



Shoebox Heat Pumps

Features and Benefits

- Quiet operation
- Low running costs
- Low carbon emissions
- Ease of installation inside a dwelling
- Available in 3kW and 6kW
- Single phase
- UK manufactured
- Access to industry grants

Product Description

The [Kensa Shoebox range of heat pumps](#) are designed to provide space heating and domestic hot water (optional extra) for well insulated buildings with multiple accommodation. By using a [communal ground array](#) this avoids the high heat losses associated with running high temperature pipe throughout buildings improving the overall efficiency of the system.

The Shoebox heat pump is designed specifically to operate with low noise levels enabling easy installation in places such as an apartment's kitchen.

The unit has been specifically designed to provide a renewable alternative for heating multiple apartment blocks.

The Shoebox heat pump is available in two sizes; a 3kW version and 6kW version. Both units come complete with the ground side water pump internal to the unit reducing the complexity of installation.



Kensa Shoebox heat pumps use low grade renewable energy from a communal borehole field and each individual apartment's heat pump concentrates this to a higher temperature to provide heat into the apartment's heating system.

As a UK manufacturer, Kensa offers a high quality product which is supported by leading industry technical support to ensure the application engineering is performed to the highest standard.

Warning - when a heat pump solely is used for heating domestic hot water, it may not get the water hot enough to kill the dangerous Legionella that can breed in hot water cylinders. Alternative arrangements may therefore be required to ensure the cylinder is pasteurised regularly. The installer/end user should check if this pasteurisation is required by local regulations, bearing in mind that there are often different rules for installations in rented or commercial properties.

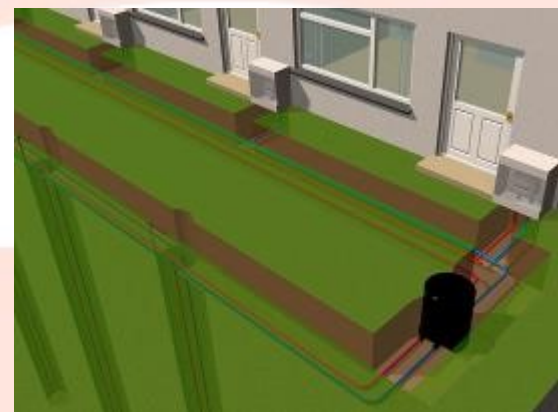


Shoebox Heat Pumps

| | Single Phase | |
|---|--|------------------------------|
| Nominal thermal kW rating | 3.0 | 6.0 |
| Part No | S3-P0K | S6-P0K |
| MCS Approved | BBA0055/31 | BBA0055/35 |
| Performance data—rated heating output at B0/W35 BS EN14511 | | |
| Power consumption | 0.8kW | 1.6kW |
| Coefficient of performance* | 4.05 | 3.84 |
| Immersion heater output | Kensa heat pumps do not feature back-up electric immersion heaters** | |
| Brine (primary) based on 0°C in, -4°C out | | |
| Design flow rate kg/min | 9.2 | 18.4 |
| Pressure drop kPa at design flow rate | 5 | 16 |
| Max inlet temperature °C | 25 | |
| Min temperature °C (Outlet) | -5 (at standard settings) | |
| Heating water (secondary) based on 30°C in, 35°C out | | |
| Design flow rate l/min | 8.62 | 16.88 |
| Pressure drop kPa at design flow rate | 1.0 | 0.64 |
| Max flow temperature °C*** | 65 (RHI applications 64C) | 65 (RHI applications 60C) |
| Electrical Values @B0/W35 | | |
| Rated Voltage | 220 – 240 V / 50-60 Hz | |
| Power supply rating amps | 13 | 25 |
| Rated current (max) amps | 7 | 14 |
| Typical running current @ B0/W35 amps | 4 | 8 |
| Starting current amps | 30 | 34 |
| ENA Database Number | HP_0302 | HP_0305 |
| Acoustic Performance | | |
| Sound Power Level | 47dBA | 52dBA |



Apartment Development with a DV-A Communal ground array

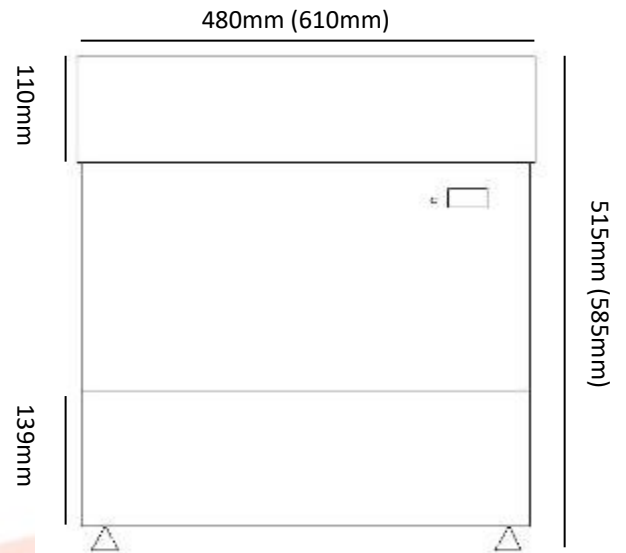


Terraced House Communal Ground Array



Shoebox Heat Pumps

| | Single Phase | |
|---|--|---------------------------|
| Nominal thermal kW rating | 3.0 | 6.0 |
| Refrigerant circuit | | |
| Process medium | R134a | |
| Fill volume kg | 0.7 | 1.6 |
| Compressor type | Reciprocal | |
| Nominal Dimensions | | |
| H x W x D (mm) | 515 (H) X 480 (W) X 360 (D) | 585 (H) X 610(W) X 595(D) |
| Nominal weight kg | 60 | 100 |
| Operating pressure | | |
| Brine circuit min (primary) bar g | 0.3 | |
| Heating water circuit min (secondary) bar g | 0.6 | |
| Low pressure reset bar g | 1.8 | |
| Connection sizes | | |
| Primary IN and OUT | 3/4" BSP Parallel with 22mm Adaptor valves | |
| Heating flow and re-turn | | |
| Performance (based on Average Climate) @35°C | | |
| ErP rating | A+ | A+ |
| SCOP | 3.68 | 3.45 |
| Seasonal space heating energy efficiency | 139% | 130% |
| Performance (based on Average Climate) @55°C | | |
| ErP rating | A+ | A+ |
| SCOP | 2.99 | 2.97 |
| Seasonal space heating energy efficiency | 112% | 111% |



Dimensions in brackets are for the twin compressor 6kW version.

* The COP figure quoted is calculated as per EN14511

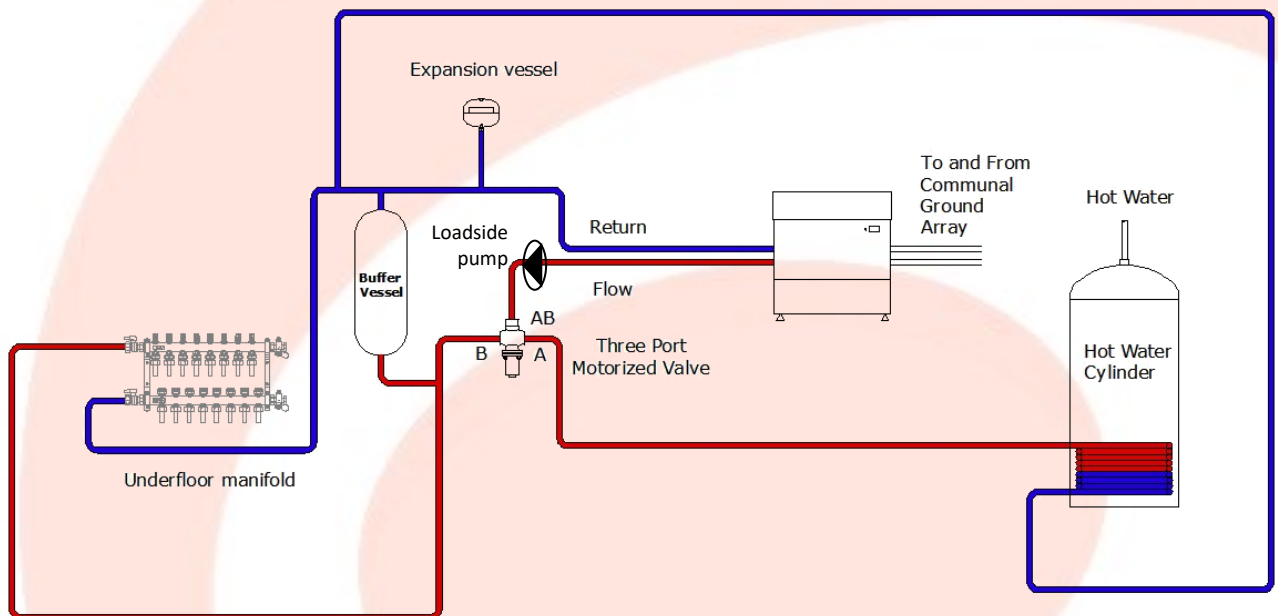
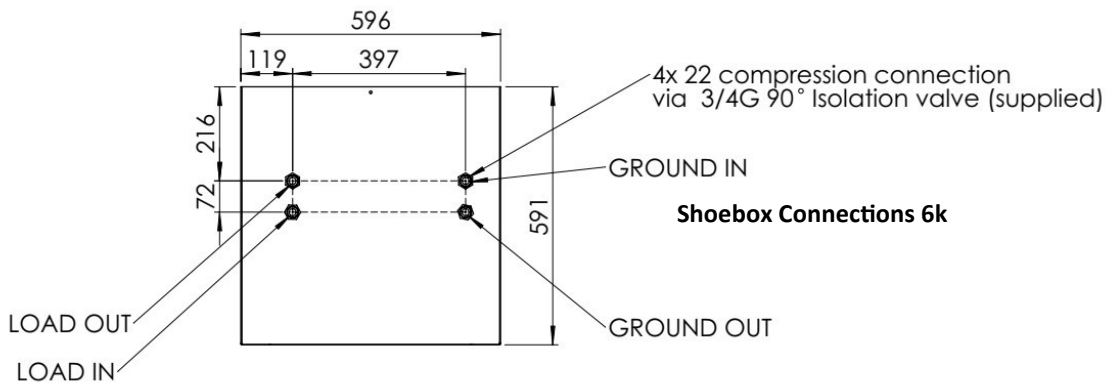
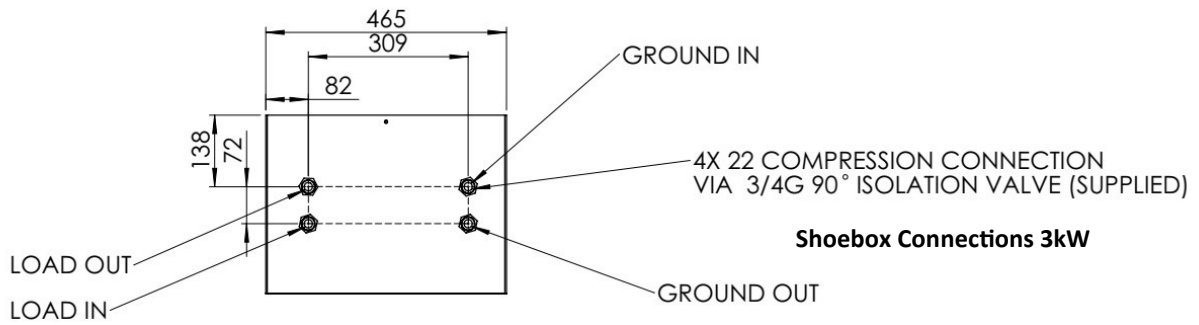
** In-built immersion heaters will increase running costs and CO2 emissions as they use direct electricity, because of this Kensa heat pumps do not include them.

*** By increasing the flow temperature from the heat pump the efficiency of the unit will drop and the COP decreases.

Note: Design flowrates are for a ground temperature of 0 and -4°C and a load temperature of 30 and 35°C



Shoebox Heat Pumps Connections



Shoebox Installation Schematic—Underfloor