

## The most modern solar technology for an innovative residence building

Tasman Toren is a luxurious, 23-storey residence building in Groningen, the Netherlands. The centre of focus here is on the structural aesthetic. The original plans entailed installing a solar heating system on the roof of the 75-metre tall building, but without negatively impacting its esthetics. The flexible assembly option made AURON vacuum tube collectors a favourite. These have been installed flat on the lower roof in order to make them "invisible" from the street. Turning the tubes moves them into a position where the angle of incidence to the sun is still optimal.

The construction entailed the use of 64 powerful AURON 20 DF vacuum tube collectors, which supply the hot water needs of the apartments, wellness centre, restaurant and swimming pool at Tasman Toren (9,000 l of hot water storage capacity). Thanks to this efficient system, energy



consumption can be reduced by 70.9 MWh and CO<sub>2</sub> emissions by ca. 19.2 tonnes per year (compared to standard solutions).

### Location

Tasman Toren  
Regattaweg  
9731 Groningen  
Netherlands

### Installation

Unica Groningen  
Atoomweg 5  
9743 AJ Groningen  
Netherlands

## BENEFITS

### Efficiency

- Highly efficient use of solar energy
- Optimal hydraulic connection
- High resistance and long lifespan

### Convenience

- Particularly flexible assembly of the system
- Diagonal, flat roof, floor and facade assembly
- Low weight, easy assembly
- Easy to maintain and service

### Savings

- 70.9 MWh less energy consumed each year
- CO<sub>2</sub> emissions reduced by ca. 19.2 tonnes p.a.
- Radiation losses of less than 5 %

## New construction: Tasman Toren, Groningen, Netherlands

# Solar energy gives luxury apartments hot water

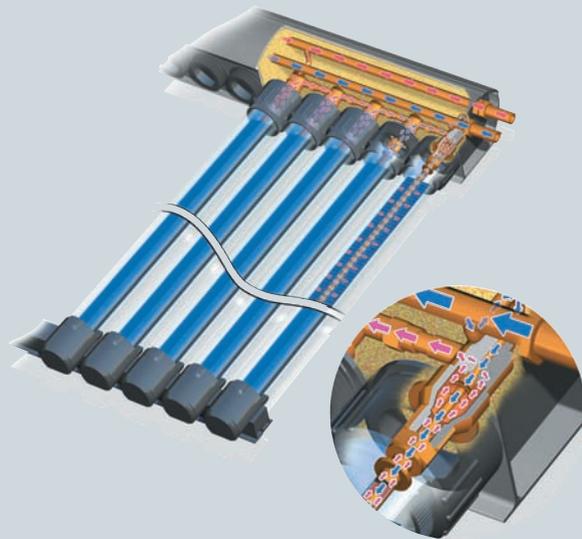
### The new system

The AURON DF vacuum tube collectors offered the ideal solution for the project. This was not just because of their efficiency, but also because ELCO provides the best technical support in the pre-installation phase. Given the limited space available for the collector field, collectors were needed that could offer considerable output in a small area. AURON DF met this need. Another reason to go with ELCO lay in the simple, time-saving assembly and particularly the flexible assembly system.

The total of 64 installed AURON DF vacuum tube collectors now manage the entire hot water supply of the Tasman Toren building and are convincing given their economic energy performance and environmentally friendly, low CO<sub>2</sub> emissions. And they don't negatively impact the design of the unique building, as they are out of view for passers-by. All in all a solution that has met all of the planners' requirements.

### AURON DF - perfect for water heating

AURON DF vacuum tube collectors are optimally suitable for solar hot water preparation and heating support. Heat loss is mainly prevented by vacuum insulation, which also protects the absorber coating. As such, the highly efficient vacuum tubes are able to use a large portion of the irradiated energy even in the winter. The selective coating of the aluminium absorber has very good absorption properties, and at less than 5 %, the radiation losses are very low.



Equipment	New System
Vacuum tube collector	AURON 20 DF
Number of vacuum tubes/ collector	20
Effective absorber surface	2.0 m <sup>2</sup>
Gross collector surface	3.5 m <sup>2</sup>
Heat transfer volume	5.7 l
Dimensions (W x H)	1,840 x 1,910 mm
Weight	68 kg

### The Tasman Toren residence building in Groningen

Tasman Toren is, as the name suggests, modelled after a massive gate. This makes its design entirely unique and very impressive. The luxury residence building has more than 221 apartments overall and stands tall at 75 m. The head engineer for the project was tasked with supplying the building with renewable energy and saving a considerable amount of energy compared to standard solutions. Thanks to ELCO solar technology, all of the requirements were met.

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