

Idea hybrid solar collector IHC-2025

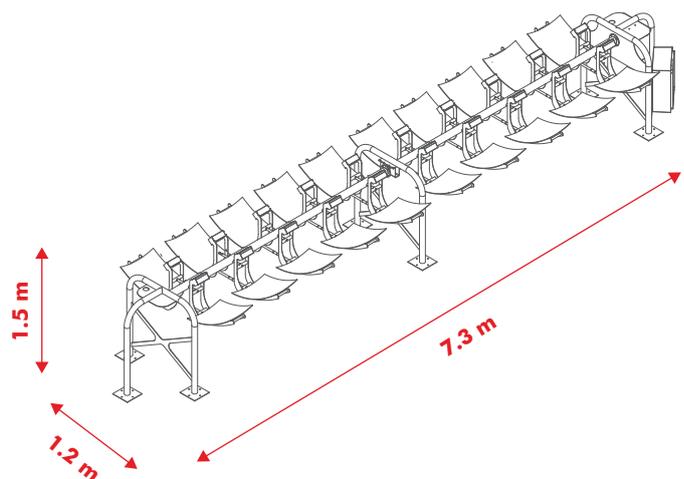
Technical data sheet

IHC-2025 is a focus concentrating solar collector for hybrid generation of heat and electricity, which represents the state-of-the-art in terms of solar technology. The solar radiation is reflected by high quality silver plated mirrors on a receiver including a high performance multi-junction PV cell and a heat exchanger, mounted on the back of the photovoltaic cell. One module includes 20 basic receivers, for a total peak power at reference conditions* of 1kW electric and 2 kW thermal, with a total efficiency in solar energy conversion of about 75% (30% electric, 45% thermal).

The outflow temperature range (50°C - 70°C) is compatible with the supply of domestic heat water. Modules can be connected together for reaching the desired output and easily integrated into the heating and electric networks of single buildings or settlements.

The collector is assembled on site from prefabricated components including:

- steel supporting structure
- primary glass reflectors
- hybrid PV/thermal receivers
- solar tracking system
- heat transfer fluid circulation system



Customers are supported in designing the thermal circuit and integrating the collector in the building management and energy storage systems.

*Reference Conditions

Ambient temperature = 25°C

DNI (Direct Normal Radiation) = 900 W/m²

Outflow temperature = 60°C

IHC-2025 can supply all the energy needed by residential buildings.

With its record efficiency, the IHC-2025 collector can offer all the energy needed by either single or multiple family houses in regions where the solar radiation is suitable for concentrating applications. In a typical installation in the solar belt regions, the consumption of both heat and electricity a family can be covered by two/three modules, accordingly to the appliances and climatization system available. High performance in solar air conditioning can be reached by integrating the collector with electric heat pumps.

The system is designed for a north-south orientation. Support and anchorage systems can be adapted to the installation site (land, hard surfaces, rooftops).

General data of the basic module

Thermal peak power	1kW
Electric peak power	2kW
Width	1.2 m
Length	7.3 m
Height (at the rotating axis)	1.5 m
Weight	450 kg
Number of receivers	20
Size of reflecting mirrors (related to installation surface area)	20X25 cm
Concentration factor	2000
Maximum operational wind speed	54 km/h
Maximum wind speed stowed	100 km/h
Life expectancy	+20 years

