Earth Save Products

GreenLine Series

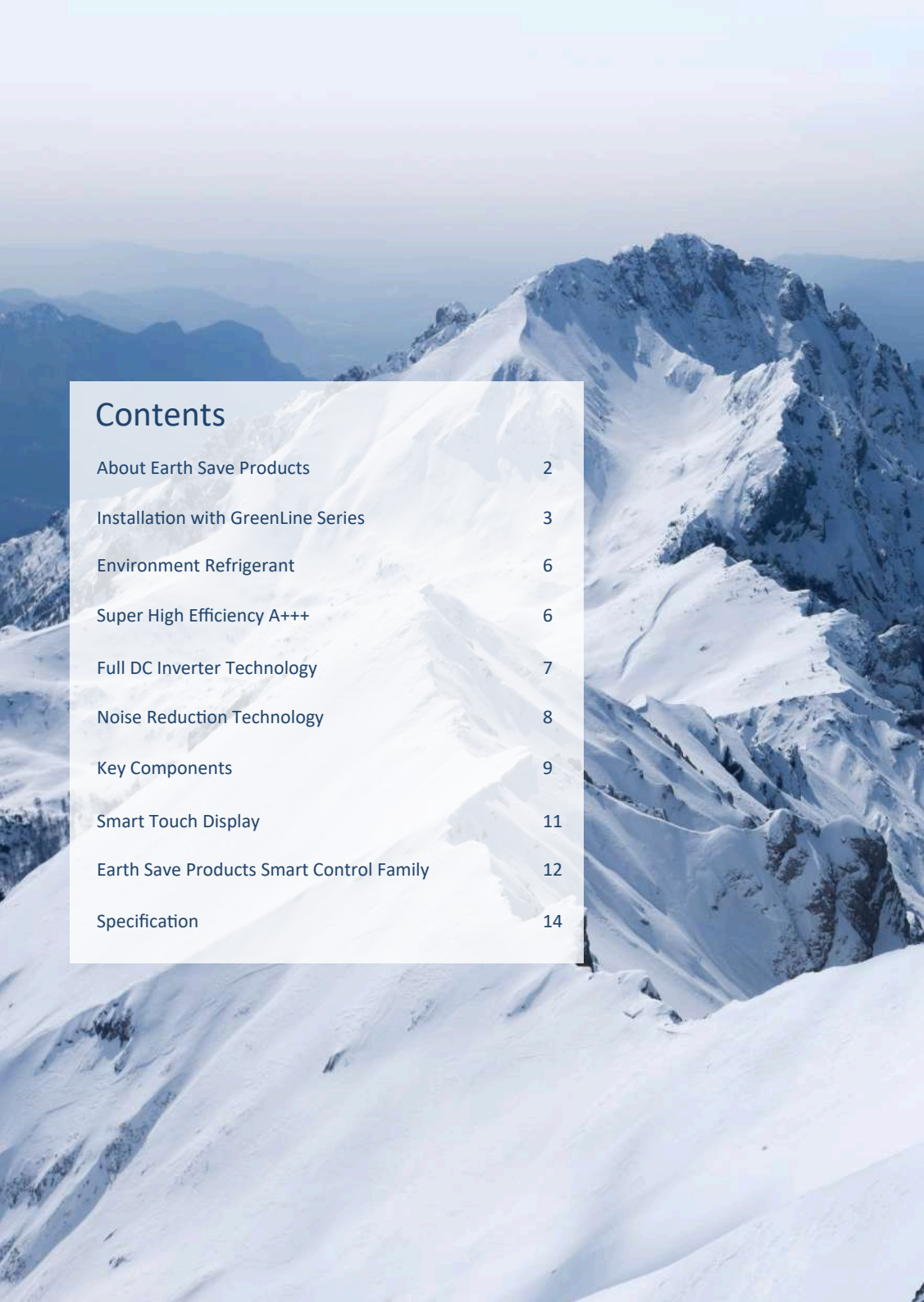
Heating/Cooling+DHW Heat Pump

R290 ECO Friendly

A+++ ErP Energy Level

75°C Water Outlet

Low Noise



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About Earth Save Products

Earth Save Products (ESP) has been in the renewables business since 2007, is privately owned and has held the Microgeneration Certification Scheme (MCS) Accreditation (design and installation of heat pumps) since the scheme began. We dedicate ourselves to designing and delivering energy saving systems and equipment that meet and exceed Client's needs.

ESP offers underfloor heating systems, mechanical ventilation and heat recovery systems, heat pumps of all types and sizes and photovoltaic arrays. We design the complete systems and integrate the elements where it makes sense to do so in order to ensure that overall building efficiency is optimised. We offer domestic and commercial systems.

Our heat pumps are some of the most advanced and efficient on the market, using eco friendly R290 refrigerant. Even our market leading Ecocent unit now uses R290 refrigerant along with mechanical parts that ensure maximum efficiency. Our R290 unit range is one of the first to receive Keymark Certification and MCS product Accreditation – a real mark of quality and the dedication of our team to delivery of superior products designed specifically for the UK climate, market and existing system infrastructure that needs updating.

Being MCS Accredited, we are able to offer Clients access to grants available from central Government (The Boiler Upgrade Scheme that provides a £5,000 to qualifying products, systems and installers). Everything we do is focused upon delivering superior systems at a sensible cost for Clients, whilst also meeting or exceeding the Client's brief.

ESP is also in the process of bringing advanced heat pump manufacturing to the UK. All of the controls in our new units are designed and installed in the UK. The controls are specifically designed for the UK Climate, as are the materials of construction of our Greenline R290 range of units. A great deal of effort and investment has gone in to ensuring that what UK customers receive is appropriate for the UK climate and house type. The units even have full remote access through an App that can be downloaded on to your phone – You can access your heating system from any part of the world and operate the unit.

We are based in Wallingford where we have our head office, showroom (that includes operating systems) and warehousing. We supply some of the largest users of heat pumps nationally as well as self-builders and every size of Client in between.

Any potential customer can come and see the systems that may interest them – as well as hear how quiet they are. We work very closely with customers to ensure that they get what is required, as and when it is required. We understand the retrofit and new-build markets and the different challenges that retrofitting systems involves.

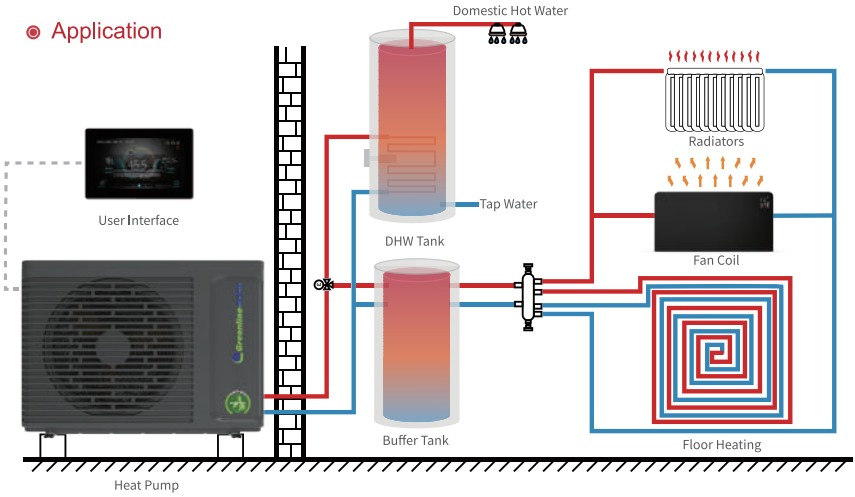
We offer a full installation, service and maintenance facility to give customers complete peace of mind throughout the unit lifecycle.

Installation with GreenLine Series

Earth Save Products (ESP) monoblock heat pumps can provide heating/cooling and domestic hot water. Underfloor heating loops are used preferentially for space heating while fan coil units can be used for space heating and cooling. Domestic hot water is supplied from the domestic hot water tank connected to the heat pump.

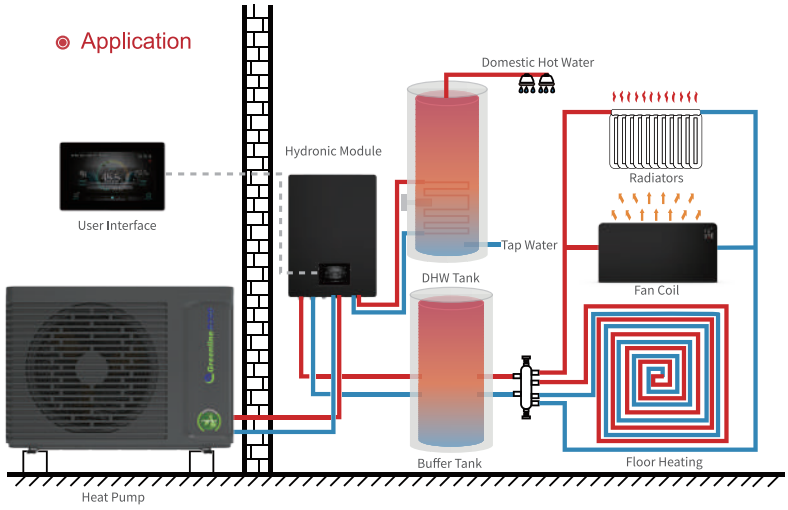
Traditional Installation

Earth Save Products R290 heat pump units are built with main circulation pump integrated. When installing the unit, installers should install and connect the heat pump with other parts including the buffer tank (for space heating/cooling), domestic hot water storage cylinder and water pumps (for space heating/cooling water circulation and domestic hot water). External fittings are also needed including the safety valve, water filling loop and hot water valves (three-way valve), etc. A temperature sensor should be connected to and monitor the DHW temperature in the DHW Cylinder. A supplementary immersion heater can be installed in the DHW cylinder or the buffer tank which can be controlled by the ASHP unit (please note that this can complicate applications for grant payments under the BUS.

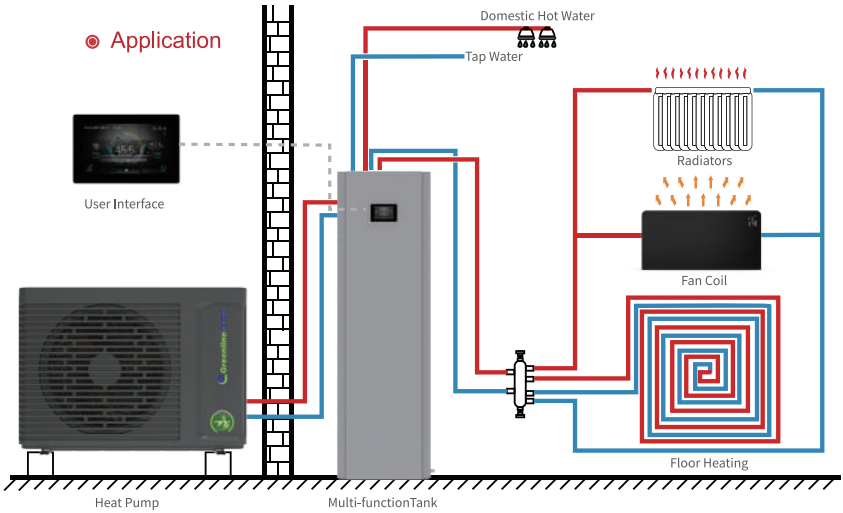


Installation with Hydronic Module

Earth Save Products offers its Hydronic Module as an optional extra for use with the monobloc R290 ASHP units . The Hydronic Module includes the expansion vessel, main circulation water pump (optional), one space heating/cooling circulation water pump (optional), one DHW pump (optional), temperature and pressure safety valve, water filling loop heating system) and electric resistance heater (if required). When installing the unit, the installer can connect the heat pump directly to the Hydronic Module, which saves labour cost and . Storage installation time. A heat pump compatible DHW cylinder is required for the domestic hot water side of the system.



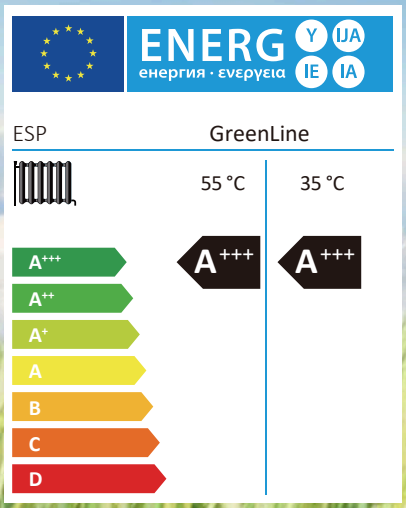
Installation with Multi-function tank



Earth Save Products also offers Multi-function tank for use with monobloc heat pump units. The Multi-function tank includes a buffer tank and a DHW storage tank, a circulation pump for heating/cooling (optional), Temperature and pressure safety valve, heating system filling loop and expansion vessel. When installing the unit, the installer just needs to connect the heat pump directly to the multi-function tank following the instructions provided.

R290
ECO Friendly

To reduce carbon emissions to the environment and curb global warming, ESP has developed R290 air to water heat pump – The ESP GreenLine Series. With many advantages such as low carbon emission and high efficiency, R290 refrigerant is recognised as a refrigerant with the most development potential in the industry, which contributes to the reduction of carbon emission and contributes to the global goal of carbon neutrality



The ESP GreenLine Series Air to Water Heat Pump contains cutting-edge heat pump technology and modern design to meet stringent important requirements for efficiency, stability and quietness. Not only does the GreenLine series use R290 green refrigerant and "smooth line" inverter technology, it is also is rated with the prised A+++ energy label. With the top energy rating of A+++, the unit is energy efficient and can significantly reduce energy bills for users.

Full DC Inverter Technology

GreenLine Series perfectly combines eco-friendly R290 refrigerant and inverter technology to produce efficient house heating/cooling and hot water production even under very cold weather conditions.

DC Inverter Compressor

Compared to AC drive technology, the DC inverter speed control technology improves the matching of energy input to required energy output at any point on the heating curve, thus improving transmission efficiency and reducing noise and energy consumption of the compressor.

DC Inverter Fan Motor

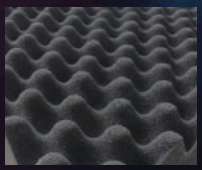
With better dynamic balance and a reduction in turbulence related noise, the ESP Greenline heat pump series operating efficiency and noise production is greatly improved and reduced.

Noise Reduction Technology

Earth Save Products is dedicated to creating super quiet operation of its heat pumps. The GreenLine Series adopts multiple noise reduction technologies - every product has been repeatedly tested and optimized.

Shock Absorption & Noise Reduction Technology

The GreenLine Series offers cushioned suspension to the unit chassis which greatly reduces vibration and noise



Sound Proof Isolation

All sides of the heat pump unit cabinet are fully wrapped with soundproof sponge material, which effectively absorbs and blocks noise from the compressor operation.

42-47dB(A)
1 meter distance

70dB(A) - Car

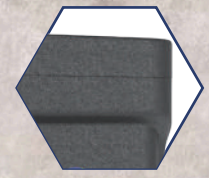
30dB(A) - Whisper

20dB(A) – Rustle of leaves

Key Components

RS485 Centralised Control

The GreenLine Series is equipped with an advanced central control system that has remote access and constant monitoring facilities.



ASA Material

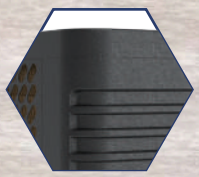
The ASA panel and top cover are strongly corrosion and weather-resistant. This ensures a long structural service life.

Circulation Water Pump

The units are equipped with their own water circulation pump.

Electronic Expansion Valve

With an electronic expansion valve, the units can instantly adjust refrigerant flow to ensure the stability of the refrigeration system and smooth compressor inverting capability, thereby improving operating efficiency



Elegant Wave Screw-Free Design

The GreenLine Series features stylish and innovative cabinet design with no surface visible screw fixing points.

Plate Heat Exchanger

Thin rectangular channels are formed between various plates, with heat exchange being carried out through the plates, which has the advantage of high heat exchange ĞκĐŝĞŶĐLJ .

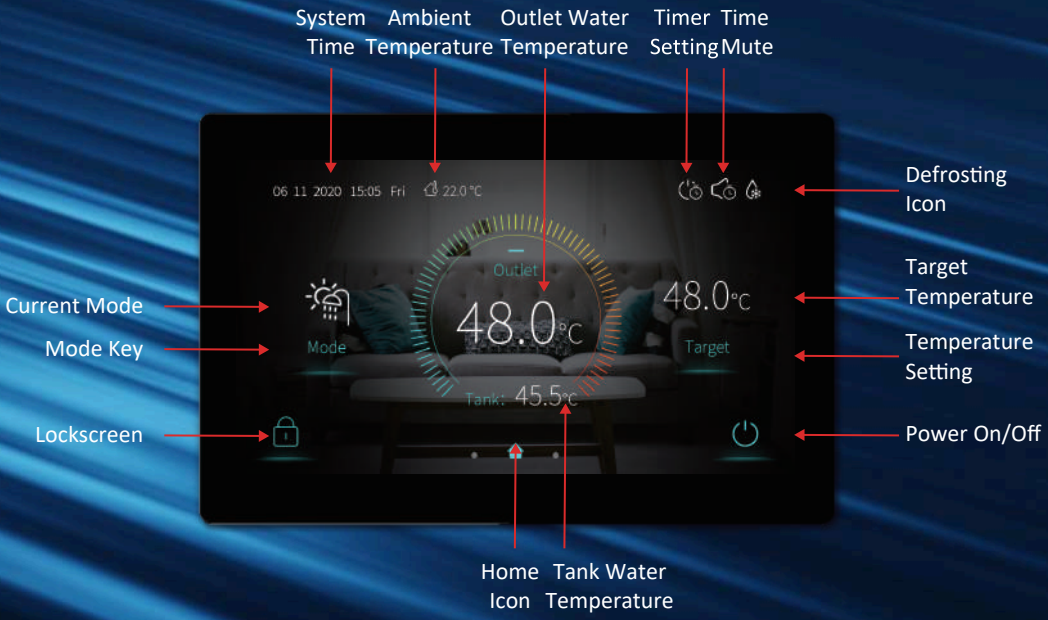
Pressure Sensor

The unit Pressure Sensor can detect system pressure and transmit the signal to the main board to protect the unit.

Smart Touch Display

Two types of controller to choose from

Earth Save Products Smart Display Inverter Heat Pump has a high-end controller with 5-inch colourful touch screen, which is one of the highlights of this advanced heat pump range. With the temperature and power consumption curve, users can always be clear of the energy consumption at a glance.



Other controller option

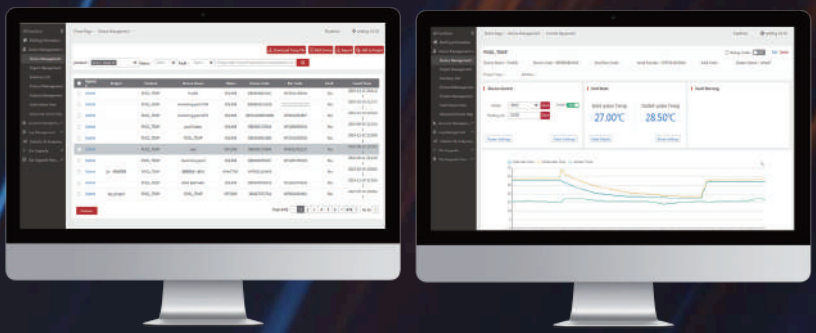
Earth Save Products Control Family

The ESP Smart App control brings a lot of convenience to users. Temperature adjustment, mode switching and timer setting can be controlled on your smart phone. Moreover, you can know power consumption statistics and fault records anytime and anywhere.

Web Platform

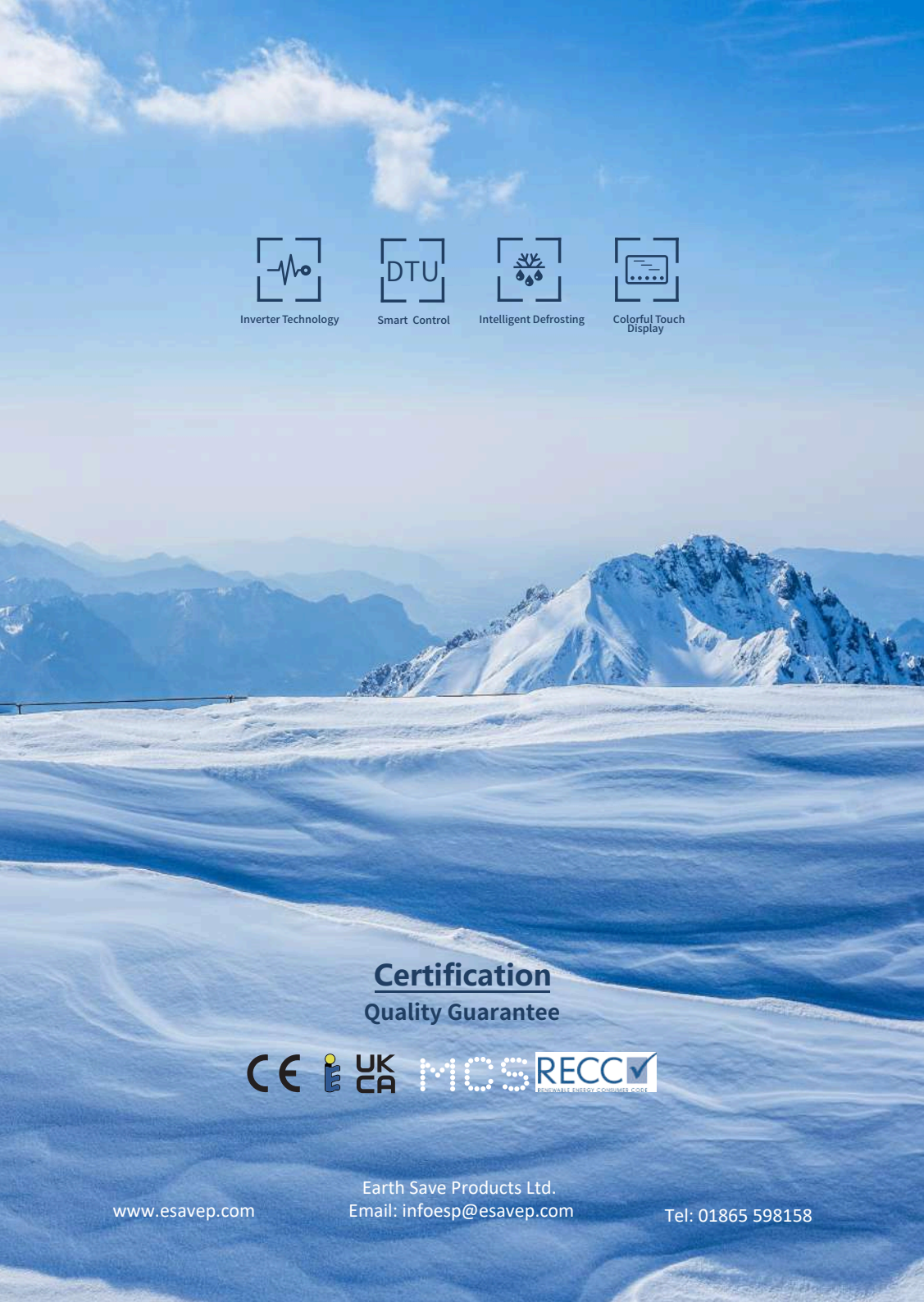
The central platform management can be enabled with DTU or WiFi function, which can save time and money when servicing or maintenance is needed.

The fault report button creates a direct error report channel to the local service provider. When an error is reported, the service provider can see the error information of the target house heating heat pump from the system and contact users immediately to offer help.



Specification

Model		ESP GreenLine-R290-100	ESP GreenLine-R290-200	ESP GreenLine-R290-300
Power Supply	/	230V~	230V~	230V~
Heating Condition – Ambient Temp. (DB/WB): 7/6°C, Water Temp. (In/Out): 30/35°C				
Heating Capacity Range	kW	3.10~8.90	5.40~14.95	8.00~22.00
Heating Power Input Range	kW	0.65~2.10	1.05~3.85	1.60~6.90
Heating Current Input Range	A	2.90~9.20	4.60~16.90	7.00~30.30
Cooling Condition – Ambient Temp. (DB/WB): 35/24oC, Water Temp. (In/Out): 12/7°C				
Cooling Capacity Range	kW	1.20~5.72	3.60~10.50	4.20~15.00
Cooling Power Input Range	kW	0.65~2.40	1.12~4.47	1.80~7.30
Cooling Current Input Range	A	2.90~9.20	4.90~19.60	7.90~32.10
Hot Water Condition – Ambient Temp. (DB/WB): 20/15°C, Water Temp. (In/Out): 15/55°C				
Hot Water Capacity Range	kW	3.92~10.68	6.50~18.50	10.00~27.00
Hot Water Power Input Range	kW	0.78~2.47	1.27~4.65	1.90~7.10
Hot Water Current Input Range	A	3.40~10.80	5.60~20.40	8.30~31.20
Max. Power Input	kW	3.0	5.3	7.5
Max. Current Input	A	13.5	24.5	35.0
Water Flow	m3/h	1.0	1.7	2.9
Refrigerant / Proper Input	Kg	R290 / 0.50kg	R290 / 0.85kg	R290 / 1.30kg
CO_2 Equivalent	Ton	0.0015	0.0026	0.0039
Sound Pressure (1m)	dB(A)	43	42	48
Sound Power Level (EN12102)	dB(A)	60	57	64
Operating Ambient Temperature	°C	-25~43		
Max. Water Temperature	°C	75		
Fan Quantity	/	1	1	2
Fan Motor Type	/	DC		
Water Connection	Inch	1		
Water Pressure Drop (Max.)	kPa	20	20	64
Circulation Pump	/	DC		
Circulation Pump Water Head	M	7.5	7.5	12.5
ErP Level (35°C)	/	A+++		
Cabinet Type	/	Galvanised sheet metal + ASA		
Unit Dimension (L/W/H)	mm	1167 x 407 x 795	1287 x 458 x 928	1250 x 540 x 1330
Shipping Dimension (L/W/H)	mm	1300 x 485 x 940	1420 x 540 x 1080	1380 x 570 x 1480



Certification

Quality Guarantee

Earth Save Products Ltd.
www.esavep.com
Email: infoesp@esavep.com
Tel: 01865 598158