
Amperage		54 A
Min. recommended circuit breaker size		55 A
Min. recommended wire size		6 AWG
Max. flow rate based on temperature increase	+ 18°F (10°C)	4.49 gpm (17 l/min)
	+ 48°F (27°C)	1.82 gpm (6.9 l/min)
	+ 63°F (35°C)	1.4 gpm (5.3 l/min)
	+ 81°F (45°C)	1.09 gpm (4.1 l/min)
Switch on flow rate		0.39 GPM (1.5 l/min)
Temperature settable		+ / - 1°F
Maximum temp. settings available up to		140°F (60°C)
Weight		10 lb (4.7 kg)
Dimensions		L 12.4" (31.5 cm) x W 8.3" (21 cm) x H 4.7" (12 cm)
Max. inlet temperature		140°F (60°C)
Working pressure maximum		116 psi (8 bar) – Pressure limiting valve must be installed on inlet side of unit.
Plumbing connection		¾" NPT Fittings

Estimates of market flow rates for various fixture types

The below flow rates are indicative only and based on a single fixture. The map shows average low ground water temperatures across the US. To determine model and flow rates refer to the specification tables for temperature increase and add to the ground water temperature relevant to the area in the US.
If there are multiple fixtures required to deliver the full flow at the same time, then add the flow rate estimates together.



Installing the CFEWH in Tandem or Parallel

CFEWH units can be installed in Tandem or Parallel to double the available centralised hot water flow, providing whole of house hot water solutions.

Using the table above, maximum achievable flow rates can be doubled based on the water temperature increase required. For example, if a flow rate of 2gpm with a temperature increase of 81°F is required, two (2) Series 6-13 units can be installed in either tandem or parallel. Noting the electrical supply required.

Single Lavatory Sink – Outlet temp. 90°F
Flow rate range (0.5 – 1.5 gpm)

Shower – Outlet temp. 110°F
Flow rate range (1.0 – 2.5 gpm)

Kitchen Sink – Outlet temp. 120°F
Flow rate range (1.0 – 2.2 gpm)

Utility / Janitor's Sink – Outlet temp. 120°F
Flow rate range (1.0 – 2.2 gpm)