

ECO

DOMESTIC HOT WATER



**LATEST GENERATION OF
SOLAR TECHNOLOGY.**
WORKS WITH SUN,
WIND, RAIN OR
EVEN AT NIGHT.



EFFICIENCY & QUALITY

IN DOMESTIC
HOT WATER
PRODUCTION

 PORTUGUESE MANUFACTURING



MAXIMUM
RETURN ON
INVESTMENT

- Stainless steel or enamelled cylinder
- High level of efficiency and ecology
- Quiet operation
- Easy installation
- Smart photovoltaic function
- Anti-legionella function
- Optional coil
- Controller with software in 6 languages
- HP Keymark Certification

THERMODYNAMIC SOLAR PANEL

- Anodized aluminium, with solocoat flexible finishing
- Easy to transport and install, only 8 kg and 2x0,8 m.
- No glass, rubber or fragile materials.
- No overheating and freezing problems
- It can be installed on the roof, wall, garden, etc.
- Panel efficiency does not decrease with age or dirt
- No need for cleaning and humidity resistance
- Estimated lifespan of 25 years
- Passed the corrosion test in a salt fog test equivalent to 20 years
- Solar Keymark Certification



24 HOURS A DAY / 7 DAYS A WEEK / 365 DAYS A YEAR



SOLAR PERFORMANCE

Tested and certified according to the most rigorous European standards it has achieved an extraordinary coefficient of performance of 3,8 according to the EN16147. The testing was carried out without solar irradiance, wind or rain. To enhance the real operating performance even more we advise to instal the thermodynamic solar pane facing South (North on the southern hemisphere), east or west. Vertically or horizontally on a wall, roof, flat roofbut always on a landscape position.



SOLID AND ROBUST

The thermodynamic solar panel is made of anodised aluminium with a special Solokote finishing that ensures it's robust and long-lasting against corrosion, in particular when exposed to saline and/or aggressive environments. This innovative technical feature allows energie to provide a 10 years warranty against corrosion, ensuring peace of mind to the end user.



SIMPLE AND ERGONOMIC

The high efficiency of the hot water cylinder is achieved by using a high-density polyurethane foam that ensures a low heat loss rate, being able to keep the water heated for several days in a row even if the units is turned off.



SOPHISTICATED

The equipment's indoor unit has a stainless steel or enamelled cylinder, as well as an external condenser. High density injected polyurethane insulation with cathodic protection. The thermodynamic block is equipped with a state-of-the-art compressor, with one of the lowest electrical consumptions on the market.

THERMODYNAMIC SOLAR SYSTEM

WORKING PRINCIPLE

The evaporation of the fluid that runs inside the closed looped circuit happens on the solar panel by capturing the heat from the sun, wind, rain and surrounding air by natural convection.

The heated fluid then travels to the compressor, that will compress the fluid increasing its pressure and also its temperature.

Then it goes to the heat exchanger where where this heat is transferred to the water.

After this, an expansion valve will make the pressure and temperature drop to sub-zero values. The fluid travels up to the thermodynamic solar panel and the cycle repeats again.



ErP
READY

APPLIES TO
EUROPEAN
DIRECTIVE
FOR ENERGY
RELATED
PRODUCTS



Solar Keymark
and HP Keymark



EQUIPMENT

- No ducts and no fans
- No energy-consuming defrost cycles
- Super efficient low consumption compressor
- No need to install support equipment

SOLAR PANEL

- Captures heat regardless of weather factors
- Primary circuit does not need to dissipate excess heat on hotter day
- Easy architectural integration, versatile without visual impact



ELECTRONIC CONTROLLER

DOMESTIC HOT WATER PRODUCTION

ECO Operating Mode

The equipment only works as a Thermodynamic Solar System.

AUTO Operating Mode

The equipment works as a Thermodynamic Solar System and/or electrical support should be required.

BOOST Operating Mode

The equipment works with a Thermodynamic Solar System and electrical support simultaneously.



PHOTOVOLTAIC INTELLIGENT FUNCTION

Take Full advantage of your PV System:

- Sets new standards of smart energy management
- Maximize your PV Solar Panels production and reduce your DHW costs
- Maximize the solar irradiation available by having the thermodynamic solar system working more when there is more sun available
- Get the balance between PV production and consumption with our intelligent controller

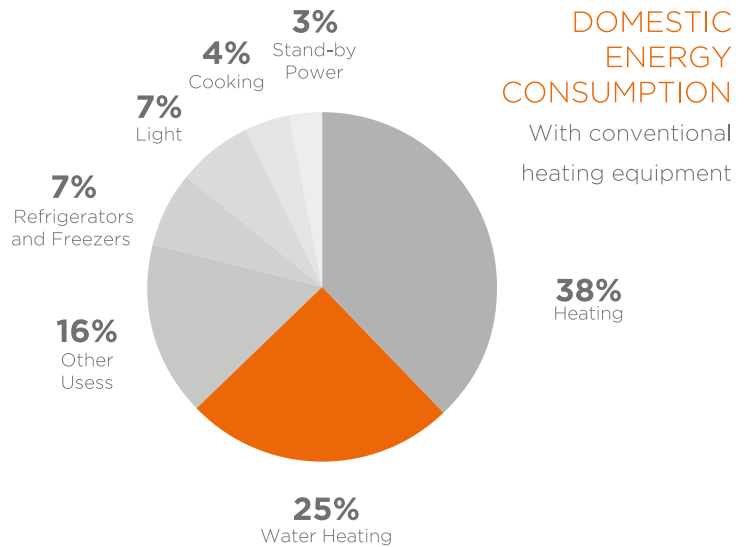
With PV Smart Grid Ready, the ENERGIE Solar System absorbs the extra power generated by PV Panels, Wind Energy or Small Hydro storing, what would be lost energy, into the water, enabling you to save even more.



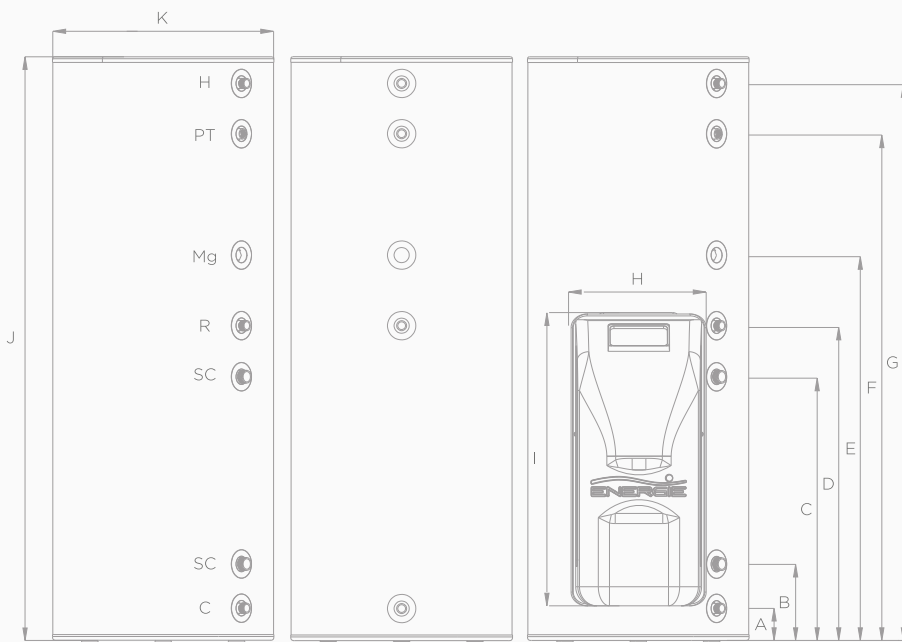
SAVING UP TO

85%

- Considering ECO250
- 7 hours of operation per day
- Consumption of 0.39 kW/h
- Required energy/month: 0.39 kW x 7h x 30 days = 81.9 kWh/month



Equipment: **Storage Water Heater**



Rear Connections

3001/300IX
300ESM/5001/500IX

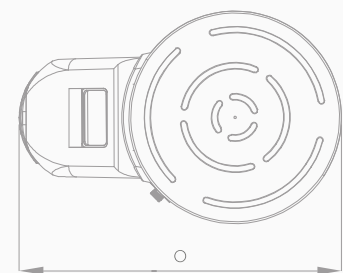
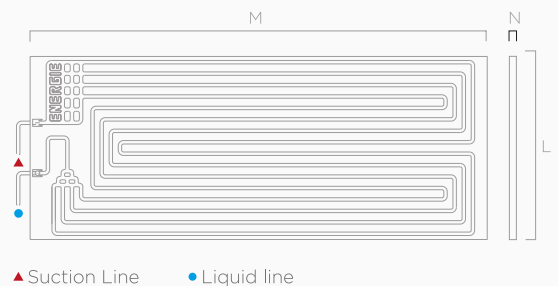
Rear Connections

250ESM

Front Connections

2001
2501

Equipment: **Thermodynamic Solar Panel**



Top view

H. Hot water | PT. PT Valve | R. Recirculation |
C. Cold Water | Mg. Magnesium anode | Sc. Coil

ECO - 1 Panel

TECHNICAL DATA STORAGE WATER HEATER			250l	300l	200l	250ESM	300ESM	250IX	300IX
Net weight	Kg		45	50	45	83	95	52	57
Volume	L		250	300	200	250	300	245	295
Material (stainless steel-i enamelled steel-e)	-		i	i	i	e	e	i	i
Cathodic protection	-		Mg Anode (1"1/4)						
Hydraulic connections	Water - inlet and outlet	Pol.	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"
	PT Valve	-	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
	Recirculation	-	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Insulation	bar		High density polyurethane 50mm						
Maximum pressure	°C		7	7	7	7	7	7	7
Maximum operating temperature	kWh/24h		80	80	80	80	80	80	80
Heat loss (EN12897)	-		1,01	1,17	1,04	1,20	1,39	1,01	1,17

THERMODYNAMIC SOLAR PANEL

Material	-	Anodized aluminum solarcoat
Dimensions (W x H x D)	mm	2000 x 800 x 20
Weight	Kg.	8

THERMODYNAMIC BLOCK

Dimensions (W x H x D)	mm	320 / 710 / 280
Weight	Kg.	17,5
Absorbed power (avg/max)	W	390 650
Thermal power (avg/Max)	W	1400 2380
Electric support power	W	1500
Compressor type	-	Hermetic
Compressor noise level	dB	39
Refrigerant fluid / Qt. ¹	-/g	R134a / 1100
Piping material	-	Copper (DHP ISO1337)
Liquid line asp.	Pol.	1/4" 3/8"
Power supply	V/Hz	230 / Single-phase / 50 or 60 ²
Fuse (general resistance)	A	10 10

PERFORMANCE³

		250l	300l	200l	250ESM	300ESM	250IX	300IX
Load profile	-	XL	XL	L	XL	XL	XL	XL
Coefficient of performance (COP)	-	3,8	3,7	3,6	3,8	3,7	3,8	3,7
Energy efficiency class	-	A+	A+	A++	A+	A+	A+	A+
Energy efficiency	-	155	151	154	155	151	155	151
Annual energy consumption	KWh/year	1078	1111	664	1078	1111	1078	1111
Amount of useful water at 40°C	L	349	389	247	349	389	342	382

¹ The amount of fluid must be verified by the installer. In certain cases, it is necessary to adjust the amount of fluid to guarantee the correct functioning of the system.

² The 60 Hz frequency is only available upon order.

³ According to EN16147, Delegated Regulation (EU) N°812/2013 and Delegated Regulation (EU) N°814/2013.

DIMENSIONS mm

	250l	300l	200l	250ESM	300ESM	250IX	300IX
A	99	107	99	99	102	99	107
B	-	-	-	-	-	215	236
C	-	-	-	-	-	706	636
D	840	787	820	840	782	840	787
E	1025	1096	940	1025	1096	1025	1096
F	1343	1187	1044	1351	1182	1343	1187
G	1475	1330	1180	1477	1325	1475	1330
H	370	370	370	370	370	370	370
I	765	765	765	765	765	765	765
J	1540	1400	1240	1540	1430	1540	1400
K	580	650	580	580	650	580	650
L				800			
M				2000			
N				20			
O	875	945	875	875	945	875	945

ECO - 2 Panels

TECHNICAL DATA STORAGE WATER HEATER		250IS	300IS	300ESMS	250ISX	300ISX	500IS	500ISX
Net weight	Kg	45	50	95	52	57	66	93
Volume	L	250	300	300	245	295	455	455
Material (stainless steel-i enamelled steel-e)	-	i	i	e	i	i	i	i
Cathodic protection	-	Mg Anode (1"1/4)						
Hydraulic connections	Water - inlet and outlet	-	3/4"	3/4"	3/4"	3/4"	1"	1"
	PT Valve	Pol.	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
	Recirculation	-	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Insulation	-	High density polyurethane 50mm						
Maximum pressure	bar	7	7	7	7	7	7	7
Maximum operating temperature	°C	80	80	80	80	80	80	80
Heat loss (EN12897)	kWh/24h	1.01	1.17	1.39	1.01	1.17	1.81	1.81

THERMODYNAMIC SOLAR PANEL		
Material	-	Anodized aluminum solarcoat
Dimensions (W x H x D)	mm	2000 x 800 x 20
Weight	Kg	8

THERMODYNAMIC BLOCK			
Dimensions (W x H x D)	mm	320 / 710 / 280	
Weight	Kg	17.5	
Absorbed power (avg/max)	W	620 950	
Thermal power (avg/max).	W	2300 3760	
Electric emergency backup	W	1500	2200
Compressor type	-	Hermetic	
Compressor noise level	dB	39	
Refrigerant fluid / Qt. ¹	-/g	R134a / 1300	
Piping material	-	Copper (DHP ISO1337)	
Liquid line suction line	Pol.	3/8" 1/2"	
Power supply	V/Hz	230 / Single-phase / 50 or 60 ²	
Fuse (general resistance)	A	10 10	
Operating temperature	°C	-5 / 45	

PERFORMANCE ³		250IS	300IS	300ESMS	250ISX	300ISX	500IS	500ISX
Load profile		XL	XL	XL	XL	XL	XL	XL
Coefficient of performance (COP)	-	3,7	3,6	3,6	3,7	3,6	3,5	3,5
Energy efficiency class	-	A+	A+	A++	A+	A+	A+	A+
Energy efficiency	-	152	151	151	152	151	139	139
Annual energy consumption	-	1103	1112	1112	1103	1112	1553	1553
Amount of useful water at 40°C	KWh/Year	349	389	389	349	389	599	592
	L							

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DIMENSIONS mm	250IS	300IS	300ESMS	250ISX	300ISX	500IS	500ISX
A	99	107	102	99	107	102	102
B	-	-	-	215	236	-	635
C	-	-	-	706	636	-	1525
D	840	787	782	840	787	782	782
E	1025	1096	1096	1025	1096	1093	1093
F	1343	1187	1182	1343	1187	1770	1770
G	1475	1330	1325	1475	1330	1937	1937
H	370	370	370	370	370	370	370
I	765	765	765	765	765	765	765
J	1540	1400	1430	1540	1400	2020	2020
K	580	650	650	580	650	650	650
L				800			
M				2000			
N				20			
O	875	945	945	875	945	945	945

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