

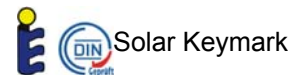
Solar Collector Factsheet

Hewalex KS2000 TLP AC



Model	KS2000 TLP AC
Type	Flat plate collector
Manufacturer	HEWALEX
Address	ul. Witosza 14 A
	PL-43-512 Bestwinka
Telephone	+48 (032) 214 17 10
Fax	+48 (032) 214 50 04
Email	hewalex@hewalex.com.pl
Internet	www.hewalex.pl
Test date	09.2011

- Performance test EN12975:2006
- Quality test EN12975:2006



Dimensions

Total length	2.020 m
Total width	1.035 m
Gross area	2.091 m ²
Aperture area	1.827 m ²
Absorber area	1.827 m ²
Weight empty	37 kg

Technical data

Minimum flowrate	72 l/h
Nominal flowrate	108 l/h
Maximum flowrate	150 l/h
Fluid content	1.1 l
Maximum operating pressure	6 bar
Stagnation temperature	202 °C

Types of mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

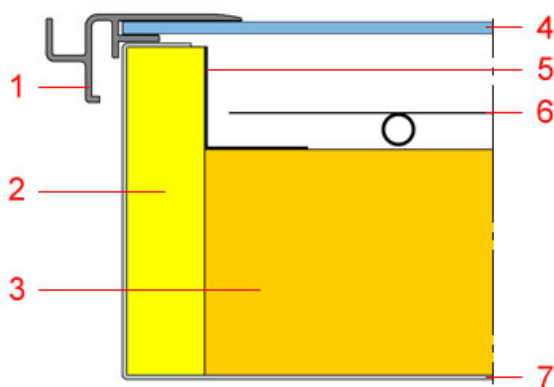
Further information

- Units in different sizes available
- Glazing replaceable

Hydraulic connection

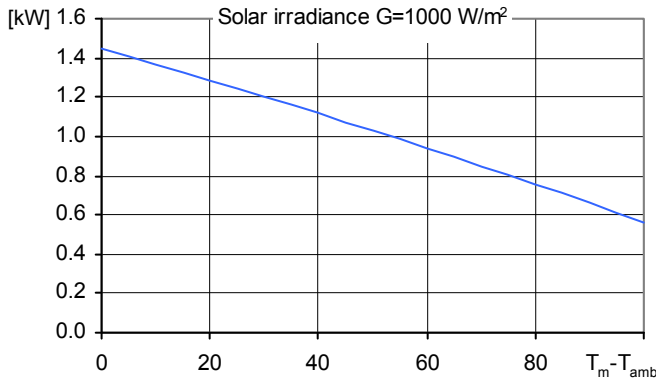
G3/4"

Construction



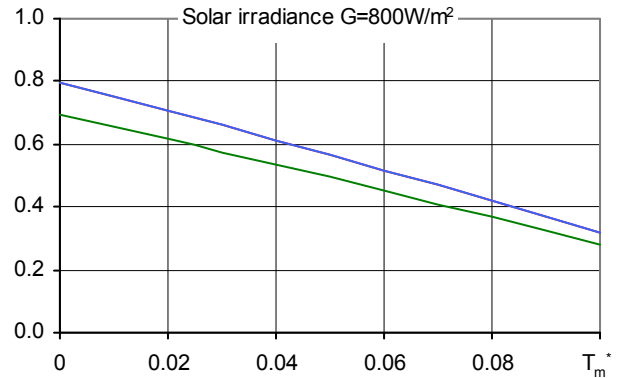
- 1 Cover rail
- 2 Lateral thermal insulation
- 3 Thermal insulation
- 4 Glazing
- 5 Black glass fleece
- 6 Absorber
- 7 Casing

Peak Power per collector unit W_{peak}



Peak Power W_{peak}	1451 W
Thermal capacity*	5.7 kJ/K
Flowrate during test	140 l/h
Fluid for test	Water-Glycol 33.3%

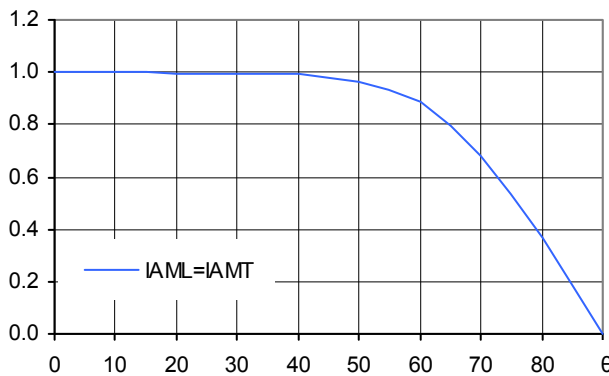
Relative efficiency η



Reference	Gross	Aperture	Absorber
η_0	0.694	0.794	0.794
a_1 [WK ⁻¹ m ⁻²]	3.81	4.36	4.36
a_2 [WK ⁻² m ⁻²]	0.0043	0.0049	0.0049

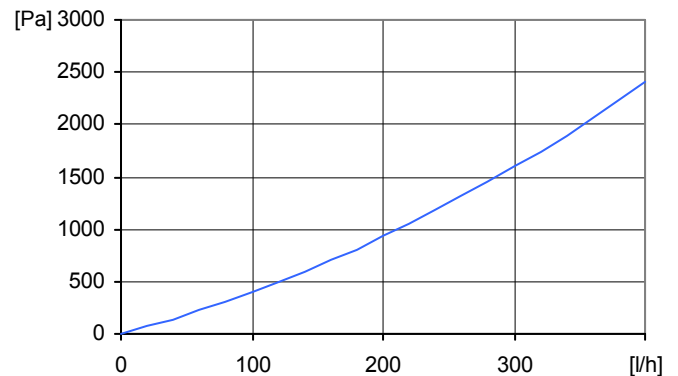
*) Specific thermal capacity C of the collector without fluid, determined according to 6.1.6.2 of EN12975-2:2006

Incident angle modifier IAM



K1, transversal IAM at 50°	0.96
K2, longitudinal IAM at 50°	0.96

Pressure drop Δp



Pressure drop at nominal flowrate
 $\Delta p = 433 \text{ Pa}$ (T=20°C)

SPF Simulation of systems using Polysun

Short description of the system

Climate: Central Switzerland, orientation of the collectors: South,
Cold water 10°C, Hot water 50°

Domestic hot water: $F_{ss}^* = 60\%$

Tank 450 l, collector inclination 45°,
Daily energy demand 10 kWh (4-6 persons)
Energy demand of the reference system 4200 kWh/year

Water pre-heating: $F_{ss}^* = 25\%$

2 Tanks: 1500 l & 2500 l, collector inclination 30°,
Domestic hot water consumption 10'000 l/day (200 persons)
Daily heat losses (circulation and tanks) 60 kWh,
Energy demand of the reference system 191'700 kWh/year

Space heating system: $F_{ss}^* = 25\%$

Combined storage 1200 l, collector inclination 45°,
Daily energy demand 10 kWh (4-6 persons), Building 200 m², moderately
heavy construction, well insulated, Heating power demand 5.8 kW (ambient
temperature -8°C), Energy demand space heating 12140 kWh/year,
Energy demand of the reference system 16340 kWh/year

Surface demand**
Number of collectors

Solar yield**

5.14 m²
2.8 collectors 495 kWh/m²

65.0 m²
35.6 collectors 740 kWh/m²

16.6 m²
9.1 collectors 324 kWh/m²

*) Fractional solar savings: Proportion of the final energy that, thanks to the solar system, can be saved compared to a reference system.
**) Surface demand and solar yield are given with respect to the aperture area.