Solar collector

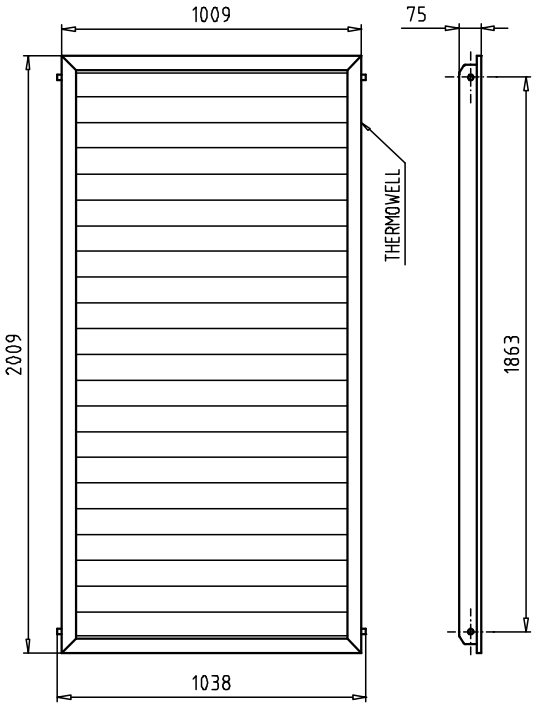
TS 300

Ordering numbers:

TS 300 - with flanged pipe connections	**S1542**
TS 300 - with copper pipe connections	**S1543**

Collector description:

A flat-plate, vertically installed type of collector with flanged pipe connections or copper pipe connections, intended for solar systems with circulating pumps.
It consists of a compact pressed metal casing to which a safety solar glass is attached by a frame made of non-corrosive aluminium profiles. The absorber, made of a specially shaped Al-Mg metal sheet with high-selective conversion layer, spans the copper pipe meander.
The flanged connection pipes are connected to hydraulic circuit by ∅ 26 quick couplers. The ∅18 copper pipe connections are connected to hydraulic circuit by soldering.
The collectors are interconnected in parallel way. Maximum number of collectors in one row is 10 pieces.



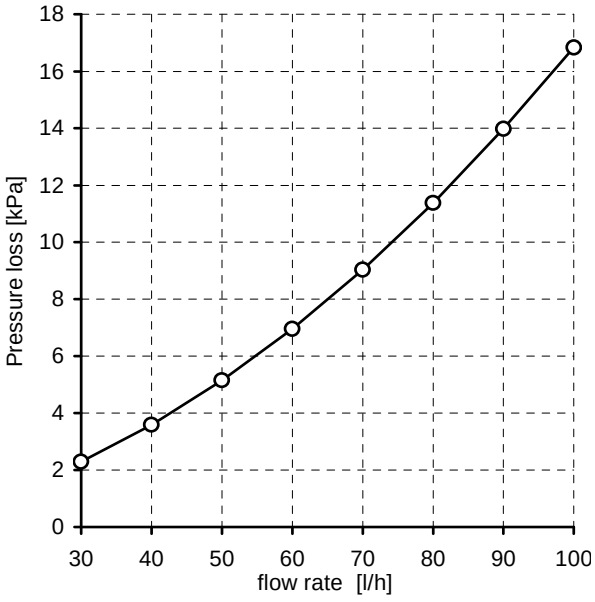
Technical specificatios:

Technical specifications are based on the test certificate KTB No. 2003-17-a Fraunhofer Institut fur Solare Energiesysteme according to EN 12975-1,2.

Floor space	2,03 m^2
Absorbing surface	1,78 m^2
Linkage dimension	1040x2040 mm
Cover glass	Safety, solar glass, 4 mm thick
Connection	∅26 mm flanges or ∅18 mm copper pipes
Collector casing	non-corrosive Al-Mg metal sheet stamping
Sensor casing	for ∅6 mm sensor
Thermal insulation	mineral felt
Total liquid capacity	1,57 l
Total weight	37 kg
Conversion layer	ALOx
Solar absorbtivity $\alpha_{AM1.5}$	min 0,95
Thermal emisivity $\varepsilon_{82°C}$	max. 0,16
Optical efficiency	81%
Operating temperature	Below 100℃
No-load temperature at radiation 1000 W/m^2 and ambient temperature 30 °C	170℃
Max. working overpressure of heat transfer fluid	600 kPa
Recommended flow of heat transfer fluid	30 –100 l/h per collector
Energy gain from collector	**up to 1 000 kWh/year**

*the energy gain of the collector' depends on the operating mode, geographic position, orientation and microclimatic conditions

Pressure loss of TS 300 collector vs. transfer fluid flow rate (at 20℃)



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Issued 03.2007

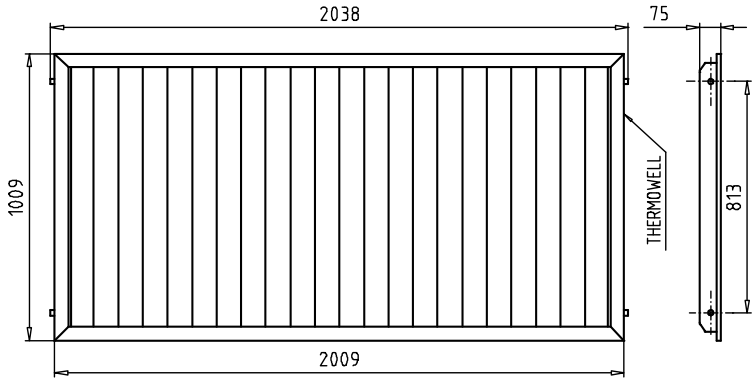
Solar collector

TS 330

Ordering numbers:

TS 300 - with flanged pipe connections	**S1548**
TS 300 - with copper pipe connections	**S1549**

Collector description:



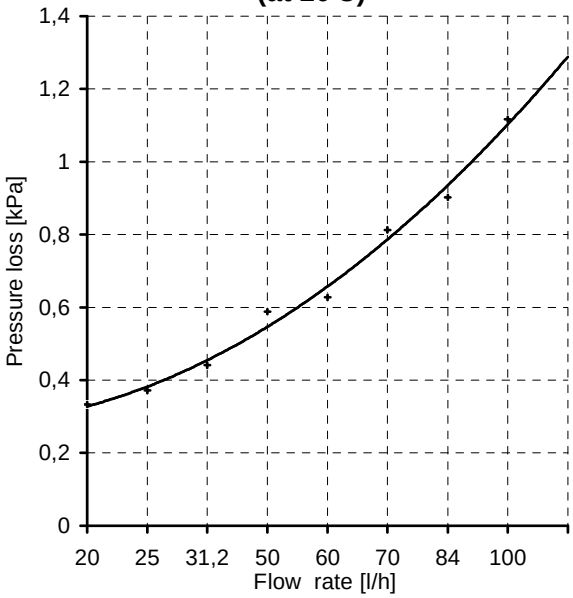
A flat-plate, horizontally installed type of collector with flanged pipe connections or copper pipe connections, intended for solar systems with circulating pumps.
It consists of a compact pressed metal casing to which a safety solar glass is attached by a frame made of non-corrosive aluminium profiles. The absorber, made of a specially shaped Al-Mg metal sheet with high-selective conversion layer, spans the copper pipe meander.
The flanged connection pipes are connected to hydraulic circuit by ∅ 26 quick couplers. The ∅18 copper pipe connections are connected to hydraulic circuit by soldering.
The collectors are interconnected in parallel way. Maximum number of collectors in one row is 5 pieces.

Technical specificatios:

Floor space	2,03 m^2
Absorbing surface	1,78 m^2
Linkage dimension	1040x2040 mm
Cover glass	Safety, solar glass, 4 mm thick
Connection	∅26 mm flanges or ∅18 mm copper pipes
Collector casing	non-corrosive Al-Mg metal sheet stamping
Sensor casing	for ∅6 mm sensor
Thermal insulation	mineral felt
Total liquid capacity	1,7 l
Total weight	35 kg
Conversion layer	ALOx
Solar absorbtivity $\alpha_{AM1.5}$	min 0,95
Thermal emisivity $\varepsilon_{82℃}$	max. 0,15
Optical efficiency	81%
Operating temperature	Below 100℃
No-load temperature at radiation 1000 W/m^2 and ambient temperature 30 °C	170℃
Max. working overpressure of heat transfer fluid	600 kPa
Recommended flow of heat transfer fluid	30 –100 l/h per collector
Energy gain from collector*	**up to 1 000 kWh/year**

*the energy gain of the collector' depends on the operating mode, geographic position, orientation and microclimatic conditions

Pressure loss of TS 330 collector vs. transfer fluid flow rate (at 20℃)



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Solar collector

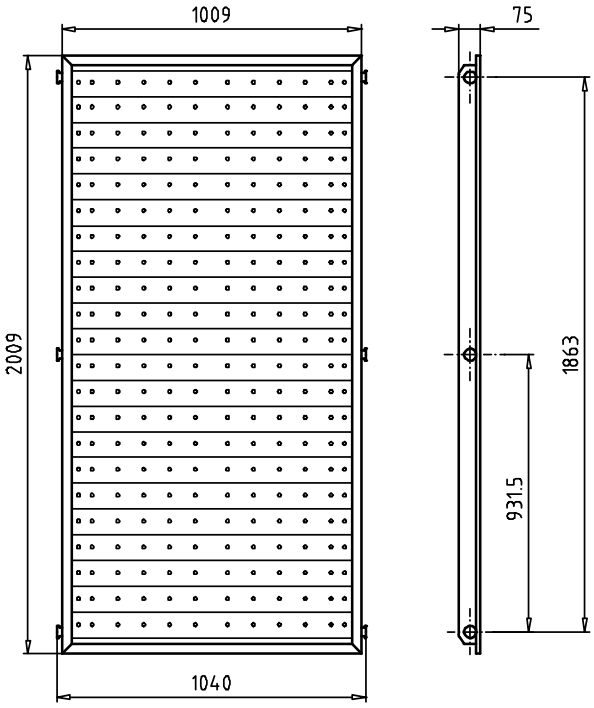
TS 400

Ordering numbers:

TS 400 with absorber ALOx and standard safety solar glass	**S1550**
TS 400 with absorber Mirotherm and safety solar glass with high solar transmissivity	**S1554**

Collector description:

A flat-plate vacuum collector for vertical installation, with flanged connections, intended for solar systems with circulating pumps.
It consists of a compact pressed metal casing to which a safety solar glass is attached by a frame made of non-corrosive aluminium profiles. The absorber, made of a specially shaped Al-Mg metal sheet with high-selective conversion layer, spans the copper pipe meander.
The flanged connection pipes are connected to hydraulic circuit by ∅ 40 quick couplers.
The collectors are interconnected in parallel way. Maximum number of collectors in one row is 10 pieces.
Krypton can be used as a replacement of the residual gas (air) inside the collector.

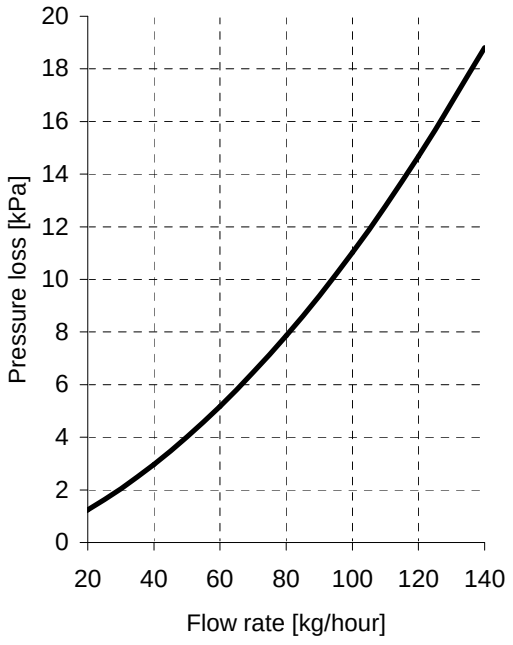


Technical specifications

Floor space	2,03 m^2
Absorbing surface	1,75 m^2
Linkage dimension	1040x2040 mm
Cover glass	safety solar glass 4 mm thick
Connection	∅40 mm flanges
Thermal insulation	vacuum 100 Pa
Total liquid capacity	1,3 l
Total weight	46 kg
Conversion layer	ALOx or Mirotherm
Collector casing	non-corrosive Al-Mg metal sheet stamping
Solar absorptivity $\alpha_{M1.5}$	min. 0,95 (ALOx), min. 0,95 (Mirotherm)
Thermal emissivity ε_{82oC}	max. 0,16 (ALOx), max. 0,05 (Mirotherm)
Optical efficiency	81%
Operating temperature	above 100℃
No-load temperature at radiation 1000 W/m^2 and ambient temperature 30°C	224℃
Max. working overpressure of heat transfer fluid	600 kPa
Recommended flow of heat transfer fluid	30-100 l/h per collector
Energy gain from collector*	**up to 1200 kWh/year**

*the energy gain of the collector' depends on the operating mode, geographic position, orientation and microclimatic conditions

Pressure loss of TS 400V collector vs. water flow rate (at 28 ℃)



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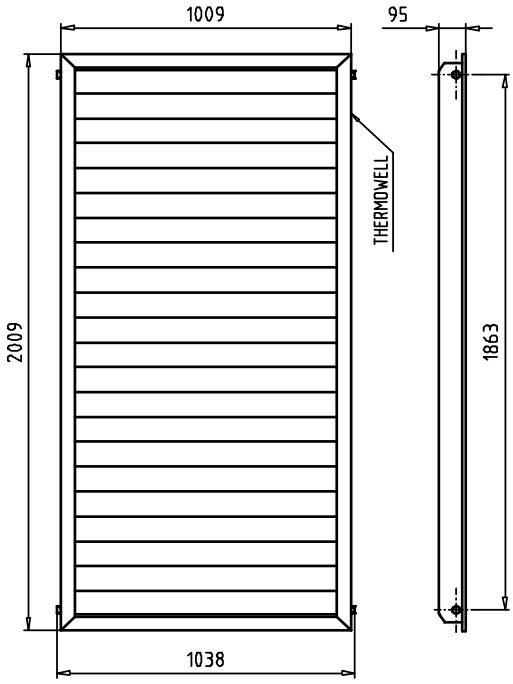
Solar collector

TS 310

Ordering number: S1547

Collector description:

A flat-plate, vertically installed type of collector with flanged pipe connections, intended for solar systems with circulating pumps.
It consists of a compact pressed metal casing to which a safety solar glass is attached by a frame made of non-corrosive aluminium profiles. The absorber, made of a specially shaped Al-Mg metal sheet with high-selective conversion layer, spans the copper pipe meander.
The flanged connection pipes are connected to hydraulic circuit by ∅ 26 quick couplers.
The collectors are interconnected in parallel way. Maximum number of collectors in one row is 10 pieces.



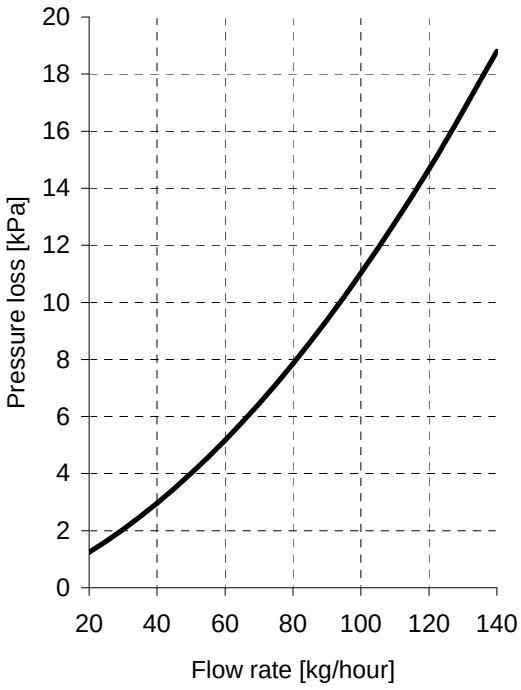
Technical specifications:

Technical specifications are based on the test certificate 41-06021, Department of Environmental Engineering, Czech Technical University in Prague and on the test certificate KTB Nr. 2006-42, Fraunhofer Institut für Solare Energiesysteme ISE, Freiburg

Floor space	2,03 m^2
Absorbing surface	1,78 m^2
Linkage dimension	1040x2040 mm
Cover glass	Safety, solar glass with high solar transmissivity, 4 mm thick
Connection	∅26 mm flanges
Collector casing	non-corrosive Al-Mg metal sheet stamping
Sensor casing	for ∅6 mm sensor
Thermal insulation	mineral felt
Total liquid capacity	1,65 l
Total weight	38 kg
Conversion layer	Mirotherm
Solar absorbtivity $\alpha_{AM1.5}$	0,95
Thermal emisivity $\varepsilon_{82℃}$	0,05
Optical efficiency	81%
Operating temperature	below 120℃
No-load temperature at radiation 1000W/m^2 and ambient temperature 25℃	190℃
Max. working pressure of heat transfer fluid	600 kPa
Recommended flow of heat transfer fluid	30 –100l/h per each collector
Energy gain from collector*	**up to 1 000 kWh/year**

*the energy gain of the collector' depends on the operating mode, geographic position, orientation and microclimatic conditions

Pressure loss of TS 310 collector vs. water flow rate (at 28 ℃)



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