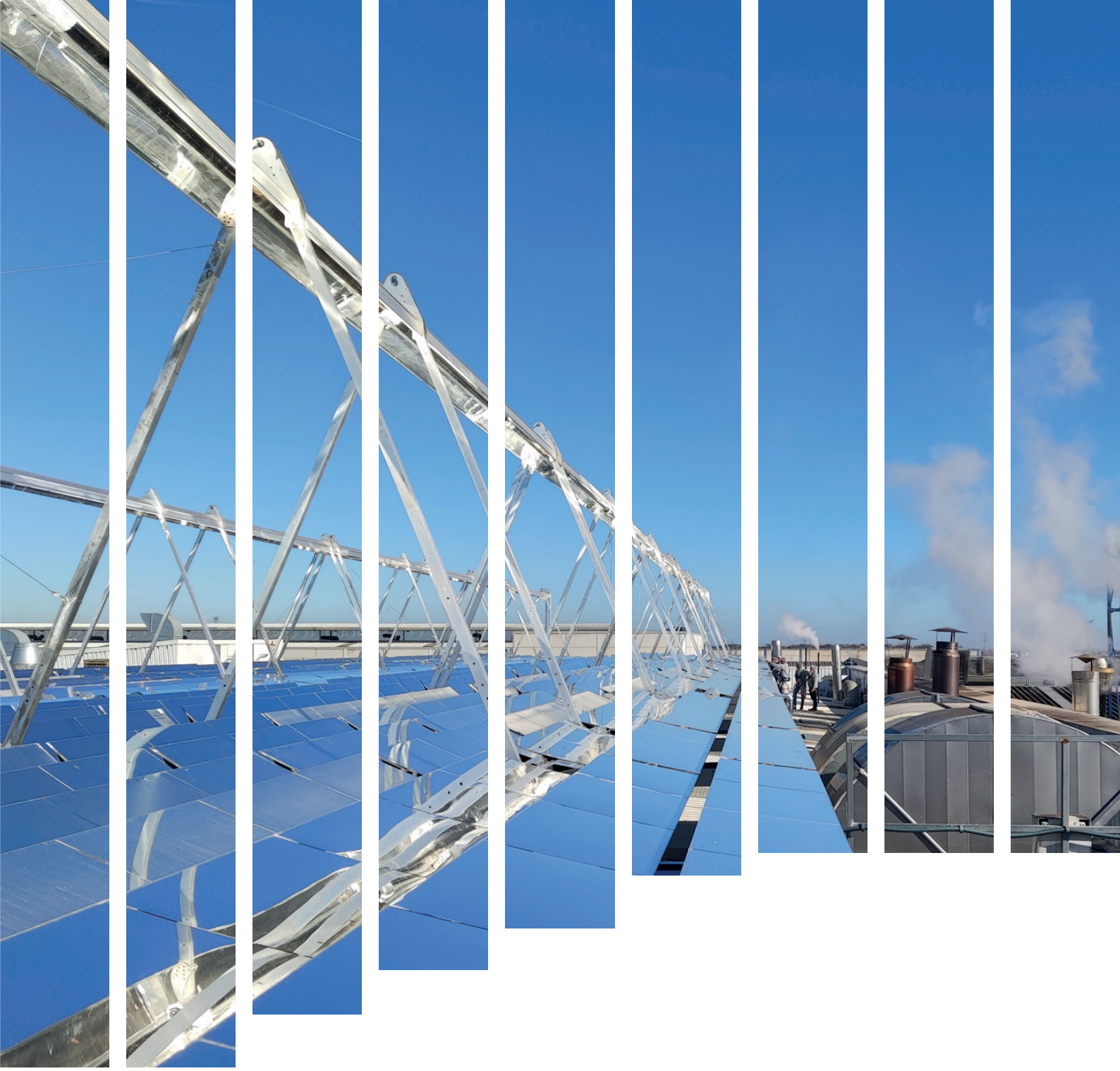


FLTTANDEM solar collector

SOLATOM

SOLATOM FLTTANDEM solar collector is the perfect choice for high-temperature heat in ground and rooftop industrial applications

www.solatom.com



Applications in SMEs

The FLTTANDEM collector uses mirrors which track the sun, and concentrate the sun rays on an evacuated tube, in which the thermal fluid circulates. Once the fluid reaches the design conditions (temperature and pressure), it is supplied into the industry's network.

Temperature: From: 80ºC — Up to: 400ºC

Pressure: Up to 30 bar

Fluid: Steam, water & thermal oil

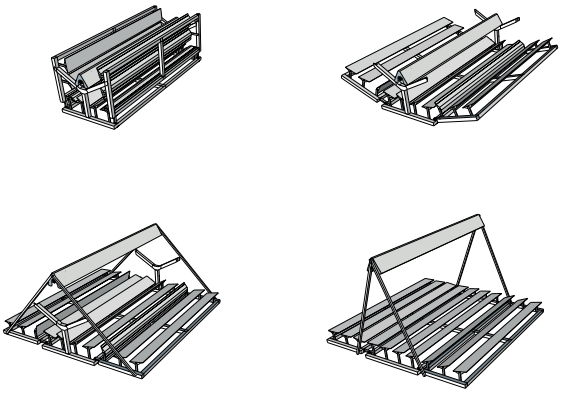


Industrial sector	Thermal process
Food & beverages	Pasteurization Cooking Drying Cleaning Pealing Frying Boiling
Textile	Dyeing Bleaching Washing
Chemical	Heat treatment Sterilisation Distillation
Paper	Bleaching
Water treatment	Sluge Drying
Industrial laundries	Calendar ironing Washing



The solar collector

FLTTANDEM modules are fully pre-assembled in factory, and then transported ready to be used. They are easily deployed and can be easily re-deployed if necessary.



Ground installation

Once in position, the modules are connected together using Plug & Play connections.

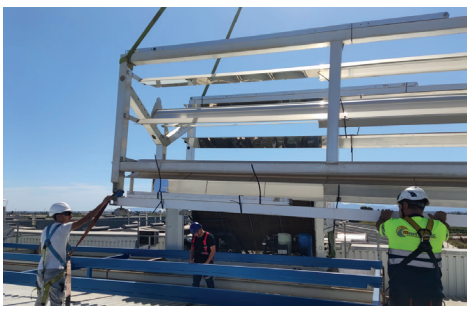






Rooftop installation

In rooftop installations, we use a rail system to deploy and connect our FLTTANDEM modules. With only 25 kg/m2, we can use our Plug & Play design even on light industrial rooftops



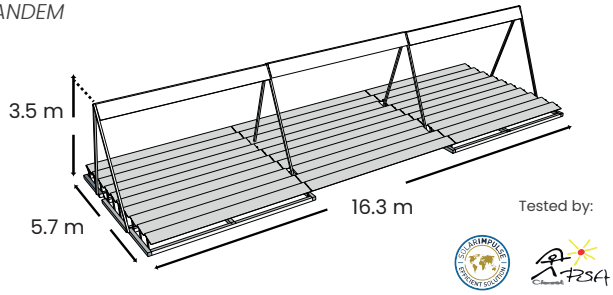






Technical data

FLT TANDEM



- High reflectivity tempered glass mirrors with individual tracking control
- Available for rooftop or land
- Vacuum absorber with selective coating
- Remote monitoring

Data for one FLT TANDEM

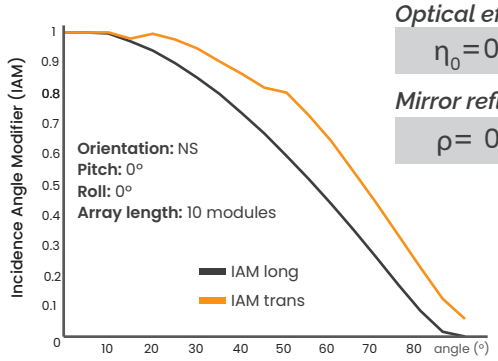
Design power*	41.7 kW_t - 52.1 kW_g
Aperture area	79.2 m^2
Surface requirement++	112 m^2
Specific weight (over collector area)	25 kg/m^2
Max. operational wind speed	60 km/h
Max. wind speed (stowed)	120 km/h
Lifetime	20 years

*Reference conditions: DNI=900 W/m2, Tinput=150ºC, Toutput=180ºC, Tamb=30ºC, θtrans=15º, θlong=0º, No end-losses. The final power output will depend on the solar resource at the specific location.

++Surface occupation varies between 93 m^2 y 130.6 m^2. 112 m^2 represents the average.

Sub-index "t" means thermal, and sub-index "g" means gas equivalent (80% boiler eff.)

Optical efficiency



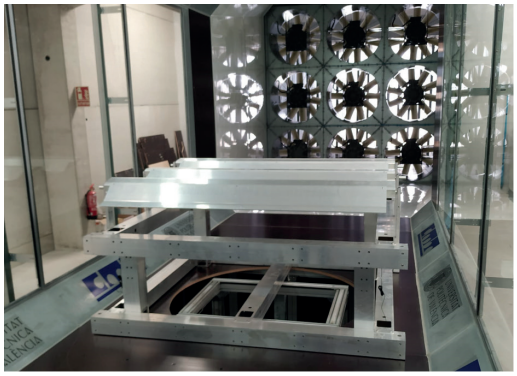
Optical efficiency

$\eta_0 = 0.632$

Mirror reflectivity

$\rho = 0.95$

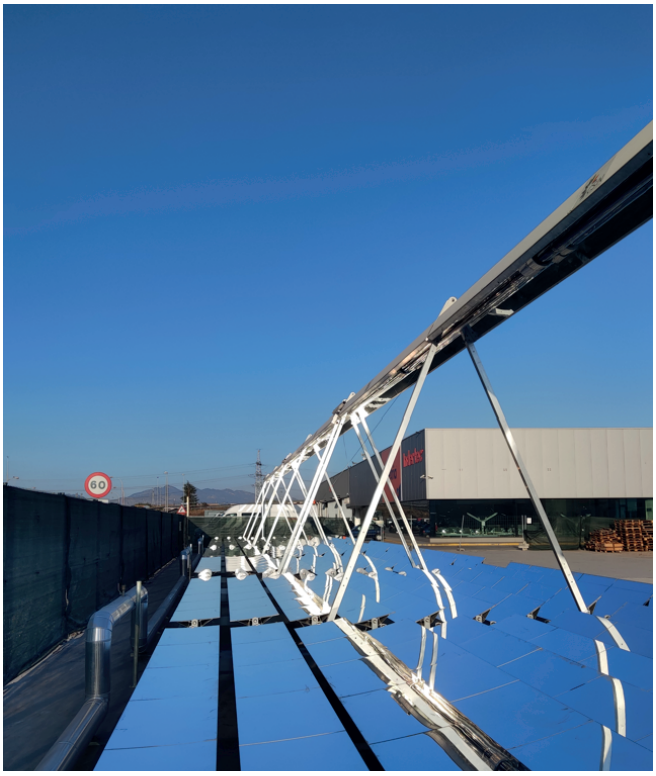
Tested in the largest wind tunnel of Spain



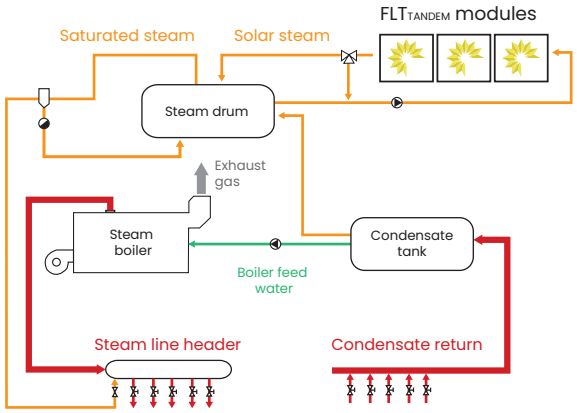
More details regarding the optical performance can be sent upon request at info@solatom.com

Types of integration

Depending on the type of process, the FLTTANDEM modules can be connected in parallel or in series with the conventional system already in place at the industry.



Solar steam generation (Parallel connection)

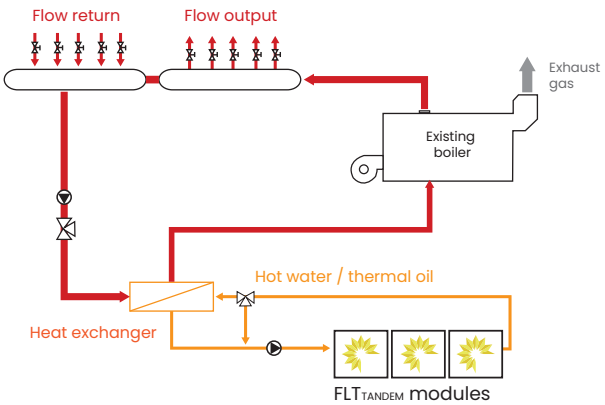


Example: Meat processing factory

The FLTTANDEM modules are fed with the return of condensates, which generate saturated steam at the same pressure than the conventional boiler. The steam is directly integrated into the customer's network.



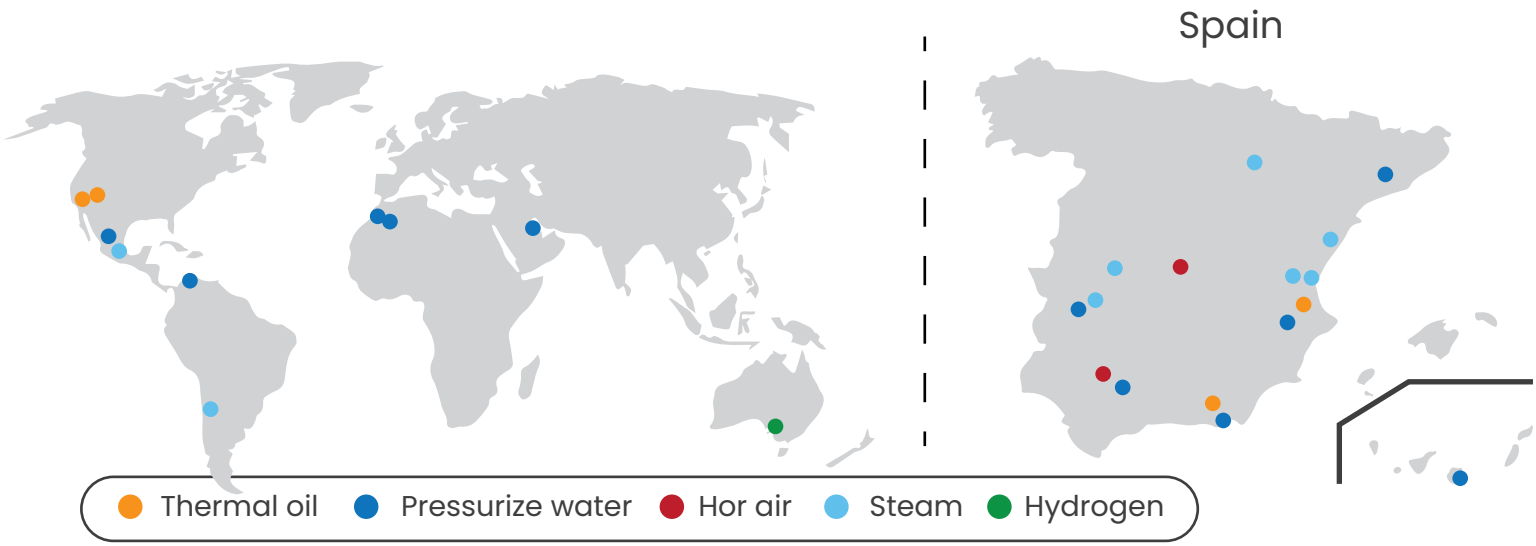
Return temperature increase (Series connection)

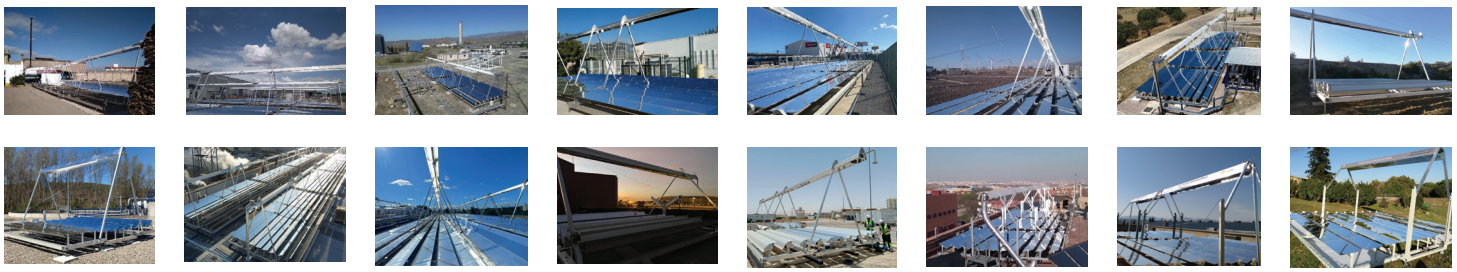


Example: Food & Bev factory

The FLTTANDEM modules are used to increase the temperature of the fluid returning from the process, before it goes back into the boiler.

References





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www.solatom.com

Solar steam ready to deploy

