

Enviroair™

The Next Generation of Ultra-Quiet
Air Source Heat Pumps

SUPERIOR HEATING SOLUTIONS
SINCE 1980



Absorbing the heat from the outside air.

Firebird Products Ltd are market-leading manufacturers of heating products with a proven track record built on the global supply of heating systems. Established in Ireland in 1980, the Firebird name has become synonymous with performance, quality and innovative design.

At the forefront of technology, Firebird are committed to providing cost-effective, energy-efficient heating solutions that not only meet, but easily exceed today's stringent legislative requirements. Historically an oil-fired boiler manufacturer, the product range has been expanded to include air source heat pumps, biomass boilers & stoves, solar thermal and underfloor heating systems.



Enviroair™ air source heat pumps provide an economical and environmentally friendly alternative to traditional heating and hot water systems.

The Benefits

For Homeowners

- ✓ Compact modular design
- ✓ Hot water Legionella Protection Program
- ✓ Easy-to-use state-of-the-art wireless controls with frost protection as standard
- ✓ Lower fuel bills
- ✓ Eligible for the Government Renewable Heat Incentive Scheme
- ✓ Reduced carbon emissions
- ✓ Self-contained heating and hot water solution
- ✓ Suitable for newbuild and renovation projects – can even be used with an existing boiler
- ✓ Up to 5 x more efficient than a traditional gas boiler
- ✓ Satisfies renewable energy planning requirements
- ✓ ErP rating of up to A+++
- ✓ Ultra-quiet operation
- ✓ 5-year warranty

For Installers

- ✓ Monobloc air-to-water heat pump system
- ✓ Simple and fast installation with no refrigeration handling required
- ✓ Simple commissioning with wizard function
- ✓ Easy servicing and maintenance
- ✓ Inverter technology means heat output matches the heating load of the property
- ✓ MCS Approved
- ✓ Market-leading SCOP of up to 5.00
- ✓ Weather compensation control
- ✓ World-renowned, highly-reliable high pressure scroll compressor
- ✓ Single phase outputs from 7.5kW to 16kW*
- ✓ From 600mm compact height options
- ✓ Integrates with other renewable technologies such as solar thermal
- ✓ Screed drying function
- ✓ 5-year warranty
- ✓ Hybrid options available with Firebird Low NO_x boilers
- ✓ Monobloc and Split systems available

* Three phase capacities of 11 kW to 17.5 kW are also available – please contact Firebird Products Ltd for further information.

Adaptable

Can be retrofitted alongside an existing heating system or used as stand-alone.

Compact & Space Saving

Single Monobloc unit is installed outside the property.

Flexible Connection Options

Under floor heating, traditional radiators and domestic hot water up to 60°C.

Renewable Energy

Converts 1kW into 5kW output for economical heating and domestic hot water.

Money Saving

Can save money on running costs due to high levels of efficiency.

Ultra-Quiet Operation

Amongst the best in class for sound power levels.

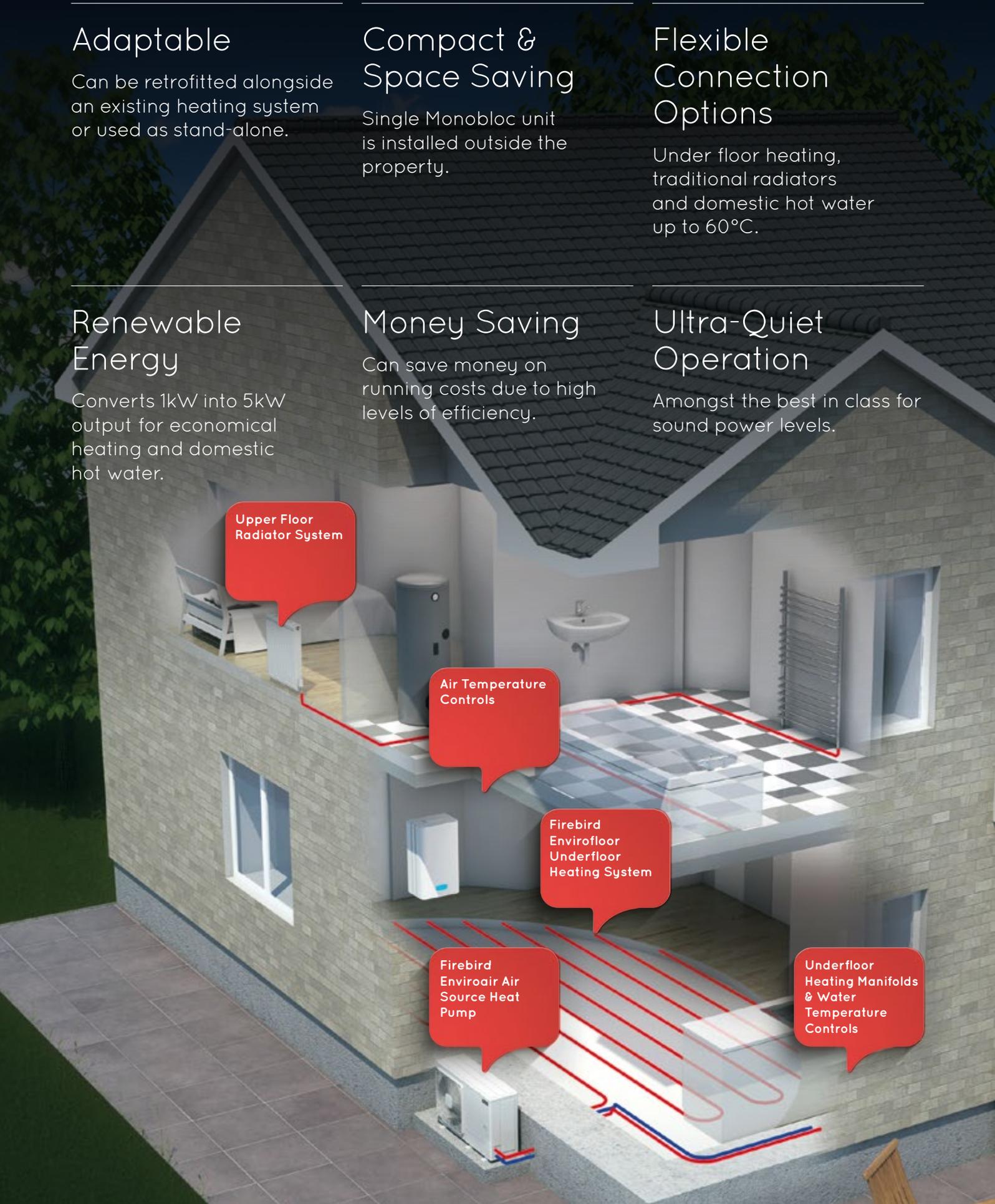
Upper Floor Radiator System

Air Temperature Controls

Firebird Envirofloor Underfloor Heating System

Firebird Enviroair Air Source Heat Pump

Underfloor Heating Manifolds & Water Temperature Controls



How do Enviroair™ Air Source Heat Pumps Work? Put simply, the Enviroair™ air source heat pump works by using a refrigeration process to transform low-grade energy from the outside air into high-grade energy.

This high grade energy (heat) is automatically transferred to water which is then ready to be used in a heating system, or for providing domestic hot water (up to 60°C). Even at temperatures as low as -20°C, the air source heat pump can supply significantly more energy than it uses. By taking advantage of thermodynamic processes, air source heat pumps provide more heat output than the energy input. Cheaper to install than ground source heat pumps, every 1kW of electricity used to power the Enviroair™ air source heat pumps is capable of providing up to 5kW of energy in a well-insulated home.

These high levels of efficiency can not only provide a significant reduction in heating bills for the homeowner, but can also save considerably on running costs when compared to other air source heat pumps. Available in single phase outputs from 7.5 kW to 16kW*, the Enviroair™ range provides a compact and space saving solution as a single Monobloc unit is installed outside the property. Enviroair™ air source heat pumps are ideal for both newbuild and refurbishment projects as they are easy to install and offer total flexibility as they can be retrofitted alongside an existing heating system or used as stand-alone.

Enviroair™ Connection Options:

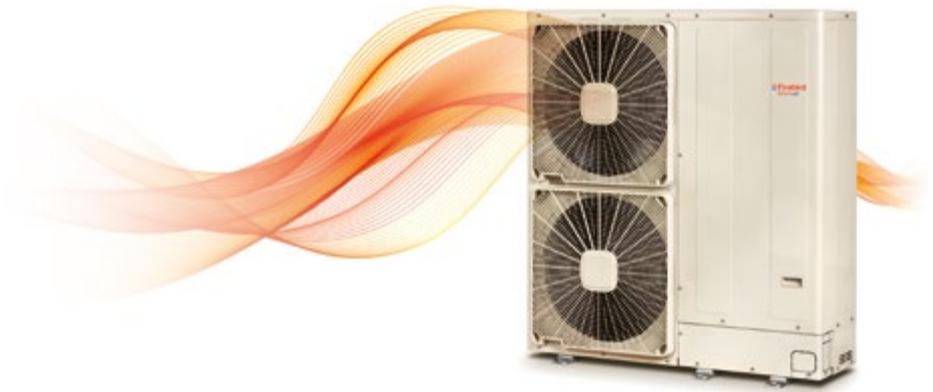
- Underfloor heating (also in combination with radiators)
- Radiators (50/55°C)
- Water heaters

Outstanding Energy-efficiency

The outstanding energy-efficiency of the Enviroair™ range of air source heat pumps is achieved by utilising cutting-edge DC Inverter Technology. This technology keeps temperature fluctuations to a minimum and ensures heat output matches the heating load of the property.



* Three phase capacities of 11 kW to 17.5 kW are also available – please contact Firebird Products Ltd for further information.



State-of-the-art Wireless Controls

Room temperatures are controlled effortlessly and efficiently with an intuitive, wired programmable thermostat or by intelligent remote room sensors, which can be operated remotely via a smartphone app. The system controller automatically runs the entire heating system, including controlling any pre-existing boilers and has a built-in weather compensation control. Easy to operate; control functions such as hot water loading, auto heat, screed drying functions, a 'one-touch' holiday button and automatic switch off if a certain outside temperature is reached are also included.



Ultra-Quiet Operation

Historically, a limitation with air source heat pumps has been the level of sound energy generated (sound power), especially where Building Regulations are required when installing an air source heat pump. In comparison, Enviroair™ air source heat pumps are ultra-quiet in operation, and considered to be amongst the best in their class for sound power levels (61-65 dB(A)).

The Environment

Not only can Enviroair™ air source heat pumps reduce CO₂ emissions by up to 70% (when compared to more traditional heating systems), but they also utilise the environmentally friendly refrigerant R410A that causes no harm to the ozone layer. This complies with the European RoHS Directive which limits the use of environmentally harmful substances.

Renewable Heat Incentive

The domestic Renewable Heat Incentive (RHI) scheme was set up by the UK Government in 2014 to help meet planned CO₂ reduction targets by encouraging the uptake of renewable heat technologies. Following changes to this scheme in 2019, homeowners installing an MCS Approved air source heat pump, will be eligible to receive increased tariffs of 10.71p/kWh, paid quarterly over a seven year period. To further encourage the uptake of renewable technologies a VAT rate of 0% for new build applications and 5% for retrofit also exists.

These incentives make the installation of an air source heat pump a financially attractive option to either update an existing heating system, or to incorporate as part of a new build. For further information on the Renewable Heat Incentive please contact Firebird Products Ltd or visit www.ofgem.gov.uk.

Technical Data

Enviroair™ Heat Pump Sizing Guide

ERP Rating up to A+++

A heat pump that uses air as its heat source will perform better as the air temperature increases. The industry standard for quoting the output and efficiency of an air to water (ATW) heat pump is 7°C external temperature and a 35°C flow temperature. However, to meet MCS (Microgeneration Certification Scheme) criteria, the heat pump should be sized according to the lowest geographical temperature where the heat pump is to be installed.

The heat requirement for a property should be designed in accordance with MCS 3005 and include a room-by-room heat loss calculation. The calculated heat requirement should then be matched to the output of the heat pump (shown below). Please note that the information contained in these tables is for guidance purposes only. For exact quotations please contact the Firebird Technical Hub on **01752 691177** or **technicalhub@firebird.uk.com**.

Water Flow Temperature 30-35°C

Enviroair Model*	Product Code	Outdoor Air Temperature 7°C		Outdoor Air Temperature -7°C	
		Capacity ¹ (kW)	COP ¹	Capacity ² (kW)	COP ²
Enviroair™ 7.5kW	ASH075MOR	7.50	4.55	5.80	2.57
Enviroair™ 11kW	ASH011MOR	11.00	5.00	9.70	2.74
Enviroair™ 14kW	ASH014MOR	14.00	4.71	11.50	2.65
Enviroair™ 16kW	ASH016MOR	16.00	4.57	12.00	2.57

Water Flow Temperature 40-45°C

Enviroair Model*	Product Code	Outdoor Air Temperature 7°C		Outdoor Air Temperature -7°C	
		Capacity ¹ (kW)	COP ¹	Capacity ² (kW)	COP ²
Enviroair™ 7.5kW	ASH075MOR	7.50	3.50	6.00	2.25
Enviroair™ 11kW	ASH011MOR	11.00	3.80	10.00	2.45
Enviroair™ 14kW	ASH014MOR	14.00	3.61	11.00	2.25
Enviroair™ 16kW	ASH016MOR	16.00	3.40	11.50	2.15

* Three phase capacities of 11 kW to 17.5 kW are also available - please contact Firebird Products Ltd for further information.

Water Flow Temperature 47-55°C

Enviroair Model*	Product Code	Outdoor Air Temperature 7°C		Outdoor Air Temperature -7°C	
		Capacity ¹ (kW)	COP ¹	Capacity ² (kW)	COP ²
Enviroair™ 7.5kW	ASH075MOR	7.50	2.70	5.00	1.72
Enviroair™ 11kW	ASH011MOR	11.00	3.00	8.70	1.78
Enviroair™ 14kW	ASH014MOR	14.00	2.80	9.70	1.85
Enviroair™ 16kW	ASH016MOR	16.00	2.50	10.50	1.75

* Three phase capacities of 11 kW to 17.5 kW are also available – please contact Firebird Products Ltd for further information.

It is essential that the design of the heat emitter (whether for underfloor heating or radiators), is calculated correctly to ensure best performance for the Enviroair™ air source heat pump. For exact quotations please contact the Firebird Technical Hub on **01752 691177** or technicalhub@firebird.uk.com.

Enviroair™ Heating Capacity

	Outdoor Unit Model	Enviroair. 7.5kW	Enviroair. 11kW	Enviroair. 14kW	Enviroair. 16kW
Nominal Capacity (max) Water 30/35°C, Ambient 7db/6wb°C	kW	7.50 (11.00)	11.00 (15.20)	14.00 (16.70)	16.00 (17.80)
	COP	4.55	5.00	4.71	4.57
Nominal Capacity (max) Water 40/45°C, Ambient 7db/6wb°C	kW	7.50 (10.00)	11.00 (14.10)	14.00 (15.70)	16.00 (17.30)
	COP	3.50	3.80	3.61	3.40
Nominal Capacity (max) Water 47/55°C, Ambient 7db/6wb°C	kW	7.50 (9.20)	11.00 (13.50)	14.00 (15.20)	16.00 (17.00)
	COP	2.70	3.00	2.80	2.50
Nominal Capacity (max) Water 30/35°C, Ambient 2db/1wb°C	kW	5.50 (8.90)	9.50 (12.80)	10.50 (13.90)	11.10 (15.00)
	COP	3.53	3.70	3.55	3.41
Nominal Capacity (max) Water 30/35°C, Ambient -7db/-8wb°C	kW	5.80 (6.70)	9.70 (10.60)	11.50 (12.00)	12.00 (13.00)
	COP	2.57	2.74	2.65	2.57
Nominal Capacity (max) Water 40/45°C, Ambient -7db/-8wb°C	kW	6.00 (6.40)	10.00 (10.00)	11.00 (11.60)	11.50 (12.50)
	COP	2.25	2.45	2.25	2.15
Nominal Capacity (max) Water 47/55°C, Ambient -7db/-8wb°C	kW	5.00 (5.50)	8.70 (9.70)	9.70 (11.20)	10.50 (12.00)
	COP	1.72	1.78	1.85	1.75
Water Flow Rate (min/max)	(m ³ /hr)	0.6/2.1	1.0/2.8	1.1/3.0	1.2/3.0
Minimum Water Volume (defrost)	(l)	28.0	38.0	46.0	55.0
Water Connections	(in)	1 1/4" female			
Expansion Vessel Size	(l)	6.0			
Water Temperature Range	(°C)	20-55	20-60		
Power Supply		230V/1Ph/50Hz	230V/1Ph/50Hz + 400V/3Ph/50Hz		
Circuit Breaker Size (with DHW tank heater)	A	32.0	50/32		
Circuit Breaker Size (without DHW tank heater)	A	20.0	32/20		
Maximum Operating Current (with DHW tank heater)	A	33.0	45.8/30.0		45.8/39.4
Maximum Operating Current (without DHW tank heater)	A	18.0	30.8		
Sound Power Level @7/35*	dB(A)	61.0	63.0	64.0	65.0
Dimensions (H x W x D) Including Connections	(mm)	800 x 1252 x 370	1380 x 1252 x 370		
Gross Weight	(kg)	115.0	135.0	140.0	144.0

* Sound power level in accordance to the standard EN 12102 at conditions specified in EN 14511 performance test.

Envirocyl™ Air Source Heat Pump Water Storage Cylinders

An air source heat pump requires a dedicated cylinder with a purpose-designed coil to allow maximum heat transfer of renewable energy into the stored water. Air source heat pump coils are much larger than traditional boiler coils because the hot water travelling through the coil is at a lower temperature. A greater surface area is therefore required to transfer the heat to the stored water.

It is also important that the temperature differential between the top and the bottom of the cylinder is maximised so the air source heat pump system meets the heating demand of the property. To facilitate this, the design of an Envirocyl™ air source heat pump cylinder is larger and taller than a standard hot water cylinder.

Envirocyl™ air source heat pump water storage cylinders are manufactured from premium quality stainless steel and include an electric immersion as standard.



Product Code	Product Description
ASH180TNK	Envirocyl™ SS Air Source Heat Pump Cylinder - 180 litres
ASH210TNK	Envirocyl™ SS Air Source Heat Pump Cylinder - 210 litres
ASH250TNK	Envirocyl™ SS Air Source Heat Pump Cylinder - 250 litres
ASH300TNK	Envirocyl™ SS Air Source Heat Pump Cylinder - 300 litres
ASH400TNK	Envirocyl™ SS Air Source Heat Pump Cylinder - 400 litres



Envirocyl™ Pre-Plumbed Air Source Heat Pump Water Storage Cylinders

Envirocyl™ air source heat pump cylinders are also available as a pre-plumbed option in the same range of capacities as the standard version. Saving valuable installation time, Envirocyl™ pre-plumbed air source heat pump cylinders include pre-fabricated pipework, wiring and an integrated 50 litre buffer.



Product Code	Product Description
ASH180PPC	Envirocyl™ Pre-Plumbed Unvented Cylinder, 3m ² Coil & Buffer 180 litres
ASH210PPC	Envirocyl™ Pre-Plumbed Unvented Cylinder, 3m ² Coil & Buffer 210 litres
ASH250PPC	Envirocyl™ Pre-Plumbed Unvented Cylinder, 3m ² Coil & Buffer 250 litres
ASH300PPC	Envirocyl™ Pre-Plumbed Unvented Cylinder, 3m ² Coil & Buffer 300 litres
ASH400PPC	Envirocyl™ Pre-Plumbed Unvented Cylinder, 3m ² Coil & Buffer 400 litres

Underfloor Heating Systems

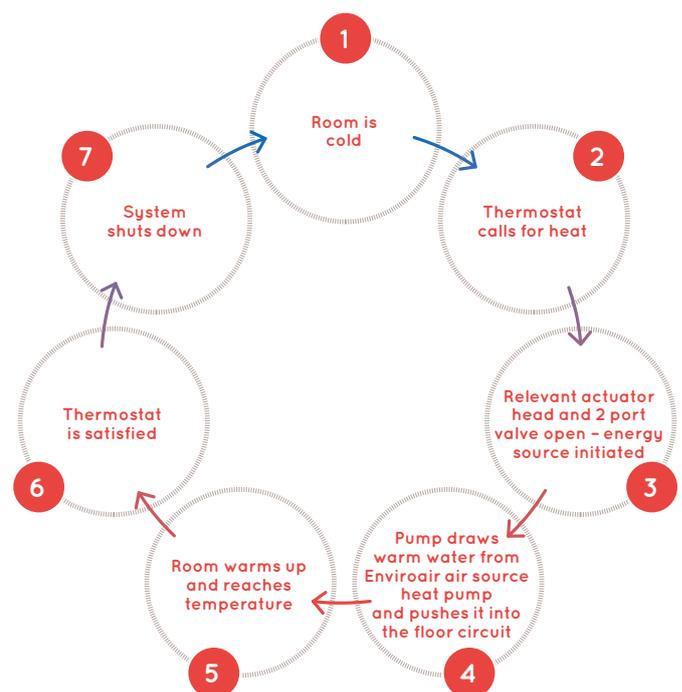
When used in conjunction with an air source heat pump, a 'wet' underfloor heating system is the most efficient way to provide space heating. As both technologies either produce or utilise water at a far lower temperature than a traditional radiator system, less energy is required and heating bills are reduced. Not only is this a cost-effective option but there are also huge advantages in terms of comfort for occupants as heat rises uniformly from the floor and is distributed evenly.

A 'wet' underfloor heating system is like a giant radiator at floor level. A series of plastic pipes are connected to the Enviroair air source heat pump to circulate warm water throughout the floor to heat the space by producing radiant heat. Since the floor (the radiator) is so large and the heat is more evenly distributed, it only needs to run at a low temperature to heat the room.

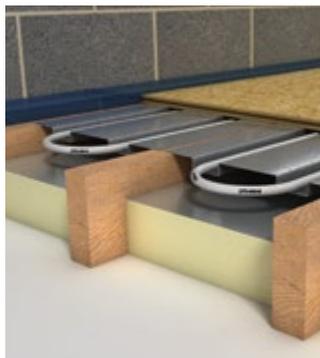
An underfloor heating system works in exactly the same way as a radiator system does when linked to a boiler in a traditional heating system. The water and air temperature are controlled through the Enviroair air source heat pump controller which operates the entire heating system. Envirofloor underfloor heating systems are suitable for a wide range of ground and upper floor constructions. Using the full range of system components it is simple to create individual heating systems to achieve required comfort levels.

Envirofloor underfloor heating systems can be easily combined with radiator systems for extensions and conservatories, or to create a mixed heating system offering radiators on upper floors if desired.

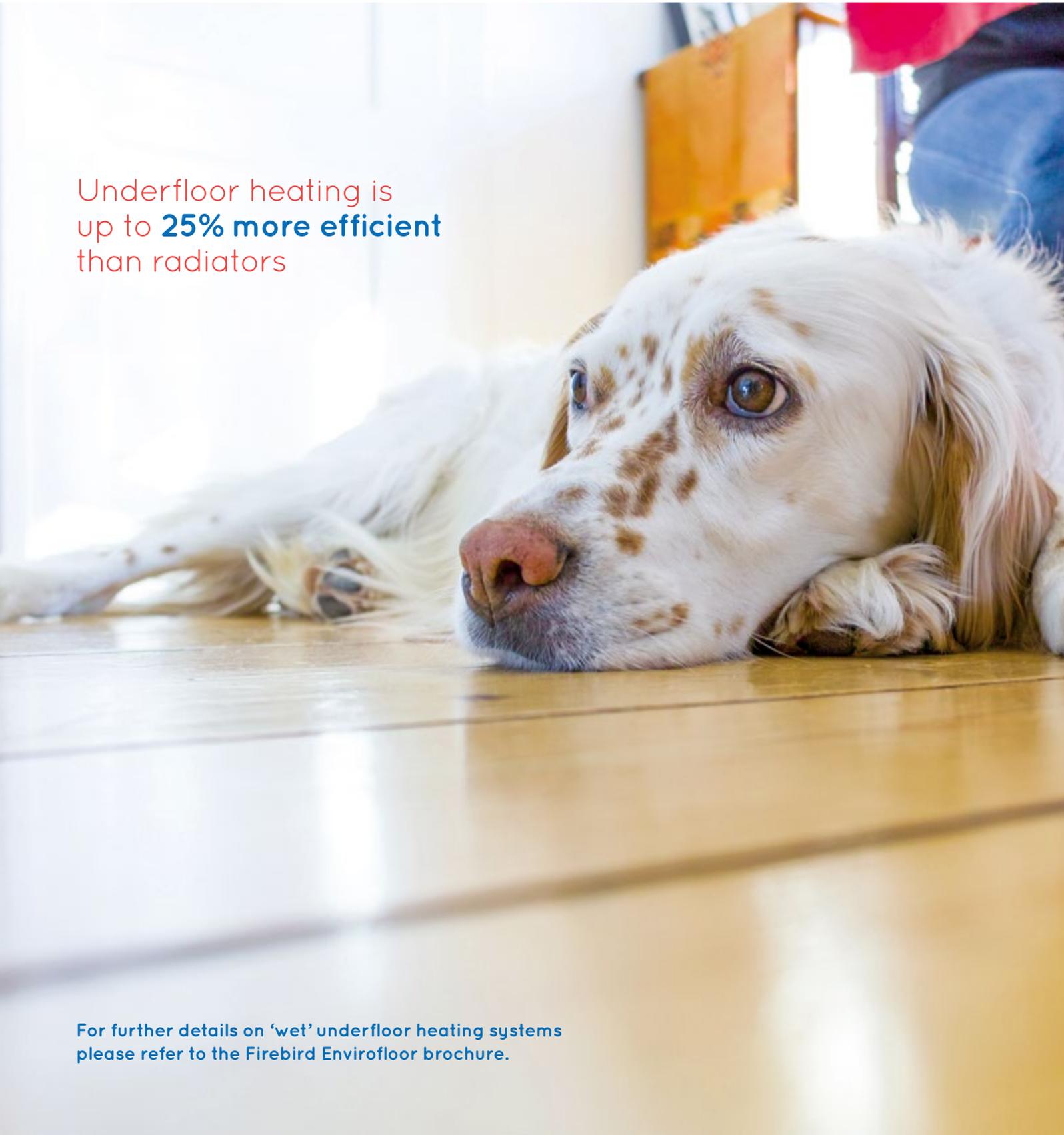
Following a basic sequence of operation, a typical controlled underfloor heating system will respond to the heat demand in the property as required.



Solid Floors



Suspended Floors



Underfloor heating is
up to **25% more efficient**
than radiators

For further details on 'wet' underfloor heating systems
please refer to the Firebird Envirofloor brochure.

Firebird Support

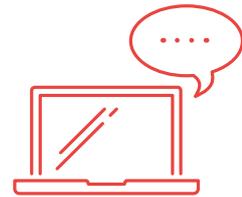
Customer Service

Firebird pride themselves on offering the highest levels of customer service possible. The level of service provided is monitored on a regular basis to ensure customers' requirements are always met.



Technical Support

Based at Firebird's UK headquarters, the **Technical Hub** provides customers with a comprehensive technical support package which is designed to make the specification and installation process as simple as possible. For technical support please contact the Firebird Technical Hub on **01752 691177** or **technicalhub@firebird.uk.com**.



Quality

All Firebird products are produced to the highest quality standards and are put through rigorous testing procedures by external standards agencies. Every product is designed to meet a specific requirement and has been manufactured using premium quality materials to precise standards and tolerances.



Warranty

Enviroair™ air source heat pumps are covered by a five-year manufacturer's warranty as standard. For further information, please contact Firebird Products Ltd.



Smart Heating. Smart Packages.

Multi-technology heating & hot water solutions expertly packaged for you.



- ✓ Full design & technical support package
- ✓ Extended warranties on total heating system*
- ✓ Assistance with MCS compliance

*Terms & Conditions apply.

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