

Electric Boiler Range

Electric boiler with thermal storage flexibility providing both heating and hot water



McDonald
Water Storage
Hot Water Storage Solutions



Providing Wet Central Heating and Mains Pressure Hot Water

Our ELECTRAstore is an electric boiler incorporating thermal storage, providing instantaneous heating and hot water.

Our smart technology, maximises the benefit of “time of use tariffs”, via our innovative IOT control system. With the ability to store energy when it is available, at its lowest price, provides the cheapest solution to run an electric boiler!

ELECTRAstore is the most customisable solution for apartment applications, with bespoke design flexibility to meet the installation requirements.

CONTENTS

Introduction

Heating and Hot Water

Cylinder Only

Combination Cylinder

Rectangular Tank



Discover The Benefits Of A Smart Electric Boiler Solution



The ELECTRAstore electric boiler solution provides many benefits, especially when compared to an electric instantaneous heater or electric combination boiler including:

- The thermal storage allows the home owner to maximise off-peak electricity, however the ELECTRAstore goes one step further by being able to also detect low rate tariff periods when available using our innovative IOT control system.
- The store provides a large amount of mains pressure hot water, even during periods of high demand and heating.
- The smart control device, developed by the Swedish Backer group, provides the ability to monitor, regulate and manage the amount of energy delivered into the store.
- By making use of solar or wind generated electricity, the ELECTRAstore can contribute to a lower carbon footprint for your home heating and hot water.



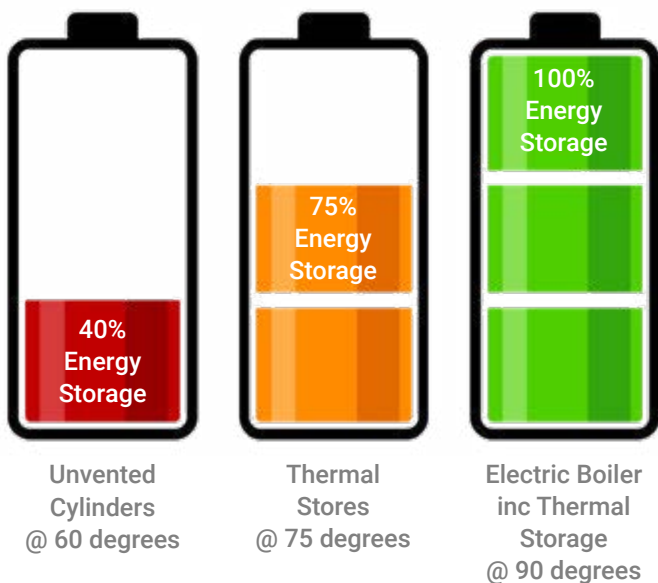
ELECTRAstore Advantages For Multi-Apartment Developments

The ELECTRAstore is the perfect solution for multi-apartment developments, especially when considering alternatives to central plant or electric combination boiler solutions:

- Bespoke design flexibility to suit all applications
- Suitable for use with underfloor or wet central heating systems
- Provides mains pressure hot water
- No risk of legionella
- No annual service requirement
- No discharge or flue requirement



Higher Temperatures For Increased Energy Storage



The ELECTRAstore incorporates a thermal store which has the ability to store the energy in the form of heat, in the same way a battery stores electrical power.

Traditional electrically heated cylinders control the temperature of the store by using the immersion heater thermostats, with unvented cylinders at operating at 60°C and standard thermal storage solutions at 75°C.

The ELECTRAstore is designed to work with a PT100 sensor at the top of the store to control the temperature, allowing the thermal store to be taken to higher temperatures, up to 90°C.

By heating the thermal store to a higher temperature whilst the electricity is at a lower cost, there is more energy provided than standard hot water storage cylinders.

Maximising The Benefit Of Lower Cost Electric Tariffs

On average, your heating and hot water requirements account for 73% of the total energy used within the property, with the majority during the daytime on-peak electric period.

The ELECTRAstore is able to monitor, regulate and manage the amount of energy delivered into the thermal store, by using a smart control device which has been developed by the Swedish Backer group.

The unit will self-learn, using algorithms to monitor and learn a home owner's hot water and heating profile, to take the power held in the store to the level required, at times of lowest cost.



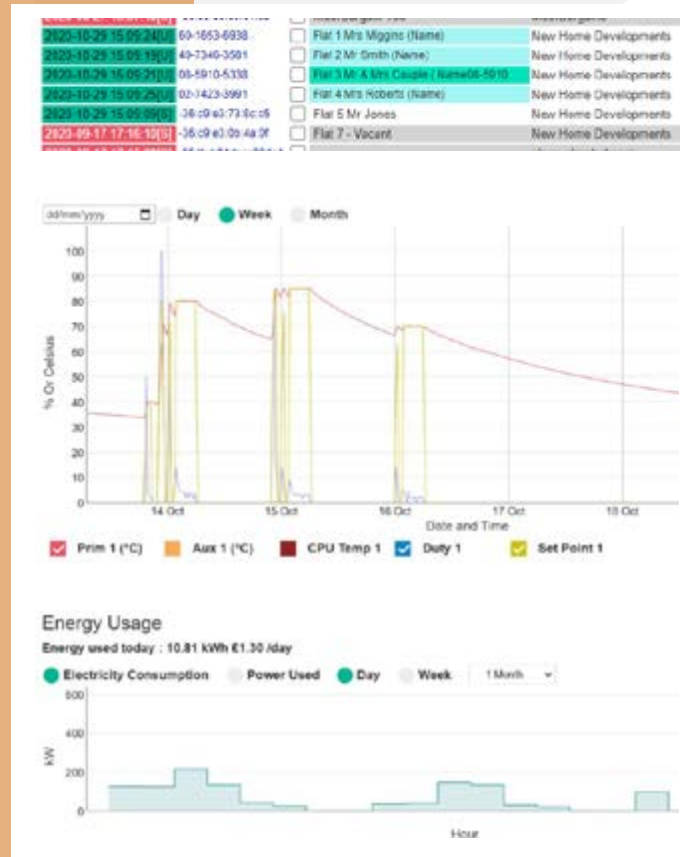
Control Is The Key To Improved Efficiency

The Backer Digital Controller incorporates 2 levels of control, consisting of highly accurate local autonomous control and supervisory control from the Internet (IoT). Larger scale users are able to manage multiple occupancy accommodations, where all hot water systems can be monitored from a single management dashboard.

When connected to the internet, the Controller is able to harness a range of powerful control methods to maximise the use of energy when at its lowest and keep the cost of running the ELECTRAstore to a minimum.

This functionality has been developed with simplicity in mind, with the level of interaction ranging from 'self-optimise' through to a more interactive experience.

Utilising the internet allows for the use of extra tools, such as smart control from energy suppliers who offer dynamic energy tariffs. Energy suppliers are now able to charge their customers on a half-hourly basis and adjust the pricing for each half hour based on the price of wholesale electricity.



Specification Made Easy

To decide which unit is most suitable for you, please specify the following when speaking to the team;

- Property heat load in kW (Maximum 9kW)
- Annual kW usage
- Number of bedrooms and bathrooms
- Proposed electrical tariff
- Open vented or sealed heating system
- Available Space

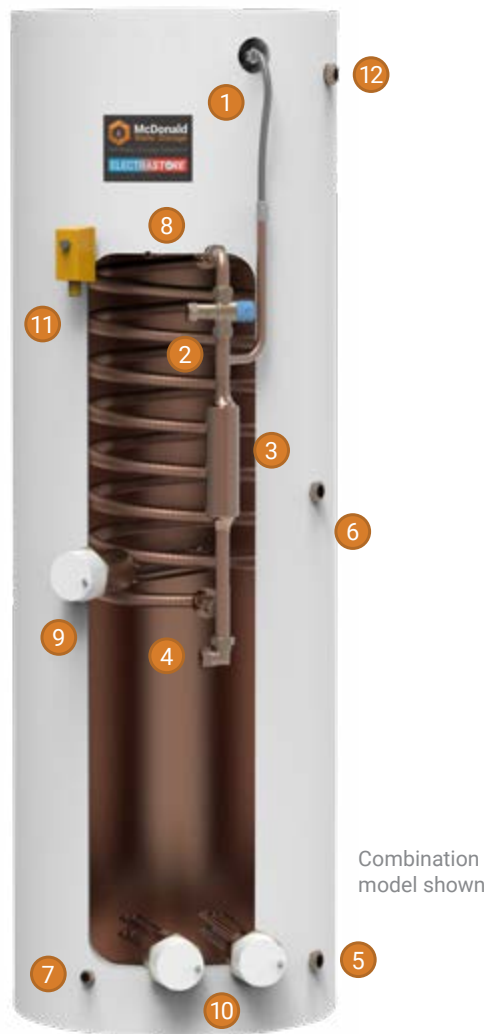
Cylinder/Combination Heating & Hot Water

The ELECTRAstore H/HW cylinder / combination units provide both wet central heating and mains pressure hot water to the property, utilising electricity only.

It maximises the benefit of the available electricity tariffs to aggregate the supply to heat the store, and provide domestic hot water when it is required, keeping running costs for the householder down to a minimum.

The unit is supplied with three 3kW immersion heaters heating the complete store during low cost tariff periods, using the top immersion during summer for hot water requirements.

Suitable for either open vented heating systems or sealed heating systems, the ELECTRAstore is a bespoke designed product with indicative sizes for reference shown below.



Combination model shown

COMPONENTS

1. Ballvalve and Float
2. 22mm Hot Draw Out – c/w TMV
3. Expansion Chamber
4. 22mm Cold Mains In
5. Drain
6. 22mm Heating Flow *
7. 22mm Heating Return *
8. PT100 Sensor Pocket
9. Immersion (Hot Water Boost)
10. Immersion (Central Heating)
11. High Limit Thermostat
12. Overflow – Header Tank

* Sealed System Heating Coil can be supplied.

KEY BENEFITS

- Maximises the benefit of available electricity tariffs
- Provides mains pressure hot water
- No discharge pipework or annual maintenance
- No G3 certification required for installation
- Units are bespoke manufactured to suit installation
- Suitable for open vented or sealed heating systems

All Units to Following Specification:

- Feed and expansion tank incorporated into the combination units
- 3 x 3kW LWD Immersion heaters fitted
- Optional programmable room thermostat
- Insulation to all external pipework

Model	CYLINDER VARIANT				COMBINATION VARIANT			
	180	210	250	300	180	210	250	300
Storage Capacity	180	210	250	300	180	210	250	300
Height	1350	1550	1850	1850	1500	1700	1700	2050
Diameter	550	550	550	600	550	550	600	600
Max Heating Load (kW)	9	9	9	9	9	9	9	9
ERP Class	C	C	C	C	C	C	C	C
Standing Heat Loss (watts)	59	65	72	80	59	65	72	80
Heating Expansion	-	-	-	-	20	20	25	25

Sizes shown above are indicative only, and include insulation and standard heating expansion (combination models) which can be increased at the time of order



Rectangular Tank Heating & Hot Water

The ELECTRAstore H/HW rectangular tank units provide both wet central heating and mains pressure hot water to the property, utilising electricity only. The rectangular design of the store takes up to 27% less space than an equivalent volume cylinder, perfect for space restricted applications.

It maximises the benefit of the available electricity tariffs to aggregate the supply to heat the store, and provide domestic hot water when it is required, keeping running costs for the householder down to a minimum. The unit is supplied with three 3kW immersion heaters heating the complete store during low cost tariff periods, using the top immersion during summer for hot water requirements.

Suitable for either open vented heating systems or sealed heating systems, the ELECTRAstore is a bespoke designed product with indicative sizes for reference shown below.

COMPONENTS

1. Ballvalve and Float
2. Overflow – Header Tank
3. Inspection Lid (Header Tank)
4. 22mm Hot Draw Out – c/w TMV
5. Expansion Chamber
6. 22mm Cold Mains In
7. Drain
8. 22mm Heating Flow *
9. 22mm Heating Return *
10. PT100 Sensor Pocket
11. Immersion (Hot Water Boost)
12. Immersion (Central Heating)
13. High Limit Thermostat

* Sealed System Heating Coil can be supplied.

KEY BENEFITS

- Maximises the benefit of off-peak electricity tariffs
- Provides both wet central heating and hot water
- No discharge pipework or annual maintenance
- No G3 certification required for installation
- Units are bespoke manufactured to suit installation
- Suitable for open vented or sealed heating systems

All Units to Following Specification:

- Incorporated feed and expansion tank
- Room thermostat
- 3 x 3kW LWD Immersion heaters fitted
- Optional programmable room thermostat
- Insulation to all external pipework

Model	180	210	250	300
Storage Capacity	180	210	250	300
Height	1285	1285	1260	1285
Width	525	585	600	640
Depth	570	570	600	640
Max Heating Load (kW)	9	9	9	9
ERP Class	C	C	C	C
Standing Heat Loss (watts)	73	78	85	94
Heating Expansion	20	20	20	20

Sizes shown above are indicative only, and include insulation and standard heating expansion

Discover Our Complete Range Of Hot Water Storage Solutions

Thermal Stores

Electric Boiler Solutions

Unvented Cylinders

Elson Replacement Solutions

Open Vented and Combination Cylinders

Commercial Cylinders

Bespoke Design and Manufacture



For full details on a product range
click on the category above or
go to mcdonaldwaterstorage.com



McDonald Water Storage

Hot Water Storage Solutions

Pride in our
service, quality
and tradition



QUEENSWAY INDUSTRIAL ESTATE | GLENROTHES | FIFE | KY7 5QF

T: 01592 611123 | E: sales@mcdonaldwaterstorage.com

www.mcdonaldwaterstorage.com

