

ehc

The Fusion Range of Electric Boilers



Fusion[®]
*Fusion*_{E10}[®]
*Fusion*_{E10}
Solar combi[®]



The Ultimate Solution for Electric Wet Central Heating

Our range of Electric Boilers provide complete peace of mind for reliability, performance and safety.

The Fusion range of electric boilers is the most complete in the market today. It offers the perfect solution for properties with no access to a mains gas supply or homes which have gas boiler restrictions e.g. listed buildings and bed-sit sleeping areas. They are also commonly used in rural areas as replacements for oil and LPG boiler systems.

These 100% energy efficient products are traditionally installed by professional heating engineers throughout the UK in typical properties such as apartments, domestic dwellings, holiday homes and light commercial properties.

Because the Fusion Boiler is so reliable and affordable, the range is specified by numerous Social Landlords as the preferred option when replacing storage heaters and other outdated forms of central heating.

The Fusion range has been developed over the years to offer a **'Plug and Play'** solution to meet the demands of professional installers and the various problems presented by the different property types in the UK. Originally a single Fusion Standard Boiler, the range has grown to meet the increasing demands of Building Regulations and the need for **renewable** products within the UK.

We are confident that our Fusion boilers will provide the perfect solution for your central heating requirements.

Fusion Standard/Slimline Boilers

Ideal for retrofit and new build installations requiring heating only or heating and hot water. Either a direct or indirect cylinder for hot water purposes will be required.

Due to their compact size these system boilers can be easily situated in airing or kitchen cupboards.

All Fusion products can be installed with any type of wet system radiator, but for improved performance and running costs we strongly recommend our Mercury Radiators to complement your system.

The Slimline model requires an expansion vessel which is not supplied with the unit.

Fusion E10 Combination Unit

This is a fully packaged unit in a pre-fabricated elegant enclosure complete with all the components required to provide both heating and hot water for retrofit and new build installations.

Generally this unit would be located in a typical airing cupboard, however due to its 'Plug and Play' design it can be positioned in any similarly sized area.

This versatile product can be supplied in various outputs and capacities to accommodate most installations.

E10 Solar Combination Unit

The Solar version has been designed to meet the ever increasing requirement for renewable technology within the new build market and the energy conscious retrofit buyer.

Built around the proven technology of our Fusion E10 Combination Unit, the E10 Solar Combi has been further developed to include a **solar pump station** and unvented **solar hot water cylinder**. With the additional solar components, the SAP rating of the property is increased as the carbon emission profile is reduced.

All Fusion products can be installed in under-floor heating applications.



Fusion complete with Direct cylinder



Fusion complete with Indirect cylinder



The Fusion E10 Combination unit



Unlike most electric boilers, Fusion boilers are designed to eliminate unnecessary external plumbing and pipe work. They are the ideal choice for wet central heating and are also suited to underfloor heating systems.

The Fusion Standard boiler has been engineered to include the pump, auto-air vent, expansion vessel and pressure gauge within the compact casing.

With the exception of the expansion vessel, the Slimline version boasts all the advantages of the Standard model.

This allows both boiler types to be discreetly located in either a cupboard or wall mounted e.g. in the kitchen area.

The sleek design of the Slimline has enabled us to incorporate it within the E10 Combination unit and the outstanding E10 Solar Combination unit.

To ensure maximum efficiency, all Fusion boilers incorporate six stage heating using a single copper heat exchanger. With this unique facility the boiler will modulate so that both electricity consumption and running costs are controlled through all heating cycles.

The easy-to-use control panel allows both the installer and home owner to identify the operating temperatures on the flow and return, system flow rate and kW output of the boiler at any given time.

The control panel also enables the installer to utilise the inbuilt self diagnostic feature during installation or routine maintenance.

The operating temperature of the boiler can be adjusted using the control panel and range from 40 degrees through to a maximum 85 degrees.

Our single phase boiler outputs are 6kW, 9kW and 12kW. The 14.4kW is available for properties that require a higher output. For multiple boiler installations it is also possible to install the boiler in series to suit non domestic situations.

In light commercial properties with a 3-Phase electricity supply, we supply 24kW and 36kW output boilers within the Fusion Standard range.

The complete Fusion range is BEAB Approved guaranteeing you complete piece of mind for the lifetime of your product.

Electronic Features



Control Panel



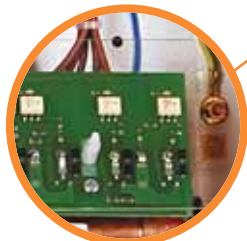
Heating Elements



Voltage Free Control Connections



Over Heat Cut-Out



Printed Circuit Board



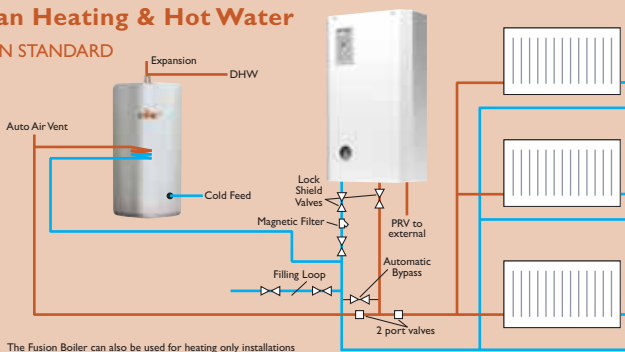
Copper Heat Exchanger



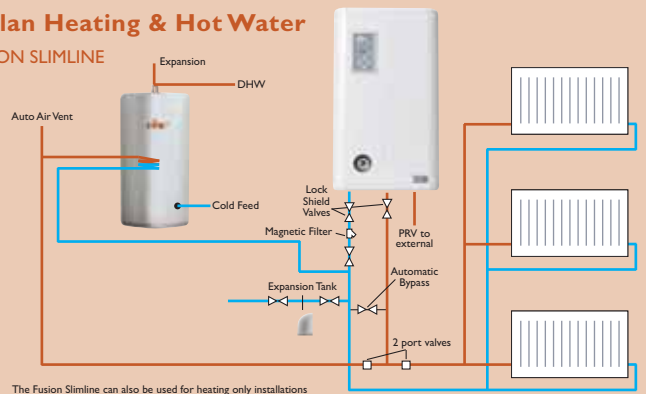
Circulation Pump

White Metal Enclosure

S-plan Heating & Hot Water FUSION STANDARD



S-plan Heating & Hot Water FUSION SLIMLINE



Key Features

Plumbing Features



Automatic Air Vent



Flow & Return Sensors



Pressure Gauge



Flow Meter



Expansion Vessel



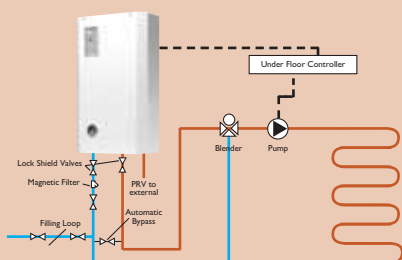
Pressure Relieve Valve

Heating Return

Heating Flow

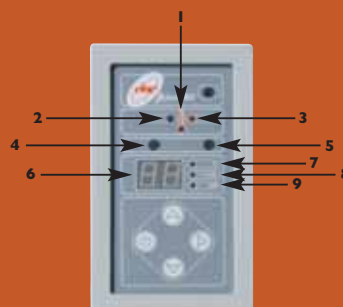
Under Floor Heating

FUSION STANDARD



N.B. The above schematics are for illustration purposes only. Please consult the Fusion installation manual for full instructions.

Control Panel key



- 1 Boiler Temperature
- 2 Return Temperature Indicator
- 3 Flow Temperature Indicator
- 4 Pump Indicator
- 5 Heating Demand Indicator
- 6 Digital Display
- 7 Set Point Temperature
- 8 Flow Rate
- 9 Power Usage Indicator



Fusion E10 Electric Combination unit

The Fusion E10 Electric Combination unit offers the comfort and convenience of wet central heating and domestic hot water for all domestic properties with no access to mains gas. It is compact in size and has been designed to fit into a standard domestic airing cupboard, making it ideal for a range of properties as there are no flue requirements.

Housed in an elegant enclosure, the Fusion E10 is a fully packaged pre-fabricated unit. It comes complete with the Fusion Slimline Electric Boiler; indirect stainless steel hot water cylinder and is pre-plumbed using the 'S' Plan configuration.

The 'S' Plan configuration enables you to select 'heating only', 'hot water only' or both at the same time. As the boiler is also heating the indirect cylinder; the re-heat times for the hot water are superior to that of a traditional electric direct cylinder. The cylinder contains a 22mm stainless steel coil for the main heat source. It also has a back up immersion heater to provide complete peace of mind.

An added feature of our stainless steel cylinder is that no anode is required unlike mild steel variants. This eliminates future maintenance costs as the anode requires to be replaced on a regular basis.

Also incorporated are the expansion vessels required for both the heating and domestic hot water.

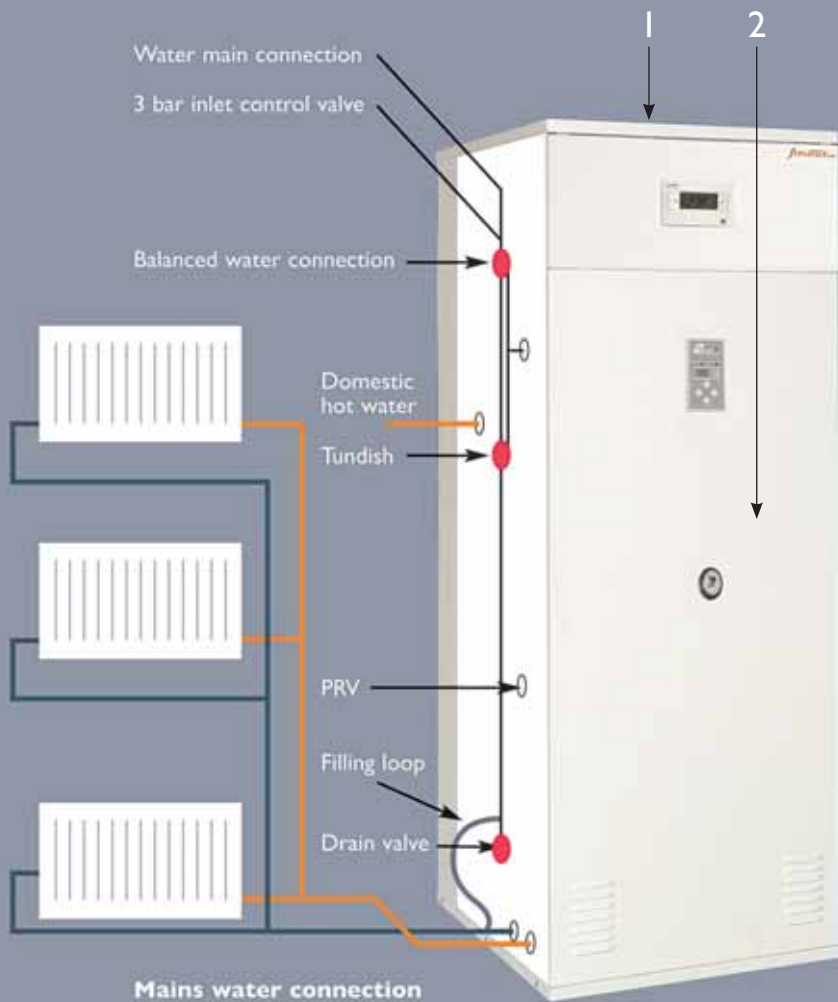
The unit is pre-wired with a programmable Controller to provide full control of both the central heating and domestic hot water; and is supplied complete with tundishes and control valves.

The boiler outputs applicable to the Fusion E10 Combination unit are 9kW and 12kW. The 14.4kW is available for properties which require a higher output.

Prior to being fitted in the enclosure the cylinder is coated and insulated with 50mm HCFC & CFC free foam to meet current energy efficiency guidelines.

- Pressure tested to 15 Bar
- Relief valve operates at 7 Bar - 90°C
- 3 Bar working pressure
- 22mm domestic and primary connections
- Up to 50 litres per minute flow rate for Domestic Hot Water

Fusion E10 Electric Combination unit



Mains water connection

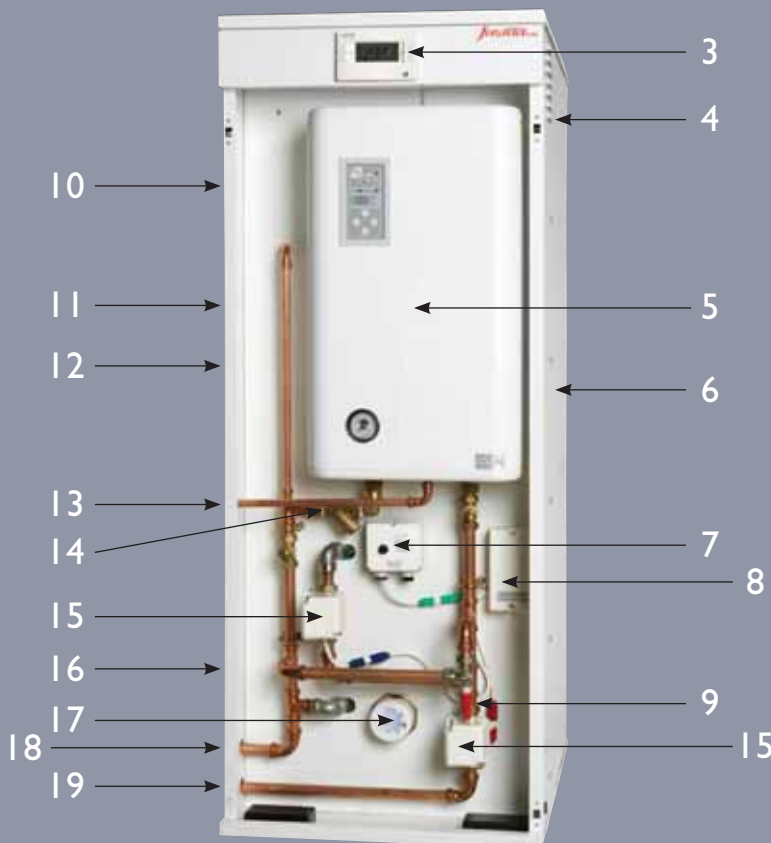
This must not be fixed pipe work
The use of a filling loop will be required and disconnected after use.

Features

- Controllable, efficient wet central heating
- Programmable controls to suit off-peak times offered by the Economy 10 tariff.
- Uses standard radiators and thermostatic radiator valves
- Designed as a sealed system
- Domestic hot water from un-vented indirect stainless steel cylinder offering mains pressure hot water
- Cylinder manufactured from duplex stainless steel
- No flue and no fuel tanks required
- Silent in operation
- Front panel indicator to show boiler status
- Soft start approach to avoid power surges
- Integral magnetic filter for boiler protection
- Adjustable controls to determine boiler temperature outputs
- Minimal service and maintenance costs
- No requirement for annual gas safety certificate
- On-site parts and labour guarantee
- 10 year guarantee on the cylinder
- 2 year guarantee on boiler and other controls

Enclosure key

- 1 Enclosure
- 2 Removable Door
- 3 Twin Channel Programmer
- 4 Rear Compartment - Expansion Vessels
- 5 Fusion Slimline Boiler
- 6 Rear Compartment - Cylinder
- 7 Cylinder Stat
- 8 Wiring Centre
- 9 Automatic Bypass
- 10 Domestic hot water Temp-Pressure Relief Outlet
- 11 Programmer Cable
- 12 Domestic hot water Outlet
- 13 Central Heating Pressure Relief Outlet
- 14 Magnetic Filter
- 15 Zone Valves
- 16 Cold Main
- 17 Immersion Heater
- 18 Central heating Return
- 19 Central heating Flow



Performance Table

	9kW	12kW	14.4kW
150 Litre Cylinder			
Time to re-heat after 70% Draw-Off (minutes)	40	30	25
Time to re-heat from 15C to 60C (minutes)	60	45	38
180 Litre Cylinder			
Time to re-heat after 70% Draw-Off (minutes)	53	40	33
Time to re-heat from 15C to 60C (minutes)	80	60	50

The Solar Combination unit



An acknowledged innovator in the field of electric heating and hot water systems, EHC has developed the **'Plug and Play'** Solar Combination Unit to meet the ever increasing demand for **renewable** technology. Based around the highly successful Fusion E10 Combination Unit, the product has been developed further to include a **solar pump station** and un-vented **solar hot water cylinder**.

The Solar Combination Unit helps improve the SAP rating of a property as it reduces the carbon emission profile. It is an ideal product for developers and Social Landlords who are increasingly utilising renewable products to comply with current legislative standards.

The EHC Solar Combination Unit is completely Pre-plumbed and Pre-wired with the following equipment:

- Fusion Slimline Electric boiler in sizes 9kW, 12kW and 14.4kW
- 180 litre direct, un-vented, solar cylinder
- Pre-wired programmer and cylinder thermostat
- Pre-fitted pump station
- Intelligent solar management system
- External plumbing kit complete with tundishes and control valve for the incoming water main connection.

The Solar Combination Unit shares all the benefits of the Fusion electric boiler which, when used with the Economy 10 tariff, provides a very cost effective alternative to electric storage heating, oil, solid fuel or LPG systems. It is the perfect solution for properties with no access to mains gas or homes which have gas restrictions and brown field sites. Not only is the unit the ideal choice for conventional wet central heating but is also suited to under-floor heating systems.

Additionally we offer an optional hard wired control system to ensure that you optimise the benefit of hot water gained from your solar system. This will minimize the need to utilise the 'back up' immersion heater.

Prior to being fitted in the enclosure the cylinder is coated and insulated with 50mm HCFC & CFC free foam to meet current energy efficiency guidelines.

The cylinder contains a 22mm Stainless Steel Solar coil for the main heat source. It also has a back up immersion heater to provide complete peace of mind.

- Pressure tested to 15 Bar
- Relief valve operates at 7 Bar - 90°C
- 3 Bar working pressure
- 22mm domestic and primary connections
- Up to 50 litres per minute flow rate for domestic hot water.



Solar Control Box

Features

- Controllable, efficient wet central heating
- Programmable controls to suit off-peak times offered by the Economy 10 tariff.
- Uses standard radiators and thermostatic radiator valves
- Designed as a sealed system
- Domestic hot water from un-vented direct stainless steel cylinder offering mains pressure hot water
- Cylinder manufactured from duplex stainless steel
- No flue and no fuel tanks required
- Silent in operation
- Front panel indication to show boiler status
- Soft start approach to avoid power surges
- Integral magnetic filter for boiler protection
- Adjustable controls to determine boiler temperature outputs
- Minimal service and maintenance costs
- No requirement for annual gas safety certificate
- On-site parts and labour guarantee
- 10 years guarantee on the cylinder
- 2 years guarantee on boiler and other controls



2 Channel Programmer



Fusion E10 Solar Combination Unit

Fusion Boiler

Solar Pump Station

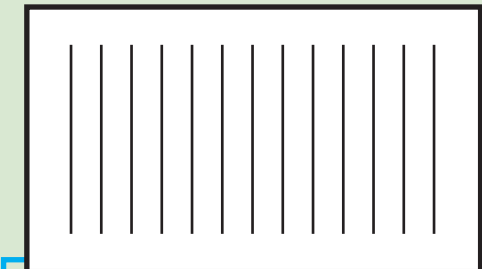
Immersion Heater



180L Solar Cylinder Domestic Hot Water Storage



Solar Controller Intelligent Solar Management System



Wet central heating

The Electric Heating Company can assist with the system design when using the E10 Solar Combination Unit

Technical specifications - Fusion Electric Boiler

Fusion Electric Boiler					
Boiler Range	kW	6kW	9kW	12kW	14.4kW
Pipe Entry From Boilers		Bottom Entry			
Flow and Return Pipes	mm	22			
Min Water Pressure	Bar	1.0			
Max Water Pressure	Bar	3.0			
Expansion Vessel	Litre	6.0			
Dry Weight	Kgs	25			
Electricity Supply		230/240V 1ph 50 Hz			
Load/Current	Amp	26.1	39.1	52.2	62.6
Heating Output	Btu	20.478	30.717	40.956	49.147
Potentionmeter Max Temp Settings (Factory Set)	°C	85			
Min Temp Setting	°C	40			
Overheat Protection	°C	100			
Pump Included		Yes			
Recommended Pump Settings		Set to max			
Protection	Amp	32	45	63	80

Controls

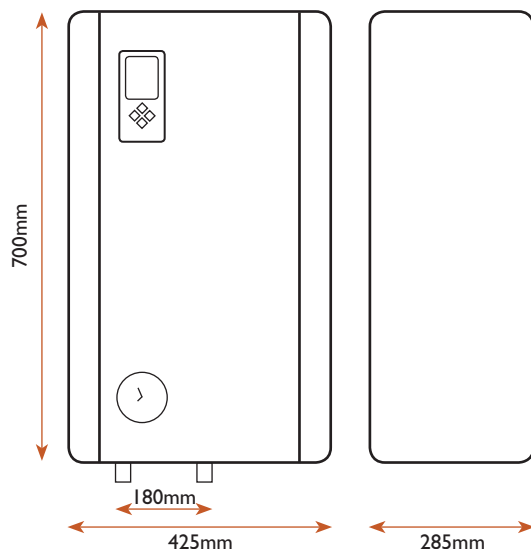
EHC Heating only:
EHC Single Channel Heat Pack

Central Heating & Domestic Hot Water:
EHC Twin Channel Heat Pack

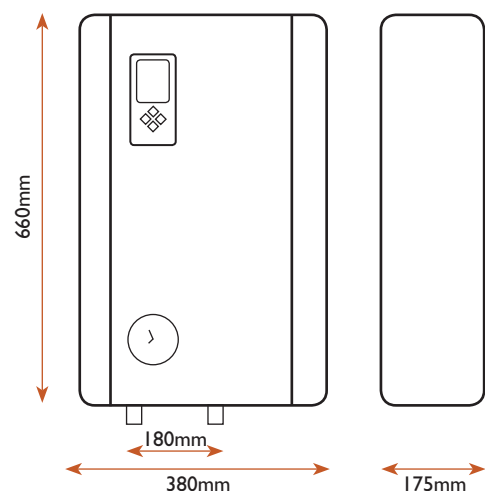
Visit our website for 3 phase Fusion Boilers available in 24kW and 36kW.

Disclaimer - All figures are correct at time of printing and may be subject to change.

Standard boiler dimensions



Slimline boiler dimensions



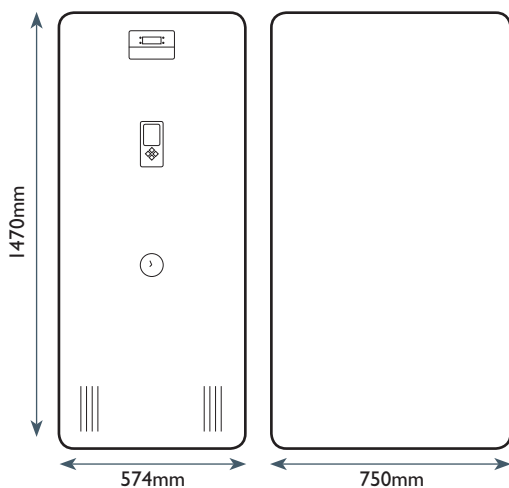
Technical specifications - Fusion E10 Combination and Solar Unit

Fusion E10 Combination Unit				Fusion E10 Solar Combi			Domestic Hot Water
Boiler Range	9kW	12kW	14.4kW	9kW	12kW	14.4kW	
Heating Output	30,717	40,956	49,147	30,717	40,956	49,147	
Electricity Supply	230/240V single phase 50Hz			230/240V single phase 50Hz			
Load/Current	39.1A	52.2A	62.6A	39.1A	52.2A	62.6A	
Protection Required	45 A	63 A	80 A	45 A	63 A	80 A	
CH Max Temp Setting	85°C			85°C			
CH Min Temp Setting	40°C			40°C			
CH Overheat Temperature Protection	100°C			100°C			
Pump Included	Yes			Yes			
Pump Settings	Set to max			Set to max			
CH Flow and Return	22mm			22mm			
Domestic and Primary Connections							22mm
Min Water Pressure	1 Bar			1 Bar			1.5 Bar
Max Water Pressure	3 Bar			3 Bar			7 Bar
Expansion Vessels	8 Litre			8 Litre			12 Litre
Immersion Heater							3kW
Dry Weight 150 Litre	96kg						
Dry Weight 180 Litre	104kg			106kg			

CH - Central Heating

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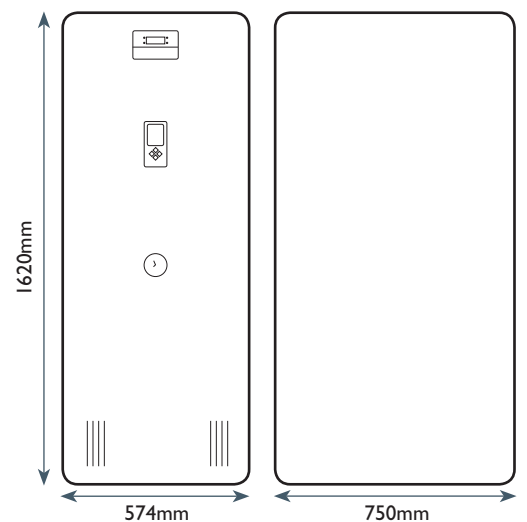
150 Litre E10 Combination Unit



Applies to Fusion Boiler only



180 Litre E10 Combination and Solar Unit



As one of the UK's leading Heating and Hot Water specialists we are able to offer a host of products suitable for almost any application. Our portfolio of products includes Electric Boilers, SEDBUK A Rated Gas Boilers, Low Water Content Wet System Radiators, Premium Chrome Towel Rails and Stainless Steel Unvented Cylinders.

In addition to our wet system range we also offer a selection of high quality combination radiators and fully controllable Aluminium Radiators.

To complete the range of high efficiency products we also offer a selection of Solar Thermal Panels and Solar Thermal Cylinders.

For further information regarding our outstanding range please contact us for the product brochure of your choice.



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