

# SOLAR COLLECTORS

The Right Choice



## The Right Choice

EVERY HOUR, EVERY DAY

Chromagen is a leading global company that develops, manufactures and sells advanced hot water, energy-saving solutions which promote environmental sustainability.

Founded in 1962 in Israel, the company has invested the last years in bringing innovation, quality and cost-saving solutions to a diverse range of projects worldwide – including single homes, multi-story apartment buildings, hotels, hospitals, industrial plants, and other commercial projects.

Since its establishment, Chromagen has continuously expanded and established two subsidiaries in Australia and Spain, as well as a solid network of distributors who help serve customers in over 40 countries worldwide. Today, Chromagen is recognized as a pioneer of hot water energy saving solutions and is positioned as one of the top 10 largest flat plate collector manufacturers in the world.



Reliability



Expertise



Efficiency



Quality

**Chromagen**<sup>TM</sup>  
Hot Water Solutions

The right choice  [chromagen.com](http://chromagen.com)

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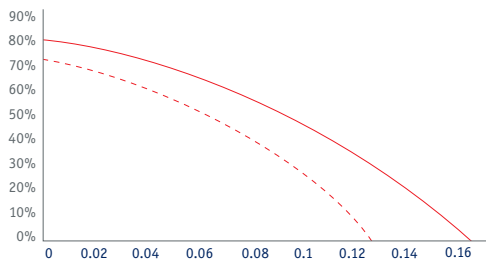
# Solar Collectors

Chromagen has fine-tuned the design and manufacture of solar collectors to an art. Collectors are assembled using quality materials and advanced techniques, which result in highly efficient, durable products you can depend on for years to come. The products are environmentally friendly, remarkably versatile and offer high performance even in extreme environments. The wide range of solar collectors enables Chromagen to provide cost-effective solutions which comply with a variety of international standards.

Collector Size	Y		K		D		E		F		Z	
Risers Diameter [mm]	8	16	8	16	8	16	8	16	8	16	8	16
Gross Area [m <sup>2</sup> ]	1.41		1.65		2.02		2.34		2.77		3.12	
Aperture Area [m <sup>2</sup> ]	1.25		1.52		1.85		2.15		2.56		2.93	
Length [cm]	181		181		189		218		218		246	
Width [cm]	78		91		107		107		127		127	
Weight [KG]	21	23	26	28	30	33	34	37	39	43	46	54
Fluid Capacity [L]	0.8	2.2	1	2.7	1.2	3.2	1.3	3.6	1.5	4.1	2.1	6.8
Thickness [cm]	9											

• Collectors test pressure: 12 bar • Maximum collectors operation pressure: 8 bar

## Collector Efficiency



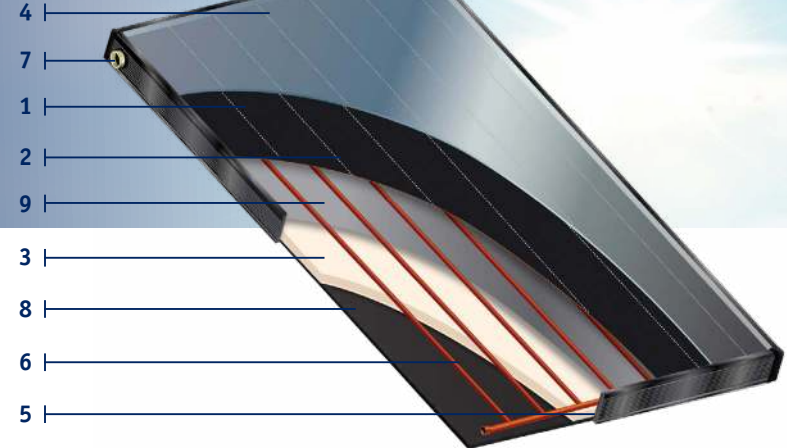
$X = (T_m - T_a) / G$   
 $T_m = \text{Water temp} : (T_{out} + T_{in}) / 2$   
 $T_a = \text{Ambient temp}$   
 $G = \text{Instantaneous solar radiation } (\sim 850 \text{ W/M}^2)$

— Sputtering  
- - - Selective paint

## Coating Specifications

	Absorptance	Emissivity	Stagnation Temp
	$\alpha$	$\epsilon$	@1000W/m <sup>2</sup> & ambient temp 30°C
Selective paint	0.9	0.45	170°C
Sputtering	0.95	0.05	205°C

• Due to on-going development, specifications are subject to change without notice



- 1 | **Absorber Plate**  
Made of aluminum sheet, laser welded to copper tubes, ensuring high efficiency and durability.
- 2 | **Absorber Plate Coating**  
Selective paint or ultra selective sputtered coating with excellent energy absorption and very low energy emission for high performance even in cooler climates.
- 3 | **Insulation**  
The absorber plate is encased in 23 mm rigid polyurethane foam, with an option to additional layer of glass wool, retaining the collector's heat.
- 4 | **Solar Glass Glazing**  
The single-pane 3.2 mm patterned and tempered solar glass has high solar transmittance of 91% and excellent durability.
- 5 | **Casings**  
A. Anodized aluminum extrusion casings are made of solid construction available in a natural or black color.  
B. Galvanized steel casings are available in black, or gray polyester paint finish.
- 6 | **Tubing Grid**  
16 mm or 8 mm copper risers brazed to 28 mm or 22 mm copper or aluminum manifolds with optimal flow distribution.
- 7 | **Piping Connection**  
Four 3/4" BSPP female brass adaptors or clear cut edge for connector brazing or "quick connect".
- 8 | **Back Plate**  
The back plate is made of black polypropylene sheet.
- 9 | **Aluminum Foil**  
The aluminum foil, integrated to the insulation, acts as a barrier against out-gassing.