

## **LMV/BMP**

**Heavy Duty, Single Stage,  
Integrally Geared Process Pumps**

**OH6 Type**

*API-610, 10th edition  
ISO 13709*



# Reliable, Durable, Trustworthy



For over 50 years, Sundyne LMV and BMP integrally gear-driven centrifugal pumps have set the industry standard for high head, low flow fluid handling technology. Featuring a modular design with an independent gearbox and wet end, our engineers custom build every pump to meet the unique Best Efficiency Point (BEP) of each customer's application. With over one million possible configurations available, Sundyne pumps deliver multi-stage performance in a single-stage design. These API 610 compliant pumps deliver rugged reliability in a compact footprint; equating to maximized uptime, reduced maintenance costs and optimized productivity over the lifecycle of the unit. Backed by our global network of Authorized Service Centers, Sundyne pumps are the best in class option for a wide range of critical applications in the refining, petrochemical, chemical, gas production and power generation sectors.

## Our Commitment to You

Sundyne is committed to working with you to provide the best solution to meet your fluid handling needs. This means asking the right questions and truly listening to each customer's unique requirements.

## Global Strength, Powered by People

We have product, market and service specialists staffed throughout the world, who can provide the best technical advice to assist you with decision making at each stage of your pump's life cycle.

## The Right Pump for Your Application

Sundyne is the global leader in high head, low flow fluid handling technology, offering a broad range of products with TDH to 14,500 ft. (4,500 m) and flows to 13,209 gpm (3,000 m<sup>3</sup>/hr). This wide performance range means that there is a pump ideally suited to your process flow in our portfolio.

## Reliability Engineered Fluid Handling Solutions

Sundyne first entered into the fluid handling industry via our work designing high speed, high head, low flow pumps for use in aviation applications. The very technology that enabled airliners to fly across the ocean and placed a man on the moon lies behind our line of API / ISO products, which deliver:

- Reliability
- Energy Savings
- Quick Delivery
- Reduced Life Cycle Costs
- Ease of Installation
- Durability
- Ease of Maintainability
- Up and Running
- Customer Service
- Ease of Repair

## Legacy API / ISO Product Lines

- Sundyne pumps
- Sundyne compressors
- Sundyne Marelli pumps
- Ansimag non-metallic pumps
- HMD Kontro, magnetic drive pumps

## Broad Product Lines

- LMV Series, API OH6, Single-stage, Integrally Geared Process Pumps
- HMP Series, Multi-stage, Integrally Geared Process Pumps
- SMK Series, API OH2, Single-stage, Overhung Process Pumps
- KSMK Series, API BB2, One or Two Stage, Between Bearing, Radially Split Pumps
- DVMX Series, API BB3, Multi-stage, Axially Split Pumps (Sundyne Marelli OH1, BB4, VS1-4, plus+ also available)
- HMD Kontro GSP Series, API 685 / ISO Sealess, Process Pumps
- Ansimag and HMD Kontro, ANSI and ISO, Sealess, Process Pumps

For additional information on other Sundyne products, visit us online at [www.sundyne.com](http://www.sundyne.com)

## Designed for Uptime Assurance™

### Tapered Alignment Pins:

Maintains true position and integrity of the bearing bores. Alignment is maintained even after multiple rebuilds.

### Input Shaft Assembly:

Balancing standard service reduces vibration and noise while improving reliability and operating life. ISO 1940 Grade 2.5.

### Lube Oil Pump:

Improved design eliminates oil pressure fluctuations, prevents oil pump seizures and reduces wear at the input shaft slot.

### Tapered Thrust Washer:

Handles higher thrust capacity and is dimensionally interchangeable.

### Output Shaft Assembly:

Balancing standard service reduces vibration and noise while improving reliability and operating life. ISO 1940 Grade 2.5. Designed for minimum bearing span to overhang ratio.

### Extended Oil Sight Glass:

Greatly improves oil level reading accuracy at all temperatures and speeds. Helps to prevent overfilling.

### Combination Labyrinth Seal:

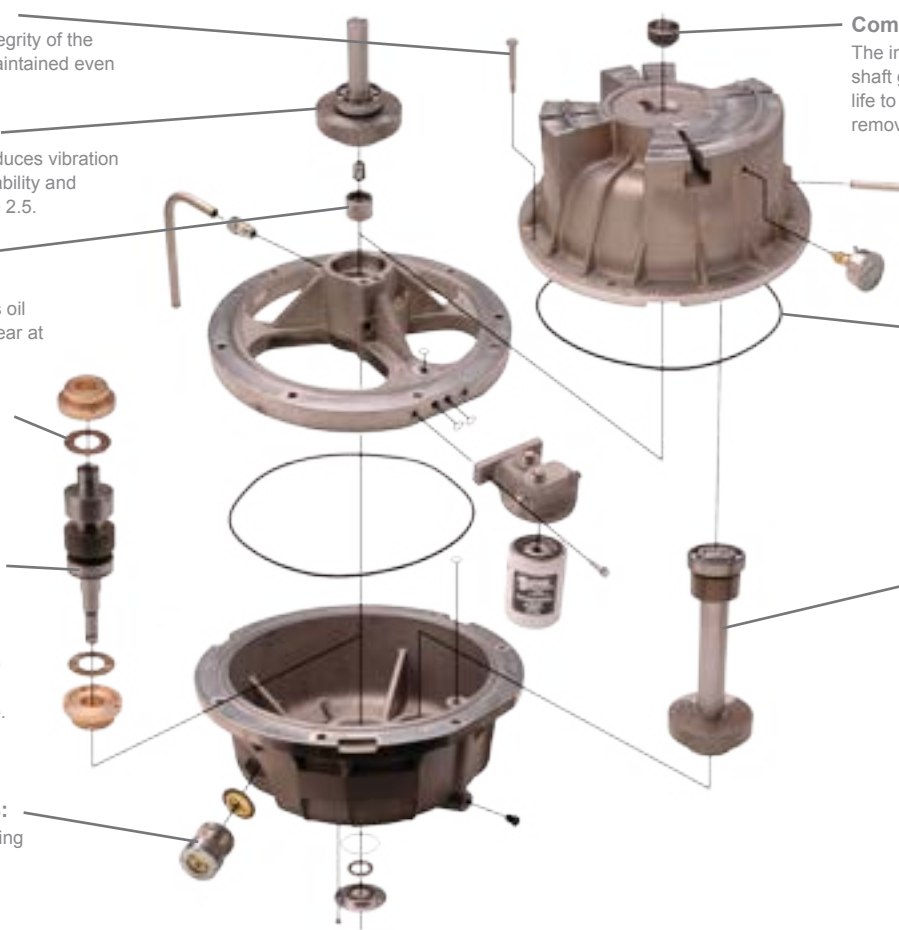
The inner sleeve eliminates input shaft grooving and extends seal life to 3-5 years. The seal may be removed and reused many times.

### O Rings Standard in Gearbox Split Line:

Eliminates leakage and reduces clean-up and contamination to atmosphere. Improves durability for shipping, storage, and assembly.

### Idler Shaft Assembly:

Balancing standard service reduces vibration and noise while improving reliability and operating life. ISO 1940 Grade 2.5.



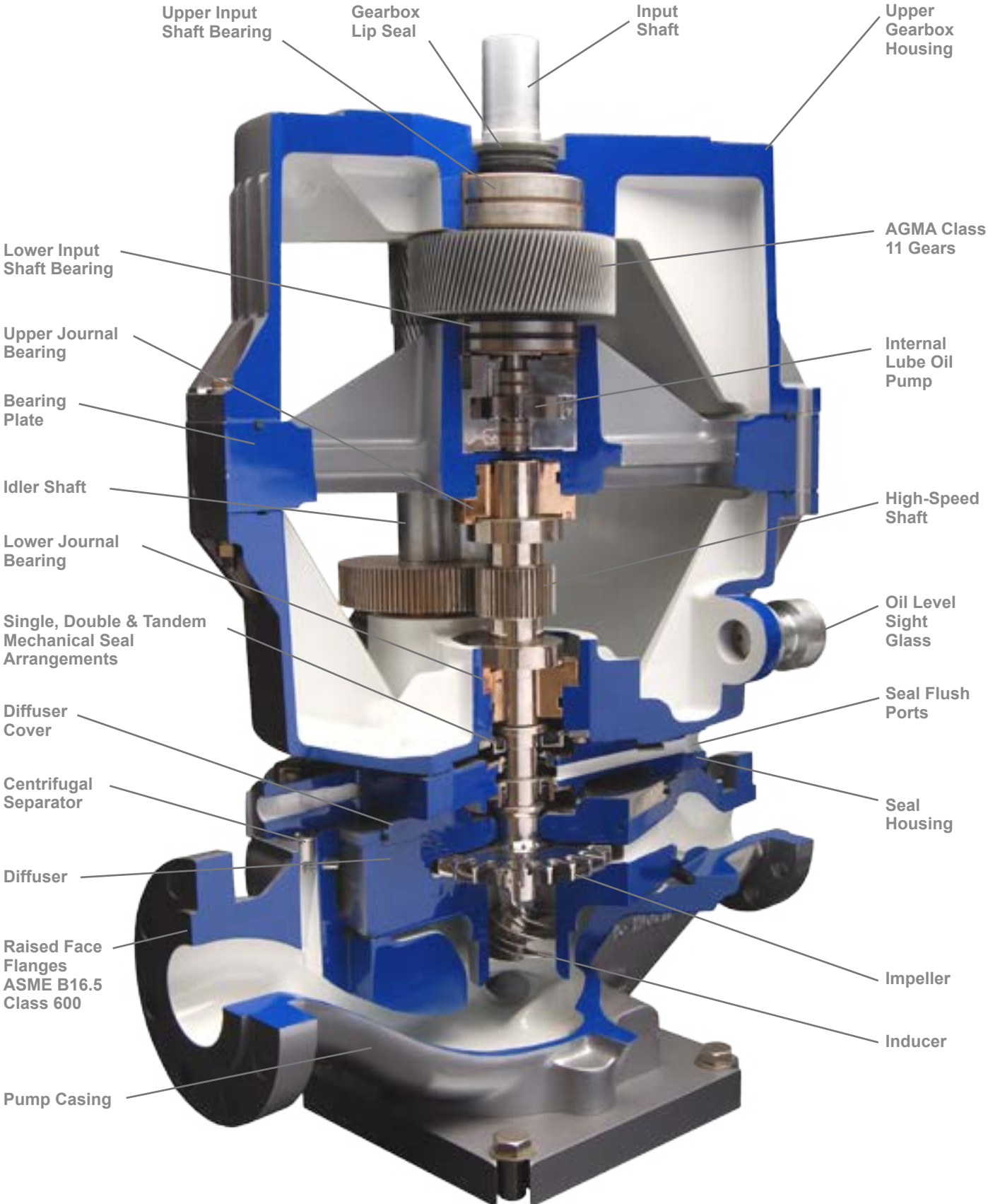
## Custom Skid Packaging and Optional Features



Custom skid packaging is what Sundyne does best. Whether it's a simple standard API kit or a complex one-of-a-kind design, we can handle it!

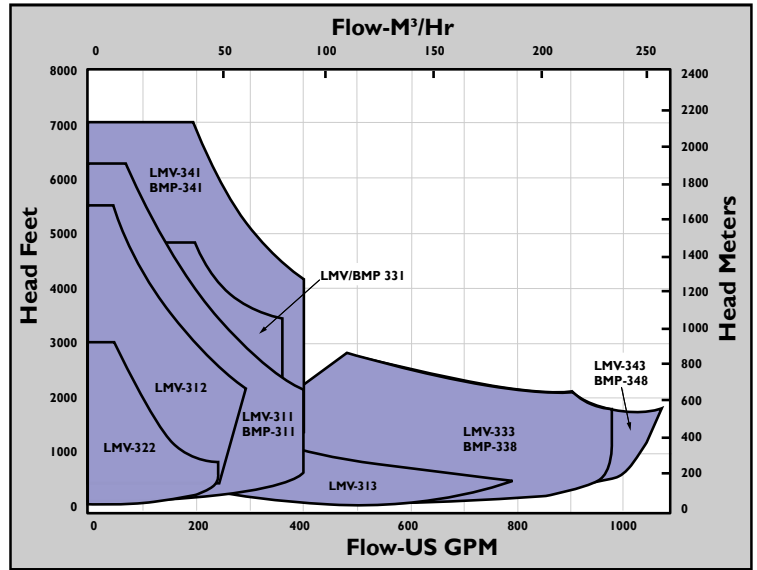


# Principle Product Design

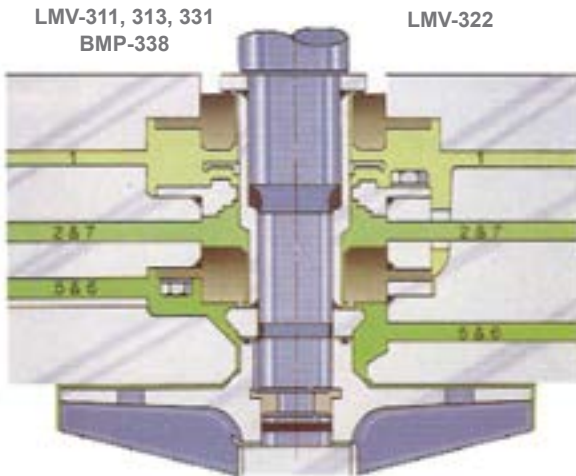


## Performance Envelope and Specifications

- Flows to 1,100 gpm (250 m<sup>3</sup>/hr)
- Heads to 6,300 ft (1,921 m)
- Maximum case working pressure 3,465 psig (230 barg)
- Maximum suction pressure 1,000 psig (70 barg)
- Temperature range: -200° to 650°F (-130° to 340°C)
- Industry leading inducer designs reduce NPSHr
- Multiple API 610 piping plans are available
- ASME B16.5 600# RF flanges standard  
900# RF flanges optional on select models
- Special metallurgies: all machineable alloys available

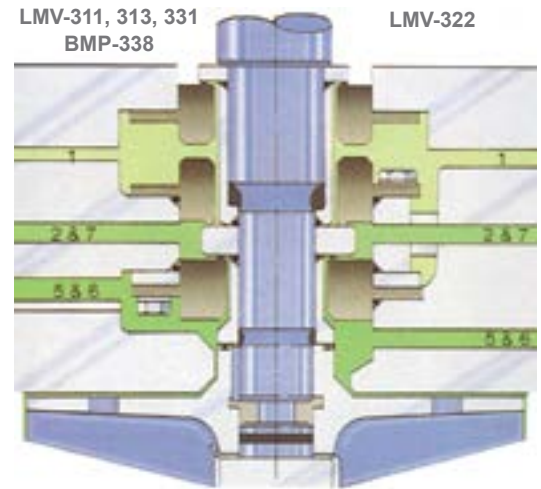


## Seal Configurations



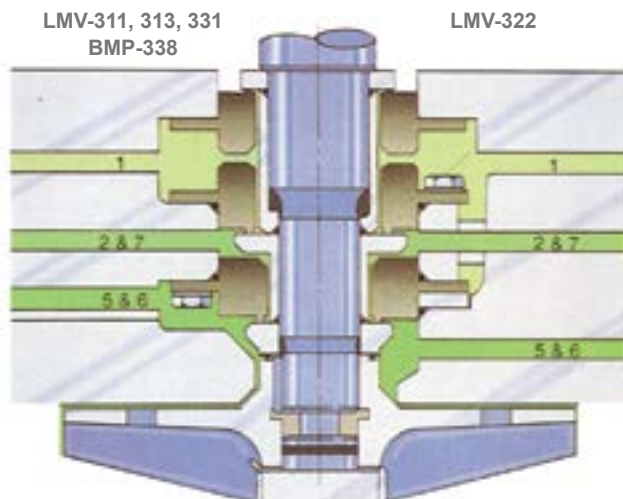
### Double Seal ▶

Recommended when the pumped liquid contains abrasive, leakage could be hazardous, or when the pump is likely to run dry.



### Single Seal ▲

Standard seal used in most applications for non-abrasive or non-hazardous liquid. Bellows seals are also available for higher temperatures and abrasive liquids.



### ◀ Tandem Seal

Used to accommodate quenching, automatic shutdown systems and high pressure services. With no requirement for a buffer liquid, a film-riding gas seal may be placed in the upper position, thereby providing a secondary seal backup in the event of main seal failure.

## Robust Rotating Elements Ensure Optimum Performance

The Sundyne LMV / BMP high-speed shaft assembly and other rotating elements are designed to withstand the harshest of services and environments.

### Features and Benefits

- Single-stage design with multi-stage performance
- Custom hydraulics to match your application
- State-of-the-art inducers for superior NPSHr
- Large diameter shaft for reliable service
- Short bearing span mimimizes deflection
- Dynamic balancing assures optimum performance



- ▲ Robust shaft and gear design with balancing service standard reduces vibration and noise while improving reliability and increasing operating life.



- ▲ Custom hydraulics are used to optimize efficiency, curve shape, NPSH, runout horsepower and radial loading.



- ▲ Optional inducer added at the impeller eye reduces NPSH requirements up to 70%.



## Where Sundyne API/ISO Pumps are used:

Sundyne heavy duty, single stage, integrally geared process pumps have been in the field for over four decades, reliably performing night and day. Below are some of the typical processes in which Sundyne pumps are utilized:

### Petroleum Refining and Petrochemical Production

- Alkylation and Polymerization
- Base Aromatics Production
- Catalytic Cracking
- Catalytic Reforming
- Coking
- Dehydrogenation
- Gasification and Hydrogen Production
- Hydrocracking and Sweetening
- Hydrogen Processes
- Hydrotreating
- Isomerization
- Separation Processes
- Sulfur Compound Extraction
- Pump services such as: Feed, Wash Water, Reflux, Bottoms, Overhead, PP Feed, Charge Transfer, Reactor Wash, Recycle, Make-up and more

### Oil and Gas Processes

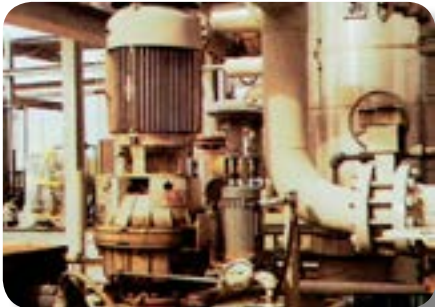
- Production and Pipeline
- Offshore
- Onshore
- Synthetic Crude
- Liquid Natural Gas
- Pump services such as: Stripping, Polishing, Washdown, Seawater Injection, Charge, Booster and more

### Other Processes

- Chemical
- Food
- Mining
- Steel
- Drying Petroleum Production
- Cryogenic
- General Industry

### Power Generation Processes

- Combined Cycle
- Coal
- Bio-Mass
- Solar
- Nuclear
- Pump services such as: Main Boiler Feed Water, Desuperheating, Auxilliary Boiler Feed Water, Condensate Services, Fuel Feed, Spray Water, Seal Water and more



▲ LMV-311 on 1,000 lb. suction pressure hydrocarbon service with auxiliary lube oil pump and air cooled heat exchanger.



▲ 40 HP LMV-322 reactor feed pumps in a gulf coast refinery.



▲ High-temperature LMV-311 installation (temperatures to 650°F)



▲ Full emission BMP-338 (500 gpm at 1,000 ft.) hydrocarbon bottoms pump.

## Meeting Your Needs Today

Sundyne is dedicated to meeting your needs today and – in some cases – even before you know you have a need! As a Sundyne product user, you have immediate access to:

- Operation and Maintenance Schools
- On-site Support and Service
- Expedited Standard Pump Program
- Gearbox Exchange Program
- Online Technical Data Packs
- Maintenance / Repair Kits
- Pump Conversion Program
- Expedited Spare Parts Ordering

## Backed By Global Support

Sundyne is more than just a manufacturer of high quality compressors and pumps...much more. Not only do we offer some of the fastest delivery times in the industry, we also back each and every product shipped with a full range of aftermarket support services, extending the value of our highly engineered machines well beyond the point of sale.

And with our training services, worldwide presence and compact designs, installation and maintenance has never been more efficient.

The Sundyne service team is here to help protect your investment and provide a trouble-free customer experience at every turn. That's *RELIABILITY REALIZED.*

### Our Aftermarket Programs Include:

- Expedite Programs
- Maintenance Kits
- Conversion Programs
- Gearbox Exchanges
- Service Schools
- On-Site Service
- Overhaul and Repair Services

### Sundyne: An OSHA VPP Star Site

At Sundyne, Environmental Health and Safety (EH&S) is integral to our culture of excellence, and providing a 100% safe work environment through the manufacturing and installation phases of a project is a core priority.

To learn more about our extended service offerings and specific application references, visit [www.sundyne.com](http://www.sundyne.com) or contact us toll free at 1-866-SUNDYNE.



#### COMPRESSORS

#### PUMPS

#### GENUINE PARTS

#### SERVICE

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**RELIABILITY  
REALIZED.**



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