High Pressure Side Channel Pumps
with API Features

SHP™

High Pressure Low NPSH Pump Solutions

Inspiring technology. Meeting your needs.
Engineered to meet demanding process conditions.

THE SERO ADVANTAGE

Headquartered in Germany, SERO PumpSystems is the world’s only exclusive manufacturer of side channel pumps. Since the issuance of their first side channel pump patent in 1929, SERO has continued to revolutionize the industrial pump industry. Specializing in individually configured pumping systems, SERO has consistently been on the leading edge of side channel pump design and technology.

SERO MODEL SHP

Side channel pump hydraulics with an API 610 design philosophy

Volatile process fluid. Low flow rates with high head. Limited NPSH! Entrained gas!! Tough conditions, but not for SERO! The revolutionary Model SHP incorporates numerous API 610 features and is designed to operate in these unique and challenging conditions.

The Model SHP Advantages:
• Exceptional differential pressures / head developed at max speed of 3500 RPM.
• No pulsation!
• Steep performance curves for precise system control.
• Ability to pump vapor laden process fluids.
• Very low NPSH requirements to prevent cavitation.
• Liquid end "barrel" design for dual containment.
• Rugged, heavy duty construction designed for extended life cycle.
• Numerous API 610 features including:
  - ANSI 900 lb raised face flanges to meet nozzle load requirements.
  - API specified materials of construction.
  - API size 3 seal chamber to utilize API 682 cartridge seals.
• "Crafted in Germany" for increased reliability and the lowest cost of ownership.

SERVICES
• Low NPSH Charge Pump
• Off-spec Rerun Pump
• Amine Injection
• De-propanizer Recycle
• Scrubber Bottoms Pump
• Pipeline Booster Pump

TYPICAL PROCESS LIQUIDS
• Volatile, high vapor pressure fluids
• LPG: Propane, Butane, Isobutane
• Amine
• Crude Oil
• Condensate
• Light hydrocarbon pipeline mix
**SHP Material Classes**

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>C-6 SERO STANDARD</th>
<th>A-8 (SS OPTION)</th>
<th>TT6 LOW TEMP OPTION #1 (-50° F)</th>
<th>TT8 LOW TEMP OPTION #2 (-75° F)</th>
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<tbody>
<tr>
<td>PRESSURIZED CASINGS</td>
<td>A487 GR CA6NM</td>
<td>A351 GR CF3M</td>
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<td>STAGES</td>
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<td>PRESSURE SLEEVE</td>
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<tr>
<td>(INNER BARREL)</td>
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<td>BARREL (2ND CONTAINMENT)</td>
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<td>SEAL HOUSING/</td>
<td>A216 GR WCB /</td>
<td>A216 GR WCB /</td>
<td>A216 GR WCB /</td>
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<td>BEARING HOUSING</td>
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<td>EN100 83 - 1.0501 (C35)</td>
<td>EN100 88 - 1.4501 (V2A)</td>
<td>EN100 88 - 1.4501 (V2A)</td>
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</tbody>
</table>

**Construction**

**SHP 110**
- **Flange Position**: End suction: axial inlet 2” (50 mm) Top discharge: radial outlet 1” (25 mm)
- **Flanges**: ASME B 16. 5 – 900 lbs RF or DIN EN 1092.1 – PN 100
- **Shaft Sealing**: • Single or dual cartridge seal arrangements  
  – Follows API 682 standards  
  – Special designs up to 1450 PSIG MAWP  
  – Dry running secondary seal option
- **Stage Bearing**: Medium lubricated. Metal jacketed, carbon graphite
- **Bearing**: • Stacked, single row, angular contact ball bearings  
  • Shielded, greased for life as standard  
  • Oil lubrication option available
- **Direction of Rotation**: Counterclockwise from coupling end

**Operating Data**

**SHP 110**
- **Flow rates**: 4 GPM to 38 GPM  
  (0.9 m3/hr to 8.5 m3/hr)
- **Head Generation**: Up to 3500’ TDH  
  (1065 m TDH)
- **Speed**: Up to 3500 RPM
- **Std. Temperature Rating**: -5 deg F up to 300 deg F  
  (-20 deg C up to 150 deg C)
- **MAWP**: 1450 PSI (100 bar)
- **NPSHr**: 0.7” to 4” (0.2 m up to 1.2 m)

**SHP Performance vs. Standard Side Channel Pumps**

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SERO Pump Systems

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