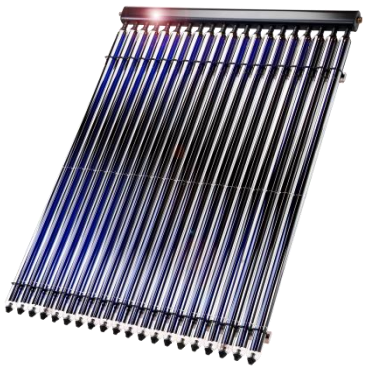
HEAT PIPE VACUUM TUBE COLLECTOR SUN 501 / SUN 551

Technical datasheet Nr 91

The heat pipe vacuum tube collector SUN 501 and SUN 551 with temperature limitation device (90°C or 135°C) offer high efficiency and an unsurpassed ease of installation and maintenance. The dry connection between manifold and vacuum tubes allows the handling and the replacement of vacuum tubes without the draining of the solar loop.



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• DESCRIPTION:

- Heat pipes with temperature limitation device 90°C (SUN 501) or 135°C (SUN 551).
- Coated aluminium box.
- Copper absorber plate with highly selective coating (absorption 95%, emissivity 5%) with adjustable orientation (+/-25°).
- 65mm glass tube with "plug and play" connection.
- Low-iron content soda lime glass has one of the highest transmission characteristics of any glass on the market today.
- One of the only vacuum tube collectors to have passed the optional Hail Impact Test which is covered under specification EN 12975.
- One of the best vacuum levels on the market, inferior to 1.10^{-6} mbar, that provides an excellent thermal insulation.
- One of the largest getter surface area with defined length, assuring a vacuum integrity for many years to come.
- Patented hermetically fused glass-to-metal seal with design life superior to 30 year.
- Fully automated European manufacturing process, improving production quality.
- High quality flexible stainless steel neck relieves stress on the glass to metal seal.
- 22mm "plug-ang-play" fittings with double O-rings.
- Mechanical load up to 1,5 tonne (SUN 501.30).
- The longest warranty period on the market today.

Installation options:

- Vertical (Portrait) orientation of tubes.
- Recommanded inclination from 20° to 70°.
- Installation on tilted frame, on sloping roof, elevated.
- Flat tiles, corrugated tiles, roman-tiles, steel roof, asbestos cement.

• TECHNICAL SPECIFICATIONS:

Designation	Unit	SUN 501.20	SUN 501.30	SUN 551.20	SUN 551.30
Reference		50070102199	50070102200	50070102201	50070102202
Number of tubes	-	20	30	20	30
Gross area	m²	2.77	4.15	2.77	4.15
Aperture area	m²	2.13	3.20	2.13	3.20
Absorber area	m²	2.01	3.02	2.01	3.02
Overall height	mm	1952	1952	1952	1952
Overall width	mm	1416	2125	1416	2125
Depth	mm	93	93	93	93
Empty weight	kg	52	71	52	71
Fluid capacity	l	1.1	1.7	1.1	1.7
Connections	Cu…mm	22	22	22	22
Zero-loss efficiency η_0 (aperture / absorber)	-	0.75 / 0.80	0.75 / 0.80	0.75 / 0.80	0.75 / 0.80
First-order coefficient a_1 (aperture / absorber)	W/(m².K)	1.18 / 1.25	1.18 / 1.25	1.25 / 1.36	1.25 / 1.36
Second-order coefficient a_2 (aperture / absorber)	W/(m².K²)	0.01 / 0.011	0.01 / 0.011	0.007 / 0.007	0.007 / 0.007
Zero-loss efficiency B (aperture / absorber)	-	0.76 / 0.81	0.76 / 0.81	0.75 / 0.79	0.75 / 0.79
Overall coefficient of heat transfer K (aperture / absorber)	W/(m².K)	1.88 / 1.99	1.88 / 1.99	1.74 / 1.84	1.74 / 1.84
Maximum operating pressure	bar	8	8	8	8
Temperature limitation (heat pipe) Stagnation temperature	°C	90 167	90 167	135 168	135 168
Recommanded flow rate (absorber)	l/(h.m_{abs}^2)	40	40	40	40
Maximum quantity of collectors per array	-	7	7	7	7
Tilt angle limits	°	20° to 70°	20° to 70°	20° to 70°	20° to 70°
Warranty (Term and Conditions apply) – Tubes = 20 year including 5 year warranty against hail damage (under conditions) – Collector = 10 year (under conditions).					

Document that can be susceptible to changes

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