



Heat Transfer Fluid Pumps for Parabolic Trough Concentrated Solar Power

About Sulzer Pumps

Sulzer Pumps is recognized for excellent product quality, performance reliability, technical innovation and performance reliability required for a wide range of applications in the Power Generation Industry.

As a global leader our knowhow and competitiveness is based on many years of experience in the manufacturing of pumps.

Sulzer Pumps offers products and aftermarket services for all types of power plants:

- Renewables
 - Solar (CSP)
 - Biomass
 - Geothermal
 - Pumped Hydro Storage
- Carbon Capture and Storage
- Nuclear
 - Nuclear Island
 - Turbine Island
- Fossil-fuel fired
 - Steam (Coal & Oil)
 - Combined Cycle (Gas)

Heat Transfer Fluid (HTF) Circulation Pumps

In a parabolic trough plant mirrors follow the sun throughout the day and focus the sunlight onto an absorber which is a pipe surrounded by glass. Heat Transfer Fluid (thermal oil) is circulated to/from the solar field and through a heat exchanger, which makes up the conventional steam cycle.

The HTF used in the primary circuit is thermal oil. Its optimum working temperature is around 350 °C which generates low rate steam.

The manufacture of HTF pumps for these high-temperatures, thermal transients and sealing of flammable carcinogenic fluids under extreme cyclic operating conditions is a demanding design challenge.

Sulzer Pumps has this design experience, with a wide product range that caters for both main and auxiliary Heat Transfer Fluid circulation, and has been supplying HTF pumps since 1985.



Heat Transfer Fluid Circulation Main - BBS/HZB Pump Types

The BBS/HZB pumps are horizontal top suction and discharge, single stage, double suction impeller, radially split centreline mounted pumps. The BBS is designed for heavy duty high temperature applications primarily in the petroleum, petrochemical and gas processing industries. BBS complies with ISO 13709 (API 610) type BB2. The HZB is designed for heavy duty high temperature applications primarily in the power industry. The BBS/HZB pump types are used for main Heat Transfer Fluid circulation. The maximum flow is up to 4,000 m³/h (17,600 USgpm).

BBS/HZB

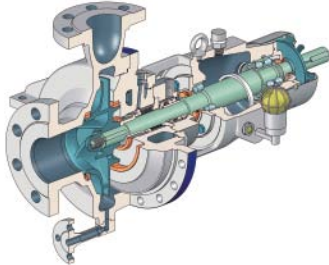


Maximum pressure	up to 52 bar (up to 740 psi)
Maximum temperature	up to 425 °C (up to 800 °F)

Heat Transfer Fluid Circulation Main & Auxiliary – ZE/ZF Pump Types

The ZE/ZF pumps are horizontal end suction and top discharge, single stage, single suction impeller, radially split centreline mounted pumps. They are designed for heavy duty high temperature applications primarily in the petroleum, petrochemical and gas processing industries. The ZE/ZF comply with ISO 13709 (API 610) type OH2. The ZE/ZF pump types are used for main and auxiliary Heat Transfer Fluid circulation, applications such as anti-freeze, overflow and storage. The maximum flow is up to 2,400 m³/h (10,560 USgpm).

ZE/ZF

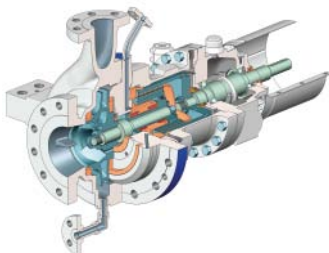


Maximum pressure	up to 100 bar (up to 1,450 psi)
Maximum temperature	up to 425 °C (up to 800 °F)

Heat Transfer Fluid Circulation Auxiliary – ZEM/OHM Pump Types

The ZEM/OHM pumps are horizontal end suction and top discharge, single stage, single suction impeller, radially split centreline mounted pumps. The OHM/ZEM pumps are driven through a magnetic coupling, thus eliminating the need for a mechanical seal and the associated maintenance. They are designed for heavy duty medium temperature applications primarily in the petroleum, petrochemical and gas processing industries and complies with API 685. The ZEM/OHM pump types are used for auxiliary Heat Transfer Fluid circulation, applications such as storage. The maximum flow is up to 500 m³/h (2,200 USgpm).

ZEM/OHM



Maximum pressure	up to 52 bar (up to 740 psi)
Maximum temperature	up to 250 °C (up to 480 °F)

Sulzer Pumps

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