

SULZER

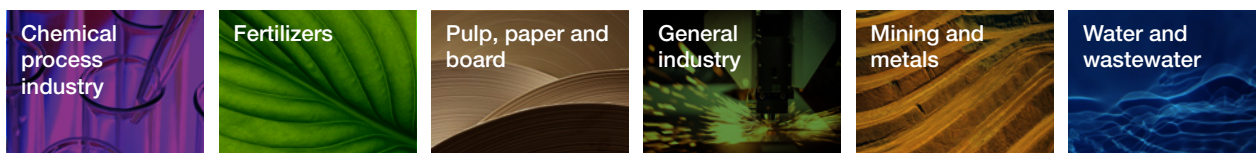
Pumps and pumping systems

CAHR axial flow pump



Main industries and applications

The CAHR pump range has been designed to handle both highly corrosive and abrasive liquids, as well as clear liquids and slurries in high-flow and low-head applications. With its heavy-duty construction and flexible design, the CAHR pump ensures maximum reliability and is perfectly suitable for all kinds of industrial processes.



Features and benefits

Sulzer's CAHR pump range has been designed using our long experience and in-depth knowledge of industrial processes. Optimized design combined with high-quality materials make the pumps more efficient and reliable while reducing maintenance costs. Key benefits include:

High efficiency

- Optimized hydraulics with innovative propeller profile provides high efficiency while reducing NPSHr.
- Precise selection among a wide range of hydraulics ensures perfect adaptability to process requirements.
- Tailor-made elbow and specific propeller patterns available on demand for strategic projects.

High reliability and durability

- Heavy-duty design combined with high-resistance materials guarantee extended lifetime and low maintenance costs.
- Strong shaft which reduces deflection and ensures reliability of shaft seal.
- Enclosed shaft for better shaft reliability in case of high-corrosion applications.

Easy installation and maintenance

- Maintenance friendly due to cartridge assembly with pre-assembled seal.
- Pre-assembled bearing with high radial and axial load roller bearings guarantees easy assembly and maintenance and longer mean time between maintenance (MTBM).

High adaptability

- Cast or fabricated construction allowing manufacture from the smallest to the largest sizes of equipment while maintaining highest quality level.
- Suitable for all kinds of industrial processes due to flexible design with various configurations of installation.

Heavy-duty design for long service life in severe pumping conditions

Flanges ISO or ANSI

- Other flange standards upon request

Discharge diameter from 200 to 1'600 mm (8" to 64")

Cast or fabricated design

- Offers high adaptability in all kinds of applications

Keyed impeller available in top or end suction configurations

- High efficiency over the entire performance range

Replaceable casing wear ring

- For extended lifetime of the pump

Optional enclosed shaft protected by a removable shaft sleeve

Center line mounted pump casing

No support bearing in the pumped liquid
Suitable for heavy-duty slurry applications

Standard cartridge seal

- Gland packing, single or double mechanical seals available

Heavy-duty bearing frame

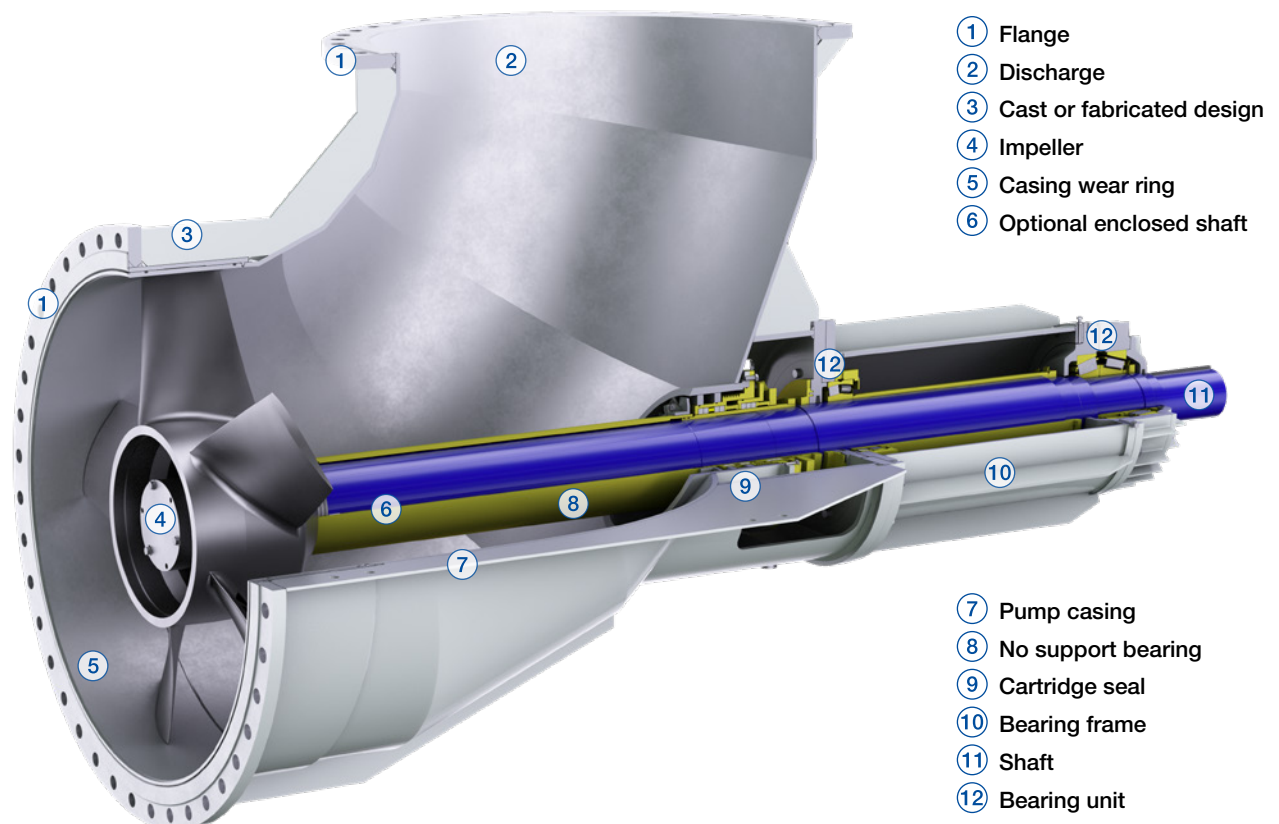
- Ensures optimal rigidity of the pump and extended pump lifetime

Strong shaft

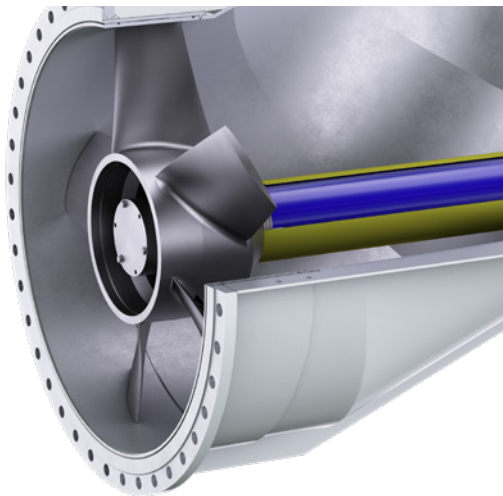
- Low deflection and high reliability

High radial and axial load roller bearing

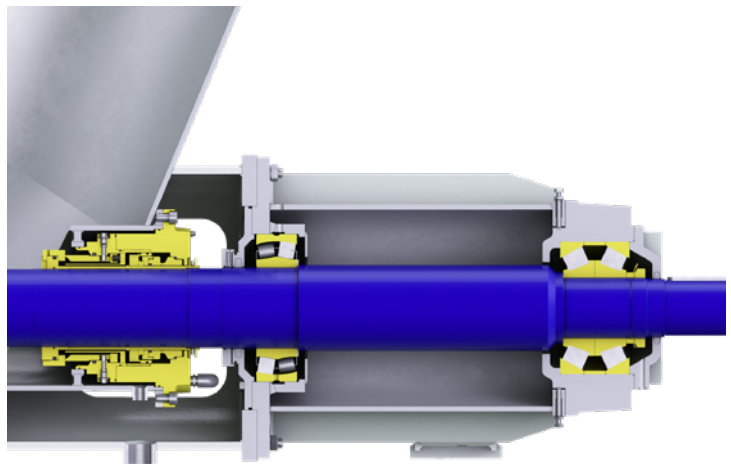
- Standard L10 bearing life of more than 40'000 hours



Construction details



Optimized and high-performing hydraulics.



Pre-assembled bearing for easy assembly and maintenance. Strong shaft reduces deflection and ensures long-term reliability of shaft seal.

Shaft seals

The shaft sealing system, exclusively mounted on a sleeve, ensures longer lifetime of the shaft and high reliability of the equipment. The cartridge assembly with a pre-assembled seal is standard and guarantees easy assembly and low maintenance costs. Types of shaft seals available:

- Gland packing
- Single mechanical seal
- Single mechanical seal and gland packing
- Double mechanical seal
- Other types of shaft seals upon request

Vertical design

With its cantilever design, the CAHR-V pump has been specially designed to handle corrosive slurries in the following applications:

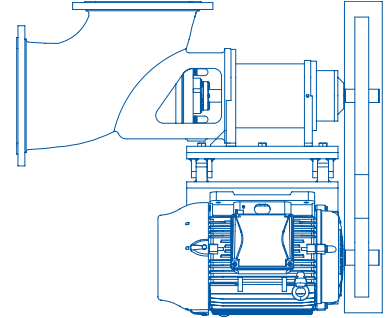
- Cooler circulation
- Phosphoric acid slurry circulation



Installation schemes

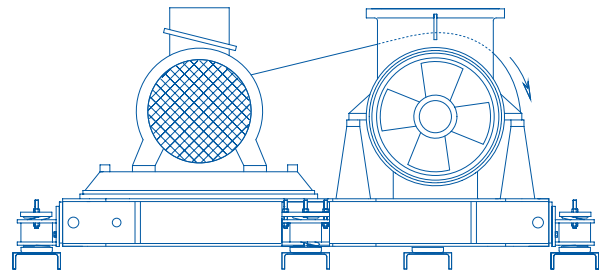
Suspended pump with suspended motor (V-belt)

- When the pump is installed hanging on a pipe, the motor can be suspended on the pump by using an intermediate structure.
- The pump is driven by V-belt transmission.



Pump and motor on baseplate (V-belt)

- The pump and motor are installed on the same baseplate and V-belt transmission is used.
- The motor is placed next to the pump on sliding rails.

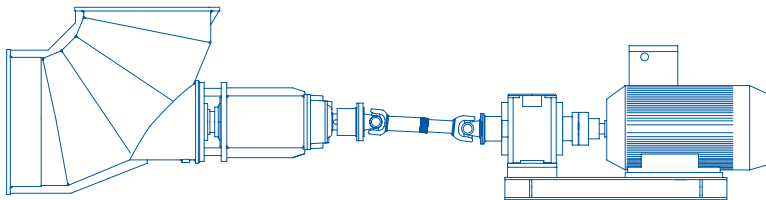


Pump and motor on the ground (V-belt)

- The pump is installed on a baseplate and the motor is installed next to the pump on the ground.
- V-belt transmission is used.

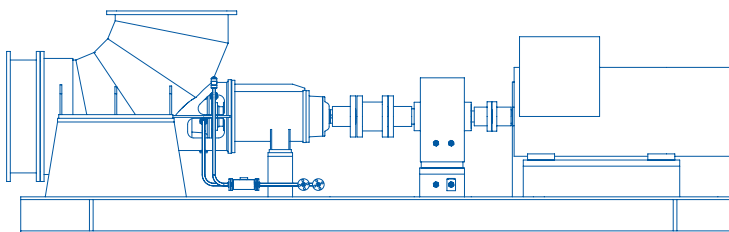
Suspended pump with motor on baseplate (gearbox and coupling by cardan shaft)

- The pump is hanging on a pipe in this configuration.
- The motor and gearbox are installed on a baseplate.
- Transmission takes place by means of a cardan shaft.



Pump and motor on baseplate (gearbox and direct coupling)

- The pump and motor are installed on the same baseplate.
- The pump is driven by direct transmission and the gearbox allows to reach the required speed depending on the desired hydraulic performance.



Specifications

Materials

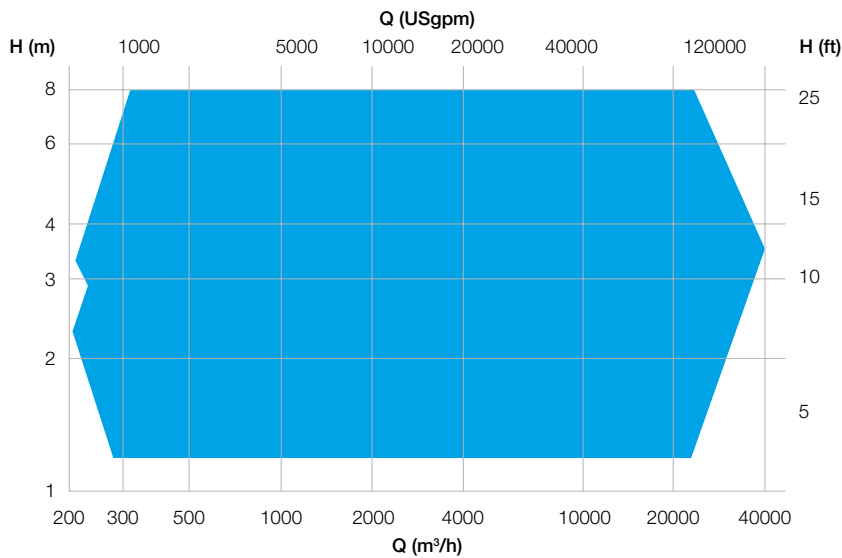
Sulzer offers specialist competence in corrosive, encrusting liquids and slurries, built on leading materials technology. The CAHR pump range provides a wide range of high-quality materials for cast or fabricated designs, such as:

- Carbon steel
- Austenitic stainless steel
- Duplex stainless steel and super duplex stainless steel
- Titanium
- Nickel, Ni-Cr / Ni-Cr-Mo alloy on demand

Operating data

	50 Hz	60 Hz
Capacities	up to 40'000 m ³ /h	up to 176'000 USgpm
Heads	up to 8 m	up to 26 ft.
Pressures	up to 10 bar	up to 145 psi
Temperatures	from -40°C to 180°C	from -202°F to 356°F

Performance range



Proper maintenance drives cost savings and improves safety

In process equipment, performance is crucial. Pumps and all the other process equipment must always be operational. Achieving the best equipment lifespan demands regular, efficient servicing. With Sulzer as your partner, our global Aftermarket & Services teams ensure fast, reliable solutions throughout the lifecycle of your equipment.



Spare parts

Sulzer's global spare part delivery centers quickly provide original parts from stock or manufacture them promptly upon your order.



Field services

Installation, start-up, inspection, troubleshooting, performance measurement, condition monitoring services, rental and more.



Service centers

Comprehensive services for process equipment, including spare parts for daily maintenance and repairs, process optimization expertise, and energy audits.



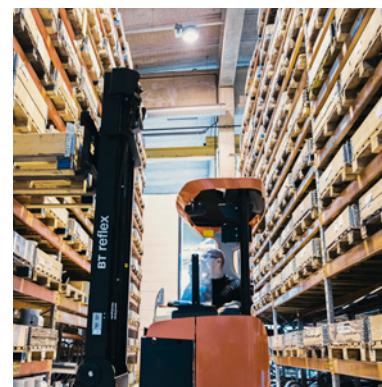
Repairs

At our modern service centers, we can repair and refurbish demanding equipment to its original performance. We also provide modernizations to increase performance and extend equipment lifetime.



Process optimization and know-how

Boost your competitive edge and ensure safe operation. Our partnership program provides tailored solutions for process improvements and future applications.



Service contracts

We offer diverse contract options allowing you to allocate resources to more valuable tasks and save costs by eliminating the need for spare parts in your own stock and releasing resources from maintenance.

The Sulzer Flow division keeps your processes flowing. Wherever fluids are treated, pumped, or mixed, we deliver highly innovative and reliable solutions for the most demanding applications.

The Flow division specializes in pumping solutions specifically engineered for the processes of our customers. We provide pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. We are a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.

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