

Solar Collector Factsheet: SPF-Nr. C331



- Performance test EN 12975
- Quality test EN 12975



Model	VitoSol 100 S2.5
Type	Flat-plate collector
Manufacturer	Viessmann Werke GmbH & Co
Address	Viessmannstrasse -- DE-35107 Allendorf / Eder
Telephone	+49 (06452) 70-2862
Fax	+49 (06452) 70-5862
E-Mail	wzl@viessmann.de
Internet	www.viessmann.de
Sales area	CH,EU

Dimensions

Total length	2.390 m
Total width	1.139 m
Empty weight with glass	63 kg
Liquid content	2.20 l
Aperture area	2.500 m ²
Absorber area	2.500 m ²
Gross area	2.722 m ²

Technical data

Minimum volume flow rate	90 l/h
Recommended volume flow rate	100 l/h
Maximum volume flow rate	120 l/h
Maximum operating pressure	6 bar
Stagnation temperature	209 °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

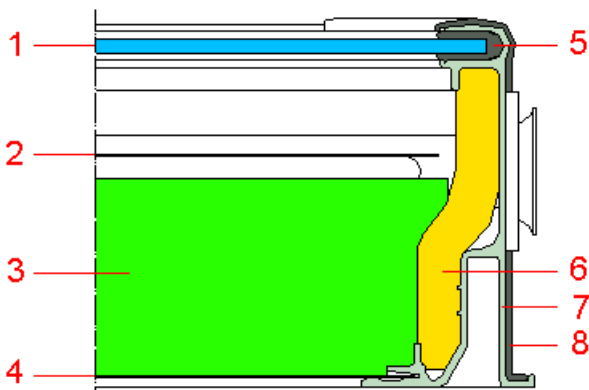
Further data

- Variable module size
- Glazing replaceable

Hydraulic connections

Plug-in connection with O-ring, nominal diameter 22 mm

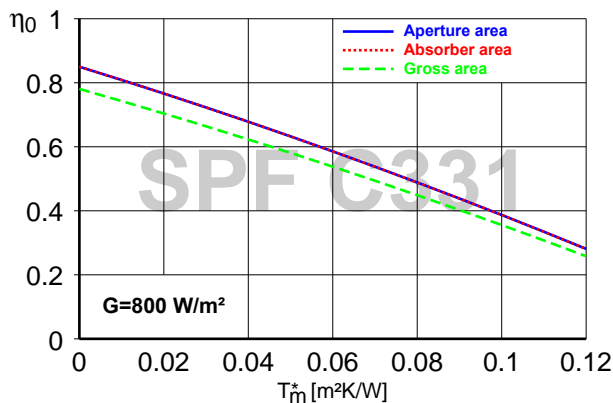
Construction



Element list and Nomenclature

- 1 Glazing
- 2 Absorber
- 3 Thermal insulation
- 4 Back
- 5 Sealing profile
- 6 Thermal insulation
- 7 Frame
- 8 Corner connextor, cast of aluminium

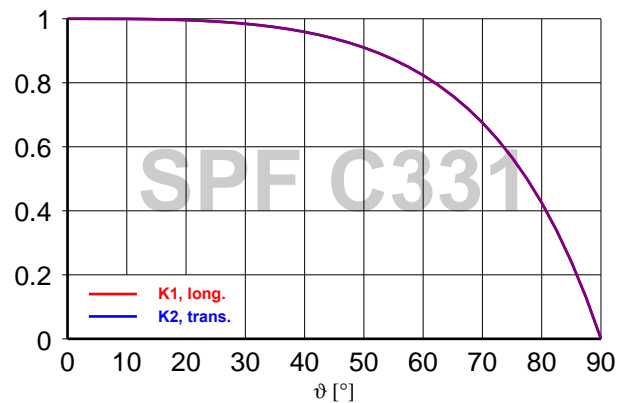
Efficiency curve



Reference area	Aperture	Absorber	Gross
η_0	0.850	0.850	0.781
a_1 [W/(m²K)]	4.07	4.07	3.74
a_2 [W/(m²K²)]	0.0070	0.0070	0.0064
Test fluid: water-glycol 33.3%, volume current: 108 l/h			

Angle factors

(Incident Angle Modifier)



K1, longitudinal (50°)	0.91
K2, transversal (50°)	0.91
Heat capacity: C	15.8 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)

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

Surface demand**

4.76 m²

Solar yield**

534 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

61.5 m²

781 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

14.7 m²

363 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.