



Thermosyphonic systems

A **thermosyphon system** is a cost-effective way to heat water with solar energy. It makes use of the natural thermal convection of liquids to transfer the heat from the solar collectors to the water tank.

The models range from 100 l to 300 l volumes, for flat or inclined roofs.

The system is comprised of flat plate collector connected to a water tank with a cylinder-type heat exchanger. The circulation of the heat carrier liquid is driven by natural thermal convection. The heat carrier inside the absorber of the collector heats up by the solar energy and moves up along the piping to reach the water tank, positioned above the collector. There it passes through the heat exchanger and gives away its heat to the water inside the tank. As it cools down, the heat carrier then is returned to the collector to repeat the process.

Product Features

Robust

Durable lightweight support of Aluminum withstanding severe climate conditions.

Durable

Enamelled water tank with anode protection against corrosion.

Reliable

Optional energy back-up provided by electric heating element.

Eco-friendly

Entirely self-powered system with zero emissions of greenhouse gasses.
No energy is consumed for the circulation of the liquids as natural convection process is employed.

Space-saving technology

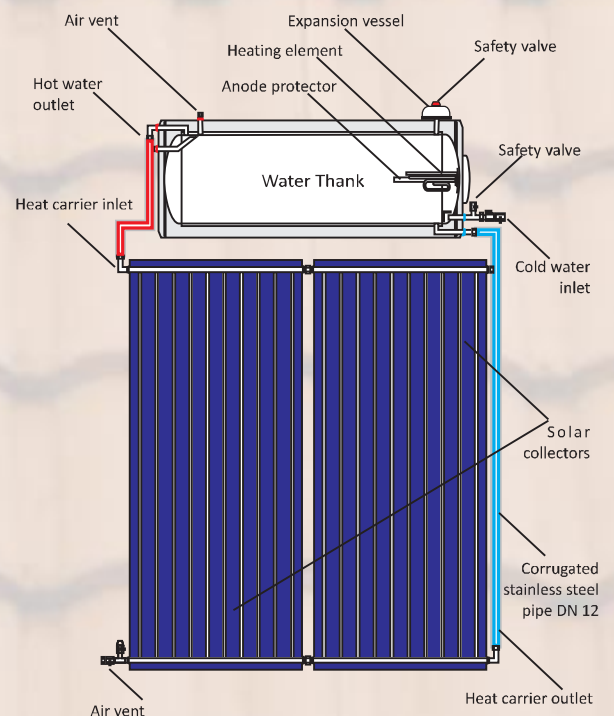
The entire system is mounted outside the useable area of the house - on the roof.

Flexible

The support system is easily adaptable to fit different kinds of roof structures and slants.

Budget-sparing

The thermosyphon technology employs natural liquid circulation and does not entail expensive equipment as in the forced circulation systems.

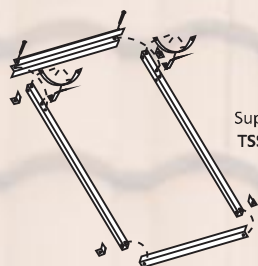


model TSS

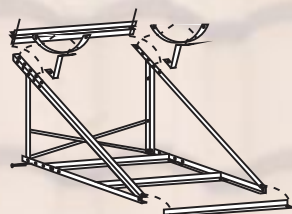


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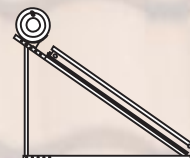
Energy from the sun



Support assembly for
TSS for inclined roof



Support assembly for
TSS for flat roof



The support system comes in two versions: for **flat roof** and for **inclined roof**. The **flat roof** model is adjustable to fit even roofs inclined in small degrees. This way the optimum tilt angle can easily be achieved on various roof slants.

Technical specifications:

Model			TSS 100	TSS 150	TSS 200	TSS 300
Solar collectors	Solar collectors (w. standard or selective absorber coating)	pcs.	1 x PK x 2,15	1 x PK x 2,15 or 1 x PK x 2,70	2 x PK x 1,66 or 2 x PK x 2,15 or 1 x PK x 2,70	2 x PK x 2,15
	Solar collector overall surface	m ²	2,15	2,15/2,70	3,32/4,30/2,70	4,30
	Test pressure	bar	25			
	Operating pressure	bar	6			
	Flow rate of heat carrier	l/m ² h	50			
	Thickness of glass pane	mm	4.2			
	Glass pane		Protective prismatic solar glass Durasolar® P+			
	Case material		Powder coated Al (color: RAL 9006)			
	Absorber material		Cu			
	Absorber coating		Black solar coating (Standard type) or Selective coating 'eta plus' (Selective type)			
	Insulation		Rock wool $\lambda=0.0374$ W/m.K (DIN 18165); $g=30$ kg/m ³ ; $\delta=35$ mm			
	Volume of heat carrier	l	15	18	25	30
	Heat carrier type		Propylene Glycol			
	Stagnation temperature	°C	200			
Water tank	Volume of water tank	l	100	150	200	300
	Tank dimensions L x D	mm	1000 x 520	1250 x 520	1250 x 580	1750 x 580
	Tank material		Made of low-carbon steel with titanium enamel in accordance with DIN 4753-3			
	Tank inlet/outlet sleeves	R	1/2"	1/2"	3/4"	3/4"
	Mantle inlet/outlet sleeves	R	1/2"	1/2"	1/2"	1/2"
	Recirculation	R	-	-	3/4"	3/4"
	Operating pressure / tank max. temp.	bar/°C	8/95			
	Test pressure of water tank	bar	13			
	Operating pressure /Mantle max temp.	bar/°C	1,5/95			
	Test pressure of mantle	bar	3			
	Heating element (optional)	kW	2		3	
	Overall weight excl. water load	kg	140	140/157	203/235/157	235

NES Ltd.

12 Madara Blvd, 9700 Shumen, Bulgaria
tel: +359 54 874 546, fax: +359 54 874 556
e-mail: ftrade@sunsystem.bg
www.sunsystem.bg

Distributor: