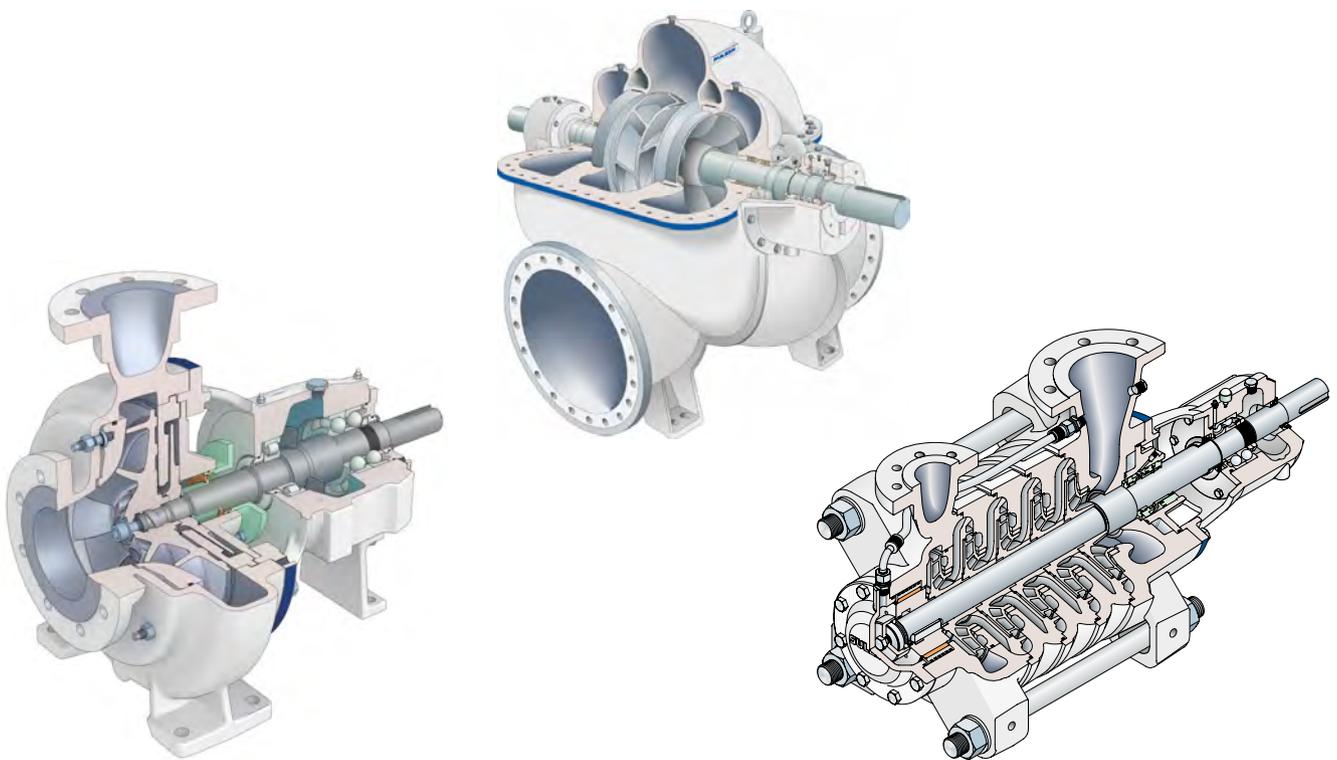


ISO and ANSI Pumps for the Petroleum Industry



The Heart of Your Process

Sulzer Pumps

Sulzer Pumps is a world leader in reliable products and innovative pumping solutions. Our advanced research and development, detailed process and application knowledge together with a comprehensive understanding of market demands keeps us consistently at the leading edge of technical development. Our global network of modern manufacturing and packaging facilities together with sales offices, service centers and representatives located close to major markets provide fast responses to customer needs.

Sulzer Pumps has a long history of providing innovative pumping solutions to business partners in the following industries:

- Oil and Gas
- Hydrocarbon Processing
- Pulp and Paper
- Power Generation
- General Industry
- Chemical Process Industry
- Water

Manufacturing Sites for ISO/ANSI Pumps



Karhula, Finland



Easley, USA

Benefit from Sulzer Pumps' Experience

Sulzer Pumps has established itself as a global leader in the Oil and Gas and Hydrocarbon Processing Industries by providing efficient and reliable equipment from our extensive portfolio of pumps designed in accordance with ISO 13709 (API 610).

Not all applications in the Petroleum Industry, i.e. Oil and Gas production and transportation (Upstream) and Hydrocarbon Processing (Downstream) require high pressure and high temperature pumps designed according to ISO 13709 (API 610). Many auxiliary and non-hazardous applications can be served with robust, reliable pumps designed for lower pressure and temperature ranges. Sulzer's

ISO 5199 and ANSI (ASME B73.1) pumps are ideally suited to these applications. We have many years of expertise and process understanding in the Petroleum Industry. Combined with extensive ranges of pumps designed to different standards our engineers can select the most suitable and cost effective solution to your pumping requirements.

Sulzer Pumps' ISO/ANSI pump ranges are manufactured using the latest manufacturing technology allied with strict quality control procedures. We have the proven capability to supply competitive pumping solutions with optimum performance and high life cycle value.



ISO/ANSI Pumps for Auxiliary Processes

Oil Production

Many applications in crude oil production are well suited to the ISO 5199/ASME B73.1 pump design standards.

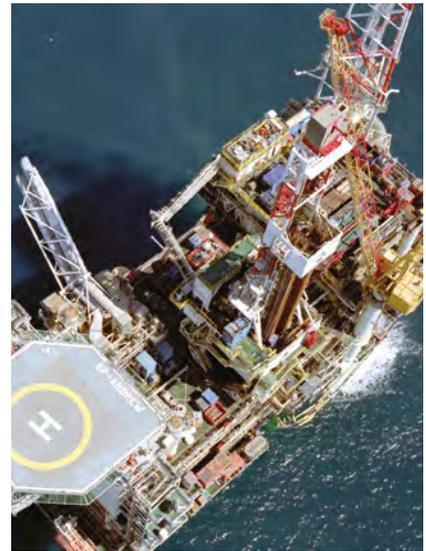
- Separation processes
- Desalting and dehydrating
- Produced water treatment
- Effluent treatment
- Fuel, water and chemical circulation
- FPSO hull and process packages
- General auxiliary duties

The proven design of the Sulzer ISO/ANSI pump ranges are a cost effective solution for oil production pumping applications.

Gas Production

The extensive range of alloys available for the Sulzer ISO/ANSI pump ranges is ideal for the corrosive applications in sour gas treatment systems. Our material scientists have long and profound experience matching the chemical and mechanical properties of cast metals to the most demanding corrosive applications.

Gas dehydration processes and general auxiliary duties are also applications where Sulzer ISO/ANSI pumps can offer significant advantages.



Refinery Auxiliaries

The many auxiliary processes in every refinery, essential for supporting the main line systems, require first-class pumps selected specifically for each application. Sulzer ISO/ANSI pumps are adapted to applications such as:

- Water treatment
- Effluent treatment
- Steam and power generation
- Cooling water circulation
- Chemical storage and handling
- Crude pre-treatment
- Sweetening processes

Blending and Distribution

Tank farms, blending and distribution terminals, tanker loading and unloading bays all require pumps which can be relied upon to operate with maximum availability. The Sulzer ISO/ANSI pump ranges are designed to give efficient, reliable performance over a wide hydraulic range and provide an excellent fit to the range of flows, temperatures and pressures required by these applications.



Sulzer ISO/ANSI Process Pumps

AHLSTAR A Series

AHLSTAR A series pumps are designed for pumping clean, abrasive or corrosive liquids. The series has a wide hydraulic coverage with maximum efficiencies and low NPSHr values. An extensive selection of metallurgies is available to suit diverse applications. Designed to ISO 5199/2858 standard.

Pressure 16 bar / 230 psi
Temperature 180 °C / 355 °F



AHLSTAR W Series

AHLSTAR W series wear resistant pumps are intended for corrosive and abrasive applications where durability is essential. Extended working life and reliability are effected using hydraulics designed to minimize erosion and selection of materials for compatibility with corrosive conditions.

Pressure 16 bar / 230 psi
Temperature 180 °C / 355 °F



ZPP Axially Split Pumps

ZPP double suction axially split pumps are specially designed for high flow rate applications demanding high efficiencies. The split, staggered, and skewed impeller vane construction gives very efficient, stable hydraulic characteristics across the whole performance range. Typical applications for the ZPP pump include cooling and circulating water and booster pump duties.

Pressure 10 bar / 150 psi
Temperature 120 °C / 250 °F



AHLSTAR N Series

AHLSTAR N series non-clogging pumps are designed for pumping abrasive or corrosive liquids, sludge and slurries containing large particles. Special hydraulic designs help prevent plugging and lets large particles pass through the pump.

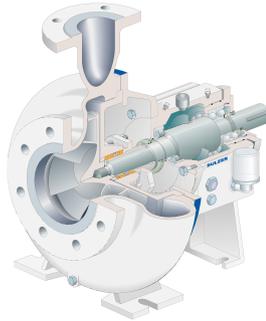
Pressure 16 bar / 230 psi
Temperature 180 °C / 355 °F



CPT Process Pump

The CPT chemical process pump is designed for continuous operation in process industries for pumping, clean, abrasive or corrosive liquids. The pump is designed to exceed ANSI (ASME B73.1M) pump standards.

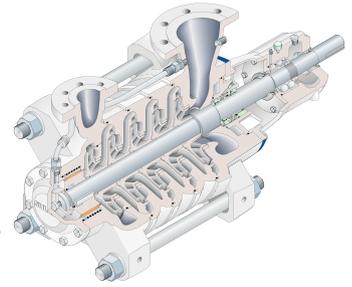
Pressure 16 bar / 230 psi
Temperature 260 °C / 500 °F



MBN Ring Section Pumps

The MBN ring section multistage pump is the ideal choice for medium pressure pumping applications. The pump is offered in a wide range of materials including duplex stainless steel grades. The pump utilizes integrated diffusers and a product lubricated NDE bearing to simplify construction, minimize dimensions and reduce cost.

Pressure 100 bar / 1450 psi
Temperature 180 °C / 355 °F



NVP/NVT Vertical Wet Pit Pumps

NVP/NVT Vertical non-clogging pumps are particularly suited for effluent and slurry sump applications. Based on the non-clogging N pump series hydraulics the NVP pump can be fitted with closed or vortex impellers for the most demanding applications. Line shaft support bearings can be either water or grease lubricated. NVP pumps are manufactured with a one-piece shaft and heavy duty bearing unit for maximum reliability.

Pressure 10 bar / 150 psi
Temperature 95 °C / 205 °F



NKP/WKP Cantilever Pumps

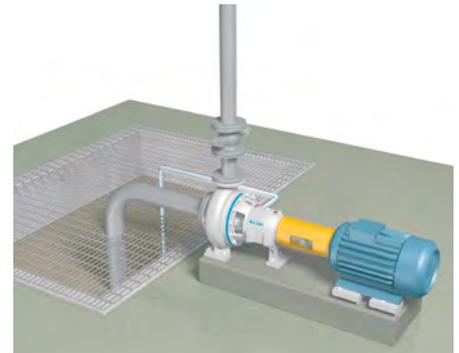
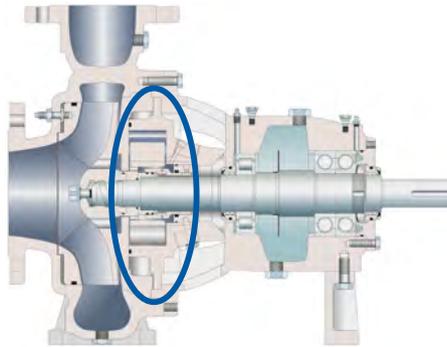
NKP/WKP Vertical Cantilever pumps are designed for use with liquids containing solids or abrasive slurries where it is not advisable to have line shaft bearings in the pumped fluid. Hydraulic design is based on the non-clogging N series pump and the wear resistant W series pump to cover a wide range of demanding applications. NKP/WKP pumps are designed for use in sumps up to 2.3 m (7.5 ft) deep.

Pressure 10 bar / 150 psi
Temperature 95 °C / 205 °F



Sulzer Pumps Selfpriming Concept

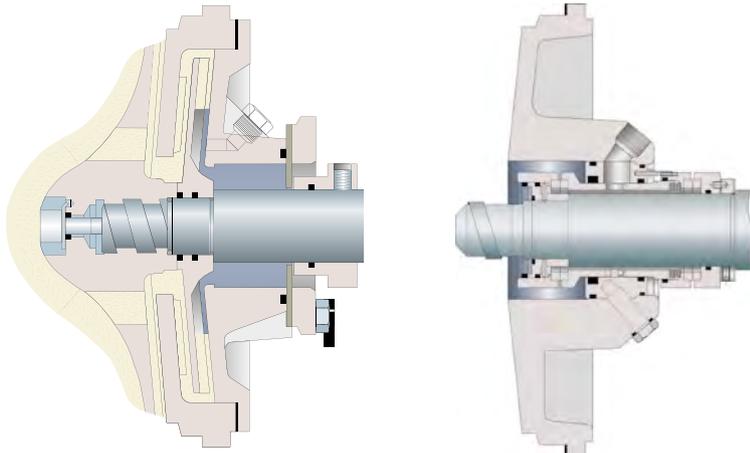
AHLSTAR A, N, and W series pumps can be fitted with an internal vacuum pump designed into the seal chamber. This innovative feature turns each of those pump series into a self-priming pump matched to the required application. No foot valve is required. These pumps can be used as a dry mounted, easy maintenance alternative to submersible and vertical sump pumps.



Mechanical Seals

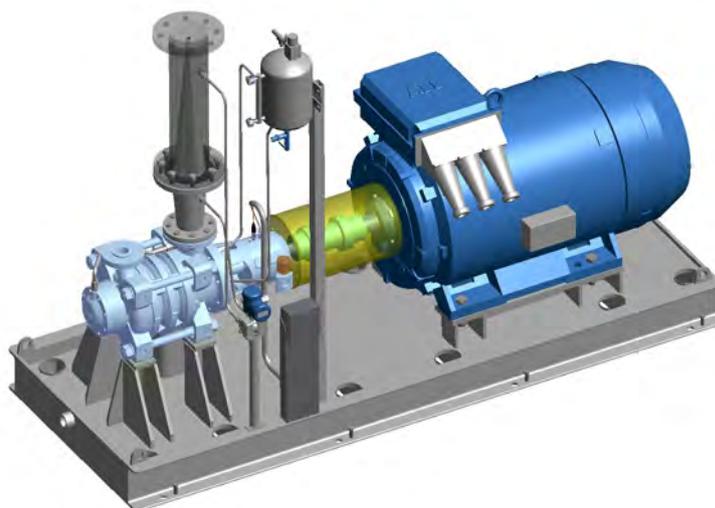
Sulzer ISO/ANSI pumps can be fitted with a range of sealing options to suit different fluids and applications:

- Standard soft packed glands
- Waterless dynamic seal
- Ready fitted single and double mechanical seals
- Single and double cartridge seals
- API 682 cat.1 style mechanical seals



Seal Systems and Instrumentation

API or ISO/ANSI seal support plans can be ready mounted to the pump and base plate in flanged piping, tubing or flexible connections to suit most applications. Instrumentation for pump and motor can be supplied fitted or ready wired to a terminal box at skid edge.



Sulzer Pumps Installation Concept

ISO/ANSI pumps are offered with a variety of base plate designs for maximum installation adaptability.

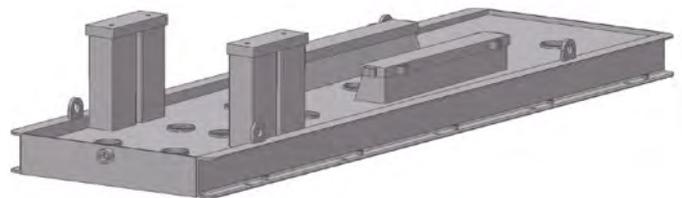
Standard T section base: simple to install with 3 point anchoring so that base cannot be twisted during installation; designed for ISO pumps for embedding in grout.



ANSI standard style 1: steel formed rigid design with single grout hole; designed for fast and simple installation of ANSI pumps.



ISO 13709 (API 610) style full drain rim base: available for grouted and non-grouted installation; designed for petroleum industry applications for both ISO and ANSI pump ranges.



Other Base Plate Options

For ANSI pumps

- ANSI style 2 - similar to ANSI style 1 with reinforced end caps.
- ANSI drip lip style 3 - similar to ANSI style 2 with sloped rim to welded drain.
- PIP base - base plate designed to PIP standards with raised mounting pads and drip rim.
- Non-metallic base - polymer composite base with stainless steel inserts. Designed for highly corrosive conditions.

For ISO pumps

- ISO rectangular frame base - steel base plate with sloped drip pan and welded drain and lifting points.
- Concrete base - steel base embedded in concrete for fast site installation.
- V-belt base - base plate designed for V-belt drive motor installation.

www.sulzer.com

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