

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 the Sundyne Barske Wheel hydraulics with the HMD Kontro sealless magnetic drive, optimizing 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 without replacing the pressure casings should the duty need to be changed.

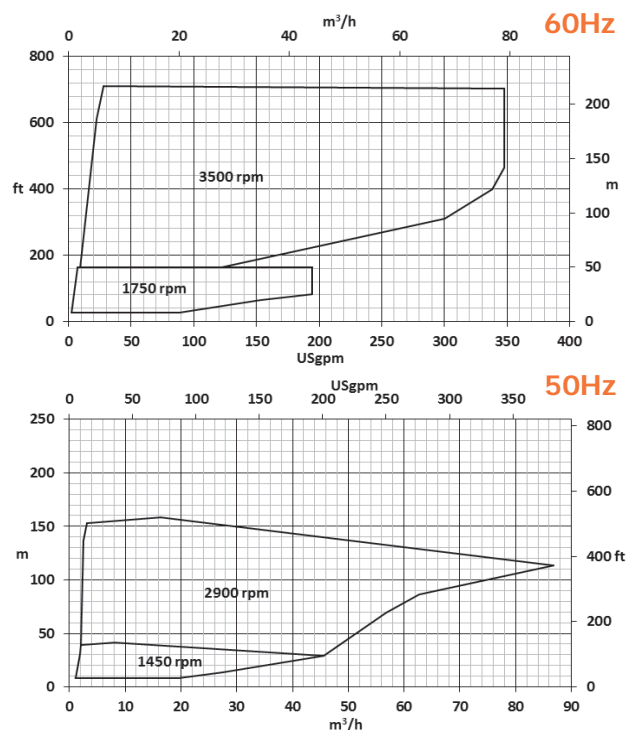
Sealed to Sealless

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 the existing LMV-801 casing and diffuser in the pipeline 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°F up to 400°F / -40°C up to 205°C without the need for any ancillary cooling medium. Design working pressure is 580 psi / 40 bar at ambient temperature.

Solids handling

The unit is designed for use on clean liquids only. However, a small amount of solid material 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

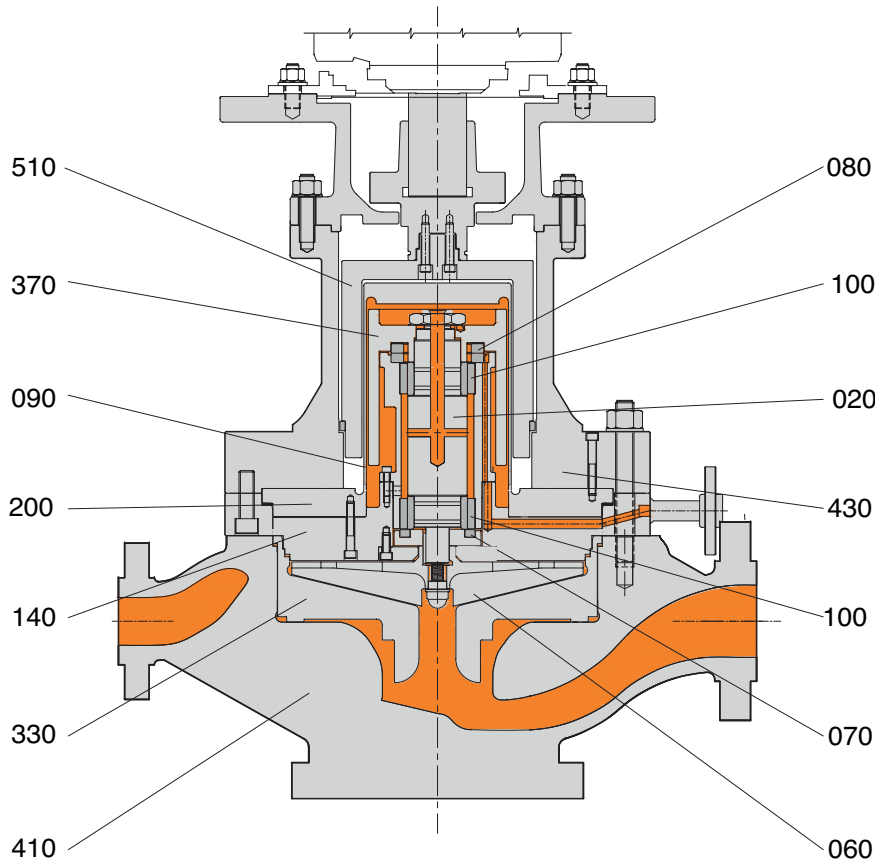
Motors

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 minimizes leakage if primary containment shell is breached
- Secondary containment option prevents leakage if primary containment shell is breached
- Greatly reduced downtime for maintenance
- Reduced spare parts inventory and associated costs

Construction of LMV-801S Pumps



020	Pump Shaft
060	Impeller
070	Thrust Washer (Front)
080	Thrust Washer (Back)
090	Bush Holder
100	Bush
140	Casing Plate
200	Shroud
330	Diffuser
370	Inner Magnet Ring
410	Casing
430	Coupling Housing
510	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 ¼" (7mm) 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 2nd edition.

Drain and Vent Connections

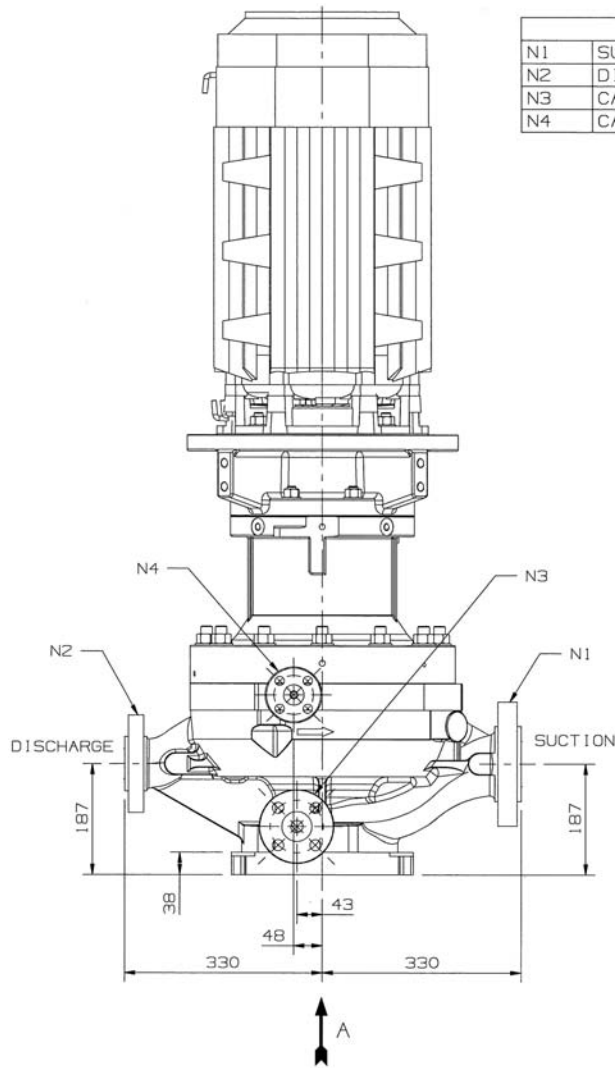
The following drain and vent options are available:

Standard: Socket weld flange

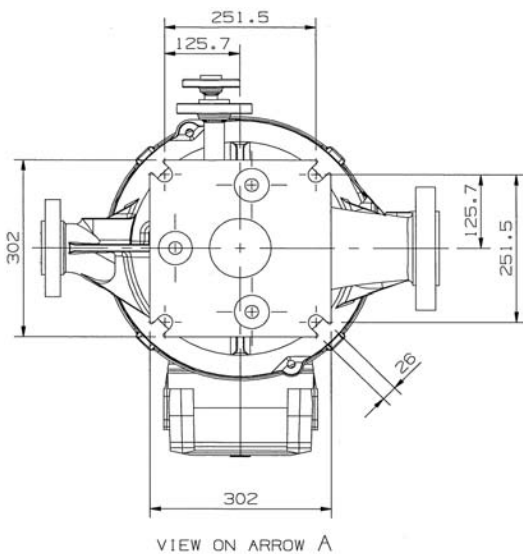
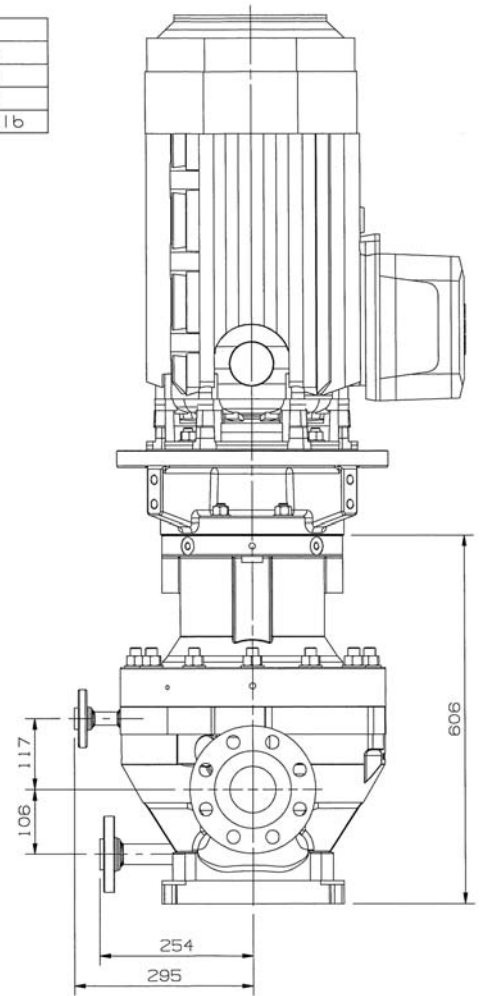
Optional: NPT plug

Dimensions of a typical LMV-801S pump

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



PUMP CONNECTIONS		
N1	SUCTION	3" ANSI 6001b
N2	DISCHARGE	2" ANSI 6001b
N3	CASING DRAIN	1" ANSI 6001b
N4	CASING VENT	1/2" ANSI 6001b



	inches	mm
A	7.4	187
B	7.4	187
C	13.0	330
D	13.0	330
E	1.9	48
F	1.7	43
G	11.9	302
H	4.6	117
I	4.2	106
J	10.0	254
K	11.6	295
L	23.9	606

Range Capabilities

Frequency	Head	Flow	Design Temperature	Design Pressure
60Hz	720ft	20 to 380 USgpm	-40 to 400°F	580 psi
50Hz	150m	4 to 71 m ³ /h	-40 to 205°C	40 bar

Note: the tabulated dimensions are for guidance only.

Pressure limits

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

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
-20°F to 400°F (-29°C to 205°C)	-148°F to 400°F (-100°C to 205°C)	-40°F to 400°F (-40°C to 205°C)	-40°F to 400°F (-40°C to 205°C)

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