

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
---	--	--	--

	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 W Gross Area 2.55 m ² (27.4 ft ²) Serial Number:	Clear Day Rating in Category C 9.2 kWh/day 31.3 KBtu/day
---	--	--	--



Precision o-ring plumbing connections make installation quick and easy. Quad- O-ring configuration insures seal integrity. No tools are required.

ENGINEERING SUBMITTAL SHEET

SOL 27 Premium Low Profile Flat Plate Solar Collector

STIEBEL ELTRON

Simply the Best

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	Water (at the factory)	Water (at the factory)
Heat transfer medium	DowFrost	DowFrost
Fill level, heat transfer medium	0.4 gal / 1.5 l	0.48 gal / 1.83 l
Nominal volume flow	13-80 gal/hr / 50-300 l/hr	13-80 gal/hr / 50-300 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 a_1	3.46 W / (m ² K)	3.46 W / (m ² K)
Effective heat transfer coefficient a_2	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.

SOL 27 Premium S & W Pressure Drop Characteristics

