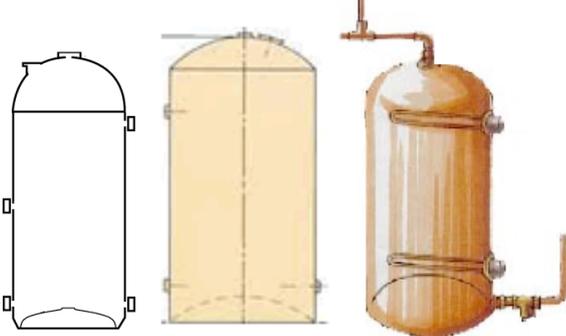
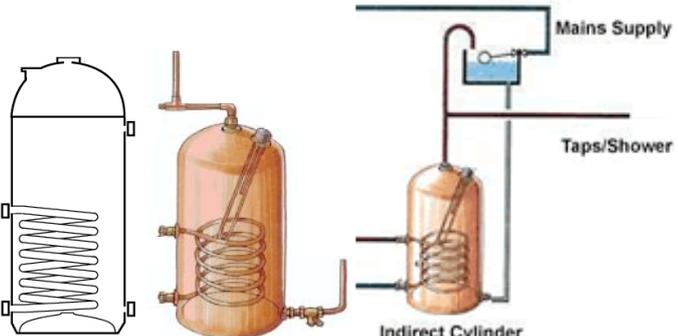
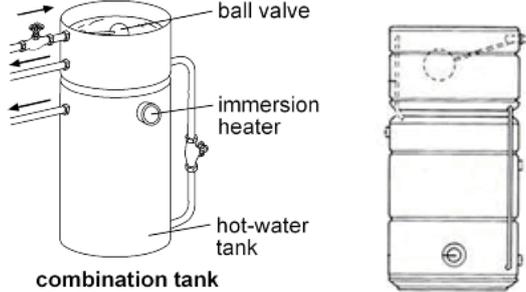
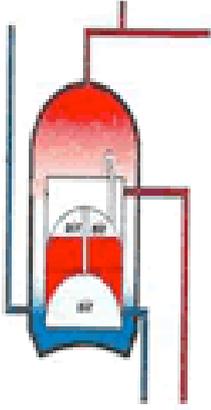


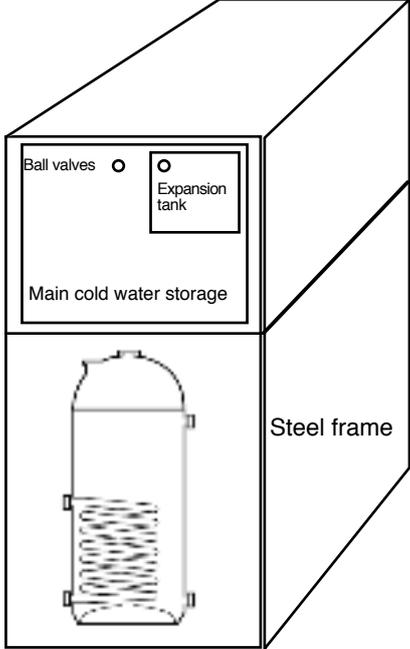


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Hot water cylinder types (UK)

<p>DIRECT</p> <p>Usual fittings 4 x 1" female iron tappings.</p> <p>Typically used immersion only heating but can also have hot water from the boiler circulating directly through the cylinder</p>	
<p>INDIRECT</p> <p>Usual fittings two 1" female (top and cold in at the base) and two 1" male tappings (on the coil).</p> <p>The traditional cylinder used in many family households. Suitable for use with a variety of heating systems.</p>	 <p style="text-align: right;">Indirect Cylinder</p>
<p>COMBINATION / FORTIC</p> <p>Has its own cold water header tank fitted on top of the cylinder. Often used where space is limited. Direct version shown. Also available in indirect but less common.</p>	 <p style="text-align: center;">combination tank</p>

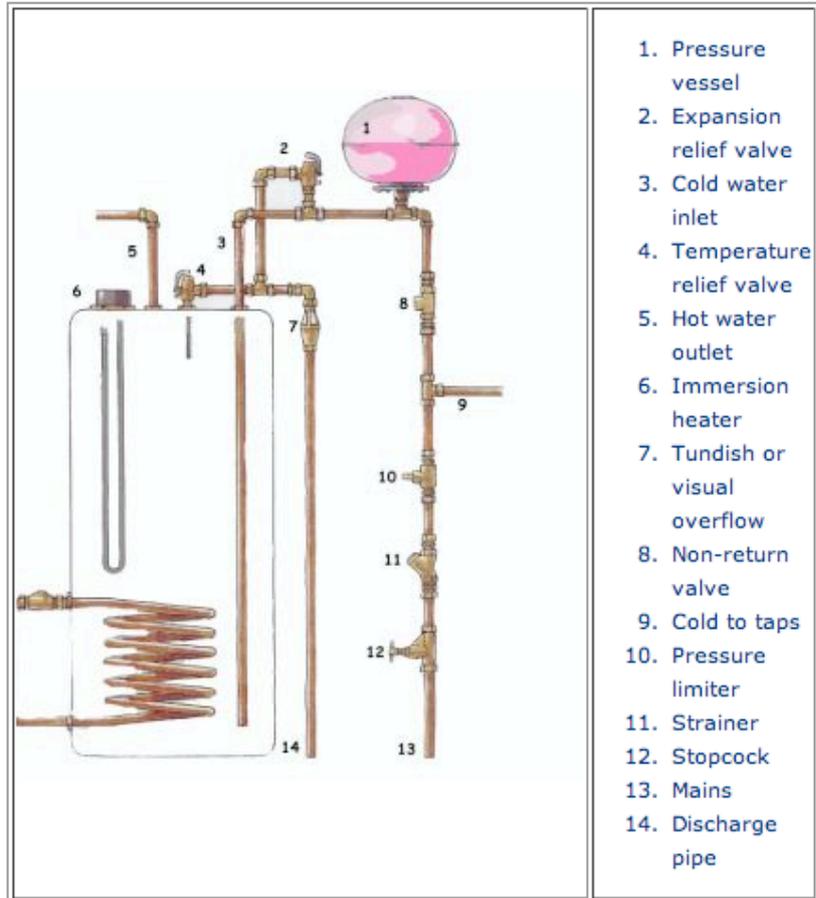
<p>Self Priming / Primatic</p> <p>Incorporates a patented heat exchanger designed to provide two airlocks to prevent the primary and secondary water systems mixing. Removes the need for separate expansion and feed system for the primary circuit. Usually identifiable by the absence of a second small header tank.</p> <p>Typical fittings two 1" male on the primary and two 1" female on the cold inlet and hot water outlet.</p>		<p>Generally no longer in use or fitted. Not suitable for use with any form of pumped shower. Not suitable for use with inhibitors in the CH circuit as failure of the air bubble could cause contamination of the direct hot water by the indirect.</p>
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<p>Harco packs</p> <p>Were popular in flats (often public housing). Many have been replaced by combination boilers under refurbishment programmes.</p> <p>Came in both direct and indirect varieties (indirect shown with expansion tank).</p> <p>Usual fittings two 1" female (top and cold in at the base) and two 1" male tappings (on the coil).</p> <p>If a shower is required in a property with a Harco pack fit an electric one to prevent issues with the availability of water.</p>	
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Pressurised system

Increasingly common. It's the hot water that is pressurised, not the primary. Benefits include better shower pressure without the need for a pump (which can't be fitted).

Pressure typically set at 1 bars when cold.



1. Pressure vessel
2. Expansion relief valve
3. Cold water inlet
4. Temperature relief valve
5. Hot water outlet
6. Immersion heater
7. Tundish or visual overflow
8. Non-return valve
9. Cold to taps
10. Pressure limiter
11. Strainer
12. Stopcock
13. Mains
14. Discharge pipe

Notes re cylinder usage

Cylinders and header tanks need to be suitable sized for the intended use. Installing pumped showers can cause over use and a lack of hot water in a short space of time.

Hot water usage varies with the type of building, its uses and the number of occupants. Occupant usage may vary depending on their level of activity, age, and water usage by appliances etc.

In modern homes hot water usage can vary between 35 and 45 litres per person per day, with hot water at between 60 - 65 degrees centigrade.

A wash hand basin tap will use 0.15 litres per second at 40 degrees C

A kitchen sink will use 0.20 litres per second at 60 degrees C

An average bath can use 60 litres of hot and 40 litres of cold water

Modern showers can use 11 or more litres of blended water per minute.

Replacing a cylinder?

When replacing an un-lagged cylinder remember to allow an additional 4" for lagging on the new cylinder of the same nominal size.

Fitting a shower?

Watch out for 'gas board' cylinders. A number were supplied with only a 3/4" outlet which is not suitable for many showers as it constricts the flow rate.