

## Fact Sheet

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### Low Water Pressures and Kensa Heat Pumps

## Facts at a glance:

#### Minimum pressure switch

Kensa heat pumps contain a detent minimum pressure switch on both the underfloor and ground side

This is set at 0.3 bar and will activate below this. If activated, the pressure within the circuits need to be brought up to above 2 bar to reset the alarm.

#### Ground array circuit

If 2 bar mains pressure is not available, the Clarke water pump used in commissioning can be used.

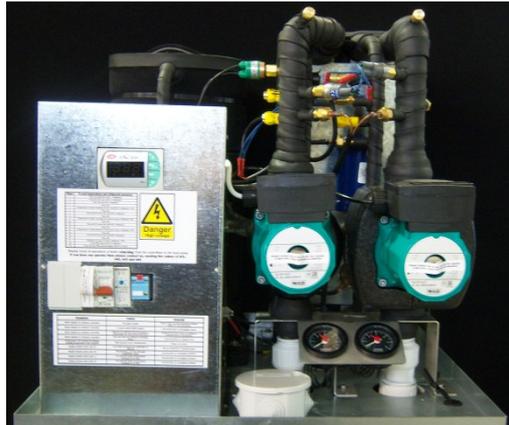
#### Heating distribution circuit

If 2 bar mains pressure is not available a hand pump can be used to increase the pressure within this side.

#### Overriding the alarm

If the pressure in either or both circuits cannot be increased to above 2 bar, then the alarm feature can be disabled, however regular checks would be required on the pressure to ensure that the pressure does not drop to far and cause the water pumps to burn out.

All Kensa's heat pumps contain a detent minimum pressure switch, on both the underfloor and ground circuits.



**Heat Pump Internals showing the ground and underfloor pressure gauges**

On initial filling, it is necessary to take the water pressure in BOTH ground and underfloor circuits to over 2 bar. If this is not undertaken, then the heat pump will exhibit fault code tP. If the pressure subsequently drops below 0.3 bar, the heat pump will go into fault mode, exhibiting code tP.

It must be remembered that when the water pumps start and stop, the pressure in the circuit will change, so it is possible for this fault to activate even if the pressure has not quite dropped to 0.3 bar.

The reason for this pressure switch is that if the water pressure is too low, then the water pump will cavitate, fluid circulation will stop, and the pump will overheat – and, eventually, burn out.

If 2 bar water pressure is not available on site then on the “ground” side, this should not be an issue, as the Clarke water pump that is recommend to purge the ground arrays will generate at least 2 bar – usually nearer 5 bar.

On the underfloor side, it is possible to use a hand pump to force water into the underfloor heating circuit, to increase the pressure. Remember that excessive water injection into either circuit will reduce antifreeze or anticorrosion protection.

If, for some reason, it is not possible to take the water pressure in both circuits over 2 bar, then the pressure detent feature can be disabled in the software. However, with the pressure detent removed, if the water pressure in either circuit drops much below 0.3 bar, then the pump may burn out – so regular checks of the gauges is advised.

Kensa's Technical Services Department can provide the procedure for this by either email, or can dictate it to anyone in front of the heat pump with a mobile phone. The procedure comprises of changing the programming within the software controller and can be quickly and easily achieved.

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