

ENGINEERING SUBMITTAL SHEET

SOL 27 Premium Low Profile Flat Plate Solar Collector

STIEBEL ELTRON

Simply the Best

Item No. 230016 - SOL 27 Premium S (standard vertical)
230017 - SOL 27 Premium W (horizontal wide)

- » Aluminum absorber with copper fluid tubes
- » Highly selective coating
- » Low iron tempered solar glass
- » 10 year warranty
- » Custom mounting hardware available
- » Low profile at 3" thickness
- » Durable corrosion resistant aluminum frame

Engineering Description

Low-profile (3" thick) high-efficiency flat plate solar collector with highly selective coating, features an aluminum absorber with copper fluid tubes, low iron tempered solar glass, and a durable, corrosion-resistant aluminum frame. The plumbing connections from collector to collector do not require the use of tools.

Designed for thermal solar heating of domestic hot water (DHW) and/or radiant in-floor space heating.

Available as standard vertical [**230016**] SOL 27 Premium S, and horizontal wide [**230017**] SOL 27 Premium W. Custom, versatile mounting rack kits are available.





230016 - SOL 27 PREMIUM S



230017 - SOL 27 PREMIUM W



	This product certified by the Solar Rating and Certification Corporation c/o FSEC, 1679 Clearlake Road Cocoa, FL 32922 (321) 638-1537 www.solar-rating.org SRCC Document OG-100	Stiebel Eltron 17 West Street West Hatfield, MA 01088 Model No.: Sol 27 Premium S Gross Area 2.55 m ² (27.4 ft ²) Serial Number:	Clear Day Rating in Category C 8.9 kWh/day 30.4 KBtu/day
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Precision o-ring plumbing connections make installation quick and easy. Quad-O-ring configuration insures seal integrity. No tools are required.

Specifications



ISO 9001
 CERTIFIED

ISO 9806
 COMPLIANT

	SOL 27 Premium S	SOL 27 Premium W
Item no.	230016	230017
Type	Standard / Vertical	Wide / Horizontal
Height	85.5" / 2171 mm	46.1" / 1171 mm
Width	46.1" / 1171 mm	85.5" / 2171 mm
Depth	3.8" / 96 mm	3.8" / 96 mm
Weight	88.2 lb / 40 kg	89.3 lb / 40.5 kg
Casing material	Aluminum, corrosion resistant	Aluminum, corrosion resistant
Glass cover	ESG	ESG
Glass thickness	0.125" / 3.2 mm	0.125" / 3.2 mm
Thermal insulation thickness	2" / 50 mm	2" / 50 mm
Thermal insulation material	Mineral wool, low outgassing, WLG 040	Mineral wool, low outgassing, WLG 040
Collector connection	22 mm plug-in connector	22 mm plug-in connector
Max. idle temperature	<410°F / <210°C	<410°F / <210°C
Min. operating pressure	50.75 psi / 0.35 MPa	50.75 psi / 0.35 MPa
Max. permissible pressure	87 psi / 0.6 MPa	87 psi / 0.6 MPa
Pressure drop at 300 l/h	0.51 psi / 0.0035 MPa	0.51 psi / 0.0035 MPa
Test pressure	247 psi / 1.7 MPa	247 psi / 1.7 MPa
Test medium	40% Propylene Glycol	40% Propylene Glycol
Heat transfer medium	DowFrost	DowFrost
Fill level, heat transfer medium	0.4 gal / 1.5 l	0.48 gal / 1.8 l
Nominal volume flow	0.25 - 3.75 gpm** / 50-850 l/hr	0.25 - 3.75 gpm** / 50-850 l/hr
Angle of inclination	20°-85°	20°-85°
Total area	27.34 ft ² / 2.54 m ²	27.34 ft ² / 2.54 m ²
Aperture area	25.73 ft ² / 2.39 m ²	25.73 ft ² / 2.39 m ²
Absorber area	25.62 ft ² / 2.38 m ²	25.62 ft ² / 2.38 m ²
Absorber	Aluminum, highly selective coating, copper pipes, laser welded	Aluminum, highly selective coating, copper pipes, laser welded
Gasket	EPDM	EPDM
Conversion factor η_0	0.82	0.83
Effective heat transfer coefficient a1	3.46 W / (m ² K)	3.46 W / (m ² K)
Effective heat transfer coefficient a2	0.0153 W / m ² K ²	0.0153 W / m ² K ²
Absorption level α	95%, $\pm 2\%$	95%, $\pm 2\%$
Emission level ϵ	5%, $\pm 1\%$	5%, $\pm 1\%$
Collector yield	>525 / kWh/(m ² p.a.)	>525 / kWh/(m ² p.a.)

*Performance subject to global solar radiation levels, installation conditions, heat transfer medium temperature and system characteristics.

**Recommended flow rate in 0.75 gpm (170 l/hr) per series collector. For example, if there are 4 collectors in series, the flow rate should be set to 3 gpm.

SOL 27 Premium S & W Pressure Drop Curves

