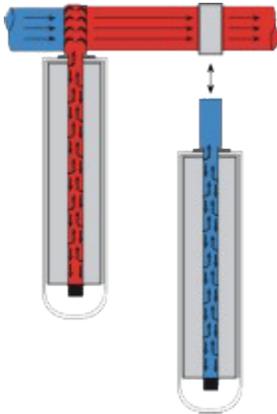


SEIDO1 series Heat Pipe Vacuum Tube Solar Collector

SEIDO1-8AS SEIDO1-16AS SEIDO1-8CS SEIDO1-16CS



- High efficiency
- Antifreeze
- Fast start-up due to small thermal capacity
- Low heat loss due to thermal diode effect
- High vacuum with long-tem stability
- High pressure resistance
- Reliability and durability
- Easy installation and maintenance
- Easy integration into buildings



Sunda collector modules consist of an array of SEIDO evacuated tubes, insulated manifold header, support frame and standard frame package for single roof installation. Manifold headers have capacities of 8, 16 tubes. The collector manifold casing and end cap are made of powder-coated aluminium profile. The copper inlet and outlet pipe nipples come standard in Ø22 mm, making plumbing connections quick and easy using readily available metric compression fittings. The connection between the heat pipe and manifold is critically important to ensure optimal heat transfer. The manifold header pipe is mounted within the manifold casing and is made of Ø28 mm, 1 mm thick copper pipe rated for a maximum pressure of 10 kg/cm² - standard use is 6 kg/cm². The heat pipe vacuum tube collects heat from sun working with high efficiency and absorbing more than 92% of the incoming irradiation. Thereafter, the condenser of the heat pipe will transfer the heat to the manifold where the water is heated. The heated water will circulate in the system until the required temperature is attained. The heat transfer liquid of the heat circuit does not flow through the collector itself. This allows a very simple installation and guarantees an exceptionally trouble-free operation. The operation of the system will not be interrupted even if one of the collector tubes should get damaged. The manifold is mounted in a FCKW-free insulated box that largely protects the collector against

heat loss. With its two vertical supports and the bottom support the insulated box provides a stable frame for the collector module.

Module type	SEIDO1-8AS	SEIDO1-16AS	SEIDO1-1CS	SEIDO1-16CS
Tube construction	SEIDO1--- Heat pipe vacuum tube with flat absorber			
Certificate	ISO9806			
Angle of inclination	15 ° to 90 °			
Number of collector tubes	8	16	8	16
Absorber area	1.38 m ²	2.77 m ²	1.38 m ²	2.77 m ²
Aperture area	1.51 m ²	3.01 m ²	1.51 m ²	3.01 m ²
Gross area	2.10 m ²	4.16 m ²	2.10 m ²	4.16 m ²
Length x width x height (mm)	2142x980 x187	2142x1940x187	2162x940x172	2162x1892x172
Weight	50 kg	100 kg	50 kg	100 kg

Efficiency curve	<p>Collector performance for $G = 800 \text{ W/m}^2$</p> <p>The graph plots efficiency (0.0 to 1.0) against T_m [m²KW] (0.00 to 0.10). Three curves are shown: Absorber area (solid red line), Aperture area (dashed blue line), and Gross area (dotted green line). All curves show a downward trend as T_m increases.</p>																																																											
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material			
Header box dimension	φ130 mm	940x149x125mm	1892x149x125mm
Insulation	Polyurethane foam		
Max. Operating pressure	6 bar		
Stagnation temperature, module	190°		
Stagnation temperature, pipe	260°C		
Support	Stainless steel	Aluminium alloy	
Connection	Compression fitting, 22mm		

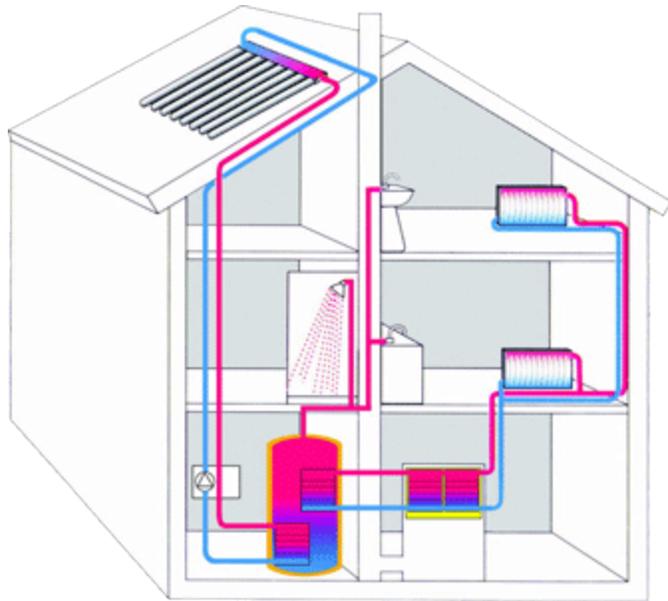


Customization and convenience

SEIDO1 solar collectors are available in four different models. The condensers of the collector tubes have a plug-in structure to make the tubes removable. The plug-in structure guarantees an easy installation since all parts are installed separately. Single tubes can conveniently be replaced without shutting the system down.

Top performance and versatility

An important asset of SEIDO1 solar collectors is their versatility. One of the application areas for SEIDO1 solar collectors is domestic water heating. Therefore installation requires remarkably little space making them practically applicable at any domestic place. Despite their little size, the collectors still cover over 70% of the hot water needs of an average household. Their excellent efficiency makes them also suitable for the operation of larger systems for commercial or public use. In addition, SEIDO1 solar collectors are also applicable for space heating and air-conditioning.



A circuit and a system

A self-contained heating circuit transports the heat from the collector to the inhouse hot-water storage tank (approx.300L). There the heat is passed on to the inhouse hot-water storage tank by a heat exchanger and the water for domestic use is heated. When the heat supplied by the collector is not sufficient to attain the desired temperature, a conventional heating system takes over and completes the heating process. An electronic control unit (different-temperature regulator) constantly checks whether the temperature at the collector opening is greater than the temperature in the inhouse hot-water storage tank. If this is the case, the control unit switches on the heating circuit.