SMH Axially-Split Single Stage Pumps API 610 (ISO 13709)
Sulzer Pumps

Sulzer Pumps is one of the world leaders in state-of-the-art pumping solutions. Combining engineering and application expertise, our solutions add value and strengthen the competitive position of our customers.

Thanks to a global network of manufacturing facilities, sales offices, service centers and representatives, we can provide fast responses to customer needs.

Sulzer Pumps is a well-recognized player in the following industries:
- Oil and Gas
- Hydrocarbon Processing
- Power Generation
- Pulp and Paper
- General Industry
- Chemical Processing Industry
- Water

Design and Manufacturing

The SMH is designed for use in the Oil & Gas and HPI markets. Processes in these industries commonly require the pumping of flammable, toxic or critical cooling liquids, often at elevated temperatures and pressures. For this reason the industry has developed a standard specification, ISO 13709 (API 610), that ensures pumps meet basic requirements with regard to materials, design and quality. The Sulzer SMH is not just designed to meet the requirements of ISO 13709 but also benefits from years of operational experience in the field covering a wide range of applications.

The Sulzer plants involved in the manufacture and packaging of the SMH are all specialized in the supply of equipment into these markets. Their quality control, manufacturing, testing and project management systems are all designed to deliver the high level of service demanded by the market. This goes beyond simply "meeting the standard"; everyone involved in the production process has an understanding of the application the pump is destined to fulfil.

This in-depth knowledge results in a pump package not merely engineered to meet the customers specification, but designed and built to deliver the highest levels of performance and reliability in real world operating conditions.
Design Features and Benefits

**Shaft Seal**
- Generously dimensioned seal chambers allow unrestricted seal flushing/cooling
- Cartridge single or double mechanical seals may be fitted

**Bearings**
- Heavy duty specification for extended life
- Back-to-back angular contact thrust and single ball bearing journal bearing

**Bearing Housings**
- Manufactured from carbon steel
- Cooling not required up to 150 °C
- Constant level oiler maintains oil level
- Labyrinth seals prevent ingress of contaminants to the housing
- Pure mist lubrication is available

**Optimum Hydraulic Geometry**
Resulting from intensive R&D, delivers ideal flow patterns with low velocities for high efficiency and quiet running

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Double Entry Impeller
- Principal axial thrusts are inherently balanced
- Optimum geometry provides high efficiency, low NPSH and quiet running over a wide operating range

Casing
- Axial split for ease of maintenance
- Branches in the lower half only
- The complete rotor may be inspected/replaced without disconnecting the main pipework

Wear Parts
- Replaceable impeller and casing wear rings for ease of maintenance
- Replaceable throat bushings control pressure in the seal chamber

Shaft
- Stiff design for arduous service conditions
- Replaceable protection sleeves within the main waterways
- Taper or parallel fit couplings can be accommodated depending on the pump size
Performance Range

Head H (m) vs Capacity Q (m³/h) for 50 Hz

50 Hz

Head H (ft) vs Capacity Q (USgpm) for 60 Hz

60 Hz

Operating Data

<table>
<thead>
<tr>
<th></th>
<th>50 Hz</th>
<th>60 Hz</th>
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<tbody>
<tr>
<td>Pump sizes</td>
<td>150 to 800 mm</td>
<td>6 to 32 inches</td>
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<tr>
<td>Capacities</td>
<td>150 to 10,000 m³/h</td>
<td>660 to 44,000 USgpm</td>
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<tr>
<td>Heads</td>
<td>10 to 200 m</td>
<td>32 to 650 ft</td>
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<tr>
<td>Pressures</td>
<td>up to 25 bar</td>
<td>up to 362 psi</td>
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<tr>
<td>Temperatures</td>
<td>-10 to 150 °C</td>
<td>15 to 302 °F</td>
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