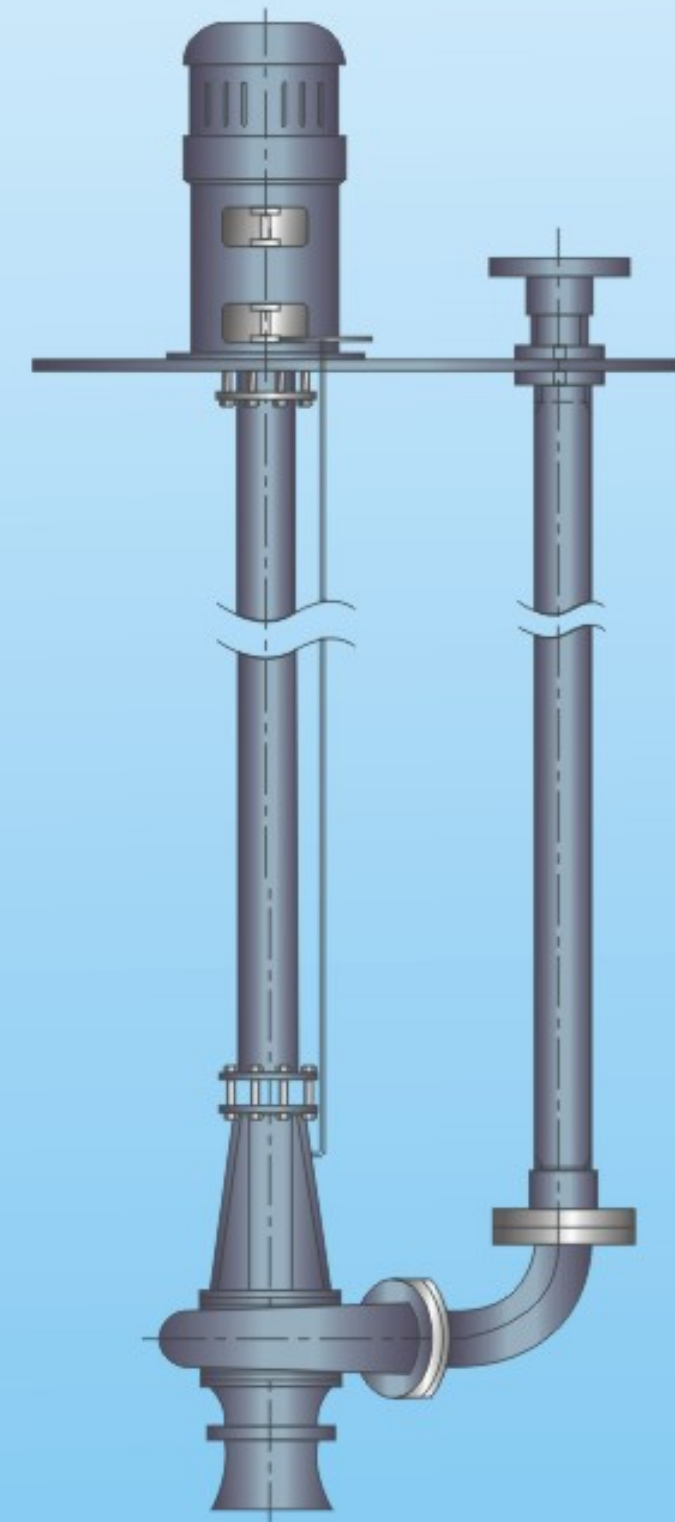


VERTICAL SUMP PUMPS



Manufactured by :
FLOWMORE PRIVATE LIMITED
 A-292, Mahipalpur Extn., N.H.-8, New Delhi-110 037
 Phone : 91-11-30623740 (8 Lines) Fax : 91-11-26783278, 26781483
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An ISO 9001 Company
 - A TRUSTED NAME IN PUMPS

VERTICAL SUMP PUMPS

FLOWMORE range of vertical sump pumps offer widest range of selection depending upon the pumping liquid from Clear Water to alkalies / acid, seepage water, sewage of varying degrees of contamination.

Hydraulic design of these pumps are based on most valuable and up-to-date technologies and experience available in the field.

APPLICATIONS:

Handling sewage, flood water and floor drains. Industrial waste treatment Industrial waste transfer Transfer and circulation of acidic / alkaline fluids, solvent, oils and chemicals. Handling of slurries Sinter, scrubber, liquor process water

RANGE:

Size : 20 to 350 mm NB
Capacity : Up to 1600 M3/ Hr
Heads : Up to 80 meters
Installation depth: Up to 10 meters

CONSTRUCTION:

The volute casing is with radial delivery nozzle. The axial suction nozzle is normally submerged in liquid with strainer as an optional accessory. Suction pipe can also be provided below pump level.

High efficiency impellers are either enclosed or semi-open mounted on amply designed shaft and supported with adequate bearings.

Support plate is of Mild Steel.

Motor stool is either fabricated or ion cast iron. The pump is supported just below motor stool.

SPECIAL FEATURES:

Standard pump is glandless and no stuffing box housing is provided.

SUBMERGED:

The pump is submerged up to minimum pumping level and is ready and is ready to start without priming or air venting. As there is no foot valve, the pump is ideally suited for automatic operation with level, pressure or time control.

SPACE SAVING:

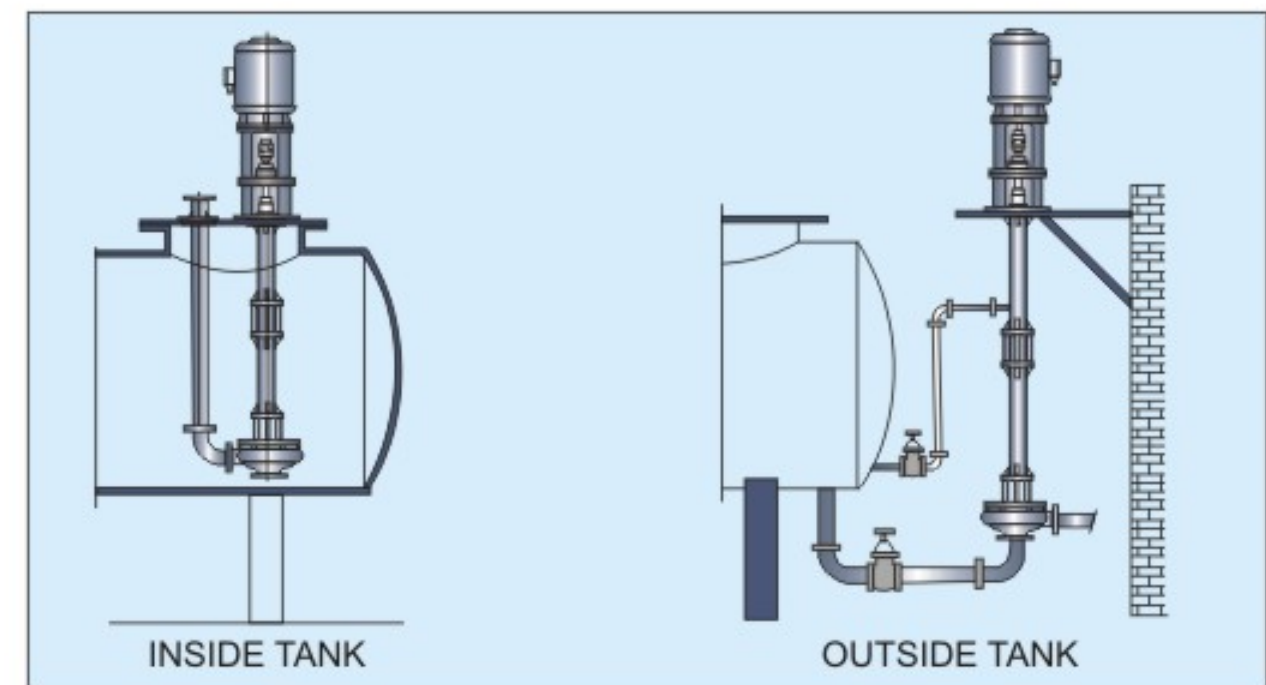
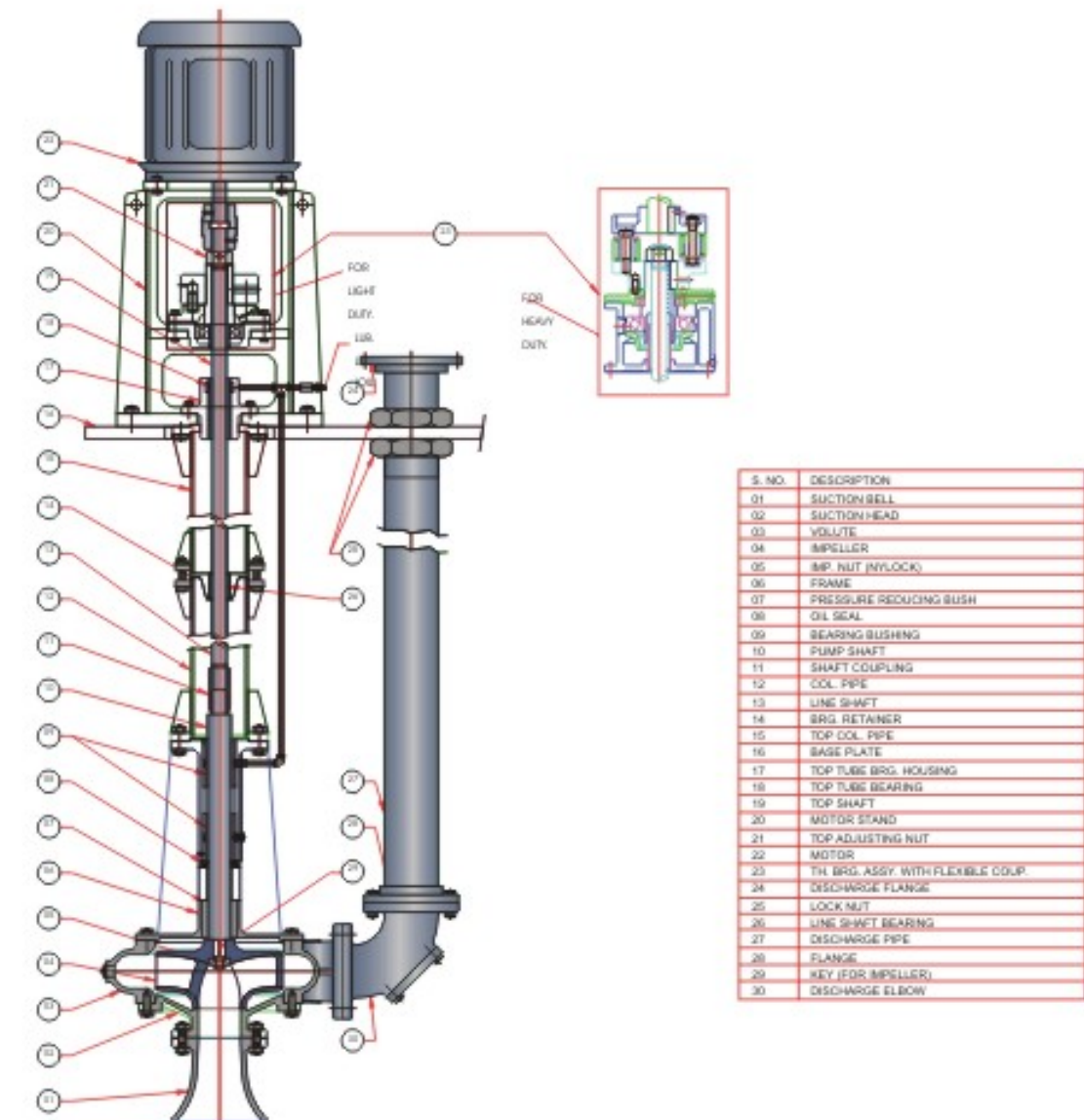
As this pump is mounted vertically, inside or outside the tank, required minimum floor space. No pump house is necessary for installation of the pump. A protective hood on the totally enclosed motor is sufficient. No special foundations is required and pump can even be mounted on supported channels.

INSTALLATION:

The vertical sump pump is easily mounted on tanks (concrete or metallic), sumps, floats etc. With minimum efforts. The pump with discharge pipe terminating above the support plate can be immediately connected to plant piping system. The pump can also be installed outside a tank. In such a case, the liquid leakage around the shaft is piped back to the tank. All advantages of the submersible pump design are still maintained.

BEARING LUBRICATION:

Intermediate shaft is supported with bronze bushes through spiders. In case of clear liquid with lubrication properties, same is used for lubrication of the bushes. Else oil lubrication of these bearing bushes can be provide, controlled through solenoid operated valve.



VERTICAL TURBINE, MIXED FLOW AND AXIAL FLOW PUMPS (Figure: 7000, 6310, 6360 & 7520)

FLOWMORE range of vertical pumps offer widest range of selection depending upon the pumping liquid from Clear Water to varying degrees of contamination.

Hydraulic design of these pumps are based on most valuable and up - to - date technologies and experience available in the field.

APPLICATIONS:

- Cooling water pumps, HP / LP water pumps, condensate and misc. services pumps in power plants
- Supply and treatment of drinking water
- Water from river or sea
- Irrigation / lift irrigation systems
- Flood control / drainage / Storm water
- Fire protection
- Raw water / well water
- Dock dewatering
- Effluent pumping

RANGE:

Size : Up to 1800 mm NB
Capacity : Up to 30000 M3/Hr
Heads : Up to 300 meters

CONSTRUCTION:

Vertical single or multistage centrifugal pumps for wet or dry pit installation with radial or mixed or axial flow impellers.

High efficiency impellers are either enclosed or semi-open mounted on amply designed shaft and supported with adequate bearings.

The shaft guide piping which also serves as a rising main for the liquid pumped is assembled from lengths of concentric, flanged or screwed piping. The shafts are coupled together by threaded coupling or muff couplings.

Motor stool is either fabricated or in cast iron. The pump is supported just below motor stool.

OPTIONAL FEATURES:

- Pull out / non-pull out design
- Self water lubrication, oil or forced water lubrication.
- Suitable for vertical solid shaft or hollow shaft motors
- Pump delivery above or below pump floor.
- With or without Non reverse ratchet
- With antifriction or tilting pad type thrust bearing
- Engine driven with gear box arrangement
- Caisson type pumps for low suction pressure (canned pumps)
- Thordon type bearings for long columns without pre-lubrication arrangement.
- External forced water lubrication system, if required.
- Sump model test, pump model test and seismic analysis.
- Materials of construction for various components to suit client's requirements. For special services bowls / impellers with 350 BHN hardness can be given.
- Mechanical seals.

BEARING ARRANGEMENT

Pump and intermediate bearings:
The shafts are supported in the pump and in the rising main by

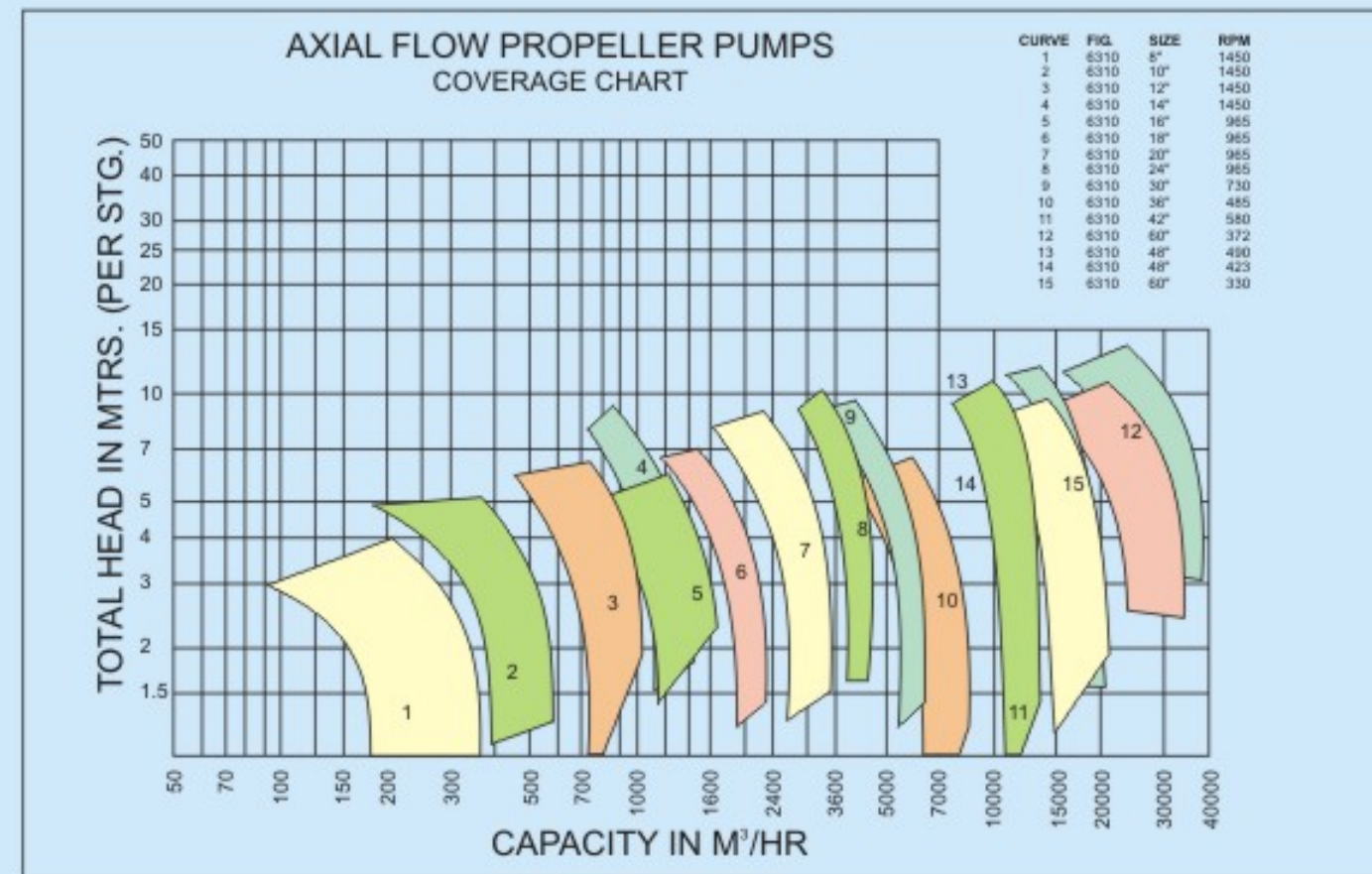
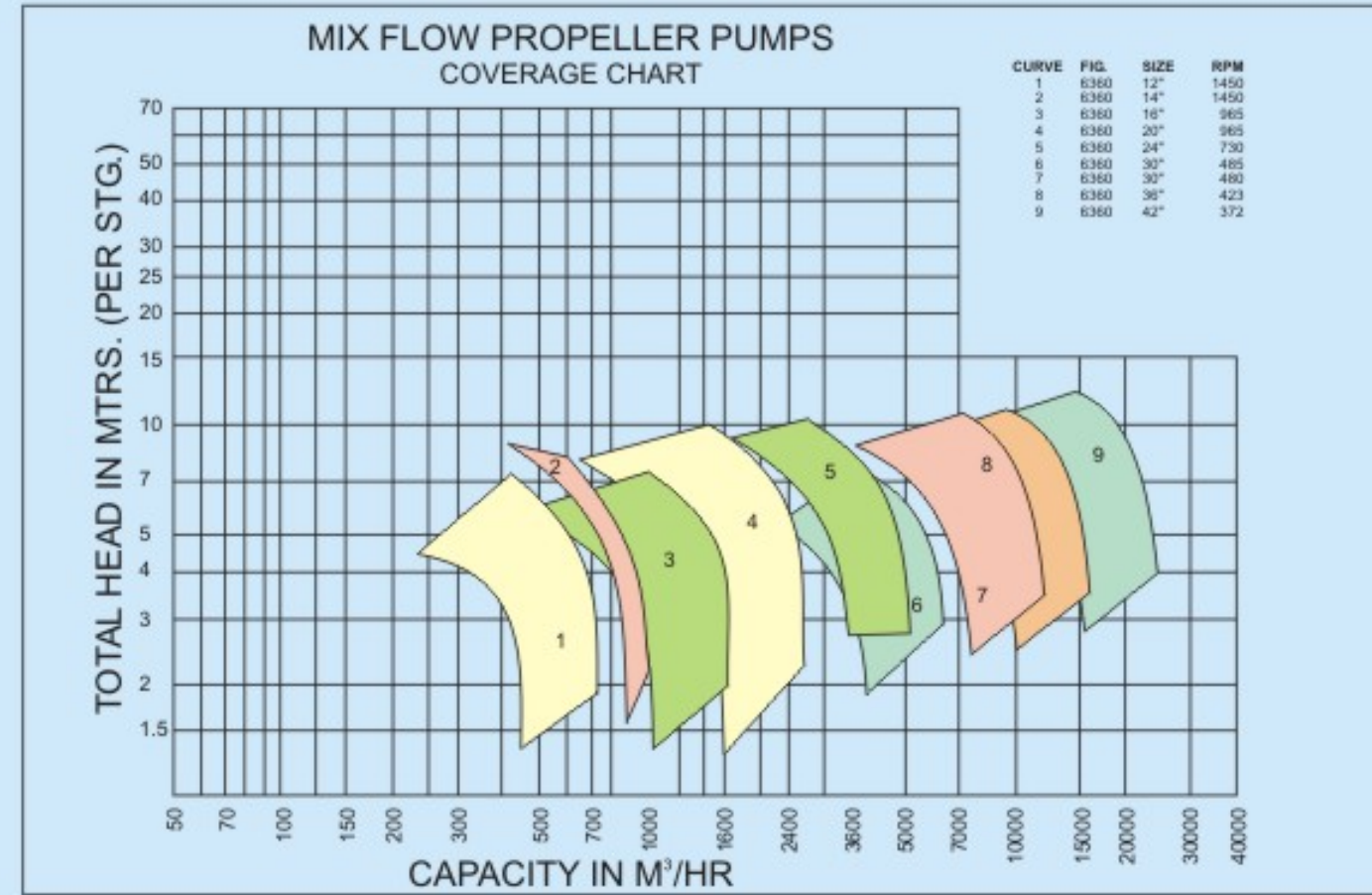
- water lubricated rubber bearings.
- Oil lubricated bearings

If required, the complete length of the shafting exposed to the liquid pumped can be protected by shaft enclosing tube.

Combined top thrust and radial bearing:
A combination of oil lubricated or grease filled antifriction bearings, or as segmented thrust bearings – also available with bearing cooling system.

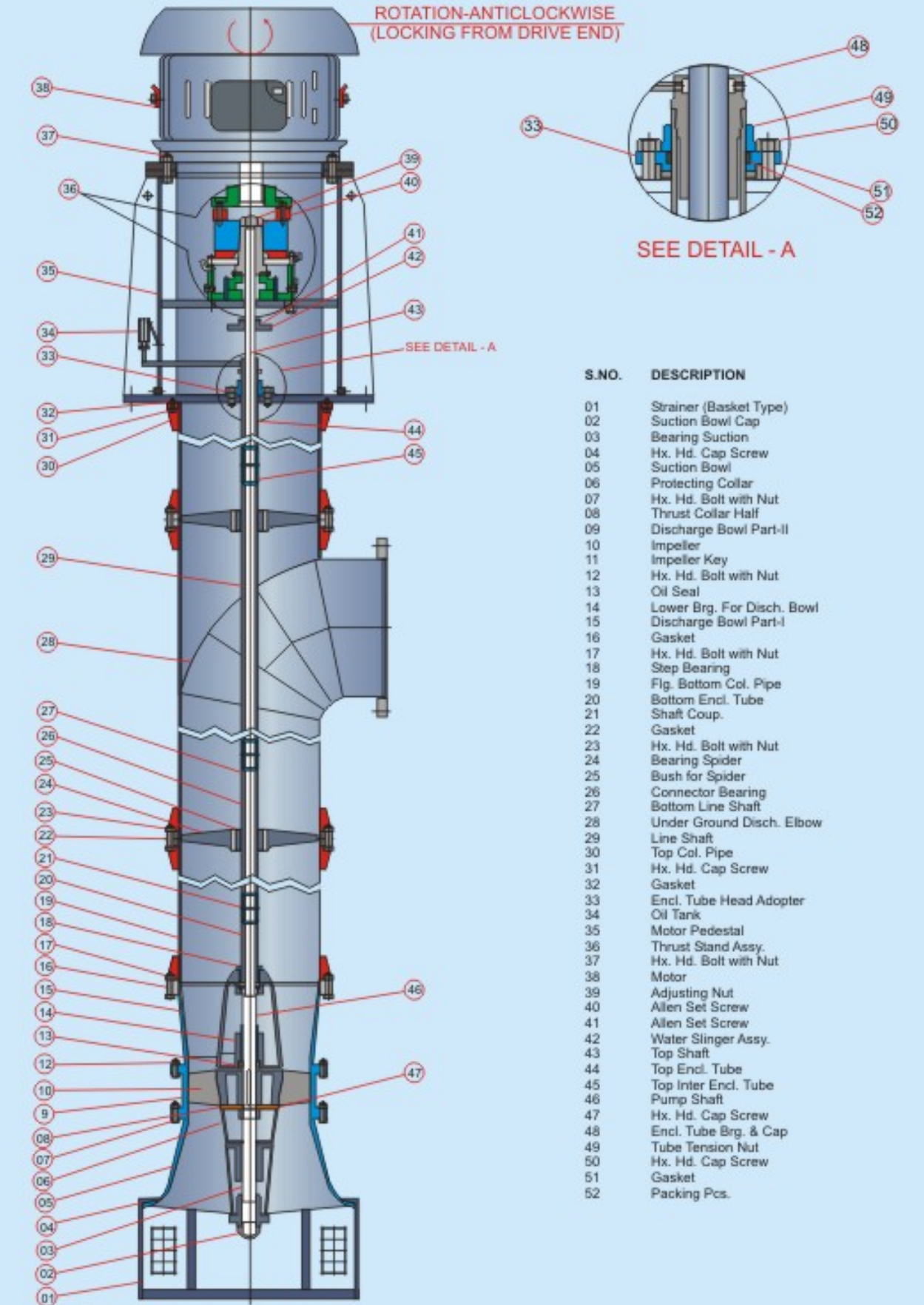
BEARING LUBRICATION:

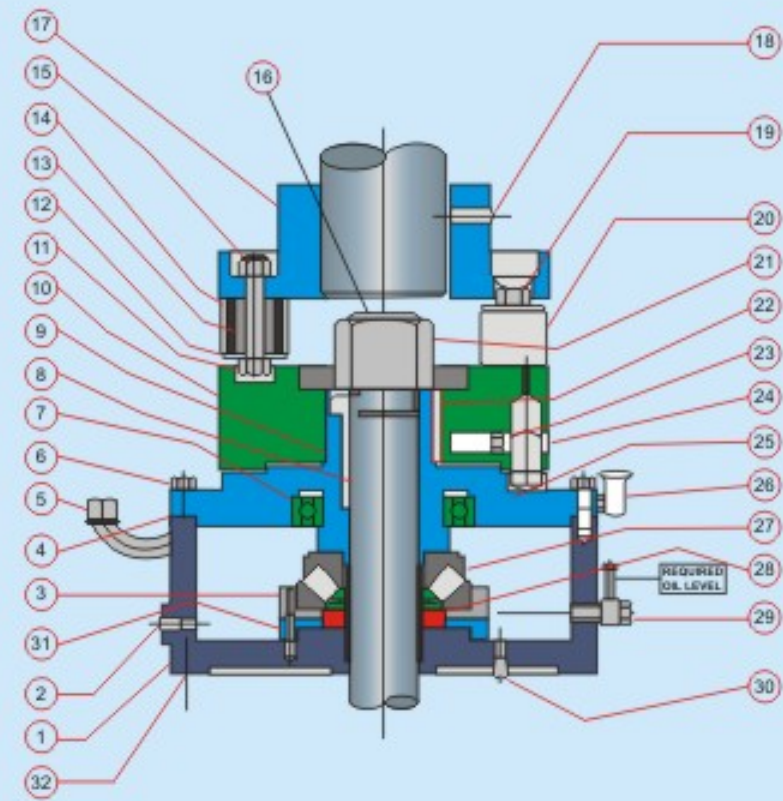
Intermediate shaft is supported with bushes through spiders. In case of clear liquid with lubrication properties, same is used for lubrication of the bushes. Else forced water or oil lubrication of these bearing bushes can be provided.



- The above curves are approximate and meant for tentative selection. For details, individual pump family curves must be referred to.
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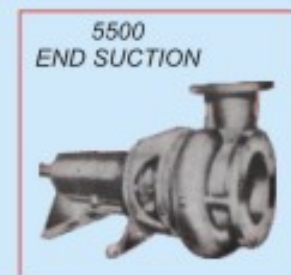
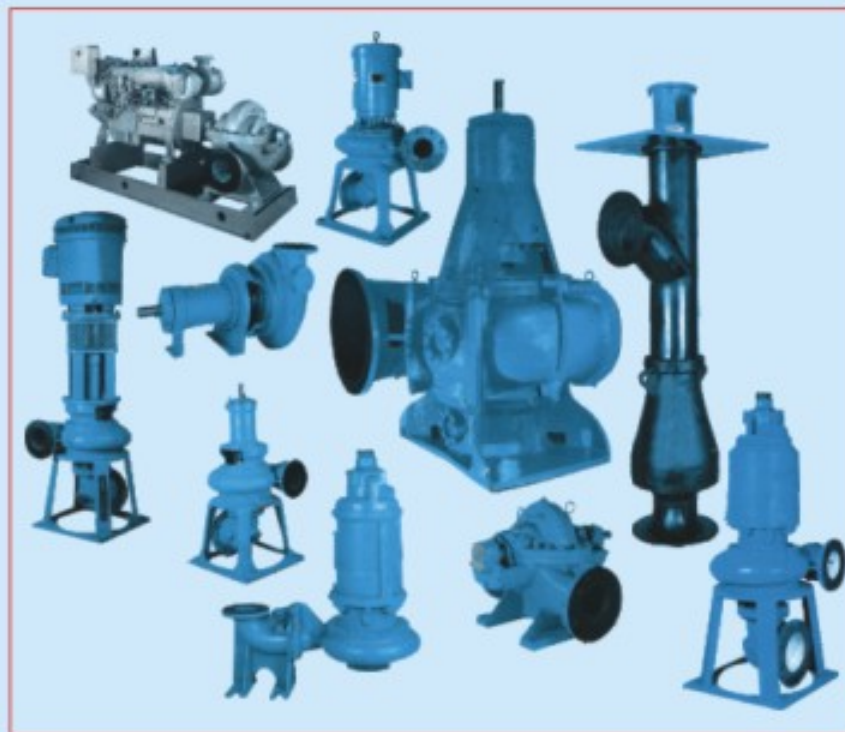
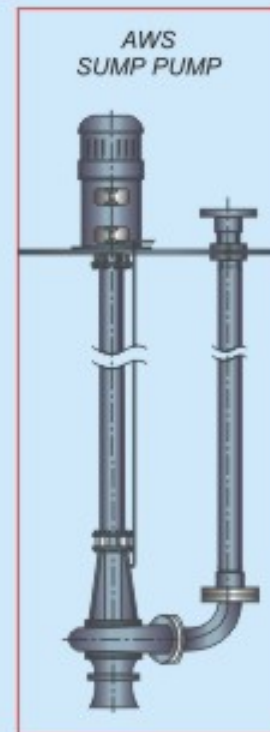
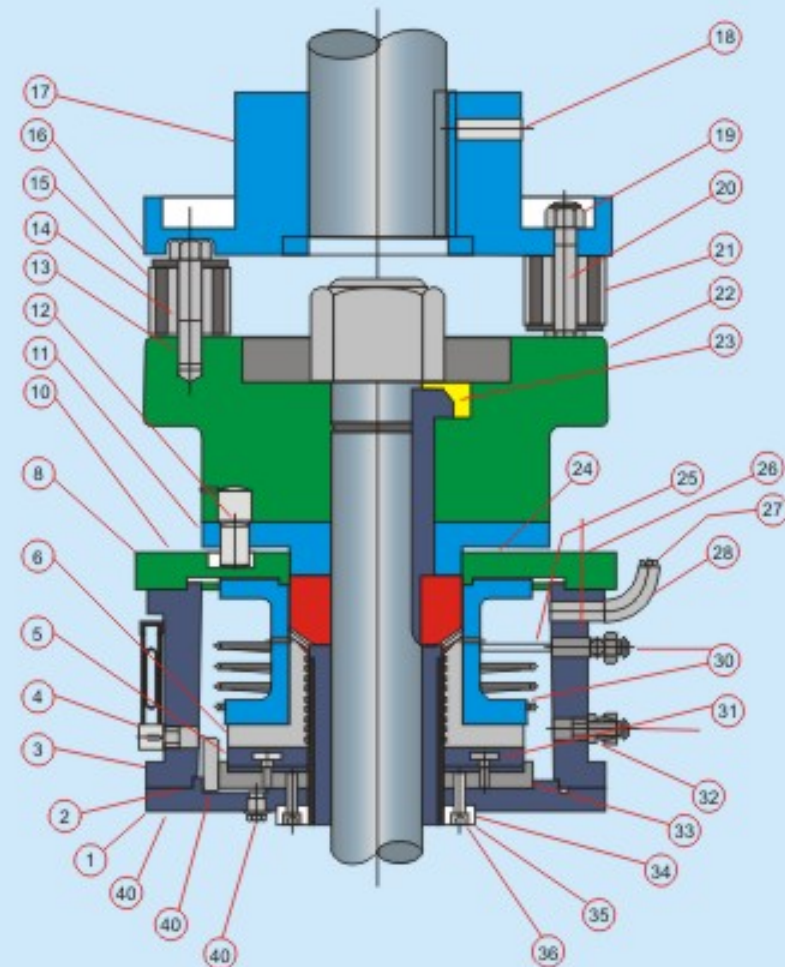
Propeller Pump with Solid Shaft Motor (Oil Lubricated Arrangement and Below Floor Delivery)





S.NO.	DESCRIPTION
01	Thrust Bearing Housing
02	Plug
03	Thrust Bearing Seat
04	Gasket
05	Oil Fill Port
06	Hex. Hd. Cap Screw
07	Radial Ball Bearing
08	Gib Key
09	Thrust Hub
10	Lower Coupling Half
11	Hx. Hd. Bolt
12	Retaining Washer
13	Pin Block
14	Rubber Bush
15	Nylock Nut
16	Allen Set Screw
17	Upper Coupling Half
18	Allen Set Screw
19	Hx. Hd. Bolt
20	Link
21	Adjusting Nut
22	Straight Key
23	Allen Set Screw
24	Ratchet Pin
25	Mounting Cover (Ratchet Plate)
26	Oil Cup with Wick
27	Sph. Roller Thrust Brg.
28	Oil Retainer Sleeve
29	L.B.T. Oil Indicator
30	Plug
31	Dowel Pin
32	Hx. Hd. Cap Screw

S.NO.	DESCRIPTION
01	Bottom Plate
02	O' Ring
03	Brg. Housing
04	Oil Level Indicator
05	Thrust Pad
06	Thrust Hub
08	Ratchet Plate (Brg. Cover)
10	Hex. Hd. Cap Screw
11	Ratchet Pin Carrier
12	Ratchet Pin
13	Hex. Hd. Bolt
14	Pin Block
15	Rubber Bush
16	Washer
17	Upper Coupling Half
18	Allen Set Screw
19	Nylock Nut
20	Hex. Hd. Bolt
21	Link
22	Lower Coupling Half
23	Gib Key
24	Allen Hd. Cap Screw
25	Cooling Coil
26	Plut with Collar (Thermometer Pocket)
27	Plut
28	Elbow (Oil Filling)
30	Journal Brg. Cum Thrust Adaptor
31	Round Hd. Screw
32	Coil Conn. with Farrul Nut & Nipple
33	Thrust Plate
34	O' Ring
35	Oil Sleeve
36	Allen Hd. Cap Screw
38	Drain Plug
39	Dowel Pin
40	Allen Hd. Cap Screw



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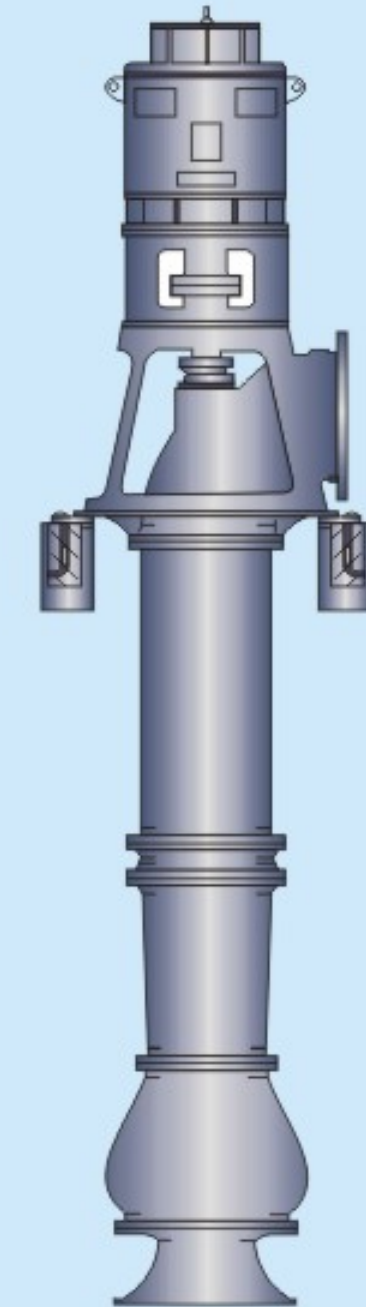
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VERTICAL TURBINE
 MIXED FLOW
 AND
 AXIAL FLOW PUMPS
 (Figure: 7000, 6310, 6360 & 7520)

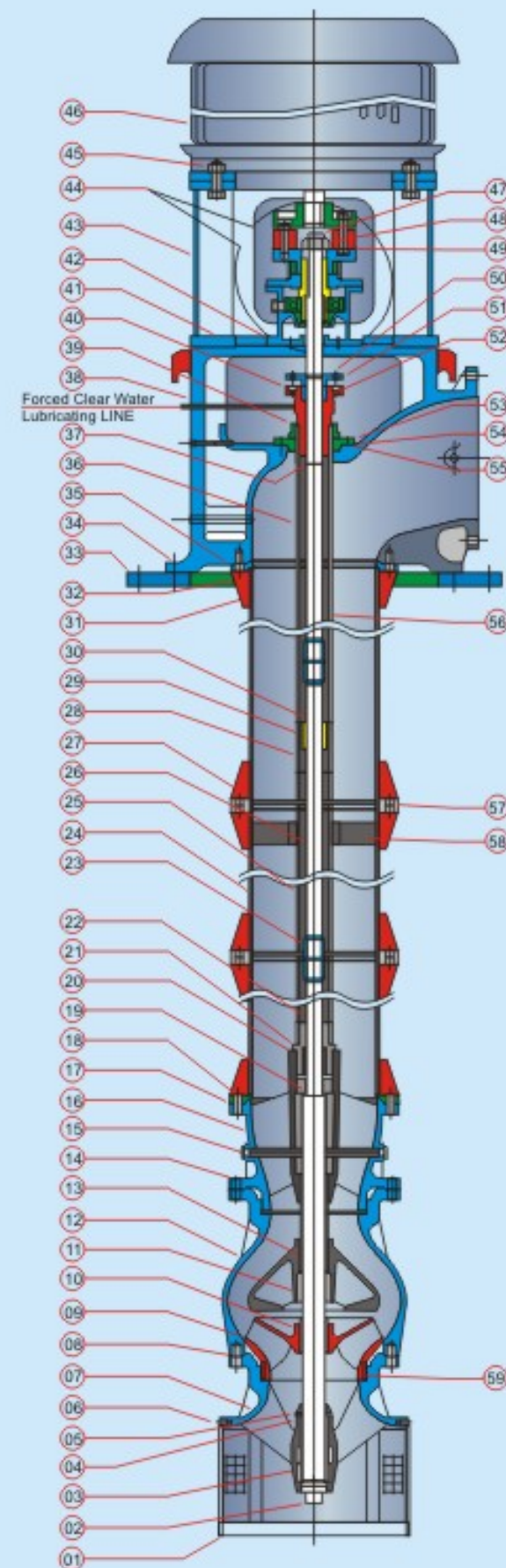


**FLOWMORE
 PUMPS**

An ISO 9001 Company

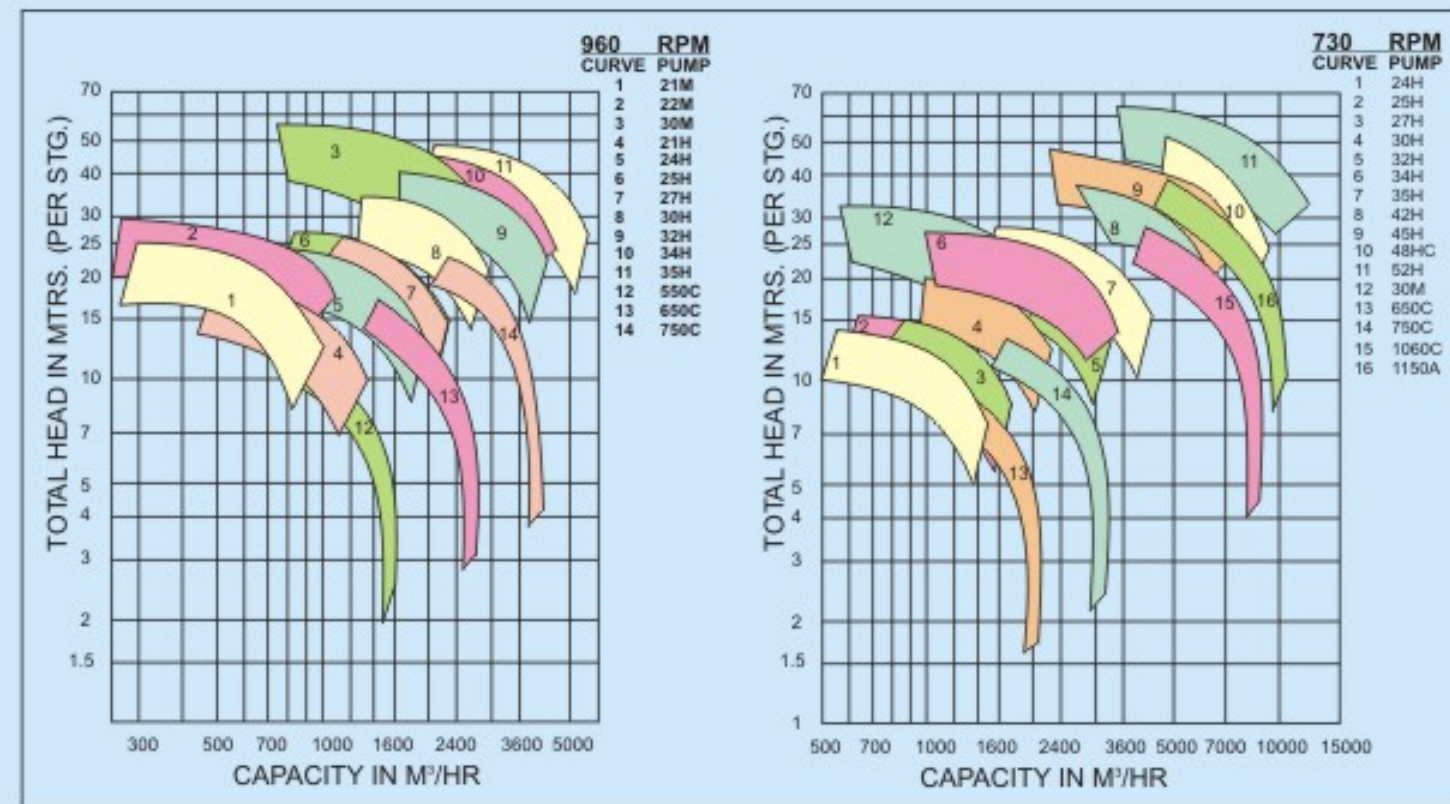
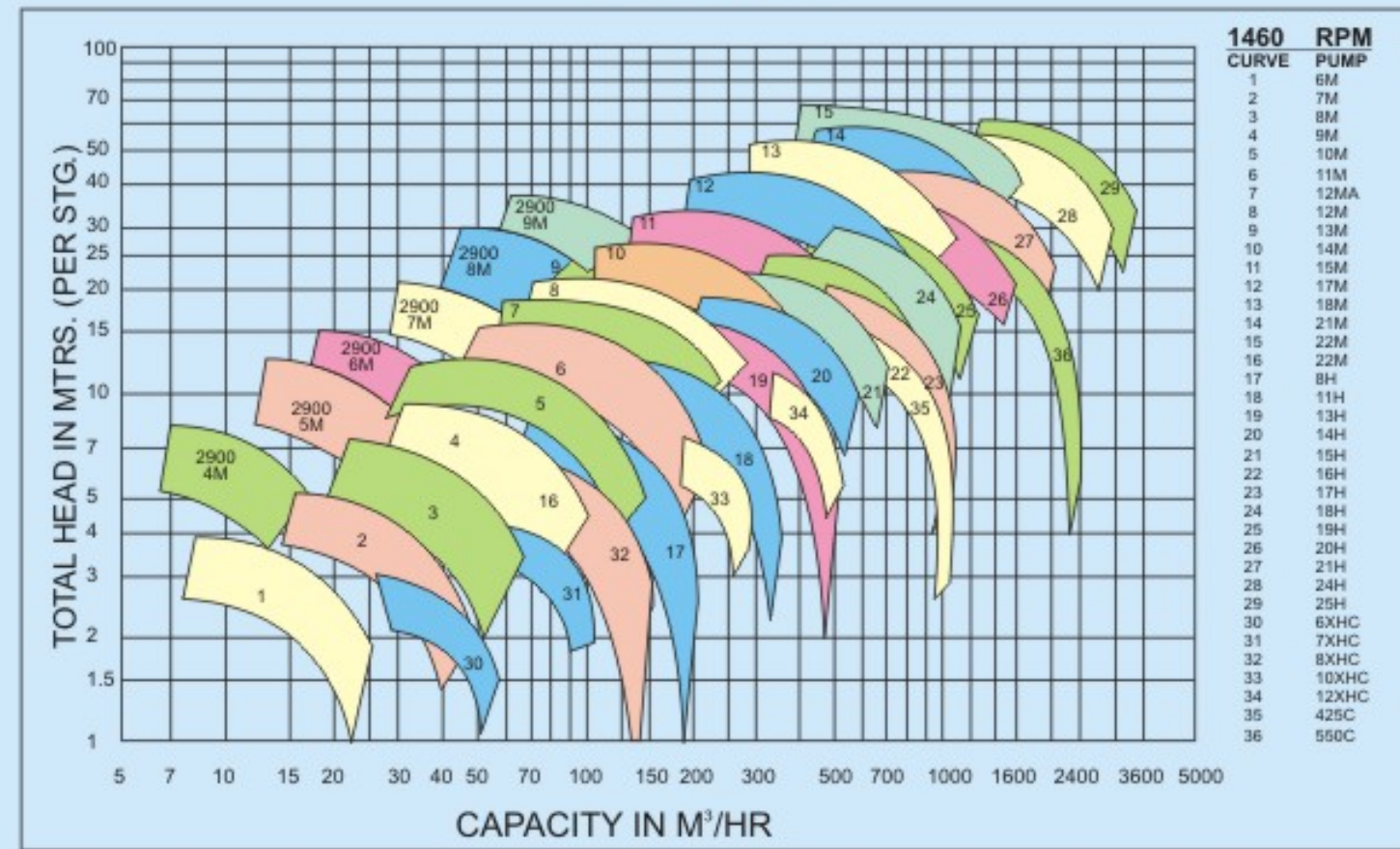
- A TRUSTED NAME IN PUMPS

**Mixed Flow Vertical Wet Pit Pump with VSS Motor
- Forced water lubrication and above floor delivery**



S.NO.	DESCRIPTION
01	Strainer (Basket Type)
02	Pipe Plug
03	Brg. Suction
04	Sand Cap
05	Allen Set Screw
06	Hx. Hd. Cap Screw
07	Suction Bell
08	Hx. Hd. Cap Screw
09	Impeller
10	Impeller Collect
11	Bowl Bush
12	Inter Bowl
13	Bearing Top Interbowl
14	Hx. Hd. Bolt with Nut
15	Plug for Discharge Case
16	Discharge Case
17	Gasket
18	Hx. Hd. Bolt with Nut
19	Pump Shaft
20	Bush For Step Brg.
21	Step Bearing
22	Pump Shaft Sleeve
23	Shaft Coupling
24	Figd. Col. Pipe
25	Encl. Tube
26	Line Shaft
27	Hx. Hd. Bolt with Nut
28	Connector Bearing
29	Line Shaft Brg.
30	Line Shaft Sleeve
31	Figd. Top Col. Pipe
32	Hx. Hd. Cap Screw
33	Sole Plate
34	Stud Bolt with Nut
35	Gasket
36	Top Encl. Tube
37	Top Shaft Sleeve
38	Surface Discharge Head
39	T. T. Nut
40	Brg. & Cap (Gland Tupe)
41	Hx. Hd. Bolt with Nut
42	Hx. Hd. Bolt with Nut
43	Motor Stool
44	Thrust Stand Assy.
45	Hx. Hd. Bolt with Nut
46	Motor
47	Top Shaft
48	Allen Set Screw
49	Top Adjusting Nut
50	Stud Bolt with Nut
51	Packing Gland
52	Packing Pcs.
53	Encl. Tube Head Adopter
54	Gasket
55	Hx. Hd. Cap Screw
56	Top inter Encl. Tube
57	Gasket
58	Spider
59	Impeller Wearing Ring

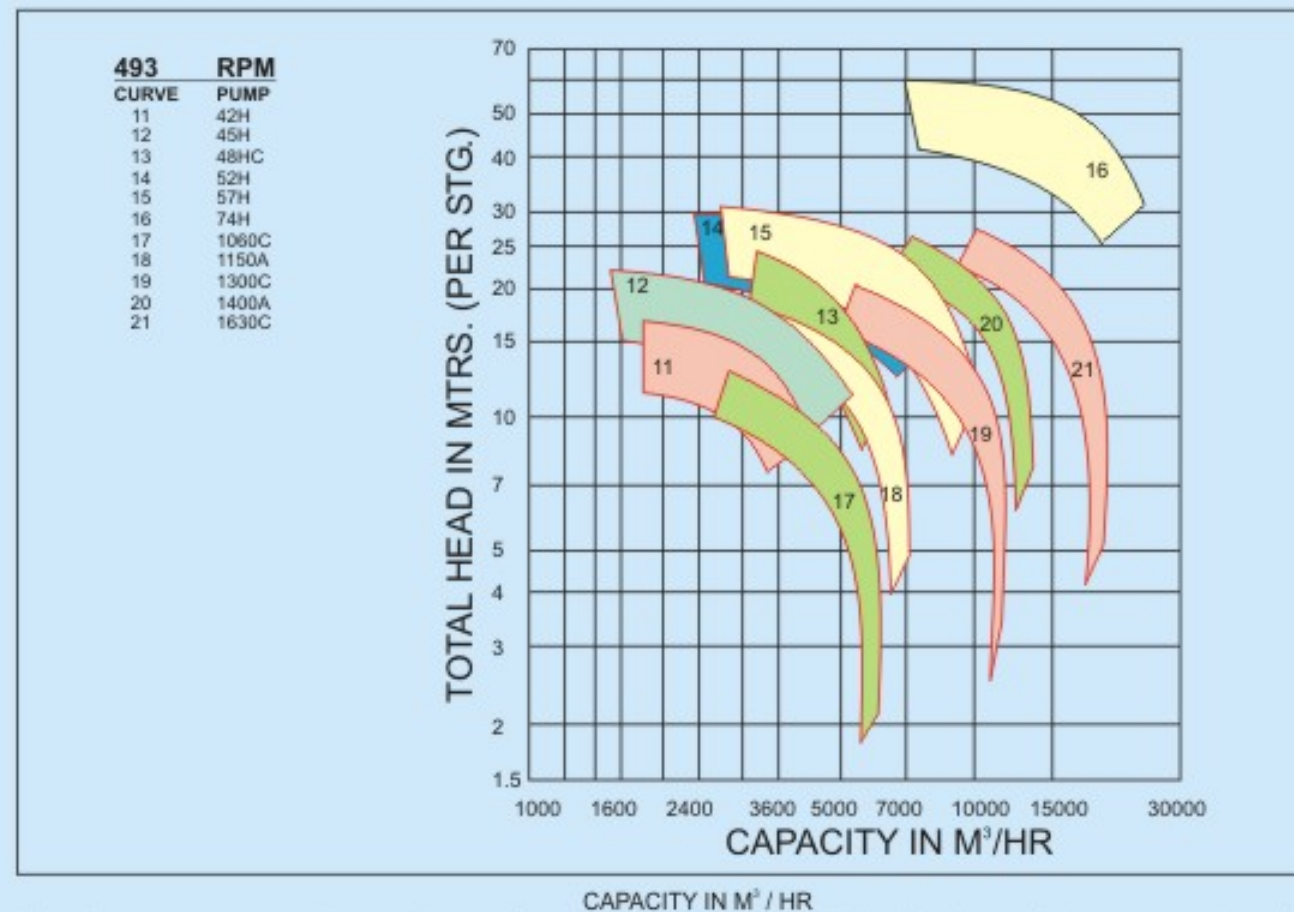
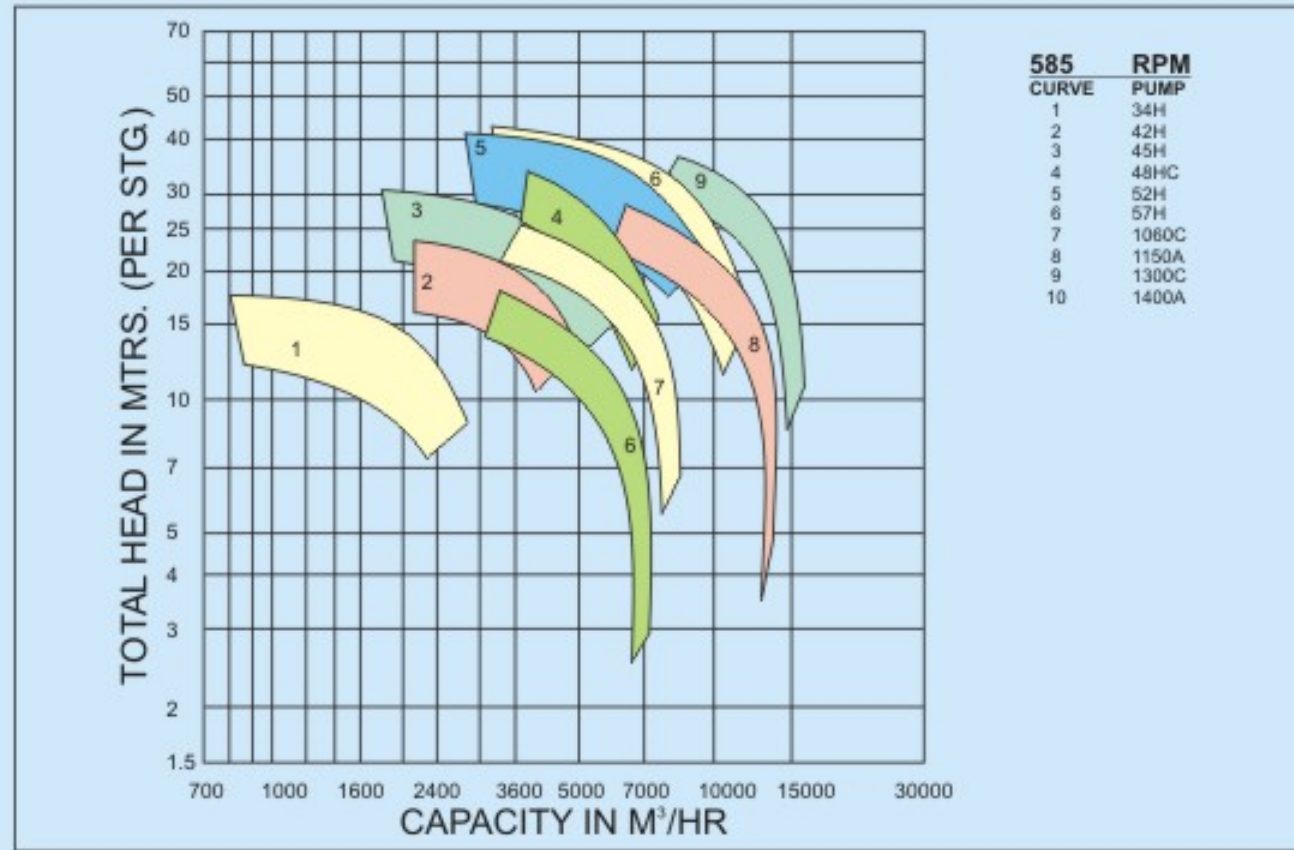
**VERTICAL TURBINE PUMPS
COVERAGE CHART**



CAPACITY IN M³ / HR

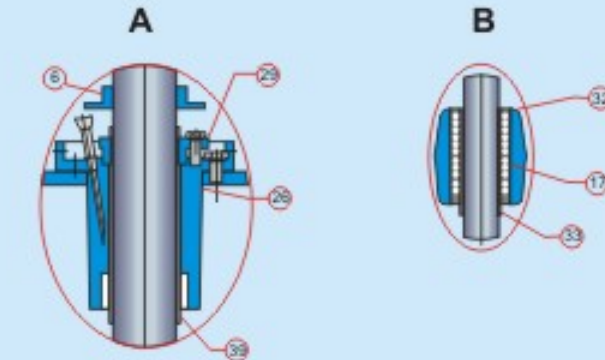
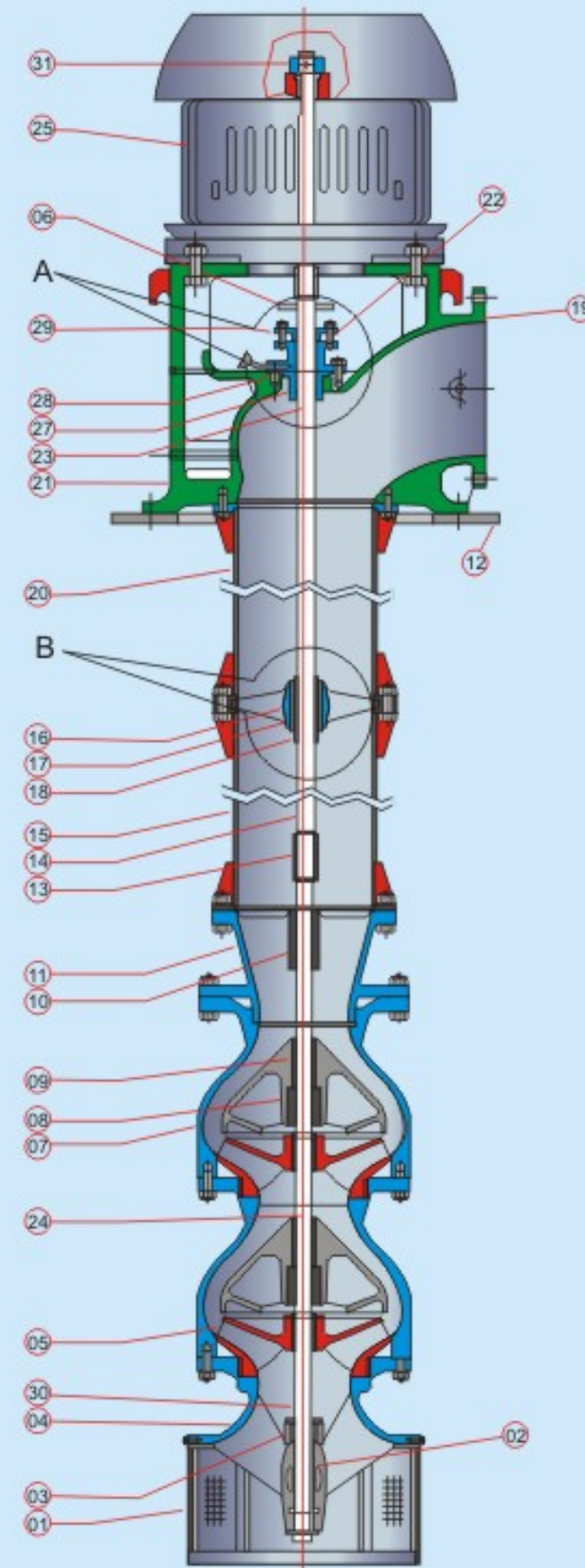
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VERTICAL TURBINE PUMPS
COVERAGE CHART



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Vertical Turbine Pump with VHS Motor
- Self water lubrication and above floor delivery



S.NO. DESCRIPTION

- 01 Strainer
- 02 Bearing Suction
- 03 Sand Cap/Protection Collar
- 04 Suction Bell
- 05 Impeller
- 06 Water Slinger Assy.
- 07 Discharge Bowl Part-I / Inter Bowl
- 08 Lower Brg. for Disch. Bowl
- 09 Brg. Inter Bowl
- 10 Discharge Case Brg.
- 11 Discharge Case
- 12 Sole Plate
- 13 Shaft Coup
- 14 Line Shaft
- 15 Col. Pipe
- 16 Bearing Spider
- 17 Line Shaft Brg.
- 18 Connector Bearing
- 19 Above Ground Disch. Elbow
- 20 Top Col. Pipe
- 21 Surface Discharge Head
- 22 Packing Pcs.
- 23 Top Shaft
- 24 Pump Shaft
- 25 Motor
- 26 Top Shaft Sleeve
- 27 Gasket
- 28 Packing Box
- 29 Packing Gland
- 30 Pump Shaft
- 31 Impeller Adjusting Nut
- 32 Cape For Bearing Retainer
- 33 Line Shaft Sleeve