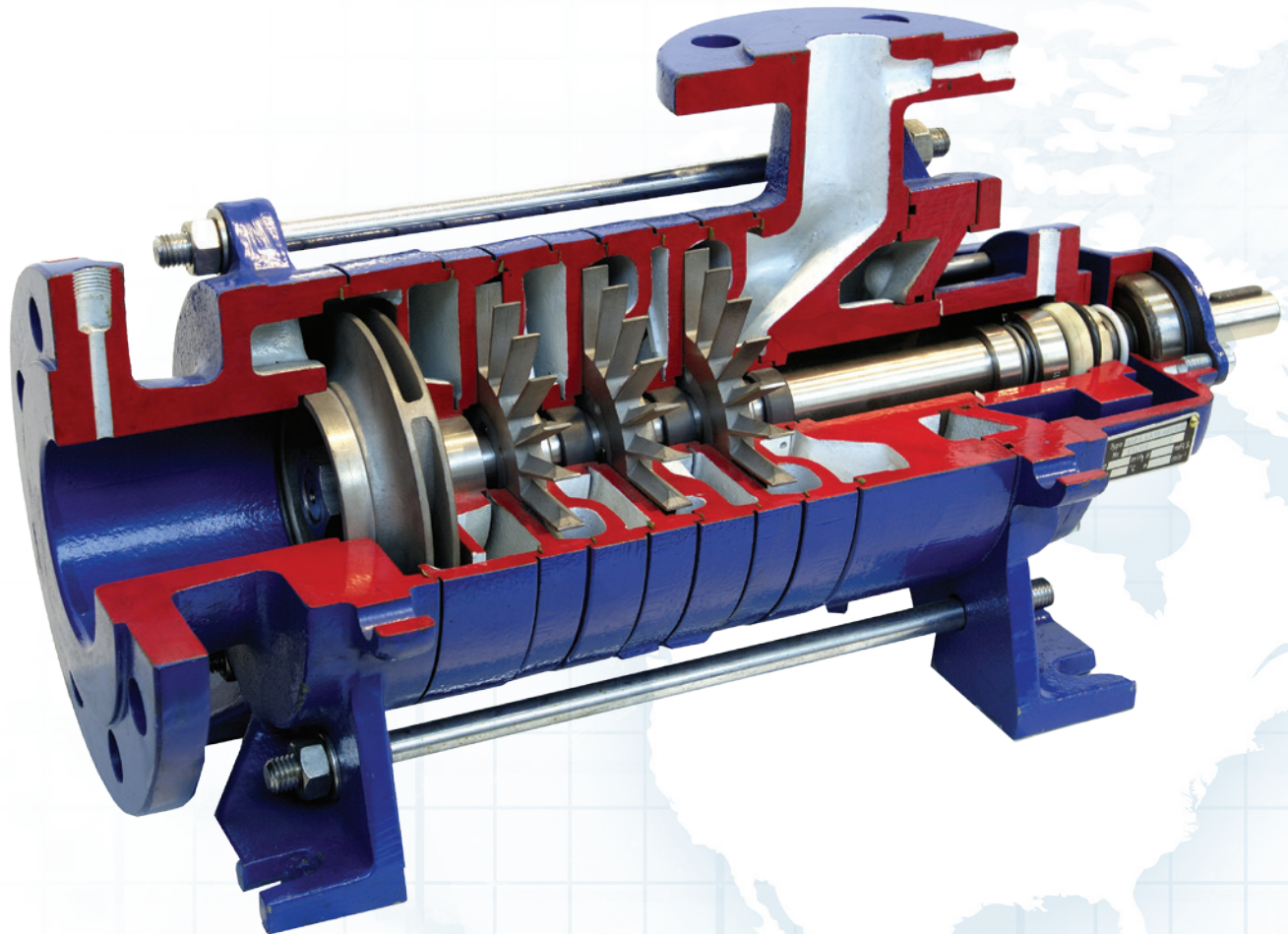


SERO[®] PumpSystems

Inspiring technology. Meeting your needs.

Low NPSH
Pump Solutions



*Side Channel Pumps Designed for
Critical Process Services*

SRZS[™]



M4Equipment
Quality Pumping Systems

Contact: Matt Cray
Mobil No. 832-845-7003
MCray@m4equipment.com

Engineered to meet demanding process conditions.

SRZS™

(Multifunction Side Channel Pump)

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.

SIDE CHANNEL PUMP TECHNOLOGY

Side channel pumps fill the hydraulic performance void between positive displacement pumps and centrifugal pumps. Fully open "star" impellers interact with the side channel casing creating an intense transfer of energy to the pumped liquid or liquid / gas mixture. The corresponding pressure increase (pump head) equals 5 to 10 times the amount generated by a similar size centrifugal pump at the same RPM. Additionally, the centrifugal effect of the impeller combined with the unique SERO internal flow patterns, allow our pumps to effectively handle fluids with gas entrainment of up to 50% and also be self-priming.

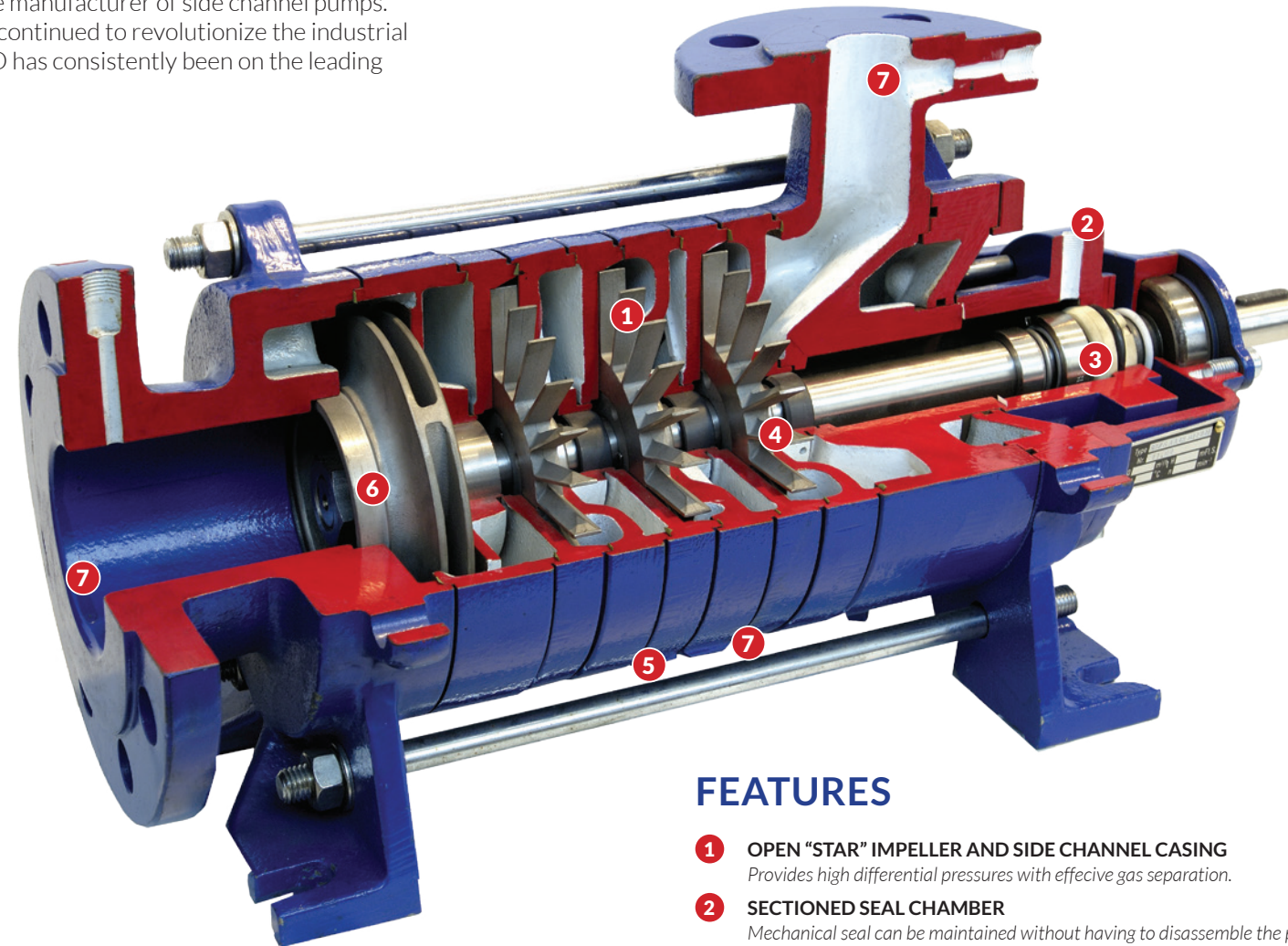
SERO MODEL SRZS

Specialty Pumps Engineered for a Wide Range of Industrial Services

Model SRZS is a proven state-of-the-art multi-stage, radially split segmented pump that combines the functionality of a low NPSH first stage impeller with the performance of a side channel design.

The SRZS features include:

- Exceptional Differential Pressures Developed at 1750 RPM
- Hydraulic Flexibility - Low Flows with High Head
- Steep Performance Curves for Precise System Control
- Ability to Pump Vapor Laden (up to 50%) Process Fluids
- Low NPSH Requirements to Prevent Cavitation
- Self-priming
- Multiple Sealing Options
- Modular Construction with Standardized Parts
- Field Interchangeability with Existing Units
- "Crafted In Germany" for Increased Reliability and Lowest Cost of Ownership



FEATURES

- 1 OPEN "STAR" IMPELLER AND SIDE CHANNEL CASING**
Provides high differential pressures with effective gas separation.
- 2 SECTIONED SEAL CHAMBER**
Mechanical seal can be maintained without having to disassemble the pump.
- 3 SEALING FLEXIBILITY**
Single & Dual Seals to meet a range of service conditions.
- 4 IMPELLER BALANCE HOLES**
Axial thrust forces are effectively balanced.
- 5 MULTI-STAGE MODULAR DESIGN**
Allows for easy maintenance and standardized spare parts inventory.
- 6 RADIAL VANE IMPELLER**
First stage suction impeller provides low NPSH requirements.
- 7 PRESSURE CASINGS**
Pressure containing components rated at 580 psi (40 bar).

SERVICES

- Low NPSH Charge Pump
- Reflux & Off-spec recycle pumps
- Refrigerant Supply / Distribution
- LPG Bottle Filling
- Scrubber Bottoms Pumps
- SCR Ammonia Injection Pumps



TYPICAL PROCESS LIQUIDS

- Volatile, high vapor pressure fluids
- LPG: Propane, Butane, Isobutane
- Refrigerants & Propellants: Propane, Hydro-fluorocarbon refrigerants, CO2
- Light crude oil and other light hydrocarbon process fluids
- Specialty chemicals: Butadiene, styrene, caustic, light acids
- Ammonia: Anhydrous and Aqueous
- Amine