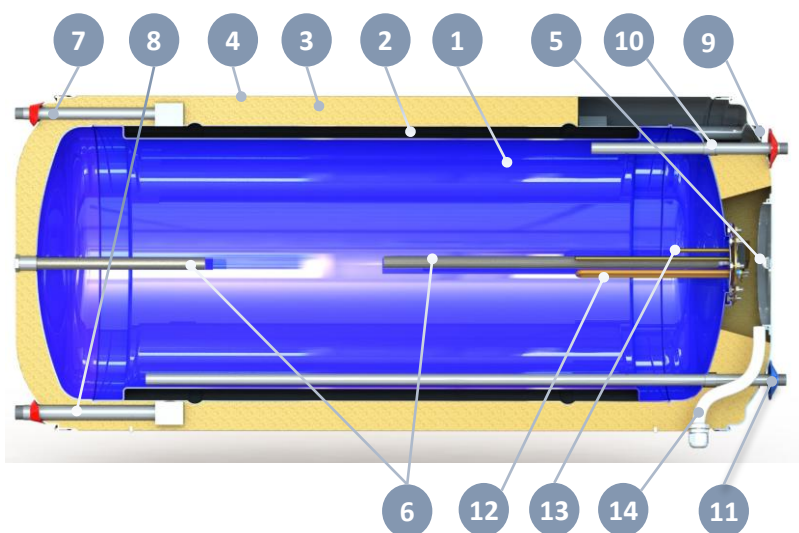


1. CLOSE LOOP DOUBLE ENAMELED BOILER TECHNICAL DATA



1. Water storage tank: Consists of hot rolled steel, 3mm thick with double internal layer of enamel, processed at 860° c, according to DIN 4753 Standard.

2. Double jacket heat exchanger: Consisting of cold rolled steel, 1.5mm thick, for the function of the closed loop circuit. The jacket is properly formed for resistance to contractions and expansions, during the operation of the solar system.

3. Thermal insulation: Ecological, incombustible and water-soluble high-density (>50kg/m³) expanded polyurethane surrounds the water storage tank and jacket for minimum heat loss, maintaining the hot water temperature, thickness

50mm.

- 4. External casing:** Hot dip galvanised steel, powder coated RAL9006 / marine grade aluminum alloy.
- 5. Side flange:** Wide opening for easy cleaning of minerals, inspection of the tank and maintenance. The flange is sealed with a silicon sealant with high heat resistance.
- 6. Cathode protection:** 2 Magnesium anode rods for protection against corrosion and mineral deposits caused by electrolytic reactions.
- 7. 2 bar safety valve connection point:** Inox 1/2" BSP male threaded pipe end.
- 8. Jacket outlet:** Inox 3/4" BSP male threaded pipe end.
- 9. Jacket inlet:** Inox 3/4" BSP male threaded pipe end. A tee fitting is attached which also provides the filling point for the closed circuit, which must be plugged after filling is done.
- 10. Hot Water (DHW) outlet:** Inox BSP male threaded pipe end (3/4" for 300lt tank and 1/2" for rest).
- 11. Cold Water inlet:** Inox BSP male threaded pipe end (3/4" for 300 & 500lt tank and 1/2" for rest). At this connection a 10 bar safety non return valve must be placed for pressure relief.
- 12. Heating element:** Rated according to the destination country's local regulations (optional, for the use of electricity as an auxiliary power source).
- 13. Safety thermostat (optional-standard only in case that electric heating element is present):** With bipolar protection and auxiliary fuse. All electrical components carry a CE marking according to EN 60335-1 and EN 660335-2-21 standards.
- 14. Cable gland and cable tube:** Water resistant passage for the electric element's electric connections.

TECHNICAL DATA						
Model		120	160	200	300	500
Capacity	[lt]	117	156	197	286	468
Dimensions DxL	(mm)	580x916	580x1116	580x1356	580x1970	700x2120
Maximum tested Pressure	[bars]	15	15	15	15	15
Maximum working Pressure	[bars]	10	10	10	10	10
Heat exchanger capacity (jacket)	[lt]	8.6	12.9	18.3	25.8	30
Heat exchanger surface (jacket)	[m ²]	0.62	0.91	1.28	1.79	2.1
Weight empty	[kg]	54.9	66.8	81.8	114.5	159.5

2. FLAT PLATE SOLAR THERMAL COLLECTORS TECHNICAL DATA

1. **Frame of the collector:** Aluminium profile maximum protection in seaside areas.
2. **Absorbing surface:** Aluminum surface with blue treatment with high absorbance and low $\epsilon=4\%$, laser welded on the copper water frame.
3. **Transparent cover:** Security-Tempered maximum protection against extreme weather temperature changes.
4. **Vertical tubes:** Copper tubes in diameter $\varnothing 8\text{mm}$.
5. **Header of water frame:** Copper tubes $\varnothing 22$, which is welded to the vertical tubes with hard silver solder. Each water frame is tested at the pressure of 15 bars. Headers are punched with upper expansion for perfect fitting with vertical tubes and minimum pressure drop in the collector.
6. **Thermal insulation:** 40mm thick layer of prepressed black mineral wool special for solar panels for minimum thermal loss. Rockwool insulation thermal conductivity: $0=0.035 \text{ W/m}^2\text{K}$ (EN 13162) and heat capacity 0.84 kJ/kgK .
7. **Back cover:** Aluzinc 0,4mm thick. Aluzinc stands for aluminum and zinc... fused in almost equal proportions, as a coating for the steel sheet that is coated with a silvery spangle composed of Aluminium (55%), Zinc (43,4%) and a touch of Silicon (1,6%). Great mechanical strength and 7 times more resisted to corrosion than common galvanized steel.
8. **Sealing materials:** For perfect waterproof finish and proper ventilation of collectors casing, all materials used (EPDM, polyurethane sealant) resist to extreme weather conditions and temperature changes.



powder coated for titanium high selective emission ($\alpha=95\%$), prismatic solar glass for conditions and

TECHNICAL DATA										
Model	1,50	1,50H	1,82	1,82H	2,00	2,00H	2,37	2,37H	2,72	2,37H
Dimensions (external) [mm]	L1480 W1010 H86	L1010 W1480 H86	L1480 W1230 H86	L1230 W1480 H86	L1980 W1010 H86	L1010 W1980 H86	L1930 W1230 H86	L1230 W1930 H86	L2160 W1260 H86	L1260 W2160 H86
Total area [m²]	1.50	1.50	1.82	1.82	2.00	2.00	2.37	2.37	2.72	2.72
Aperture area [m²]	1.38	1.38	1.72	1.72	1.86	1.86	2.23	2.23	2.57	2.57
Absorber's surface [m²]	1.38	1.38	1.72	1.72	1.86	1.86	2.23	2.23	2.57	2.57
Collectors weight empty [Kg]	27.8	28.2	32.8	33.2	36.2	36.6	43	44	48	49.6
Thermal liquid capacity [Lt]	1.23	1.50	1.50	1.65	1.4	2.05	2.03	2.03	1.85	2.35
Insulation thickness [mm]	40									
Number of vert. tubes	9	14	11	14	9	18	11	18	11	18
Heat transfer fluid	Clariant's Antifrogen SOL HT mixture with distilled water									
Max. operating pressure	10 BAR									