THERMAL STORE
MAINS PRESSURE SYSTEM

THERM FLOW

McDonald Water Storage
Hot Water Storage Solutions
Our THERMflow thermal store, works at the heart of your heating and hot water system to provide a high performance, mains pressure solution which delivers enormous benefits.

Our thermal store approach can incorporate multiple energy sources to heat the home as well as meet hot water demand to achieve improved efficiencies and cost savings. And with our unique design and manufacturing solution, we can offer significant cost savings both during installation and ongoing running costs.

DISCOVER THE BENEFITS OF A THERMflow THERMAL STORE

- No costly pumps and electronic controls required - providing piping hot water even during a power outage
- Delivers mains pressure hot water with scald protection and inherent safety of vented system
- Can incorporate multiple fuel sources
- ALL energy inputs can be transferred to heating AND hot water circuits
- Perfect partner for solid fuel with copper feed and expansion tanks
- Fit and forget solution – with no G3 certification required
- Being copper provides complete peace of mind – killing 99% of bacteria
- Available in any shape and any size – including like for like replacements

WHY THERMflow

Manufactured from premium grade copper, our THERMflow mains pressure hot water system delivers unrivalled performance thanks, in part, to copper’s superior thermal transfer properties.

One of our key advantages is the extra long finned copper coil which we incorporate into every THERMflow cylinder. This ensures greater flow rates, improves efficiency and reduces ongoing costs.

This means our THERMflow thermal store cylinder is designed to achieve a consistently high water temperature due to a combination of our unique design and copper’s increased efficiency.

With a comprehensive range of thermal store solutions and the ability to have your cylinder any size, any shape and with any fuel sources, you can be assured of the optimum hot water storage solution.
Multifuel Combination Type

The multi-fuel thermal store allows the incorporation of multiple heat sources into a single tank. Using your solid fuel appliance along with solar thermal, the system can be heated without the need for gas, oil or electric. Only at times where the other heat sources are unable to cope with demand, will the boiler come on to top up the temperature.

The combination type can be installed anywhere in the property, normally the top floor or attic. Providing the primary feed and expansion tank is at the highest level, the entire system can remain open vented. The minimum gap between highest radiator and base of header tank is 500mm. If this minimum distance cannot be achieved then a sealed heating coil can be installed in the thermal store, alternatively select the Cylinder Type. See page 4.

KEY BENEFITS

- Incorporates multiple heat inputs
- Great all-in-one solution
- Connections positioned for optimum performance
- Solar thermal can contribute to hot water and space heating

All Units to Following Specification:

- Maintenance Free Ball Valve & Copper Float
- 22mm DHW Coil & Mixing Valve
- 1.2m sq solar coil (larger coils are available)
- 2no. 10mm Solar Probe Pockets
- 22mm Flow & Return for Vented Boiler
- 28mm Flow & Return for Solid Fuel
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 2no. Thermostats
- 2” Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

1. If sealed system boiler then coil required.
2. Extra immersions can be included.

A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE INCLUDING SLIMLINE AND RECTANGULAR MODELS
Multi-fuel Cylinder Type

The multi-fuel thermal store allows the incorporation of multiple heat sources into a single tank. Using your solid fuel appliance along with solar thermal, the system can be heated without the need for gas, oil or electric. Only at times where the other heat sources are unable to cope with demand, will the boiler come on to top up the temperature.

The cylinder type can be installed anywhere in the property, and is linked with a separate copper feed and expansion tank which is normally located in an attic space.

**KEY BENEFITS**
- Incorporates multiple heat inputs
- Great all-in-one solution
- Connections positioned for optimum performance
- Solar thermal can contribute to hot water and space heating

**All Units to Following Specification:**
- 22mm DHW Coil & Mixing Valve
- 1.2m sq solar coil (larger coils are available)
- 2no. 10mm Solar Probe Pockets
- 22mm Flow & Return for Vented Boiler
- 28mm Flow & Return for Solid Fuel
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 2no. Thermostats
- 2" Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

1. If sealed system boiler then coil required.
2. Extra immersions can be included.
3. Use with our copper high temp header tank on page 12.

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**COMPONENTS**

1. Vent to Header Tank
2. Hot Draw Out (c/w TMV)
3. Expansion Chamber
4. Cold Mains In (c/w Y Strainer)
5. Drain/ Feed from Header Tank
6. Central Heating Flow
7. Central Heating Return
8. Solar Coil
9. Solar Probe Pocket
10. Immersion Heater
11. Control Stat
12. High-Limit Stat
13. Temperature Gauge
14. Boiler Flow
15. Boiler Return
16. Solid Fuel Flow
17. Solid Fuel Return
18. ½" Female for Relief Valve

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**STORAGE CAPACITY**

<table>
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<tr>
<th>STORAGE CAPACITY</th>
<th>120</th>
<th>140</th>
<th>180</th>
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**A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE INCLUDING SLIMLINE MODELS**
This thermal store simply accepts heat input from an open vented boiler to provide domestic hot water and central heating throughout the property.

The combination tank is best installed on an upper floor or in a loft or attic space keeping the primary feed and expansion tank at the highest level, keeping the entire system open vented. If the gap between highest radiator and base of header tank is less than 500mm then you will require a sealed heating coil.

An ideal alternative to a combi boiler, with the major benefit being high flow rate, mains pressure hot water with increased reliability and no annual service.

KEY BENEFITS
- No annual service
- Mains pressure hot water
- Immersion heater backup for entire system
- Expertly positioned connections for optimum performance

All Units to Following Specification:
- 22mm DHW Coil & TMV
- 22mm Flow & Return for Boiler
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 1no. Thermostat
- 2" Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE INCLUDING SLIMLINE MODELS
This thermal store simply accepts heat input from an open vented boiler to provide domestic hot water and central heating throughout the property.

The cylinder type can be installed almost anywhere in the property and requires a separate high temperature header tank installed at the highest point in the property, keeping the entire system open vented.

An ideal alternative to a combi boiler, with the major benefit being high flow rate, mains pressure hot water with increased reliability and no annual service.

**KEY BENEFITS**
- No annual service
- Mains pressure hot water
- Immersion heater backup for entire system
- Expertly positioned connections for optimum performance

**All Units to Following Specification:**
- 22mm DHW Coil & TMV
- 22mm Flow & Return for Boiler
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 1no. Thermostat
- 2" Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

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A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE INCLUDING SLIMLINE MODELS
Sealed System Boiler Combination

This thermal store simply accepts heat input from a pressurised boiler to provide domestic hot water and central heating throughout the property.

The combination tank is best installed on an upper floor or in a loft or attic space keeping the primary feed and expansion tank at the highest level, to keep the central heating system open vented. If the gap between highest radiator and base of header tank is less than 500mm then you will require a sealed heating coil. Alternatively have a look at our pressurised thermal store on page 10.

KEY BENEFITS
- No annual service
- Mains pressure hot water
- Immersion heater backup for entire system
- Expertly positioned connections for optimum performance

All Units to Following Specification:
- 22mm DHW Coil & TMV
- 22mm Flow & Return for Sealed Boiler Coil
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 1no. Thermostat
- 2” Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)
Sealed System Boiler Cylinder

This thermal store simply accepts heat input from a pressurised boiler to provide domestic hot water and central heating throughout the property.

The cylinder type can be installed almost anywhere in the property and requires a separate high temperature header tank installed at the highest point in the property, keeping the entire system open vented.

KEY BENEFITS

- Mains pressure hot water
- Immersion heater backup for entire system
- Expertly positioned connections for optimum performance

All Units to Following Specification:

- 22mm DHW Coil & TMV
- 22mm Flow & Return for Sealed Boiler Coil
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 1no. Thermostat
- 2” Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

COMPONENTS

1. Vent to Header Tank
2. Hot Draw Out (c/w TMV)
3. Expansion Chamber
4. Cold Mains In (c/w Y Strainer)
5. Drain/ Feed from Header Tank
6. Central Heating Flow
7. Central Heating Return
8. Immersion Heater
9. Temperature Gauge
10. Thermostat
11. Sealed Boiler Coil Flow
12. Sealed Boiler Coil Return

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<th>STORAGE CAPACITY</th>
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<td>1870 x 640</td>
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A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE
This thermal store only provides hot water from a minimum of 2no 3kW immersion heaters, normally one using off-peak, cheaper, electricity while the other acts as a boost 24 hours a day.

The tank can be installed almost anywhere within the property, provided an overflow pipe can be safely routed away.

Commonly used in apartments where an unvented cylinder cannot be installed due to strict G3 guidelines surrounding discharge pipework.

**KEY BENEFITS**
- No annual service
- Mains pressure hot water
- Utilises off-peak electricity for reduced running costs
- Connections located centrally for ease of installation
- Boost and immersion
- Option for solid fuel input

**All Units to Following Specification:**
- 22mm DHW Coil & TMV
- 2no. 3kW LWD Immersion Heaters Fitted
- 2” Dial Thermostat
- 60mm Polyurethane Foam Lagging (70mm on 250+)

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**COMPONENTS**

1. Ball Valve
2. Hot Draw Out (c/w TMV)
3. Expansion Chamber
4. Cold Mains In (c/w Y Strainer)
5. Drain
6. Off-Peak Immersion Heater
7. Boost Immersion Heater
8. Temperature Gauge

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**A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE INCLUDING RECTANGULAR MODELS**

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**T:** 01592 611123  
[www.mcdonaldwaterstorage.co.uk](http://www.mcdonaldwaterstorage.co.uk)
This thermal store accepts heat input from a pressurised boiler, often a biomass boiler, to provide domestic hot water and central heating throughout the property.

It allows the store to be installed almost anywhere in the property and creates a fully pressurised system, which requires a suitably sized heating expansion vessel. Where a boiler is the only heat source, and locating a header tank is not an option this could be the ideal solution.

Consideration must be taken for the relief valves that come factory fitted, and will operate the same as an unvented cylinder.

**KEY BENEFITS**
- Mains pressure hot water
- Immersion heater backup for entire system
- Expertly positioned connections for optimum performance

All Units to Following Specification:
- Maximum Primary Working Pressure of 2.5 Bar
- Relief Valves & Tundish Factory Fitted
- 22mm DHW Coil & TMV
- 22mm Flow & Return for Boiler
- 22mm Flow & Return for Central Heating
- 3kW LWD Immersion Heater Fitted
- 1no. Thermostat
- 2" Dial Thermometer
- 60mm Polyurethane Foam Lagging (70mm on 250+)

**COMPONENTS**
1. Auto Air Vent
2. Hot Draw Out (c/w TMV)
3. Expansion Chamber
4. Cold Mains In (c/w Y Strainer)
5. Drain
6. Central Heating Flow
7. Central Heating Return
8. Immersion Heater
9. Thermostat
10. Temperature Gauge
11. Boiler Flow
12. Boiler Return
13. Temperature & Pressure Relief Valve
14. Expansion Relief Valve
15. Tundish

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<td>1570 x 640</td>
<td>1870 x 640</td>
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A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE
Our thermal store range, excluding the pressurised model, can also be supplied as a rectangular tank.

These units offer fantastic space saving solutions, typically providing the same capacity in up to 27% less space. Whilst we list a few typical examples of sizes, our bespoke manufacturing ability enables us to manufacture any shape or size.

**ADDITIONAL OPTIONS**
- Solar Coil
- Solid Fuel Connections
- Extra Immersions
- Available with steel frame to elevate tank

**KEY BENEFITS**
- Excellent space saving solution for tight spaces
- White cased as standard for superior quality finish
- The most customisable thermal store on the market

### COMPONENTS
1. Ballvalve
2. Hot Draw Out (c/w TMV)
3. Expansion Chamber
4. Cold Mains In (c/w Y Strainer)
5. Drain
6. Central Heating Flow
7. Central Heating Return
8. Immersion Heater
9. Temperature Gauge
10. Control Stat
11. High-Limit Stat
12. Boiler Flow
13. Boiler Return
14. Solid Fuel Flow
15. Solid Fuel Return
16. Overflow
17. ½” Female for Relief Valve

### STORAGE CAPACITY

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A WIDE RANGE OF OTHER CAPACITIES AND SIZES ARE AVAILABLE
Copper High Temperature Feed and Expansion Tanks

Our high temperature feed and expansion tanks are designed to be used with open vented thermal storage systems, especially when combined with additional fuel sources such as wood burning stoves, where high temperatures are prevalent.

Manufactured from premium grade copper to withstand temperatures of over 100°C, our feed and expansion tanks can be manufactured to any shape and size to suit your requirements.

**KEY BENEFITS**
- Can cope with temperatures over 100°C
- No chance of meltdown in an overheat situation
- Factory fitted insulation minimises dangers of freezing
- Proven to be healthy and safe
- Copper is 100% recyclable, benefiting the environment

**All Units to Following Specification:**
- Maintenance free ball valve
- 4.5" float
- 35mm polyurethane foam lagging
- Alloy lid

**Additional Options Available:**
- Different sizes to suit space restrictions
- Any capacity
- Compression Connections
- Connection sizes and positions adjusted to suit

**DIMENSIONS CAPACITY (LITRES) SIZE INCLUDING INSULATION**

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