

Solar power supplies the "Asian Games Village" with hot water

The "16th Asian Games Village 2010" in Guangzhou can be found on the east side of the Panyu district, where the construction of the New City began. The total surface area of the site is 2,737,000 m². The development of this district is an important part of the "southern expansion". Existing stadiums were revamped, and the city of Guangzhou was extensively modernised for the Asian Games. 600 million Yuan were invested for the sole purpose of combating the air pollution.

In order to provide all athletes, delegates, technicians, journalists and staff of the "village" with environmentally friendly hot water, the planners decided to go with an ELCO solar plant. A total of 1,815 AURON 20 DF heat collectors with a surface area of 6,300 m² were installed. The plant supplies all of the hot water needed daily, and in doing so saves approximately 3,180,000 kWh of electricity and roughly 3,225 tonnes of CO₂ each year.



Customer

Asian Games Organizing Committee, No. 3, Linjiang Avenue, Zhujiang New City Guangzhou City 510623 PR China

Planning

China Architecture Design & Research Group No. 19, Chegongzhuang Beijing 100044 PR China

Executing representative

He-Hai Water-Environment Hi-tech (Group) Co., Ltd., No. 116, Hanjiang Zhong Road 8th floor of Block B, Jianshe Plaza, Xinbei District Changzhou City Jiangsu 213002 PR China

BENEFITS

Efficiency

- Highly efficient use of solar energy
- Little heat loss
- Optimal heat transfer

Convenience

- Particularly flexible assembly system
- Diagonal, flat roof, floor and facade assembly
- Low weight, easy assembly
- Optimal hydraulic connection

Savings

- 3,180,000 kWh of electricity saved each year
- 3,225 tonnes of CO₂ saved each year
- Radiation losses less than 5 %

New building: Asian Games Village, Guangzhou

ELCO technology meets every challenge

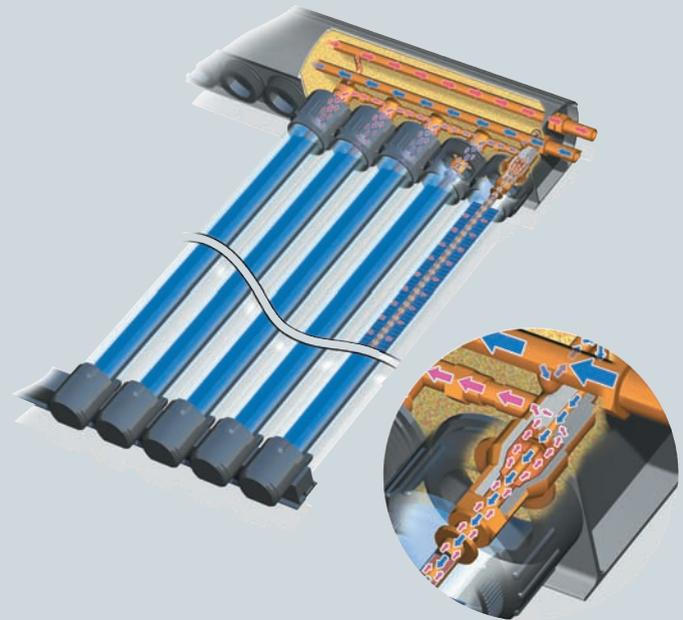
The new system

A solar plant was needed that would provide peak performance daily - for more than 38,000 people. ELCO came up with the solution: 1,815 AURON 20 DF vacuum tube collectors were brought to Guangzhou and installed as a roof solution. The total surface area of the exterior installation was roughly 6,300 m². The plant in the "Asian Games Village" provided the athletes, technicians and staff with hot water (overall storage volume of 362,900 l).

The solar plant used for heating water not only works very efficiently; it is also very environmentally friendly. The modern technology saves up to 3,180,000 kWh of electricity and nearly 3,225 tonnes of CO₂ emissions each year. The highly effective, selective coating of the aluminium absorber has very good absorption properties. The radiation losses come out to less than 5%.

Energy savings of up to 60 % with AURON DF!

An optimally designed solar power system can cover up to 60 % of the energy need for heating water from free solar energy. Heat-supporting systems such as AURON DF also reduce the energy expenditure for a comfortable indoor temperature. Vacuum insulation for the most part prevents heat losses and protects the absorber coating. The highly efficient EDF vacuum tubes of the AURON DF use a high portion of irradiated energy, even in winter.



Equipment	New System
Vacuum tube collector	AURON 20 DF Total number of units 1,815
Effective absorber surface	2.0 m ²
Gross collector surface	3.5 m ²
Heat transfer volume	5.7 l
Dimensions (W x H)	1,840 x 1,910 mm
Weight	68 kg

The 16th Asian Games in Guangzhou in 2010

Participants from 45 Asian states met in Guangzhou to take part in the Asian Games from 12-27 November 2010. It was the second time that the games were held in China, after Beijing in 1990. It was the first time, however, that they were immediately followed by the Asian Para Games, a sporting event for disabled athletes. For the Asian Para Games the village was home to roughly 14,000 athletes, 10,000 journalists, 2,800 technicians, 18,000 staff and 4,000 participants.

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