SUNSYSTEM®

Energy from the sun

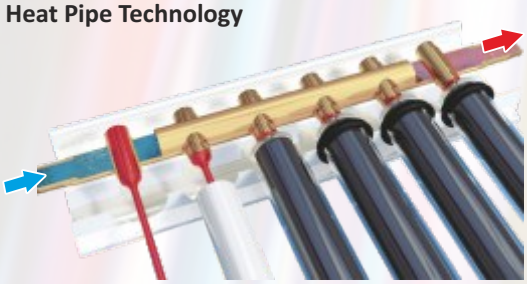
Evacuated Tube Collectors SUNSYSTEM VTC

for domestic water heating and space heating support

Heat Pipe technology, excellent insulation performance of vacuum and maximum capture of solar radiation makes evacuated tube collectors cost-effective solution for any solar installation.

Models: **SUNSYSTEM VTC 15**
SUNSYSTEM VTC 20
SUNSYSTEM VTC 30

Heat Pipe Technology



Dry evacuated tube solar collectors made by Heat Pipe technology are characterized by their high efficiency: improved heat-absorbing capacity of collector, low heat losses and stable performance in harsh climate conditions.

The Heat Pipe itself is a compound of two concentric glass tubes with evacuated space between them. The inner tube surface is covered with selective coating allowing maximum absorption of sunlight and high performance efficiency. Through the center of the heat pipe runs a hollow copper tube, inside which begins the process of evaporation of non-toxic fluid that transfers the heat to the tube top and then releases it to the collector pipe to heat up the heat-carrier inside. Then the process repeats over and over again.

Aesthetic design. High efficiency. Non-corrodible and sustainable materials. Long service life.

Evacuated tubes of heat-tempered borosilicate glass.

Selective coating for efficient sunlight absorption.

Heat transfer plates resistant to high temperatures of stagnation.

Copper heat-carrier tubes type **Heat Pipe TU 1**. The pipe system is manufactured with a minimum number of welds for perfect air-tightness and reduced deposits accumulation possibility.

Both outlets of Manifold pipe can be connected as heat-carrier input or output in any direction.

Temperature sensor can be mounted left or right, depending on the position of the **heat-carrier outlet.**

High-efficiency insulation of collector pipe.

Mounting options for flat roof, sloped roof or facade. Easy for transportation, installation and maintenance. Evacuated tube collectors continue to perform even in case of one or more broken tubes. Possibility to connect multiple SUNSYSTEM VTC collectors in a system.

Resistance to wind, hail, snow and dust.

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Technical specifications:		SUNSYSTEM VTC 15	SUNSYSTEM VTC 20	SUNSYSTEM VTC 30
Number of evacuated tubes	pcs	15	20	30
Overall surface	m^2	2,36	3,11	4,55
Aperture surface	m^2	1.412	1.882	2.824
Absorber surface	m^2	1.215	1.62	2.429
Height H	mm	1980	1980	1980
Width L/Thickness D	mm	1190/125	1570/125	2300/125
Heat carrier fluid		PG 50% (freezing point: -34°C)		
Heat carrier volume	L	0.94	1.24	1.82
Heat carrier flow rate	L/m^2h	60÷80	60÷80	60÷80
Evacuated tube material		Heat-tempered borosilicate glass SU-SS-ALN/AIN		
Collector frame material / type		Aluminium / Adjustable		
Plastic parts material		UV resistant plastic RAL 9005		
Heat carrier pipes material / type		Copper / Heat pipe TU 1		
Coating of absorber		Selective coating		
Manifold unit - box material/insulation		Anodized aluminum / Polyurethane foam 30 mm		
Efficiency η_o in relation to aperture	%	66		
Thermal loss coefficient, a_{1a}	$W/(m^2K)$	1.500		
Thermal loss coefficient, a_{2a}	$W/(m^2K^2)$	0.020		
$K_{\theta,trans}$ /$K_{\theta,trans}$ (50°), in relation to aperture		0.92/1.43		
Max. operating temperature/Stagnation temperature	°C	180/221		
Test pressure/ Max. operating pressure	bar	25/12		
Pressure loss Δp	Pa	150	200	600
Weight	kg	43	57	86
Evacuated tube diameter/length	Ø, mm/mm	58/1800		
Distance b/n evacuated tubes	mm	75		
Heat carrier pipes diameter/number	Ø, mm/бр	14/15	14/20	14/30
Collecting pipe material/diameter	Ø, mm	Copper/ 22		
Heat carrier Inlet/outlet diameter	Ø, mm	22		
Temperature sensor sleeve	Ø, mm	8		
Evacuated tube holder	pcs.	15	20	30
Number of sleeves	pcs.	2		
Max. number of collectors in one array	$pcs./m^2$	8/20.14	7/22.85	6/28.2
Recommended orientation / mounting angle		Facing the equator/ 10°÷90°		
Resistance to hail / snow mass / wind		Size up to 25 mm / Load up to 1,25 kN/m^2 / Speed up to 150 km/h		
Certificates		DIN EN 12975: 2006-06 / No 011-7S1807-R		

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