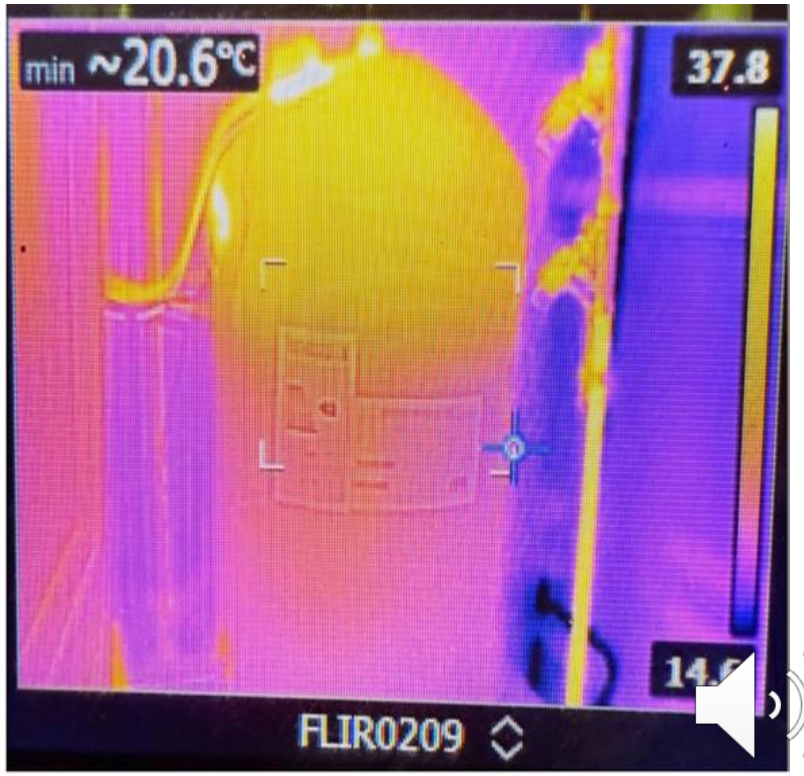
Fitting Instructions For An Affordable Heat Store – Vented and Unvented Cylinders

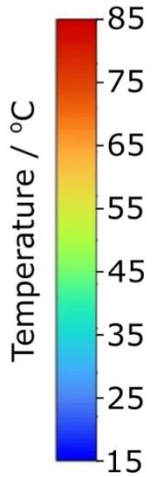
Any existing hot water cylinder can be converted into an affordable heat store

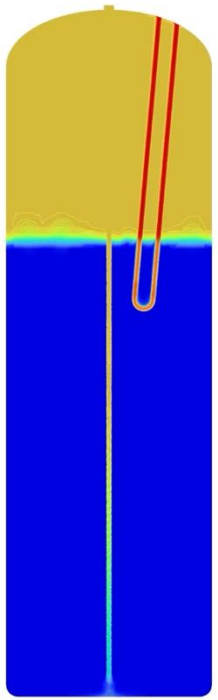
Adding an affordable heat store reduces carbon usage throughout the year and in the summer your fossil fuel boiler can be switched off.



WrightChoice Affordable Hot Water Heat Store – VENTED AND UNVENTED CYLINDERS

- An Affordable Heat Store transfers small quantities of hot water from the top of a cylinder to the bottom whist maintaining a perfect thermocline.





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3D MODELLING HAS VALIDATED THE DEVICE WHICH CREATES A PERFECT THERMOCLINE WHEN STORING ENERGY

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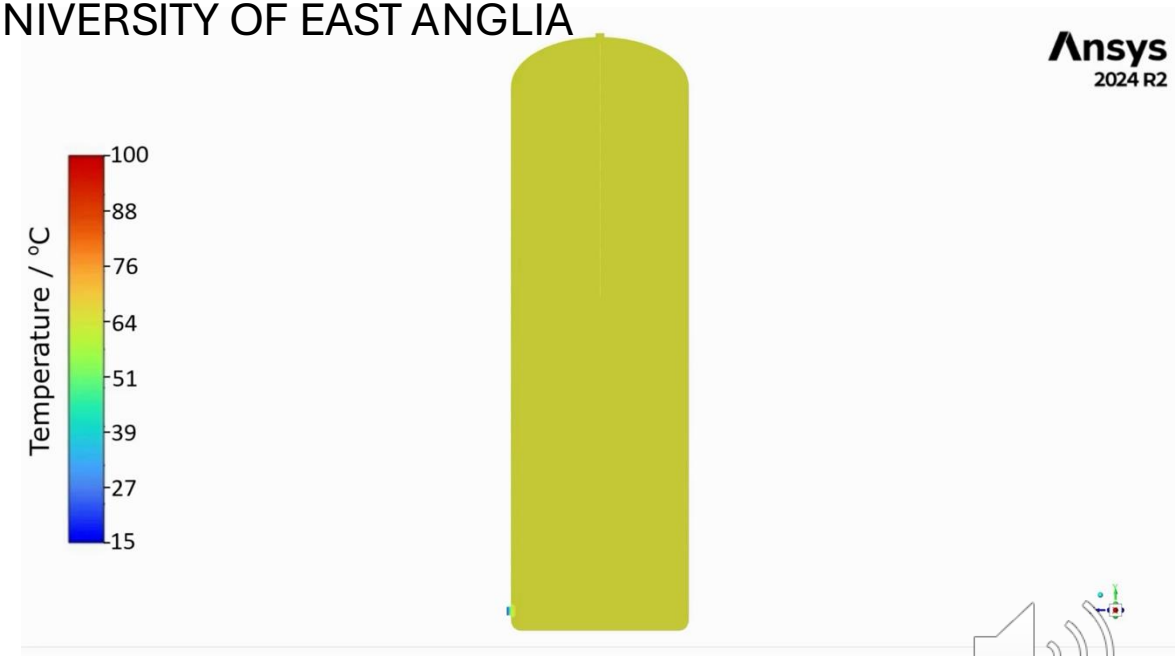
A standard hot water cylinder with a heat store device and flow control. VENTED AND UNVENTED CYLINDERS

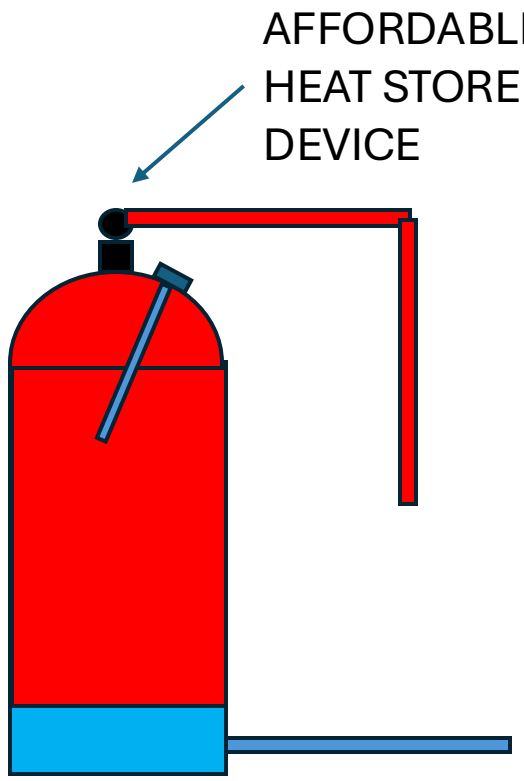
- Heat the top third of the tank when you only want a little hot water.
- Heat the entire tank of water when electricity is cheap

ALL MODELLING VIDEOS SUPPLIED BY THE UNIVERSITY OF EAST ANGLIA

3D MODELLING HAS
VALIDATED THE THERMOCLINE
IN A STANDARD CYLINDER
WITH A TANK DEVICE AND
FLOW CONTROL IS PERFECT.



Fitting Instructions For An Affordable Heat Store



Unvented Cylinder Without Water Storage

WHETHER YOU ARE FITTING THE TANK DEVICE TO THE TOP OF THE CYLINDER IN A VENTED OR UNVENTED CYLINDER, THE FITTING OF THE TANK DEVICE IS THE SAME

Fitting Instructions For An Affordable Heat Store

Plastic Dip Tube
This long plastic dip tube takes hot water from the top of the cylinder to the bottom. Do not worry if it is too long because the validation study proved that as long as it reaches the bottom or more it works just as well.

Fitting Instructions For An Affordable Heat Store

15mm x 22mm x 22mm compression tee
This tee fits directly on top of the primary outlet from the hot water cylinder and replaces the 90-degree elbow that is normally there. You may wish to add an additional fitting to raise the assembly to allow for additional insulation wrap

Fitting Instructions For An Affordable Heat Store

10mm x 15mm x 22mm x 22mm four-way cross

Fits on top of the 15mm x 22mm x 22mm compression tee.

Replaces the function of the 22mm x 22mm 90 – deg elbow.

Blanked off 15mm outlet which could be used for venting the cylinder.

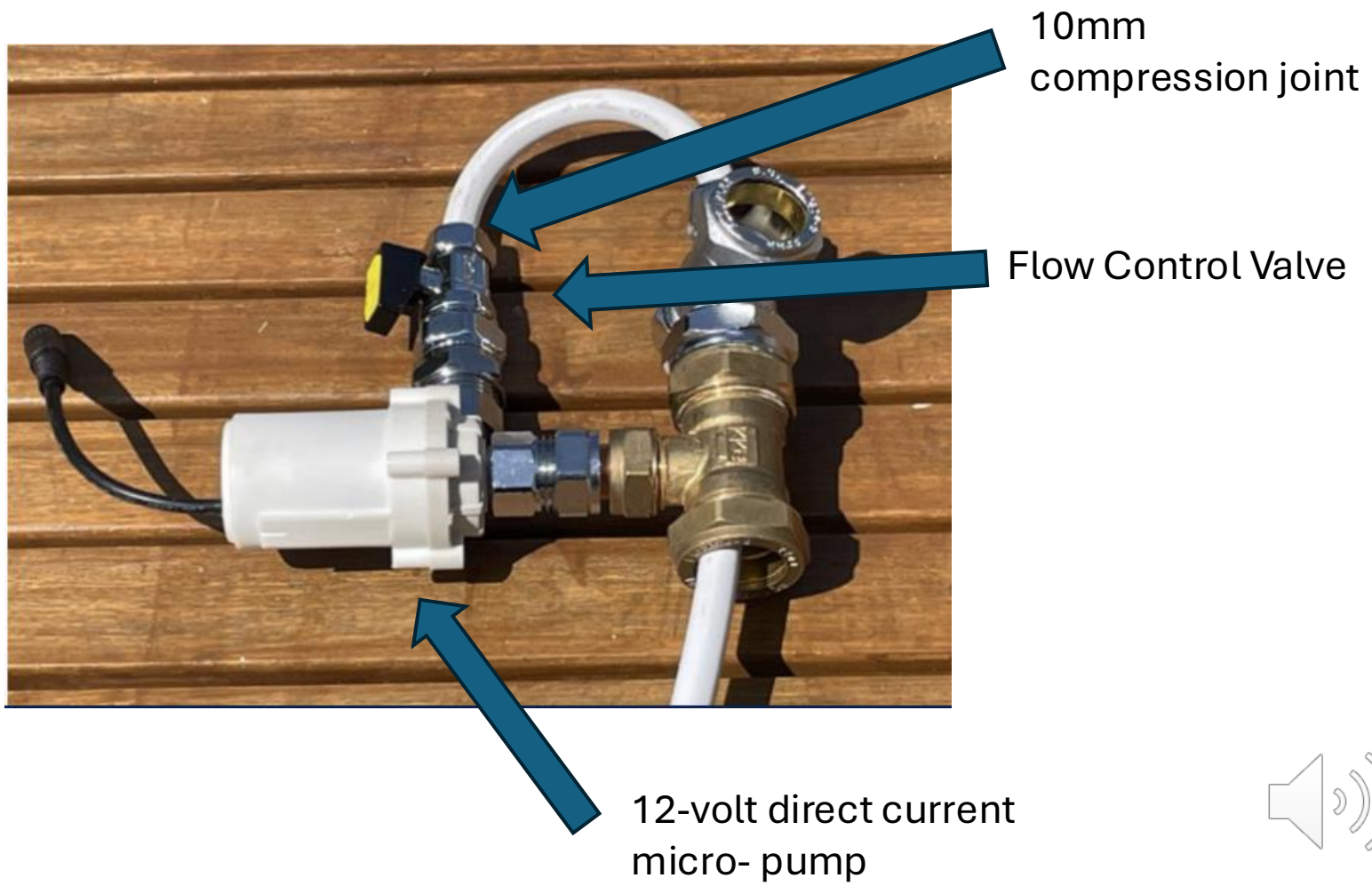
Fitting Instructions For An Affordable Heat Store

To set up the device you need to prime the pump.

Pump at 8 litres a minute to flush out the air from the 10mm dip tube.

Reduce the flow for ‘normal operation’ which is 1.5 to 3.0 litres a minute.

ALL IS EXPLAINED IN THE NEXT SLIDE.

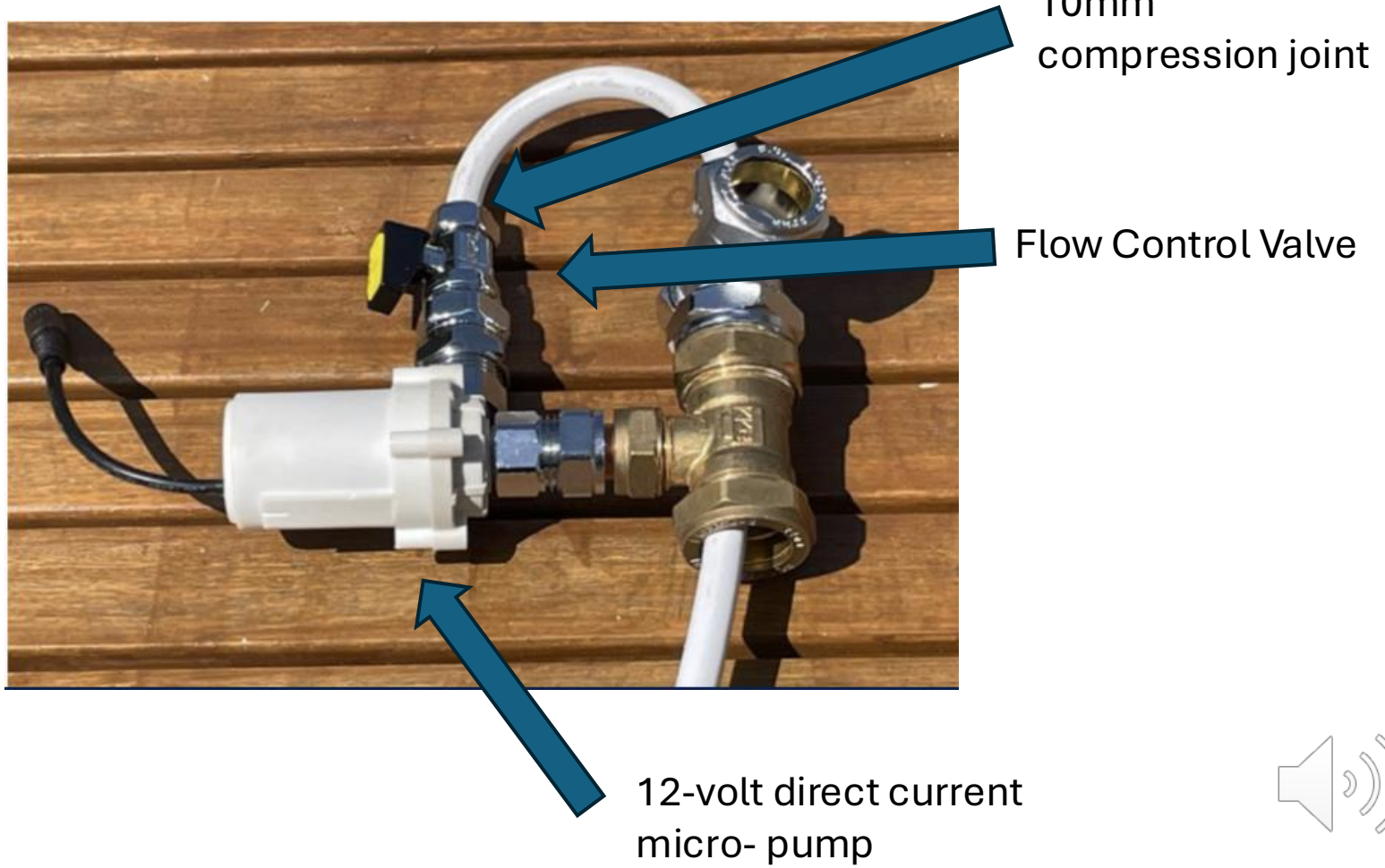


Fitting Instructions For An Affordable Heat Store

Priming the micro pump
Open the flow control valve fully.
After fitting the assembly the water level should rise to the level of the 10mm compression joint without using the 10mm compression joint as an air bleed. This will self prime the micro pump.

Run the pump with the valve fully open.
This will flush the air from the 10mm dip pipe. After flushing out the air (you will here the bubbles),

Close the valve fully and note the tone of the pump – then reopen it just enough for the tone to change.



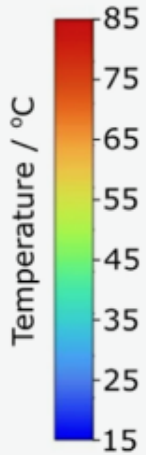
THERMAL INSULATION OF TANK

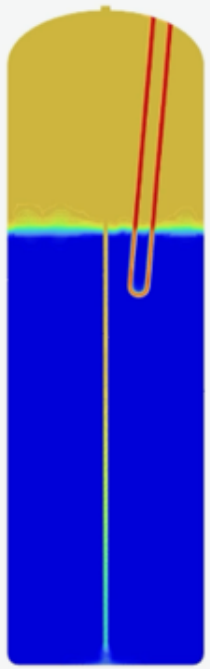
Tank Insulation is required to limit the heat loss to 36 Watts Per Hour
A standard 210 Litre cylinder with at least 80mm of factory applied insulation, then wrapped with 3 to 5 layers of High-Performing Multifoil Insulation will limit the heat loss to 36 watts per hour.

Water heated to 65 Deg Centigrade will store 6 KW Hrs of energy which is enough for 6 perfect showers when electricity is expensive.

The hot water cylinder will lose .9 Kw a day through heat loss.

Operating Instructions For An Affordable Heat Store





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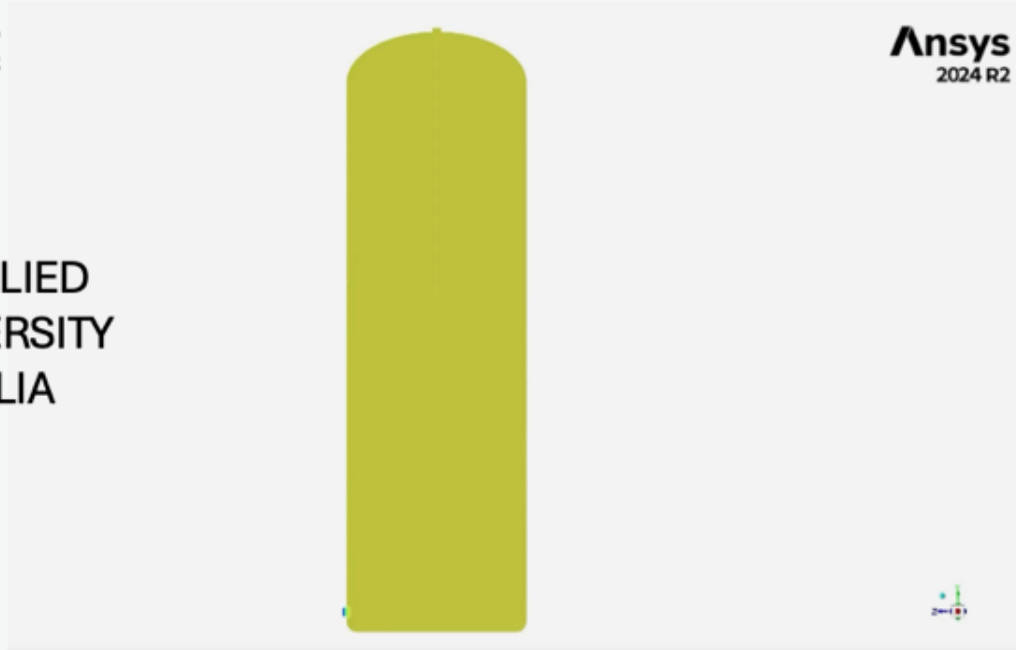

Hot water stored when energy is cheap (7p KW (42p per full tank))

Hot water used when energy is expensive (28p KW (£1.68 per full tank)

Why Fit An Affordable Heat Stores

Store energy when there is cheap or free electricity.
This will save you money in your own home.
Avoid using energy when electricity is expensive
Avoid £millions paid to wind turbines to not generate energy
Reduce fossil fuel generated energy usage in your home by 18%
Avoid the building of new gas power stations
Reduce the cost of a future air source heat pump.