Get Connected

Ground source heat network solutions for social housing providers

Tackle fuel poverty

Retrofit & new build

Fully funded through RHI & ECO
Home is where the heat is

Kensa’s community centric ground source heat network solutions literally bring communities together to eradicate fuel poverty through an innovative and cost effective approach to community scale heating.

Whether in the design and construction of new homes or for replacement heating system installations, rising fuel prices, concerns over long term energy security and the need to tackle climate change all mean that there is a compelling need for social landlords to provide residents with the lowest heating and hot water costs and highest levels of energy efficiency.

In existing homes, space and water heating accounts for almost three-quarters of a typical household energy bill, so tackling the cost of heating is vital in addressing the fuel poverty issue for social tenants.

Whilst in new homes, increasingly stringent legislation in the form of building regulations is driving the need for low carbon alternatives to traditional heating.

To reduce reliance on fossil fuels alternative heating solutions which harness renewable energy must be considered. The UK Government has introduced ambitious, legally binding targets to ensure that at least 15% of all UK energy consumption comes from renewable sources by 2020. The production of heat from renewable technologies, such as ground source heat pumps, is a key tactic in meeting this objective.

To help, Government has previously launched its Renewable Heat Incentive; key refinements outlined in a December 2016 consultation response are designed to support more ground source heat pump installations.

15% of all UK energy consumption to come from renewable sources by 2020

UK Government Target

“The Government recognises that GSHPs are likely to be a strategically important technology for decarbonising heat, and anticipates potential for significant growth in deployment of this technology through to 2050.”

Department of Business, Energy and Industrial Strategy

Find your ground source solution

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Kensa ground source heat pumps provide efficient heating & hot water for both new build and retrofit UK social housing.
Ground source heat pumps
The ideal alternative to traditional heating

**Free energy**
By taking advantage of the free renewable energy stored in the ground, ground source heat pumps provide an energy efficient alternative to conventional heating systems, especially for rural homes and those not connected to the gas grid.

An established and proven technology, ground source heat pumps have the capability to reduce both running costs and CO₂ emissions. The UK Heat Strategy recognises that heat pumps have a critical part to play in meeting future residential heat demand, while the Committee on Climate Change has suggested that over 4 million homes should be heated by heat pumps by 2030.

**Low cost**
For social landlords and residents alike, ground source heat pumps offer the very best heating option. Tenants will benefit from the lowest running costs even when compared with a mains gas boiler. Landlords will appreciate the minimal service and maintenance costs and subsequent longevity, meaning whole life ownership costs are very low. Typically a ground source heat pump unit will last 20 years, while the associated borehole will remain in service for the life of the building itself.

**Incentives**
In addition to the many tenant and landlord benefits, ground source heat pumps are also able to attract support funding to assist with the additional investment costs.

The Renewable Heat Incentive (RHI) allows landlords to generate a profitable income for the renewable heat produced over either 7 or 20 years, even for installations in new build. In some instances, housing providers replacing electric heating, oil, solid fuel & LPG systems with ground source heat pumps can also benefit from an upfront capital subsidy through the Energy Company Obligation (ECO).

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Ground source heat pumps at a glance

- Ideally suited to new build or heating system replacements, especially for off gas grid homes
- Complete heating and hot water solution
- Deliver the lowest possible resident running costs
- Significantly lower CO₂ emissions than other heating options

- Low maintenance and whole life ownership costs
- Quiet and unobtrusive
- Benefit from Government backed subsidy support schemes

---

4 million homes to be heated by heat pumps by 2030.
Committee on Climate Change
Many social landlords are finding that using a ground source heat pump system can dramatically reduce tenant energy bills and provide much higher levels of comfort and well-being to the tenant.
Ground Source Heat Networks

At a glance

Kensa’s innovative micro ground source heat network approach allows social landlords to realise the full potential of ground source heat pumps in both new builds and existing housing stock.

Designed for groups of properties, Kensa’s micro ground source heat network provides each home with its own ground source heat pump, ensuring heating and hot water independence.

The “heat network” is created by linking multiple properties to a communal ground array, designed to deliver an efficient, reliable and durable source of heat for the life of the property.

Crucially, this approach is recognised by the Department of Business, Energy and Industrial Strategy (BEIS) as meeting the definitions of district heating, meaning both new build and retrofit installations are able to access generous payments for 20 years through the Non Domestic RHI. Systems replacing electric heating in existing housing stock are also able to tap into capital subsidy support through the Energy Company Obligation (ECO).

With no need for a plant room, Kensa’s solution also overcomes the drawbacks of traditional “central plant” district heating systems. Efficiency is not compromised by heat loss in the distribution pipework and there is no need to meter and apportion energy bills between dwellings, thus avoiding the need to comply with Heat Network (Metering & Billing) Regulations 2014.

1 RHI & ECO eligible
   Under BEIS’s guidelines, as few as two properties linked together with a common ground array can be considered a heat network (or district) system, qualifying for the Non Domestic RHI and ECO.

2 Cost-effective
   Drilling costs are reduced by allowing a smaller number of deeper boreholes.

3 Flexible
   Boreholes can be positioned flexibly across the site, as there is no specific requirement for a borehole within the curtilage of each plot.

4 Robust
   Communal nature of the array enhances design robustness, reducing risk of the ground being exhausted and allowing “diversity” to be provided across the array.

5 Scalable
   Can be applied to apartment blocks, sheltered housing, clusters of terraced/semi-detached houses or bungalows.

6 Simple billing
   No centralised billing; each tenant has their own energy bill meaning the system is exempt from Heat Network (Metering & Billing) Regulations 2014.

7 Controllable
   Featuring an individual heat pump in every property, tenants have absolute control over their own comfort levels and energy costs.

8 Compatible
   Works with radiators and underfloor heating.

9 Sustainable
   A Kensa ground source heat pump provides 100% of the property’s heating and domestic hot water.

10 Planning exempt
    Meets permitted development rights criteria.
High Hopes

Multiple occupancy dwellings can also benefit from ground source heat pumps.

Kensa’s district approach can also be used on a larger scale, and when combined with Kensa’s Shoebox heat pump – the world’s smallest and quietest ground source heat pump – opens up a whole world of opportunities for social housing providers with high rise buildings and apartment blocks.

The Shoebox’s advantageous size and low noise output allows for the heat pump to be fitted inside the home without disturbing the tenant, negating any requirement for costly and inconvenient plant rooms, centralised heating systems or ugly and exposed units on the roof space or at ground level.

A large scale district array can deliver heat and hot water to individual flats and apartments without the need for a plant room or any heat losses in the distribution pipework.

Infinitely scalable Kensa’s micro ground source heat network design delivers heat and hot water to clusters of properties. As few as two properties connected to one borehole qualify for the Non Domestic RHI.

Discover the Kensa Shoebox on Page 16
Retrofit:
Ground source heat pumps in existing housing stock

Fuel poverty - the burning issue

The cost of heating in off gas grid homes is a major issue for social landlords and residents. With poorly heated homes a major contributor to excess winter deaths among elderly and vulnerable residents, there is clearly an urgent need to reduce heating bills, especially in rural housing stock not connected to the gas grid.

In March 2015 the Government set out its new Fuel Poverty Strategy to improve as many homes as possible to a minimum EPC rating of E by 2020 and D by 2030.

Even where ground source heat pumps are deployed as a heating system upgrade in existing homes, a carefully designed and well installed system will deliver running costs equivalent to a gas boiler, yet with significantly lower lifetime ownership costs and longer life expectancy than any other type of system.

Typical annual heating & hot water costs

<table>
<thead>
<tr>
<th>System</th>
<th>Efficiency</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Source Heat Pump</td>
<td>(320% Efficient)</td>
<td>£360</td>
</tr>
<tr>
<td>Mains Gas</td>
<td>(90% Efficient)</td>
<td>£360</td>
</tr>
<tr>
<td>Oil</td>
<td>(90% Efficient)</td>
<td>£400</td>
</tr>
<tr>
<td>Air Source Heat Pump</td>
<td>(250% Efficient)</td>
<td>£465</td>
</tr>
<tr>
<td>LPG</td>
<td>(90% Efficient)</td>
<td>£530</td>
</tr>
<tr>
<td>Electric Heating</td>
<td>(100% Efficient)</td>
<td>£1160</td>
</tr>
</tbody>
</table>

Based on a two bed home with 8000 kW per year. Source: Nottingham Energy Partnership.

Benefits for all: Whether retrofit or new build, ground source heat

Tenants benefits:

✓ Reduce heating and hot water costs by up to 50% compared with off peak electric heating
✓ Fully controllable central heating, providing heat and hot water when/where it is needed
✓ Removes over/under heating syndrome associated with unpopular night storage heaters
✓ Simple to use heating system controls, as used in conventional central heating systems
✓ Lower heating bills allow whole home to be properly heated, improving overall comfort and quality of life
✓ Opportunity to switch to a standard rate electricity tariff, reducing running cost of general day time electricity consumption

Retrofit: how is it funded?

• 20 year income through the Non Domestic Renewable Heat Incentive
• Upfront ECO subsidy

Using Kensa’s unique ground source heat network approach, retrofit installations can benefit from funding under both the Non Domestic Renewable Heat Incentive (RHI) and the Energy Company Obligation (ECO).

Indeed, in its December 2016 RHI consultation response, Government stated: “The Government is keen to support the deployment of GSHPs making use of shared ground loops.” To deliver this ambition, Government confirmed that micro-district (shared ground loop systems) would continue to be supported by the 20-year non-domestic RHI but, crucially, the income would now be based upon the deemed heat consumption taken from any property’s EPC. This refinement not only eliminates the cost of heat meters but also negates the need for quarterly meter readings. Better still, income is certain thereby simplifying investment decisions. For retrofit installations, it is still possible to secure upfront grant funding via the ECO.
Future proof your new build housing stock

Government policy driving new build social housing developments, coupled with increasingly stringent Building Regulations on environmental standards and energy efficiency mean that low carbon forms of heating are becoming a standard requirement.

Developments in rural or off gas grid areas featuring Kensa ground source heat pumps benefit from reduced CO₂ emissions and improved carbon compliance compared to traditional fuels. Unlike other renewable heating technologies, ground source heat pumps do not require planning permission regarding noise emissions.

Equally, in gas connected areas ground source heat pumps provide a carbon compliance solution without the need for supplementary carbon saving measures, such as solar PV. As such, compliance strategies featuring ground source heat pumps are often the low cost solution, especially once the RHI income has been considered.

Typical CO₂ emissions per kWh

<table>
<thead>
<tr>
<th>Heating Type</th>
<th>Efficiency</th>
<th>CO₂ Emissions per kWh</th>
</tr>
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<tbody>
<tr>
<td>Ground Source Heat Pump</td>
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<tr>
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<td>(250% Efficient)</td>
<td>0.208</td>
</tr>
<tr>
<td>Mains Gas</td>
<td>(90% Efficient)</td>
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</tr>
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</tr>
<tr>
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<td>0.331</td>
</tr>
<tr>
<td>Electric Heating</td>
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Net kgCO₂/kWh. Source: Nottingham Energy Partnership.

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Net kgCO₂/kWh. Source: Nottingham Energy Partnership.

New Build: how is it funded?

- 20 year income through the Non Domestic Renewable Heat Incentive
- Can be co-funded with HCA development grants

With new build installations eligible to attract the Non Domestic RHI, ground source heat network systems have a distinct advantage over other renewable technologies such as air source heat pumps and solar PV, which are unable to attract the RHI or Feed In Tariffs in new build due to the rules of either scheme or HCA rules. BEIS has confirmed that installations of ground source heat networks in new build developments which have benefitted from the HCA grant funding are also able to claim the Non Domestic RHI (unlike solar PV under the Feed In Tariffs)*.

*Provided the original HCA bid did not specify ground source heat pumps would be installed and the social housing provider maintains separation between accounts receiving HCA funds and accounts that paid for the ground source heat pumps.

Landlord benefits:

- Exceptional reliability and durability leads to extremely low lifetime ownership costs
- 20 year heat pump unit life expectancy with minimal ongoing maintenance costs
- 100 year borehole lifetime, able to service multiple heat pump unit replacements over the property’s life
- Installed inside the home, so heat pump is not exposed to the external elements
- Improved whole home heating reduces other associated maintenance issues, like damp
- More efficient, cheaper to run heating reduces likelihood of high tenant turnover

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www.kensaheatpumps.com    |    0845 680 4328    |    info@kensaheatpumps.com
Kensa’s approach is very different to typical suppliers. Fundamentally we are first and foremost a manufacturer. However - whether for new build or refurbishment schemes – our specialist delivery arm, Kensa Contracting, takes care of the full design, delivery, compliance and post installation support of our systems for our social housing customers.

We think this is absolutely key, both to ensure the quality and sustainability of the installations, but also to ensure that delivery is seamless, well managed, hassle free, and is cost-effective.

It also enables us to ensure you are getting the very best financial return from the RHI and ECO*, as we design and install the systems to take best advantage of these schemes.

Each micro heat network system will include:

- A Kensa ground source heat pump for every dwelling
- A micro district borehole array to serve clusters of at least two dwellings
- A domestic hot water cylinder for every dwelling
- A new wet central heating system and controls for every dwelling

Kensa will also provide:

Feasibility & Design:
- Detailed feasibility study
- Clear cost and return analysis
- Property surveys and EPCs
- Geotechnical survey
- Full MCS compliant system design

Delivery:
- Tenant liaison
- On site project management of:
  - Drilling contractors
  - Heating system contractors
- Commissioning and hand over

Compliance & Support:
- Access ECO funding
- RHI compliance and application
- Comprehensive system warranty
- Ongoing technical support
- Responsive maintenance

* Subject to ECO availability and qualifying criteria
By sharing a common ground array, micro ground source heat network systems in either a retrofit or new build installation meet the definitions of "district heating", and as a result can be supported by the Non Domestic Renewable Heat Incentive (RHI) and the Energy Company Obligation (ECO).

**Non Domestic Renewable Heat Incentive (RHI)**

The Non Domestic RHI provides a 20 year income for the landlord for each property in the heat network (based on deemed heat consumption taken from the property’s EPC). Attractive tariff rates for the Non Domestic RHI mean that the additional investment of installing a ground source heat pump system over and above a replacement night storage heater solution can produce generous returns.

In addition, BEIS has confirmed that installations of district scale ground source heat pumps in new build developments are eligible for the Non Domestic RHI. Unlike solar PV under the Feed In Tariff scheme, even developments which have benefited from HCA funding are able to apply for the Non Domestic RHI.

**Energy Company Obligation (ECO)**

Uniquely for the retrofit sector, micro ground source heat networks are recognised as a measure able to attract Energy Company Obligation (ECO) funding, which provides a capital subsidy towards the system investment costs based on the amount of CO2 savings made. This is particularly beneficial where electric heating is being displaced.

**Domestic Renewable Heat Incentive**

In some instances where it is not practical to consider a micro ground source heat network approach, individual properties can benefit from the Domestic stream of the Renewable Heat Incentive. However, the Domestic RHI is better suited to larger, private sector households, where the benefit of the energy cost saving and RHI income can combine to provide a payback on the investment. The Domestic RHI payments span just 7 years and are paid on “renewable” heat content only. The Domestic RHI can only be applied to retrofit installations as new builds are ineligible.

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### Funding options

**Find your funding stream**

The Non Domestic RHI is particularly beneficial for social housing providers with regards to ground source heat pumps. The table below breaks down the key differences between the Domestic RHI and the Non Domestic RHI:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Domestic RHI</th>
<th>Non Domestic RHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes retrofit</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Includes new build</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tariff payment</td>
<td>7 years</td>
<td>20 years</td>
</tr>
<tr>
<td>Heat measurement</td>
<td>Deemed</td>
<td>Deemed</td>
</tr>
<tr>
<td>Paid on</td>
<td>“Renewable” heat only</td>
<td>All heat</td>
</tr>
<tr>
<td>Tariff rates</td>
<td>Modest – requires combination with fuel cost saving to produce payback</td>
<td>Attractive – GSHP rates recently doubled</td>
</tr>
<tr>
<td>Can be used in conjunction with ECO</td>
<td>No</td>
<td>Yes*</td>
</tr>
<tr>
<td>Total expected RHI income based on typical 8,000kWh / yr home&gt;</td>
<td>£8,275**</td>
<td>£19,540</td>
</tr>
</tbody>
</table>

> RHI tariffs correct as of 1st April 2017 / Assumes 3% per annum RPI increase.

* Retrofit installations only. ** 320% system efficiency.
Example project finances:

Retrofit

Where ground source heat pumps are utilised to replace existing electric heating systems, Kensa typically provides a full ground source heat pump and heating system installation package, including:

- A Kensa ground source heat pump for every dwelling;
- A micro district borehole array to serve clusters of at least two dwellings;
- A new wet central heating system and controls for each dwelling;
- A new domestic hot water cylinder for each dwelling.

Based on a typical two bedroom property with 8000kWh heating and domestic hot water consumption, illustrative capital costs and returns through the Non Domestic RHI and ECO are as follows:

| Total system capital cost: | £13,000 | £8,500 |
| ECO contribution: | £2,000 | £0 |
| Budgeted night storage heating replacement cost: | £4,000 | £4,000 |
| Marginal landlord contribution needed: | £7,000 | £4,500 |
| Expected RHI Income*: | £19,540 | £3,006 |
| Net benefit: | £12,540 | -£1,700 |
| Annual heating / hot water costs | £360 | £465 |

* GSHP based on Non Domestic RHI over 20 years, ASHP based on Domestic RHI over 7 years at 280% system efficiency.

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Example project finances:
New Build

Where a micro ground source heat network is installed as the preferred heating solution for new build properties, Kensa’s scope typically includes the provision of the ground source heat pump and communal ground array only, as often a wet central heating system will already have been costed into the overall project budget. Additional considerations to the budgeted wet system are therefore:

- A Kensa ground source heat pump for every dwelling;
- A micro district borehole array to serve clusters of at least two dwellings.

Based on a typical two bedroom property with 5000kWh heating and domestic hot water consumption, illustrative capital costs and returns through the Non Domestic RHI are as follows:

<table>
<thead>
<tr>
<th>Ground Source Heat Pump</th>
<th>Air Source Heat Pump</th>
<th>Gas boiler + 2kW Solar PV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total system capital cost:</td>
<td>£7,500</td>
<td>£5,000</td>
</tr>
<tr>
<td>Marginal landlord contribution needed:</td>
<td>£2,500</td>
<td>£0</td>
</tr>
<tr>
<td>Expected RHI Income*:</td>
<td>£12,210</td>
<td>£0</td>
</tr>
<tr>
<td>Expected FIT Income**:</td>
<td>£0</td>
<td>£0</td>
</tr>
<tr>
<td>Net benefit:</td>
<td>£9,710</td>
<td>£0</td>
</tr>
<tr>
<td>Typical CO₂ emissions (kg CO₂/yr)***:</td>
<td>810</td>
<td>1040</td>
</tr>
<tr>
<td>Annual heating / hot water costs</td>
<td>£225</td>
<td>£290</td>
</tr>
</tbody>
</table>

*Based on Non Domestic RHI over 20 years. **Assumed no FIT benefit can be obtained for HCA funded developments. *** Including an allowance for CO₂ saving contribution from solar PV, based on 1500kWh/yr total household electrical consumption.
Retrofit housing case study
Trent & Dove Housing: 133 electric heated bungalows

Trent & Dove Housing and Kensa Heat Pumps recently delivered the UK's most ambitious retrofit upgrades programme of its time, replacing electric night storage heating with Kensa ground source heat pumps connected to micro heat networks across 133 one and two bedroom bungalows over 15 different sites throughout the Burton-Upon-Trent and Uttoxeter area. The success of the project has resulted in a combined campaign led by Trent & Dove Housing and Kensa to encourage other social housing providers to follow Trent & Dove's example using their project as a blueprint.

Completed over a three month period, the Trent & Dove project features clusters of micro heat networks over 15 sites, feeding heating and hot water into pairs of bungalows, enabling upfront capital support via the ECO subsidy alongside 20 years of Non Domestic RHI income.

Each bungalow received a 6kW Kensa Shoebox heat pump plus a new hot water cylinder and radiators in place of the previous night storage heating.

“With the support of our contractors and Kensa Heat Pumps, Trent & Dove has achieved an outcome that many housing associations dream of; halved tenant energy bills, halved CO₂ emissions in our stock, improved tenant health and well-being, and £2.3m of income through the RHI to off-set our £1.8m investment – and all of this in just 3 months.”

Trent & Dove Housing

At a glance

- £1.8m investment
- £2.3m ECO & Non Domestic RHI income
- £350 - £500 tenant fuel savings p.a.
- Micro ground source heat network
- 133 bungalows across 15 different sites
- Three month schedule

“...This is the best heating I’ve ever seen – and the hot water is even better still. I’d recommend it to anybody. Everybody I’ve spoken with has been terrifically pleased with it.”

Mr Rowe, Tenant
Retrofit flats case study
Westward Housing: 20 electric heated flats

This landmark programme of retrofit works delivered the first ECO subsidised social housing project in the UK to feature a micro district heating scheme and Kensa’s unique Twin Shoebox heat pump in flats.

Following successful completion of works under the RHPP programme featuring Kensa ground source heat pumps, Westward Housing chose to roll out a wider retrofit programme at Croft House, a two storey development consisting of 20 one-bed flats providing retirement and sheltered housing over five blocks heated by night storage heaters.

Co-funded by the EST’s Ready for Retrofit scheme, the Croft House retrofit project features 10 district heating systems, each consisting of a single, double probe communal borehole each measuring 95m deep. Each district heating system serves two flats and two Kensa Shoebox Twin heat pumps.

Located inside the airing cupboard in each flat at Croft House, the Kensa Shoebox Twin heat pump quietly delivers renewable heat to the tenant all year round.

“ I have checked my meter for the last month and it was £20, whereas it was £40 or £50 a month before. You are bound to save lots of money with the ground source heating system. ”
Mr Porter, Tenant

At a glance
✓ 20 sheltered housing flats
✓ £40k ECO subsidy
✓ Blueprint for co-funded Non Domestic RHI & ECO schemes
✓ 50% fuel bill savings
✓ First installation of Kensa’s 6kW Twin Shoebox Heat Pump
✓ Award-winning

“ Kensa’s products have been proven to perform efficiently and effectively and we have already received glowing praise from our customers regarding the real savings they are making on their electricity bills since the ground source heat pumps have been installed. ”
Westward Housing
# Products

## Kensa Shoebox & Shoebox Twin

The world’s smallest & quietest ground source heat pump

- Fits inside the home
  - Discreetly installed inside each property
  - Typically located inside an airing cupboard or under the kitchen sink
  - Perfect for smaller homes or well-insulated properties
  - Connects to a micro heat network or individual borehole system

- The Kensa Shoebox Range features the quietest, smallest and most innovative ground source heat pump on the market.
- Available in 3kW single compressor models and 6kW twin compressor models, the award-winning Kensa Shoebox Range is an efficient, practical and affordable social housing heating solution engineered to provide both heating and hot water in new build and retrofit flats and starter homes.
- Designed to displace gas combination boilers as the default choice for smaller properties, the Shoebox Range is the first ground source heat pump solution that can be comfortably installed inside any home due to its low sound levels, output and size.

### Technical Specifications

<table>
<thead>
<tr>
<th>Shoebox</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase</td>
<td></td>
</tr>
<tr>
<td>Nominal thermal kW rating</td>
<td>3</td>
</tr>
<tr>
<td>MCS Approved</td>
<td>✓</td>
</tr>
<tr>
<td>SCOP at 35°C*</td>
<td>3.7</td>
</tr>
<tr>
<td>ErP rating at 35°C</td>
<td>A+</td>
</tr>
<tr>
<td>ErP rating at 55°C</td>
<td>A+</td>
</tr>
<tr>
<td>Max flow temperature °C**</td>
<td>65</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>220 - 240 V / 50 - 60 Hz</td>
</tr>
<tr>
<td>Starting current amps ***</td>
<td>30</td>
</tr>
<tr>
<td>H x W x D (mm)</td>
<td>530 x 475 x 370</td>
</tr>
</tbody>
</table>

* The SCOP figure quoted is calculated as per EN14825. ** By increasing the flow temperature from the heat pump, the efficiency of the unit will drop and the COP decreases. *** Kensa heat pumps incorporate smart starts as standard to limit the starting current of the compressors.

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Small in size, big in space, time & cost savings

Kensa’s Shoebox heat pump range is designed with micro district in mind. The perfect pairing with a micro district array, a Shoebox heat pump is installed within each dwelling and connected to a communal array, providing efficiency savings to the client, access to the Non Domestic RHI, and individual heating control and bills for the tenant.
Kensa’s newest product innovation

- Installed in a bespoke shelter outside each property
- Meets larger heat and hot water requirements
- Ideal for larger retrofit applications
- Connects to a micro heat network or individual borehole system

- The Kensa Evo ground source heat pump is specifically designed to provide heating and hot water at the highest efficiency possible with the simplest installation.
- Featuring intelligent touch screen controls to enable remote commissioning, facilitate parameter settings, preempt system irregularities, and provide live status readings.
- Offering a 15% gain in efficiency compared to prior models to further minimise running costs and maximise income through the Domestic Renewable Heat Incentive.

Kensa Evo
An evolutionary new ground source heat pump series

- 7kW - 17kW
- Low noise
- High performance
- Smart controls
- RHI eligible
- Water to 60°C

Capable to deliver hot water up to 60°C

The ErP A++ rated Evo series delivers heating and hot water efficiencies of MCS SCOPs to 4.7 at 35°C along with industry leading noise reduction.

Technical Specifications

<table>
<thead>
<tr>
<th>Phase</th>
<th>Single</th>
<th>Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal thermal kW rating</td>
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<td>9</td>
</tr>
<tr>
<td>MCS Approved</td>
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<tr>
<td>Co-efficient of Performance*</td>
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<td>4.64</td>
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<td>Performance 35°C</td>
<td>A++</td>
<td>A++</td>
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<tr>
<td>Performance 55°C</td>
<td>A++</td>
<td>A++</td>
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<tr>
<td>Max flow temperature °C**</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>Rated voltage</td>
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<td>380 - 420 V / 50 - 60 Hz</td>
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<tr>
<td>Starting current amps ***</td>
<td>18.2</td>
<td>28.7</td>
</tr>
<tr>
<td>H x W x L (mm)</td>
<td>1160 x 555 x 575</td>
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</tbody>
</table>

* The SCOP figure quoted is calculated as per EN14825. ** By increasing the flow temperature from the heat pump the efficiency of the unit will drop and the COP decreases. *** Kensa heat pumps incorporate smart starts as standard to limit the starting current of the compressors.
About Kensa

Heritage
Kensa is the UK’s only dedicated manufacturer of ground source heat pumps. Established in 1999, our extensive product range is the largest on the UK market. Fundamentally we believe that everyone should benefit from sustainable, efficient, and affordable heating.

British
Kensa’s extensive range of ground source heat pumps have been developed and manufactured in the UK for the UK market at our facility in Cornwall since 1999. Our world leading product range features the most comprehensive collection of heat pumps created for all applications, including the smallest and quietest ground source heat pump on the market, the Shoebox Heat Pump.

Experience
Kensa has installed thousands of ground source heat pumps in the social housing sector, the majority as a replacement for electric heating systems in existing properties.

Our existing customers include
- Bromford Housing
- Coastline Housing
- Enfield Council
- Hanover Housing Association
- New Linc Housing
- Northumberland Council
- Stonewater Housing
- Shropshire Housing
- Shropshire Rural Housing Association
- Trent & Dove Housing
- Westward Housing
- Yarlington Housing Association
Kensa Contracting
As a manufacturer, Kensa is unique in being able to offer a delivery capability to support the roll out of ground source heat pumps for the social housing sector. Our vertically integrated operation includes survey, design, manufacture, project management, installation, commissioning and after sales support.

Providing you with full peace of mind and a simplified approach to procurement and project management, Kensa Contracting takes on full end-to-end project delivery responsibility.

Every aspect of the installation is designed in accordance with the requirements of the Microgeneration Certification Scheme (MCS), while Kensa staff also provide on-site assistance to customer support teams during the tenant liaison and sign up process. Kensa appoints and manages appropriately qualified drilling contractors able to demonstrate specific experience of working in the social housing sector and will also appoint and work with your preferred or framework plumbing and heating contractors or direct labour force to deliver the internal heating systems. Kensa also provides full support with RHI and ECO applications post completion, as well as full training to responsive maintenance contractors who will be responsible for ongoing on-site support once the systems have been commissioned.

Warranty
The unique reliable, durable, and low maintenance benefits of ground source heat pumps are further strengthened by Kensa’s generous seven year warranty for the heat pump, to provide total peace of mind to you and your tenants.

Support
Whether you choose to use Kensa’s UK wide network of approved installers and contractors or use your own preferred framework contractor, Kensa will provide dedicated UK-based technical support on-site and remotely, backed-up by the most comprehensive online resources for ground source heat pumps at www.kensaheatpumps.com/knowledge-hub.

Flexible
Kensa’s work model allows complete flexibility to fit with your preferred arrangements. We bring a network of experienced delivery partners who have previously worked with Kensa on social housing installations. Alternatively, we can work with your partners – plumbers, service and maintenance engineers – to provide a scheme that meets all your requirements.
Get in touch

To discuss any current or potential project plans please call us on 0845 680 4328 or email us at info@kensaheatpumps.com

Award winning company

Kensa’s success has been recognised by the receipt of numerous social housing and heating sector awards, including:

Accreditations

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