

# AELtherm

Instantaneous Hot  
Water Generator from  
50 up to 1,000 kW of  
domestic hot water



- COMPACT
- CONSTANT HOT WATER
- LIGHT WEIGHT
- ENERGY SAVING
- EASY INSTALLATION
- LOW MAINTENANCE
- REDUCED SCALING
- STRATIFICATION ELIMINATED
- ANTI-BACTERIA FUNCTION
- FROST PROTECTION
- INSTANTANEOUS OR SEMI-INSTANTANEOUS



- SITE SURVEY
- DESIGN
- COMMISSIONING
- SERVICING

# Instant Water Generator

# AELtherm

# AEL

HEATING SOLUTIONS



# AELtherm Instantaneous Hot Water Generator

## System Description

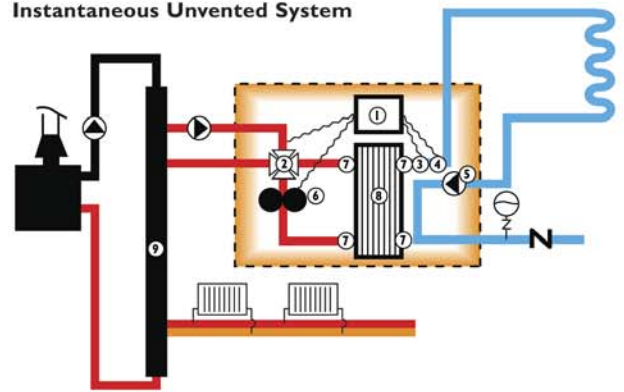
The operating principle of the AELtherm plate heat exchanger ensures that instantaneously heated domestic hot water is supplied on-demand only and is maintained at a constant pre-selected day/night temperature, at any flow rate, up to the design capacity. Without the need for hot water storage the possibility of bacterial growth is virtually eliminated.

The various components, plate heat exchanger, primary circulator, control valve and control equipment are assembled in such a way that lime-scale formation is reduced to a minimum.

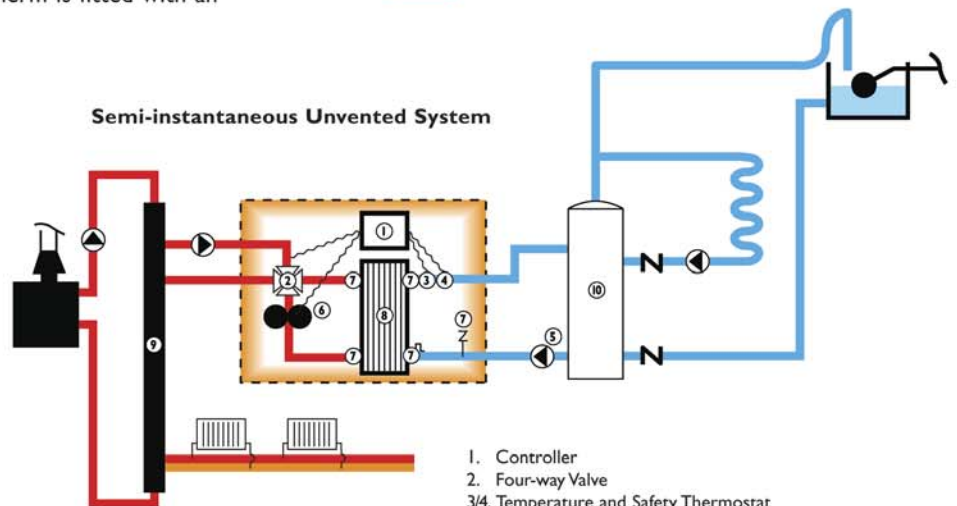
The unit is compact, lightweight and easy to install, with only water and electrical connections being necessary to bring it into service.

Electric supply 240V/1ph/50Hz as standard. Standard operating temperature/pressure 110°C/6 Bar. The Aeltherm is fitted with an independent control panel.

Instantaneous Unvented System



Semi-instantaneous Unvented System



1. Controller
2. Four-way Valve
- 3/4. Temperature and Safety Thermostat
5. Secondary Pump (optional)
6. Primary Pump (single or duplex)
7. Binder Test Point
8. Plate Heat Exchanger
9. Common Header
10. Buffer Tank

## Module Comprises

- Plate heat exchanger
- Motorized valve
- Primary pump, single or duplex
- AEL Electrical control cabinet with controller and electrical connections
- Temperature sensor
- Safety thermostat

### Optional

- Domestic hot water circulation pump

## Temperature Controllers

See back page for full specification.

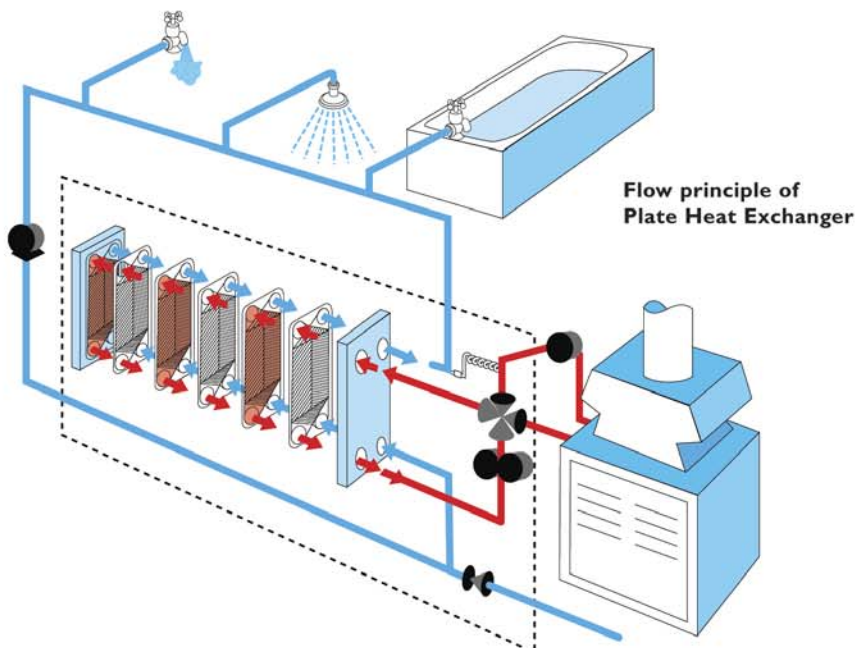
AEL can modify the control specification to suit your own requirements.

## Plate Heat Exchanger with the latest technology

Heat exchange plates in AISI 316 with corrugated profile which creates turbulence in the fluids as they flow through the unit.

The arrangement of the plates, separated by gaskets, ensures that the primary and secondary fluids do not mix. Additional plates can be added without having to disconnect the unit from the system should additional output be required at any time.

Gaskets are supplied in WRC approved EPDM.

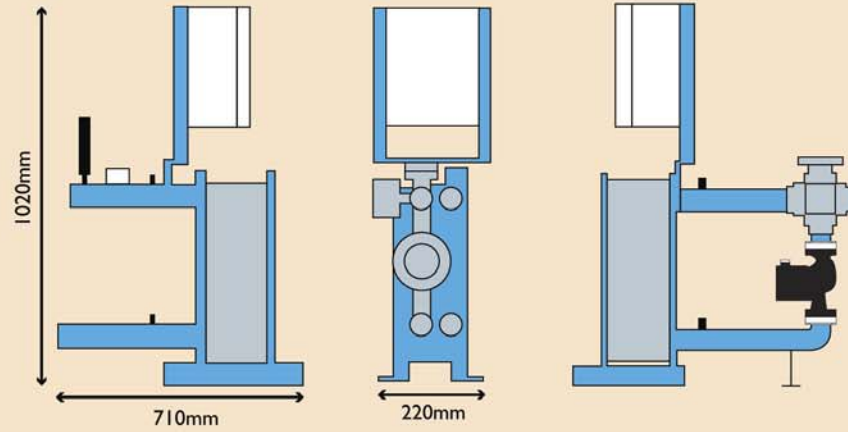


Flow principle of Plate Heat Exchanger

# AELtherm Small Footprint/Lightweight

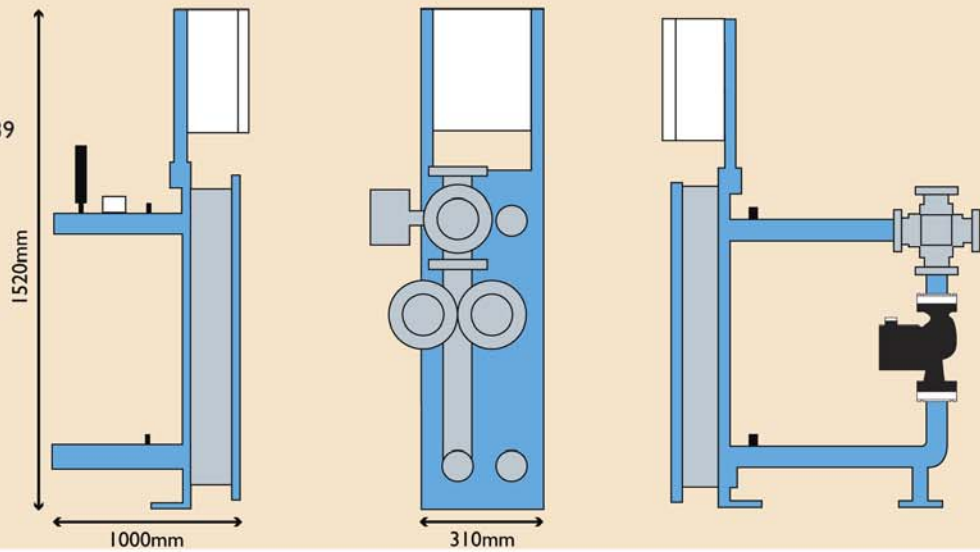
## AELtherm

Model No: 1 1/4" - 7 to 37  
Up to 250kW\*  
Weight = 140kg



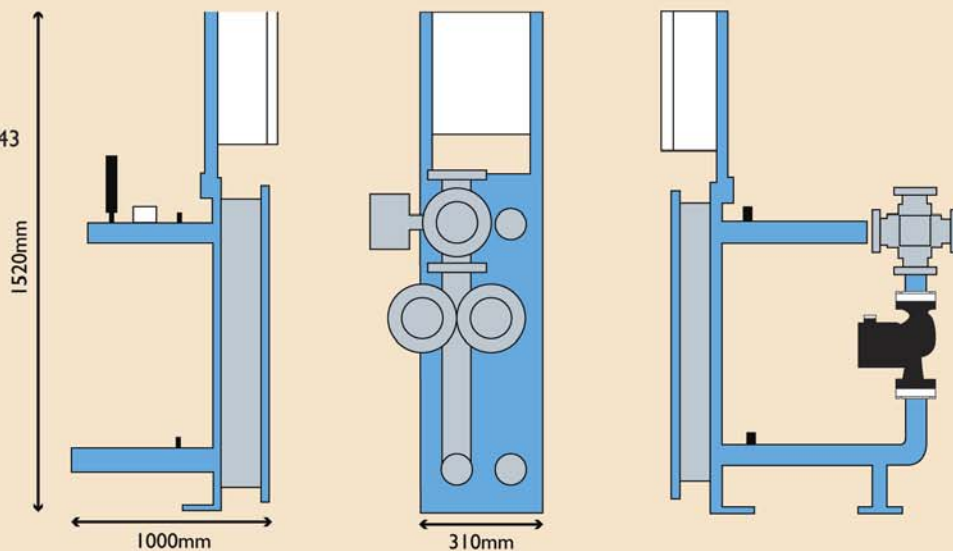
## AELtherm

Model No: 1 1/2" - 16 to 39  
Up to 650kW\*  
Weight = 180kg



## AELtherm

MODEL No: 2" - 31 to 43  
Up to 1000kW\*  
Weight = 220kg



# AELtherm DHW CONTROL CENTRE

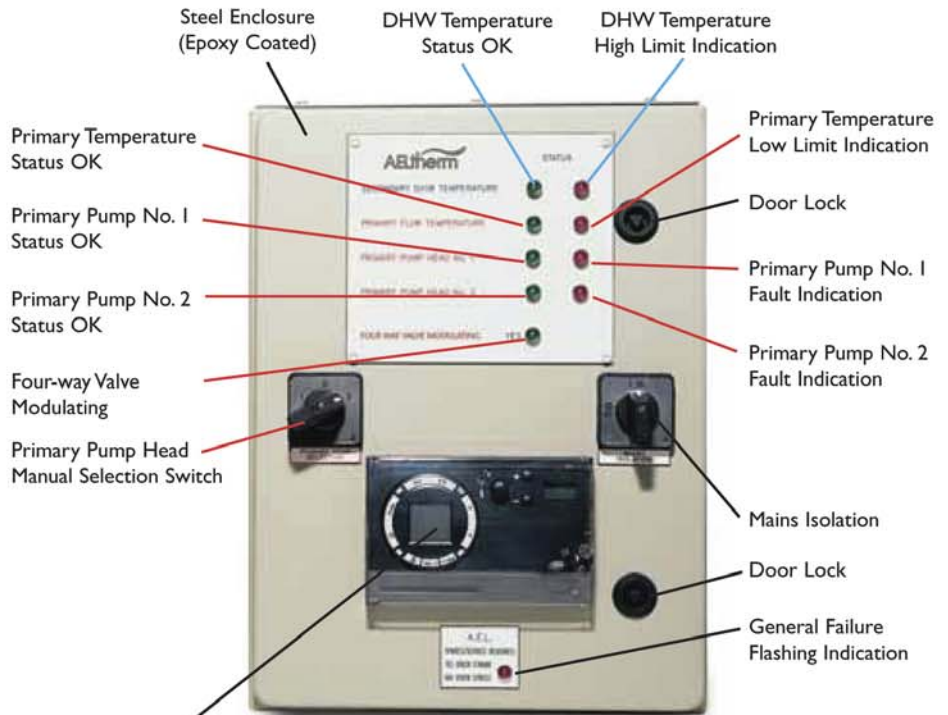
## To control instantaneous DHW

(Raising DHW temperature from 10°C>60°C). It is imperative that close monitoring and quick response from the equipment installed eliminates any chance of temperature fluctuations i.e. temperature overshoot can scald and low temperature can encourage legionella. The AELTHERM is designed to eliminate these risks and provide safeguards to enhance the close control of flow and temperature while providing an easy to read panel that the layman can understand when the installation/ commissioning engineers have departed from site.

## 1 1/2" and 2" Panel Specification

1. Facility to wire DHW pump to the panel
- \* 2. Primary/Secondary pump overload circuit break
- \* 3. Primary pump manual selection
- \* 4. Door interlock mains isolator
- \* 5. Auto primary pump head changeover on failure
- \* 6. Door locks
7. Flashing alarm indication for common failure
8. BMS compatible alarm (volt free)
- \* 9. Epoxy coated metal enclosure
- \* 10. Light indication for status of
  - a) Temperature b) Primary pump heads c) Operation
- \* 11. Remote enable

## \* 1 1/4" Panel Specification



## Controller Clock

- \* 1. Year 2000 compatibility. CE approved
- \* 2. 7-Day 24-hour time/temperature control
- \* 3. Anti-bacteria setting
- \* 4. Frost protection facility
5. Digital display of temperature on primary and secondary
- \* 6. High temperature turn down
- \* 7. Manual operation facility
- \* 8. Back-up battery for power failure

## Sizing of the module:

| DHW 10>60°C   |                   | KW required primary 82°C | Primary duty is satisfied by the packaged pump provided |     | Quantity of plates | Frame size connections |        |
|---------------|-------------------|--------------------------|---|-----|--------------------|------------------------|--------|
| Flow rate L/S | Pressure drop KPA |                          | L/S   | KPA |                    |                        |        |
| 0.24          | 10                | 50                       | 0.41  | 24  | 7                  | 32mm                   | 1 1/4" |
| 0.476         | 13                | 100                      | 0.74  | 24  | 12                 | 32mm                   | 1 1/4" |
| 0.715         | 14                | 150                      | 1.12  | 28  | 16                 | 32mm                   | 1 1/4" |
| 0.954         | 15                | 200                      | 1.48  | 30  | 20                 | 32mm                   | 1 1/4" |
| 1.19          | 7                 | 250                      | 1.86  | 14  | 37                 | 32mm                   | 1 1/4" |
| 1.43          | 9                 | 300                      | 2.23  | 18  | 16                 | 40mm                   | 1 1/2" |
| 1.66          | 10                | 350                      | 2.60  | 22  | 17                 | 40mm                   | 1 1/2" |
| 1.90          | 11                | 400                      | 2.97  | 22  | 19                 | 40mm                   | 1 1/2" |
| 2.14          | 10                | 450                      | 3.35  | 20  | 22                 | 40mm                   | 1 1/2" |
| 2.38          | 10                | 500                      | 3.72  | 21  | 24                 | 40mm                   | 1 1/2" |
| 2.65          | 11                | 550                      | 4.09  | 23  | 25                 | 40mm                   | 1 1/2" |
| 2.86          | 5                 | 600                      | 4.46  | 37  | 37                 | 40mm                   | 1 1/2" |
| 3.13          | 6                 | 650                      | 4.84  | 39  | 39                 | 40mm                   | 1 1/2" |
| 3.33          | 12                | 700                      | 5.21  | 24  | 31                 | 50mm                   | 2"     |
| 3.57          | 12                | 750                      | 5.58  | 24  | 33                 | 50mm                   | 2"     |
| 3.82          | 11                | 800                      | 5.95  | 23  | 36                 | 50mm                   | 2"     |
| 4.05          | 11                | 850                      | 6.32  | 23  | 38                 | 50mm                   | 2"     |
| 4.29          | 11                | 900                      | 6.69  | 23  | 40                 | 50mm                   | 2"     |
| 4.52          | 11                | 950                      | 7.07  | 23  | 42                 | 50mm                   | 2"     |
| 4.76          | 12                | 1000                     | 7.44  | 24  | 43                 | 50mm                   | 2"     |

Plate Heat Exchangers are also available for

- STEAM
- LTHW
- MTHW
- OIL
- FOOD PROCESS
- CHILLERS

Flow rates outside the above standard unit rates can be accommodated - ask AEL

# AEL

HEATING SOLUTIONS

HEAD OFFICE: 4 Berkeley Court, Manor Park, Runcorn, Cheshire, WA7 1TQ  
Tel: 01928 579068 Fax: 01928 579523 e-mail: sales@aelheating.com

AEL reserve the right to alter designs and specifications without prior notice