















Payback
Period < 3
years





## Cost Benefit Analysis of Solar Hot Water Systems Vs Other Hot Water Systems

# Heating 100 ltr. of water with 25°C rise in Temp. using conventional energy

	UoM	LPG	Electricity	
Required Heat*	Kcal	3001	2626	
Required Fuel Qty.	kg	0.3	3 units	
Efficiency	%	80	95	
Fuel Rate	INR	55	8	
Cost per day *	INR	17	24	
Monthly Cost	INR	510	720	
Annual Cost *	INR	5100	7200	

### Payback Period < 3 years

#### Reference Test Conditions:

- $^{\ast}$  Ambient temperature 20°C. 100 Lt/day capacity water heating with temperature rise of 25°C.
- \* It is assumed that 3 units of electricity is saved per day and unit price is 8 Rs.
- \* It is assumed that system is used for 300 days per year.

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### **Products Range:**

### **Technical Specifications**

Capacity (LPD)	125	250	375	500	
Туре	FPC				
Working	Thermosyphon				
Inner tank thickness (mm)	0.6	0.6	0.6	1.0	
Inner Tank Material	SS 316	SS 316	SS 316	SS 316	
Outer Tank Material	GI	GI	GI	GI	
Insulating Material	PUF	PUF	PUF	PUF	
Insulating Thickness (mm)	50	50	50	50	
Insulating Density (kg/m³)	38	38	38	38	
Collector size (mm)	1000 x 2000	1000 x 2000	1000 x 2000	1000 x 2000	
Collector material	Copper	Copper	Copper	Copper	
Hot Water Temperature (°C)	55 - 60	55 - 60	55 - 60	55 - 60	
Working Pressure (kg/cm²)	0.5	0.5	0.5	0.5	
Collector Qty.	1	2	3	4	
Absorber Area (sqm.)	2	4	6	8	
System Weight	70	130	192	250	
Space Required (sqft.)	4 x 8	9 x 8	14 x 8	18 x 10	
Warranty (years)*	5	5	5	5	

### **Technical Standards in Practice**

- a) IS 12933 (Part 1):2003, Solar flat plate collector -Specification, Part 1- Requirements.
- b) IS 12933 (Part 2):2003, Solar flat plate collector -Specification, Part 2 Components.
- c) IS 12933 (Part 3):2003, Solar flat plate collector -Specification, Part 3 Measuring instruments.
- d) IS 12933 (Part 5):2003, Solar flat plate collector -Specification, Part 5 Test methods.

Waasol Energies LLP is the largest vertically Integrated Company engaged in Solar Business in India with diversified business interest with in over 65+ nations across the globe. It is fact that 44 % energy is consumed in Thermal Applications Globally and if we replace 10 % of the thermal energy with Solar Thermal, there will be enormous savings in High Recurring Energy Bills & Consumption of Fossil Fuels while great savings on Carbon Foot Prints as well. We strongly believe that the Customized application development is essential for the promotion of Solar Thermal and hence we have always emphasized on development in house Research Team. Solar thermal has been key Business Vertical which helps to save recurring energy expense with attractive IRR. Waasol Energies LLP possess Passionate team of Techno commercial professions who provides Solutions for Hot Water, Process Heat and Its applications.

Contact:

**WAASOL** Energies LLP

40, Vibrant Business Park, Opp. UPL, GIDC, vapi – 396191, Gujarat, India

Ph.: + 951021474/71 Email: *crm@waasol.com* 



