ELECTRASTORE

BESPOKE ELECTRIC THERMAL STORE RANGE FOR USE WITH FLEXIBLE TARIFFS

Powered by Backer

McDonald
Water Storage

Hot Water Storage Solutions

ELECTRA*store* is a market first hot water cylinder which is designed to maximise the benefit of time in use tariffs, via our innovative IOT control system with self learning algorythm, to store energy when it's provided at low cost and low carbon, so it can be used when it is needed.

The ELECTRA*store* is a bespoke electric thermal store, powered by Backer technology and long life immersion elements. The range can provide either mains pressure hot water and primary hot water to heat standard "wet" radiators or mains pressure hot water only.

Discover The Benefits of a **ELECTRA*store*** Thermal Store

- → Maximise the benefits of heating the store utilising either off-peak or flexible electricity tariffs
- → Utilises tried and tested Backer immersion heater technology in conjunction with a purpose built Backer Digital Controller
- → Monitor, regulate and manage the energy delivered into the thermal store through the smart control device
- → Delivers wet central heating and mains pressure hot water with scald protection and inherent safety of an open vented system
- → No discharge pipework – flexibility for installation position
- → Fit and forget solution – with no G3 certification required
- → Being copper provides complete peace of mind, killing 99% of bacteria and no risk of Legionella as the hot water is instantaneously heated
- → The ELECTRAstore comes with five year manufacturers warranty on the cylinder body and two years on the components

WHY ELECTRA***STORE***

There are many products on the market that can be utilised with either standard or 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.

Powered by Backer technology and long life immersion elements, in conjunction with McDonald Water Storage manufacturing expertise, the ELECTRAstore can maximise the benefit of lower electricity rates to improve efficiency and keep your electricity bills to a minimum.

When wind and solar generation are at their peak, not only is wholesale electricity costs are at their lowest, but also carbon intensity reduced, making it the best possible time to store energy at home, for use at other times during the day.

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McDonald Water Storage

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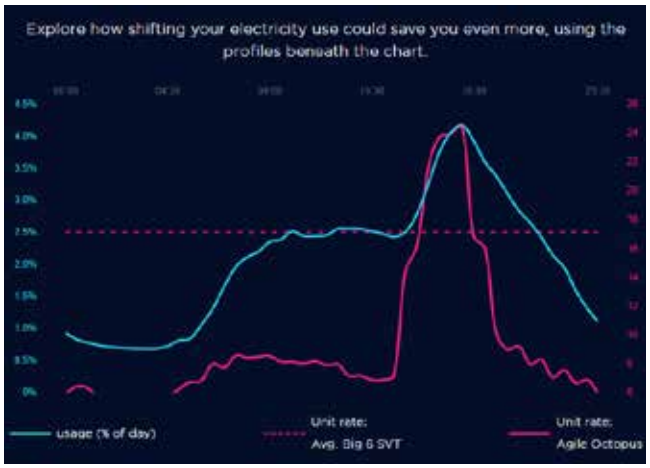


An example of dynamic pricing, using a flexible tariff from Octopus energy, compared to a Big 6 SVT

Flexibility is Key

Historically, homes were restricted to either standard electricity rates with an average 15 pence per kWh or off peak periods such as economy 7 or economy 10 but with higher daytime rates.

Flexible tariffs provide another alternative through dynamic pricing, enabling you to load shift your electricity use to when the cost is lowest, to heat the ELECTRA*store*.

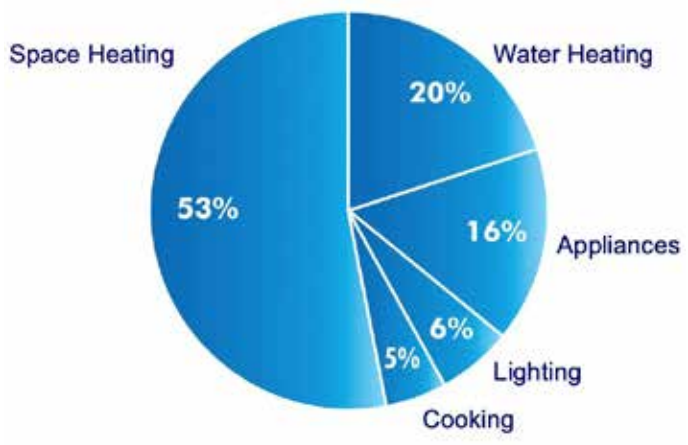
The Backer Control Technology, is designed to work with any tariff to provide the most efficient system possible.

Lower Carbon - Lower Cost

Electricity generation has changed over recent years in the UK, with more of our electricity being produced from renewable energy sources such as wind and solar power.

This means when wind and solar generation are at their peak, not only is the carbon intensity reduced but also wholesale electricity costs are at their lowest, making it the best possible time to store energy at home, for use at other times during the day.

This method of load shifting is also beneficial to the UK's continuing adoption of renewable energy sources, helping to smooth out peak loads and maximise your use of environmentally friendly electricity.



Average energy consumption for a typical family home, over a monthly period

Energy Usage In Your Property

It is worth understanding where the energy provided to your property is used. As you can see from the diagram opposite, on average, your heating and hot water requirements account for 73% of the energy used.

Utilising the available tariffs, the ELECTRAstore enables the homeowner to take the power required at times of lowest cost to heat the store, therefore making a saving on the largest portion of their energy requirements.

ELECTRASTORE

Not Just A Hot Water Cylinder

The ELECTRAstore is 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.

This is generated by the electric immersions, to provide hot water and wet central heating to the property. The energy is taken at optimal times during the day, but only utilised when the property requires heating or hot water.

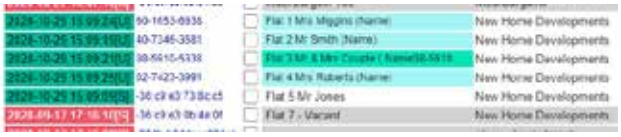
With models providing either heating and hot water or hot water only, the application options range from apartments to family homes.

BACKER
EVERYDAY · EVERYWHERE

Powered By Backer

The ELECTRAstore utilises the tried and tested Backer immersion technology to heat up the thermal store. Previously utilised in commercial applications, the technology has been developed for domestic application.

It allows the hot water immersion heater to turn off when prices are high, but turn on if required when prices are low to provide superb efficiency and peace of mind for the homeowner.



Device management dashboard

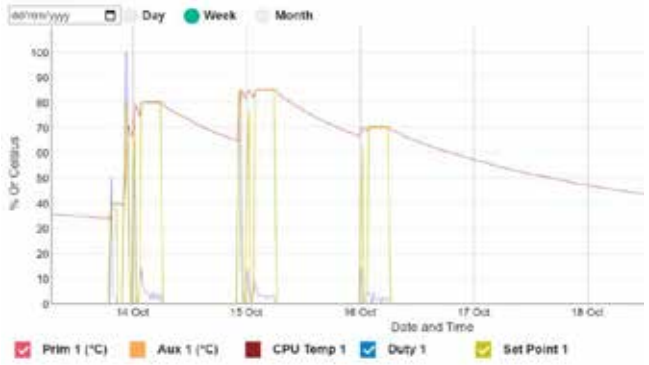
Control Is Key

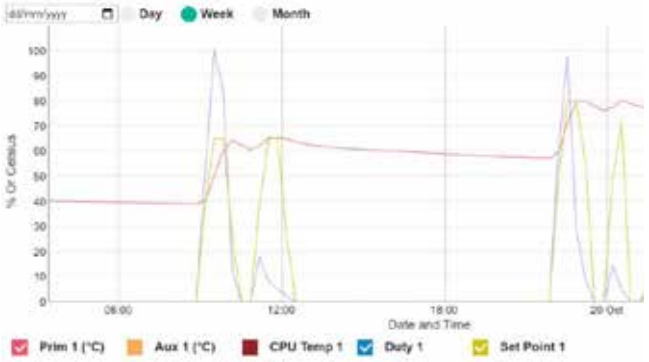
The ELECTRAstore product range is able to monitor, regulate and manage the amount of energy delivered into the thermal store, by using a smart control device which has been developed by the Swedish Backer group.

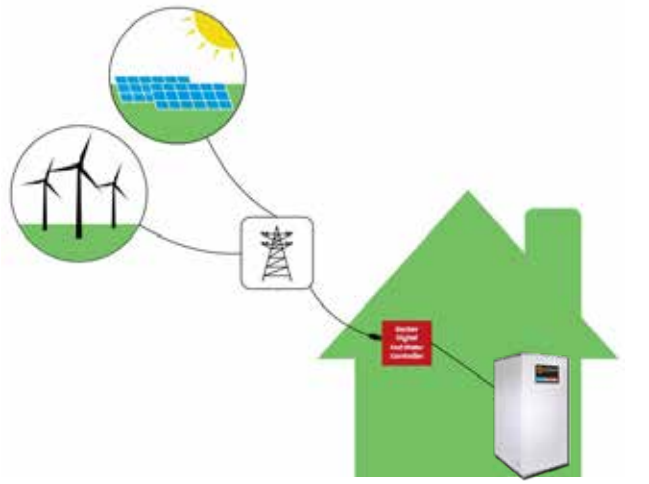
The Backer Digital Controller incorporates 2 levels of control, consisting of highly accurate local autonomous control and supervisory control from the Internet (IoT).

Larger scale users are able to manage multiple occupancy accommodations, where all hot water systems can be monitored and energy can be managed from a single management dashboard.

ELECTRASTORE







Web browser based dashboard monitoring and control allows complete visibility and control of your hot water system from a simple interface.

Local Autonomous Control

Using accurate PT100 temperature sensors to monitor the amount of heat (energy) stored throughout the ELECTRAstore, the Backer Digital Controller can determine exactly how much energy is required, depending on the time of day and the typical amount of hot water used by the homeowner.

The controller uses highly accurate independent PID control in order to maximise the effectiveness of each electric immersion heater in conjunction with a boost function for rapid, unexpected hot water requirements.

The ELECTRAstore will self-learn, using algorithms specifically developed to monitor and learn a home user's hot water and heating profile, prioritising the availability of hot water at the times of day when needed most.

Internet of Things (IoT) Control

When connected to the internet through either a normal home broadband internet connection or data sim plug in, the Backer Digital Controller is able to harness a range of more powerful control methods to maximise the use of energy when at its lowest and keep the cost of running the ELECTRAstore thermal storage unit to a minimum.

This functionality has been developed with simplicity in mind, so that as a user, your interaction can range from 'plug it in and leave it to self-optimise' through to a more interactive experience for users who want control from their web browser or smartphone.

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.

Combination model shown

Combination Style Hot Water Only Variant

The ELECTRA*store* HW combination style unit provides 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 with the bottom two heating the complete store during low cost tariff periods. The controller allows the flexibility to boost the top section of the store using the top immersion during summer for hot water requirements.

The ELECTRA*store* is a bespoke designed product with indicative sizes for reference shown below.

COMPONENTS

1. Ballvalve and Float
2. Hot Draw Out – c/w TMV
3. Expansion Chamber
4. Cold Mains In – c/w Y-Strainer
5. Drain
6. PT100 Sensor Pocket
7. Immersion (Hot Water Boost)
8. Immersion (Store Heating)

KEY BENEFITS

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

All Units to Following Specification:

- Feed and expansion tank incorporated into the combination units
- 22mm DHW Coil & Mixing Valve
- Optional programmable room thermostat
- 3kW LWD Immersion Heaters (inc. thermostats) Fitted

COMBINATION STYLE	120	150	180	210
ERP Class	C	C	C	C
Height	1130	1350	1500	1700
Diameter	550	550	550	550

Sizes shown above are indicative only, including insulation and incorporated F&E tank

MAXIMISING THE AVAILABLE ELECTRIC TARIFFS TO PROVIDE MAINS PRESSURE HOT WATER

ELECTRASTORE

Rectangular Tank
Hot Water Only Variant

The ELECTRA*store* HW rectangular tank style units provide mains pressure hot water to the property. 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 with the bottom two heating the complete store during low cost tariff periods. The controller allows the flexibility to boost the top section of the store using the top immersion during summer for hot water requirements.

The ELECTRA*store* 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. Hot Draw Out – c/w TMV
5. Expansion Chamber
6. Cold Mains In – c/w Y-Strainer
7. Drain
8. PT100 Sensor Pocket
9. Immersion (Hot Water Boost)
10. Immersion (Store Heating)

KEY BENEFITS

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

All Units to Following Specification:

- Incorporated feed and expansion tank
- 22mm DHW Coil & Mixing Valve
- Optional programmable room thermostat
- 3kW LWD Immersion Heaters (inc. thermostats) Fitted

STORAGE CAPACITY	120	150	180	210
ERP Class	C	C	C	C
Height	970	1285	1285	1285
Width	495	495	525	585
Depth	570	570	570	570

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

MAXIMISE THE AVAILABLE SPACE WITH THE TANK DESIGN, WITH 27% LESS SPACE REQUIRED THAN A CYLINDER

Combination model shown

Cylinder/Combination Heating & Hot Water Variant

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

It maximises the benefit of the availabe 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 with the bottom two heating the complete store during low cost tariff periods. The controller allows the flexibility to boost the top section of the store using the top immersion during summer for hot water requirements.

The unit is suitable for either open vented heating systems or sealed heating systems. The ELECTRA*store* is a bespoke designed product with indicative sizes for reference shown below.

COMPONENTS

1. Ballvalve and Float
2. Hot Draw Out – c/w TMV
3. Expansion Chamber
4. Cold Mains In – c/w Y-Strainer
5. Drain
6. Heating Flow *
7. Heating Return *
8. PT100 Sensor Pocket
9. Immersion (Hot Water Boost)
10. Immersion (Central Heating)

* Sealed System Heating Coil can be supplied.

KEY BENEFITS

- Maximises the benefit of flexible electricity tariffs
- Provides both wet central heating and hot water
- No discharge pipework
- No annual maintenance
- No G3 certification required for installation
- Units are bespoke manufactured to suit installation

All Units to Following Specification:

- Feed and expansion tank can be provided separately or incorporated into the combination units
- 22mm DHW Coil & Mixing Valve
- 22mm Heating connections
- Optional programmable room thermostat
- 3kW LWD Immersion Heaters (inc. thermostats) Fitted

COMBINATION STYLE	180	210	250	300
ERP Class	C	C	C	C
Height	1500	1700	1700	2050
Diameter	550	550	600	600
Heating Expansion	20	20	25	25

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

CYLINDER STYLE	180	210	250	300
ERP Class	C	C	C	C
Height	1350	1550	1850	1850
Diameter	550	550	550	600

Sizes shown above are indicative only, and include insulation but space will need to be allowed for the expansion tank

ELECTRASTORE

Rectangular Tank
Heating & Hot Water Variant

The ELECTRA*store* H/HW rectangular tank style units provide both heating and mains pressure hot water to the property. 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 with the bottom two heating the complete store during low cost tariff periods. The controller allows the flexibility to boost the top section of the store using the top immersion during summer for hot water requirements.

The unit is suitable for either open vented heating systems or sealed heating systems. The ELECTRA*store* 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. Hot Draw Out – c/w TMV
5. Expansion Chamber
6. Cold Mains In – c/w Y-Strainer
7. Drain
8. Heating Flow *
9. Heating Return *
10. PT100 Sensor Pocket
11. Immersion (Hot Water Boost)
12. Immersion (Central Heating)

* Sealed System Heating Coil can be supplied.

KEY BENEFITS

- Maximises the benefit of flexible electricity tariffs
- Provides both wet central heating and hot water
- No discharge pipework
- No annual maintenance
- No G3 certification required for installation
- Units are bespoke manufactured to suit installation

All Units to Following Specification:

- Incorporated feed and expansion tank
- 22mm DHW Coil & Mixing Valve
- 22mm Heating connections
- Optional programmable room thermostat
- 3kW LWD Immersion Heaters (inc. thermostats) Fitted

STORAGE CAPACITY	180	210	250	300
ERP Class	C	C	C	C
Height	1285	1285	1260	1285
Width	525	585	600	640
Depth	570	570	600	640
Heating Expansion	20	20	20	20

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

MAXIMISE THE AVAILABLE SPACE WITH THE TANK DESIGN, WITH 27% LESS SPACE REQUIRED THAN A CYLINDER

75 YEARS ANNIVERSARY
1945 - 2020

McDonald
Water Storage

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hot water association
CHARTER MEMBER

works with octopus