



**General information**

In installations where a scale reducer or a water softener have not been fitted and the hot water flow and temperature have deteriorated, the Gledhill BoilerMate can be 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 to circulate a descaling chemical, to remove the scale chemically.

By simply replacing the thermostatic mixing valve on the hot water outlet with a special adaptor valve available from Gledhill, descaling solution is pumped through the secondary coil (see diagram). After circulating for approximately 45 minutes the job is done and the mixer valve is put back in place.

The descaling solution is made up of 2 kg of Scalebreaker SR descaling crystals dissolved in 20 litres of water (preferably warm but not exceeding 70°C). The crystals are manufactured with a colour indicator which changes as the active ingredients are used up.

**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. Make sure that the hoses are connected together with the brass nipple.
9. Partly fill the Scalebreaker pump tank with 20 litres of Scalebreaker SR solution.

NOTE: This solution is ACIDIC and MUST be handled with CARE. It is a wise precaution to do the mixing, filling and emptying outside the premises.

Observe the manufacturers handling instructions.

10. Replace the filling cap on the descaling pump.
11. Break the joint between the hose (keeping both hoses above the level of the pump) retaining the brass joining piece.
12. Attach the hoses to the Gledhill adaptor (ensure that the unions are finger tight on the 3/4" BSP male connectors to the adaptor).
13. Loosen the filling cap on the descaling pump to allow carbon dioxide formed in the descaling

process to escape.

14. 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 SR 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 SR 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 Gledhill adaptor.
4. Join hoses with brass connector piece.

5. Remove Gledhill adaptor.
6. Replace Oventrop mixing valve, ensuring that it is installed the correct way round.
7. Open a hot water tap, preferably to a porcelain sink.
8. Turn on the mains water supply to BoilerMate.
9. Allow the system to flush with fresh water via an open hot tap for some minutes, repeat the exercise at each hot tap in the dwelling.

**Legal disclaimer: It is stressed that these are guidance notes only, and the above information is based on the present state of our knowledge of water heaters in general. It is given in good faith, but due to the diverse and varied nature of such equipment, the user must satisfy himself that the above procedure is viable in the prevailing situation.**