

SOLARMAX WATER HEATER

(Outperforms All Flat Plate Collector SWH)

How it works!

NASA (National Aeronautical and Space Agency) first pioneered the concept of space heating for its space programme. The SolarMax evacuated/ vacuum tube is the derivative of the NASA pioneer product (only much improved and less expensive).

Cold Water gains heat (through solar radiation) when it comes into contact with the tube surface and will rise into the tank via Laminar Flow. Stripped of its jargon, the process is simply known as Thermosyphon (ie hot water rises and cold water falls). The heated water is stored in an insulated tank (made of stainless steel to prevent corrosion). Its function is similar to that of the thermos flask. Overnight heat loss is 3-5°C.

The tube is configured using two concentric Borosilicate Glass Tubes. The external surface of the inner glass tube is coated with the state-of-the-art magnetron sputtering method of aluminium-nitrogen. The coating converts the maximum amount of solar radiation (>93%)¹, including infra-red light into heat². At the same time, the jacket between the outer and inner tube is evacuated and permanently sealed off to form a vacuum. The vacuum is the best possible method of eliminating conductive and convective heat loss.



1. Inner glass tube
2. Selective absorbing coating
3. Vacuum gap
4. Cover glass tube
5. Supporting component
6. Gas absorbent
7. Absorbing film



SOLARMAX VACUUM TUBE SOLAR HEATER
(State-of-the-art, 45-95°C)

Conventional Flat Plate	Evacuated / Vacuum Tube
<ul style="list-style-type: none"> • Max Temperature 55°C 	<ul style="list-style-type: none"> • Max Temperature 95°C and above
<ul style="list-style-type: none"> • Peak efficiency when the sun is directly overhead for approx 1 hr (1130-1230 hrs) due flat surface 	<ul style="list-style-type: none"> • Peak efficiency (at least 7 hrs) wherever the sun is due to round surface
<ul style="list-style-type: none"> • Electric back-up is mandatory on cloudy, hazy days 	<ul style="list-style-type: none"> • Produces 45-95°C water (even on cloudy & hazy weather)
<ul style="list-style-type: none"> • Pressurized tank (leaks after some time) 	<ul style="list-style-type: none"> • Non-Pressurized tank (no leaks)
<ul style="list-style-type: none"> • Regular Maintenance 	<ul style="list-style-type: none"> • Zero Maintenance
<ul style="list-style-type: none"> • Use of copper tubes inside the collector leading to formation of calcium deposits (like those formed in the kettle) and requires cleaning 	<ul style="list-style-type: none"> • No calcium deposits as no copper inside the collector
<ul style="list-style-type: none"> • Breakeven > 16 yrs 	<ul style="list-style-type: none"> • Breakeven < 3 yrs
<ul style="list-style-type: none"> • ROI 6.25% 	<ul style="list-style-type: none"> • ROI 33%
<ul style="list-style-type: none"> • Mix of Mild Steel construction 	<ul style="list-style-type: none"> • Full Stainless Steel construction

Systems	280L (60 Gal)	350L (90 Gal)	450L (120 Gal)	
Length	2.3	2.3	2.3	metres
Height	0.52	0.52	0.52	metres
Width	1.3	1.8	2.2	metres
Expectancy	>8 years			
Breakeven	2.5years			
Temperature	40°C - 95°C (Without electrical backup)			
Back-Up	Available as an option			
Applications	Suitable for Commercial & Industrial Applications			
Ventilation	Yes			

Tanks	280L	350L	450L	
Capacity	250	345	440	kg
Weight (F)	300	400	500	kg
Weight (E)	45	50	55	kg
Inner Tank	Full Stainless Steel			
Lining	Full Stainless Steel			
Insulation	Pressure Injected Polyurethane, No CFC			
Warranty	10 years			
Case	Full Stainless Steel			
End Caps	Full Stainless Steel			
Fasteners	Full Stainless Steel			
Bracket	Available as Option			

Tubes	
Material	Borosilicate Glassware ("Pyrex")
Withstand	Hail Stone Proof (up to 25mm)
Coating	Coating Black Selective Absorber Al-N-Al
Absorption Rate	>95%
Radiation Rate	<5% at 100°C (Heat Loss)
Warranty	5 years
Recycle Rate	Approx 2 hrs (Ambient Temp of 33°C)
Stagnation Temp	250°C

