

Energie Eco Solar Thermodynamic Domestic Water Heating For Small to Medium-sized Homes

Product Technical Statement (v1.0, January 2019)



Product Description

An Energie Eco domestic water heating system for small to medium-sized homes consists of an Eco cylinder, with its attached compressor and heat exchanger, and an 8kg aluminium thermodynamic panel, which is externally mounted on the roof, wall, balcony or ground.

No separate back-up system is required as Energie Eco works in all weather conditions - it also works at night. A refrigerant liquid (R134A) passes through the thermodynamic panel gathering heat from solar radiation, environmental temperature, rain, wind and snow. This causes the refrigerant to become a hot gas which is then compressed, further increasing its temperature. The heat is then transferred to the water via a heat exchanger coil which is wrapped around the outside of the cylinder. The gas is decompressed and condenses back into a liquid which returns to the panel, and the process repeats.

The average power consumption is 390 W.

Water in the cylinder is heated to 55° C. To combat the risk of legionella, once a week the temperature is raised to 65° C to kill any bacteria.

There are five products in the Eco range that are suitable for small to medium-sized homes of one to five people, including apartments and townhouses.

PRODUCT	CYLINDER DETAILS	# OF PANELS
ECO 200esm	200 litre enamel	1
ECO 250esm	250 litre enamel	1
ECO 250i	250 litre stainless steel	1
ECO 300esm	300 litre enamel	1
ECO 300i	300 litre stainless steel	1

Scope of Use

The five Energie Eco hot water systems listed above are suitable for use in any type of residential building where hot water is required for between one and five people. It can be used for both new builds and in existing houses where a replacement cylinder is required.

Limitations: The cylinder must be housed inside or under cover as the electronics must not get wet. The cylinder is not suitable for



Company Contact Details



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wall-mounting. The thermodynamic panel should be mounted facing north, west or east.

Conditions

This PTS should be read in conjunction with the manufacturer's brochure, which can be downloaded from:
<https://www.thealternativeenergycompany.co.nz/products/water-heating/domestic-hot-water>

New Zealand Building Code (NZBC)

Energie Eco products satisfy the Building Code Clause G12: Water supplies.

Evidence

The products meet the requirements set out in the following documents, or relevant parts of cited standards within the documents (available on request):

- Energy's Supplier Declaration of Conformance, dated 24 January 2014.
- Approved and certified to AS/NZS 2712:2007.

Design, Construction and Installation Instructions

The Energie Eco system must be installed by a qualified plumber and a qualified refrigerant engineer, who must commission the system. Relevant installation documents can be supplied by The Alternative Energy Company on request.

Quality Assurance

The Energie Eco system is manufactured to the highest standards and certified under the following management systems:

- Oceanamark schedule, certificate # OMK22618. Issued 17 March 2017, expiry 16 March 2022.
- WaterMark certificate, licence # WM-022618. Issued 17 March 2017, expiry 16 March 2022.
- European Keymark certificate, registration # 011-7S888 F, issued 9 September 2009.