



WORLD HEAT CYLINDERS

Installer Instructions & User Guide Direct Open Vented Thermal Stores



Integrated Feed
& Expansion Tank



Separate Feed
& Expansion Tank



Important - Please Note

This unit has been manufactured by World Heat Cylinders. WH Cylinders are an established manufacturer of water heating cylinders. It is our policy to deal with the merchant trade rather than directly with consumers because our products should only be installed by suitably competent trades people and we recommend that consumers do not attempt to purchase and install our products.

We offer a 5 year warranty in respect of all cylinders that we manufacture, but please note that our guarantee is given to the builder or installer that purchased the cylinder from us and runs from the date of manufacture. In the unlikely event that there is a problem, it is important that you refer it as soon as possible to the person or company that supplied the cylinder to you (your "Supplier"). This will usually be the person or company that sold (or leased) the property to you or the person or company that installed the cylinder for you.

If you contact your Supplier in the first instance this will enable them to determine the cause of any problem that you may be experiencing. We would not, for example, be responsible for faulty installation and by contacting us directly this may simply cause you unnecessary delay and expense.

Your Supplier can determine the cause of the problem and where the problem is caused by a fault with the cylinder itself then your Supplier can advise us accordingly. Nothing in our guarantee or in these User Instructions will affect your statutory rights.

All WH products are manufactured under an ISO9001:2008 Quality management system.

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Installer Instructions + User Guide

WH Cylinders

Direct Thermal Store

Open Vented



GENERAL INSTALLATION

BALANCED COLD CONNECTION

If there are to be showers, bidets or monobloc taps in the installation then a balanced cold supply is necessary. There is a 22mm balanced connection on the inlet control set.

If a control set is fitted it must be at least 6m down stream, usually it is under the sink where the mains feed comes into the property.

IMMERSION HEATERS

Only immersion heaters with a thermal cut-out may be used. To help ensure this the immersion heaters have a special 2¼" BSP thread for copper and steel units and 1 3/4" for stainless steel units. They are rated at 3 kW at 240 V. They have both a thermostat and a high limit cut-out. Please order the correct replacement via ourselves, fitting non-approved immersions may affect your guarantee.

When fitting, ensure the 'O' ring is positioned correctly on the head of the immersion heater and lubricate before fitting. Fit it by hand until almost home then tighten gently as the 'O' rings will seal easily. The electrical supply to each immersion heaters must be fused at 13A via a double pole isolating switch to BS3456.

The cable must be at least 2.5mm² heat resistant (85°C HOFr) sheathed flex complying to BS 6141:1981 Table 8. Do not operate the immersion heater/s until the unit is full of water. Fit the immersion thermostat into the thermostat pocket. Complete the wiring.

PRE-PLUMBED UNITS

As part of the installation and commissioning process for pre-plumbed units, it is necessary for installers to check the pipe-work for leaks as fittings could have become loose during transportation.



POSITIONING THE UNIT

Thermal Store can supply outlets above it or at some distance from it. Site the unit to minimise “dead leg” distances, especially to the point of most frequent use.

Outlets above the Thermal Store will reduce the outlet pressure available by 0.1 bar for every 1m of height difference. The unit should be protected from frost. Particular care is needed if situating in a garage or outbuilding. All exposed pipe work should be insulated.

The unit must be installed VERTICALLY on a flat base capable of supporting the weight of the cylinder when full. The minimum recommended cupboard size is 650mm square.

Access for maintenance of the valves should be considered. The immersion heaters are 375mm long and care should be taken to ensure that they can be withdrawn for servicing if required.

If installed a non-return valve must be fitted a minimum of 6m away from the cylinder.

The hot water in your home is provided by a high specification thermal storage system which will give you many benefits. This booklet will explain why and how you can get the most from it.

Operating characteristics

The domestic hot water you use at the tap is not stored but is produced instantaneously. This has the advantage of reducing the risk of contamination from things like Legionella as well as reducing the risks of scalding by allowing the temperature of the hot water at the tap to be controlled to 50°C to 55°C.

This system delivers fresh water from the mains supply to the hot taps and is designed to fulfil four basic needs.

- 1. Provide mains pressure hot water with a cylinder that does not need a costly annual service.**
- 2. Deliver hot water at mains pressure.**
- 3. Operate as efficiently as possible to cost-effectively meet your needs.**
- 4. Provide high quality water to every tap. This is possible because the water is heated instantaneously and is not stored where it can be contaminated.**

Installer Instructions

WH Cylinders

Direct Thermal Store



Depending on the wiring system within your property your installer/developer may have provided an off-peak timer in the airing cupboard of your property.

If a device is fitted it must be set to the correct time and set to synchronise with the off peak meter for correct economical operation. This should have been set when the system was commissioned but any power cuts could have altered the correct time.

THIS UNIT SHOULD BE LEFT PERMANENTLY CONNECTED TO THE OFF-PEAK ELECTRICAL SUPPLY AND NOT SWITCHED ON AND OFF WHEN HOT WATER IS NEEDED.

INSTALLERS MAY ALSO HAVE FITTED AN ON-PEAK SWITCH WHICH CAN BE USED WHEN REQUIRED TO PROVIDE A BOOST TO THE TOP PART OF THE STORE ON DAYS WHEN A LARGE AMOUNT OF HOT WATER IS REQUIRED.

Scale

An industry recognised scales inhibitor must be added to the primary side of the system to prevent scale and corrosion. Failure to do so will void the manufacturing warranty

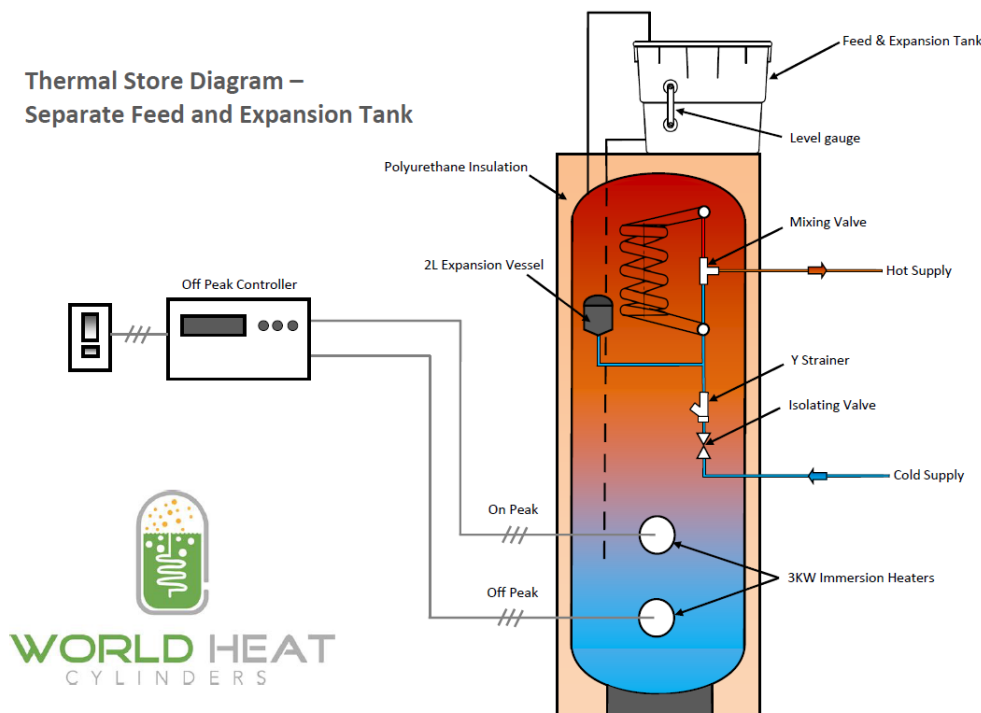
The water in the store never changes and therefore **the immersion heater elements will never scale up during the life of the product.**

As far as the water you use is concerned scale can be a problem in any of your domestic products if the water is very hard in your area.

What is a thermal store?

The Thermal Store is the heart and brain of your hot water system. It stores hot water at a constant temperature and incorporates a highly efficient heat exchanger which heats the hot water for all your domestic needs. The Thermal Store is superbly insulated and so the hot water stored has a very low heat loss.

Off-peak supplies will automatically be used to heat the thermal store. The unit can also be connected to the on-peak electricity supply, to switch the unit on at any time of the day, to provide a 'boost' to the top part of the thermal store to achieve the most efficient way of satisfying your demands on the system.



How does the system deliver hot water at high pressure?

The water delivered to the taps and showers in your home is supplied at high pressure because it uses the mains pressure of your cold water supply. The cylinder is connected to the mains system and the water passes through a highly efficient heat exchanger to raise its temperature before it travels to your taps and showers. Because it is so efficient, both high flow rates and high pressures are available to give the best performance for both baths and showers.

Plastic top up cistern

The plastic feed tank should have been filled to the correct level by the installer at the time of commissioning.

The water level in the plastic feed tank should be checked on a regular basis, generally 3-4 times a year, and topped up when necessary to the level shown on the sight glass which is fitted to the side of the tank. Not all tanks have a sight glass, but levels should be marked inside of the tank.

Once the level has been topped up or after it has been checked, ensure the lid has been securely replaced.



Installer Instructions
WH Cylinders
Direct Thermal Store with Integral F&E Tank



Filling Instructions

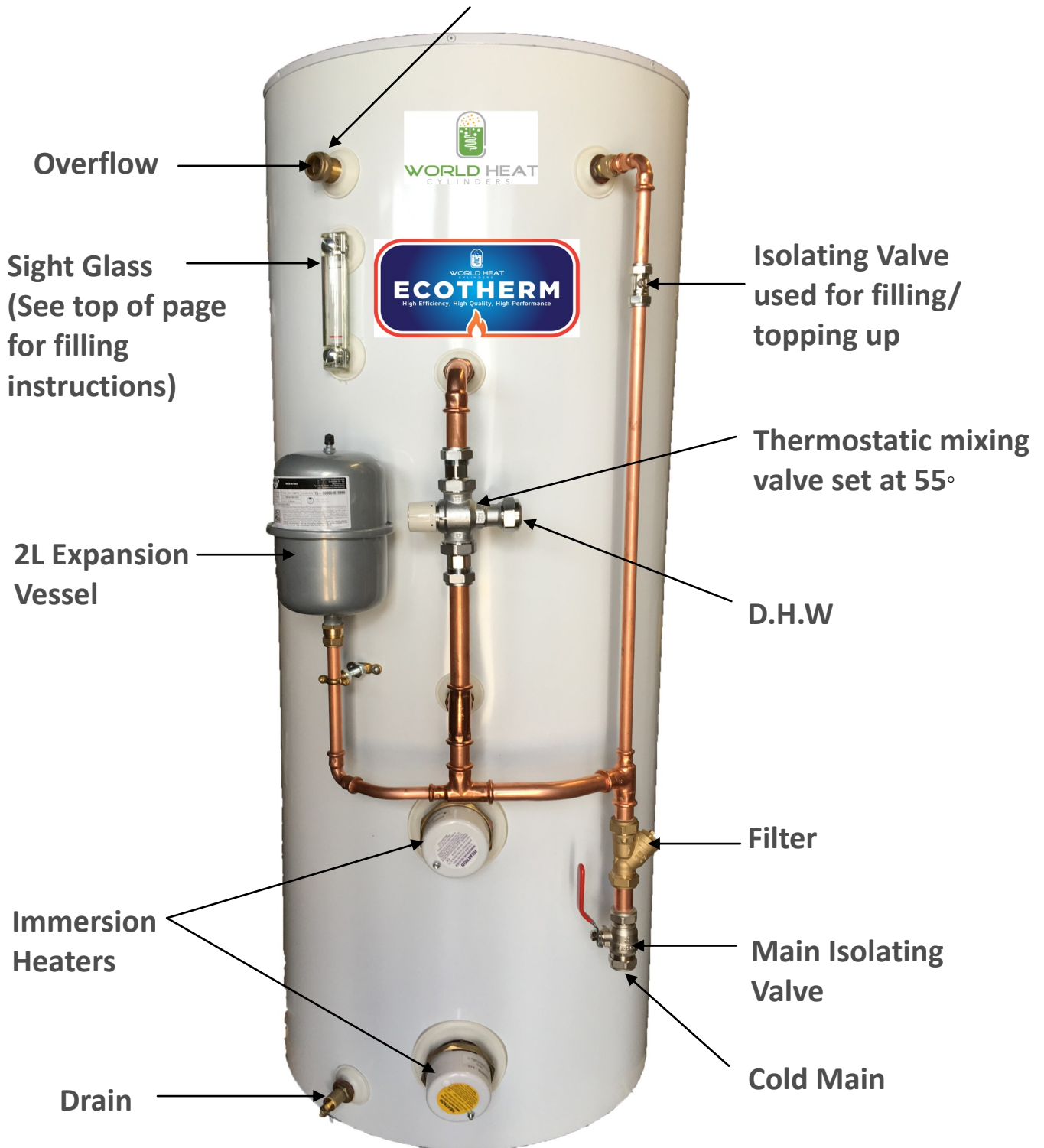
First Fill:

Fill to red line, Heat for minimum of 5 hours, then top up to black line.

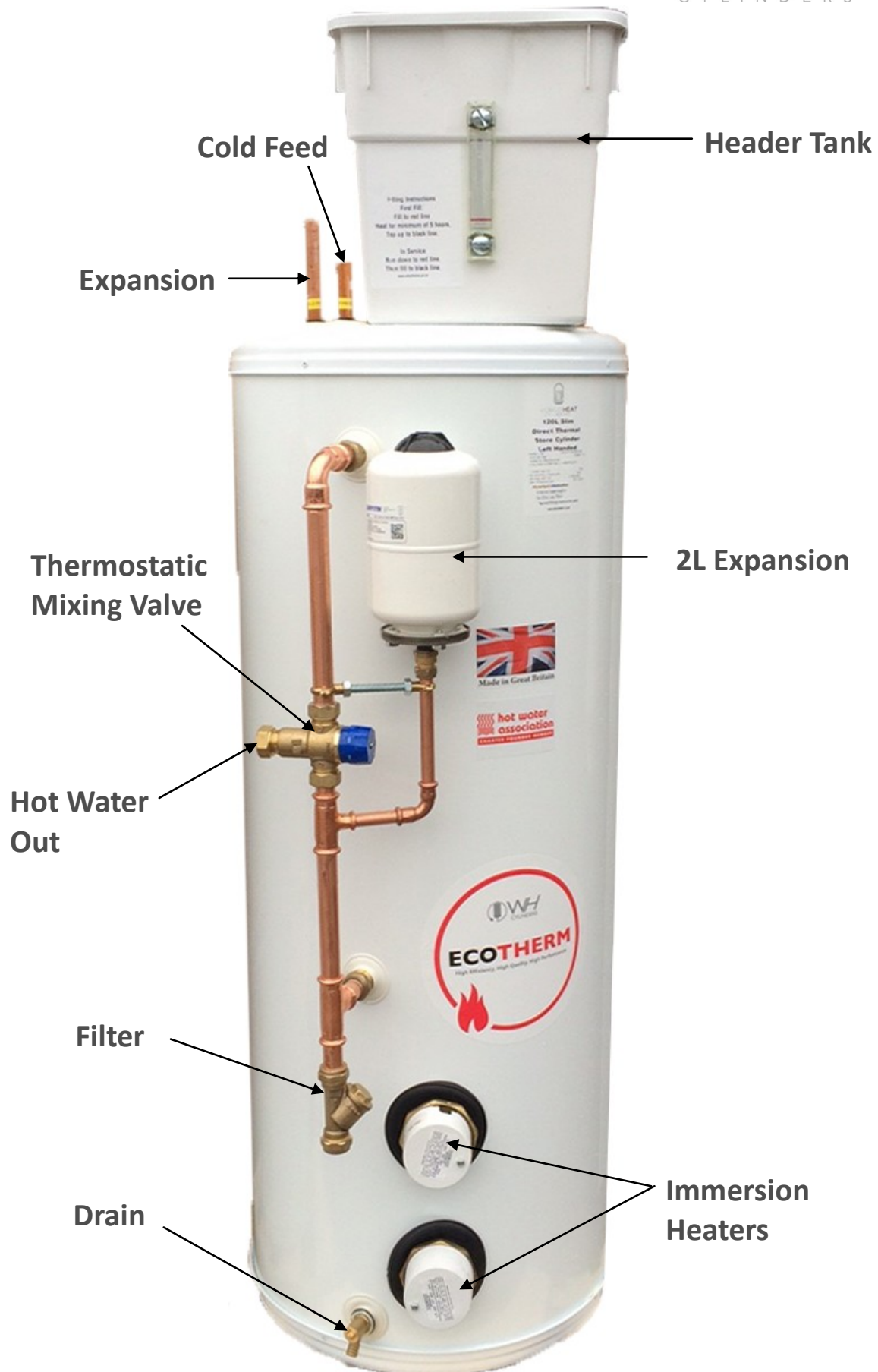
In Service:

Run down to red line, then fill to black line.

DO NOT PLUG UNDER ANY CIRCUMSTANCES



Installer Instructions
WH Cylinders
Direct Thermal Store for separate F&E Tank



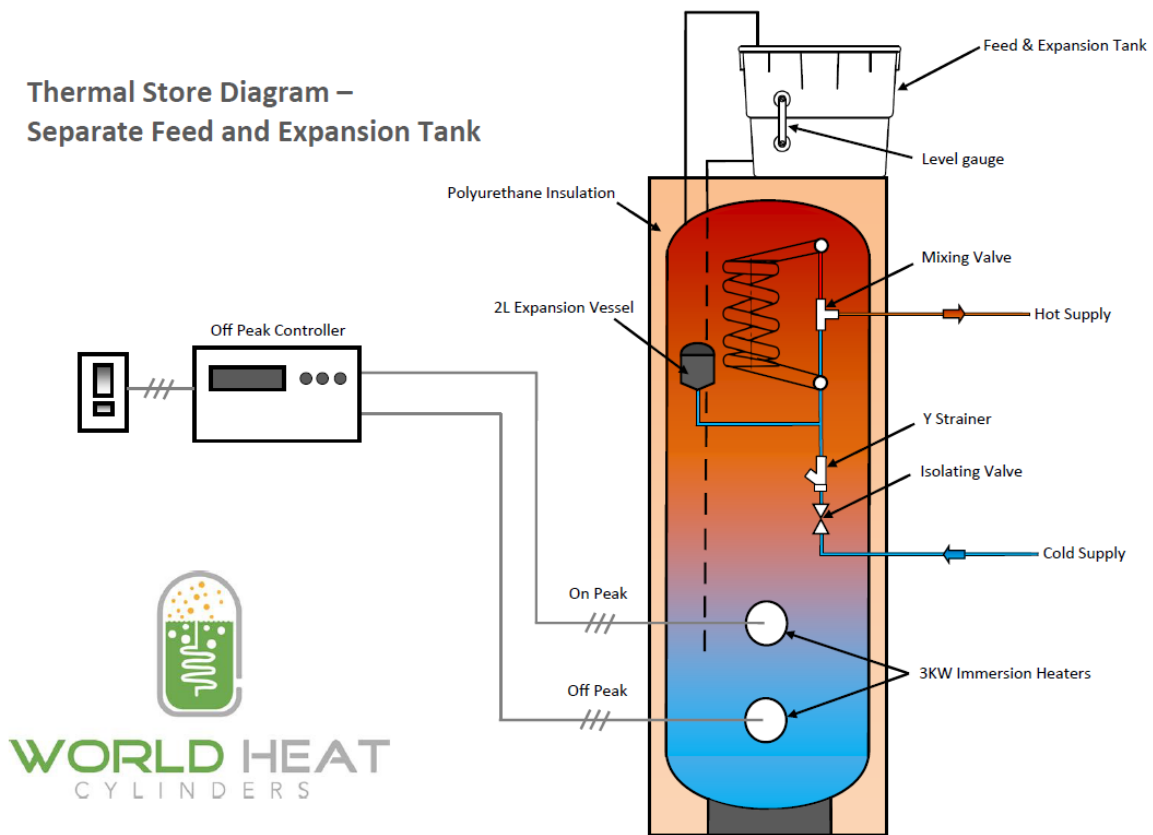
Installer Instructions

WH Cylinders

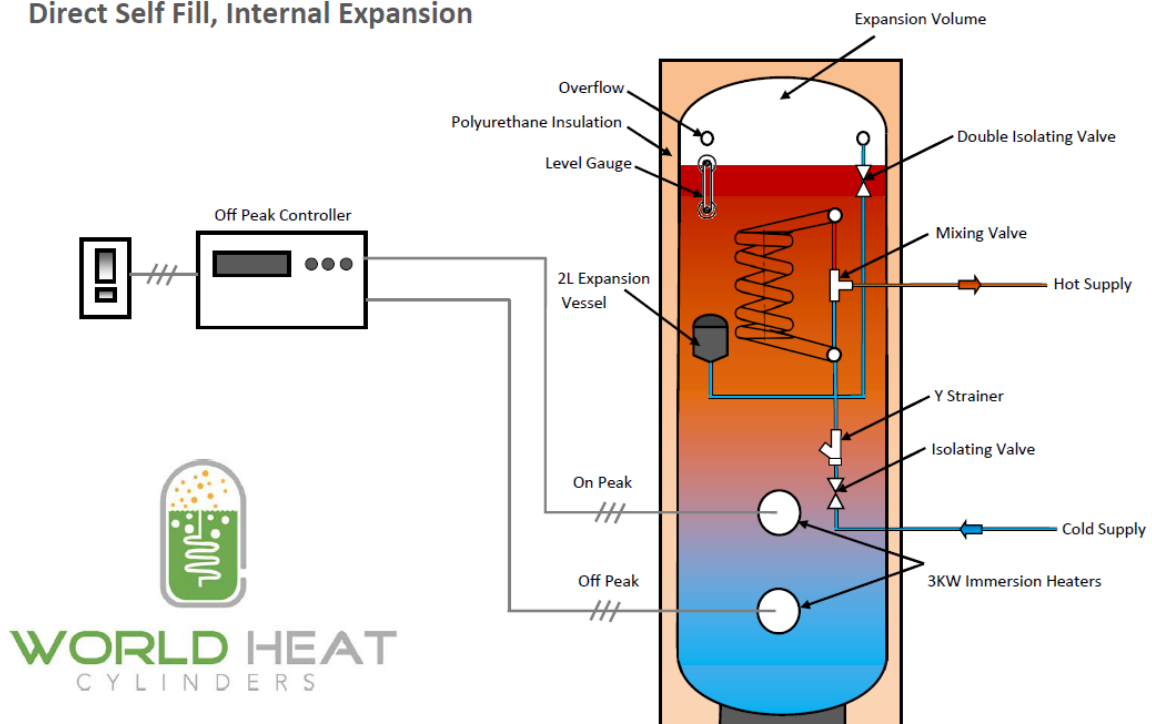
Thermal Store Diagrams



**Thermal Store Diagram –
Separate Feed and Expansion Tank**



**Thermal Store Diagram –
Direct Self Fill, Internal Expansion**



Annual Service / Safety Check

Unlike other hot water appliances which provide mains pressure hot water, such as unvented storage cylinders, there is no legally required costly annual service or safety check. However an annual maintenance is required to continue the manufacturing warranty.

What if the system develops a fault?

If there is a fault in the system then contact your installer immediately.

REMINDER

If you are considering changing your electricity supplier it is important that you ensure they are able to provide at least the same tariff. If not the operation and cost of running the appliance will be affected.

How often do I need to check my header tank?

We advise that the header tank water level is checked every three months. If you do need to top up the water level, you can help reduce the amount of water lost during operation by ensuring the lid of the header tank is securely replaced.

How much water should I add to my header tank?

The header tank should be filled with clean cold water to the level shown on the sight glass which is fitted to the side of the tank, or a mark on the inside of the tank. It is important not to overfill the tank as this can create problems.

Why do I have to manually top up my header tank?

While we acknowledge that the manual fill of the header tank can be inconvenient for some homeowners, this feature has important safety implications since it significantly reduces the potential for damage to the property.

You can install a ball cock with automatic topping up of the system. However, in the event of a leak or ball valve failure, systems which automatically fill themselves up will continue to do so indefinitely until the problem is resolved. Such issues have been responsible for causing damage to property and the implications of leaks within flatted developments can potentially be quite serious.

By contrast, the inability of the unit to top itself up means that in the event of a leak, the only water that can be lost is the water held in the cylinder at that time.

Can I turn the unit off overnight?

While you can safely turn the appliance off at any time, the unit charges overnight to take advantage of the 'off peak' cheap rate electricity. Turning the unit off overnight denies the appliance this opportunity to charge itself. This means that you will have limited hot water and will potentially have to charge the unit during the day using 'on peak' electricity at a much greater cost.

Will I save money by turning the unit off overnight?

No, turning off your unit overnight will not save money since the temperature of the water held in the store will fall and a similar or greater amount of electricity will be used when the unit is turned back on to restore the water temperature.

Will I save money by turning the unit off during the day?

No, turning the appliance off during the daytime will not save electricity. Since the unit only charges overnight, unless you are on an Economy 10 tariff or actually request a top up of hot water (by pressing your 'Boost' button on the wall) you will not use a significant amount of electricity during the day.

Should I turn my unit off when the property is empty?

We advise that if you are away from the property for less than 2-3 weeks, then leave all power switches on.

We would not therefore recommend leaving your unit switched off for several months without the appliance being drained.

Why do I get cold water when I first turn on the hot tap?

When you initially turn on the hot tap, you draw the water that has been stood in the pipe work between the unit and the tap itself. It is not until this water is drawn off that you then receive the hot water that is generated by the Thermal Store. This would be experienced with ANY boiler and is unavoidable.

I have concerns over the water quality.

The hot water which is delivered through your taps is your mains cold water which has been instantaneously heated by our appliance. This means that the hot water produced is therefore the same quality as your incoming mains supply.

You have no exposure to stored water and there is nothing our unit can do to influence the quality of your water. Thermal Store eliminates the risk of Legionella or dangerous bacterial growth affecting your hot water supply.

Why is my water so hot?

Your appliance is designed to meet with Building and Water Authority Regulations, which stipulates that hot water is routinely delivered to tap outlets at no less than 50°C – 55°C.

These temperatures prevent the growth of micro-organisms within your pipe work and eliminates the risk of Legionella and harmful bacteria within your hot water. You can therefore have absolute confidence that the hot water that you use to bath and wash with is completely safe.

Can I turn the hot water temperature down?

However, while this high temperature guarantees safe water quality, we do understand that this temperature is very hot. Older people who have more sensitive skin, may have restricted movement and be unable to react quickly. They are consequently more vulnerable to scalding, especially if 'stuck' in a bath or shower.

The temperature of the hot water cannot be 'turned down' at our appliance due to the risk of bacterial build up within your pipe work, but it can be reduced at the outlet itself through the installation of a thermostatic control.

My unit makes noise, is this normal?

Noise will generally only occur when the unit heats during the night or when requested by you during the day. The unit contains 140 – 210 litres of water, which will make some noise when heated, in the same manner a kettle will obviously make considerable noise heating a far lower quantity of water.

WARRANTY CERTIFICATE

This WH Cylinders Stainless Steel Cylinder is warranted to the owner for a period of 5 years from the date of dispatch from our factory.

This warranty protects against defects in manufacture of the cylinder only and does not cover corrosion, incorrect installation or any components supplied which carry a different length of warranty.

This certificate must be read in conjunction with our standard warranty terms & conditions which are available in our installation and service manual.



Installer Signature

Date

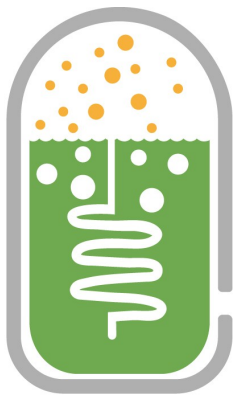
Owner Signature

Date



ISO
9001
QUALITY
MANAGEMENT
Certificate Number: FM 603227

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Approved Product



WORLD HEAT CYLINDERS



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