A world of low-carbon heating
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Energy-efficient heating solutions from an established world leader

With an unmatched reputation for quality, reliability and innovation, the Dimplex name is well known by home owners and the public and private sectors. Today, the brand is synonymous with energy saving products and a commitment to excellence and customer satisfaction.

Renewable technologies such as air source heat pumps are not necessarily new, but expertise in the UK of how to most practically and efficiently apply them is – especially where multiple technologies need to be employed to meet increasingly demanding building energy targets.

For Dimplex, there’s nothing new about renewables. We have been producing innovative heat pumps for over 30 years and our low carbon solutions are already operating efficiently in schools, offices and homes.

In fact, Dimplex now offers the widest range of heat pumps available in the UK, plus a suite of complementary products dedicated to energy-efficient space and water heating. This, combined with our expertise in product design, research and development, plus the backing of a name you already know and trust, helps to ensure that we can offer you a tailored solution to meet your specific needs.

We have solutions for a wide variety of heating requirements. So take a closer look and see how we might be able to help you now.

Discover our world of renewable products for a low-carbon future.
It’s time to rethink the way we heat our homes

The need to reduce CO₂ emissions and find more efficient energy sources has never been higher on the social and political agenda.

**Reason 1: The environment**

It’s widely accepted that CO₂ emissions from human activities are closely linked to global warming. With the energy used in buildings responsible for nearly 50% of the UK’s carbon burden, it’s imperative that we take steps to reduce the long-term energy and carbon impact of our buildings on the environment.

In fact, almost a quarter of the UK’s CO₂ emissions come from heating, lighting and running appliances in our homes. 80% of this is attributed to our space heating and hot water alone. Clearly, we must find alternative and more efficient means of heating our homes and water.

**Reason 2: The legislation**

Increasingly, legislation is forcing homeowners and housebuilders to ensure their homes are as energy efficient as possible. As part of EU-wide action, the UK has committed to source 15% of its energy from renewable sources by 2020. Building-integrated renewable technologies, such as heat pumps, solar hot water solutions and solar electricity, will all play an important role in achieving this target.

With the introduction of standards such as the Code for Sustainable Homes (CfSH), implemented in April 2007, designers and specifiers are being increasingly encouraged to include multiple integrated renewable technologies into new build property designs to provide low carbon heating, hot water and electrical power.

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**UK carbon emissions by sector**

- Business: 31%
- Domestic: 24%
- Transport: 24%
- Agriculture: 8%
- Public: 4%
- Waste Management: 4%
- Industrial: 3%
- Exports: 2%

**UK household energy consumption**

- Space Heating: 60%
- Hot Water: 24%
- Cold Appliances: 3%
- Consumer Electronics: 3%
- Cooking: 3%
- Lighting: 3%
- Wet Appliances: 2%
- Miscellaneous: 2%

**UK CO₂ reduction target trajectory**

UK Net carbon account projection 1990-2022

![Graph showing CO₂ reduction targets](image)

Kyoto target (2008-12)*

Carbon Budget 1

Carbon Budget 2

Carbon Budget 3

*Kyoto target is measured against the 1990 base year of 779.9 MtCO₂e
Reason 3: The cost

As natural fuel sources become increasingly restricted, gas and oil costs will continue to rise. We are all concerned about reducing our energy bills – not least, those of us who live in areas of the UK off the gas grid. Continuing to use oil or LPG will only become more costly, so finding more cost-effective and efficient means of providing and using energy is paramount.

With the introduction of government financial incentives to help individuals invest in their home energy-efficiency improvements, the demand for building-integrated renewable technologies is on the rise.

The Renewable Heat Incentive (RHI) will come into force in Autumn 2012, rewarding householders for every unit of renewable heat produced. In the meantime, the Renewable Heat Premium Payment Scheme (RHPP) provides a grant of £850 for properties off the gas grid fitting an air source heat pump. As well as rewarding you for ‘going green’, the RHI and RHPP will help reduce the national dependence on limited natural fuel sources, bring your heating bills down and help eradicate the risk to you of future price rises.

Whether for environmental, legislative or financial reasons, finding a more energy-efficient way to heat our homes is now a priority.

The good news is you can get greener, compliant and cost-effective heat – without compromising on system performance. Innovative heating products from Dimplex Renewables make clever use of the energy around us, converting the freely available heat in the ground, the air and the sun into efficient heating and hot water for our homes – even when air temperatures drop to as low as -20°C.

### Home Heating Oil Prices Over 2 Year Period

<table>
<thead>
<tr>
<th>Date</th>
<th>Price (pence/litre)</th>
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<tbody>
<tr>
<td>1 Aug 2009</td>
<td>30</td>
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<td>1 Aug 2010</td>
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<tr>
<td>1 Aug 2011</td>
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</table>
A world of renewable energy expertise

Renewable technologies may not be a new thing, but expertise in the UK of how to most practically and efficiently apply them is—especially where multiple technologies need to be employed to meet increasingly demanding building targets.

A policy of continuous investment

At Dimplex, we appreciate and understand this need—which is why we have a policy of continuous investment in product development, and an ongoing programme of research and development (R&D). Our investment in developing products that constantly set new standards ensures we remain at the forefront of innovation.

One of the widest ranges from a single manufacturer

We have one of the widest ranges of building-integrated renewables available from a single manufacturer in the UK today. Every component is designed for optimal performance and efficiency, and all our products can integrate seamlessly to work together as a package, creating a highly energy-efficient home heating system.

Systems to suit every requirement

Through our extensive range of renewable systems, we offer solutions which are ideally suited to the UK housing market—everything from retrofit in detached rural homes and Older properties, to new-build, modern city apartments and affordable housing.

The most effective renewable technologies

Working with expert installers, housing developers, housing associations, consulting specifiers and local authorities, our experienced technical sales and in-house design team ensure that we deliver the most effective renewable technologies for your individual requirements.

A recognised name you already know and trust

We have more than 30 years’ experience in manufacturing high-quality, high-efficiency heat pump systems. This backed up by a recognised name you already know and trust helps ensure we can bring you tailored renewable energy solutions to meet your specific needs.
Our products, your benefits

When you choose a Dimplex heat pump, you get so much more...

- **Tried and tested technology**
  
  All Dimplex products are designed to meet the latest international performance and safety standards, and are subjected to rigorous testing and evaluation using state-of-the-art facilities that recreate challenging environments to ensure our products perform – every time.

- **Customer service**
  
  When you choose Dimplex Renewables, you have the support of our experienced customer service team, as well as backup provided by our specialist service engineers.

- **Wide distribution network**
  
  Our wide distribution network utilises our national and regional partners to ensure full product availability through national and independent installers and distributors.

- **Nationwide installer training**
  
  We operate a nationwide Accredited Installer Programme and only supply our systems through accredited installers, ensuring our installations are delivered to the highest possible standards to maximise energy savings.

- **Microgeneration Certification Scheme (MCS) approved**
  
  At Dimplex, we offer a wide range of ground and air source heat pumps that are MCS certified, as well as a network of MCS-certified installers, ensuring RHI eligibility and the quality and performance of our units.

- **Full design service**
  
  Our in-house design team can provide detailed plans for the application of renewable technologies specific to an individual property. These include full heat loss calculations, energy saving estimates, plus a complete product and accessory specification.

- **Standard Assessment Procedure (SAP) Appendix Q listed**
  
  As SAP Appendix Q listed products, our ground and air source heat pumps can help achieve higher SAP ratings within a dwelling by including their measured performance data in SAP calculations rather than default values for heat pumps.

- **Three-year warranty**
  
  All our renewable energy products have the benefit of a three-year warranty, ensuring their continued performance and quality.

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1. Dependent on model
A closer look at Air Source Heat Pumps

Dimplex air source heat pumps use the latent heat in the outside air to heat your home and provide hot water. As air is abundantly available around us, air source heat pumps have the advantage of low installation costs and minimal space requirements.

**How do they work?**

Air source heat pumps are able to produce more energy than they consume. By using the same technology employed in your refrigerator, the heat pump absorbs heat from the outside air and raises it to a level suitable for heating. The heat pump is made up of 4 main components that carry out this vapour compression cycle to produce the energy to heat your home and hot water.

1. **Energy from the outside air is transferred to the liquid refrigerant that is circulated through the evaporator.** As the refrigerant is much cooler than the air, heat is transferred from the air to the refrigerant causing the refrigerant to change state from liquid to gas.  
2. **The heated refrigerant gas is then compressed by the electrically driven compressor, which reduces its volume but increases its temperature significantly.**
3. The compressed hot gas is now drawn into the heat exchanger (condenser) where it is surrounded by the water from the property’s heating system. As the gas is much hotter than the water, the gas gives up its heat to the water and condenses back into liquid form, but still at a high pressure.
4. The cooler liquid refrigerant then passes through an expansion valve which reduces the pressure. The liquid refrigerant is now able to absorb heat from the external air, allowing the cycle to begin again. evaporator and the cycle starts again.

**How are they used?**

The design and low noise output of Dimplex air source heat pumps means they’re ideal for outdoor installation. The heat generated can be used for underfloor heating systems or radiators, or to provide readily available hot water in your home. And they’re the ideal partner for our SmartRad range of wall-mounted fan convectors, providing controllable, responsive and energy-efficient heating.

The process is simple, effective and renewable – which means it’s as good for the environment as it is for our pockets.
Get more out than you put in

Heat pump efficiency is measured by the Coefficient of Performance (CoP), which is the ratio between the amount of heat delivered and the electrical power consumed by the compressor.

With conventional boilers, 1 unit of input energy provides less than 1 unit of output heat. But with a Dimplex air source heat pump, the conversion of renewable heat into useable energy means that for every unit of electrical input energy, 3 – 4 units of heat output are produced by the heat pump.

The amount of heat output produced for every unit of input energy (ie the CoP) varies continually dependent on a number of factors – including the outside air temperature and the type of heating system – however, under optimum conditions this can be as high as 4.5 or more at certain times of the year, while a well designed system should achieve an average CoP over the year of above 3 when combined for heating and hot water.

A Dimplex air source heat pump has the potential to reduce your home's CO₂ emissions by up to 50% and offer a 30% saving on running costs, when compared to traditional means of domestic heating.

Benefits summary:

- Up to 50% reduction in CO₂ emissions
- 30-50% saving on running costs (depending on your current heating fuel)
- Helps to achieve Code for Sustainable Homes ratings
- Easy to install – self-contained unit
- No gas supply, flues or ventilation required
- Low maintenance – no annual safety inspection required

CO₂ emissions per year for a 4 bedroom house (kgCO₂/yr)

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<thead>
<tr>
<th></th>
<th>Gas boiler 92% efficient</th>
<th>LPG boiler 91% efficient</th>
<th>Oil boiler 86% efficient</th>
<th>Heat Pump CoP 3.4</th>
<th>Heat Pump CoP 3.9</th>
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Annual heating and hot water costs for a 4 bedroom house (£)

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<thead>
<tr>
<th></th>
<th>Gas boiler 92% efficient</th>
<th>LPG boiler 91% efficient</th>
<th>Oil boiler 86% efficient</th>
<th>Heat Pump CoP 3.4</th>
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<tr>
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<td>3200.00</td>
<td>2800.00</td>
<td>2600.00</td>
<td>2400.00</td>
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HP performance based on EN15316 SPF calculation for heating and domestic hot water.
Heating and hot water demand based on information published by DECC (RHI consultation).
Energy costs based on British Gas dual fuel tariff, August 2011 and industry figures for oil and LPG.

With a CoP rating of 3, Dimplex air source heat pumps are three times as efficient as conventional boilers.
One solution, multiple applications

Heat pumps provide an effective low carbon energy solution for so many applications. Whether you’re a homeowner or a self builder, buying a new home, embarking on a refurbishment project or simply looking for alternative fuel sources to reduce your heating bills, air source heat pumps are the ideal choice.

**Homeowners**

- With heating bills continuing to rise, heat pumps can provide significant annual savings compared to oil or LPG.
- The new Renewable Heat Premium Payment (RHPP) scheme provides a grant of £850 towards installation, plus likely inclusion in the Renewable Heat Incentive (RHI) scheme from October 2012* which will reward you with an ongoing payment for ‘going green’.

**Self builders**

- Heat pumps produce up to 50% less CO₂ than gas boilers, therefore helping to make a significant contribution towards Building Regulations Part L compliance (the conservation of fuel and power).
- A high contributor of renewable energy, heat pumps help ease planning consent while significantly lowering home energy bills.
- As heat pumps only require electrical infrastructure, they’re ideal for off gas-grid areas.
- You’ll be eligible for funding under the RHPP and to receive ongoing support from the RHI.*

**New build developments**

- Offering up to 50% CO₂ savings over fossil-fuelled systems, heat pumps help towards Building Regulations Part L compliance.
- This also helps towards compliance with the Code for Sustainable Homes (CfSH) which calls for enhanced improvements in CO₂ emission reduction.
- As a formally accepted ‘renewable’ technology, heat pumps meet Planning Policy Statement 22 (PPS 22) which requires local planning authorities to incorporate renewable energy in new buildings.
- Heat pumps will also make a significant contribution to high Energy Performance Certificate (EPC) scores.

**Social housing**

- Heat pumps reduce running costs and, therefore, fuel poverty – especially in off gas-grid areas.
- They offer significant CO₂ emissions savings over other fuels, aiding compliance with CfSH.
- You’ll be eligible for funding under the RHPP and to receive ongoing support from the RHI.*
- There are no mandatory service, safety or maintenance requirements.

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* From October 2012, subject to Government confirmation of eligibility criteria.
1. **Air source heat pump**

Located outside the property, the air source heat pump is quiet and extracts heat from the ambient air – whatever the weather. Dimplex heat pumps are compact, self-contained units, with all the refrigeration components fully integrated. This means only water connections are required between the heat pump and the building.

2. **Underfloor heating**

Underfloor heating is generally regarded as a good complement to heat pumps, as heat is emitted over a large surface area. This allows the water temperatures from the heat pump to be minimised, so optimising the efficiency and performance of the system.

3. **SmartRads**

SmartRads are ideal for use with heat pumps either instead of, or alongside, underfloor heating. They are designed to work at low flow temperatures to optimise heat pump efficiency. But being wall mounted, they can be easily retrofitted to existing properties, or where underfloor heating isn’t practical or cost effective. Containing just 5% of the water volume of conventional radiators, they heat up quickly and are extremely controllable, helping to save on running costs and CO₂ emissions. Plus they’re available in a choice of styles, including glass-fronted versions.

4. **Radiators**

Dimplex heat pumps may be used with conventional radiators. But note, this may not be as efficient and the radiator sizing differs from that for fossil fuel systems. We recommend a flow temperature of 45-50°C to operate with our heat pumps – which may require an oversized radiator. See your manufacturer’s temperature table for guidance.

5. **Hot water cylinder**

Dimplex EC-Eau cylinders are designed to operate seamlessly with our heat pumps for an efficient and environmentally-friendly way to meet the home’s domestic hot water needs. The cylinders are highly insulated and use a large heat exchanger to maximise the transfer of heat generated by the heat pump to the stored water.

6. **Domestic hot water**

The hot water system is completely pressurised, resulting in fast-filling baths, invigorating showers and plentiful, powerful hot water to multiple points around the home, simultaneously.

7. **Solar thermal panels**

The perfect complement to heat pumps, our solar thermal panels are a cost-effective approach to energy and carbon saving. They use abundantly available, free solar energy to work alongside the heat pump as a way to heat the hot water cylinder, further reducing running costs.

8. **Solar PV panels**

Solar PV panels produce electricity from daylight and are an excellent companion to a heat pump system – which runs on electricity. Solar PV installations benefit from the Feed-in Tariff. Additionally, the electricity they produce can be used effectively to help reduce the running costs of a heat pump system.
Introducing Dimplex Air-Eau

Dimplex Air-Eau is our exciting new range of inverter-driven air source heat pumps designed to match output to varying heating demand. With achievable CoPs of up to 4.7, Air-Eau provides one of the most advanced, efficient and high-performance air source heat pump ranges on the market.

- Best-in-class efficiency
- Inverter driven
- Variable flow temperature
- Easy installation
- Low noise levels
- Domestic hot water

SUITABLE FOR:
- Replacing oil/LPG systems in larger private homes (attracts RHP grant payment)
- Social housing refurbishment projects, tackling fuel poverty
- New build developments, reducing CO₂ emissions towards CfSH ratings
Available in four model options – 6, 9, 12 and 16kW outputs – to suit your individual requirements

Superior efficiency performance, with CoPs of up to 4.7

Inverter-driven compressor able to maintain heating output levels – even at low air temperatures – and modulate output to maximise efficiency

‘Monobloc’ heat pump unit, with integrated heating system components built in for ease of installation:
- Circulation pump
- Expansion vessel
- Safety group
- Backup immersion

Supplied complete with heat pump programmer

Variable water flow temperatures between 35 and 55°C to optimise space heating comfort, with weather-compensated flow temperature control to improve efficiency

Designed to work efficiently with underfloor heating, Dimplex SmartRad or conventional radiators

Ideal for use in conjunction with a Dimplex EC-Eau heat pump-ready cylinder to produce domestic hot water

Low noise levels and ‘Night Mode’ for extra low noise night-time operation

Easy access to electrical and plumbing connections for ease of installation

See page 30 for technical specifications.
The performance characteristics of Dimplex Air-Eau

Air-Eau uses an inverter-driven compressor. This effectively modulates the heat pump output to match heating demand, enabling the heat pump output to stay constant – even at very cold outdoor temperatures. When air temperatures are warmer and heating demand falls, the heat pump output is reduced, maximising Air-Eau’s efficiency (CoP).

Best-in-class efficiency
Dimplex Air-Eau boasts impressive levels of efficiency, achieving CoPs of up to 4.7 in typical operating conditions, which can mean a significant reduction in running costs and CO₂ emissions. In fact, across the range of models, output water temperatures and ambient conditions, Dimplex Air-Eau heat pumps exhibit best-in-class performance for efficient heating and hot water production.

Inverter driven
At the heart of Air-Eau is a variable-speed, inverter-driven compressor. This modulates the heat pump output to ensure it closely matches the heating requirements of the building as ambient temperatures change.

The benefits of this are illustrated in the example here, in which a 12kW heat pump is able to provide the full heating demand at -5°C. As the outside air temperature increases, the building’s heat demand falls, so reducing the required output from the heat pump. The compressor power is reduced and the efficiency (CoP) increases.

Additionally, all Air-Eau inverter-driven heat pumps have low starting currents. Compressor power is gradually increased ensuring that starting loads are not a burden on the electrical network infrastructure.

Variable flow temperature
Weather-compensated water flow temperatures from the Air-Eau heat pump help to further maximise the system’s efficiency. Weather compensation adjusts the heating water temperature from the heat pump based on the ambient outside temperature. So, as heat demand falls, lower flow temperatures can be used to achieve the same levels of comfort – while maximising the heat pump’s efficiency. This can lead to up to 30% energy consumption over the course of a year, compared to running at fixed flow temperatures.

CoP improves further during part load operation

<table>
<thead>
<tr>
<th>Heat pump output (kW)</th>
<th>CoP</th>
<th>Temperature (°C)</th>
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<tbody>
<tr>
<td>12kW</td>
<td>4.7</td>
<td>35°C</td>
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<td>10kW</td>
<td>4.5</td>
<td>35°C</td>
</tr>
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<td>8kW</td>
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<td>4kW</td>
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</tr>
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<td>1kW</td>
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</tr>
<tr>
<td>0.5kW</td>
<td>3.3</td>
<td>35°C</td>
</tr>
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</table>

Heat load kW

Electrical energy

Free heat from the air
Dimplex Air-Eau’s ‘monobloc’ configuration provides the ultimate plumb-and-go solution, since it combines all the main system and hydraulic components in a single outdoor unit. This means only the hot water cylinder and control valves are required. Water pipes, rather than refrigerant lines, connect the heat pump to the building, allowing for speedy installation – and no need for refrigerant-handling expertise.

Easy installation

Dimplex Air-Eau heat pumps are an ideal choice for providing domestic hot water as part of the whole house solution. The integrated heat pump controller provides full programming flexibility over hot water production. When paired with a Dimplex EC-Eau heat pump cylinder, Dimplex Air-Eau offers an efficient and environmentally-friendly way to meet your home’s domestic hot water needs. The heat pump and cylinders are optimally matched using a large surface area heat exchanger; this maximises the transfer of heat generated by the heat pump to the stored water. And because the hot water system is completely pressurised, you can enjoy fast-filling baths, invigorating showers and plentiful, powerful hot water to multiple points around the home, simultaneously.

Low noise levels

Sound emissions from air source heat pumps are a sensitive subject and keeping these to a minimum is an important consideration for any installation. Dimplex Air-Eau models have extremely low sound levels at distance, typically as low as 50dB(A) at 1 metre. What’s more, Air-Eau heat pumps feature an innovative ‘Night Mode’; this allows you to program the heat pump output to be lowered during the night, reducing sound emissions even further.

Domestic hot water

Dimplex Air-Eau heat pumps exhibit best-in-class performance for efficient heating and hot water production.
Dimplex Air-Eau: The packages

Air-Eau packages
To optimise the benefits of Dimplex Air-Eau heat pumps, we offer complete system packages designed to suit a wide range of domestic heating and hot water applications. All our packages are ideal for both new and existing homes, and each combines the benefits of high-efficiency Dimplex Air-Eau heat pumps with purpose-designed Dimplex EC-Eau ‘heat pump-ready’ hot water cylinders (with integrated buffer tanks for space saving and efficiency) plus all the necessary controls and ancillaries. The packages may also be combined with your choice of SmartRad radiator for a wholly integrated, high-efficiency and low-carbon heating solution.

EC-Eau cylinders
Dimplex EC-Eau stainless steel cylinders are designed specifically to deliver mains pressure hot water from heat pump systems. They are supplied with carefully sized, high surface area heat exchangers. This ensures maximum heat transfer between the heat pump and the stored water for optimal efficiency and running costs. Packages are available with 125, 150 or 210 litre capacity options and all cylinders include an integrated 75 litre buffer tank as standard. A mandatory requirement for all Dimplex heat pumps, this ensures efficient defrosting and compressor optimisation. To minimise internal space requirements, the buffer is cleverly incorporated – and thermally separated – on top of the cylinder.

Environmental sensitivity and efficient performance are key attributes of EC-Eau. The range boasts 60mm of low Global Warming Potential (GWP) insulation foam and innovative features throughout to reduce heat loss. All inner components are made using 100% recyclable stainless steel, while the sleek black, hard-wearing outer shell is manufactured from recycled materials. EC-Eau cylinders are supplied with expansion vessel, all necessary safety devices and built-in 3kW immersion heaters. Plus, being stainless steel, the cylinders come with a full 25-year warranty.

SmartRad radiators
Dimplex SmartRad wall-mounted fan convector radiators provide a controllable, responsive and energy-efficient alternative to underfloor heating, and are the perfect complement to Dimplex air source heat pump packages. SmartRad radiators contain only 5% of the water volume of a conventional steel radiator. This low thermal mass means they can heat up faster and react more responsively to changes in room temperature. The result: improved control, comfort and energy saving. This makes SmartRad ideal for retrofit installations in place of conventional radiators or in new buildings either instead of, or in conjunction with, underfloor heating.

The complete heating/hot water solution
Package options

Package 1 – 1 Heating Zone and DHW (with combined buffer and DHW cylinder)
For heating and hot water with compact installation
A flexible heating and hot water system for properties with limited space; suitable for new build and retrofit installations.

<table>
<thead>
<tr>
<th>Air source heat pump</th>
<th>LA 6 MI</th>
<th>LA 9 MI</th>
<th>LA 12 MI</th>
<th>LA 16 MI</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>15m control cable and controller</td>
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<tr>
<td>Taconova flow checker</td>
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<tr>
<td>2 x Two port valves</td>
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<tr>
<td>2 x isolation valves (with filter)</td>
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<tr>
<td>NTC2 hot water sensor</td>
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<tr>
<td>Choose one of:</td>
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<tr>
<td>125L heat pump cylinder</td>
<td>ECS125HP-75-580</td>
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<tr>
<td>150L heat pump cylinder</td>
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<tr>
<td>210L heat pump cylinder</td>
<td>ECS210HP-75-580</td>
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</table>

Package 2 – 1 Heating Zone and DHW (with separate buffer and DHW cylinder)
For heating and hot water
A flexible heating and hot water system for properties with varying hot water needs; suitable for new build and retrofit installations.

<table>
<thead>
<tr>
<th>Air source heat pump</th>
<th>LA 6 MI</th>
<th>LA 9 MI</th>
<th>LA 12 MI</th>
<th>LA 16 MI</th>
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<tr>
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<tr>
<td>PRT1 wall mounted thermostat</td>
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<tr>
<td>15m control cable and controller</td>
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<tr>
<td>Taconova flow checker</td>
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<tr>
<td>2 x Two port valves</td>
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<td>2 x isolation valves (with filter)</td>
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<td>NTC2 hot water sensor</td>
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<td>Buffer cylinder</td>
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<td>300L heat pump cylinder</td>
<td>ECS300HP-580</td>
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</tbody>
</table>

Package 3 – 1 Heating Zone with buffer tank
For properties that require only space heating
A flexible solution to the heating demands of a wide range of domestic properties, this package is ideal for retrofit installations.

<table>
<thead>
<tr>
<th>Air source heat pump</th>
<th>LA 6 MI</th>
<th>LA 9 MI</th>
<th>LA 12 MI</th>
<th>LA 16 MI</th>
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</thead>
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<tr>
<td>Accessories kit</td>
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<td>Containing:</td>
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<tr>
<td>15m control cable and controller</td>
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<tr>
<td>Taconova flow checker</td>
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<tr>
<td>2 x isolation valves (with filter)</td>
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</table>
Introducing the Dimplex LA MS range of air source heat pumps designed specifically for the UK climate. With low noise levels and outputs ranging from 9 to 16kW, the range provides a cost-effective, highly efficient and robust form of renewable heating for medium to large properties.

Capable of providing space and water heating at outdoor temperatures as low as -20°C, the LA MS range may be used in place of, or alongside, conventional fossil-fuelled heating systems to reduce energy bills and CO₂ emissions.

The advanced WPM heat pump manager allows maximum system flexibility and efficiency.

This automatically monitors, regulates and controls the entire system: the heat pump itself, as well as heating and hot water circulation pumps for up to three individually programmable circuits, and other heat sources, such as gas or oil boilers.

When working in parallel – ‘bivalent’ mode – with an existing boiler, the heat pump manager regulates the boiler operation in line with demand, ensuring that no excessive temperatures can enter the heating system. This makes LA MS heat pumps ideal for installation in existing homes alongside legacy heating systems.

See page 31 for technical specifications.
Dimplex LA PMS is our range of medium temperature air source heat pumps designed to provide a complete heating and hot water solution. Available in outputs of 8 and 14kW, the LA PMS range is available for outdoor installation.

The LA PMS provides variable water flow temperatures of up to 65°C. This makes the LA PMS an ideal choice for a complete heating and hot water solution – either where higher heating temperatures are required or for the efficient production of stored hot water. The LA PMS range uses R290, an efficient and naturally occurring refrigerant with close to zero Global Warming Potential (GWP). Like the LA MS range, LA PMS models can be installed in place of, or alongside, existing fossil-fueled heating systems to help lower energy bills and CO₂ emissions.

The advanced WPM heat pump manager monitors, regulates and controls the entire system, providing maximum system flexibility and efficiency. When working in bivalent mode in combination with an existing boiler, the heat pump manager regulates the boiler operation in line with heating need, so that no excessive temperatures may enter the heating system.

See page 31 for technical specifications.

**LA PMS range at a glance**

- Available in two model options – 8 and 14kW outputs – to suit your individual requirements
- High temperature output for efficient production of domestic hot water without the need for backup heating
- High levels of efficiency performance, with CoPs of up to 3.9
- Advanced WPM heat pump manager provides full system flexibility, including control over multiple heating circuits and other heat sources, such as gas or oil boilers and solar thermal
- Variable water flow temperatures between 35 and 55°C to optimise space heating comfort, with weather-compensated flow temperature control to improve efficiency
- Designed to work efficiently with underfloor heating, Dimplex SmartRad or conventional radiators
- Ideal for use in conjunction with a Dimplex EC-Eau heat pump-ready cylinder to produce domestic hot water
- Low noise levels
- Uses environmentally-friendly R290 refrigerant
- Easy access to electrical and plumbing connections for ease of installation

**SUITABLE FOR:**

- Replacing oil/LPG systems in larger private homes (attracts RHPP grant payment)
- Bivalent system operation, in conjunction with existing boiler systems
- High temperature operation (65°C)
- Meeting advanced control requirements, for example, multiple/mixed heating circuits
- Providing domestic hot water without the need for supplementary immersion heaters
The performance characteristics of LA MS and LA PMS

Both the LA MS and LA PMS range may be installed instead of, or alongside, your existing heating system/boiler for a highly efficient form of renewable heating.

**High efficiency**

Dimplex LA MS and LA PMS boast high levels of efficiency performance, achieving CoPs of up to 4 in typical operating conditions, which can mean a significant reduction in running costs and CO₂ emissions. Across the range of models, output water temperatures and ambient conditions, Dimplex LA MS and LA PMS heat pumps exhibit superb performance for efficient heating and hot water production.

**Advanced control and boiler docking**

The brain of Dimplex LA MS and LA PMS heat pumps is the advanced WPM heat pump manager. This monitors, regulates and controls the entire heating system: flow temperature controls; time programmes for heating and hot water preparation; and hybrid heat pump and boiler systems. Water temperatures for up to three heating/hot water circuits are individually programmable. This provides ultimate flexibility, while allowing the heat pump to manage the system efficiently.

A key benefit of the LA MS and LA PMS ranges is their ability to integrate with existing heating systems. The WPM heat pump manager regulates the boiler either alongside the heat pump or overriding the heat pump, as required. Other notable features include intelligent control over hot water production and defrosting, for a highly efficient system. This makes LA MS and LA PMS models an ideal choice for larger properties or where more complex system configurations are required.

**Variable flow temperature**

Weather-compensated water flow temperatures from the LA MS and LA PMS heat pumps help to further maximise the system’s efficiency. Weather compensation adjusts the heating water temperature from the heat pump based on the ambient outside temperature. This means that, as heat demand falls, lower flow temperatures can be used to achieve the same levels of comfort – while maximising the heat pump’s efficiency. This can lead to up to 30% energy consumption over the course of a year, compared to running at fixed flow temperatures.

![Graph showing CoP ratings against ambient temperature](image)
Sound emissions from air source heat pumps are a sensitive subject and keeping these to a minimum is an important consideration for any installation. Dimplex LA MS and LA PMS models have extremely low sound pressure levels. In fact, Dimplex LA MS models are recognised as being among the quietest air source heat pumps currently available on the UK market. This is helped by clever air deflector shields in the product’s outer casing.

Dimplex LA MS and LA PMS heat pumps are an ideal choice for providing domestic hot water as part of the whole house solution. The WPM heat pump manager provides full programming flexibility over hot water production. When paired with a Dimplex EC-Eau heat pump cylinder, the LA MS and LA PMS ranges offer an efficient and environmentally-friendly way to meet your home’s domestic hot water needs. The heat pump and cylinders are optimally matched using a large surface area heat exchanger; this maximises the transfer of heat generated by the heat pump to the stored water. Furthermore, since the hot water system is completely pressurised, you can enjoy fast-filling baths, invigorating showers and plentiful, powerful hot water to multiple points around the home, simultaneously. With 65°C maximum flow temperatures, LA PMS models can also provide full water heating capability to 60°C stored water temperature – without the need for supplementary heating. This makes LA PMS an excellent solution where high volumes of hot water are needed.

LA MS and LA PMS models are the ideal choice for larger properties or where more complex system configurations are required.
LA MS and LA PMS: The packages

To optimise the benefits of Dimplex LA MS and LA PMS heat pumps, we offer complete system packages designed to suit a wide range of domestic heating and hot water applications. All our packages are ideal for both new and existing homes, and combine the benefits of high-efficiency Dimplex air source heat pumps with purpose-designed Dimplex EC-Eau ‘heat pump-ready’ hot water cylinders (with the option of integrated buffer tanks for space saving and efficiency) plus all the necessary controls and ancillaries. The packages may also be combined with your choice of SmartRad radiator for a wholly integrated, high-efficiency and low-carbon heating solution.

EC-Eau cylinders
Dimplex EC-Eau stainless steel cylinders are designed specifically to deliver mains pressure hot water from heat pump systems. They are supplied with carefully sized, high surface area heat exchangers. This ensures maximum heat transfer between the heat pump and the stored water for optimal efficiency and running costs. Packages are available with 125 to 300 litre capacity options, as well as the option of cylinders with integrated 75 litre buffer tanks. A requirement for all Dimplex air source heat pumps, buffer tanks ensure efficient defrosting and compressor optimisation. To minimise internal space requirements, the buffer is cleverly incorporated – and thermally separated – on top of the cylinder.

Environmental sensitivity and efficient performance are key attributes of EC-Eau. The range boasts 60mm of low Global Warming Potential (GWP) insulation foam and innovative features throughout to reduce heat loss. All inner components are made using 100% recyclable stainless steel, while the sleek black, hard-wearing outer shell is manufactured from recycled materials. EC-Eau cylinders are supplied with expansion vessel, all necessary safety devices and built-in 3kW immersion heaters. Plus, being stainless steel, the cylinders come with a full 25-year warranty.

SmartRad radiators
Dimplex SmartRad wall-mounted fan convector radiators provide a controllable, responsive and energy-efficient alternative to underfloor heating, and are the perfect complement to Dimplex air source heat pump packages. SmartRad radiators contain only 5% of the water volume of a conventional steel radiator. This low thermal mass means they can heat up faster and react more responsively to changes in room temperature. The result: improved control, comfort and energy saving. This makes SmartRad ideal for retrofit installations in place of conventional radiators or in new buildings either instead of, or in conjunction with, underfloor heating.
Package options

Package 1 – 1 Heating Zone and DHW (with combined buffer DHW cylinder)

For heating and hot water with compact installation
A flexible heating and hot water system for properties with limited space; suitable for new build and retrofit installations.

Package includes:
- Heat pump
- Circulation pumps
- Combined buffer and DHW cylinder
- WPM heat pump manager
- Controller connection cable
- Programmable thermostat

<table>
<thead>
<tr>
<th>Air Source Heat Pump</th>
<th>LA 8 PMS</th>
<th>LA 9 MS</th>
<th>LA 11 MS</th>
<th>LA 14 PMS</th>
<th>LA 16 MS</th>
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</thead>
<tbody>
<tr>
<td>Circulation pumps</td>
<td>2 x UP 25-60</td>
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<td>2 x UP 25-60</td>
<td>1 x UP 25-60</td>
<td>1 x UP 25-60</td>
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<tr>
<td>20m Control cable</td>
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<tr>
<td>Thermostat</td>
<td>PRT1</td>
<td></td>
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</tbody>
</table>

Choose one of:
- 125l Combination Cylinder: ECS125HP/75-580
- 150l Combination Cylinder: ECS150HP/75-580
- 210l Combination Cylinder: ECS210HP/75-580

Package 2 – 1 Heating Zone and DHW (with separate buffer and hot water cylinder)

For heating and hot water
A flexible heating and hot water system for properties with varying hot water needs; suitable for new build and retrofit installations.

Package includes:
- Heat pump
- Circulation pump
- Buffer cylinder
- DHW cylinder
- WPM heat pump manager
- Controller connection cable
- Programmable thermostat

<table>
<thead>
<tr>
<th>Air Source Heat Pump</th>
<th>LA 8 PMS</th>
<th>LA 9 MS</th>
<th>LA 11 MS</th>
<th>LA 14 PMS</th>
<th>LA 16 MS</th>
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<td>Circulation pumps</td>
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<td>PSW100</td>
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</tbody>
</table>

Choose one of:
- 125l heat pump cylinder: ECS125HP-580
- 150l heat pump cylinder: ECS150HP-580
- 210l heat pump cylinder: ECS210HP-580
- 250l heat pump cylinder: ECS250HP-580
- 300l heat pump cylinder: ECS300HP-580

Package 3 – 1 Heating Zone with buffer tank

For properties that require only space heating
A flexible solution to the heating demands of a wide range of domestic properties, this package is ideal for retrofit installations.

Package includes:
- Heat pump
- Circulation pump
- Buffer cylinder
- WPM heat pump manager
- Controller connection cable
- Programmable thermostat

<table>
<thead>
<tr>
<th>Air Source Heat Pump</th>
<th>LA 8 PMS</th>
<th>LA 9 MS</th>
<th>LA 11 MS</th>
<th>LA 14 PMS</th>
<th>LA 16 MS</th>
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<td>Thermostat</td>
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</table>

Optional bolt-on packs – additional heating circuits and bivalent systems

For systems with more than one heating circuit or bivalent systems
These packs may be used in combination with any of the three packages.

<table>
<thead>
<tr>
<th>Additional heating circuit pack</th>
<th>Bivalent system pack</th>
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</thead>
<tbody>
<tr>
<td>Mixed heating manifold</td>
<td>MMH 25</td>
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<tr>
<td>Circulation pump</td>
<td>UP 25-60</td>
</tr>
<tr>
<td>4 way valve</td>
<td>MMB 25</td>
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</table>
Dimplex EC-Eau for renewables

The EC-Eau range of unvented stainless steel cylinders is designed specifically to deliver mains pressure hot water from renewable energy sources – namely heat pumps.

Dimplex EC-Eau heat pump cylinders are designed to operate seamlessly with heat pumps to provide an efficient and environmentally-friendly way of supplying domestic hot water. Employing a large surface area heat exchanger, EC-Eau heat pump cylinders maximise the transfer of heat generated from renewable energy to the stored water, optimising heat pump efficiency and reducing running costs. Suitable for use with a wide range of heat pumps and the perfect partner to Dimplex heat pumps, EC-Eau heat pump cylinders are available in capacities from 125 to 300 litres, as well as combined buffer models. Environmental sensitivity and efficient performance are key attributes of EC-Eau. The range boasts 60mm of low Global Warming Potential (GWP) insulation foam, plus innovative features throughout to reduce heat loss. Inner components are made from 100% recyclable stainless steel, while the sleek black, hard-wearing outer shell is manufactured from completely recycled materials. EC-Eau cylinders are supplied with an expansion vessel and all necessary safety devices. Plus, the stainless steel inner cylinder comes with a full 25-year warranty.

**EC-Eau heat pump cylinders at a glance**

- Unvented stainless steel cylinders for heat pumps and solar thermal panels
- Heat pump range features models from 125 to 300 litres
- Heat pump with buffer range features models from 125 to 210 litres, with 75 litre buffer
- Optimally-sized, high surface area heat exchangers for heat pump/solar operation
- Mains pressure hot water for fast-filling baths and powerful showers
- Simultaneous supply of water to all bathrooms
- Long-life, low-maintenance hot water supply
- Tough, easy-to-clean outer casing made from recycled materials
- Immersion for sterilisation and backup heating
- 60mm of low GWP insulation foam to minimise heat loss and energy consumption
- Supplied with an expansion vessel and all necessary safety devices required by governing legislation
- Stainless steel inner cylinder with 25-year warranty
**Sustainable Materials**

- Inner vessel manufactured from premium grade Duplex stainless steel:
  - Lightweight yet ultra high strength and stress/corrosion resistant, ensuring long cylinder life
  - 100% recyclable
  - No need for sacrificial anode
  - 25 year warranty
- HIPS/ABS outer cladding:
  - Produced from 100% recycled material
  - Hard wearing, flexible and damage resistant
- CFC/HCFC free injected foam insulation
- 60% of all materials (excluding insulation) by volume recycled

**Environmentally Sound Performance**

- Designed for use with renewable sources of heat production – heat pumps and solar thermal systems
- Side hot water draw off connection, minimises heat losses through the top of the cylinder
- 60mm of injected polyurethane foam insulation
- Exceeds “CHESS” best practice standards for low heat loss and heat recovery
- Completely void free, including insulation around immersions and thermostats
- Recessed immersion heater and thermostat housings reduces heat loss
- Large surface area coil for use with heat pumps

**Superior Operational Performance**

- High flow rates for efficient hot water delivery
  - Powerful showers and fast filling baths
- Corrugated coil construction maximises surface area while maintaining high usable volume
- Light and easy to handle for easy installation
- Surface mounted thermostats and sensors for easy installation and maintenance/replacement
- Supplied complete with inlet safety group and external expansion vessel
- All connections accessible from the front

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### Heat pump cylinders

<table>
<thead>
<tr>
<th>MODEL</th>
<th>ECS125HP-580</th>
<th>ECS150HP-580</th>
<th>ECS180HP-580</th>
<th>ECS210HP-580</th>
<th>ECS250HP-580</th>
<th>ECS300HP-580</th>
<th>ECS350HP-75-580</th>
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<td>1505</td>
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<tr>
<td>Expansion Vessel (l)</td>
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<tr>
<td>Heat Pump Coil size (kW)</td>
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<td>51</td>
<td>47</td>
<td>47</td>
<td>43</td>
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<td>Heat Pump Coil Surface Area (m²)</td>
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</table>

* Measured in accordance with EN12897-2006 at 80°C flow temperature and 0.42 l/s flow rate
SmartRad
wall-mounted fan convectors

Dimplex SmartRad provides a controllable, responsive and energy-efficient alternative to conventional radiators. The range is designed specifically to work at the low flow temperatures produced by heat pumps and they’re ideal for use either instead of, or alongside, underfloor heating.

SmartRad is optimised for use with heat pumps by achieving excellent performance at water heating temperatures as low as 40°C. Containing only 5% of the water volume of a conventional steel radiator, SmartRad’s low thermal mass allows it to heat up more quickly and react more responsively to changes in room temperature, meaning improved control, comfort and energy saving.

With a compact footprint and flexible installation options, SmartRad is ideal for retrofit installations in place of conventional radiators or in new buildings instead of, or in conjunction with underfloor heating. SmartRad is the perfect complement to Dimplex air source heat pump packages and can be easily integrated into any air source heat pump project.

SmartRad at a glance

- Stylish design available with a choice of metal or glass fronts
- Energy-efficient alternative to conventional radiators
- Cost-effective and practical alternative to underfloor heating
- Designed for low water temperature operation:
  - Optimises heat pump CoP
  - Reduces heat pump running costs
  - Minimises heat pump system carbon emissions
- Low thermal inertia due to ultra-low water content allows energy saving through:
  - Faster room heat up time and less energy consumption than a standard radiator with comparable output
  - Responsive reaction to incidental heat gains (e.g. solar gain) prevents over heating and energy wastage
- Individual temperature control:
  - Close tolerance electronic thermostat provides automatic control over fan speed output
  - Delivers high levels of comfort through improved room temperature stability
- Optional plug in 24 hour or 7 day programmers
Specifications

<table>
<thead>
<tr>
<th>FINISH</th>
<th>NOMINAL OUTPUT kW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>White metal</td>
<td>SRX080M</td>
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<tr>
<td>White glass</td>
<td>SRX080WG</td>
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<tr>
<td>Black glass</td>
<td>SRX080BG</td>
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<table>
<thead>
<tr>
<th>OPERATING LIMITS</th>
<th>SRX080</th>
<th>SRX120</th>
<th>SRX140</th>
<th>SRX180</th>
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<tbody>
<tr>
<td>Heating water system/return °C</td>
<td>Max 85/Min 15 at 150 l/h</td>
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<table>
<thead>
<tr>
<th>PERFORMANCE</th>
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<th>SRX120</th>
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<th>SRX180</th>
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<tbody>
<tr>
<td>Heating capacity* mean water flow temp 40°C (kW)</td>
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<td>Heating capacity* mean water flow temp 45°C (kW)</td>
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<td>Heating capacity* mean water flow temp 50°C (kW)</td>
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<td>1.7</td>
<td>2.2</td>
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<tr>
<td>Heating capacity* mean water flow temp 55°C (kW)</td>
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<td>1.6</td>
<td>2.0</td>
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<tr>
<td>Heating capacity* mean water flow temp 60°C (kW)</td>
<td>1.3</td>
<td>1.8</td>
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<table>
<thead>
<tr>
<th>SOUND PRESSURE LEVEL AT 1M DB (A)</th>
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</thead>
<tbody>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Medium</td>
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<tr>
<td>Boost</td>
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<table>
<thead>
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<th>SRX180</th>
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<tr>
<td>Low (m²/hr)</td>
<td>60</td>
<td>100</td>
<td>120</td>
<td>160</td>
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<tr>
<td>Medium (m²/hr)</td>
<td>125</td>
<td>190</td>
<td>225</td>
<td>300</td>
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<td>Boost (m²/hr)</td>
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<td>345</td>
<td>410</td>
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<tr>
<th>DIMENSIONS (MM) HXWXD</th>
<th>SRX080</th>
<th>SRX120</th>
<th>SRX140</th>
<th>SRX180</th>
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</thead>
<tbody>
<tr>
<td>530x503x145</td>
<td>530x670x145</td>
<td>530x740x145</td>
<td>530x911x145</td>
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<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>SRX080</th>
<th>SRX120</th>
<th>SRX140</th>
<th>SRX180</th>
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<tbody>
<tr>
<td>HXWXD</td>
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<td>16</td>
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<table>
<thead>
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<th>POWER INPUT (W)</th>
<th>SRX080</th>
<th>SRX120</th>
<th>SRX140</th>
<th>SRX180</th>
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<tbody>
<tr>
<td>Low</td>
<td>17</td>
<td>22</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Medium</td>
<td>20</td>
<td>32</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>Boost</td>
<td>27</td>
<td>47</td>
<td>60</td>
<td>53</td>
</tr>
</tbody>
</table>

| Standby power  | 1W     |
| Nominal voltage/fuse rating (V/A) | ~230/3 |
| Hydraulic connections | 15mm left and/or right hand connection or from rear |
| Water content (l) | 0.31 | 0.43 | 0.48 | 0.60 |
| Cable supplied  | 1 metre |
### Technical specifications

#### Dimplex Air-Eau

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LA 6 MI</th>
<th>LA 9 MI</th>
<th>LA 12 MI</th>
<th>LA 16 MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection according to EN 60 529 for a compact unit or heating element</td>
<td>IP 24</td>
<td>IP 24</td>
<td>IP 24</td>
<td>IP 24</td>
</tr>
<tr>
<td>Installation location</td>
<td>outdoors</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

#### PERFORMANCE DATA

- **Heating water flow/return flow**
  - °C: max. 55/min. 25

- **Air**
  - °C: -20 to +35

- **Heating water temperature difference at A7/W35**: 5

- **Heat output/CoP**
  - at A7/W35:
    - kW/---: 6/4.4, 9/4.1, 12/4.67, 16/4.23
  - at A2/W35:
    - kW/---: 6/3.7, 9/3.4, 12/3.87, 16/3.48
  - at A-7/W35:
    - kW/---: 5.9/2.8, 8.85/2.4, 12/2.86, 14.1/2.72
  - at A7/W55:
    - kW/---: 6/2.5, 9/2.3, 12/2.86, 14.5/2.66
  - at A2/W55:
    - kW/---: 6/2.2, 8.85/2, 12/2.52, 12.5/2.3
  - at A-7/W55:
    - kW/---: 5.8/1.8, 7.6/1.5, 10.5/1.9, 10.5/1.9c

- **Sound pressure level dB(A)**: 43.6, 46.9, 46.5, 48.5

- **Heating water flow rate m³/h**: 1, 1.6, 2.1, 2.8

- **Air flow m³/h**: 4800, 5400

- **Refrigerant; total filling weight Type/kg**: R410A/1.45, R410A/2.3

#### DIMENSIONS, CONNECTIONS AND WEIGHT

- **Device dimensions without connections**: HxWxL cm: 86x128x32, 86x128x32, 141x128x32, 141x128x32

- **Device connections to heating system**: Inch: 1¼" ext. thread

- **Weight of the transportable unit(s) incl packaging kg**: 122, 122, 165, 165

#### ELECTRICAL CONNECTION (HEAT PUMP)

- **Nominal voltage V**: 230

- **Starting current (Inverter driven) A7 W35**
  - A/---: 8/0.95, 10/0.95, 12/0.96, 18/0.96

- **Nominal current A7 W35/cosj A/---**
  - 8/0.95, 10/0.95, 12/0.96, 18/0.96

#### ELECTRICAL CONNECTION (BACK-UP HEATER)

- **Nominal voltage; fuse protection V/A**: 230/13, 230/13, 230/26, 230/26

- **Nominal power consumption kW**: 3.0, 3.0, 6.0, 6.0

#### HEATING WATER CIRCUIT

- **Expansion Vessel Litre/Bar**: 6/3, 6/3, 10/3, 10/3

- **Pressure Relief Valve**: Bar, open 3.0/close 2.65

#### OTHER DESIGN CHARACTERISTICS

- **Defrosting**: Automatic
- **Type of defrosting**: Reverse Cycle
- **Heating water in device protected against freezing**: Yes
- **Controller internal/external**: External

---

1) Abbreviations have the following meaning, e.g. A2/W35: outside temperature 2°C and heating water supply temperature 35°C. A2/W35 test, takes into account defrosting as per EN 14511.

2) According to EN 12102, EN ISO 3744.
### LA MS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LA 9 MS</th>
<th>LA 11 MS</th>
<th>LA 16 MS</th>
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<tbody>
<tr>
<td><strong>OPERATING LIMITS</strong></td>
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<td></td>
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</tr>
<tr>
<td>Heating water flow (°C)</td>
<td>5.7/2.8</td>
<td>7.1/2.7</td>
<td>9.7/2.5</td>
</tr>
<tr>
<td>Heating water flow with internal pressure differential at A7/W35</td>
<td>1.7m³/hr @ 7600Pa</td>
<td>1.9m³/hr @ 10900Pa</td>
<td>2.6m³/hr @ 14600Pa</td>
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<tr>
<td>Sound pressure level at 10m (dB(A))</td>
<td>33</td>
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<td>34</td>
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<tr>
<td>Air flow (m³/hr)</td>
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<td><strong>PERFORMANCE</strong></td>
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<tr>
<td>Heat output (kW)/CoP at A-7/W35</td>
<td>5.7/2.8</td>
<td>7.1/2.7</td>
<td>9.7/2.5</td>
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<tr>
<td>Heat output (kW)/CoP at A2/W35</td>
<td>7.9/3.4</td>
<td>9.0/3.3</td>
<td>12.5/3.0</td>
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<tr>
<td>Heat output (kW)/CoP at A7/W35</td>
<td>9.5/3.9</td>
<td>10.9/3.9</td>
<td>15.1/3.6</td>
</tr>
<tr>
<td>Heat output (kW)/CoP at A10/W35</td>
<td>10.4/4.2</td>
<td>11.9/4.4</td>
<td>15.9/3.6</td>
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<tr>
<td><strong>MECHANICAL/ELECTRICAL</strong></td>
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<tr>
<td>Dimensions HxWxD (mm)</td>
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<td>1360 x 1360 x 850</td>
<td>1570 x 1550 x 850</td>
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<td>Weight (kg)</td>
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<td>219</td>
<td>264</td>
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<tr>
<td>Refrigerant: type/total charge weight (kg)</td>
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<td>R404A/2.5</td>
<td>R404A/3.1</td>
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<td>Nominal voltage/fuse rating (V/A)</td>
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<tr>
<td>Starting current with soft start (A)</td>
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<td>38</td>
<td>45</td>
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<tr>
<td>Defrosting</td>
<td>Automatic, reverse cycle</td>
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<tr>
<td>Enclosure protection</td>
<td>IP24</td>
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### LA PMS

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<td><strong>OPERATING LIMITS</strong></td>
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<tr>
<td>Heating water flow (°C)</td>
<td>4.5/2.5</td>
<td>4.0/2.0</td>
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<tr>
<td>Heating water flow with internal pressure differential at A7/W35</td>
<td>1.5m³/hr @ 7800Pa</td>
<td>2.4m³/hr @ 10100Pa</td>
</tr>
<tr>
<td>Sound pressure level at 10m (dB(A))</td>
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<tr>
<td>Air flow (m³/hr)</td>
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<td><strong>PERFORMANCE</strong></td>
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<td>Heat output (kW)/CoP at A-7/W35</td>
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<td>5.8/2.9</td>
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<tr>
<td>Heat output (kW)/CoP at A2/W35</td>
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<td>7.4/3.7</td>
</tr>
<tr>
<td>Heat output (kW)/CoP at A7/W35</td>
<td>7.3/2.9</td>
<td>6.3/2.6</td>
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<tr>
<td>Heat output (kW)/CoP at A10/W35</td>
<td>8.9/4.2</td>
<td>8.1/4.0</td>
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<td>Enclosure protection</td>
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</table>
Dimplex Air-Eau: Pack 1+2 – Heating and DHW

1. Air source heat pump
2. Buffer cylinder
3. Programmable thermostat
4. Heat pump controller
5. 2 port valves
6. Flow checker
7. Isolation valve with filter
8. Domestic hot water cylinder

*Note: Items 3 & 4 combined for package 1.

Dimplex Air-Eau: Pack 3 – Heating only

1. Air source heat pump
2. Buffer cylinder
3. Programmable thermostat
4. Heat pump controller
5. Flow checker
6. Isolation valve with filter
LA MS/PMS: Pack 1+2 – Heating and DHW

1. Air source heat pump
2. Circulation pumps
3. Domestic hot water cylinder*
4. Buffer cylinder*
5. WPM heat pump manager
6. Controller connection cable
7. Programmable thermostat

*Note: Items 3 & 4 combined for package 1.

LA MS/PMS: Pack 3 – Heating only

1. Air source heat pump
2. Circulation pump
3. Buffer cylinder
4. WPM heat pump manager
5. Controller connection cable
6. Programmable thermostat
FAQ

Frequently Asked Questions

What are air source heat pumps?

Air source heat pumps use basic thermodynamic principles to convert the latent heat contained in the ambient air into heat energy that can be used for heating and hot water. Since the heat in the ambient air is replenished by the sun, heat pumps can be classified as a renewable energy source. There are two types of air source heat pump: air-to-air and air-to-water. Air-to-air heat pumps release the captured energy through an air heat exchanger, which is then forced (by a fan) around the home through trunking (shafts for ventilation) or directly into the room. Air-to-water heat pumps release the energy into a water circuit which is then used in a wet heating system.

How do air source heat pumps work?

Air-to-water heat pumps employ the dynamics of the vapour/compression cycle used for many years in the basic refrigeration process found within a domestic fridge. An evaporator collects energy from the outside air. The evaporator has a low pressure, low boiling point refrigerant passing through it which is much colder than the outside air. This causes the heat to move from the air to the refrigerant, which then evaporates. An electrically-driven compressor then compresses this vapour to an even higher pressure and temperature, before it passes through a condenser (heat exchanger) where it gives its heat energy to water. The heated water is then delivered to the cylinder or heating system. The now cooler refrigerant condenses back to liquid, returns to the evaporator and the cycle starts again.

Do air source heat pumps work in winter?

Yes they do. Dimplex air source heat pumps can extract heating energy from outside air at temperatures as low as -25°C – average temperatures in the UK range from 2°C to 22°C. However, at lower ambient temperatures, the compressor is required to work harder and the efficiency (CoP) of the heat pump will be lower.

Can an air source heat pump meet a property’s year-round heating and hot water needs?

Under anything but the most severe weather conditions – provided the property is well insulated and the unit has been sized correctly – the heat pump will supply all heating requirements for the majority of the year. However, in severe weather situations, a supplementary heat source may be required to maintain target temperature. This can be provided by a backup immersion or a supplementary gas/oil boiler – with which the heat pump works in bivalent mode. Note: an air source heat pump works at a higher CoP when run at lower flow temperatures, typically 35 to 50°C. Since domestic hot water is normally stored around temperatures of 60°C, a supplementary heat source may be required. Designed to operate with heat pumps, Dimplex EC-Eau heat pump water cylinders feature a high surface area coil to maximise the transfer of energy from the heat pump, and integral immersion for additional heating.

What are monovalent and bivalent systems?

With a monovalent system, the heat pump is designed to provide all the required heat. In a bivalent system, the heat pump only covers the base heating load. An additional heat source – such as an oil/gas boiler or electric backup – meets the remaining peak demand. Choice of system depends on the home and heating requirements and, for retrofit projects, what heating systems already exist.

What is the defrost cycle?

To ensure an air source heat pump operates as efficiently as possible, the evaporator matrix must be kept ice free (as ice acts as an insulator). The heat pump will automatically switch to ‘defrost mode’ periodically to ensure that the evaporator is free from ice. In normal operating conditions, the defrost cycle does not result in deterioration of the dwelling’s core temperature.

What is Coefficient of Performance (CoP)?

CoP is a measurement of heat pump efficiency. It’s simply the ratio of the heat delivered by the heat pump to the electricity used to power the heat pump’s compressor. The higher the CoP, the more ‘free’ environmental energy the heat pump is using. For example, if the heat pump has a CoP of 4, it will deliver 4kW of heat for every 1kW of electricity used to power it.

Where can you site an air source heat pump?

An air source heat pump can be fitted almost anywhere externally – provided there is an unobstructed air flow available to the unit for trouble-free and efficient operation. Also, take into consideration the length of pipe and cable runs to and from the property.

Do I need a three-phase electricity supply?

Dimplex manufactures heat pumps suitable for either single- or three-phase electricity. For the majority of domestic properties, a single-phase heat pump will be ample. For properties with a high heating demand, a heat pump using a three-phase supply may be required.

How long does installation take?

A typical installation should take approximately three to five days to complete. Work will take place both inside and outside the property. This includes the installation of pipework and electrical cabling, and the commissioning of both the hot water and heating systems.
Do I need planning permission?

The General Permitted Development Order (GPDO), or the Town and Country Planning (General Permitted Development) (Domestic Microgeneration) (Scotland) Amendment Order 2009, grants rights to carry out certain limited forms of development on the home, without the need to apply for planning permission. Permitted Development and planning policy in general is a devolved responsibility. The Welsh Assembly Government and Northern Ireland Government are currently considering changes to their legislation on permitted developments to facilitate installations of microgeneration technologies. Legislation is expected in both countries later this year. Until then, householders in Wales and Northern Ireland must consult with their local authority regarding planning permission.

In England, it is expected that air source heat pumps will be permitted development when further legislation is released later this year. Until then, householders should consult with their local authority regarding planning permission.

In Scotland, it is only permitted development if: the installation involves a single heat pump within the cartilage of the property; it is situated more than 100m from a neighbour’s boundary; and, if in a conservation area, the unit is not visible from the road. Before erecting the heat pump, homeowners must apply in writing to the planning authority to determine whether the prior approval of the authority will be required, given the siting and external appearance of the proposed heat pump. This application is to be accompanied by a written description of the proposed development and a plan indicating the site.

In general, it is recommended that you check with your local authority before having a system installed.

Can I fit a heat pump in an old property?

Yes, but you will have to ensure the property is well insulated to reduce your heat loss, so minimising heat demand. Heat pump prices directly relate to their size, so high heat loss/heat demand requires a larger unit – and this can mean a substantial increase in cost of installation.

What type of radiator or heat distribution system do I need?

Radiator systems designed for boilers tend not to be optimal for heat pumps as radiators need higher temperatures than the normal flow temperatures of heat pumps. Underfloor heating is often recommended, but may be costly and difficult to install in retrofit situations. Oversized radiators are an option – but, as a rule of thumb, a 20°C reduction in flow temperature requires a 100% oversize of emitter. Dimplex offers another option: SmartRad, our easy-to-install, compact fan convector radiators which operate at the flow temperatures provided by heat pumps.

Can I connect an air source heat pump to my existing hot water cylinder?

Due to the lower water temperatures produced by a heat pump, any heat exchange taking place in an indirect cylinder will need a coil with a larger surface area compared to that of a traditional cylinder in order to ensure efficient heat transfer. We recommend that a cylinder designed specifically for use with heat pumps – such as a Dimplex EC-Eau heat pump cylinder – is installed to maximise heat pump efficiency.

Will there be any maintenance or servicing requirements?

There are no mandatory servicing requirements, although we do recommend annual checks of your air source heat pump to ensure optimal operation. If the system contains 6kg or more of refrigerant, it must be leak-checked annually by an engineer qualified in refrigerant handling and from a company with F-Gas certification.

How much does it cost to install?

The total installed cost will depend on the size of the system required and the ease of installation. It is not possible to give a precise figure without first assessing the property’s heat demand and domestic hot water requirements. Typical domestic heat requirements will be in the range of 5-10kW, but will vary with house type and insulation levels. A Dimplex air source heat pump system could be installed for as little as £5000.

How much money can I expect to save if I have an air source heat pump installed?

An average household using oil or LPG could expect to make substantial savings on fuel bills of up to 50% by having an air source heat pump installed.
Install with confidence.
Install with Dimplex.

Air source heat pumps represent one of the most efficient and economical heating systems available – but only if they are applied correctly, and designed and installed properly.

To deliver the kind of energy and carbon savings we know our renewable energy solutions are capable of, it’s vital that the highest standards are adhered to at every stage of the installation process. That’s why we only supply our systems through approved installers – and why the right training is key.

Through our nationwide Accredited Installer Programme, we are committed to ensuring installations are delivered to the highest possible standards, to maximise energy savings and customer satisfaction. So you can select Dimplex Accredited Installers with complete confidence.

Installer Training

Dimplex Renewables installer training is independently accredited by Logic Certification. This means all qualifications are future-proofed through third-party certification schemes, including the Microgeneration Certification Scheme (MCS) to ensure RHI eligibility, and through development in line with the future requirements of the National Occupational Standards.

Microgeneration Certification Scheme

The Microgeneration Certification Scheme (MCS) is intended to provide a robust third party certification scheme for microgeneration products and installers, and is designed to underpin Government funding schemes such as the Renewable Heat Incentive (RHI) and Renewable Heat Premium Payment (RHPP). Funding is only available to applicants using both products and installers certified under the Microgeneration Certification Scheme.

The scheme evaluates products and installers against robust criteria for each of the microgeneration technologies, providing greater protection for consumers and ensuring that the Government’s grant money is spent in an effective manner.

Dimplex recognises the importance of such schemes in helping to build a UK renewable technology industry based on quality and best practice, which will make a substantial contribution to cutting the UK’s dependency on fossil fuels and its carbon dioxide emissions.

Dimplex actively supports the scheme and we encourage all Dimplex Accredited Installers to become certified, giving our customers assurance as to the quality of our products and their installation, as well as providing a means of accessing Government funding schemes.

For more information visit: www.microgenerationcertification.org

We are committed to ensuring installations are delivered to the highest possible standards, to maximise energy savings and customer satisfaction.
Why choose Dimplex Renewables?

- We offer the UK’s widest range of ground and air source heat pumps
- We have an extensive range of solar energy products, unvented hot water systems and complementary technologies
- We have over 30 years’ experience manufacturing heat pumps
- We are a reputable company with a heritage of 60 years and an unmatched reputation for quality and reliability
- We are part of the renowned global Glen Dimplex group
- We will tailor our solutions to meet your specific requirements
- We are experienced in a wide range of technology solutions and will draw on this to give you an expert and impartial view of the most appropriate technologies for you
- We have our own design team and R&D facility, ensuring our company remains at the forefront of product development and innovation
- We have heat pump and cylinder manufacturing facilities in the UK.
The Dimplex world of renewables

There’s so much more to the Dimplex world of renewables. Our solutions span both domestic and commercial applications, are designed specifically to complement each other, and match the need to find more energy-efficient ways to heat our buildings perfectly. Explore our world of renewables here.

Ground Source Heat Pumps

Ground source heat pumps extract free solar energy stored beneath the ground and convert this into useful energy for space and water heating. Highly-stable temperatures below the earth’s surface mean ground source heat pumps can provide excellent levels of energy efficiency and performance all year round. Our ground source range covers domestic systems from 4kW and commercial systems up to 130kW able to be installed in multiples. The pumps can also be integrated with other renewable technologies, such as solar thermal panels.

Our ground source heat pumps can make a significant contribution towards reducing heating and hot water CO₂ emissions and running costs, thereby helping to achieve compliance with Building Regulations Part L and the Code for Sustainable Homes (CfSH). Our high-temperature heat pumps are ideal for off-gas grid properties. And in commercial applications, ground source heat pumps can help organisations to minimise their carbon emissions and reduce allowance payments under the CRC Energy Efficiency Scheme – a mandatory carbon emissions reporting and pricing scheme.

The range at a glance

- 4-16kW domestic
- 17-130kW commercial
- 20-40kW commercial high temperature
- 30-130kW reversible with heat recovery
- Heating and hot water preparation
- Passive cooling
- Full range of ancillaries
- MCS certificated* and SAP Appendix Q listed*
  *Depending on model

Commercial Air Source Heat Pumps

Dovetailing with the domestic Air-Eau range of inverter-driven air source heat pumps is our commercial air source range. Many clients are already enjoying the energy- and cost-saving benefits delivered by our commercial range – from complying with building regulations to gaining high Energy Performance Certificate (EPC) scores in both new and refurbished buildings.

Our commercial range includes high-efficiency models which are being specified to deliver heating and/or hot water to educational establishments as a cost-effective alternative to other renewables. Our high-output temperature models are ideal for hot water applications, while our reversible models – complete with waste heat recovery – provide energy-efficient heating, cooling and stored water from a single system, making them ideal for hotel or leisure applications. And our high-capacity models, providing heating and hot water at low temperature outputs, are already being employed by the healthcare sector.

The range at a glance

- 9-60kW commercial
- 8-26kW medium temperature
- 11-35kW reversible models for heating and cooling
- Heating and hot water preparation
- Waste heat recovery*  
  *Depending on model
- Full range of ancillaries
- MCS certificated*  
  *Depending on model
Solar Thermal Hot Water

Every year, the sun produces 8000 times more energy than we consume globally, ready for use whenever it’s needed. Our solar thermal panels harness this free solar energy to efficiently and effectively heat water stored in a cylinder. A solar thermal system can provide as much as 60% of a property’s hot water demand, and this can make a significant contribution towards reducing CO₂ emissions and energy costs.

An ideal complementary water-heating solution in electric- and heat pump-heated homes, Dimplex solar thermal panels provide a cost-effective approach to energy/carbon saving in new build and retrofit homes – even in apartment blocks. For most commercial premises, solar thermal panels can be used to contribute to the building’s overall hot water demand, reducing both running costs and CO₂ emissions. For premises with high water usage, such as hotels and health clubs, our solar thermal systems can be specified with bespoke cylinders and scaled up to accommodate demand.

Solar PV systems

Solar PV systems mounted on the roof or facade of a building produce electricity from daylight, rather than solar radiation. This means energy is produced even on a cloudy day. Solar PV systems are suitable for homes, businesses, schools and community buildings, and represent one of the easiest and most reliable ways to reduce energy costs and CO₂ emissions. They’re also a straightforward way to meet planning consent requirements for minimum renewable energy contributions from new buildings.

Solar PV systems are an excellent low-carbon choice for both domestic and commercial uses: with no moving parts, they’re simple to fit, provide reliable energy generation and offer a cost-effective way to comply with Buildings Regulations Part L and the Code for Sustainable Homes (CfSH), as well as the CRC Energy Efficiency Scheme. Solar PV installations also provide an attractive source of finance for the system owner via the Feed-in Tariff.

The range at a glance

- Choice of roof kits and complementary hydraulic packs
- High-efficiency flat plate or evacuated tube collectors
- Range of unvented stainless steel cylinders – 175 to 300 litre capacities
- Can be fully integrated with heat pumps
- Mains pressure hot water
- Can be fitted to slate, tile or flat roofs
- On roof or roof-integrated options (dependent on collector type)
- Range of accessories to aid installation, including flexible hoses, vent tiles and flow meters
- Solar Keymark approved

*PV module
Specifications
Dimplex policy is one of continuous improvement; the Company therefore reserves the right to alter specifications without notice. The information contained in this brochure is correct at the time of printing. You are advised to consult your Dealer before purchasing.

Installation Guidance
This brochure is designed to assist you with your choice of Dimplex products and it is not intended as an installation guide. For safety, products should only be installed by a competent person, in accordance with current regulations and the manufacturer’s instructions.

The Dimplex Range
Dimplex offers the widest range of electric space and water heating products in the world – over 400 – to meet almost any heating need. In addition to this publication, we have a wide range of brochures for both domestic and commercial applications. Please visit our website www.dimplexrenewables.co.uk for more information.

For more information on our wide range of renewables technologies, please visit www.dimplexrenewables.co.uk
email marketing@dimplex.co.uk
or call 0845 600 5111 (consumer)
0845 601 5111 (trade)

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