



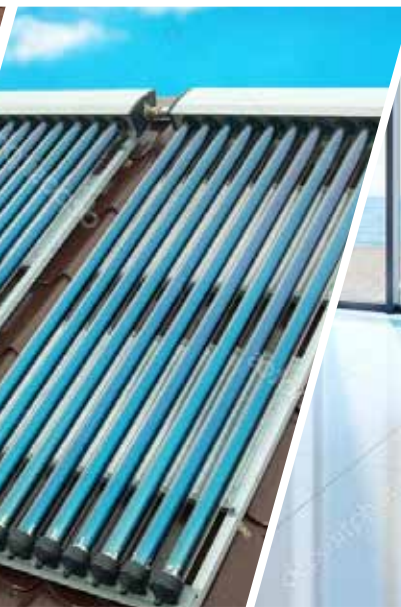
ECOIRE

Everywhere

EXCELLENT - PRODUCT • VALUE • SERVICE



FLAT PLATE COLLECTOR



HEAT PIPE TUBE COLLECTOR



HOT WATER HEAT PUMP



DC CIRCULATION PUMP

2018
SOLAR HOT WATER
RANGE



ECO PLATE

Warm Your Family With Eco Solar



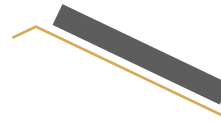
Flat roof 30°



Flat roof 45°



Flat roof 60°



On-roof parallel



MODEL	EFPC 2.0 - vertical	EFPC 2.4 - vertical
Dimensions (H) x (W) x (D) (mm)	2000 x 1000 x 80	2000 x 1200 x 80
Gross Area (m2)	2	2.4
Aperture Area (m2)	1.86	2.39
Cover material	Frosted Tempered glass	
Cover thickness	3mm	
Weight	32kg	38kg
Fluid content (L)	1.66	2.14
Guarantee	5 Years	
FEATURES		
Sensor pocket	Built in sensor pocket	
Panel orientation	Vertical	
ABSORBER		
Material	Copper- Aluminium fin	
Surface treatment	Black Chrome	
Header material	Copper	
Header tube size	22mm x 0.75mm	
Riser material	Copper	
Riser tube size	10mm x 0.5mm	
Maximum pressure	10 Bar	
THERMAL INSULATION		
Insulation Material	Polyester fiber	
Insulation thickness	35mm	
CASING		
Frame	6063 Aluminium alloy	
Frame colour	Antique bronze	
Frame thickness	1mm	
Back plate	Chromodek	
Max operating temperature	< 200 Â°C (153 Â°C)	
Sealing gasket	EPDM	

The Eco EFPC frame collector features solar glass covered with a sealed EPDM rubber. The full-surface absorbers are insulated at the rear by a 35mm thick fiberglass cotton. The number of individual components has been kept at a minimum for this product concept.

The special design of the absorber and the attractive performance data make these collectors ideal for large solar thermal systems. The positive fit between the glass clip frames and the frames and the circumferential PDEN rubber profile guarantees 100% tightness and a long service life. Equipped with a modular mounting system, the EFPC can be used for both flat-roof and on-roof installations.

EFPC Product Benefits

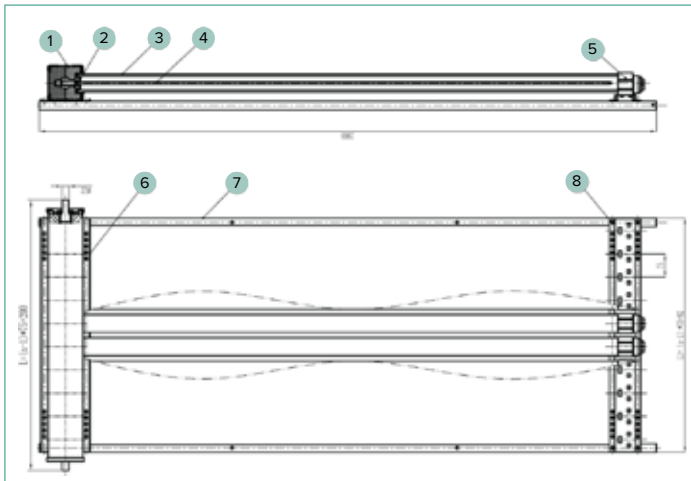
- Optimal value for money due to intelligent product design based on a minimum number of individual components.
- Easy transport and installation because of a low total weight of only 32kg (EFPC 2.0) / 38kg (EFPC 2.4) and a height of 80mm.
- Maximum heat transfer between the absorber sheet and the copper grid due to optimized brazing or laser welding technology.
- Woven ultra white toughened solar safety glass.
- The use of quality, recyclable materials ensures a long service life and high environmental compatibility.
- Excellent value for money due to an aluminium absorber with highly selective coating as well as minimum crane use and installation time to set up the system.
- Installation-friendly mounting system with bench screws for all common types of roofs.





ECO TUBE

Warm Your Family With Eco Solar



ITEM	DIMENSIONS		
	L	W	H
ETZ58/1800-12R5	2000	1025	110
ETZ58/1800-15R5	2000	1250	110
ETZ58/1800-20R5	2000	1625	110

- 1 Manifold 4 Heat pipe 7 Side beam
- 2 Rubber Seal 5 Tail box 8 Tail stock
- 3 Vacuum tube 6 Connect sheet

MODEL	EETZ58/1800-12R5	ETZ58/1800-15R5	ETZ58/1800-20R5
Number of tubes	12	15	20
Tubes Distance	75mm		
Dimensions (H) x (W) x (D) (mm)	2000 x 1025 x 110	2000 x 1250 x 110	2000 x 1625 x 110
Aperture Area (m ²)	1.12	1.39	1.86
Absorber Area (m ²)	0.96	1.21	1.62
Total and Useful Energy Rating	4.17 KWhr/sqm/day		
Weight Empty (Kg)	41	52	71
Pipe Connection Size (mm)	22		
Max. Operation Pressure (Mpa)	0.6		
Stagnation Temperature (°C)	225.3		
Fluid Content (L)	0.79	0.98	1.28
Tile Angle Limited (°)	15-75		
Heat Transfer Medium	Water-glycol Solution		
MATERIALS			
Manifold	Aluminium Alloy		
Insulation	Glass Wool		
Header Pipe	Copper		
Vacuum tube	Borosilicate Glass		
Heat Pipe	Copper		
Fin	Aluminium		
Side Beams	Aluminium Alloy		
VACUUM TUBE			
Material	Borosilicate Glass		
Thermal expansion	3.3x10 ⁻⁶ /°C		
Diameter of cover tube	58 mm		
Diameter of absorber tube	47 mm		
Glass thickness	2.2mm		
Length	1800 mm		
Material of coating	AIN/AIN-SS/Cu		
Vacuum	≤ 3 x 10 ⁻⁴ Pa		
Absorptivity Coefficient	0.94-0.96		
Emissivity Coefficient	< 0.06 (0.04-0.06)		
Stagnation temperature	200°C (200-350°C)		
Heat loss coefficient	≤ 0.60W/(m ² °C)		
Impact resistance	Withstands 25mm diameter hailstones		
Lifetime	> 15 years		



HOT WATER - HEAT PUMP

R410A
 ZERO OZONE DEPLETION POTENTIAL



The heat pump water heater is one of the most economical systems to heat the water for domestic use. Using free renewable energy from the air, the unit is highly efficient with low running costs. Its efficiency can be up to 3-4 times more than conventional gas boiler or electrical heater. It can offer hot water all year around. Also it can be compatible with an existing household geyser.



MODEL			EEWHP-35	EEWHP-51	EEWHP-72
Heating	Nominal Capacity	kW	3.5	5.1	7.2
	Power Input	kW	0.875	1.24	1.79
	COP	w/w	4	4.1	4.02
Power Supply		V / Ph / Hz	220 - 240 / 1 / 50		
Max. Leaving Water Temp. (Without using backup heater)		°C	55		
Rated Water Yield		l / h	75	110	155
Running Temp. Range		°C	-53		
Refrigerat Type			R410A		
Compressor Type			Panasonic / Toshiba Rotary		
Max. Current		Amps	5.3	7.5	10.9
Water Circuit Heat Exchanger			Tube In Shell Heat Exchanger		
Water Pump			Wilco Pump		
Unit Dimensions (H x W x D)		mm	493 x 750 x 320	550 x 976 x 300	
Packaging Dimensions (H x W x D)		mm	515 x 770 x 350	600 x 1010 x 330	
Nett Weight		Kg	39.5	53.5	59
Gross Weight		Kg	41	55	61
Noise Level		dB(A)	47	50	53





ECO PUMP

TS5

Solar DC Circulation Pump



Features

- DC brushless motor with energy efficiency technology by micro processor
- Soft start at very low in-rush current, good convenient working directly with PV panel
- Durable permanent magnetic rotor/impeller and fine ceramic shaft
- Advanced magnetic drive technology for static-impeller, without any leakage, permanently sealed
- Long life brushless pump, 30000 hour lifetime
- Heavy duty , can sustain operation for 24 hours
- Automatic overload protection
- Automatic over-temperature protection
- Automatic dry-running protection
- Low or no maintenance
- Low power consumption

Specifications

- Voltage: 8V~24V DC (Standard:12V DC)
- Max Flow Rate: 12 l/min
- Max Water Head: 3m
- Inlet/Outlet: Brass(or Stainless steel)1/2" BSP/NPT male
- Max system pressure: 10Bar
- Max working temperature: 110°C (230° F)
- Min start-up power consumption less than 2 Watt
- Low noise: ≤45dB far from 1m distance

Areas of use

- Hot Water Circulation
- Radiant Floor Heating
- Solar Applications
- Beer Brewing
- Liquid Transfer
- General Purpose Pumping



Application

The TS5 solar DC pump can be used for most circulation pump applications without connection to a power grid. Highly efficient, the TS5 can be connected directly to a photovoltaic panel and is characterized by its small size, high efficiency, and extreme low power consumption. The long life brushless motor technology provides a maintenance free and quiet service life. This pump is perfect for home thermal solar systems or any circulation pump application where conventional power is not available.

Soft start-up

The TS5 Solar DC pump has a soft start-up feature which reduces high in-rush current. When the photovoltaic panel provides sufficient power, the pump goes through the alignment phase by turning the rotor into the position required for start-up. The processor then waits until the capacitor is sufficiently charged. This enables a start-up with minimal power (less than two watt). Cycling due to unsuccessful attempts is minimized. Even after prolonged shutdown, the pump will start reliably.

PV operated

For solar system loops, the TS5 pump can be powered directly from a PV panel. The sun comes up, heat builds in the solar hot water panel and at the same time electricity is made in the PV panel. The pump starts slowly with the smallest amount of current and pushes the heated water to the storage tank. It's simple and efficient and eliminates all controllers, thermostats and sensors.



Materials of Construction (Wetted Parts)

- Hi-Temp Ryton Plastic- PPS (food grade)
- Brass (or Stainless steel) Inlet/Outlet
- Viton "O" Ring
- Hi-Temp Ryton (PPS) Impeller
- Ceramic Ferrite Magnet





ECO PUMP

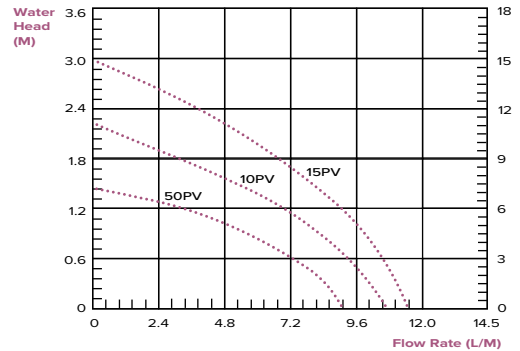
TS5

Solar DC Circulation Pump

Models

Model	PV Module WATTS(w)	Max HHead Meters(m)	Max Flow (L/m)
TS5 5PV	5	1.4	8.5
TS5 10PV	10	2.3	10
TS5 15PV	15	3	11.5

Pump Curves



TS5 mainly compares with ordinary domestic DC hot water pumps, D5 pumps and SID pumps

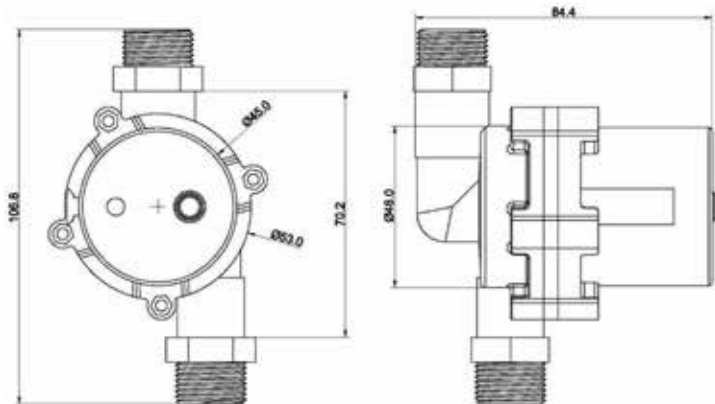
Model	Max Working temp.	Max System Pressure	Dry-running Protection	Automatic Temp. Protection	Over-load Protection	Wide Voltage Scope	Housing	O Ring	Impeller	Magnet	Inlet / Outlet
TS5	110°C	10Bar	Yes	Yes	Yes	Yes	Ryton	Viton	Ryton	Ceramic Ferrite Magnet	Brass
Ordinary	80°C	3~5Bar	No	No	No	No	Nylon	NBR	Nylon	NdFeB magnet	Nylon
D5	110°C	10Bar	Yes	Yes	No	Yes	Brass	EPDM	PPO	Ceramic Ferrite Magnet	Brass
SID	120°C	10Bar	Yes	Yes	Yes	Yes	Bronze	Silicone	Ryton	Ceramic Ferrite Magnet	Bronze

Ryton (PPS): Is one of the best engineering plastics which can be used instead of metal, with high temperature advantages such as; thermal stability, excellent heat resistance, high mechanical strength, can be used continuously with temperatures of up to 220-240°C at 1.82 MPa, low heat distortion in temperature of above 260°C

Viton (FKM): Has excellent heat-resistance: sustainable at temperatures of -40°F (-40°C) to 400°F (204°C), intermittent in temperatures of 600oF (315°C); able to withstand more than the most extensive of any commercial rubber solutions and chemicals. Excellent tolerance to a variety of oils, fuels, lubricants and most mineral acids.

Dimensional drawings for TS5 solar DC pumps

All dimensions in mm unless rated



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