OH3 or OH5 Direct Drive API 610 Centrifugal Pumps
Specify the ideal pump to optimize your most demanding process condition.

LMV-806
LMV-803Lr
LMV-802
LMV-801S
LMV-801CS
LMV-801
API 610, OH3 and OH5 Direct Drive
Process Industry Pumps
Sundyne API 610, OH3 and OH5 direct drive pumps are known for their high-head, low-flow capabilities ideally suited for multiple applications throughout the process industries. Each pump in the series features a single-stage centrifugal design with single, double or tandem seal arrangements for reliable service in the most difficult applications.

Pump Designs Specifically for the Process Industries
Each pump in the API 610, OH3 and OH5 direct drive family is optimized for different flow rates and head requirements that are demanded by applications in a wide range of upstream oil and gas, midstream gas processes and downstream hydrocarbon/refining processes, chemical, petrochemical and general industrial processes.

Best Design Choice for Maximum Reliability
The Sundyne API 610, direct drive family of pumps are vertical inline, single stage, overhung pumps that are either a close coupled design (OH5) or features a separate bearing bracket (OH3) with a flexible shaft coupling to accommodate multiple motor options. Each Sundyne direct drive pump is designed specifically to handle every application at its best efficiency point and maximize reliability and tolerance to system variations. Installation and maintenance are typically easily implemented.

Sundyne OH3 pumps are designed for suction pressures up to 1000 PSIG – Nema or IEC motor.

The Sundyne LMV-806 OH5 has been providing years of proven reliability in de-ethanizer booster service for this Oklahoma gas plant.
Key Innovative Features Drive Our Competitive Advantage
Customers around the world depend on Sundyne to build the equipment they require to drive productivity, and our robust engineered solutions deliver the level of quality and reliability they demand. With a range of comprehensive features, service and support, Sundyne is committed to fulfilling our customer’s long-term needs.

Optimized Efficiency With Low Specific-Speed Hydraulics
Sundyne LMV series pumps boast diffuser style hydraulics to optimize efficiency in low specific-speed applications. Efficiency up to 60%.

Low NPSHr As Low As 5 feet (1.5m)
Sundyne inducers are designed to reduce your NPSHr considerably, thus eliminating the need for costly design requirements, such as elevated suction vessels, boost pumps or installation below grade.

Flexible Mechanical Seal and Sealless Configurations
Sundyne direct drive pumps can be configured with single, double or tandem seal arrangements, which can be easily converted in the field. With the recent introduction of the LMV-801S sealless magnetic drive, any LMV-801 sealed pump can be converted to an ultra-reliable, leak-free sealless configuration.

Materials of Construction
The Sundyne direct drive line of pumps are available with a broad variety of metallurgies and machineable alloys, such as:

- Carbon Steel
- Hastelloy B
- 316SS
- Monel
- Titanium

Engineered Best Efficiency Point
We size your pump so rated point is Best Efficiency Point (B.E.P.), providing an ultra-efficient, reliable flow rate.

- Compact Footprint For Modular Design
- Simple By Design
- Standard Or Custom Engineered Options
- Worldwide Support Network
- Seal Configurations Available: Single, Double, Tandem, Sealless OR API 682 Cartridge Seal

- Solids Range: 0.015" (0.381mm), 400 microns
- Mounting Configurations: Vertical
- Number of Available Hydraulics: Numerous
- Available Inducer: Yes
- Available Flanges: 300# RF 600# RF, 900# RF, RTJ
Sundyne inducer options reduce NPSHr considerably and often eliminates the need for costly design requirements, such as elevated suction vessels and boost pumps.

Industries
- Upstream Oil & Gas
- Midstream Gas Process
- Downstream Refining
- Downstream Petrochemical
- Downstream Chemical
- General Industrial

Applications
Sundyne direct drive API pumps are suitable for use in applications across the process industries like:

- Transfer
- Recycle
- Bottoms
- Pipeline boost
- Boiler Feed Water
- Desuperheating
- Condensate
- Fuel Feed
- Seal Water
- Inorganic Acids
- High Pressure Wash
- Cryogenic Services
- Offshore Platform Services
- Charge / Reactor Feed

Handles high suction pressure above 500 PSI
The Sundyne LMV-801 API 610 is a direct drive vertical inline, single stage, overhung impeller centrifugal pump in a standard OH5 configuration. OH3 when used with the bearing frame option. This model delivers:

**Flows to 380 gpm (86 m³/hr)**

**Heads to 720 ft (219 m)**

Obtaining a re-rate or removing the diffuser while the pump case remains in place has never been easier.

This heavy duty API 610 pump is ideal for Hydrocarbon processing, including Refining and Petrochemical, Chemical processing and midstream natural gas.
The Sundyne LMV-801S is an API 685, vertical inline, single stage, overhung sealless magnetic drive pump that is ideally suited for high-head, low-flow applications, commonly found in today’s refinery processing, chemical processing and midstream industries. The LMV-801S is part of Sundyne direct-drive line of pumps that offers reliable performance in a compact vertical design.

**Combining Proven Sundyne Hydraulics with Pioneering Magnetic Drive Technology:**
The LMV-801S combines the industry standard hydraulics of the Sundyne direct-drive line of pumps with sealless magnetic drive technology pioneered by Sundyne HMD/Kontro more than 70 years ago. Built to comply with both API-685 and API-610 standards, it’s specifically engineered to eliminate emissions and improve personnel safety.

**Worry-Free Conversion:**
The LMV-801S is dimensionally interchangeable with the traditional mechanically sealed LMV-801 (OH3/5), and can be easily dropped into existing pipework - making this sealless upgrade possible without the need to modify piping and foundation layouts. Additionally, a plug-in version of the pump is available, enabling customers to swap out the mechanical seal drive end with the new sealless option without disconnecting the existing LMV-801 casing and diffuser from the piping.

**Benefits:**
The LMV-801S delivers maximized up-time, reduced maintenance costs and optimized productivity over the lifecycle of the unit. Its sealless magnetic drive design offers no seals that leak, making it safe and reliable for handling hazardous liquids and light hydrocarbons.

The LMV-801S provides the benefits of a sealless pump, the reliability of Sundyne hydraulics all in a compact package.
The LMV-801S is an API 685 vertical inline, single stage, overhung impeller, sealless magnetic direct drive pump. This model delivers:

**Flows to 380 gpm (86 m³/hr)**
**Heads to 720 ft (219 m)**

Ideal for handling light hydrocarbons in hydrocarbon processing, chemical handling and offshore applications.

Dimensionally interchangeable with our mechanically sealed LMV-801 model.

A retrofit kit is available to convert the mechanical seal drive end with a new sealless option without disconnecting the existing LMV-801 casing and diffusers from the piping.
The Sundyne LMV-801CS is a direct drive vertical inline, single stage, overhung impeller centrifugal pump with a API 682 cartridge seal in a standard OH3 API 610, configuration. This model delivers:

- Flows to 380 gpm (86 m³/hr)
- Heads to 720 ft (219 m)

Thousands of reliable Sundyne LMV-801 pumps are utilized in refining, petrochemical and chemical processing facilities. Also, they are commonly utilized in midstream natural gas processing plants and offshore production rigs including FPSO's.

LMV-801CS

A Reliable New Feature for Faster, Easier, Error-free Replacement of Pump Shaft seals – Keeping You Up and Running.
The Sundyne LMV-802 is a direct drive vertical inline, single stage, overhung impeller, centrifugal API 610, pump available in OH3 and OH5 configurations. This model delivers:

**Flows to 150 gpm (34 m³/hr)**  
**Heads to 210 ft (64 m)**

A reliable heavy duty API pump for use in the Hydrocarbon processing and Chemical processing industries.
How Low Can We Go?

The LMV-803Lr is a high flow ultra low NPSHr (5 ft / 1.5 m) direct drive vertical inline, single stage, overhung impeller pump. Featuring Sundyne inducer technology and a backswept impeller, making it possible to reach lower NPSH requirements without risk of cavitation.

Built to comply with OH3 and OH5 standards and fully compliant with API 610 A-8 material guidelines, the LMV-803Lr is available with a robust 6x4 case design that is built to withstand the rigors of high pressure applications.

Flows to 800 gpm (180 m3/hr)
Heads to 1,000 ft (305 m)
Max Case Work Pressure to 1,000 psig (70 kg/cm2)

A Centrifugal High Flow, Low NPSH Pump. NPSH Less Than 5 FT at 500 GPM!

Sundyne innovation delivers broad(er) inducer technology for low NPSHr associated with the gas plant and NGL services.
**Ultra-Low NPSHr Pump:**
Sundyne engineers have decades of impeller and inducer design experience. They leveraged that experience and analysis to develop a heavy duty vertical inline centrifugal pump with NPSHr performance that is unparalleled in oil and gas production, midstream and hydrocarbon processing industries. The LMV-803Lr is capable of running ultra-low NPSHr <5 ft (1.5m) up and down the curve without losing performance.

♦ Flows to 800 gpm (180 m3/hr)
♦ Heads to 1,000 ft (305m)

**Rugged 6x4 Casing:**
The LMV-803Lr is the most robust direct drive pump from Sundyne to date. A rugged 6x4 casing allows for higher pressures and higher flows.

**Direct Drive Pump Applications:**
Sundyne vertical inline, direct drive, overhung impeller, single stage centrifugal pumps are specifically designed to save valuable space in refineries, midstream gas processing facilities, petrochemical and chemical plants. They are designed to be used as:

♦ Feed pumps  ♦ Booster pumps  ♦ Bottoms pumps
♦ Wash water pumps  ♦ Reflux pumps  ♦ Condensate pumps

**Installed Cost Benefit:**
Available as either an API-610 OH3 or API OH5 type pump, the LMV-803Lr can be installed at grade level, eliminating the need and expense of pump installation in a pit or construction of a tall distillation tower to provide ample head.

---

**Testing Available:**

✔ Performance Test
✔ Pump Case Hydrostatic Test
✔ NPSH Suppression Test
✔ Radiography Inspection
✔ Liquid Penetrant Inspection
✔ Mill Test or Material Certs
✔ Magnetic Particle Inspection
✔ Hardness Testing
The Sundyne LMV-806 API 610, is a direct drive vertical inline, single stage, overhung impeller centrifugal pump in a standard OH5 configuration. OH3 when used with the bearing frame option. This model delivers:

**Flows to 380 gpm (86 m³/hr)**  
**Heads to 760 ft (232 m)**

This heavy duty API 610 pump is ideal for Hydrocarbon processing, including Refining and Petrochemical, Chemical processing and midstream natural gas.

**Flexible Drive Options**  
**Mechanical Seal Flexibility**  
**Seal Housing**  
**Impeller**  
**Generous Clearances**  
**Heavy Duty Pump Casing**

LMV-806
Backed By Global Support
Sundyne has an extensive global network of local certified Authorized Service Centers (ASC’s) to provide service and support to you. Utilize your local Sundyne Authorized Service Center to provide:

Routine Maintenance:
Clean, inspect and replace standard wear components on your Sundyne branded pumps and compressors including bearings, gaskets, o-rings and lubricants. Generally, your products will be turned around in less than one week.

Sundyne Genuine Parts:
Replacement parts and components are stocked on-site reducing your need for on-site spares inventory. Custom parts can be ordered and expedited quickly to keep you up and running.

Onsite Service and Repair:
Local technical expertise with the right training, diagnostic equipment and parts to keep your processes running smoothly.

Root Cause Corrective Action (RRCA):
Reduce repair costs and extend equipment life by quickly diagnosing root cause problems and proving solutions to prevent future failures.

To learn more about Sundyne Genuine Parts and Service, visit www.sundyne.com or contact the representative nearest you.
**Key Benefit:**

<table>
<thead>
<tr>
<th>OH3 or OH5</th>
<th>Easy To Convert</th>
<th>Sealless Magnetic Drive</th>
<th>Cartridge Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heads To</td>
<td>10 to 720 ft (3 to 219 m)</td>
<td>0 to 720 ft (0 to 220 m)</td>
<td>0 to 720 ft (0 to 219 m)</td>
</tr>
<tr>
<td>Flows To</td>
<td>10 to 380 gpm (2.3 to 86 m³/hr)</td>
<td>20 to 380 gpm (4.5 to 86 m³/hr)</td>
<td>10 to 380 gpm (2 to 86 m³/hr)</td>
</tr>
<tr>
<td>Max Power</td>
<td>100 hp (75 KW)</td>
<td>100 hp (75 KW)</td>
<td>75 hp (55 KW)</td>
</tr>
<tr>
<td>Temp Range</td>
<td>-200 to 650°F (-130 to 340°C)</td>
<td>-40 to 400°F (-40 to 205°C)</td>
<td>-40 to 300°F (-40 to 149°C)</td>
</tr>
<tr>
<td>Number of Stages</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Max Case Working Pressure</td>
<td>2,160 psig (152 kg/cm²)</td>
<td>580 psig (40 bar)</td>
<td>2,160 psig (152 kg/cm²)</td>
</tr>
<tr>
<td>Max Suction Pressure</td>
<td>1,000 psig (71 kg/cm²)</td>
<td>--</td>
<td>875 psi (60 bar)</td>
</tr>
<tr>
<td>Speed Range</td>
<td>1,450 to 3,550 rpm</td>
<td>1,450 to 3,550 rpm</td>
<td>1,450 to 3,550 rpm</td>
</tr>
<tr>
<td>Bearing Materials Available</td>
<td>Ball Bearings (bearing frame)</td>
<td>Silicone Carbide</td>
<td>Silicone Carbide</td>
</tr>
<tr>
<td>Max Viscosity</td>
<td>750 cp</td>
<td>200 cp</td>
<td>750 cp</td>
</tr>
<tr>
<td>Industry Standard</td>
<td>API 610 (OH3, OH5)</td>
<td>API 685</td>
<td>API 610 (OH3)</td>
</tr>
<tr>
<td>Solids Range</td>
<td>0.015” (0.381mm), 400 microns</td>
<td>Clean Liquids Only</td>
<td>0.015” (0.381mm), 400 microns</td>
</tr>
<tr>
<td>Mounting Configurations</td>
<td>Vertical</td>
<td>Vertical</td>
<td>Vertical</td>
</tr>
<tr>
<td>Seal Configurations Available</td>
<td>Single, Double, Tandem</td>
<td>Sealless</td>
<td>Single, Double, Tandem, Cartridge</td>
</tr>
<tr>
<td>Available Inducer</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Available Flanges</td>
<td>600#, 900#, 1500, RF, RTJ</td>
<td>600#, RF</td>
<td>600#, RF, 900# RF Optional</td>
</tr>
<tr>
<td>Pump Case Corrosion Allowance</td>
<td>0.125” (0.17 mm)</td>
<td>0.125” (0.175 mm)</td>
<td>0.125” (3.17 mm)</td>
</tr>
<tr>
<td>Suction and Discharge Size</td>
<td>3” x 2”</td>
<td>3” x 2”</td>
<td>3” x 2”</td>
</tr>
<tr>
<td>API Plans for Sundyne Pumps</td>
<td>11, 12, 13, 21, 31, 32, 41, 52, 53, 54, 61, 62</td>
<td>--</td>
<td>11, 12, 13, 21, 23, 31, 41, 52, 53, 54, 61, 62, J</td>
</tr>
</tbody>
</table>

**Compare and Upgrade To An API 682 Cartridge Seal Today!**
## That Delivers Your BEP

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Flow Rate</th>
<th>Capacity</th>
<th>Horsepower</th>
<th>Temperature</th>
<th>NPSH</th>
<th>RPM</th>
<th>Bearing</th>
<th>Material</th>
<th>Dimensions</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>802</td>
<td>Low Flow</td>
<td>20 to 210 ft (4 to 45 m)</td>
<td>10 to 150 gpm (8 to 27 m³/hr)</td>
<td>50 hp (37 KW)</td>
<td>1.0</td>
<td>1,440 psig (101 kg/cm²)</td>
<td>1,450 to 3,550 rpm</td>
<td>Ball Bearings (bearing frame)</td>
<td>600#, RF</td>
<td>3&quot; x 2&quot;</td>
<td>Yes</td>
</tr>
<tr>
<td>803Lr</td>
<td>High Flow, Low NPSH</td>
<td>20 to 1,000 ft (37 to 305 m)</td>
<td>200 to 800 gpm (45 to 181 m³/hr)</td>
<td>400 hp (298 KW)</td>
<td>1.0</td>
<td>1,000 psig (70 kg/cm²)</td>
<td>0 to 300°F (-18 to 149°C)</td>
<td>Ball Bearings (bearing frame)</td>
<td>600#, RF</td>
<td>6&quot; x 4&quot;</td>
<td>Yes</td>
</tr>
<tr>
<td>806</td>
<td>Low First Cost</td>
<td>10 to 60 ft (3 to 18 m)</td>
<td>10 to 150 gpm (8 to 27 m³/hr)</td>
<td>75 hp (55 KW)</td>
<td>1.0</td>
<td>710 psig (50 kg/cm²)</td>
<td>1,450 to 3,550 rpm</td>
<td>Ball Bearings (bearing frame)</td>
<td>300#, 600#, RF</td>
<td>3&quot; x 2&quot;</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Notes

- BEP: Best Efficiency Point
- NPSH: Net Positive Suction Head
- RF: Removable Flange
To learn more about Sundyne, visit www.sundyne.com or contact the representative nearest you.