

A-RO end-suction pump





Main industries and applications

Process pumps in desalination applications need to be able to deliver long-term performance and reliability working with seawater. By minimizing operation and maintenance costs, the local population can be assured of a reliable supply of high-quality fresh water.

The A-RO pumps are end-suction pumps meeting or exceeding ISO 5199. The range takes Sulzer's highly reputed Ahlstar A series to new levels of efficiency and operational range, optimized for the demanding conditions of seawater reverse osmosis (RO) applications.

The A-RO pumps are suitable for pumping seawater or liquids with similar corrosive properties up to a temperature of 60 °C across a wide performance range by means of variable speed control. They fulfill all requirements wherever a robust pump is needed for boosting pressure as well as general process applications

Highlights:

- Industry-leading efficiency for reduced operating costs
- High-quality materials for enhanced durability
- Tailored design for desalination applications
- Suitable for 50 Hz and 60 Hz grid frequency

Designed to deliver

The hydraulic efficiency of the A-RO has been optimized to deliver excellent performance across a wide range of flow and head criteria. Primarily designed as a low-pressure booster pump to deliver seawater to high-pressure membrane feed pumps, the A-RO is equally suited to many process applications in desalination plants.

Options to suit every application

We offer a range of options for the A-RO pumps to ensure an exact match with your specific application and the surrounding infrastructure.

A vertical discharge connection is standard fitment, but a horizontal option is also available.

Instead of the standard mechanical seal, a single, balanced cartridge seal can be specified if necessary.

The whole package

The A-RO is just one of a range of pumps that are specifically designed for the water industry. We can deliver the complete package of pumps, mixers and aerators for your operations. This offers significant advantages in terms of system design and spare parts inventories.

With decades of experience in the industry, Sulzer has the knowledge and engineering expertise to optimize performance and reliability throughout your process.

Features and benefits



- ① Impeller
- ② Heavy-duty oil lubricated bearing
- ③ Fan
- ④ Ready-fitted mechanical seal
- ⑤ Suction flange

Industry-leading efficiency

- Optimized pump efficiency
- Reduced energy consumption
- Closed impeller for higher efficiency

Wide operational envelope

- Operation via VFD enables high-efficiency performance across a wide range of heads and flow rates
- Optimized suction capacity for low Net Positive Suction Head required (NPSHr)

Optimal mechanical design

- Double volute casing to limit radial load
- Back labyrinth and balance holes to compensate axial thrust
- Renewable stationary wear parts for optimized labyrinth gap
- Foot mounted casing

High-performance bearing unit

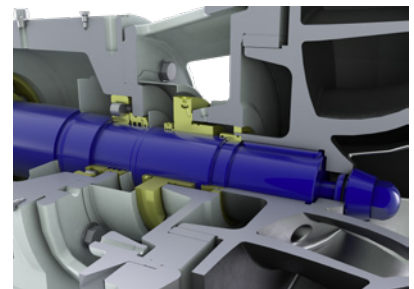
- Inboard cylindrical roller bearing
- Outboard pair of angular contact ball bearings
- Increased oil sump and optimized fan design for enhanced heat dissipation
- Constant level oiler maintains optimum oil level for lubrication

Easy maintenance

- Shaft seal can be serviced without disassembling the pipework

Shaft sealing

- Ready fitted seal as standard
- Single, balanced cartridge seal as an option



Cartridge mechanical seal

Specifications

Materials

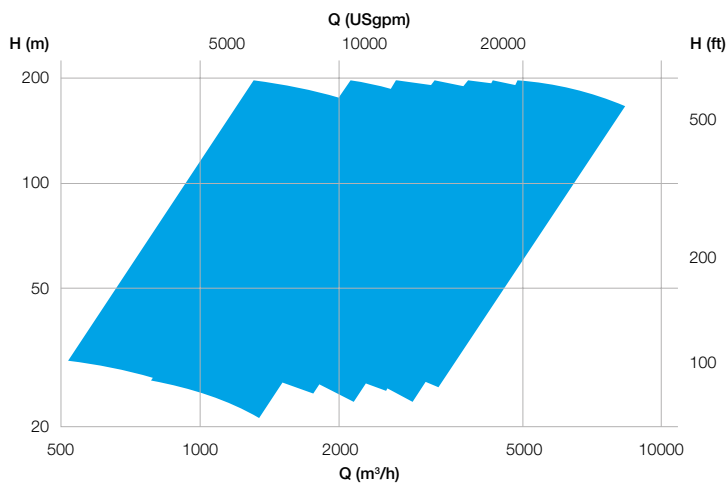
Pump part	Material
Volute case	Duplex, super duplex
Case cover	Duplex, super duplex
Shaft	Super duplex
Impeller	Duplex, super duplex
Stationary wear ring	Duplex, super duplex



Operating data

	Metrics units	US units
Pump sizes (discharge)	up to 400 mm	up to 16 in.
Capacities	up to 6'000 m ³ /h	up to 26'415 USgpm
Heads	up to 200 m	up to 600 ft.
Pressures	up to 25 bar	up to 360 psi
Temperatures	up to 39°C	up to 102°F

Performance range



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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