

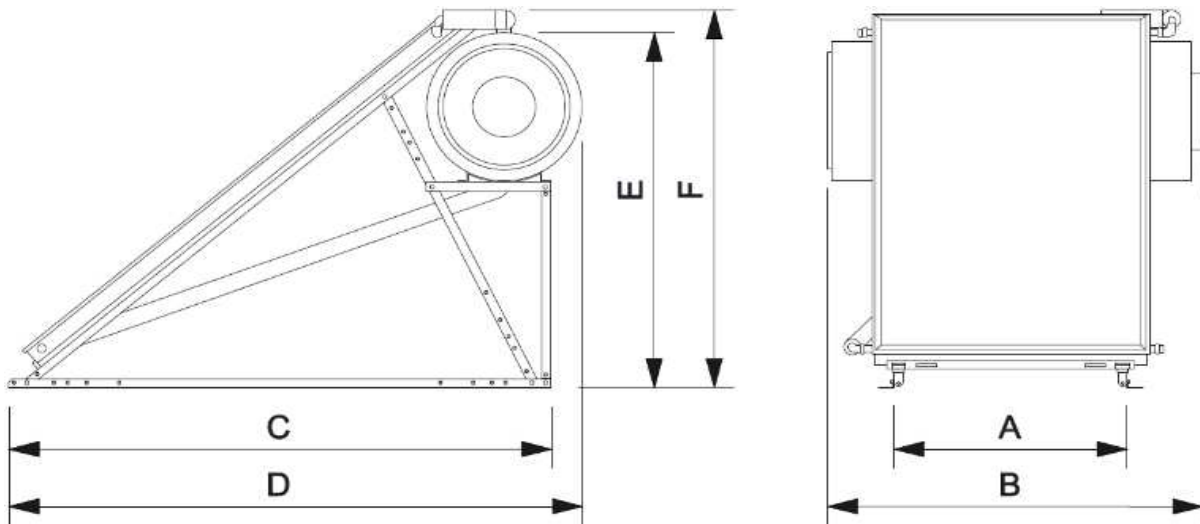
TSD 160/2,1 Thermosyphon System



Basic characteristics

Purpose	solar thermal system for DHW heating with no circulation pump
Function	solar fluid is heated up in a solar collector, flowing by gravity into a twin-wall storage tank where it transfers its heat to water
Working fluid	water-glycol mixture (max. 1:1)
Code	10 639

Dimensions



A	1,00 m	C	2,00 m	E	1,35 m
B	1,10 m	D	2,10 m	F	1,47 m

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Scope of supply			
Collector KPR1+ ALP	1 piece	T-piece, 3/4"	1 piece
DHW Storage Tank S160	1 piece	Nipple 3/4" x 3/4"	2 pieces
Support structure	1 piece	Nipple 3/4" x 1/2"	3 pieces
Solar safety valve	1 piece	Nipple Ø 22 x Ø 22	-
DHW safety valve	1 piece	Elbow 3/4" x 3/4"	2 pieces
3 kW heating element	optional	Elbow ø 22 x 3/4"	2 pieces
Check valve	1 piece	Plug 1/2"	2 pieces
Insulated tube 1	1 piece (500 mm)	Plug ø 22	2 pieces
Insulated tube 2	1 piece (1700 mm)	Antifreeze fluid	2 pieces

Technical data for separate components
Collector KPR1+ ALP

Dimensions and weights	
Height x width x depth	2030 x 1027 x 92 mm
Installation width	1077 mm
Total surface area	2,08 m ²
Aperture area	1,91 m ²
Absorber area	1,91 m ²
Empty weight	42 kg

Glazing	
Material	tempered prism. glass
Thickness	4 mm

Absorber	
Material	aluminium, 0,5 mm thick
Surface finish	TiNOx
Design type	harp type, laser welded
Connection pipes material, dimension	copper 4 x Ø 22 mm x 0,7 mm
Absorber tubes material, dimension	copper 9 x Ø 8 mm x 0,5 mm
Max. working pressure	10 bar
Max. working temp.	120 °C
Stagnation temp.	193 °C
Heat transfer fluid	water-glycol, 1,37 l
Recommended flow rate	60 - 120 l/h

Thermal insulation	
Insulation material	mineral wool
Insulation thickness	40 mm

Frame	
Frame material	aluminium alloy
Frame colour	natural aluminium
Back plate	zinc-plated steel, 0,5 mm

Collector efficiency parameters related to aperture / absorber area

η_{0a} [-]	0,745
a_{1a} [W/m ² K]	3,556
a_{2a} [W/m ² K]	0,017

Max. collector output for insolation of 1000 W/m²

Q_{max} [W]	1423
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Incidence angle modifiers

$K_{\Theta 50^\circ}$ [-]	0,874
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DHW Storage Tank S160

Dimensions and weights	
DHW volume	152 l
Solar fluid volume	10 l
Total diameter inc. Insulation	580 mm
Total length inc. Insulation	1100 mm
Empty weight	72 kg
Total weight	234 kg
Max. working pressure	6 bar

Anticorrosion protection	
Inner lining	enamel
Anode rod	magnesium type

Thermal insulation	
Thickness	35 mm
Density	40 kg/m ³

Materials	
DHW Tank	steel, 3 mm th.
Outer mantle	steel, 1,5 mm th.
Insulation mantle	zinc-plated steel
Paint colour	RAL 9006

Connection dimensions	
Solar collector - inlet and outlet	1/2" F
Cold and hot water	1/2" F
Heating element	5/4" F
PTR valve	3/4" F
Solar safety valve	1/2" F

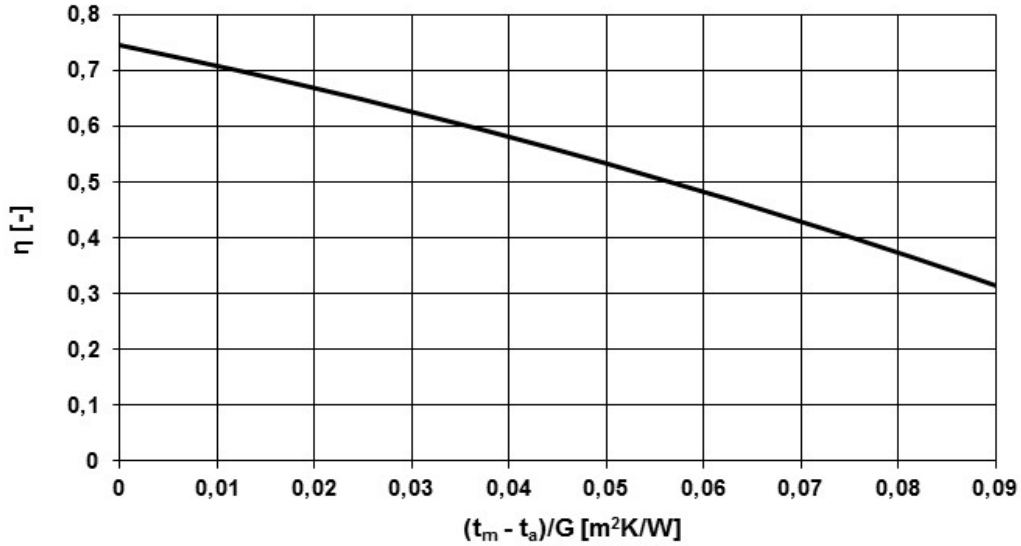
Support structure

Material	
Support structure material	zinc-plated steel

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Collector graphs

Collector efficiency parameters related to aperture area



Collector pressure drop

