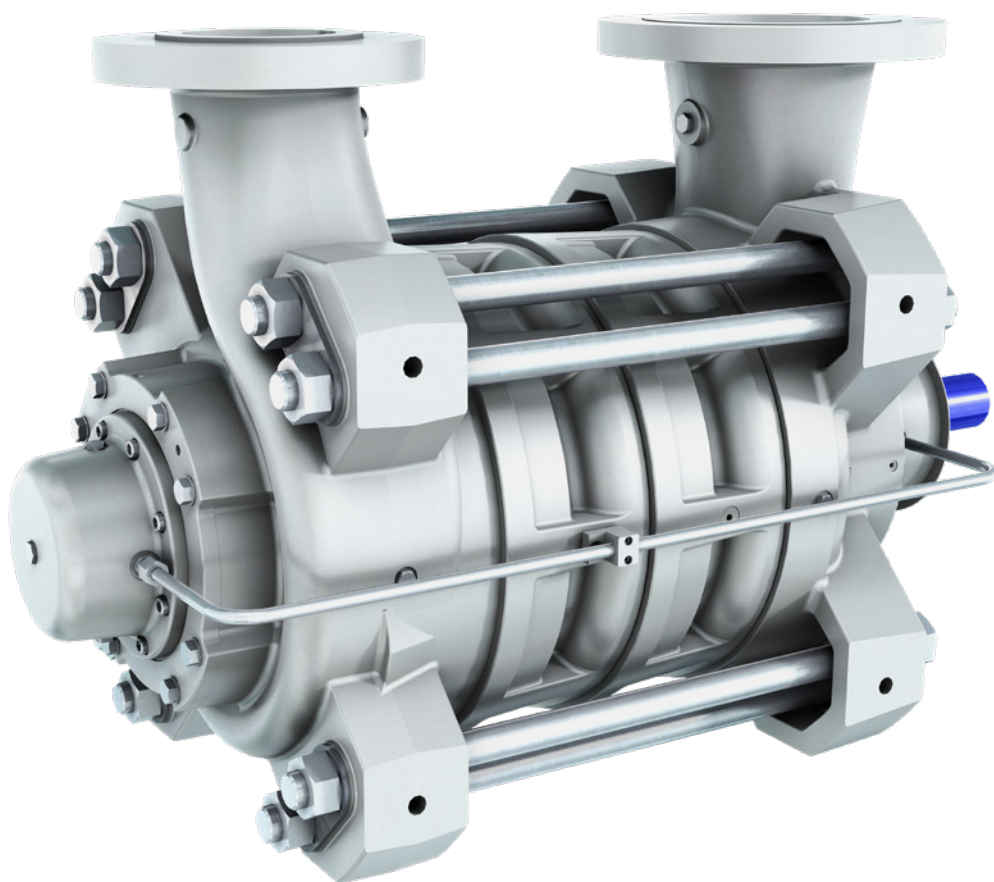


MBN-RO multistage ring section pump





Main industries and applications

Process pumps in desalination applications need to offer long-term reliability and efficiency to ensure operating costs are kept to a minimum. Working with seawater demands a high-quality build and precision design that minimizes maintenance costs, enabling the local population to receive a reliable source of high-quality fresh water.

The MBN-RO is a configured, ring section, multistage pump specifically designed for high pressure membrane feed service in sea water reverse osmosis applications. Its improved hydraulic performance makes it suitable for any other high-pressure application with clean liquids. It is mainly used in the following applications:

- Sea Water Reverse Osmosis (SWRO) applications
- Clean water pumping stations
- Any other high-pressure application with clean liquids and low temperature

Optimized design

Sulzer's MBN-RO has been developed specifically for applications in desalination plants. The fully configured pump models ensure short lead-times for delivery and excellent parts availability.

Improved efficiency has been achieved through state of the art hydraulic and mechanical design, making a direct contribution to lowering the cost of fresh water to the local population.

The minimal footprint of the pumps makes for a compact installation, maximizing the available space within a processing plant.

The materials used in pumps that operate with seawater are very important. The MBN-RO range is constructed from super duplex stainless steel, which offers excellent protection against erosion and corrosion.

The MBN-RO range is just part of Sulzer's wider portfolio of pumps specifically designed for seawater reverse osmosis.



[More info at sulzer.com/desalination](https://www.sulzer.com/desalination)

Features and benefits

1 Bearing assembly

- Product-lubricated bearings at both Drive End (DE) and Non-Drive End (NDE) to make the pump compact, reliable and easy to maintain, do not require lubricating grease or oil

2 Hydraulics

- High efficiency, low Net Positive Suction Head (NPSH) impellers to match customer needs are used for all stages, providing modularity, top efficiency and ideal suction performance
- Double volute at last stage reduces the radial thrust and increases overall efficiency
- Replaceable stationary PEEK wear parts used to increase efficiency and reduce maintenance

3 Flanges

- Can be installed side or top position as per customer convenience allows flexibility in the pipe layout including the typical side-side orientation
- Radial suction flange allows accessibility to mechanical seal and product lubricated bearing at DE without disassembling the piping

4 Shaft sealing

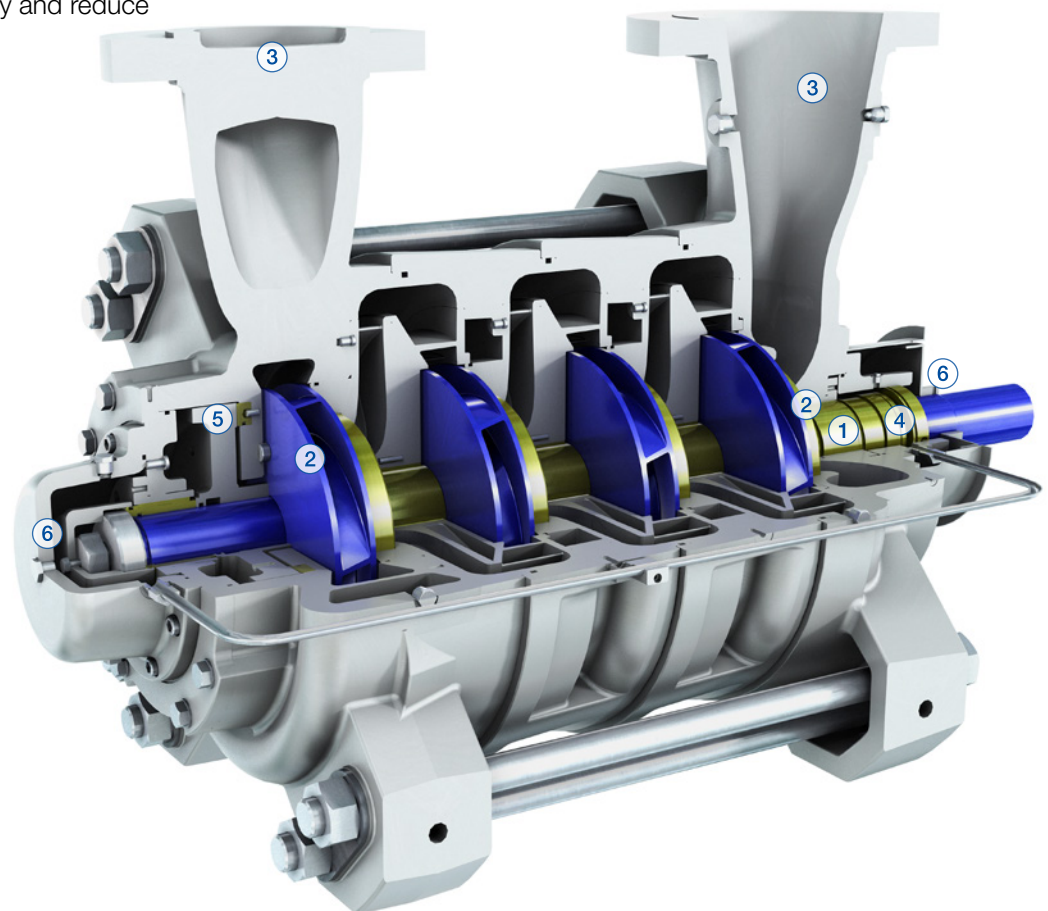
- Integrated single mechanical seal at DE, low pressure side, with flushing from first stage
- No mechanical seal on the high pressure side

5 Axial thrust balance

- By means of balancing disc to ensure optimum efficiency

6 Maintenance

- All parts typically subject to maintenance (both DE and NDE bearings, balancing disc, mechanical seal) are accessible and can be replaced on site, without removal of suction and discharge piping



Specifications

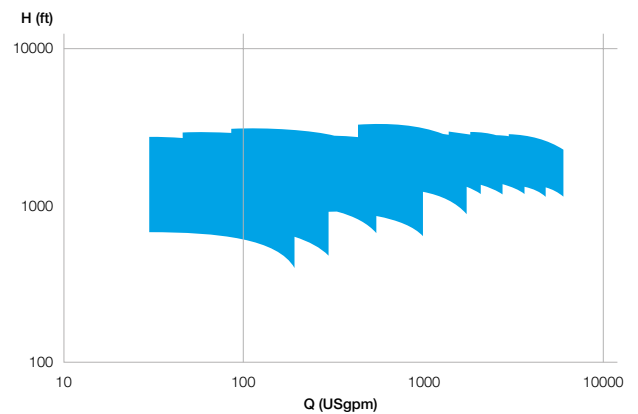
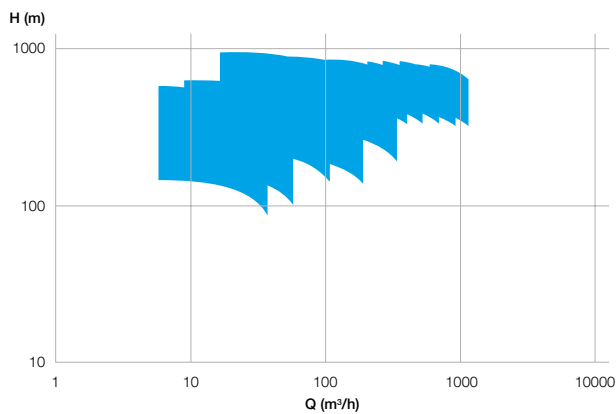
Materials

Pump part	41 (Duplex)	4T (Super duplex)
Casing, impeller, diffuser	ASTM A890 Gr 3A	ASTM A890 Gr 5A
Wear ring	PEEK	PEEK
Shaft	EN 1.4462	EN1.4410
Slide bearings	EN 1.4462 + PEEK/SUME	EN 1.4410+PEEK/SUME
Cover	ASTM A890 Gr 5A	ASTM A890 Gr 5A

Operating data

	50 Hz	60 Hz
Pump sizes (discharge)	25 to 200 mm	1 to 8 in.
Capacities	up to 1'100 m ³ /h	up to 4'800 USgpm
Heads	up to 900 m	up to 2'950 ft.
Pressures	up to 100 bar	up to 1'450 psi
Temperatures	70°C	158°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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