



MSC Series

Horizontal Multistage Pumps

Description

The SIHI^{multi} MSC range of horizontal, ring-section multi-stage pumps have been designed for long-term reliability when pumping high pressure liquids. The design features within this range of high pressure pumps, provide our customers with unique solutions to long-term concerns about power consumption, efficiency, and reliability.

A special feature is the wide range of speed, which is excellent suitable for frequency inverter running.

Meeting the technical requirements of ISO 5199 / EN25199, they have a modular concept in order to reduce the number of parts, and consequently our customers' inventory.

Premium levels of efficiency are available by selecting an appropriate set of impellers and diffusers that give an ideal fit to the process requirement. Unique to the multi-stage arena portfolio is the, SIHI, patented self-adjusting drum style of axial thrust balancing. The MSC employ a device that reduces the bypass flow to an absolute minimum, while not being susceptible to long(er) term wear-sensitive clearances.

Applications

Pumps of the SIHI^{multi} range meet the specific requirements of our customers in selected applications, such as

- Renewable energy
- Fossil power stations
- Biomass
- Geothermal
- Paper and Pulp

Optional special designs

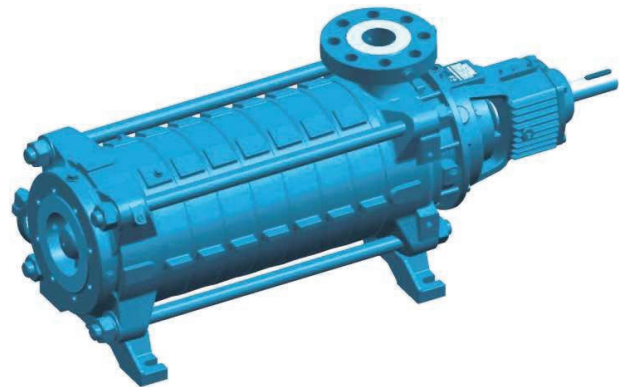
Customised solutions, which are not covered by the standard design, like de-staging device, interstage bleed-off or different sealing options are possible on request.

Materials

Suction-, Stage- and Discharge casing:	Chrome steel
Impeller/Diffuser:	Grey cast iron or stainless steel
Shaft:	Chrome steel

Technical Data

Flow rate:	max. 250 m ³ /h
Head:	max. 1000 m
Medium temperature:	-10°C to +180°C
Speed:	400 to 3600 rpm
Final pressure:	max. 100 bar
Shaft sealing	packed gland or mechanical seal
Direction of rotation	counter-clockwise, when viewed from discharge side



Construction

Different hydraulic impeller and diffuser sizes can be installed in a standard casing, thus enabling the pump to be designed exactly for the duty point required. The first stage of each pump size is equipped with an optimised NPSH suction impeller.

Axial thrust is hydraulically balanced by a patented balance drum system with a self-adjusting throttling device. Residual thrust is absorbed by a generously sized angular-contact ball bearing. The balancing line is returned to the suction casing.

The pump rotor is supported on the drive side by grease lubricated anti-friction bearings. Support on the suction side is effected by means of a low-velocity product lubricated, and self-aligning sleeve bearing.

The pump is driven from the discharge side, in a counter-clockwise direction, when viewed from the discharge side.

Simple installation adaptation is possible with the modular design which allows discharge casing flange to be supplied radially upwards, horizontal-left or horizontal-right. The pump is usually constructed with an axial or radial inlet suction.

As standard the pump is mounted with integrated thermal compensation.

The shaft sealing consist of a single-acting mechanical seal, or optionally as packed gland configuration. These two executions are supported with an internal circulation flow.

For even higher liquid temperatures, the pumps can be supplied with an optional external jacket-cooling.

The static casing sealing, consist of EPDM O-rings, as standard, with the option of FKM material.

Condition-based monitoring, via the SIHI^{detect} type of vibration device, is optional in which to give advanced failure warning. Other standard equipment is available to monitor:

Suction and discharge pressure; Liquid temperature; and bearing temperature. Low pressure-drop, filters can be supplied for use of the suction side of the pump, as can minimum flow-bypass valves.