

## Technical Profile

### LMV-801S

Vertical, low flow, sealless magnetic drive pumps to API 685

**The LMV-801S range comprises pumps based on the HMD Kontro GS drive, built to API 685 specification, suitable for heavy-duty applications.**

The LMV-801S combines the proven technologies of Sundyne Barske Wheel hydraulics with the HMD Kontro sealless magnetic drive, optimising reliability and efficiency to ensure trouble-free plant operation. The LMV-801S meets the requirements of API 685 and is explosive atmosphere compliant, making it ideal for oil and gas installations plus chemical and petrochemical applications.

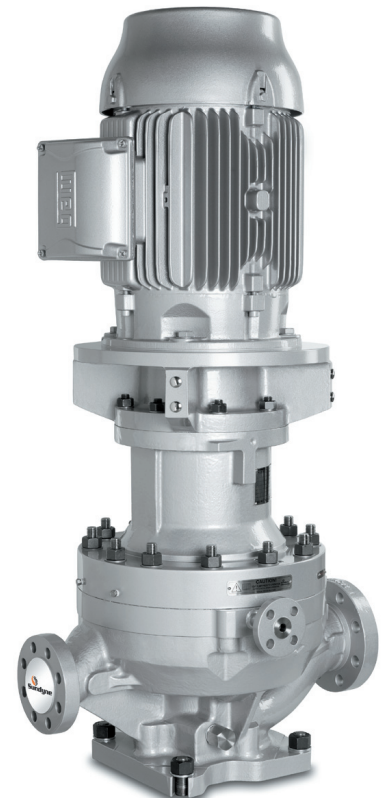
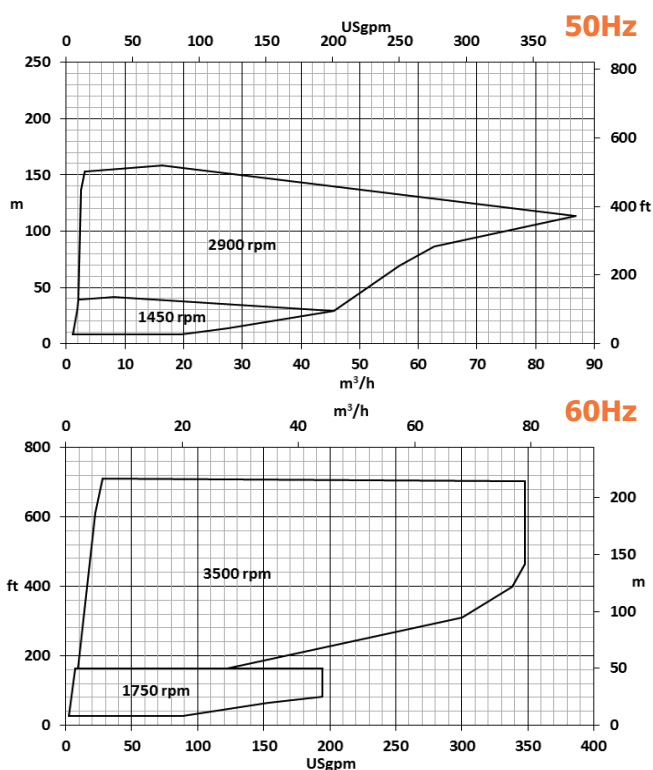
An additional advantage of the LMV-801S is the flexibility inherent in the diffuser and impeller, which can easily be upgraded should the duty need to be changed without replacing the pressure casing.

#### Sealed to Sealless

The LMV-801S pump is dimensionally interchangeable with the LMV 801 mechanical seal pump and will simply 'drop-in' to existing client pipework, making sealless upgrades possible without the need to modify pipe and foundation layout.

A 'plug-in' version of the pump is also available. This enables the client to leave his existing LMV 801 casing and diffuser in the pipe line whilst replacing the mechanical seal drive end with a sealless drive end that will simply 'plug-in' to the existing casing.

### Performance of the LMV-801S



#### Design range limits

The LMV 801S pump is designed to operate from -40°C up to 205°C / -40°F up to 400°F without the need for any ancillary cooling medium. Design working pressure is 40 bar / 580 psi at ambient temperature.

#### Solids handling

The unit is designed for use on clean liquids only. However, a small amount of solids in the liquid is acceptable depending on size and type. Check with Sundyne Technical if in doubt.

#### Materials of construction

Standard S-5, A-8, D-1 and D-2  
Other variations available on request

#### Options

High Efficiency ZeroLoss™ Containment Shell  
Secondary Control System  
Secondary Containment System  
Inducers  
NACE Compliant Materials  
Horizontal end suction derivative  
High system pressure derivatives (100 bar)

## Key Design Features

- Conforms to API 685 Standard for Sealless Pumps
- No mechanical seal system required
- Material options available
- Optional ZeroLoss™ composite containment shell technology
- Secondary sealing options for highly hazardous liquids
- Cartridge replacement

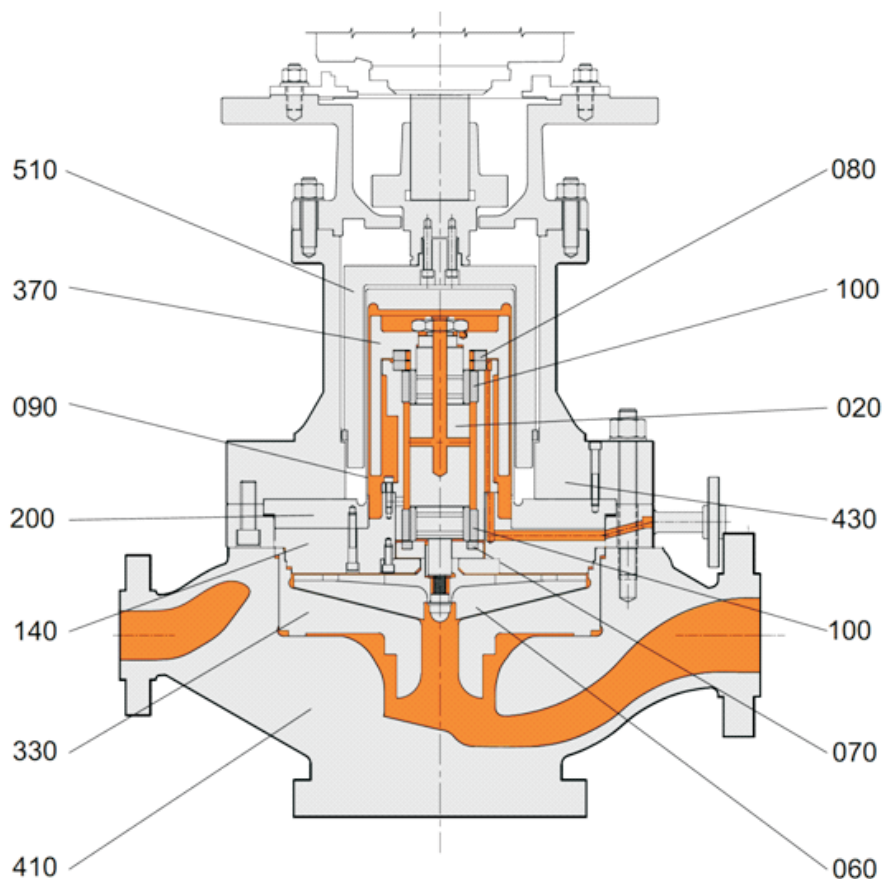
## Motors

Motor power transmission  
IEC V1 D flange mounted  
NEMA C flange mounted

## Benefits

- Internationally recognised standard for heavy duty pumps in petroleum, petrochemical, and gas industry process service
- Reduced cost of installation
- Reduced cost of maintenance
- Reduced risk of operational error
- Leak free operation
- Environmentally safe
- Standard range of materials according to API 685 material classes
- Standard material options are suitable for a large range of corrosive liquids
- Other materials available by request
- High efficiency magnet drive
- Greatly reduces chance of liquid 'flashing' during process upset conditions
- Ideal for liquids with low specific heat or liquids near their boiling point
- Secondary control option minimises leakage if primary containment shell is breached
- Secondary containment option prevents leakage if primary containment shell is breached
- Greatly reduced down time for maintenance
- Reduced spare parts inventory and associated costs

## Construction of LMV-801S Pumps



|            |                       |
|------------|-----------------------|
| <b>020</b> | Pump Shaft            |
| <b>060</b> | Impeller              |
| <b>070</b> | Thrust Washer (Front) |
| <b>080</b> | Thrust Washer (Back)  |
| <b>090</b> | Bush Holder           |
| <b>100</b> | Bush                  |
| <b>140</b> | Casing Plate          |
| <b>200</b> | Shroud                |
| <b>330</b> | Diffuser              |
| <b>370</b> | Inner Magnet Ring     |
| <b>410</b> | Casing                |
| <b>430</b> | Coupling Housing      |
| <b>510</b> | Outer Magnet Ring     |

## Flanges and Connections

### Casing

Suction and discharge flanges are designed in accordance with the following relevant standards:

**ANSI B16.5**  
**Class 600**      Machined with 7mm (1/4") high raised face having a continuous spiral groove.

### Flange Loadings

Allowable flange loadings imposed by pipework are in accordance with Table 4 of API 685 2<sup>nd</sup> edition.

### Drain and Vent Connections

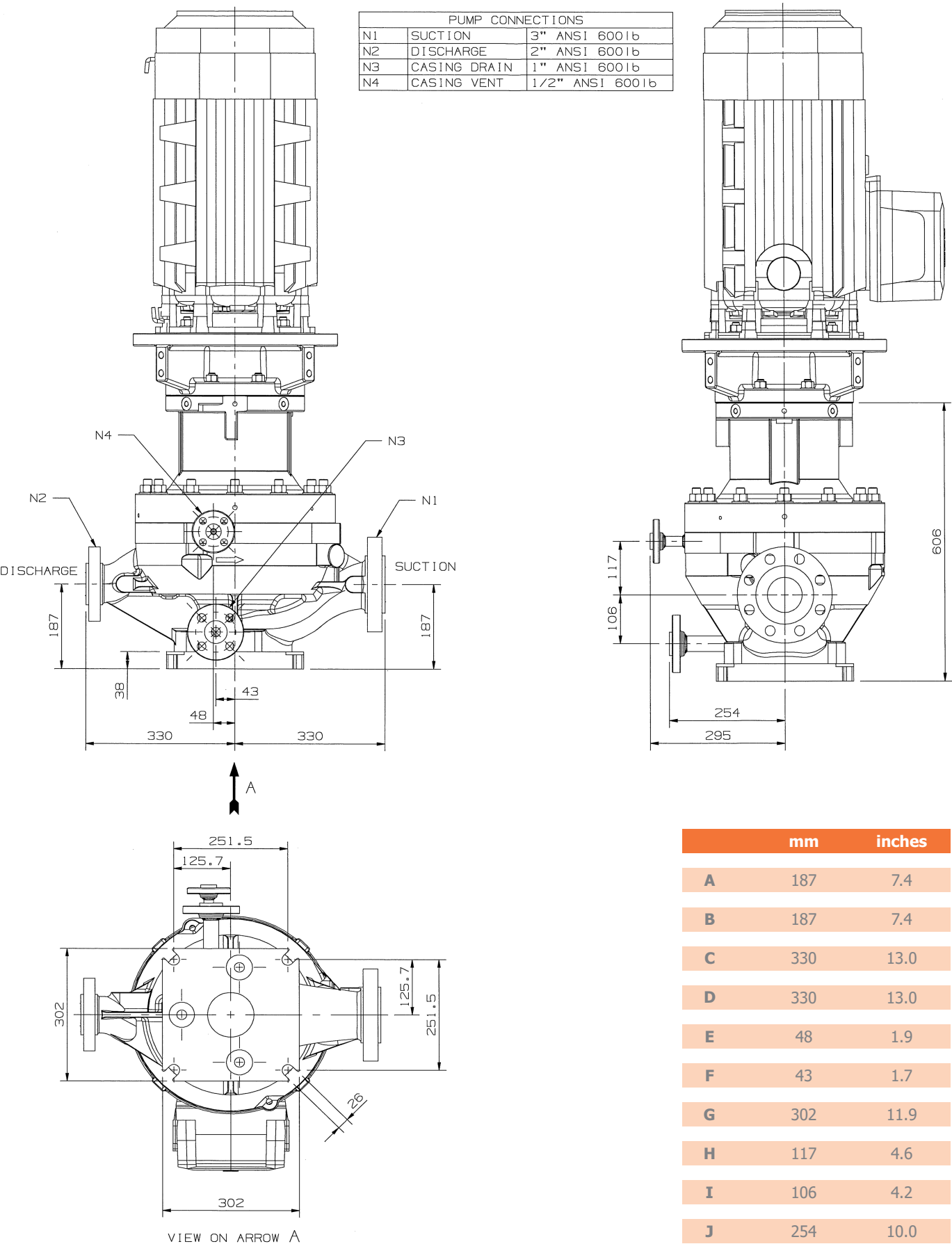
The following drain and vent options are available:

**Standard:**      Socket weld flange

**Optional:**      NPT plug

Dimensions of a typical LMV-801S pump

Dimensions are for guidance only. Do not use for installation purposes.



Range Capabilities

| Frequency | Head  | Flow            | Design Temperature | Design Pressure |
|-----------|-------|-----------------|--------------------|-----------------|
| 50Hz      | 150m  | 4 to 71 m³/h    | -40 to 205°C       | 40 bar          |
| 60Hz      | 720ft | 20 to 380 USgpm | -40 to 400°F       | 580 psi         |

Note: the tabulated dimensions are for guidance only.

## Pressure limits

All parts are to be rated to the pressures shown below at 38°C / 100°F

| Flange standard | Design pressure |         |         |         |
|-----------------|-----------------|---------|---------|---------|
|                 | S-5             | A-8     | D-1     | D-2     |
| ANSI B16.5      | 4.0 MPa         | 4.0 MPa | 4.0 MPa | 4.0 MPa |
| Class 600       | 580 psi         | 580 psi | 580 psi | 580 psi |

| Component         | Hydrostatic test values |         |         |         |
|-------------------|-------------------------|---------|---------|---------|
|                   | S-5                     | A-8     | D-1     | D-2     |
| Casing            | 6.0 MPa                 | 6.0 MPa | 6.0 MPa | 6.0 MPa |
| Class 600         | 870 psi                 | 870 psi | 870 psi | 870 psi |
| Containment Shell | 6.0 MPa                 | 6.0 MPa | 6.0 MPa | 6.0 MPa |
| Class 600         | 870 psi                 | 870 psi | 870 psi | 870 psi |

## Temperature limits

|  | S-5                                | A-8                                  | D-1                                | D-2                                |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|
|  | -29°C to 205°C<br>(-20°F to 400°F) | -100°C to 205°C<br>(-148°F to 400°F) | -40°C to 205°C<br>(-40°F to 400°F) | -40°C to 205°C<br>(-40°F to 400°F) |

### Representative in Moscow for Russia & FSU:

121099 Moscow, Russia  
TDK Smolensky Passage  
Smolenskaya Square 3, office 627  
**Phone:** 007 (495) 234 51 01  
**E-mail:** info@intohandel.ru  
**Web:** www.intohandel.ru

Sundyne United Kingdom:  
**Sundyne HMD Kontro Sealless Pumps**  
Marshall Road  
Hampden Park Industrial Estate  
Eastbourne, East Sussex, BN22 9AN  
United Kingdom  
Phone: +44 (0)1323 452000  
Fax: +44 (0)1323 503369

**Worldwide Sales Headquarters**  
Unit 2 Harvington Business Park  
Brampton Road  
Hampden Park Industrial Estate  
Eastbourne East Sussex, BN22 9BN  
United Kingdom  
Phone: +44(0) 1323 452125

All information provided is subject to change without notice.

© 2014 Sundyne, LLC  
All Rights Reserved. Other logos and trade names are property of their respective owners.

Sundyne HMD Kontro  
LMV-801S 1.0 11/14 A4 Eng.