

Ecovector® II Low



Installation, commissioning
and user manual



LL 640 | LL 1030 | LL 1390
Ecovector II Low Level

Contents

Introduction	2
Declaration of conformity	3
Symbols used in this guide	3
Important safety and installation instructions	4
Product dimensions	5
Wiring diagrams	6
Product performance	8
Installation	9
Installation - Controller	10
Commissioning	11
Heating Operation	12
Fault finding	12
User Manual	13
How it works	14
How to operate	14
Fault finding	14
Accessories	15
Registering your product	15
Disposal	15
After sales and spares	15

Introduction

In the event of items missing or visible damage please contact us on 01245 324560.

This heating appliance is intended for mounting on a wall at low level. The minimum recommended installation height is 100mm from the floor. There is no clearance required on either side of the heater.

This heater must not be used in bathrooms or other high humidity areas.

Ecovector II Low Level is designed for use on standard two-pipe pumped central heating systems where the system hot water is generated from either a boiler or renewable sources. This product is not suitable for one-pipe heating systems. Pipe connections are 15mm.

We recommend the use of full flow isolating valves. These valves should be accessible after completion of the installation.

Ecovector II Low Level is classified as a fixed appliance and electrical connection should be via a double pole 3A fused spur. The fused spur must not be directly above the heater but should be accessible after completion of the installation. If the pre-wired mains cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons. The appliance must be earthed.

To avoid possibility of vibration, this product must be installed on a flat, even surface.

To comply with Building Regulations Part L (Part J in Scotland) this heater is fitted and controlled by an integral room thermostat

Please note the guarantee may be invalidated if this product is not installed and used in accordance with this guide.

Declaration of conformity

EC Declaration of conformity

We, Smith's Environmental Products Limited
1-2 Blackall Industrial Estate
South Woodham Ferrers
Chelmsford
Essex CM3 5UW
Tel: 01245 324900 Fax: 01245 324422

Declare under sole responsibility that the products:

Product name:
Ecovector II Low Level (LL)

Product range:
LL640, LL1030, LL1390

Conform to the following European Union directives:
Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EC
Pressure Equipment directive 97/23/EC
Safety Directive 98/37/EC

Standards Comply With The Above Directives.

Safety Directive Standards:
EN 60335-2-80:2003 + A1:04 in conjunction with EN 60335-1:2002 + A11:04 + A1:04 + A12:06 + A2:06 With U.K deviations.

EMC Directive Standards:
EN 55014-1:2000+A1:01+A2:02
EN 61000-3-2:2000
EN 61000-3-3:1995+A1:01+A2:05

EMF Standards:
EN 50366:2003+A1:06

This Declaration is made on behalf of Smith's Environmental Products Limited.

Symbols

This manual contains information and prescriptions marked by the following symbols.



Ignoring these safety provisions marked by the symbol "caution: hazard" may endanger the safety of people.



Ignoring these safety provisions marked by the symbol "caution: electricity" may endanger the safety of people, as well as the integrity of things.



The removal of the screws can cause the output of hot fluids under high pressure from heating system. Drain the system or close the isolating valves.



High temperature surface. Take utmost care to prevent people from getting in contact with the hot surfaces of the appliance.

Important safety and installation instructions

Prior to installation, read these installation and operating instructions. The installation and operation should also be in accordance with national regulations and accepted codes of good practice.



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

To guard against injury, basic safety precautions should be observed, including the following:

1. Read and follow all safety instructions and all the important notices on the appliance before installing, using and maintaining the appliance. Failure to do so may cause personal injury or damage to the appliance or installation.
2. Always disconnect electrical supply before putting on or taking off parts and whilst the equipment is being installed, maintained or handled. Never work with bare feet and/or with wet hands.
3. A risk assessment should always be carried out prior to work, Correct PPE should be worn.
4. To avoid possible electric shock, special care should be taken since water is used with electrical equipment. Carefully examine the appliance before and after installation. Do not operate the appliance if it has a damaged supply cord or enclosure, or if it is malfunctioning or it is dropped or damaged in any manner. Inspect the appliance in accordance with manufacturers instructions.

The appliance should not be electrically supplied if there is water on parts not intended to be wet.

5. Risk of scalding. To avoid injury before any servicing operation wait until the water has cooled inside the appliance. Do not touch the fluid or the appliance when temperature is higher than 60°C.

6. Improper use.
This is an appliance to be used in heating systems with clean water without abrasive particles.

Do not use this appliance:

- With liquids other than water (e.g. flammable liquids, etc.) (EN60335-2-51);
- In locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas) (EN60335-2-51);
- For other than intended use.

7. Installation.

The appliance must be mounted in a stable/fixed position in a dry, well ventilated, frost-free, waterproof and protected place, with sufficient ventilation around it. Make sure that the appliance is securely and correctly installed before operating it and that there is enough room around it for maintenance operations, dismantling, checking for free inspection.

The maximum ambient temperature at which the appliance is to be used is 40°C (EN60335-2-51).



8. Electrical connection

Important: Connection to the power supply must be effected by means of a fixed power cable via a two pole isolating switch (fused spur) with a minimum contact opening of 3mm.

The fused spur must not be directly below the heater but should be accessible after completion of the installation. All heaters must be earthed.

Electrical connection must be carried out by a qualified electrician and in accordance with local regulations and both data on the name-plate and the appropriate diagram inside the terminal box cover.

Follow all safety standards.

9. Connect the appliance only to a mains supply protected by a Residual Current Device (RCD or Ground-Fault Circuit-Interrupter) with a rated residual operating current not exceeding 30mA.
10. Prior to any modification being made to the equipment, it must be agreed with and authorised by the manufacturer. Original spare parts and accessories authorised by the manufacturer are integral part contributing to the safety of the equipment and of the appliance. The use of non original components or accessories may endanger the safety and causes the termination of the warranty. Safe operation is only assured for the applications and conditions described in Application of this manual.

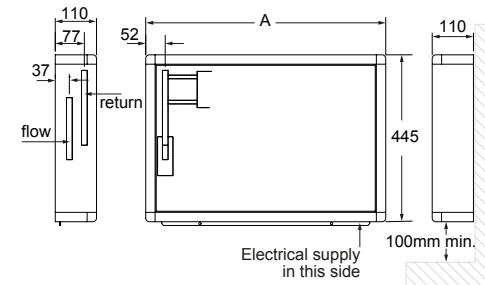
Non-observance of the safety instructions results in the loss of any claims to damages.

The indicated limit values are binding and cannot be exceeded for any reason whatsoever.

KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE.



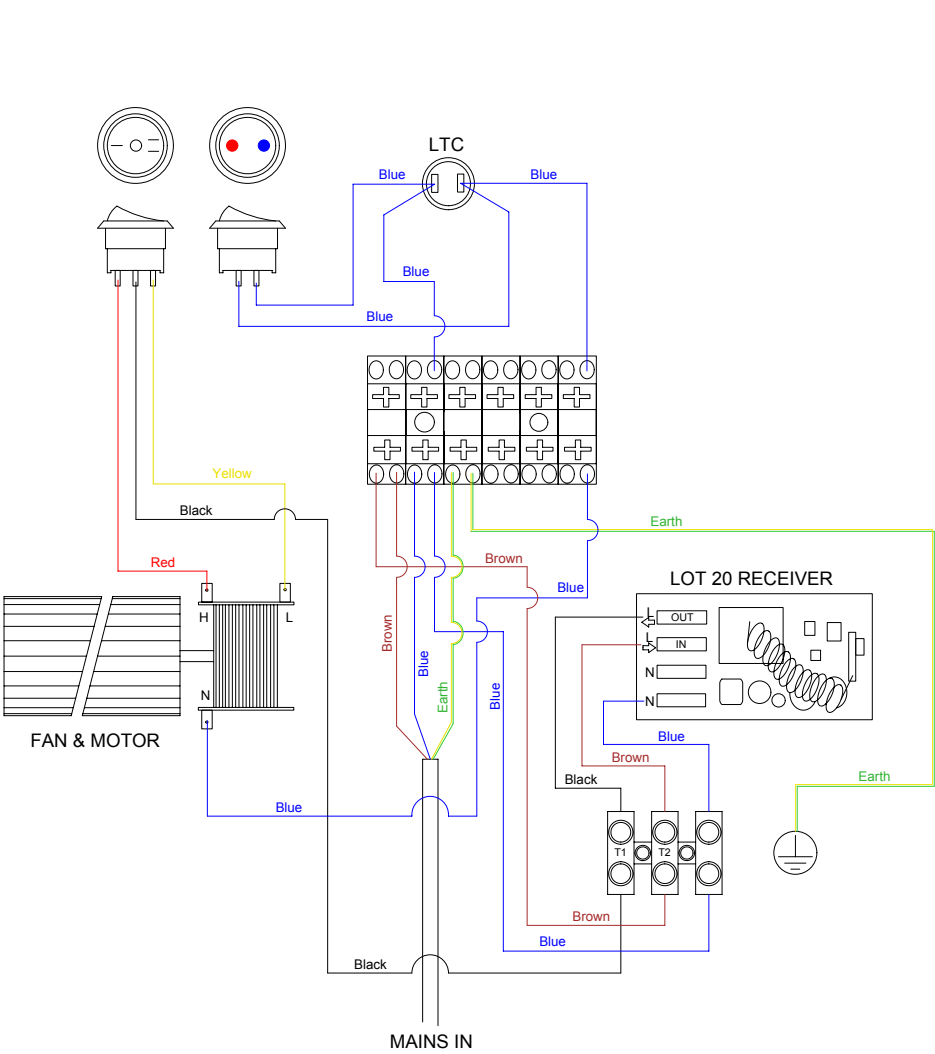
Product dimensions



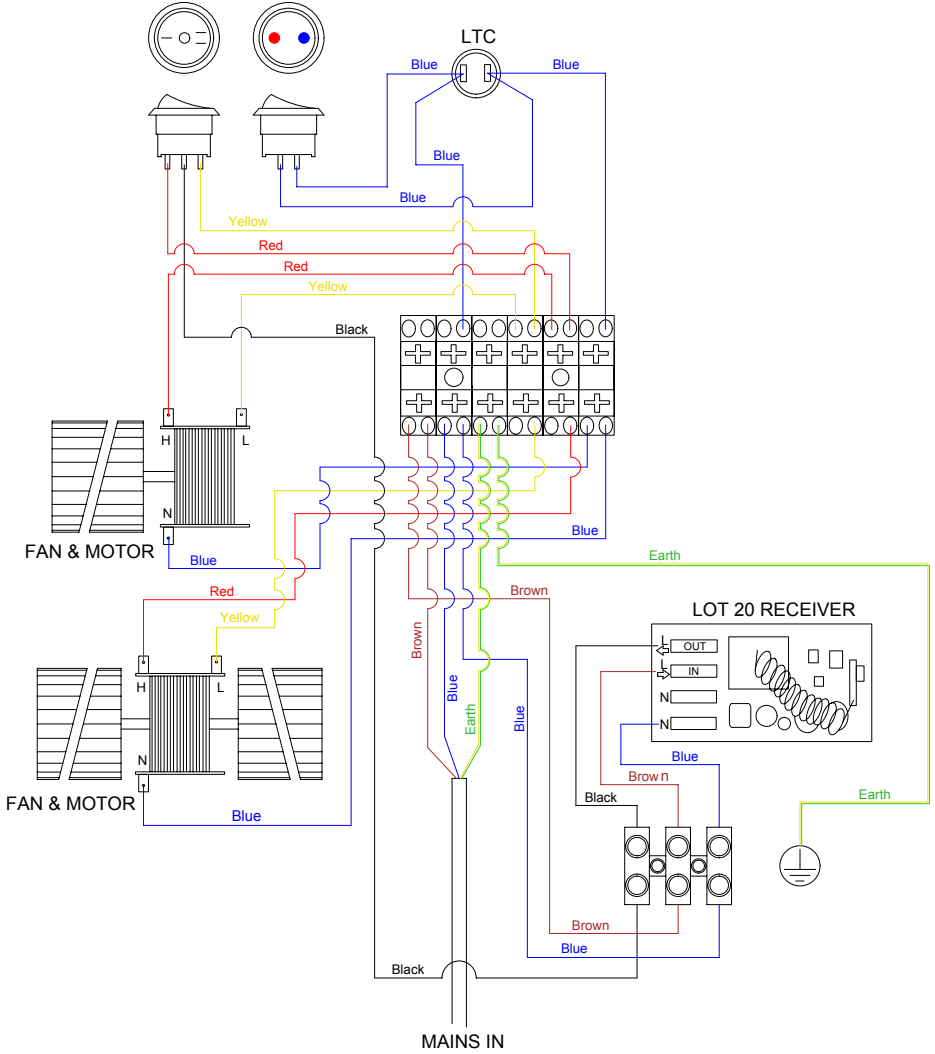
Model	A
LL 640	640
LL 1030	1030
LL 1390	1390

Wiring diagram

ECOVECTOR II - LOW LEVEL
LL640 and LL1030 models



ECOVECTOR II - LOW LEVEL
LL1390 models



Product performance

Heat output

Model	Heat Output at 80°		Heat Output at 75°		Heat Output at 70°	
	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)
ECOVECTOR II LL 640	1.2	1.45	1.1	1.32	0.98	1.19
ECOVECTOR II LL 1030	2.44	2.82	2.22	2.56	2.0	2.29
ECOVECTOR II LL 1390	3.37	4.00	3.06	3.67	2.78	3.34

Model	Heat Output at 65°		Heat Output at 60°		Heat Output at 55°	
	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)
ECOVECTOR II LL 640	0.9	1.07	0.8	0.94	0.7	0.82
ECOVECTOR II LL 1030	1.79	2.08	1.58	1.86	1.39	1.66
ECOVECTOR II LL 1390	2.51	3.02	2.23	2.7	1.92	2.37

Model	Heat Output at 50°		Heat Output at 45°		Heat Output at 40°	
	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)	Normal (kW)	Boost (kW)
ECOVECTOR II LL 640	0.6	0.7	0.5	0.59	0.38	0.47
ECOVECTOR II LL 1030	1.2	1.46	1.0	1.22	0.8	0.97
ECOVECTOR II LL 1390	1.61	2.03	1.37	1.72	1.14	1.41

Model	Flow & return connections	Mains cable	Transformer	Fused spur	Total Power Consumption	
					Normal (Watts)	Boost (Watts)
ECOVECTOR II LL 640	15mm	1.5m	n/a	3A	16	31
ECOVECTOR II LL 1030	15mm	1.5m	n/a	3A	26	44
ECOVECTOR II LL 1390	15mm	1.5m	n/a	3A	41	67

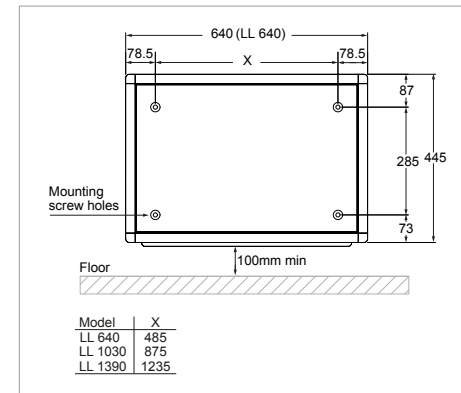
Model	Water Capacity (Litres)	Sound Levels		Max Current Draw Amps	Casting colour	Fan-only
		Normal (dBA)	Boost (dBA)			
ECOVECTOR II LL 640	0.29	31	33	0.25	white	yes
ECOVECTOR II LL 1030	0.58	32	34	0.45	white	yes
ECOVECTOR II LL 1390	0.83	34	36	0.60	white	yes

Heat outputs tested in accordance with BS4856 using entering water temperature and 340 l/h (75gph) flow rate. Sound levels measured at 1.5m.

Installation - product

1. Fix unit to wall

Ensure the unit is level and fix to the wall using suitable fixings via the chassis mounting holes. The minimum height from the floor should be 100mm and if there is any shelving above the unit it should be at a minimum height of 100mm above the unit.

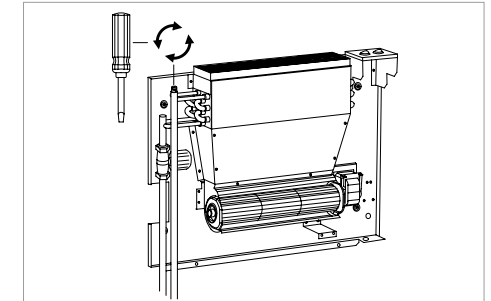


2. Connect the pipes

We recommend the use of full flow isolating valves. These valves should be accessible after completion of the installation. Pipe work can be brought out from the heater directly or through the rear chassis.

Connect the heating system flow and return pipes to the heater pipework. Do not use soldered fittings to connect onto the heater, as the heat generated could damage internal components and prevent disconnection from the system for maintenance. The pipe nearest the chassis is the supply flow and the pipe nearest the front of the heater is the return. Failure to connect (connections are labelled) to the correct pipes will result in the heater not working correctly.

Check for water leaks. Remove any trapped air from the system via the vent valve on the top left hand side of the heat exchanger. Do not over tighten the air vent.



3. Electrical supply and electrical connection

ALL ELECTRICAL INSTALLATIONS CONNECTIONS MUST COMPLY WITH BS7671, 1992 AND THE IEE REGULATIONS. CHECK THE VOLTAGE ON THE HEATER IS CORRECT FOR YOUR SUPPLY. IF IN DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

If the pre-wired mains cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons.

Isolate the supply and connect the heater three core mains lead to the fused spur (3A) in accordance with the instructions provided on the mains lead label. (The supply wire which is coloured green or green and yellow must be connected to the terminal marked E on the appliance, the supply wire which is coloured black or blue must be connected to the terminal marked N on the appliance and the supply wire which is coloured red or brown must be connected to the terminal marked L on the appliance).

The fused spur must not be directly above the heater but should be accessible after completion of the installation.

Installation - controller

1. Introduction

This product is supplied with a wireless battery powered wall-mounted time and temperature controller. The product will NOT function without the wall mounted controller. The controller can control an unlimited number of heaters.

The controller is primarily designed to minimise energy wastage and ensure the room is maintained at the comfort level set by the user. In the basic setting, the controller is a simple room thermostat in which the heater will run until the set temperature is reached. If the room temperature falls the heater will switch on again until the set temperature is reached. The operating range is between 15°C and 35°C.

1. Choosing a position in a room for the wall controller. The Controller should be positioned 1.5m above the floor and in the same room space as the heater. The controller should be fixed to the wall. Avoid areas with draught or direct sun. Do not position the controller above or close to the heaters or other heat sources damp areas or areas where the controller can be mechanically damaged should also be avoided. Avoid installing the controller in areas where there are metal objects between the heater and the controller. This will reduce the RF range. The RF range in ideal conditions can be up to 20m however this can be reduced when the signal is passing through the walls or other objects. The range can be also affected where the controller is mounted close to power cables, motors or equipment producing strong electromagnetic field. If the temperature control feature is used it is necessary to use one controller for each room or zone.

2. Installation - The controller is supplied with a white plastic mounting box that needs to be fixed to a wall at 1.5m above floor level. The controller is powered by two AAA batteries, supplied. To activate the controller pull the plastic tab located at the + battery terminal. The batteries should be replaced every 12 months.

2. Controller - Quick Set up

IMPORTANT – THIS HEATER WILL NOT WORK UNLESS USED AND PAIRED WITH THE SLVTB THERMOSTAT CONTROLLER

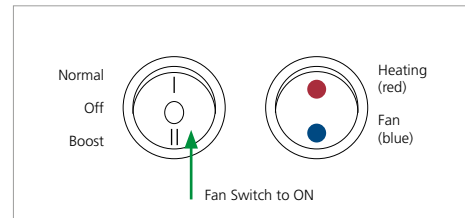
1. Ensure the heater is correctly installed and connected to the mains power supply. DO NOT TURN THE MAINS POWER ON AT THE WALL UNTIL INDICATED IN THE INSTRUCTIONS BELOW.



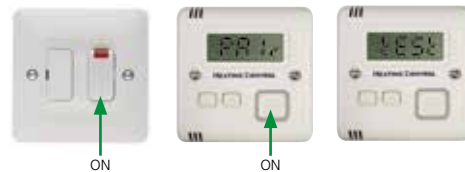
2. Remove the thermostat from the box and packaging. Remove the two screws to access the back of the SLVTB thermostat Controller. The clear plastic tag should be pulled out from the end of the battery holder. The screen should now show the current room temperature.

Note: If you are using any of the advanced features, these should be set now (see full instruction detail within Installation and User Guide)

3. Set the heater fan switch to ON (either normal or boost) and set the summer winter switch to Fan (blue)



4. Turn ON the mains power at the wall and within 20 seconds press and hold the large ON/OFF button on the SLVTB thermostat controller, keep pressing button, PAIR and then TEST will appear on the screen. Once TEST appears on the screen release the button and the fan in the heater should run.

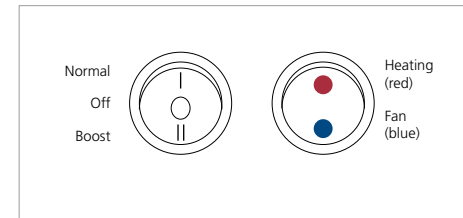


Note: Failure to switch on the mains power and press the controller ON/OFF button within 20 seconds will result in the heater and controller not pairing and pairing process should be restarted from step 3

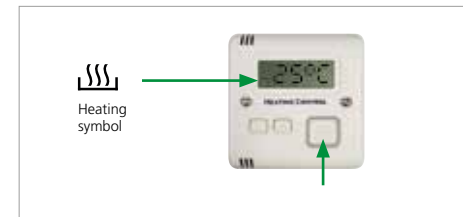
5. To exit the pairing mode, press the ON/OFF button on the SLVTB thermostat controller ONCE (DO NOT HOLD THE BUTTON IN). The room temperature will now be shown.



6. Set the heat output switches on the front of the heater to the desired position.



7. Press the large ON/OFF button on the SLVTB thermostat controller ONCE (DO NOT HOLD THE BUTTON IN). You will see a heating symbol appear in the bottom left hand corner of the screen; this indicates the thermostat is turned on.



8. Using the UP and DOWN symbols buttons on the SLVTB controller set the temperature to the desired setting. Press the up arrow to increase the target temperature or the down arrow to decrease the target temperature.



Providing the target temperature is higher than the room temperature the heater will operate.

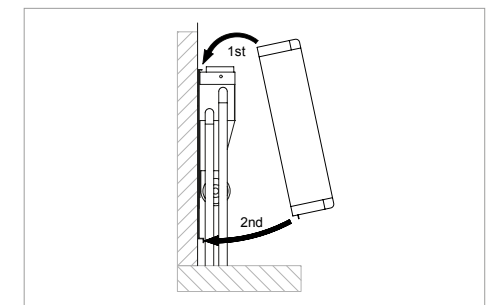
Note: If the heat symbol flashes the target temperature of the SLVTB thermostat controller is lower than the current room temperature – if the heat symbol is solid the SLVTB thermostat controller target temperature is higher than the current room temperature.

4. Commissioning

1. Ensure the fused spur is switched ON.
2. Ensure the heater is paired with the wireless controller.
3. Ensure the controller is switched on and calling for heat.
4. Set the fan speed switch to Normal or Boost and the right hand switch to blue (summer) - the fan should run.
5. Turn on the central heating system.
6. Set the right hand switch to Red (Winter). The fan should run and heat will flow within a few minutes.
7. Balance the central heating system if Ecovector Low is installed on the same circuit as panel radiators.
8. To turn the heater OFF set the controller switch to OFF (heating symbol not shown on display)

5. Installation completion

Refit outer casing to the chassis and secure with screws.



Heating operation

Ensure the central heating system is ON. Switch on the power supply to the unit. Set the thermostat control to the desired temperature.

Providing the water temperature in the central heating system is more than 33°C (Standard LTC only) and the thermostat is calling for heat the product will switch on.

Fault finding

Providing the power supply is switched on and the thermostat control is calling for heat the heater will switch on and off automatically with the central heating system.

In the event of any difficulty, please contact us on +44 (0) 1245 324560.

It will be helpful if you do not disconnect the heater from the central heating system.

Fault	Checking/Solution
The fan does not run on any speed setting	Check the power source is switched ON Check fuse in the fused spur Check wiring connections at the fused spur Check the thermostat and controller is paired to the heater Check the controller is switched on and calling for heat Check the battery in the controller and replace if necessary Check the central heating is switched ON Check the wireless controller thermostat is calling for heat Vent any trapped air from the system (with the heating system turned OFF)
No heat output	Check flow and return pipes are hot Check the service valves are open Vent any trapped air from the system (with the heating system turned OFF) Bleed air from the appliance Balance the central heating system if installed on the same circuit as panel radiators and increase the circulating pump speed if required Increase the boiler water temperature

Ecovector® II Low



User manual

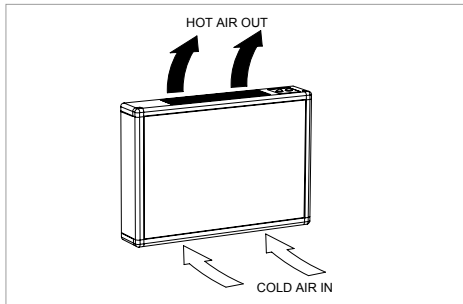


LL 640 | LL 1030 | LL 1390
Ecovector II Low Level

How it works

Your Ecovector is designed to operate as part of your central heating system in the same way as a panel radiator. Providing you leave the heater switches in their normal operating positions it will switch on and off automatically with your central heating system.

Heat from your central heating system passes through a heat exchanger transferring its heat to the aluminium fins, room air is drawn in the lower grille and heated as it passes through the heat exchanger before being gently expelled back into the room.



Ecovector includes a low temperature thermostat that prevents the fan(s) operating until the central heating system water passing through the heat exchanger reaches a set temperature.

How to operate

Ensure your central heating is ON, the controls calling for heat (Setpoint above the room temperature) & any fan speed selected; normal or boost.

Providing your system temperature exceeds 33°C the fans will run.

Fault finding

Providing the power supply is switched on and the thermostat control is calling for heat the heater will switch on and off automatically with the central heating system.

In the event of any difficulty, please contact us on +44 (0) 1245 324560. It will be helpful if you do not disconnect the heater from the central heating system.

Fault	Checking/Solution
The fan does not run on any speed setting	<ul style="list-style-type: none"> Check the power source is switched ON Check fuse in the fused spur Check wiring connections at the fused spur Check the thermostat and controller is paired to the heater Check the controller is switched on and calling for heat Check the battery in the controller and replace if necessary Check the central heating is switched ON Vent any trapped air from the system (with the heating system turned OFF)
No heat output	<ul style="list-style-type: none"> Check flow and return pipes are hot Check the service valves are open Vent any trapped air from the system (with the heating system turned OFF) Bleed air from the appliance Balance the central heating system if installed on the same circuit as panel radiators and increase the circulating pump speed if required Increase the boiler water temperature

Accessories

For accessories or spares please refer to our price list, contact your supplier or Smith's Environmental Products Ltd.

Registering your product

Thank you for purchasing a Smith's product. It has been designed and manufactured to the highest quality standards to ensure it gives you efficient and trouble-free service for many years. We are committed to achieving the highest standards and our faith is supported by a free parts and labour guarantee with every product.

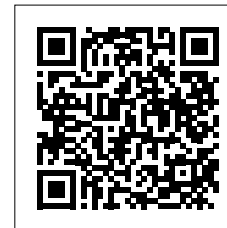
For more information on the warranty period for this product please visit our website smithsep.co.uk/product-registration/

This gives you the peace of mind that in the unlikely event of product failure, we will repair or replace the product completely free of charge providing the product has been installed, used and maintained in accordance with the instructions. Your statutory rights are not affected by this warranty.

It is important to register as soon as possible online at: smithsep.co.uk/product-registration/. This will ensure you will receive prompt and efficient service if your product requires attention within the warranty period. If you do not register your product, you will be required to produce proof of purchase prior to receiving service.

For more details please visit our website: SmithsEP.co.uk

SCAN HERE TO REGISTER YOUR PRODUCT



Disposal

As part of the policy of continuous product improvement, Smith's Environmental Products LTD reserves the right to alter specification without prior notice.

Products with this symbol (crossed out wheelee bin) cannot be disposed as household waste. Old electrical and electronic equipment must be recycled at a facility capable of handling these products and their waste by-products. If you are purchasing replacement equipment your retailer may offer a 'take back' scheme, or will be able to give details of the nearest approved authorised treatment facility. Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

WEEE Registered Code: WEE/ED0093VW



After sales and spares

If you experience any problems with the use of your product, please contact our after-sales office +44 (0) 1245 324560.

For product information, customer services or sales support call us on +44 (0) 1245 324900

For the Republic of Ireland, contact MT Agencies on 01 864 3363

Sales: sales@SmithsEP.co.uk
General information: info@SmithsEP.co.uk

Smith's Environmental Products Ltd
Blackall Industrial Estate, South Woodham Ferrers,
Chelmsford, Essex CM3 5UW

SmithsEP.co.uk

@SmithsEP_UK

#ThinkSmiths



Happy to help

Smith's Environmental Products Ltd is one of the leading manufacturers of heating and cooling products in the UK. We are committed to achieving the highest standards and our faith is supported by a free parts and labour guarantee with every product (see our website for more information). Our customer service is second to none and we are happy to offer any help and guidance that you might need.

Stockists

All products are available nationally from Builders' Merchants, Plumbers' Merchants, Heating Equipment Distributors and Kitchen Equipment Distributors. In the event of difficulty, please contact us or visit our website SmithsEP.co.uk for details of your nearest stockist.

Information and advice

Full technical specifications and list prices is available to download from our website or in hard copy from our office. Also available on our website are price lists, individual product data sheets, installation & user guides, where to buy, who to contact and a media centre.

Alternatively contact our office 9.00am to 5.00pm Monday to Friday.

As part our commitment to continuous improvement Smith's Environmental Products may change the specifications of its products without prior notification or public announcement. All descriptions, illustrations, drawings and specifications in this publication present only general particulars and shall not form part of any contract. All dimensions are in mm unless otherwise stated. Please visit the website for the most up to date information.

**To view the full product information
download the datasheet at:
www.SmithsEP.co.uk**

For product information, customer services or sales support call us on **+44 (0) 1245 324900**

For the Republic of Ireland, contact MT Agencies on 01 864 3363

Sales: sales@SmithsEP.co.uk

General information: info@SmithsEP.co.uk

Smith's Environmental Products Ltd
Blackall Industrial Estate, South Woodham Ferrers,
Chelmsford, Essex CM3 5UW

SmithsEP.co.uk

[@SmithsEP_UK](https://twitter.com/SmithsEP_UK)

[#ThinkSmiths](https://www.facebook.com/ThinkSmiths)

Issue 003 | 85-0055 | December 2023