

# SULZER

Water and wastewater solutions

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## A-RO end-suction pump







# Main industries and applications

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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.

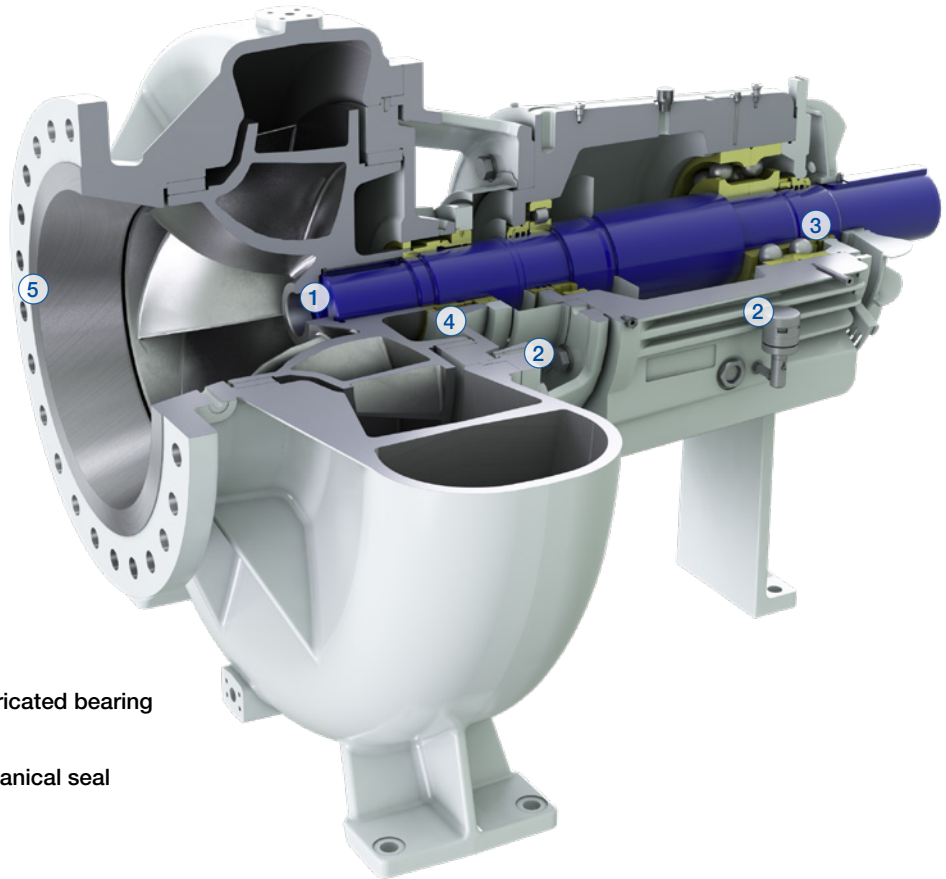
Instead of the standard mechanical seal, a single, balanced cartridge seal can be specified if necessary.

### 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

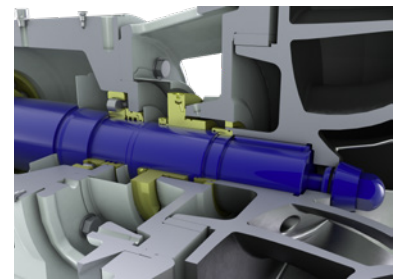
- Inboard cylindrical roller bearing
- Outboard pair of angular contact ball bearings
- Increased oil sump and optimized fan design for enhanced heat dissipation
- Constant level oiler maintains optimum oil level for lubrication

## 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

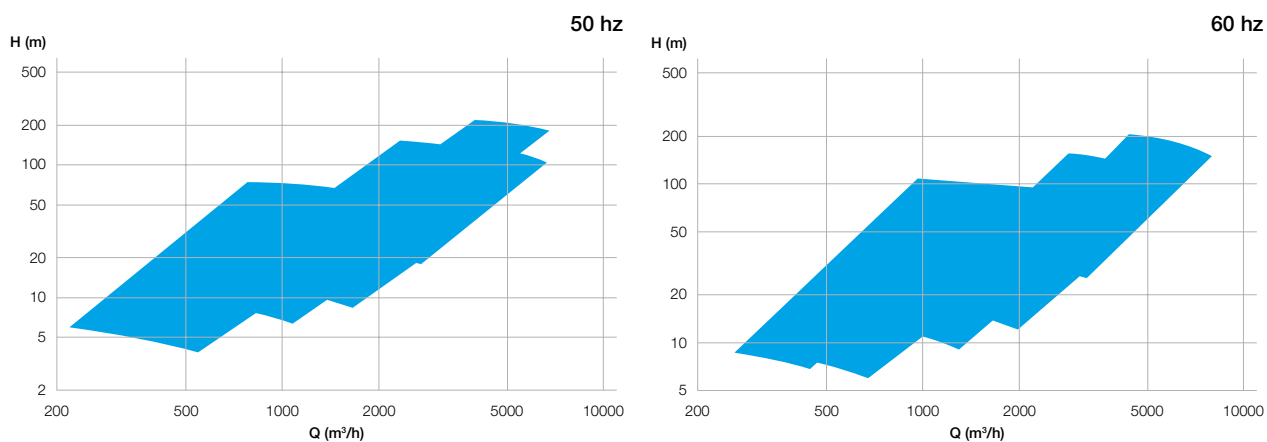
## Materials

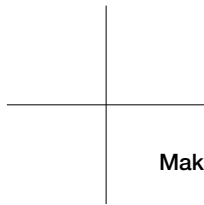
| Pump part            | Material                          |  |
|----------------------|-----------------------------------|--|
| Volute case          | Duplex A 890 Gr. 3A               | SuperDuplex A890 Gr. 5A                        |
| Case cover           | Duplex A 890 Gr. 3A               | SuperDuplex A890 Gr. 5A                        |
| Shaft                | SuperDuplex 1.4410 + AT EN10088-3 | SuperDuplex 1.4410 + AT EN10088-3 / UNS S32750 |
| Impeller             | Duplex A 890 Gr. 3A               | SuperDuplex A890 Gr. 5A                        |
| Stationary wear ring | Duplex A890 Gr. 3A with PEEK      | SuperDuplex A890 Gr. 5A (with PEEK)            |

## Operating data

|                        | 50 Hz                         | 60 Hz              |
|------------------------|-------------------------------|--------------------|
| Pump sizes (discharge) | up to 400 mm                  | up to 16 in.       |
| Capacities             | up to 6'000 m <sup>3</sup> /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





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**Making water go around. Water and wastewater solutions by Sulzer.**

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Sulzer offers a broad range of pumps and related equipment for water production and transportation as well as wastewater collection and treatment for municipalities and industries. Our expertise also includes separation technologies, and services on rotating equipment.

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