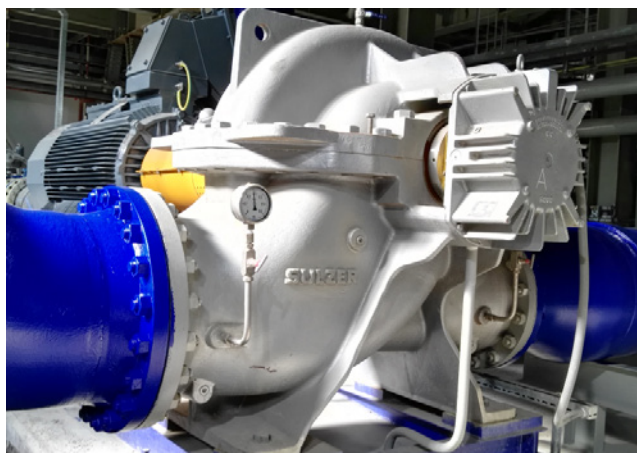


Sulzer takes the pressure out of pump operations for large scale power projects

Major power station projects are among today's most costly and complex engineering challenges. As owners and contractors strive to control capital and operating costs while meeting demanding build schedules, it pays to have an experienced pump manufacturer on your side.



Closed-cycle cooling water pump

A modern thermal power plant relies on dozens of pumps for safe, efficient operation. Those pumps cover a broad spectrum of size and duty cycle requirements, from megawatt-scale boiler feed pumps driven by steam turbines and giant cooling water pumps to an array of smaller units handling condensate extraction and a range of auxiliary functions.

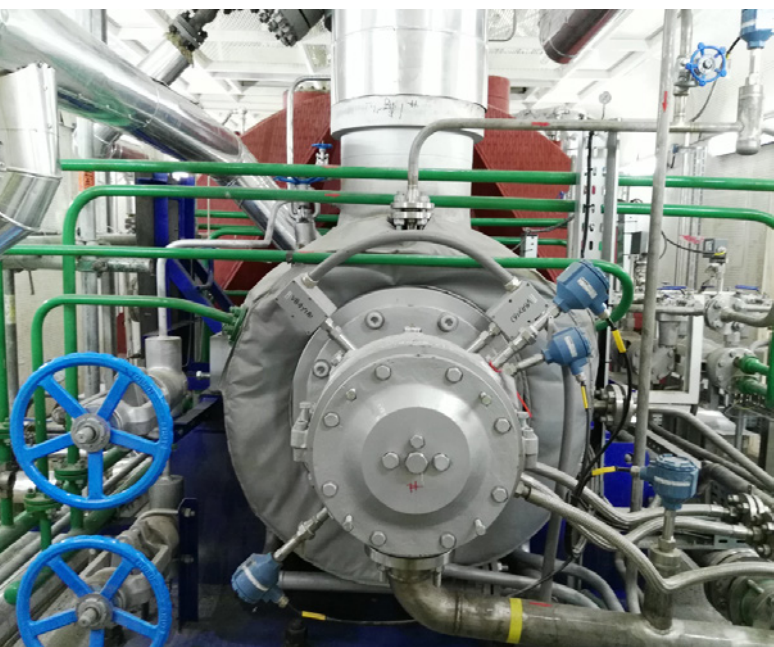
Pump selection

Selecting and specifying each of these pumps can have a big impact on overall project and plant performance. Pumps are a significant capital expense, so there is inevitable pressure to keep up-front costs down. At the same time, efficiency differences of just a few percentage points in large pumps can quickly translate into meaningful changes in operating costs. Furthermore, it is vital that each unit is properly matched to its power source and duty requirements because the performance of every pump varies across its operating range.

Then there's reliability; many pumps will be in continuous operation all the time the station is generating power. They need to cope with demanding workloads with long periods between maintenance interventions. When they do require attention, it is vital that critical parts can be repaired or replaced quickly and with minimum disruption to operations.

Sulzer has been developing, designing, building and supporting pumps for power station applications for decades. The company's pumps are used in almost every type of power plant, including nuclear, solar, gas-fired and biomass facilities. As such, it is the preferred supplier for some of the world's largest and most demanding projects.

Take the example of a major new project recently completed in Europe.



Typical boiler feedwater pump

Many requirements, one supplier

The plant, commissioned in 2018, is a 1.3 GW thermal power station built using the most advanced combustion and power generation technologies. For this project, Sulzer was selected to supply a total of 38 essential pumps for use across the facility. The list included five HPT type boiler feedwater pumps, five HZB booster pumps, five SJM circulating water pumps, one SJM makeup water pump, four SJT condensate extraction pumps, two STR sea water desalination feed pumps, four SMD closed-cycle cooling water pumps and an additional twelve auxiliary service water pumps.

A key part of the customer's decision to award the contract in this case was Sulzer's ability to offer higher efficiency than competitors across both the boiler feed and circulating water pumps. The SJM makeup water pump in particular is capable of delivering 48'000 cubic meters of water per hour.

To ensure the products met the customer's demanding expectations, Sulzer pump experts worked with the project engineering contractor to custom-design each unit to meet precise duty-cycle requirements. That required close collaboration between the customer and Sulzer's design and manufacturing specialists in Europe, the USA and China.

In parallel, Sulzer worked closely with electric motor manufacturers to select optimum motors to match the pumps. The highly efficient impeller and hydraulic designs used by Sulzer frequently allow a smaller motor to deliver the required level of performance, and the overall efficiency of the system requires all elements of the pump package to be perfectly matched.



Auxiliary pumps completed the range of assets that Sulzer installed

Designs for all applications

Sulzer's comprehensive product offering for the power generation sector includes auxiliary pumps, all of which perform important roles on-site. As with the larger assets, matching performance to the application is equally important and Sulzer's auxiliary pump service ensures that every pump is correctly specified for each task.

The vast majority of the pumps were manufactured at Sulzer's production facility in Suzhou, China with deliveries timed to meet the requirements of the complex construction schedule. Sulzer specialists helped the contractor's technical staff with installation as well as commissioning, and also provided operation and maintenance training for power station personnel.

For the customer, working with a single, experienced provider ensured that they received highly efficient pumps tailored for their intended applications, while the close and effective working relationship simplified procurement and communication. The power plant is now playing its part as a core element of the country's energy infrastructure.



Large vertical circulating water pump on Sulzer's test bed

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