



Process Pumps (I) Pvt. Ltd.



# VERTICAL SUMP PUMPS

Catalouge

**DESIGNED TO PERFORM**

# PRINCIPLE OF OPERATION

Pump used to handle liquids from pit where priming is not possible. Extended shaft to ensure a smooth transmission of the power and a delivery pipe extending to the top for smooth delivery of the liquid. We offer Vertical sump pump in metallic materials up to a 6m depth of immersion.

## Salient Features:

- The pump is provided with a single shaft to ensure very low vibration, reliability and longer life.
- It is provided with intermediate bush bearings - the number of intermediate bearing depends upon the depth of immersion.
- We guarantee maximum deflection of 50 micron at impeller end irrespective of the depth, thus ensuring trouble free smooth pumping.
- The intermediate bearings are provided either with graphatised Teflon, bronze or anti galling special stainless steel as the case may be, based on the material of construction and liquid handled.
- We can offer the pump for a temperature range of -70 to + 170°C
- The pump conforms to VS4 as per API 610 10th Edition.
- Since the pump is submerged in liquid, it can handle low vapor pressure liquid without having any NPSH issues.
- The lubrication of intermediate bearing (hydraulic cushioning) is done by the pumping liquid itself, the pumping liquid delivered from the delivery pipe to bearing area.

# ADVANTAGES

- It is ideally suitable for pumping liquid from underground tank - closed or open tank. No need of priming since the impeller and casing are submerged in the liquid
- Automatic switch ON and OFF is possible without necessitating priming
- The use of mechanical seal is avoided. Hence the downtime and maintenance of seal is: No leakage or spill over of liquid during operation and idle condition. Hence environmentally friendly conforming to all safety standards.
- We can offer pump for 4m depth of immersion.
- We offer pump in various materials of construction - Stainless steel conforming to various ASTM grades, duplex & super duplex, Alloy-20, Hastelloy-B, Hastelloy-C and many more
- Can offer pump in both 1440 and 2900 RPM.
- We have offered a single stage pump for 120m head.
- Each pump is well designed to suit individual operating condition with FLP and NFLP motor with mounting plate to suit the customer tank opening.
- Ideally suited for solvents and hazardous liquids.

# DISADVANTAGES

- We do not recommend you to go for a vertical sump pump in a non-metallic construction for the following reasons:
- Mechanical stability is highly compromised with a construction of column pipe and delivery pipe in PP/PVDF. This instability would lead to frequent failures and high down time.
- The shaft is to be lined with PP /PTFE. Please appreciate the lining would not be more than few microns and a disbanding or peeling off the coating would expose the bare metal which is not compatible to the process liquid would lead to a catastrophic failure.



# TECHNICAL SPECIFICATIONS

- Offered in 1440 & 2900 RPM.
- Depth of immersion available is upto 7 meters
- These pumps comply to VS4 specification as per API 610.
- Pumps can be offered with suitable jacketing based on the application.
- Pump can be offered for a temperature range for  $-70^{\circ}\text{C}$  to  $170^{\circ}\text{C}$ .
- Head of upto 120m.
- Capacity from  $3\text{m}^3/\text{hr}$  to  $500\text{m}^3/\text{hr}$ .
- Offered in Semi Open or Closed impeller to suit the application.
- Offered in metallic construction only.

# Material of Construction

The material of construction of a pump plays a crucial role in the operation and durability of the pump. Based on the liquid handled, its nature, temperature and pressure of operation, the material of construction of the pump is to be selected with suitable corrosion allowance. Specialized in offering corrosion resistant pump, we offer the pump in a wide range of metallic and nonmetallic materials to suit the application

## Metallic Material

### Casted Pumps

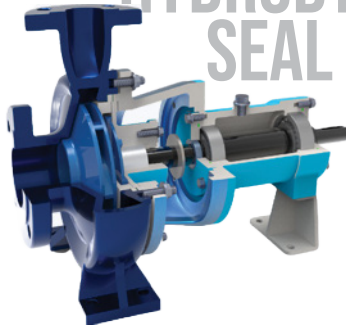
Stainless Steel conforming to various ASTM specifications such as CF8, CF8M, CF3, CF3M and many more.

Duplex and Super Duplex Steel which include CD4MCu, CD6Mn, CD3Mn, Inconel & Alloy 20 and many more.

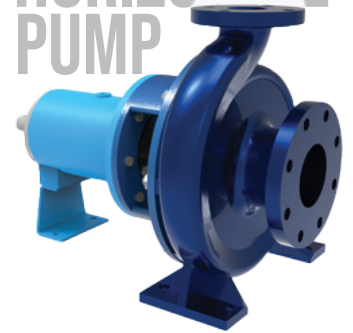
# OTHER PRODUCTS



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SUMP  
PUMPS**



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SEAL PUMPS**



**HORIZONTAL  
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*Pumping solutions redefined*



Location