



BENCHMARK®

20 YEARS OF EXCELLENCE

Solar Water Heater

Quality at the forefront of Technology
Safety features you can Trust
Service you can count on

WE REDEFINE BENCHMARK

Benchmark excels in providing simple installations to customized Water Heating Solutions to discerning buyers.

Be it Heat Pump, Gas, Solar or Electric an amalgamation of technologies.

No wonder why our customers **Trust Us** when it comes to providing Hot Water Solution.



Made in Europe

Setting new quality standards

EURO

A closed loop jacketed
Solar Water Heater

Close Loop Double Enameled Boiler Technical Data

- ◆ **Water storage tank:** Consists of hot rolled steel, 2.5mm thick with double internal layer of enamel, processed at 860°C, according to DIN 4753 Standard.
- ◆ **Double jacket heat exchanger:** Consisting of cold rolled steel, 1.5mm thick, for the function of the closed loop circuit.
- ◆ **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.
- ◆ **External casing:** Marine grade aluminum alloy.
- ◆ **Side flange:** Wide opening for easy cleaning of minerals, inspection of the tank and maintenance.
- ◆ **Cathode protection:** Magnesium anode rods for protection against corrosion and mineral deposits caused by electrolytic reactions.
- ◆ **Heating element:** Auxiliary Energy Back up with inbuilt electric heater of 2000 Watts.
- ◆ **Safety thermostat:** With bipolar protection and auxiliary fuse.
All electrical components carry a CE marking according to EN 60335-1 and EN 660335-2-21 standards.



TECHNICAL DATA			
Model	200	300	500
Capacity [lt]	200	300	500
Dimensions of Tank DxL (mm)	580x1356	580x1970	696x2120
Maximum Tested Pressure [bars]	15	15	15
Maximum Working Pressure [bars]	10	10	10
Collector Gross area [m ²]	2.37	2.00	2.00
Collector Absorber Area [m ²]	2.23	1.87	1.87
Collector Total Dimensions [mm]	1930x1230x86	1980x1010x86	1980x1010x86
No of Collector	1	2	3
System Dimensions (LxDxH)	1200x2100x1950	2100x2100x1950	3000x2200x1500
Weight Empty [kg]	150kg	220kg	310kg

Flat Plate Collectors

Header: Copper tubes $\varnothing 22 \times 0.7 \text{mm}$ (99,90% minimum copper content).

Risers: Copper tubes $\varnothing 8 \times 0,4 \text{mm}$ (99,90% minimum copper content).

Absorbing Surface: High selective treatment (with $\alpha=95\%$, $\varepsilon=5\%$) on aluminum surface with minimum thickness 0.5mm.

Laser welding between copper risers and aluminum absorbing surface.

Back Insulation: Rock wool special for solar thermal collectors. Thickness 30mm.

Side Insulation: Rock wool special for solar thermal collectors. Thickness 20mm.

Glazing: Tempered solar glass, with 91.00% minimum solar transmittance measured in SPF laboratory.

Fncasing: Aluminum frame, powder coated in metallic color RAL9006.

Back Plate: Aluzinc of thickness 0.4mm.

Solar Water Heater Projects

BENCHMARK offers a total turnkey solution for centralized **Solar Hot Water Solution** for Community as well as Industrial needs. A dedicated and specialized team of skilled engineers provide a strong technical platform from conceptualization /design at a starting point of project to integration/commissioning to end with. We have picked up the state of the art solar modules/equipments from the global market to suit the Indian condition for best performance coupled with the latest technology and assembly techniques.

Different architecture involving **Evacuated Vacuum Tubes, Heat Pipes, and Solar Thermal Panels** as per the project suitability is our expertise based out of our rich experience in the field. We also offer Consulting /Auditing of the piping design for the efficient project implementation as part of our services.

Advance Controls including Supplementary Energy (Gas or Electricity) Management, Data Acquisition, Remote Monitoring and Maintenance can also be offered if desired.

A **Trusted Full Featured System Integration** to be considered by Architects, Builders, Consultants, Public and Private Colonies, Institutes and Various types of Industries.

Glass Enamel Tank

- ◆ Consists of hot rolled steel with double internal layer of enamel, processed at 860°C according to DIN 4753 standard
- ◆ Floor standing model.
- ◆ Magnesium anodes for hard water.
- ◆ Electric tubular heating element produced in Eldominvest using the last generation technology.
- ◆ Thick insulation made of CFC free polyurethane foam, ensuring minimal heat losses and energy saving.
- ◆ Models with a heat exchanger located at the bottom of the water heater, featured with increased surface for connection with a solar collector, or a heat pump.
- ◆ Model with a heat exchanger located at the top of the water heater, operating in an instantaneous mode for connection with a Gas boiler or a fireplace.
- ◆ Precision thermometer for all models.
- ◆ Water, suitable for drinking.
- ◆ High pressure tolerance.



	PARAMETERS		
Volume	750	1000	1500
Energy efficiency class (Europe)	B	B	B
Rated Pressure (Mpa)	0.6	0.6	0.6
Rated Voltage	420/3/50		
Rated electrical power (kw)	9	12	12
Lower heat exchanger surface area (m2)	2.08	3.03	3.03
Lower heat exchanger inside volume (L)	13.7	19.92	19.92
Upper heat exchanger surface area (m2)	1.22	2.02	2.02
Upper heat exchanger inside volume	7.99	13.28	13.28
Standing Loss (W)	67	82	161
Insulation Thickness	85	85	100
Insulation Type	PUF Insulation		

Equipment: Non Pressure Solar Water Heating System
Principle of Operation: Solar insolation, heating of water in Evacuated Vacuum Tubes through Internal Thermo-Siphoning

Storage Tank: 2.5mm GI sheet with Epoxy paint

Insulation: Compacted Poly Urethane Foam (PUF), Thickness: 50mm

Heat Catching Elements: Evacuated Glass Double Walled Tubes, drawn from toughened Borosilicate Glass manufactured in the world's biggest manufacturing facility. Three layer Inner tube coating of Copper / Steel / Aluminum Silicate for high heat absorption and outer tube coating with Anti reflective compound to minimize the heat losses

Support Structure: Stand and brackets are assembled MS powder coated Angle with SUS 201 Nuts, Bolts and Washers



Models No	Nos. of Users	QTY of Tubes	Tank Volume (L)	Dimensions L x D x H (Inch)
NP 100	2-3	10 (58x1800)	100	36x72x60
NP 150	3-4	15 (58x1800)	150	60x72x60
NP 200	4-5	20 (58x1800)	200	77x72x60
NP 250	5-6	25 (58x1800)	250	90x72x60
NP 300	6-7	30 (58x1800)	300	107x72x60
NP 500	8-10	34 (58x2100)	500	118x87x73

Non Pressurized



GCS Hospital
 Ahmedabad • 6000 Ltr.



Enjoy Tower
 Surat • 12000 Ltr

Radhika Beach Resort
 Diu • 2000 Ltr.



Hotel K
 Entebbe, Uganda • 3000 Ltr.

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