Air Source Heat Pump

Installation Guide

Everything you need to know — from assessment to commissioning

Heating

Eco-Friendly

Installation

Cost Savings

Residential & Light Commercial Applications | UK Regulations 2024

What is an Air Source Heat Pump?

How it Works

- Extracts heat from outdoor air — even below 0°C
- Compresses the refrigerant to raise its temperature
- Transfers the heat into your home's heating system
- Can provide space heating and domestic hot water
- Works in reverse in summer for cooling (some models)

3–4x

Units of heat per unit of electricity (COP)

~35%

Lower carbon emissions vs gas boiler

55°C

Typical flow temperature for radiators

Is My Property Suitable?

Outdoor Space

At least 1–2m² of clear ground or wall space for the unit, away from neighbours.

Insulation

Well-insulated walls and loft (EPC C or above recommended for best efficiency).

Heat Emitters

Underfloor heating is ideal. Larger radiators may be needed for existing systems.

Hot Water Cylinder

A new or compatible hot water cylinder is usually required (150–300 litres).

Electrical Supply

Adequate consumer unit capacity — typically 32–63A single-phase supply.

Planning Permission

Usually not required in England & Wales under permitted development rights.

The Installation Process

1 Heat Loss Survey

A qualified installer calculates your home's heat loss to correctly size the pump.

2 System Design

Pipework, radiators, and hot water cylinder are designed to match the heat pump.

3 Groundwork & Siting

Outdoor unit base is prepared. Unit positioned for airflow and noise considerations.

4 Pipework & Cylinder

New buffer tank or cylinder installed. Pipework connected indoors and out.

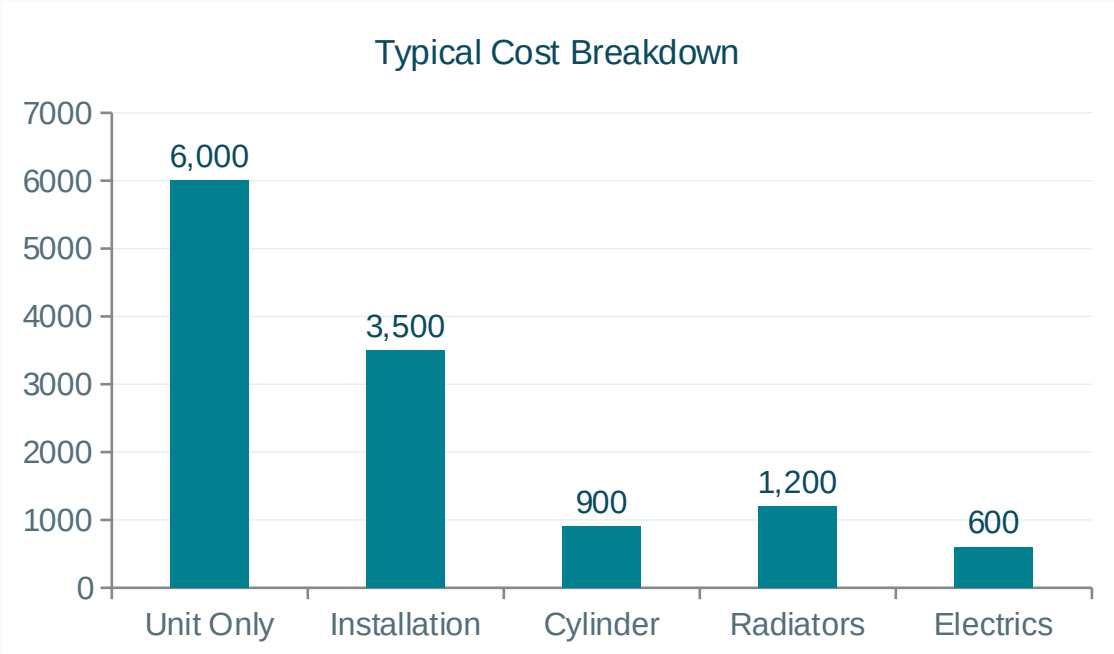
5 Electrical Connection

Dedicated circuit installed. Smart controls and thermostats wired in.

6 Commissioning

System filled, pressurised, and tested. Controls programmed. MCS certificate issued.

Costs & Government Funding



Boiler Upgrade Scheme

£7,500

Grant available for eligible properties in England & Wales

- No means-testing — open to all
- Applied for by your installer
- Scotland: Home Energy Scotland grant

Typical total installed cost: £8,000–£15,000. After the BUS grant this may reduce to £500–£7,500. Costs vary by property size and existing system.

Regulations & Certification

MCS Certification

Installer must be MCS (Microgeneration Certification Scheme) registered. Required for BUS grant eligibility and quality assurance.

Building Regulations

Installation must comply with Part L (Conservation of Fuel and Power) and Part P (Electrical Safety). A Building Notice may be required.

F-Gas Regulations

Refrigerant handling requires an F-Gas certified engineer. Pre-charged systems are available to simplify this requirement.

Permitted Development

Most domestic ASHP installations in England are PD — planning permission is not needed unless in a conservation area or listed building.

DNO Notification

Notify the Distribution Network Operator if the heat pump draws over 3.68kW — standard for most residential units.

Commissioning Certificate

Installer must provide a commissioning certificate and register the system with MCS within 10 days of installation.

Running Costs & Maintenance

Optimising Running Costs

- Run continuously at lower flow temps rather than on/off cycling
- Use weather compensation controls to maximise COP
- Set the hot water schedule to off-peak electricity tariff times
- Consider an Octopus Cosy or Economy 7 smart tariff
- Ensure radiators and UFH are properly balanced
- Avoid overriding thermostat — let controls optimise the system

Maintenance Schedule

Monthly	Check filters and clean if dirty. Check system pressure.
Annually	Professional service: refrigerant check, coil clean, controls test.
Annually	Check hot water cylinder anode (unvented systems).
As Needed	Clear leaves/debris around the outdoor unit.
5–7 Years	Check fan, pump condition and heat exchanger.

Ready to Get Started?

Your next steps at a glance

01 Get an EPC assessment if you don't have a current one (last 10 years).

02 Request quotes from at least 3 MCS-registered installers.

03 Confirm BUS grant eligibility with your chosen installer.

04 Ask for a full heat loss survey and system design report.

05 Schedule installation and notify your DNO if required.

For further guidance visit: www.heatpumps.co.uk | www.ofgem.gov.uk/BUS