Titan Series

7 Riser Solar Collector

Technical Data

Introducing the Titan Series collector - designed especially for high performance in cooler climates. Edwards has taken advantage of the latest advances in heat-transfer technology to build superior solar collectors to gather as much of the sun's energy as possible. The Titan Series collector uses an advanced titanium coated copper solar absorber plate combining first grade copper with titanium, to show superior qualities in both solar performance and durability when compared with other solar collectors available.

ABSORBER PLATE

Titanium is the ultimate high-grade solar material; it has greater solar performance and efficiency characteristics than other selective surfaces.

A typical flat plate solar collector would produce the following yearly energy yields:

Titanium = 546 kWh/m^2*
Black Chrome = 456 kWh/m^2*

The absorptance and emittance co-efficients also outperform other materials.

Absorptance = 0.96
Emittance = 0.05

CASING

Constructed from 0.4mm COLORBOND® Steel and extruded aluminium to provide good corrosion resistance properties and light handling capabilities.

INSULATION

Glass Wool batts are used to insulate the base of the collector to minimise heat loss. It is 38mm thick and has a thermal conductivity of 0.044 W/(m.K)

CONNECTIONS

M33 brass compression fittings are used which conform to Australian and International Standards. Each fitting accepts a 25mm copper tube and ensures the prevention of water ingress through the casing.

RISERS

Designed for either water or propylene glycol, the copper tubes conform to Australian Standard AS1432 and other applicable international standards. The 25mm diameter headers and 10mm risers are of Type C copper and the 7 risers are spaced at 133mm. The risers are soldered to the absorber plate.

GLAZING

Tempered, low iron Matt-Matt glass is used to maximise the solar radiation available. It is extremely strong 3.2mm tempered glass that is hail resistant. It is specifically designed for solar applications and has a minimum energy transmittance of 0.89 and a low iron oxide content of only 0.04% or less.

* Figures sourced from the Institute for Thermodynamics and Thermal Engineering (ITW) of the University of Stuttgart.

EFFICIENCY
ECONOMY
EXCELLENCE
ENVIRONMENT

SPECIFICATIONS

Overall Data

Overall Collector Dimensions	mm	1941 x 1027 x 84
Weight of Collector - Full	kg	34
Accreditation		AS2712:2002
Aperture Area	m^2	1.86

Risers

Number of Risers		7
Fluid Capacity	litres	1.5
Riser Dimensions	mm	9.52 x 0.71 x 1864
Header Dimensions	mm	25.4 x 0.91 x 996
Test Pressure	kPa	300
Maximum Working Pressure	kPa	1400

Insulation

Glass Wool Thermal Conductivity	W/(m.K)	0.044
Insulation Thickness - Base	mm	38
Insulation Thickness - Sides	mm	28

Absorber Plate

Absorber material		Copper with Sputtered surface
Effective Absorber Surface Area	m^2	1.86
Absorber Plate Thickness	mm	0.2
Absorber Plate Dimensions	mm	1895 x 985
Emittance of Surface		0.04 +/- 2%
Absorptance of Surface		0.95 +/- 2%

Casing

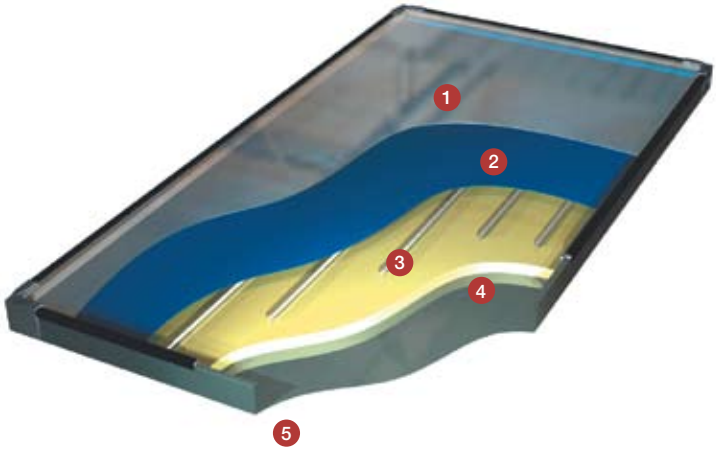
Casing Thickness	mm	0.4
Casing Drain Holes	mm	4 x Ø4mm

Connections

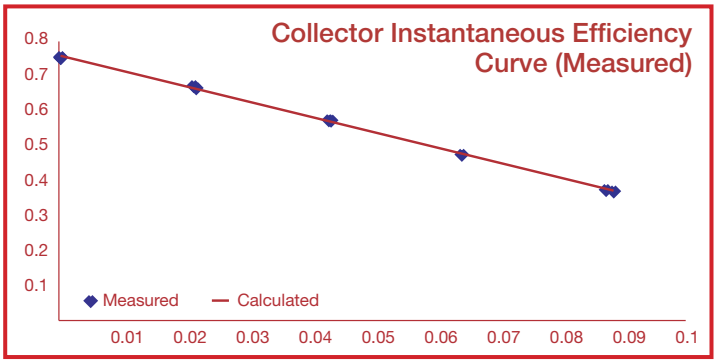
Inlet/Outlet Connections	mm	33 Female Compression
Max. Torque	Nm	34

Glazing

Glazing Type		Tempered Low Iron Matt-Matt Glass
Glazing Thickness	mm	3.2
Glazing Transmittance		0.89 min
Glazing Iron Oxide Content	%	<0.04



1. **Low iron Matt/Matt Tempered Glass**
   Maximises available solar radiation.
2. **TiNox Sputtered Copper Selective Surface Absorber Plate**
   Improves solar gain with very low emittance values.
3. **7 Copper Risers**
   Used for its excellent corrosion resistance and heat transfer properties
4. **Glasswool Insulation**
   Reduces heat losses and improves performance.
5. **Durable COLORBOND® Steel Casing**
   Provides all weather protection to the collector internals.



η_0	0.757
a_1	4.039 W/(m²K)
a_2	0.005 W/(m²K²)

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For International Enquires
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Fax +61 8 9351 8034

Website www.edwards.com.au
Email info@edwards.com.au
ABN 21 098 823 511

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