

Hot/Cold Water Tanks

The cold water tank is filled by the cold water mains from the street. The ball valve within the cold water tank opens, allowing cold water through. Once the cold water tank is full the ball valve cuts off, preventing more water from being let in. A water pipe is connected from the cold water tank to the hot water tank (copper cylinder). The central heating boiler will then heat the water in the hot water tank (copper cylinder). The now hot water is then pushed through the hot water tank (copper cylinder) when the tap is turned on, providing gallons of hot water to taps throughout the house. When the water in the hot water tank (copper cylinder) drops the cold water tank will refill it in the same way. If the hot water tank (copper cylinder) does run out of water, its recovery rate is usually 25 to 30 minutes.

As the water is preheated and then stored it is able to support the flow of running baths, showers and taps being used at the same time. This type of boiler (requiring a cold water tank and hot water tank (copper cylinder)) is suited to the larger property with more than one bathroom or where the mains water pressure is low.

A cold water tank must:

- A cold water tank must have a lid on it that is tightly fitted and securely fastened so that birds, vermin and dust can't enter the water.
- An overflow pipe must be fitted to a cold water tank in order to transfer excess water outdoors so that no flooding takes place.
- The cold water tank should not be too large, so that the water gets replenished often and is not left to go warm or stale
- Breather apparatus must be installed on top of the cold water tank

The two common types of hot water tank (copper cylinder) are:

- A direct hot water tank (copper cylinder) will use electricity to heat the water within it by a heating element. A single immersion is a where there is one heating element at the bottom of the hot water tank (copper cylinder), where as a dual immersion will have two heating elements, one near the top and one near the bottom of the hot water tank (copper cylinder). Dual emersions are regarded as being more energy efficient as the two elements will heat up the water faster.
- An indirect hot water tank (copper cylinder) is one that stores the hot water that is warmed by a boiler. An indirect hot water tank (copper cylinder) can still have a heating element fitted for use in emergencies (if the main heating system is not working).

The benefits of a heating system with a cold water tank and hot water tank (copper cylinder):

- Good for homes with numerous bathrooms
- Great if the water pressure in your home is low
- Provides high flow rate
- Able to support water from several outlets being used at the same time

The negatives of a heating system with a cold water tank and hot water tank (copper cylinder):

- Take up more space
- Running costs can be higher as there will be heat loss throughout the day from the hot water tank (copper cylinder) or boiler pipe work
- Need a cold water tank in the loft as well as requiring space for the hot water tank (copper cylinder)