

Solar Collector Factsheet: SPF-Nr. C573



Model	SOL 25 Plus
Type	Flat-plate collector
Manufacturer	Stiebel Eltron GmbH & Co. KG
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Sales area	CH,PL,ES,NL,BE

- Performance test EN 12975
- Quality test EN 12975

Dimensions

Total length	2.233 m
Total width	1.224 m
Empty weight with glass	46 kg
Liquid content	1.35 l
Aperture area	2.480 m ²
Absorber area	2.480 m ²
Gross area	2.733 m ²

Technical data

Minimum volume flow rate	50 l/h
Recommended volume flow rate	300 l/h
Maximum volume flow rate	500 l/h
Maximum operating pressure	6 bar
Stagnation temperature	198 °C
(Ta = 30°C, G = 1000 W/m ²)	

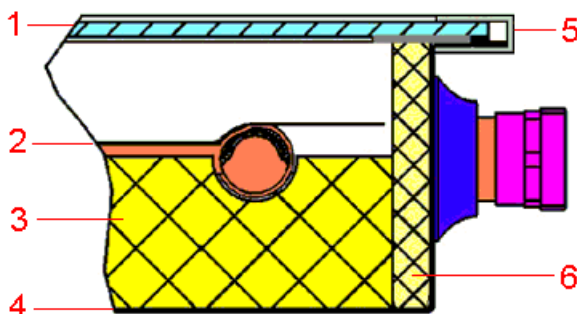
Types of mounting

- Construction for flat roof
- Integration into sloped roof
- Construction for sloping roof
- Front mounting

Further data

- Variable module size
 - Glazing replaceable
- Hydraulic connections**
G3/4" (external thread)

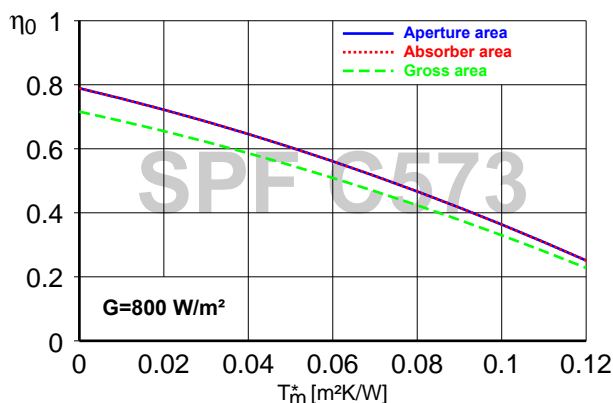
Construction



Element list and Nomenclature

- 1 Glazing
- 2 Absorber
- 3 Thermal insulation
- 4 Frame
- 5 Cover rail
- 6 Lateral insulation

Efficiency curve

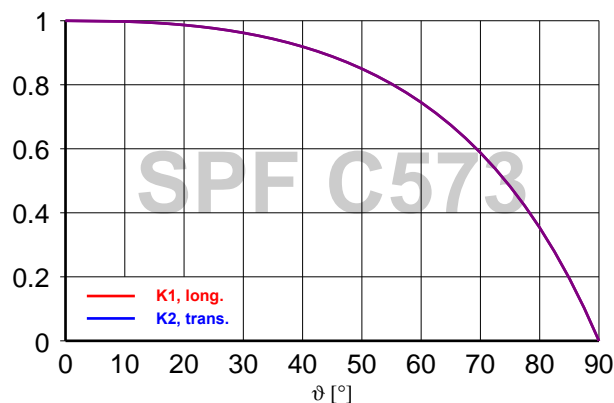


Reference area	Aperture	Absorber	Gross
η_0	0.789	0.789	0.716
a_1 [W/(m²K)]	3.12	3.12	2.83
a_2 [W/(m²K²)]	0.0142	0.0142	0.0129

Test fluid: water-glycol 33.3%, volume current: 300 l/h

Angle factors

(Incident Angle Modifier)



K1, longitudinal (50°)	0.85
K2, transversal (50°)	0.85

Heat capacity: C 11.9 kJ/K

System

(Climate: central Switzerland, collector orientation: south, cold water 10°C, hot water 50°C)

Short description of the system (simulation with Polysun)

Surface demand**

Solar yield**

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 4'200 kWh/year

5.05 m²

504 kWh/m²

Water pre-heating F_{ss} = 25% (*)

2 tanks 1'500 l + 2'500 l, collector inclination 30°

Domestic hot water 10'000 l/day (200 persons)

Daily heat losses (circulation & tank) 60 kWh

Energy demand of the reference system 191'700 kWh/year

67.3 m²

714 kWh/m²

Space heating F_{ss} = 25% (*)

Combined storage 1'200 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 (outdoor temperature -8°C)

Energy demand space heating 12'140 kWh/year

Energy demand of the reference system 16'340 kWh/year

15.7 m²

344 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.