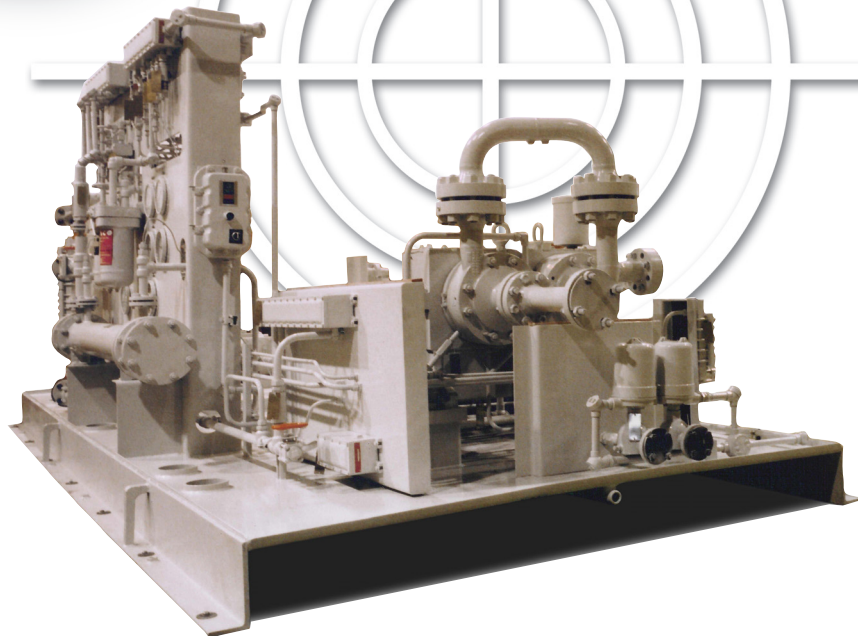


SUNDYNE[®]

HMP-3000 AND HMP-5000 INTEGRALLY GEARED CENTRIFUGAL PUMPS



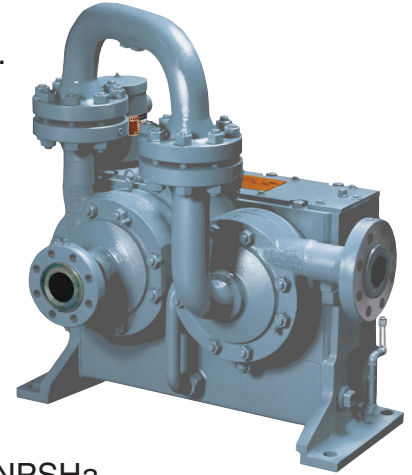
Product Description

The robust HMP-Series SUNDYNE® Pumps are end-suction, horizontal, high-speed, two-stage centrifugal pumps designed for low flow, high pressure applications. The two stages of the HMP pump operate in either series or parallel to achieve a broad range of flows and pressures. First developed by Sundyne in 1967, the HMP series has a proven track record of reliability worldwide with over 300 units in some of the most challenging pumping applications.

The HMP is driven through an integral single helical or spur gear mesh speed-increasing gearbox, providing compactness, reliability and design simplicity over conventional multistage and reciprocating pumps.

The wet ends of the HMP pump use open face impellers with either a single or dual throat diffuser design to optimize performance. Our pioneering development in inducer technology may be used where NPSHa (Net Positive Suction Head Available) is low.

Mechanical seals in single, tandem or double seal arrangement are available to safely isolate the process. The seal support system along with the gearbox lubrication and instrumentation are typically included in the HMP package.



Key Features and Benefits

- **Centrifugal design**—Alternative to positive displacement pumps providing smooth, flexible, pulsation-free flow.
- **No wear rings**—No impeller clearances to set. Easy to assemble.
- **Compact design**—Low component weight and small foot print.
- **Open impeller blades & clearance**—Where particulates are of concern. Ideal for Urea production, Resin services, & PTA slurry applications.
- **Modular design**—Increased dependability, easy maintenance, fewer spare parts, reduced costs.
- **Engineered packages**—Complete designs to meet your specific requirements.
- **Hydraulic re-rate**—Easily adaptable to future needs.

Applications

UREA PRODUCTION

Carbamate Recycle
Ammonia Injection

PETROCHEMICAL

Resin charge
LPG Pipeline
Transfer Service
PTA Slurry
Reactor Charge

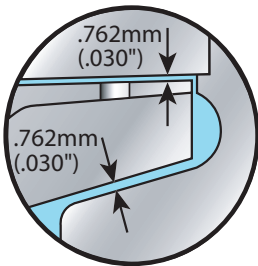
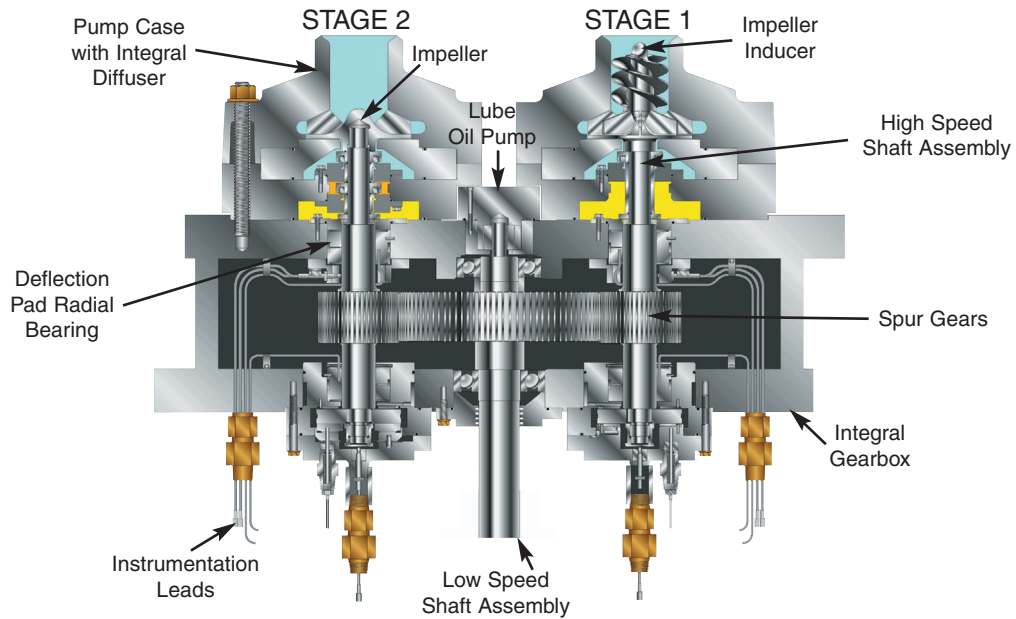
OIL PRODUCTION

Pipeline
LPG Injection
Water Injection
Chemical Injection
Liquid CO₂ Injection
Steam Injection
Transfer Pumps
Off Shore Installations

INDUSTRIAL

High-Pressure Spray
Mine Dewatering
Transfer
Hydraulic Pressure
Waste Water Disposal
Descaling
High Pressure Cleaning
Pressure Testing
Boiler Feed

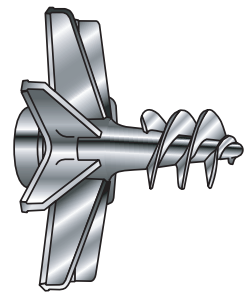
HMP-3000



Generous Impeller Clearances

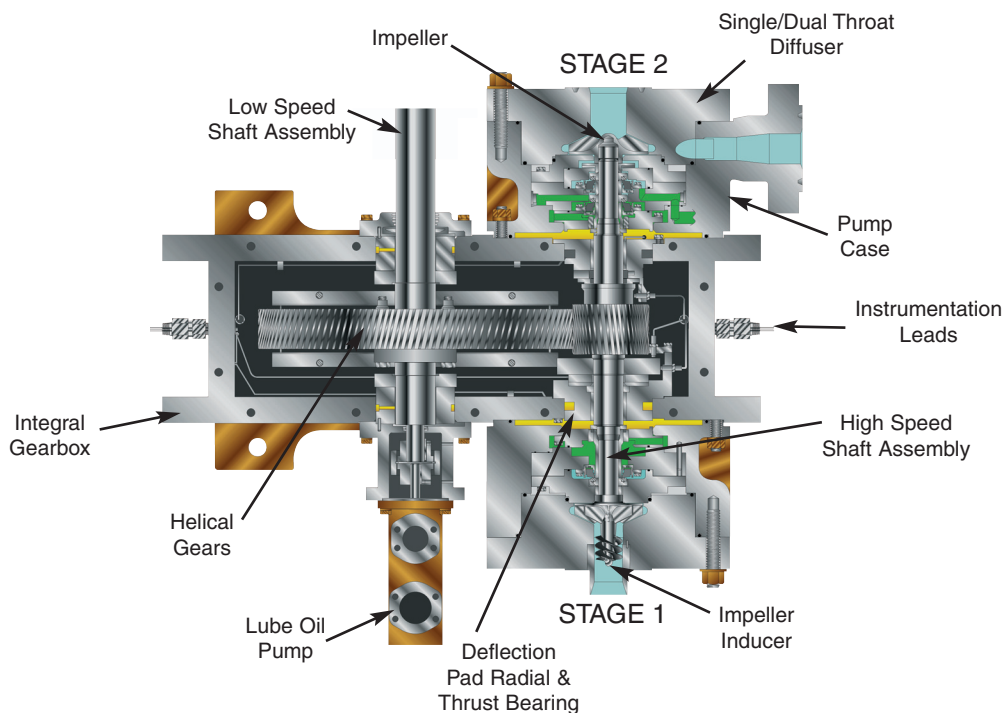
Optional Features

- API 614 lube oil console
- API seal plans for specific requirements
- Seal support systems
- Vibration monitoring system
- Parallel arrangement (not shown)
- Custom packaging

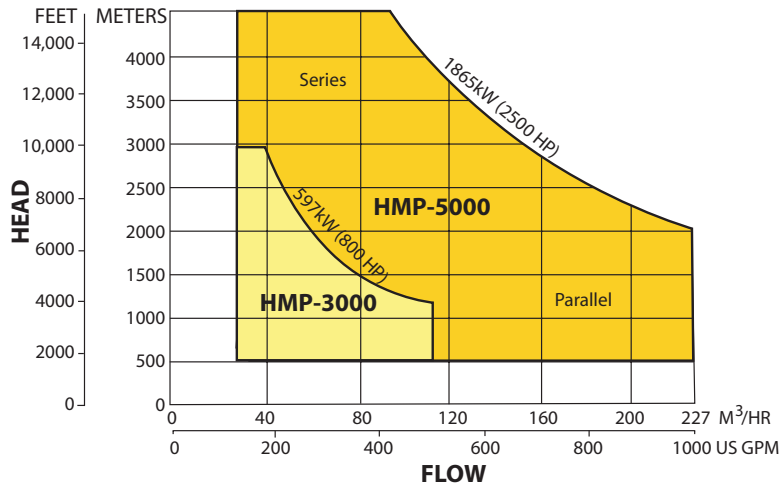


Integral Impeller Inducer

HMP-5000



Performance



Specifications

| Feature | HMP 3000 Series | HMP 5000 Series |
|-----------------------------|---------------------------------------|---------------------------------------|
| Maximum Working Pressure | 263 kg/cm ² (3,750 psig) | 316 kg/cm ² (4,500 psig) |
| Process Temperature Range | -129° to 260°C (-200° to 500°F) | -129° to 260°C (-200° to 500°F) |
| Maximum Suction Pressure | 30 kg/cm ² (450 psig) | 155 kg/cm ² (2,200 psig) |
| Power | 597 kW (800 HP) | 1,865 kW (2,500 HP) |
| Hydro Test Pressure | 1.5 times maximum working pressure | 1.5 times maximum working pressure |
| Minimum Casing Thickness | 20.6 mm (0.81 inch) | 20.6 mm (0.81 inch) |
| Corrosion Allowance | 3.2 mm (0.125 inch) | 3.22 mm (0.125 inch) |
| Impeller Axial Clearance | 0.76 to 1.14 mm (0.030 to 0.045 inch) | 0.76 to 1.14 mm (0.030 to 0.045 inch) |
| Shaft Diameter at Impeller | 24.6 mm (0.95 inches) | 28.6 mm (1.125 inches) |
| Process Seals Size | 38 mm (1.5 inches) | 50 mm (2 inches) |
| Suction Flange (Standard) | Minimum 3" 600 lb. ANSI RF | Minimum 3" 600 lb. ANSI RF |
| Discharge Flange (Standard) | 3" 1500 lb. ANSI Ring Joint | 3" 1500 lb. ANSI Ring Joint |
| Bearings, High-Speed Shaft | Flexture Pivot Pad Journal & Thrust | Flexture Pivot Pad Journal & Thrust |
| Seals | Single, Double, Tandem | Single, Double, Tandem |
| Gearbox Speeds | 12,500 to 25,000 rpm | 12,500 to 25,000 rpm |
| Lubricant | Light Turbine Oil, ISO Grade 32 | Light Turbine Oil, ISO Grade 32 |
| Sump Capacity | Minimum 34 liters (9 Gallons) | Minimum 284 liters (75 Gallons) |
| Lubrication System | Pressurized | Pressurized |
| Gearbox Seal Size | 38 mm (1.5 inches) | 50.8 mm (2 inches) |
| Gears | Single Spur, AGMA Class 11 | Single Helical, AGMA Class 11 |
| Coupling | Flexible type | Flexible type |

www.sundyne.com



Sundyne Corporation • Arvada, CO 80007 USA • +1-303-425-0800 • FAX: +1-303-425-0896 • www.sundyne.com
 Sundyne Europe • Longvic Cedex, France • +33-380-383300 • FAX: +33-380-383371 • e-mail: europaean-sales@sundyne.com

• ANSIMAG • ANYSPEED • CASTER • HMD/KONTRO • MASO/SINE • SCMP • COMPRESSORS • SUNDYNE • SUNFLO •