



McDonald
Water Storage

ECOflow

Unvented Hot Water Cylinders Technical Manual



Tel: (01592) 611123

www.mcdonaldwaterstorage.com

May 2026

Commissioning Checklist Inside

Manual must be completed by Installer and left with ECOflow or Homeowner

Contents

Introduction..... 2

Handling & Storage..... 2

The Environment 2

Design 3

Positioning..... 4

Mains Cold Water Supply 4

Water Treatment..... 5

General Schematic..... 6

Technical Data 7

Installation..... 8

Cold Mains Pipework..... 8

Pressure & Temperature Relief Valve 8

Secondary Return Circulation..... 8

Heat Pump and Solar Connection 9

Immersion Heaters..... 9

Discharge Pipework Arrangement..... 10

Discharge Pipe (Worked Example) 12

Installation Schematic: Heat Pump Solar 13

Commissioning 14

Commissioning Checklist 16

Troubleshooting 19

Warranty 20

Ancillary Descriptions 22

How to Drain the Cylinder 24

Service Record 25

Introduction

The ECOflow unvented domestic hot water cylinder range have been specifically designed to fully optimise the performance of your heat pump.

The range has been rigorously tested and developed to ensure the best efficiencies and heat up performances possible along with unrivalled thermal loss protection from the high density foam insulation.

All unvented cylinders come with all necessary safety and control devices required to connect to the cold water mains and are compliant with G3 building regulations.

All McDonald Water Storage products are manufactured under an ISO 9001 & 14001 Quality Management System.

The ECOflow unvented cylinder must be installed and maintained by a competent person as defined by the relevant regulations.

Handling & Storage

The ECOflow should be handled with care in order to avoid any damage to valves, fittings or external pipework, and mounted on level and prepared foundations.

DO NOT LIFT BY ANY FITTINGS OR EXTERNAL PIPEWORK, as this can result in loosening of connections and risking possible leaks. It is good practice to check the joints before filling with water in case anything has been loosened in transit. .

The ECOflow must be stored in an upright orientation and should be stored in a dry environment.

The Environment

This product has been manufactured using many recyclable materials, including copper and the approved HCFC/CFC free polyurethane foam insulation. At the end of its useful life, it should be disposed of at a Local Authority Recycling Centre, to maximise the products full environmental benefits.

Design

Manufacturer: McDonald Water Storage

Maximum Inlet Pressure to Pressure Reducing Valve	12 Bar
Operating Pressure (PRV Setting)	2.1 Bar
Expansion Vessel Charge Pressure	2.1 Bar
Expansion Relief Valve Setting	3.5 Bar
Opening Pressure of P & T Relief Valve	4.5 Bar
Opening Temperature of P & T Relief Valve	90°C
Energy Cut-Out Thermostat Setting	80°C
Max. Working Pressure – Primary Heat Exchanger (Indirect Models)	3.5 Bar
Max. Working Pressure – Solar Heat Exchanger (Solar Models)	6 Bar
Immersion Heater Rating	3kW, 240V AC

The table above, and throughout this manual, we refer to the settings associated with the standard 2.1 Bar operating pressure unit. For other operating pressures supplied, please see below:

Operating Pressure of the Cylinder	1.5 Bar	3 Bar
Max. Inlet Pressure to Pressure Reducing Valve	12 Bar	12 Bar
Operating Pressure (PRV Setting)	1.5 Bar	3 Bar
Expansion Vessel Charge Pressure	1.5 Bar	3 Bar
Expansion Relief Valve Setting	3 Bar	5 Bar
Opening Pressure of P & T Relief Valve	4.5 Bar	7 Bar

All cylinders are manufactured in accordance with the requirements of BS EN 12897. The Tundish must be positioned so that it is visible to the occupant and is away from electrical devices.

Positioning

The ECOflow range must be installed vertically on a stable base which must be capable of supporting the weight when the cylinder is full of water.

The minimum recommended installation space is dependant on the specification of the cylinder. Additional considerations should be made to allow space to mount the primary and secondary expansion vessels. Full specifications, weights and dimensions of the product range are provided in this booklet.

Access for maintenance of all equipment should be considered when positioning the unvented cylinder. Care should be taken that the immersion heater can be withdrawn for servicing if required these are 375mm long. Building regulation G3 should always be followed when installing discharge pipe work from the safety valves.

Any hot outlets which are higher than the cylinder will reduce in pressure by 0.1 bar for every 1m of height difference.

All exposed pipe work should be insulated and additional considerations should be taken to protect the unit from frost damage. Particular care is needed if the cylinder is to be installed in an exposed location such as an outhouse or garage.

Mains Cold Water Supply

The ECOflow range operates at 2.1 bar (see page 3 for other model settings), which is controlled by the pressure reducing valve.

The water demand requirements of a property need to be assessed and care should be made to take into account that hot and cold services are supplied simultaneously from the mains cold water feed.

The flow rate and pressure should be checked to confirm it can meet the demand of the property. Installers should ensure that the incoming mains pressure is less than 12 bar and that local authority approval for Installation of Unvented Systems is granted.

When measuring the water pressure please be aware that a static pressure (no flow) is no guarantee of good flow availability. On a domestic installation the minimum pressure and flow rate should be no less than 1.5 bar and 25 l/m respectively.

If the recommended minimum pressure or flow rate is not being achieved any existing ½”(15mm) cold mains pipe work may need to be increased in size.

Water Treatment

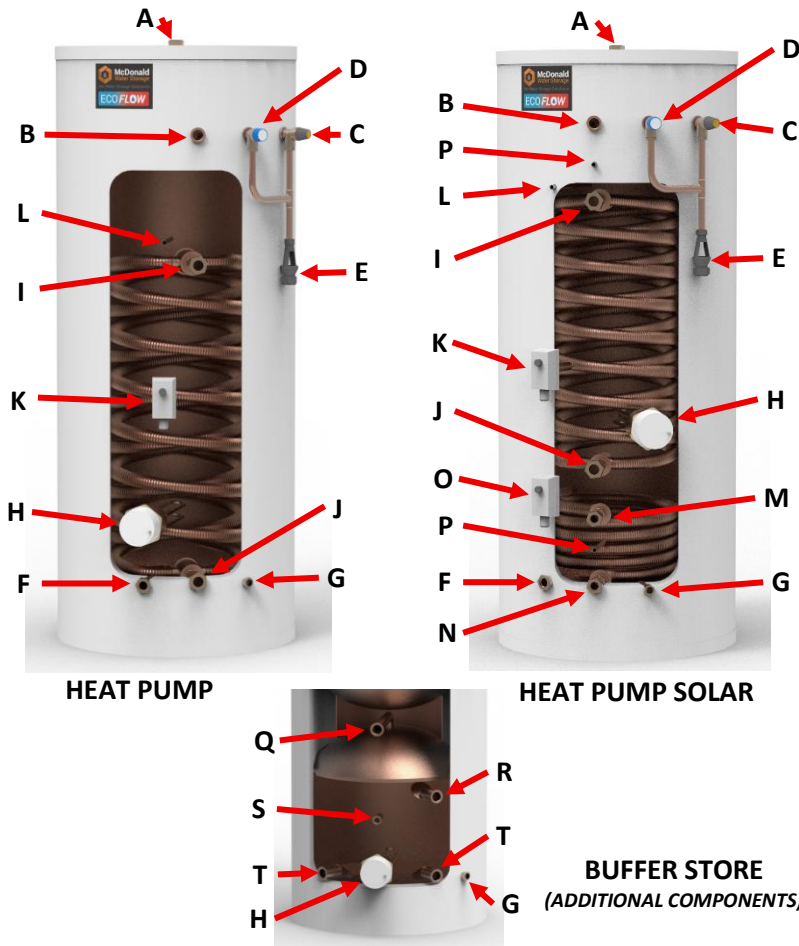
The **Building Regulations L1A: New dwellings/L1B: Existing dwellings** and the requirements set out in the **Domestic Heating Compliance Guide** specify that “where the mains water hardness exceeds **200ppm** provision should be made to treat the feed water to water heaters and the hot water circuit of combination boilers to reduce the rate of accumulation of lime scale”.

To comply with this requirement the hardness of the mains water should be checked by the installer and if necessary the optional factory fitted in-line scale inhibitor should be specified at the time of order for hardness levels between 200 and 300 ppm (mg/l).

Where the water is very hard ie 300ppm (mg/l) and above the optional polyphosphate type, inhibitor should be specified at the time of order. However, this will need to be fitted by the installer at a suitable point in the cold water supply to the appliance.

If an inhibitor is installed, please follow the inhibitors maintenance instructions and replace when required. When replacing the inhibitor, please ensure to fully flush the water system before installing the new inhibitor.

General Schematic



A	Hot Water Draw Off	K	High Limit Thermostat
B	Secondary Return *	L	Heat Pump Probe Pocket
C	P & T Relief Valve	M	Solar Coil Flow
D	Expansion Relief Valve	N	Solar Coil Return
E	Discharge Tundish	O	Solar High Limit Thermostat
F	Cold Feed	P	Solar Probe Pocket
G	Drain	Q	Flow c/w Internal Uptake Pipe
H	Immersion Heater	R	Flow c/w Baffle
I	Heat Pump Coil Flow	S	½" Female
J	Heat Pump Coil Return	T	Return c/w Baffle

*Selected Models Only

Technical Data



HEAT PUMP



HEAT PUMP SOLAR

Heat Pump / Heat Pump Solar Model Size		180	210	250	300
Capacity (Litres)		180	210	250	300
Height (mm)		1350	1550	1850	1850
Diameter (mm)		550	550	550	600
Approximate Weight (kg) Heat Pump Model	Empty	58	64	73	89
	Full	238	274	323	389
Approximate Weight (kg) Heat Pump Solar Model	Empty	63	69	78	98
	Full	243	279	323	398
Surface Area of HP Coil (m²)		3	3	3	3
Pressure Loss Across HP Coil (bar)		0.2	0.2	0.2	0.2
kW Rating of HP Coil (kW)		15	15	15	15
Surface Area of Solar Coil (m²)		1.2	1.2	1.5	1.5
Pressure Loss Across Solar Coil (bar)		0.15	0.15	0.15	0.15
Dedicated Solar Volume (Litres)		75	87	104	125
Immersion Heater		3kW Single Phase – 230V – 50hz			
Cylinder Material		Copper			
Insulation Type		White Cased Polyurethane (PU) insulation with CO² Blowing Agent			
Insulation Thickness (mm)		50	50	50	50
Standing Heat Loss (Watts)		59	65	72	80
ERP Rating		C	C	C	C

Please note all data shown above is based on the white cased models with 50mm insulation.

Installation

Please note, excessive use of flux can potentially damage the unit and especially the valves and expansion vessel. Avoid over use and ensure the system is fully flushed of any debris or flux before connection.

Cold Mains Pipework

Fit to the pressure reducing valve set at 2.1 bar (see page 3 for other model settings), which includes a serviceable strainer. We would strongly recommend this valve is fitted where the mains enters the property, but it can go wherever is most suitable for the installation, between the stopcock and the cylinder.

We recommend fitting a tee between the pressure reducing valve/check valve and cylinder to provide a balanced cold outlet for all cold taps, preventing cross flow and also providing potable water throughout the property. Outdoor taps for hoses should be taken before the pressure reducing valve.

The check valve is supplied loose, to be fitted between the pressure reducing valve and before the expansion vessel on the cold feed. Any balanced cold draw off should be fitted between the pressure reducing valve and the check valve.

Pressure & Temperature Relief Valve

The pressure and temperature relief valve is set at 90°C and 4.5 bar, and the expansion relief valve set at 3.5 bar, should be fitted and connected to the tundish (as shown opposite). Note, the relief valves are only used for relief discharge purposes.

No valves should be fitted between the relief valves and the cylinder.

Secondary Return Circulation

All models 180 litres and above are fitted with a secondary return tapping as standard. Where a secondary circulation loop is greater than 15% of the unit capacity, an extra expansion vessel may be required to ensure expansion of the additional volume is absorbed.

A non-return valve MUST be FITTED near the return connection. No valve or terminal fitting should be installed between the non return valve and the cylinder.

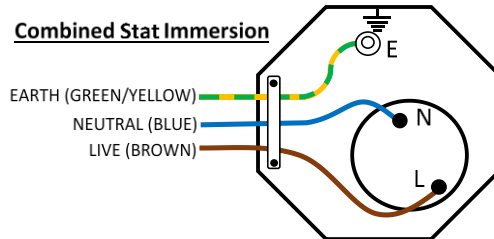
Heat Pump and Solar Connection

The heat pump should be wired using the high limit thermostat to ensure power is cut to the heat pump once cylinder reaches temperature. Please refer to the heat pump equipment instructions for further details.

The solar controller should be wired using the solar high limit thermostat to ensure power is cut to the solar pump in the event of an overheat situation. Please refer to the solar equipment instructions for further details.

Immersion Heaters

- The Immersion Heater thermostats are preset with the control setting at **60°C** and the high limit setting at **80°C**. The control setting can be lowered or increased as required for the installation requirements
- If in any doubt of how to set the Immersion or what temperature we would advise for specific installations, please contact us on **01592 611123**.
- All Immersion Heaters should be wired by a **qualified electrician**, as shown in the literature provided with the Immersion



- All electrical wiring to thermostats, zone valves and immersion heaters must be earthed and to current IEE Wiring Regulations. The fuse should generally be 3 Amps but refer to component instructions to confirm this.

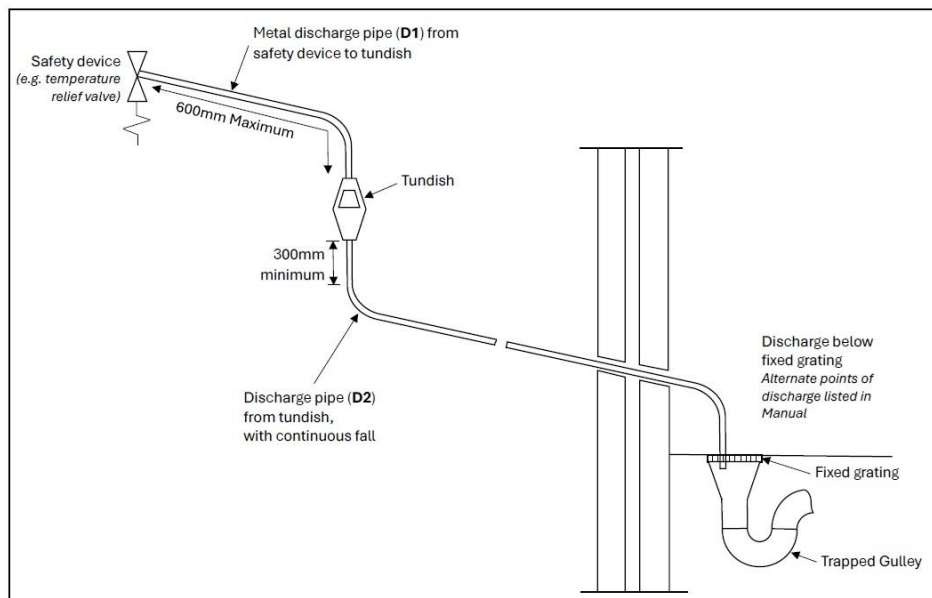
Discharge Pipework Arrangement

The Discharge Pipework must be routed in accordance with Part G3 of schedule 1 of the Building Regulations. The information that follows is not exhaustive. If you are in doubt, seek advice.

The Discharge from both the safety valves (temperature and expansion relief) can be joined together via a 15mm end feed Tee. The two safety valves will only discharge water under fault conditions. When operating normally water will not be discharged.

The tundish should be vertical, located in a visible position, in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the safety device, with no more than 600mm of pipe between the valve outlet and the tundish.

Any Discharge should be visible at the tundish. In addition, where discharges from safety devices may not be apparent, e.g. people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.



The discharge pipe (D2) from the tundish should:

- A) Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.
- B) Be installed with a continuous fall of at least 1 in 200 thereafter.

Note: The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges

Note: D2 pipe from tundish is now allowed to be installed in soil stacks within premises. This activity is not recommended as discharge from P&T may continue for long periods of time. It is the installer's responsibility to ensure the discharge pipework can support the discharge for prolonged periods. If used follow guidance on mechanical seal without water trap given in G3 Building Regulations. As discharge can be in excess of 90°C discharge into plastic pipe work is also not recommended.

The discharge pipe (D2) from the tundish should be of metal or other material that has been demonstrated to be capable of withstanding temperatures of the water discharged. The discharge pipe (D2) should be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 sizes larger, and so on. Bends must be taken into account in calculating the flow resistance. Refer to Diagram (**Page 10**) and Worked Example (**Page 12**).

An alternative approach for sizing discharge pipes would be to follow Annex D, section D.2 of BS 6700:2006 + A1:2009 *Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages*.

The discharge pipe (D2) should terminate in a safe place where there is no risk to persons in the vicinity of the discharge. Examples of acceptable discharge arrangements are:

- To a trapped gully with the end of the pipe below the fixed grating and above the water seal.
- Downward discharges at a low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact whilst maintaining visibility.
- Discharges at a high level; e.g. in to metal hopper and metal down pipe with the end of the discharge pipe clearly visible or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering systems that would collect such discharges.
- Device to warn when discharge takes place.

Discharge Pipe (Worked Example)

The example below is for a G1/2 temperature relief valve with a discharge pipe (D2) having 4 No. elbows and length of 7m from the tundish to the point of discharge.

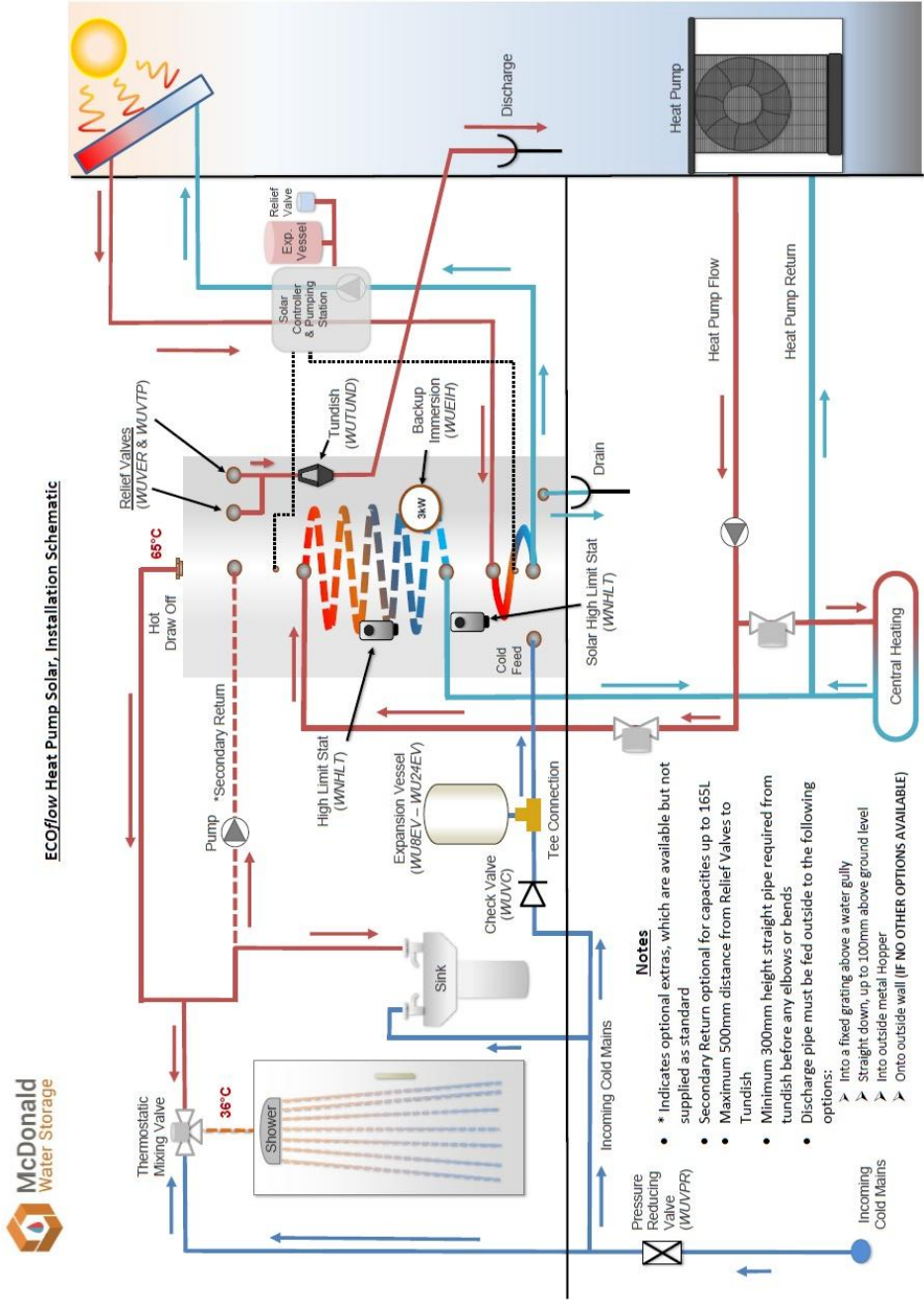
Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is: 9.0m. Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m.

Therefore the maximum permitted length equates to: 5.8m. 5.8m is less than the actual length of 7m therefore calculate the next largest size.

Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valve equates to: 14m. As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

Sizing of copper discharge pipe ‘D2’ for a temperature relief valve with a G1/2 outlet size (as supplied)		
Size of Discharge	Maximum length of straight pipe (no bends or elbows)	Deduct the figure below from the maximum length for each bend or elbow in the discharge pipe
22mm	Up to 9m	0.8m
28mm	Up to 18m	1m
35mm	Up to 27m	1.4m

Installation Schematic: Heat Pump Solar



Commissioning

The below is a recommended guide of actions and checks that should be undertaken during commissioning:-

DO

- ✓ **During commissioning, complete all relevant sections of the Commissioning Checklist (Page 16 - 18). This must be completed during commissioning and left with product to meet the Warranty conditions.**
- ✓ Check and tighten pipework where applicable.
- ✓ Fit the Pressure Reducing Valve to the Incoming Mains and check it has been set to the correct Pressure.
- ✓ Ensure all Cold Feed Components (Pressure Reducing Valve, Check Valve & Expansion Vessel) have been installed in the correct order as shown on schematics (**Page 13**) and in flow direction towards the ECOflow.
- ✓ Ensure that connections are fitted in accordance with the sketch supplied.
- ✓ Ensure the drain is connected to allow draining of the unit if required.
- ✓ Ensure all pipework is secured with external supports and not by the ECOflow itself.
- ✓ Allow 100mm clearance on any face of the unit with pipework / connections and allow minimum 200mm between the top of the tank and ceiling to allow access for top pipework / connections
- ✓ Check all connections including factory made, prior to and after installation, including pipework, immersion heaters, components etc.
- ✓ Check all ECOflow controls (e.g. High Limit Stat, Immersion Heaters etc.) and inspection points (e.g. Discharge Tundish etc.) have suitable access for inspection, servicing and maintenance.
- ✓ Check the Drain valve is closed before filling.
- ✓ Open the furthest tap from the ECOflow and gradually open the main cold isolation valve to fill the ECOflow. Once water flows from furthest tap, allow it to run for a short while to flush the system, then close the tap.
- ✓ Run all taps and other hot outlets to remove all air from the system.
- ✓ Check for leaks throughout the system.
- ✓ Manually open the Expansion Relief Valve for a few seconds, and check the discharged water runs freely through the discharge pipework.
- ✓ Manually open the Pressure & Temperature Relief Valve for a few seconds, and check the discharged water runs freely through the discharge pipework.
- ✓ Immersion Heaters should be set at 60°C to meet users' hot water requirements (**See Page 9**)

- ✓ Fill the primary circuit in accordance with the heat pump manufacturers commissioning instructions. Once filled, switch on the heat pump and allow the ECOflow to heat up.
- ✓ Check the High Limit Stat operates correctly during the heating cycle.
- ✓ Check that no water is discharged from either the Safety Valve or Pressure & Temperature Relief Valve during the heating cycle.
- ✓ Ensure that all exposed pipework on the ECOflow is insulated to minimise any heat losses.

DON'T

- ✗ Use a combined feed and vent.
- ✗ Place any clothing or other combustible materials against or on the ECOflow.

Commissioning Checklist

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST
This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.
Failure to install and commission this equipment to the manufacturer’s instructions may invalidate the warranty but does not affect statutory rights.
Customer Name:
Telephone Number:
Address:
ECOflow Make & Model:
Production Number:
Commissioned by (PRINT NAME):
Company Name:
Telephone Number:
Company Address:
Commissioning Date:

ALL SYSTEMS

What is the incoming static cold water pressure at the inlet to the system?				Bar
Has cold mains strainer been cleaned of installation debris?	Yes		No	
What is the maximum flow rate at set thermostat temperature (measured at high flow outlet)?				L/min
Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?	Yes			
Type of control system (if applicable)	Y Plan		S Plan	
			Other	
What temperature is the Hot Water Thermostat set to?				°C
If fitted, what is the Immersion Heater thermostat temperature?				°C
What is the hot water temperature at the nearest outlet?				°C
What is the maximum hot water temperature at the nearest outlet?				°C
Is the cylinder solar (or other renewables) compatible?	Yes		No	
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed?	Yes			

ALL SYSTEMS PRIMARY SETTINGS (Indirect Heating Only)

Is the primary circuit a sealed or open vented system?	Sealed		Open	
What is the maximum primary flow temperature?				°C
Is the installation in a hard water area (above 200ppm)?	Yes		No	
If yes, has a water scale conditioner/inhibitor been fitted?	Yes		No	
What type of scale conditioner/inhibitor has been fitted?				

UNVENTED SYSTEMS ONLY				
Where is the pressure reducing valve situated (if fitted)?				
What is the pressure reducing valve setting?				Bar
Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested?	Yes		No	
The Tundish and Discharge pipework has been connected and terminated to Part G of the Building Regulations				Yes
Are all energy sources fitted with a cut out device?	Yes		No	
Has the expansion vessel been checked?	Yes		No	

ALL INSTALLATIONS		
The hot water system complies with the appropriate Building Regulations.	Yes	
The system has been installed and commissioned in accordance with the manufacturer's instructions.	Yes	
The system controls have been demonstrated and understood by the customer.	Yes	
The manufacturer's literature, including this Checklist, has been explained and left with customer.	Yes	

Commissioning Engineer's Signature:
Customer's Signature:
(To confirm satisfactory demonstration and receipt of manufacturer's literature)

Troubleshooting

Below contains a troubleshooting and solution guide to the ECOflow. If this table does not resolve your problem, please contact either your installer or phone McDonald Water Storage Technical Team for further advice.

SYMPTOM	SOLUTION
The water at the tap is lukewarm or cold.	The ECOflow is designed to work best when the store temperature is at or approaching 60 - 65°C; Ensure that the all indirect sources (e.g. Heat Pump) are working and allow sufficient time for the store to reach working temperature. A qualified electrician should check that the immersion heaters are working, the control thermostat is set at 67°C, the safety cut-out has not tripped, and receiving the correct supply at the correct time (off-peak).
Water discharges whilst Cylinder is heating	1) If water is occasionally discharging as the water is heated, this would indicate the Expansion Vessel needs recharging. Switch off all power to the cylinder and recharge the vessel (as below). 2) If water is continually being discharged, firstly check with a gauge that the pressure allowed through the pressure reducing valve does not exceed the set pressure. If it does, remove filter and clean. For both instances, check the charge in the Expansion Vessel. If recharge is required, close the mains stopcock and open a hot outlet. Connect the pump with gauge to the air inlet on the Vessel and charge to the same as the pressure reducing valve. If after recharging the Expansion Vessel the cylinder is still discharging, this may be a result of cross flow. Ensure appropriate check valves are fitted.
Not enough hot water.	Check the heat sources and their input in (kW) to the store as this will be lower than the kW output which will result in the store not producing enough heat for the exchanger to provide heated mains pressure water.

Flow rate from taps has dropped	This could be debris blocking the water flow. Check any installed Strainers have been cleaned of debris.
Overheated Hot Water Discharge	In the unlikely event of overheated (90°C) water being discharged, the heat source (i.e. Immersion Heaters or Heat Pump) should be switched off immediately and a qualified engineer must be contacted. Ensure that the discharge of hot water or steam at the final discharge point causes no danger and is not likely to injure anyone. DO NOT SHUT OFF THE COLD WATER SUPPLY TO THE UNIT. DO NOT RE-USE UNTIL CHECKED AND REPAIRED. ENSURE COMPONENTS ARE ISOLATED FROM ELECTRICITY BEFORE INVESTIGATION. Once cold water has entered the unit and displaced the overheated water thus cooling it, check the thermostat and energy cutout in the following: 1) Immersion Heater(s) 2) Thermostat(s) 3) Heat Pump Identify the faulty component and replace with the correct component as supplied by the manufacturer and ensure that it works before re-commissioning the system. DO NOT, FOR ANY REASON, BYPASS AN ENERGY CUTOUT.

Warranty

McDonald Water Storage guarantee the ECOflow shell against material defect or manufacturing fault for a period of 5 years from the date of delivery. This is extended to 25 years once the unit has been registered online on our website:

<https://www.mcdonaldwaterstorage.com/>

Components are guaranteed for 2 years.

The above product guarantee is valid provided:

- It has been installed by a competent installer in accordance with the instructions detailed in our installation manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- No factory fitted parts have been removed for unauthorised repair or replacement and the product has not been modified.
- All parts supplied loose with the unit must be fitted unless agreed in writing by McDonald Water Storage.

- Any replacement parts should be purchased from McDonald Water Storage.
- The hot water store has only been used for the storage of potable water supplied from the public mains (Max – 200mg/litre chloride). And treated as detailed in the installation instructions.
- The water quality shall be in accordance with **European Council Directive 98/93 EC**, or revised version at the date of installation, and is not fed with water from a private supply. Particular:
 - Chloride content: Max. 200mg/l
 - Sulphate content: Max. 200mg/l
 - Combination chloride/sulphate: Max. 300mg/l (in total)
- It has not been subject to wrong or improper use, left uncared for, or subjected to scale or frost damage.
- In accordance with the **Building Regulations L1A: New Dwellings/ L1B: Existing Dwellings**, the requirements set out in the **Domestic Building Services Compliance Guide** specify that “where the mains water hardness exceeds 200ppm provision should be made to treat the feed water to water heaters and the hot water circuit of combination boilers to reduce the rate of accumulation of lime scale”.
- Where appropriate the unit has been serviced annually by a competent, licenced engineer in accordance with the requirement set out in the installation manual.
- The Commission Checklist Service Record included in our manual has been completed and updated after each annual service where required.
- Any disinfection has been carried out strictly in accordance with **BS 6700**.
- For heavy use installation where constant usage / reheat is required titanium immersion heaters should be fitted.
- Please note, defects caused by corrosion or scale deposits are not covered by any guarantee.
- Without prejudice to any other term, we shall not be liable for any water damage caused directly or indirectly as a result of any leak or other defect in the goods. We cannot control the conditions of use of the goods or the time or manner or location in which they will be installed and the purchaser agrees to be fully responsible for testing and checking all works which include the goods at all relevant times (up to, including and after commissioning) and for taking all necessary steps to identify any leaks and prevent any damage being caused thereby.

Please see our full Terms & Conditions on our website:

<https://www.mcdonaldwaterstorage.com/>

Ancillary Descriptions

The following spare parts are available to purchase from the Website, with additional information provided.

Follow the link below;

<https://www.mcdonaldwaterstorage.com/store/spares>

or phone the office on **(01592) 611123**.

Note that all listed Ancillaries are Standard Stock Spares. If the ECOflow requires a bespoke Ancillary, phone the office for further details.

Pressure Reducing Valve	22mm Pressure Reducing Valve Pre-set 2.1 Bar (WUVPR)	
	22mm Pressure Reducing Valve Pre-set 3 Bar (WUVPR3)	
	22mm Pressure Reducing Valve Pre-set 1.5 Bar (WUVPRC)	
Check Valve	22mm Check Valve (WUVC)	
Thermostat	High Limit Thermostat (WNHLT)	
Immersion Heater	3kW Immersion Element Preset to 60°C, High Limit set 80°C (WUEIH)	

Expansion Vessels	8 Litre Expansion Vessel (WU8EV)	
	12 Litre Expansion Vessel (WU12EV)	
	18 Litre Expansion Vessel (WU18EV)	
	25 Litre Expansion Vessel (WU25EV)	
	35 Litre Expansion Vessel (WU35EV)	
Tee Connections (For Expansion Vessels)	22mm x ¾" Tee Connection (WUFTS) (for WU8EV)	
	22mm Tee Compression (WP22T) (for WU12EV – WU35EV)	
Tundish	15mm x 22mm Discharge Tundish (WUTUND)	
Expansion Relief Valve	15mm x ½" Exp. Relief Valve Pre-set 3.5 Bar (WUVER)	
	15mm x ½" Exp. Relief Valve Pre-set 3 Bar (WUVER3)	
	15mm x ½" Exp. Relief Valve Pre-set 5 Bar (WUVER5)	

Pressure & Temperature Relief Valve	15mm x ½" P&T Relief Valve Pre-set 4.5 Bar (WUVTP)	
	15mm x ½" P&T Relief Valve Pre-set 7 Bar (WUVTP7)	

How to Drain the Cylinder

- Before draining the cylinder, ensure power to the Immersion Heater is isolated to prevent the element from burning out.
- Open the nearest hot tap to allow air back into the system and prevent a vacuum being pulled in the cylinder.
- Shut the cold feed valve to isolate the cylinder from the mains cold feed.
- Securely connect a hose pipe to the drain connection on the cylinder and take the other end to a nearby waste or soak-away. The drain point should be below the level of the cylinder to ensure that the maximum amount of water is drained from the cylinder.

CARE MUST BE TAKEN AS THE DRAINING WATER MAY BE HOT!

Service Record

The ECOflow should be serviced at least once a year by a **G3 Qualified Engineer**, and that the appropriate Service Record is completed. Failure to maintain this system in accordance with these instructions will invalidate the manufacturer's warranty.

Before completing the appropriate Service Record below, please ensure the service has been carried out as described in the manufacturer's instructions, and the following service checks have been performed:

Pressure Reducing Valve:- Clean the mesh filter in the Pressure Reducing Valve. To do this, close the mains stopcock, remove the cartridge, clean and replace.

Immersion Heaters:- Check that the installed Immersion Heaters are working and the internal thermostat is controlling the water at the required temperature.

Expansion Relief Valve:- Manually open the twist cap and check the water is discharged, runs clearly through the discharge pipework and out at the final discharge point. Ensure that the valve reseats/reseals itself.

WARNING: THE DISCHARGING WATER MAY BE HOT!

Pressure & Temperature Relief Valve:- Repeat the previous procedure. Ensure that the valve reseats/reseals itself.

Expansion Vessel:- Check the Pressure via the Air Inlet (under the black cap) of the Vessel, whilst a hot tap is running. Ensure the pressure is as per product specification. If recharge required, close the mains stopcock and open a hot outlet. Connect a pump with gauge to the Air Inlet and charge to the same as the Pressure Reducing Valve.

Maintenance of other ancillaries (e.g. pumps, inhibitors etc.) must be carried out in accordance with the instructions supplied for these items by their respective manufacturers.

SERVICE 01	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 02	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 03	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 04	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 05	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 06	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 07	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 08	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 09	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

SERVICE 10	Date:
Engineer Name:	
Company Name:	
Telephone No:	
Comments:	
Signature	

Attach additional paperwork for all subsequent services



McDonald Water Storage

Hot Water Storage Solutions

**Queensway Industrial Estate
Glenrothes
Fife
KY7 5QF**

Tel: (01592) 611123

Fax: (01592) 611166

Email: sales@mcdonaldwaterstorage.com



The HWA Charter Statement requires that all members adhere to the following:

- To supply fit for purpose products clearly and honestly described
- To supply products that meet or exceed appropriate standards and building and water regulations
- To provide pre and post technical support
- To provide clear and concise warranty details to customers