

Schüco Premium LA

Flat Plate Solar Collector



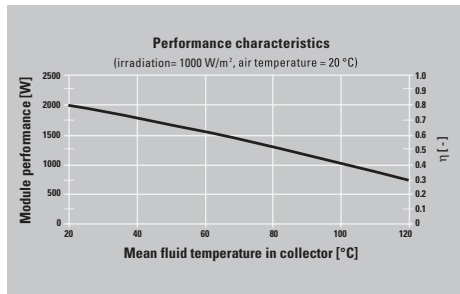
The Schüco Premium LA high-performance solar collector converts solar energy into heat, and is excellent for heating domestic hot water, swimming pools as well as large area commercial installations. The highly selective absorbent coating and optimum thermal insulation maximize efficiency. The absorbed solar heat is transferred to a storage tank by freeze-protected, non-toxic solar fluid through a serpentine copper pipe with header. This aesthetically pleasing collector was developed with performance, longevity, and simple installation in mind.

Features

- Outstanding efficiency achieved with high selective absorbent coating.
- Low energy loss due to excellent thermal insulation.
- Durable, elegant silver anodized aluminum frame.
- High reliability and long service life due to corrosion-resistant materials.
- Low risk of leaking and superior flow control over conventional header/riser designs.
- High degree of light transmission through low iron glass.
- Tempered glass inset a full half-inch into the frame.
- Ideal for large area installations.
- Quick and simple installation with SolarEZ mounting hardware, collector connections, and installation accessories.
- Serpentine piping with header, 2 connections on each long side for portrait orientation of collector.
- Certifications: SRCC OG-100, CE, DIN EN 12975-2, DIN CERTCO, EC Guideline 97/23/EC.
- 10 year performance warranty.

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Technical Data



Performance Characteristics

Thousands of Btu Per Panel Per Day			
Category (Ti-Ta)	Clear Day 2000 Btu/ft ² d	Mildly Cloudy 1500 Btu/ft ² d	Cloudy Day 1000 Btu/ft ² d
A (-9°F)	40	30	20
B (9°F)	36	27	17
C (36°F)	31	22	12
D (90°F)	20	11	3
E (144°F)	9	2	

A – Pool Heating (Warm Climate), B – Pool Heating (Cool Climate)
C – Water Heating (Warm Climate), D – Water Heating (Cool Climate)
E – Air Conditioning

SRCC Collector Thermal Performance Rating

No. of Collectors Parallel	Required Flow Rate gallons per minute (gpm)	Pressure Drop feet of head (ft. H ₂ O)
5	0.82	2.21
6	1	2.31
7	1.16	2.44
8	1.32	2.61
9	1.49	2.78
10	1.65	3.78
11	1.9	4.32
12	1.98	4.91
13	2.15	5.58
14	2.3	6.5
15	2.5	7.39
16	2.64	8.36

Flow Rate and Pressure Drop

Size:	84.7 x 49.3 x 3.6 in. (2152 x 1252 x 93 mm)
Collector surface area (A _p):	29 sq. ft. (2.69 m ²)
Weight (empty):	126 lbs. (57.5 kg)
Efficiency:	$\eta_o = 75.7\%$
Heat loss coefficient:	$k_1 = 4.29 \text{ W/m}^2\text{K}; k_2 = 0.0131 \text{ W/m}^2\text{K}^2$
Incident angle modifier:	$k_{\theta 90} = 0.96$
Thermal output:	2.0 kW _{th}

Piping configuration:	Header and serpentine
Absorber long-wave emissivity:	$\epsilon = 5.0\%$
Absorber short-wave absorptivity:	$\alpha = 95\%$
Net aperture area:	27.1 sq. ft. (2.52 m ²)
Aperture surface:	27.0 sq. ft. (2.51 m ²)
Absorber material:	Copper
Absorber coating:	Highly selective
Heat transfer fluid volume:	0.60 gal. (2.26 ltr.)
Minimum volume flow:	0.165 gpm/collector
Maximum number of collectors parallel:	16
Connection:	18.0 mm Cu pipe
Connector type:	Compression fitting
Operating pressure:	46.4 psi (3.2 bar)
Maximum operating pressure:	145 psi (10 bar)
Test pressure:	290 psi (20 bar)
Stagnation temperature:	378°F (192°C)
Maximum operating temperature:	248°F (120°C)

Solar glazing:	Low-iron, high transparency
Transmittance:	>91.0%
Thickness:	0.16 in. (4 mm)
Frame material:	Aluminum (anodized)
Gaskets:	EPDM
Thermal insulation:	0.79 in. (20 mm) mineral wool
Schüco article:	Premium LA 231 158
Schüco installation system:	SolarEZ



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