



# Method statement for cleaning and commissioning Air Source Heat Pump Systems

## Using Fernox Cleaner F3 and HP-5c

When connecting a new heat pump direct to a radiator/ underfloor domestic heating circuit it is advisable to ensure the heating circuit is cleaned and flushed to remove all sludge and corrosion debris before the new heat pump is installed.

1. Flush out the existing system with fresh mains water.
2. Add Fernox Cleaner F3 and circulate for a minimum of one hour.
3. Flush out the cleaner and corrosion debris thoroughly following standard system cleaning and flushing method statements.
4. Install the Heat Pump.
5. Dose the system with Fernox Protector F1, or if frost protection is required, select a product from the Fernox HP range of heat transfer fluids (see below chart).
6. Check frost protection levels using a Fernox Refractometer
7. Fit a Fernox Total Filter TF1 to ensure long-term efficiency.

It is critical to take into account thermal stores, or buffer tanks installed in the system during Heat Pump installation. These can add more than 100 litres of additional water to the system. Check tank manufacturer's documentation and dose accordingly. It is important not to under dose, over dosing is not detrimental.

With low temperature heat pumps and underfloor heating systems, bacterial contamination can readily form. Fernox AF10 biocide can therefore be added together with Fernox Protector F1 to prevent this occurring. Fernox HP range of heat transfer fluids all contain an active biocide and therefore additional Fernox AF10 is not necessary.

One 500ml bottle of Fernox AF10 will treat 200 litres of water.

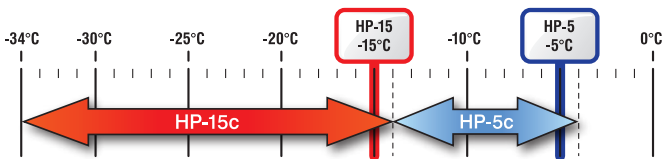
Where frost protection is required a product from the Fernox HP range detailed below should be used.

Selection should be based on the level of frost protection required.

Item No	Description	Frost Protection	Product Usage
58998	HP-15 20L	-15°C	Air source & Ground source
58999	HP-15 25L	-15°C	Air source & Ground source
59000	HP-15 205L	-15°C	Air source & Ground source
59001	HP-15 1000L	-15°C	Air source & Ground source
59002	HP-15c 20L	-14°C to -34°C	Air source & Ground source
59003	HP-15c 25L	-14°C to -34°C	Air source & Ground source
59004	HP-15c 205L	-14°C to -34°C	Air source & Ground source
58995	HP-5 20L	-5°C	Under floor & Air source
58996	HP-5 25L	-5°C	Under floor & Air source
58997	HP-5c 10L	-4°C to -14°C	Air source and Ground Source Heat Pumps & underfloor



# Method Statement for Air Source Heat Pump Circuits



## Using Fernox HP range

Fernox HP-15 and Fernox HP-5 are premixes. Fernox HP-15c and HP-5c are concentrates and require dilution before use.

<b>Concentration HP-15c</b>	33%	40%	50%
<b>Frost Protection</b>	-14°C	-22°C	-34°C

<b>Concentration HP-5c</b>	10%	20%	30%
<b>Frost Protection</b>	-4°C	-9°C	-14°C

Once the system has been dosed and adequately circulated, a **Fernox Refractometer** should be used to verify the frost protection.

Frost protection requirements will be dependant on region and manufacturer's recommendations.