

Your heat pump proposal

Thanks for choosing us for your heat pump installation!

A heat pump will give you reliable, even and comfortable heating, will use much less energy than a boiler, and will greatly reduce your carbon footprint.

Please read the enclosed quote carefully. It covers in detail the components we will be installing, describes how the system works, shows how the system will meet the heating requirements of your property, and lists the costs for the work.

We're always happy to help answer questions, so please get in touch if there is anything you aren't sure about.

Luis Martinez Casteleiro

This proposal is for:

2 De Quincey Road
N17 7DL

Prepared

10 October 2025

Valid for

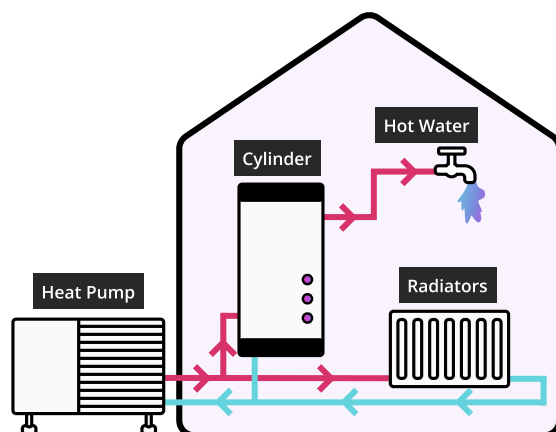
30 days

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Your system

The system we propose includes a heat pump (Ideal Logic Air 5kW), a new hot water storage (UK Cylinders 200L FlowCyl Standard Cylinder), and all the other components necessary to plumb the heat pump and hot water storage components into your heating system. We have also specified 9 additional radiators which will help your new system run more efficiently.



Ideal Logic Air 5kW



The Logic Air monobloc heat pump range provides reliable heating and hot water to your home. It is designed to deliver efficient and simple low-carbon heating ensuring you stay warm and comfortable all year round.

ENA Registration Number: IDEAL/03234/V1 Heating SCOP at 45°C: 3.83
Sound Power Level: 52.0 dB Nominal Output: 5.00 kW
Proposed flow temperature: 45°C Actual Output at 45°C*: 5.54 kW
*at outside design temperature of -1.7°C

UK Cylinders 200L FlowCyl Standard Cylinder



High quality stainless steel cylinders manufactured in the UK. Designed to work with a heat pump to achieve maximum performance, with capacities ranging from 120L to 600L. Fully insulated with 50mm 100% CFC and HCFC free polyurethane and built with a 100% recyclable silver casing. Supplied with a manufacturer's backed 25 year cylinder warranty and 2 years parts warranty.

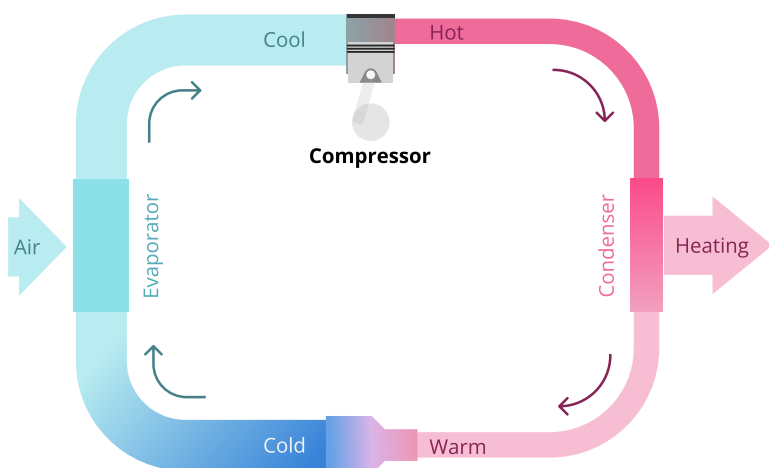
Nominal Capacity: 200ℓ Dimensions: 545 × 545 × 1389 mm
Weight: 40 kg (empty), 235 kg (full) Electric immersion heater size: 3 kW
Standing heat loss: 1.70 kWh/24h ERP Band: B

Heat Pumps Explained

A heat pump uses electricity to move heat from the outside of a building to the inside. It works on the same principle as a fridge.

In a heat pump, a compressor is used to pressurise a refrigerant, making it hotter - in the same way that a bicycle pump generates heat when it compresses air. The hot refrigerant is passed through a heat exchanger that draws off the heat for use in your house.

The refrigerant (now much cooler) is then passed through an evaporator nozzle, which allows it to expand. As the pressure decreases the refrigerant cools even further - in the same way that aerosols get cold when compressed air is released from a can.



The beauty of heat pumps is that a relatively small electrically-driven compressor can move large amounts of heat. The ratio between the electrical energy input and the heat output is the coefficient of performance (CoP). This will vary over the course of a year: the heat pump will be more efficient in the summer when the difference between the inside and outside temperatures is less.

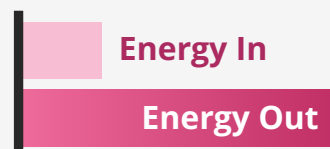
However, even in the winter the heat pump will use far less energy than a direct electrical heater or a gas boiler to produce a given amount of heat.

How efficient will my system be?

383%

From our model of your property, we expect your system to have a Seasonal Coefficient of Performance (SCoP) of 3.83.

That means for every kWh of electrical energy you put into the heat pump, you will on average get 3.83 kWh of heat.



Will I notice a difference?



Boilers typically run for short periods at very hot temperatures, and cycle rapidly on and off.

Heat pumps work more efficiently if they run at lower temperatures for longer periods, so your radiators will feel cooler than they used to but will be on for more of the time. We have based our calculations on a radiator temperature of 42.5 degrees.

You don't need to worry though - we've carefully sized your system so that you should always have enough heat to keep your house warm.

People who have heat pumps usually say they really like the more even heat that a heat pump system gives you compared with a gas boiler.

Sound check

Before your heat pump can be installed, we need to check that the noise it creates will not disturb your neighbours. Modern heat pumps are quiet, but are best not sited very close to doors or windows that may be open.

The sound check assesses how much sound from the heat pump will be transmitted to neighbouring properties. If the maximum sound level is less than 37dB then the installation can proceed without a planning application under the 'permitted development' rules.

Full details on the method used can be found in the MCS020 a) document on the MCS website.



Assessment point A

Adjacent property

35db

Partial

4m between heat pump and assessment

MCS020 a) Sound Level Calculation	
General data	
Heat pump sound power level	52dB
Reflective surfaces	2
Sound pressure level	Q4

Quote

2 De Quincey Road
N17 7DL

Quote reference: 48890
Quote date: 10/10/2025
Quote by: Luis Martinez Casteleiro
Quote valid for: 30 days

Description of goods and services	Price
Goods	
a 5.00 kW Ideal heat pump, and a 200L hot water storage	£0.00
Goods total	£0.00
Services	
Services total	£0.00
Total before VAT	£0.00
VAT 20% (goods) and 0% (services)	£0.00
Total including VAT	£0.00

Order form

To proceed with this order please sign below to acknowledge that you have read and accept the information contained within this quote document and our terms and conditions.

Customer signature

Customer name

Date

Inputs

Property Details

Year built	Pre 2000
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Design Data

Outside Design Temp – ODT	-1.7°C
Degree Days (DD)	2033
Mean air temp – MAT	11.3°C
Altitude	14m

Building Requirements

Space Heating load	5158W
Total area of building	83.44m²
Average Watts per metre square heat loss	62W/m²

Heating check

We have checked that every room in your property will still be warm enough after the installation of the heat pump.

We've surveyed every room to work out the total expected heat loss through the ventilation, roof, walls, floors, windows and doors, at the specified room temperature. We've then compared this with the heat that the heat emitters will produce to ensure that every room will be warm enough. Radiators that will be removed are displayed with a lighter shade.

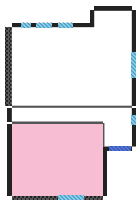
The output power of each radiator is calculated using:

The proposed flow temperature	45°C
The dT	5°C
The mean water temperature	42.5°C

Ground floor

Living room

Area: 14.71 m² Heat loss: 69 W/m² Design Temp: 21°C Air changes: 1.5/hr



✓ Sufficient heating 1074 W / 1017 W		
	K2 W900 x H700 mm	New 568 W
	K2 W800 x H700 mm	New 505 W

Assumptions

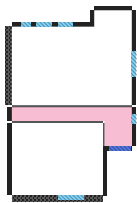
We have assumed an outside design temp of -1.7°C. This is based on tables of typical minimum winter temperatures in the UK.

We have used different design temperatures for different types of room. Bathrooms are typically kept warmer than living spaces such as lounges, kitchens and bedrooms for example, while utility spaces can be kept at a lower temperature. Kitchens and bathrooms also have more ventilation than other rooms, so we have allow for more heat loss through air exchange to these rooms.

Most heat loss from a property is through the building fabric however. We have provided a floorplan with a list of the materials we have used for the model along with a measure (U-value) of their insulating properties.

Hall

Area: 5.25 m² Heat loss: 75 W/m² Design Temp: 18°C Air changes: 2/hr



✓ Sufficient heating

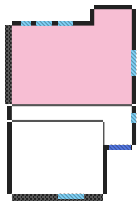
424 W / 392 W

 K2 New

W800 x H450 mm 424 W

Kitchen

Area: 22.65 m² Heat loss: 64 W/m² Design Temp: 18°C Air changes: 2/hr



✓ Sufficient heating

1507 W / 1439 W

 K2 New

W1000 x H700 mm 753 W

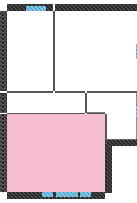
 K2 New

W1000 x H700 mm 753 W

First floor

Bedroom 1

Area: 14.75 m² Heat loss: 49 W/m² Design Temp: 18°C Air changes: 1/hr



✓ Sufficient heating

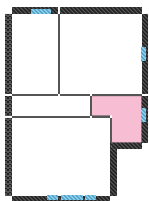
753 W / 716 W

 K2 New

W1000 x H700 mm 753 W

Bedroom 2

Area: 3.40 m² Heat loss: 82 W/m² Design Temp: 18°C Air changes: 1/hr

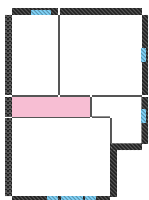


✓ Sufficient heating 318 W / 277 W

 K2 New
W600 x H450 mm 318 W

Landing

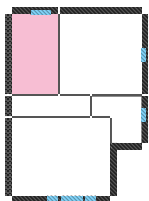
Area: 2.92 m² Heat loss: 28 W/m² Design Temp: 18°C Air changes: 2/hr



✓ Overridden: Small hall 0 W / 82 W

Bath

Area: 7.06 m² Heat loss: 83 W/m² Design Temp: 22°C Air changes: 3/hr

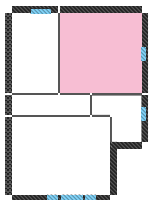


✓ Sufficient heating 592 W / 589 W

 K2 New
W1000 x H700 mm 592 W

Bedroom 3

Area: 12.70 m² Heat loss: 51 W/m² Design Temp: 18°C Air changes: 1/hr



✓ Sufficient heating 678 W / 647 W

 K2 New
W900 x H700 mm 678 W

Why do I need new radiators?



Heat pumps work more efficiently at low flow temperatures - but at low temperatures small radiators may not have enough surface area to adequately heat a room.

With new, larger radiators you will use less energy to heat your property than if you used existing smaller radiators but had to run your heat pump at a higher temperature.

Heat Pump Check

Your heat pump: Ideal Logic Air 5kW

Total heat loss	5158 W
Area of building	83.44 m ²
Average heat loss	62 W/m ²
Output power of Ideal Logic Air 5kW at the ODT and proposed flow temperature	5538 W



Heat pump meets demand



At the ODT -1.7 and proposed flow temperature 45°C, the total heat loss is less than the output power of the heat pump.

Materials

The list of materials surveyed in the building. Radiators that will be removed are displayed with a lighter shade. Floors, intermediate floors, roofs, roof glazing and dormers are not shown in the drawings but are displayed in the material list.

Ground floor



First floor



Window

 **PVC Double Glazed**
U-value: 2.8

Door

 **solid wood door (external)**
U-value: 3

Radiator

 **K2 - two panels, two fins**

External Wall

 **Building Regs 2022 - Limit New Dwellings**
U-value: 0.26
Thickness: 200 mm

 **External wall**
U-value: 1.5
Thickness: 300 mm

 **Party wall**
U-value: 1.33
Thickness: 300 mm

Internal Wall

 **Building Regs 2022 - Limit New Dwellings**
U-value: 0.26
Thickness: 100 mm

Floor

 **Building Regs 2022 - Limit New Dwellings**
U-value: 0.18
Thickness: 200 mm

 **Suspended floor with 0mm of insulation**

Intermediate Floor

 **Building Regs 2022 - Limit New Dwellings**
U-value: (up) 0.18, (down) 0.18
Thickness: 150 mm



U-value: (up) 0.32, (down) 0.31

Intermediate floors, boarding 19mm,
airspace 100mm insulation between
joists, 9.5mm plasterboard

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Roof

 **Building Regs 2022 - Limit New
Dwellings**
U-value: 0.16
Thickness: 250 mm

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 **Pitched roof - Slates or tiles, ventilated
air space, 200mm insulation between
joists, 9.5 mm plasterboard**
U-value: 0.18

.....

Hot Water Calculations

Heat pumps are able to produce heat energy for both your heating system and your domestic hot water (DHW). However, they are not capable of producing instantaneous DHW for your taps, baths and showers and so a thermal store is required.

Guidance states that this thermal store should be a minimum of 45ℓ per occupant. Based on this, we have selected a 200ℓ DHW store for your property and the details of the storage temps, reheat times and energy consumption are given below.

DHW calculations are based on the parameters given below. Actual energy consumption will vary with usage habits, variation in system settings and outdoor conditions.

DHW Storage Details

Make	UK Cylinder
Model	FCHPD3200
Nominal Capacity	200ℓ
Electric Immersion	3 kW
Dimension (L × W × H)	545 × 545 × 1389 mm

DHW System Details

Hot water storage temperature	50°C
Supply water temperature	10°C
Flow temperature whilst providing hot water	55°C
Pipework efficiency	80%
Heat pump capacity output @ 55°C	5.39 kW
Number of occupants	4
Water consumption per person per day	50ℓ

DHW Calculations

Hot water storage reheat time	130 min
DHW Energy demand excluding Legionella	3407 kWh/yr
DHW Energy demand including Legionella	3528 kWh/yr
Mixed water volume @40°C	267 ℓ

Legionella Details

Legionella purge	yes
Legionella purge frequency	weekly
Legionella heat source	immersion
Legionella purge energy demand	121 kWh/yr

Legionella

Legionella is an aquatic pathogen that thrives in warm stagnant water, and can cause diseases such as Legionnaires' when inhaled. In order for Legionella to multiply and grow to dangerous levels, it requires stagnant water and a temperature of between 20°C and 40°C. Eliminating either of these conditions will prevent it from growing and using most of your DHW capacity each day will likely prevent growth to dangerous levels. If you do store water at optimum growth conditions, then an anti-Legionella cycle (Legionella purge) will kill off any bacteria that might have formed by sterilising the water at a high temperature (70°C = instantly kills, 65°C = 100% in 2 mins, 60°C = 100% in 30 mins).

MCS Performance Estimate

Under the terms of the Microgeneration Certification Scheme we are required to give you an estimate of your heat pump system's energy consumption using a standardised procedure based on values from your Energy Performance Certificate (EPC).

Your Energy Requirements

Energy required for space heating	11029 kWh
Demand to be supplied by the heat pump	11029 kWh
Energy required for hot water	2378 kWh
Demand to be supplied by the heat pump	2378 kWh

Your Property

Your postcode prefix	N
Total property floorspace (not property footprint)	85.00 m ²
Average watts per square metre	64 W / m ²

Note: W/m² is a measure of your property's thermal efficiency.
0-30W/m² is very low heat loss and 120-150W/m² is very high heat loss.

Proposed System

Heat pump capacity	5.42 kW
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Note: unless a full heat loss calculation has been undertaken, this figure is indicative only and may change.

Heat pump type	Air source heat pump
System is proposed to provide	Space heat and hot water
Proposed heating system will be	Mostly upgraded radiators
The proposed flow temperature will be	45 °C

Performance

The seasonal performance factor is calculated to be:	3.4
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	High estimate	Low estimate
Estimate of energy consumption of the proposed heat pump	5240 kWh	4288 kWh

Note: you can convert these figures to approximate running costs.

Important note

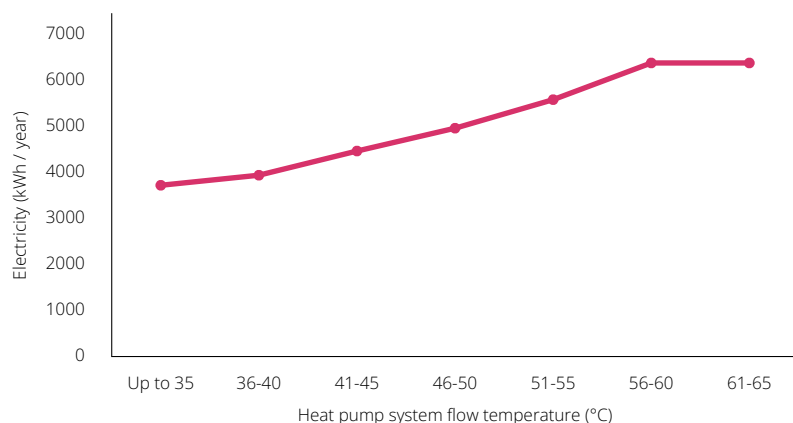
This is not a detailed system design. It offers a reasonable estimate of likely performance and a description of the likely design.

Applicable warning notes

✓ Success

There are no notes from your performance calculations. Everything is good.

Graph of system performance



MCS Key Information

The heat demand of a building, and therefore the performance and running costs of heating systems, is difficult to predict with certainty due to the variables discussed here. These variables apply to all types of heating systems, although the efficiency of heat pumps is more sensitive to good system design and installation. For these reasons your estimate is given as guidance only and should not be considered as a guarantee.

Seasonal Performance Factor

Seasonal performance factor (SPF) is a measure of the operating performance of a heating system incorporating an electric heat pump over a season, typically a year. It is the ratio of heat delivered to the total electrical energy consumed by the unit over the same period. As a guide, a heat pump system achieving an SPF of 3 would have delivered 3 kWh of heat energy for every 1 kWh of electrical energy it consumed over a 'standard' annual cycle.

Energy Performance Certificate

An energy performance certificate (EPC) is produced in accordance with a methodology approved by the government. As with all such calculations, it relies on the accuracy of the information input. Some of this information, such as the insulation and air tightness properties of the building may have to be assumed and this can affect the final figures significantly leading to uncertainty especially with irregular or unusual buildings.

Identifying the uncertainties of energy predictions for heating systems

We have identified 3 key types of factor that can affect how much energy a heating system will consume and how much energy it will deliver into a home. These are 'Fixed', 'Variable' and 'Random'. Most factors are common to ALL heating systems regardless of the type (e.g. oil, gas, solid fuel, heat pump etc.) although the degree of effect varies between different types of heating system as given in the following table.

The combined effect of these factors on energy consumption and the running costs makes overall predictions difficult however an accuracy $\pm 25\text{-}30\%$ would not be unreasonable in many instances. Under some conditions even this could be exceeded (e.g. considerable opening of windows). Therefore it is advised that when making choices based on mainly financial criteria (e.g. payback based on capital cost verses net benefits such as fuel savings and financial incentives) this variability is taken into account as it could extend paybacks well beyond the period of any incentives received, intended occupancy, finance agreement etc.

Further Information

The Microgeneration Certification Scheme (MCS) is the UK's quality assurance program for certifying renewable energy products and installations.



MCS certifies both products (such as solar panels, wind turbines, and heat pumps) and the companies that install them, ensuring that products meet specific quality standards and that installations are performed by qualified and experienced professionals. They also provide a mechanism for handling complaints or disputes related to certified installations. MCS certification is a requirement for many incentive schemes, including the Boiler Upgrade Scheme grant for heat pump installations.

Factor	Impact
'Fixed' which include:	
Equipment selection performance figures (SCoP) from ErP data	System Efficiency
Energy assessment via the EPC (e.g. assumptions as to fabric construction and levels of insulation; the variation in knowledge and experience of Energy Assessors)	Energy Required
'Variable' which are affected by the system design and include:	
Accuracy of sizing of heat pump - i.e. closeness of unit output selection (kW) to demand heat requirement (kW)	System Efficiency
Design space and ambient (external) temperatures	Energy Required
Design flow / return water temperatures, and weather compensation	System Efficiency
Type of Heat emitter (e.g. Under-floor; natural convector (e.g. 'radiator'), fan convector etc.)	System Efficiency
'Random' which cannot be anticipated and include:	
User behaviour:	
• Room temperature settings	Energy Required
• Hot water usage and temperature settings	Energy Required
• Occupancy patterns/times	Energy Required
• Changing the design HP flow temperatures	System Efficiency
• Ventilation (i.e. opening windows)	Energy Required
Annual climatic variations (i.e. warmer and colder years than average)	Energy Required

The statement at the end of each item indicates the major factor affected as follows:

Energy Required

The heat energy output requirement of the system which directly impacts on running costs. This requirement exists regardless of the heating system chosen as it is the heat required to keep the space comfortable. Opening windows or increasing room temperatures will demand more heat output, which means more energy input but this would NOT directly affect the efficiency. Thus increased energy demand does NOT automatically mean reduced efficiency.

System Efficiency

The efficiency of the system has been directly affected and will therefore demand more input energy to achieve the same heat output thus increasing running costs. However, increased energy input does NOT necessarily mean lower system efficiency (see above).