# 24-hour solar power

**02 July 2024**

## Sulzer to deliver hot and cold molten salt pumps for 100 MW solar project

**A major concentrated solar power Tower (CSP) project in China has selected Sulzer to supply both the hot and the cold molten salts pumps for the installation. The planned 100 MW site is part of a significant program of renewable energy, driven by the increasing demand for sustainable energy sources in China and around the world. Sulzer's expertise and experience in this sector has led to many successful projects that are able to deliver power 24 hours a day from solar energy.**

Molten salts have been used in the nuclear industry for almost 70 years and Sulzer has been involved in the design and manufacture of the pumps that transfer the high-temperature fluids around the cooling circuits. In fact, the company was involved in pioneering the technology for use in the solar industry more than 15 years ago, enabling heat energy to be stored overnight.

Molten salt is pumped to solar collectors (tower or parabolic mirror fields) where its temperature increases from around 300 °C to up to 600 °C. The high-temperature salt is then stored in a tank and transferred to a heat exchanger where the thermal energy is used to create steam that will generate power using a turbine/generator. This circuit acts as a thermal battery, which enables solar plants to deliver power round-the-clock in good solar conditions.

Sulzer has a long track record of delivering hot and cold molten salt pumps to solar installations around the world, including recent projects in China. The 100 MW CSP Tower project is the first of its type to use Sulzer pumps for both the hot and the cold circuits. The three cold molten salt pumps will be fitted with 2.6 MW motors and will extend 18 meters below the base plate into the cold molten salt tank. These will be matched with two hot pumps, with all the pumps being manufactured in Sulzer's Suzhou plant.

The most significant challenge in this project was the increased operating pressure required in the molten salt circuits. Sites with smaller outputs normally operate at around 50 bar, but this project needed a 100 bar supply pressure from the pumps.

Each pump is built to order and this project had to be engineered to account for the increased pressure and the slightly larger power requirement. Compared to the more common, lower pressure pumps, there are several crucial points, such as the throttle bushing and bush bearing design, that need to be carefully assessed, properly engineered and tested before the manufacturing process can begin.

In this case, the end-user wanted to achieve certain objectives in the delivery of this project. They wanted international brands to supply the key equipment, which ideally would be manufactured in China and cost-effective compared to the competition.

Sulzer was able to meet all of these objectives. The engineering of the bare-shaft pump will be completed in Europe and the manufacturing will be a close collaboration between the facilities in Belgium and China. In addition, the company will offer a comprehensive support package for the products that will be delivered via its local service center. By selecting Sulzer for both the hot and cold pumps, the end user can also streamline its spare parts inventory.

As part of the contract Sulzer's local engineers will be on hand to support the installation and commissioning of the equipment. Due to their length, the pumps will be assembled on site before installation in the storage tanks.

This installation follows several other successful projects in China for Sulzer including three hot pumps for another 100 MW CSP as well as six hot and five cold pumps for a 42 MW parabolic trough installation.

**Image captions:**

**Image 1:** A major concentrated solar power Tower (CSP) project in China has selected Sulzer to supply both the hot and the cold molten salts pumps

[Image course: shutterstock_1213717870]

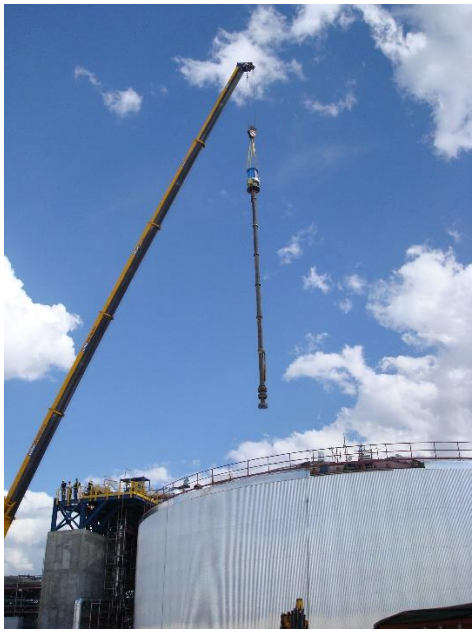

**Image 2:** Sulzer has a long track record of delivering hot and cold molten salt pumps to solar installations around the world, including recent projects in China.

**About Sulzer**

Sulzer is a global leader in fluid engineering. We specialize in pumping, agitation, mixing, separation and application technologies for fluids of all types. Our customers benefit from our commitment to innovation, performance and quality and from our responsive network of 160 world-class production facilities and service centers across the globe. Sulzer has been headquartered in Winterthur, Switzerland, since 1834. In 2023, our 13’130 employees delivered revenues of CHF 3.3 billion. Our shares are traded on the SIX Swiss Exchange (SIX: SUN).

For more information, visit www.sulzer.com

**Press contact:**
**Sulzer BUENG**
**Flavia Wicki**
Marketing Manager
Mobile +41 79 632 93 62
flavia.wicki@sulzer.com
www.sulzer.com

**PR agency:**
**DMA Europa**
**Kiki Anderson**
Tel: +44 (0) 1905 91747
Web: www.dmaeuropa.com
Email: kiki.anderson@dmaeuropa.com