

# Case Study: Air Source Heat Pump Upgrade, Christchurch



## Background

As part of a housing provider's strategy to upgrade heating systems and improve energy efficiency, the existing Mitsubishi Electric air source heat pump and vented hot water cylinder at a property in Christchurch was identified for full replacement. The property required a modern, efficient, and fully compliant system, with remedial works to radiators and electricals to ensure performance and long-term reliability.

### → Scope of Works

Advanced Maintenance UK Ltd delivered a full end-to-end installation, including:

- Decommissioning & Removal: Isolated, drained, disconnected, and safely disposed of the existing Mitsubishi Electric ASHP and vented hot water cylinder.
- New System Installation:
  - Outdoor Unit: Vaillant aroTHERM Plus 3.5kW ASHP, relocated approx. 4– 5m from original position, with upgraded 28mm copper primary flow and return pipework mounted on Unistrut cantilevers.
  - o Indoor Unit: Vaillant pre-plumbed 150L heat pump cylinder.
  - Controls: Vaillant sensoCOMFORT VRC 720F wireless controller with myVAILLANT connect & VRA42 pack.
- Filtration & Water Conditioning: ADEY MagnaClean HP filter (28mm) and ADEY MagnaScale 2 installed on cold main.
- Insulation & Containment: Indoor Armaflex 19mm wall insulation, Primary Pro outdoor containment.
- Frost Protection & Water Treatment: Altecnic I-stop antifreeze valves, full system flush with MC5 cleaner, and treatment with ADEY MC1 & MC10+.
- **Electrical Upgrades**: Relocation of rotary isolator, new Type B RCD enclosure and alterations inside existing consumer unit, with full electrical test certification issued.
- **Heating Distribution**: Replacement of four radiators (hall, bathroom, living room, bedroom) with compact K2 models, sized for efficiency and comfort.

### (7) Outcome

The works provided the client with a modern, efficient, and compliant heating solution:

- **Performance**: The Vaillant aroTHERM Plus 3.5kW system delivers reliable, efficient heating and hot water, supported by upgraded radiators and controls.
- Compliance: Installation completed to MCS standards with parts and labour warranty, manufacturer registration, and electrical test certification.
- **Tenant Benefit:** Improved comfort, reduced energy bills, and quieter, more efficient operation.
- **Documentation**: Full photographic evidence and compliance documentation provided through Simpro.

### (7) Client Benefits

- Safe transition from old, inefficient system to a modern ASHP.
- Audit-ready documentation including MCS warranty and electrical certification.
- Reduced running costs through improved efficiency.
- Future-proof system with smart controls and long-term reliability.
- Minimal disruption works coordinated to maintain site safety and access.









































# **Contact Us**

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