Combination Boilers with Solar Energy

Although it is possible to use combination boilers with solar energy, it is important to note that for compatiability the combination boiler must be able to accept preheated water.

A cylinder must also be installed to store any solar heated water that will be generated.

Most existing combi boilers are not solar compatiable. If your boiler isn't, we are able to offer you a few solutions.

We are not able to confirm the suitability of any particular combi boiler, for legal reasons.

So we recommend that you contact the supplier to ask whether their combi boiler can accept preheated water.

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Solutions - if your existing combi isn't compatiable.

- We can modify the boiler.

The modification disables the instantaneous hot water feature. The boiler then operates as a conventional boiler, heating water in a storage cylinder.

- The combi boiler can be replaced with a new combi that is compatible with pre-heated water.

- More detailed information on these solutions can be found on the back page.

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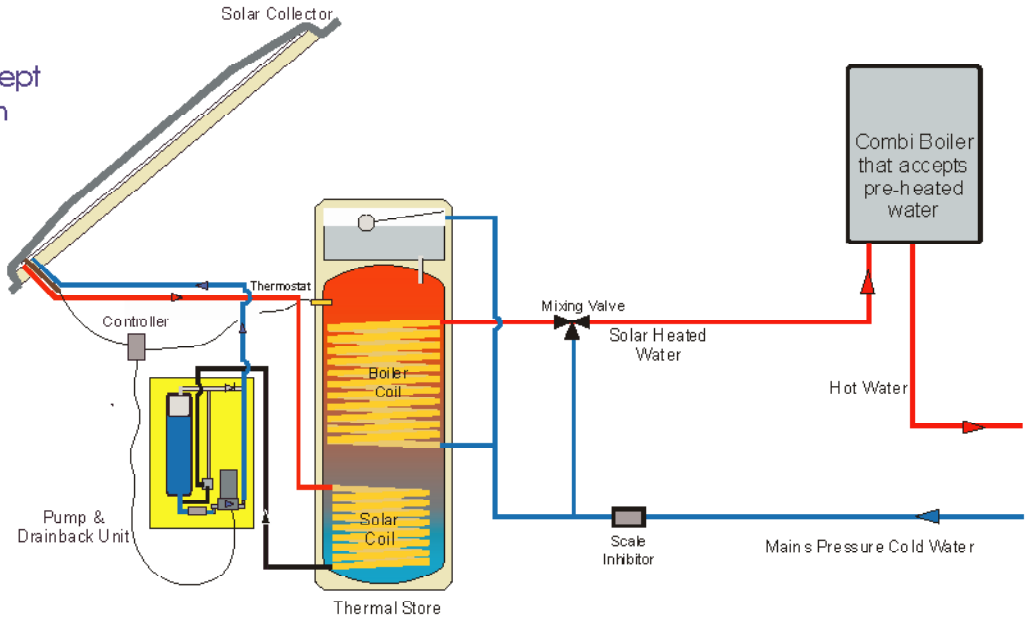
Combination Boiler with Solar. Solutions.

Solar compatible combination boilers

- The most common type has a small store of hot water, which is thermsotatically controlled. A thermal store is required to accompany these boilers, so that the preheated water will be at high pressure.
This is normally only cost effective if a new boiler is required.

Safety note.

- Many combi boilers which accept preheated water have a minimum burning capacity (~30%), which means that the preheated water should not exceed 55°C to prevent dangerously high outlet temperatures. So we strongly recommend that a mixing valve be installed on the outlet of the thermal store.
- We also recommend that a scale inhibitor be installed on the inlet to the thermal store.



Modify Existing Combination Boiler

- The instantaneous hot water function of the combi boiler will be disconnected and be used as a standard boiler. Solar heated water will be stored in a new twin coil solar hot water cylinder. This is not particularly complex, but requires some re plumbing and wiring.
- A 3-port, mid position valve is required, with new 'Y' plan controls, to provide independent hot water and central heating control.
- A new unvented cylinder will usually be supplied, to provide mains pressure solar pre-heated water to the taps and showers at high flow rate and pressure.
- A vented cylinder could be used, but this requires a cold water tank in the loft and will not supply high pressure water, unless a booster pump is installed.
- Pipe of adequate diameter (22mm or greater) is required to tap into an appropriate point (large diameter, not 15mm) on the hot water circuit to provide a good supply of preheated water to the taps.
- Some boilers have safety features that expect a certain temperature and pressure. So we recommend that one outlet is left on the domestic hot water (DHW) outlet from the combi boiler. This can be in the form of a service tap on the DHW outlet of the combi. Any potential invalidation of the combis guarantee due to the changes will be avoided with this method.
- 'Y' plan controls feature a room thermostat, a cylinder thermostat and a 3-port mid position valve. The pump is usually internal to the boiler.
- The boiler will only provide heat to the cylinder if the programmers hot water channel is calling for heat, and the cylinder thermostat is below the set point.
- Boiler heat is provided to radiators only when the programmers heating channel is calling for heat and the room thermostat temperature is below the set point.