

MARSOL



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CERTIFICATES



The "Solarkeymark" denotation, is issued by ESTIF and is throughout Europe, has become the most widely accepted certificate for solar thermal products, this has been made obligatory for all goods entering Germany since January 2007 and the favoured certificate to get refund incentive payments EU countries.



The Federal Office of Economics and Export Control (BAFA) is a superior federal authority subordinated to the Federal Ministry of Economics and Technology (BMWi) in Germany. A central task of BAFA in the foreign trade sector is export control. In the energy sector BAFA implements measures to promote a better use of renewable energies, the saving of energy, for the maintenance and extension of the power-heat-linkup and for German coal mining, and participates in crisis-contingency measures in the mineral oil sector.



The German "TÜV" (Technischer Überwachungs Verein) certificate.



SRCC provides authoritative performance ratings, certifications and standards for renewable energy products, with the intention of protecting and providing guidance to consumers, incentive providers, government, and the industry.



IEC (International Electrotechnical Commission) prepares International Standards for systems of photovoltaic conversion of solar energy into electrical energy and for all the elements in the entire photovoltaic energy system.



The "ISFH" (Institute für Solarenergieforschung) certificate issued by the Leibniz University Solar Energy Research Institute.



CSTBat; Worldwide accredited association that promotes the development of France through the culture of quality.



The "ITW" (Institut für Thermodynamik und Wärmetechnik) certification issued by the Thermodynamics and Heating Techniques Institute at Stuttgart University.



The SEAI (Sustainable Energy Agency of Ireland)



The "CE" (Conformité Européenne) approval certifying health and safety in Europe.



ISO 27001 Information Security Management System certificates; ISO 27001 Information security management system is established by an accredited certification organization to pass through 2 stages of supervision and to prove its continuity.

CERTIFICATES



HYB; states that manufacturing facilities comply to Turkish Standarts.



The Turkish Standards Compliance Certificate:
This certification states that the authorized manufacturer's products comply with Turkish Standards.



The "INTA" (Instituto Nacional De Técnica Aeroespacial) award Issued by the Spain's International Quality Institute,



Occupational health and safety management system.



The National Renewable Energy Centre is a technology center specialising in applied research, and the development and promotion of renewable energy. It is highly rated and has acknowledged national and international prestige.



The MCS certifies microgeneration technologies used to produce electricity and heat from renewable sources in the UK.



Worldwide accredited association that promotes the development of Italy through the culture of quality.



Eurofins Scientific is an international life sciences company which provides a unique range of analytical testing services to clients across multiple industries



Fraunhofer is Europe's largest application-oriented research organization based in Munich, GERMANY.



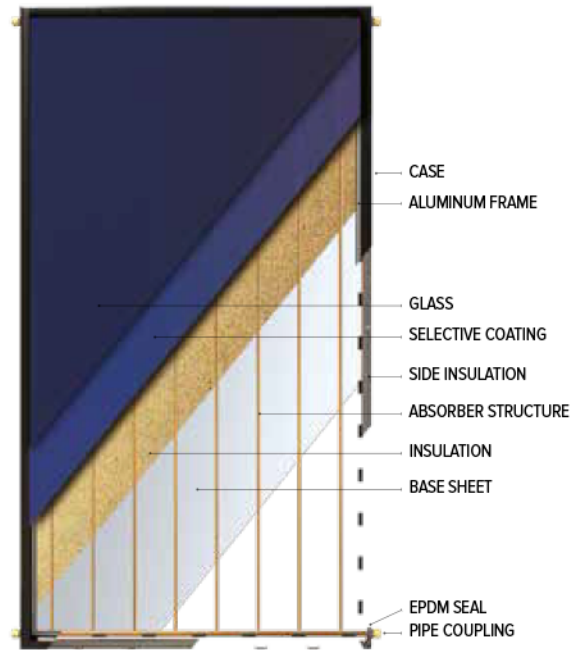
ISO 14001 Environmental Management System (EMS) provides a continuous cycle of planning, implementing, reviewing, and improving the processes and actions that are performed to meet business and environmental goals.



ISO 9001:2015 specifies requirements for a quality management system where an organization, needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements.

WUNDER ANSG

- Solar Keymark certified
- Almeco-Tinox highly selective coating
- Copper pipe
- Glass wool insulation
- Normal iron tempered glass
- Laser welding
- 10 years warranty



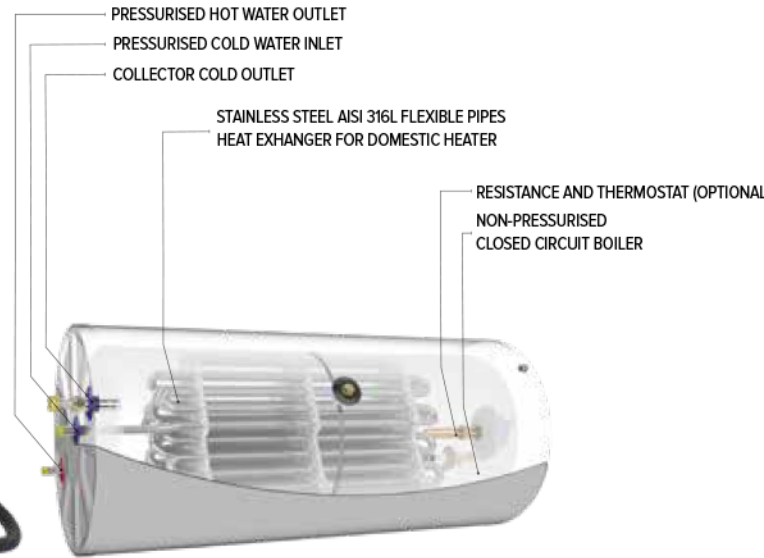
Wunder ANSG 2510/2108
Certification No: 011-752322 F

TECHNICAL SPECIFICATIONS

	Wunder ANSG 2510	Wunder ANSG 2108	Wunder ANSG 1808	
	PRODUCT CODE	MA- 0053	MA- 0049	MA- 0045
TECHNICAL DATA	DIMENSIONS (mm)	1988x1218x90	1988x1041x90	1927x927x90
	CASING	Electrostatic Painted Aluminum Case	Electrostatic Painted Aluminum Case	Electrostatic Painted Aluminum Case
	WEIGHT (kg)	44	37,2	34
	GROSS AREA (m ²)	2,42	2,07	1,79
	APERTURE AREA (m ²)	2,24	1,92	1,62
ABSORBER	ABSORBER AREA (m ²)	2,23	1,89	1,59
	ABSORBER MATERIAL	Almeco-Tinox Highly Selective Aluminum	Almeco-Tinox Highly Selective Aluminum	Almeco-Tinox Highly Selective Aluminum
	ABSORPTANCE / EMITTANCE	0,95 / 0,03	0,95 / 0,03	0,95 / 0,03
	WELDING METHOD	Laser Welding	Laser Welding	Laser Welding
COPPER TUBES	HEAT CARRIER VOLUME (lt)	1,27	1,07	1
	DIAMETER OF ABSORBER TUBE / HEADER TUBE (mm)	8 / 18	8 / 18	8 / 18
	NUMBER OF TUBES	10	9	8
GLASS	GLASS MATERIAL	Normal Iron Tempered Glass	Normal Iron Tempered Glass	Normal Iron Tempered Glass
	THICKNESS OF GLASS (mm)	4	4	4
INSULATION	INSULATION MATERIAL	Glass Wool	Glass Wool	Glass Wool
	DENSITY (kg/ m ³) / THICKNESS (mm)	14 / 50	14 / 50	14 / 50
MAXIMUM RATING	STAGNATION TEMPERATURE (C)	190	190	190
	MAXIMUM OPERATION PRESSURE (bar)	10	10	10
	NOMINAL FLOW RATE (lt/ h)	120	105	100
	BACK SHEETING	Embossed- Finished Aluminum Sheet	Embossed- Finished Aluminum Sheet	Embossed- Finished Aluminum Sheet
	MOUNTING TYPE	In roof - On roof - Flat Roof	In roof - On roof - Flat Roof	In roof - On roof - Flat Roof

TSM ECO

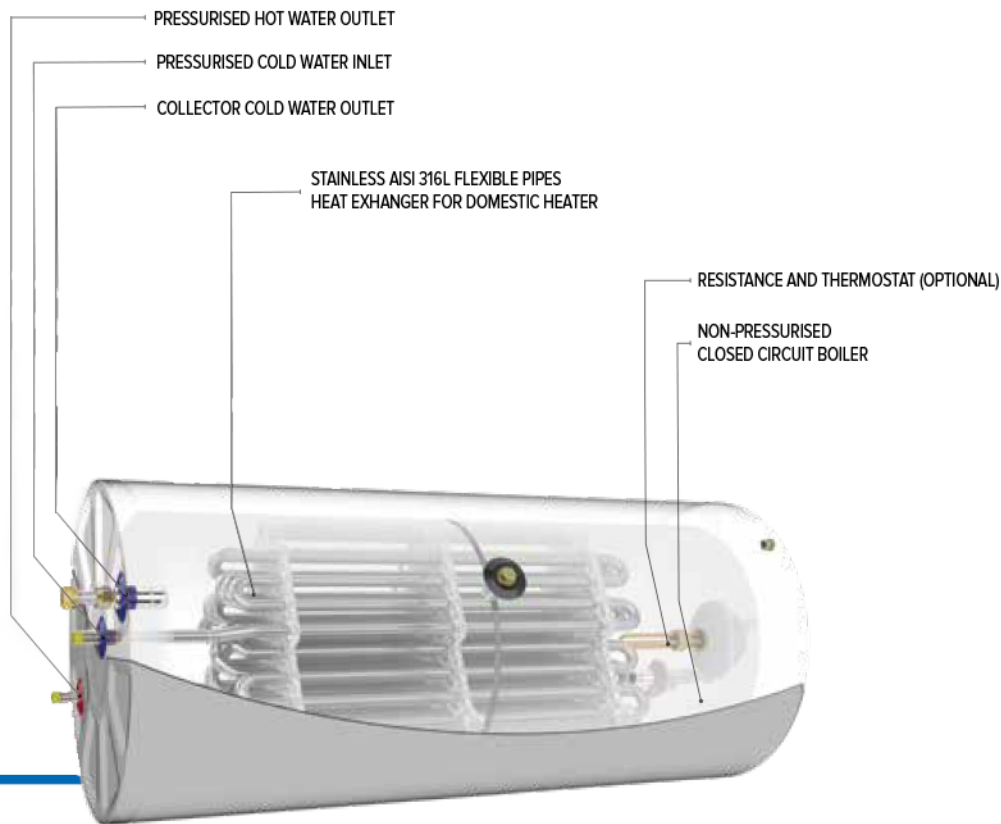
Solar Keymark certified
No need for a magnesium anode and maintenance free
Unpressurized tank, pressurized water
5 year warranty



TECHNICAL SPECIFICATIONS

	TSM ECO 120	TSM ECO 150	TSM ECO 200	TSM ECO 300
Product Code	ST-0032	ST-0052	ST-0011	ST-0012
Capacity (lt/day)	120	150	200	300
Tank Working Pressure (bar)	0-3	0-3	0-3	0-3
Heat Exchanger Working Pressure (bar)	2-5	2-5	2-5	2-5
Maximum Temperature (°C)	95	95	95	95
Insulation	50 mm/ 40 kg/m ³ / Polyurethan Insulation (CFC Free)	50 mm/ 40 kg / m ³ / Polyurethan Insulation (CFC Free)	50 mm/ 40 kg / m ³ / Polyurethan Insulation (CFC Free)	50 mm/ 40 kg / m ³ / Polyurethan Insulation (CFC Free)
Heat Exchanger	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel
Boiler Final Dimensions (Length/ Diameter)	1000 / 540	1115 / 540	1200 / 540	1725 / 540
Outer Cylinder Materials	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel
Outer Sheet	Painted Galvanized Steel Sheet	Painted Galvanized Steel Sheet	Painted Galvanized Steel Sheet	Painted Galvanized Steel Sheet
Boiler Net Weight (kg)	45	45	65	82
	Wunder ANP 1808	Wunder ANP 2108	Wunder ANP 2510	Wunder ANP 2108* (2 pcs)
DIMENSIONS (mm)	1927x927x90	1988x1041x90	1988x1218x90	1988x1041x90
WEIGHT(kg)	34	37,2	44	37,2
GROSS AREA (m ²)	1,79	2,07	2,42	2,07
APERTURE AREA (m ²)	1,62	1,92	2,24	1,92
ABSORBER AREA (m ²)	1,59	1,89	2,23	1,89
ABSORBER MATERIAL	Black Aluminum	Black Aluminum	Black Aluminum	Black Aluminum
ABSORPTANCE / EMITTANCE	0,74 / 0,26	0,74 / 0,26	0,74 / 0,26	0,74 / 0,26
WELDING METHOD	Laser Welding	Laser Welding	Laser Welding	Laser Welding
GLASS MATERIAL	Normal Iron Tempered Glass	Normal Iron Tempered Glass	Normal Iron Tempered Glass	Normal Iron Tempered Glass
INSULATION MATERIAL	Glass Wool	Glass Wool	Glass Wool	Glass Wool
BASE SHEETING	Embossed- Finished Aluminum Sheet	Embossed- Finished Aluminum Sheet	Embossed- Finished Aluminum Sheet	Embossed- Finished Aluminum Sheet

TSM No magnesium anode required and maintenance free
 Unpressurized tank, pressurized water
 5 year warranty



TECHNICAL SPECIFICATIONS

	TSM 120	TSM 150	TSM 200	TSM 300	TSM 400
Product Code	MA- 0005	MA- 0597	MA- 0006	MA- 0007	MA- 0008
Capacity (lt/day)	120	150	200	300	400
Tank Working Pressure (bar)	0-3	0-3	0-3	0-3	0-3
Heat Exchanger Working Pressure (bar)	2- 5	2- 5	2- 5	2- 5	2- 5
Maximum Temperature (C)	95	95	95	95	95
Insulation	50 mm/ 40 kg/m ³ / Polyurethane Insulation (CFC Free)	50 mm/ 40 kg/m ³ / Polyurethane Insulation (CFC Free)	50 mm/ 40 kg/m ³ / Polyurethane Insulation (CFC Free)	50 mm/ 40 kg/m ³ / Polyurethane Insulation (CFC Free)	50 mm/ 40 kg/m ³ / Polyurethane Insulation (CFC Free)
Thermal Loses (W/K)	2	2	2,5	2	2
Heat Exchanger	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel	AISI 316 L Stainless Steel
Inner Cylinder Dimensions (mm)	900x480	900x480	900x480	1340x480	1340x480
Cylinder Inner Dimensions (Length / Diameter) (mm/mm)	900 / 446	1015 / 446	1150 / 446	1675 / 446	2115 / 446
Cylinder Final Dimensions (Length/ Diameter) (mm/mm)	1000 / 540	1115 / 540	1200 / 540	1725 / 540	2215 / 540
Outer Cylinder Materials	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel	Electrostatic Powder Painted ST 37 Steel
Outer Cylinder Thickness (mm)	0,5	0,5	0,5	0,5	0,5
Extra Heater (optional)	2000 W Resistance	2000 W Resistance	2000 W Resistance	2000 W Resistance	2000 W Resistance
Boiler Net Weight (kg)	45	45	65	82	92
Boiler Full Weight (kg)	177	195	235	327	412

