



DESCALING THE HOT WATER (SECONDARY) COIL OF A GLEDHILL THERMAL STORE WATER STORAGE HEATER

Guidance notes

In situations where scale inhibitors or a water softener have not been fitted and the hot water flow and temperature have deteriorated, a BoilerMate can be easily descaled on site using a Kamco descaling pump and chemicals.

The operation is carried out using a Scalebreaker descaling pump or Clearflow combination descaling and power flushing pump, which removes the scale chemically. By simply replacing the thermostatic mixing valve on the hot water outlet with the special adaptor valve supplied, descaling solution is pumped through the secondary coil. After descaling, which may take from 45 minutes to several hours, dependent on the degree of scaling, the mixer valve is put back in place.

If **Scalebreaker SR** crystals are to be used, make up a solution of 1.5 kg of Scalebreaker SR crystals in 15 litres of water (preferably warm but not exceeding 60°C). The crystals are manufactured with a colour indicator which changes as the active ingredients are used up.

Alternatively, **Scalebreaker FX** may be used at a ratio of 1 litre Scalebreaker FX to 5 litres water, or **Scalebreaker HD** may be used at a ratio of 1 litre Scalebreaker HD to 10 litres of water. Always read the instructions supplied with descaling chemicals.

Procedure

1. Before descaling turn the boiler off and run the hot water tap until the thermal store is below 40°C.
2. Turn off mains water supply at stop tap supplying the BoilerMate.
3. Open a hot tap on the hot water system.
4. Break the three unions securing the Oventrop mixing valve to the BoilerMate and remove it, making sure a container is in place to collect spillage.
5. Attach the adaptor to the BoilerMate - two unions and washers.

6. Close all hot taps on the domestic hot water system.

To fill the descaling pump

7. Unscrew the black tank cap.
8. Add Scalebreaker solution to the descaling pump tank .

NOTE: These solutions are acidic and must be handled with care. It is a wise precaution to do the mixing, filling and emptying outside the premises..

9. Replace the filling cap on the descaling pump.
10. Break the joint between the hose (keeping both hoses above the level of the pump) retaining the brass joining piece.
11. Attach the hoses to the adaptor (ensure that the unions are finger tight on the 3/4" BSP male connectors to the adaptor).
12. Loosen the filling cap on the descaling pump to allow carbon dioxide formed in the descaling process to escape.
13. Plug in the descaling pump to a 240V 50Hz electric supply, and switch on. The pump will now circulate the coloured descaling solution through the heat exchanger coil of the BoilerMate.

Depending on the degree of scale formation within the coil, the following may be observed:

1. The red descaling solution will be observed in one of the transparent plastic tubes, foam and an orange/yellow liquid may be seen in the other tube.
2. Flow of the red liquid may initially be intermittent due to:
 - a). Gas formation in the coil as the Scalebreaker solution attacks the scale.
 - b). Degree of blockage - this stage may exist for about half an hour.
3. Continuous flow will begin with the red solution in one pipe and a foaming solution in the other.
4. If after some time, the colour in both pipes has turned to yellow (no gas bubbles are observed), the Scalebreaker solution is now exhausted and requires changing.

5. When the solution in both tubes remains red or orange and no gas bubbles are observed, the coil has been descaled.

To remove descaling pump:

1. Unplug from electrical supply.
2. Tighten the filling cap on the descaling pump.
3. Remove the two hoses from the adaptor.
4. Remove adaptor.
5. Replace Oventrop mixing valve - ensuring that it is the correct way round.
6. Open a hot tap - preferably to a porcelain sink.
7. Turn on the mains water supply to BoilerMate
8. Allow the system to flush via the open hot tap for some minutes, then flush out system at each hot tap.