Heat Pumps and Towel Rails

Towel rails are predominately used in bathrooms to dry towels and are generally installed on the secondary domestic hot water return loop. They can also act as a secondary heat source where the UFH can struggle to maintain the temperature in these rooms because of the limited amount of floor area.

As these towels rails are off the portable hot water system non ferrous towel rails are required to avoid corrosion issues, which can be expensive.

When using a heat pump which operates at a much lower flow temperature to a traditional boiler, installing towel rails on the DHW loop can cause the cylinder to significantly drop in hot water temperature, and should therefore be avoided.

Kensa would recommend that the towel rails should either be installed as a separate dedicated primary circuit with a separate zone valve and timer and can be used as an extension of the UFH circuit.

As the towel rails are now on a primary circuit, ferrous towel rails can be used which are considerably cheaper.

Kensa would also recommend the towel rails are dual input, so they have an electric element for summer use when the heat pump is generally turned off.

Facts at a glance:

- Towel rails
  These are now generally a standard item in every bathroom in the UK.

- DHW loop
  Towel rails are traditionally installed on DHW secondary returns, if a heat pump is used with this type of installation it can result in low hot water temperatures.

- Primary circuit
  Installation of the towel rails on the primary circuit, allows low cost non-ferrous materials to be used for the towel rails.

- Dual Input
  For summer use it is recommend that a dual input towel rail is used with an electric element.
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Abbreviations
BV - Buffer Vessel
CW - Cold Water
EXP - Expansion Vessel
GSHP - Ground source heat pump
IH - Immersion heater
IV - Isolation valve
HWC - Hot Water Cylinder
PRV - Pressure reducing valve
T - Thermostat
TR - Towel Rail
WP - Water pump

Please note: The above drawing is a schematic only and additional valves and fittings maybe required. Kensa supplies the ground source heat pump, buffer vessels and hot water cylinders. Kensa also supplies the manifolds and antifreeze (not shown above).