SMK
Overhung, End-suction, Horizontal Single & Double Volute Radially Split, Pump

OH2 Type

API-610, 10th edition
ISO 13709

MARELLI
Sundyne Marelli

More than 40 years of experience in centrifugal pump design, development, manufacturing and service, to fulfill the latest standards for petroleum, petrochemical process and heavy duty processing industries, as full compliance machinery.

Applications
Sundyne Marelli, develops tailor made solutions for the movement of water, hydrocarbon, CO2 and other process liquids. Our solutions meet the most stringent customer specifications for the following heavy industries:
- Refineries
- Petrochemical plants
- Crude oil and gas pipelines
- Off-shore and on-shore installations for petroleum and gas
- Reserve osmosis
- Synfuels
- Heavy-duty industry applications
- Other intensive services and systems, that demand high reliability and efficient equipment

Design
Sundyne Marelli SMK pump series are end-suction, centerline mounted, radial split, overhung horizontal single and double volute centrifugal pumps. SMK OH2 type pumps fully complies to API-610 10th edition / ISO 13709 standards.

Operating Data
- Capacities: up to 1600m³/hr (7000 usgpm)
- Heads: up to 360 meters (1200 feet)
- Max Working Pressure: up to 50 bar (725 psi)
- Temperature Range: -150 °C (-238 °F) to 450 °C (842 °F)
- Rotational speed: up to 4000 rpm

Materials

<table>
<thead>
<tr>
<th>PART</th>
<th>According to Table H1 - API-610 10th Edition</th>
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<td>S1</td>
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<tr>
<td>Pressure Casing</td>
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<td></td>
<td>Carbon Steel (A216 WCB)</td>
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<td>Impeller</td>
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<td>Cast Iron</td>
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<td>Wear Rings</td>
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<td>Cast Iron</td>
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<td>Shaft</td>
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<td>Carbon Steel</td>
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<td>Bearing Housing</td>
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<td>Carbon Steel (A216 WCB)</td>
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<td>Case Gasket</td>
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<td>AUS, Spiral Wound</td>
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</table>

OTHER MATERIALS AND METALLURGIES AVAILABLE UPON REQUEST
Optional Features
Sundyne Marelli provides the SMK pump series with a range of customized features, to meet specific application requirements.

For High Temperature
- Cooled mechanical seal chamber.
- External cooling for bearing housing with finned heat exchanger fed with inert fluid and/or water.
- Convection venting for bearing housing with a low noise fan placed at rear in coupling side.

For Lubrication System
- Purge ports with drain valve. Test gauges for condition analysis.
- Oil mist lubrication system, with purge ports, is outboard for assuring mist flow through each bearing.

For Coking Services
- Backwash system for wear rings and neck bushing.
- Specific coke crusher available upon request.

Baseplate Designs
- Pre-grouted and non-grouted for all driver types.
- Special base designs to match oversize drivers, pumps and turbines.
- Tailor made baseplates are available.
- Skid mounting and oil field designs available.

For High Suction Pressure
- Heavy duty bearing housings designed for high suction pressure applications.
- Mechanical seals to meet safety and environmental requirements.
- Pump casing and seal chamber designed for high suction pressure.
- Engineered bearing solutions available.

Other Available Solutions
- State of the art inducer designs to improve suction capacity.
- Top suction designs on demand.
- Lateral right/left side pump discharges for matching existing pipe work at plant.

Sundyne Marelli SMK Series
Precision engineered pumps meeting rigorous customer requirements in a multitude of applications, while reducing the total life cycle cost (LCC) and improving MTBM.
Standard Features and Benefits

- API-610 10th Edition / ISO 13709
  Full Compliance for reliability and accountability.
- All pumps within SMK series are suitable for operation at 50 Hz and 60 Hz.
- Higher efficiencies. Due to a design with tangential discharge and wide variety of hydraulics to match all types of duty points.
- Centerline mounted pump casing maintains alignment during operation at elevated temperatures.
- Low suction specific speed low NPSH characteristics, with a wide choice of impellers for optimum efficiency over a large operating range.
- Finned bearing housing to provide maximum heat dissipation under API-610 compliance.
- Isolation chamber at bearing housing. Thermal barrier amongst mechanical seal chamber and bearing housing.
- Deflection system with fins to improve cooling.
- Labyrinth bearing seals to avoid external contamination and maximize seal and lubrication life.
- Highly maintainable and replaceable wear rings to reduce overall life cycle costs (LCC).
- Mechanical seal chamber API-682 3rd Edition. Also complies to API-610 standards.
- Socket welded flanged drains and vents as standard. Gussets and bracing also available.
- Choice of multiple impellers in each hydraulic pump casing for optimum efficiency over a wide operating range.
- A variety of instrumentation options are available for monitoring all key operating parameters (temperature, pressure, vibrations, etc.).
**Bearing Housing.** Multiple sizes available to meet load requirements.

**Seal chamber.** API-610 heating or cooling available.

**Casing gasket.** Confined compression gasket with metal to metal rabbet fit.

**Pump casing.** Dual volute configuration to minimize radial loads and shaft deflection (over 3” discharge nozzle size). Flanges designed to ASME VIII. Top suction and lateral discharges available.

**Flanges.** ANSI B16.5 300#RF, 600#RF & 900#RF and their required serrations. ASME/DIN/ISO/JIS flanges also available.

**Casing centerline to meet API-610 / ISO 13709 nozzle loads.**

**Impellers.** Multiple designs for every pump casing. Dynamically balanced. Low suction specific speed and NPSH characteristics.

**Seal chamber.** Designed to API-610 / ISO 13709. Ready to fit cartridge seals under API-682 / ISO 21049.

**Wear rings.** Field replaceable, easy installation for better life cycle cost (LCC).
Performance Curves

50 Hz

60 Hz

SMK

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