



**OPERATION &
MAINTENANCE MANUAL**

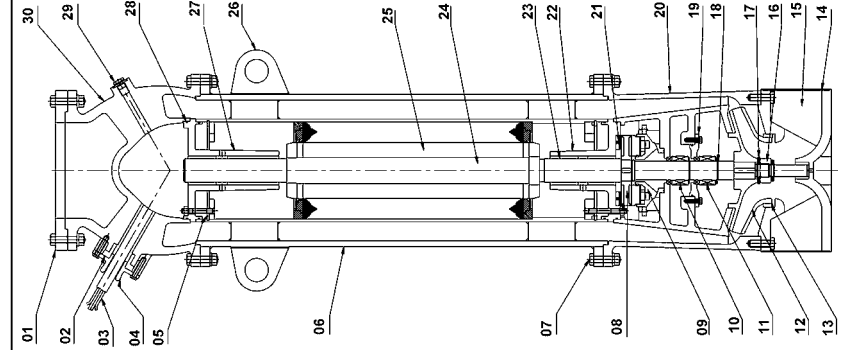
POLDER PUMP



**MBH[®]
PUMPS**

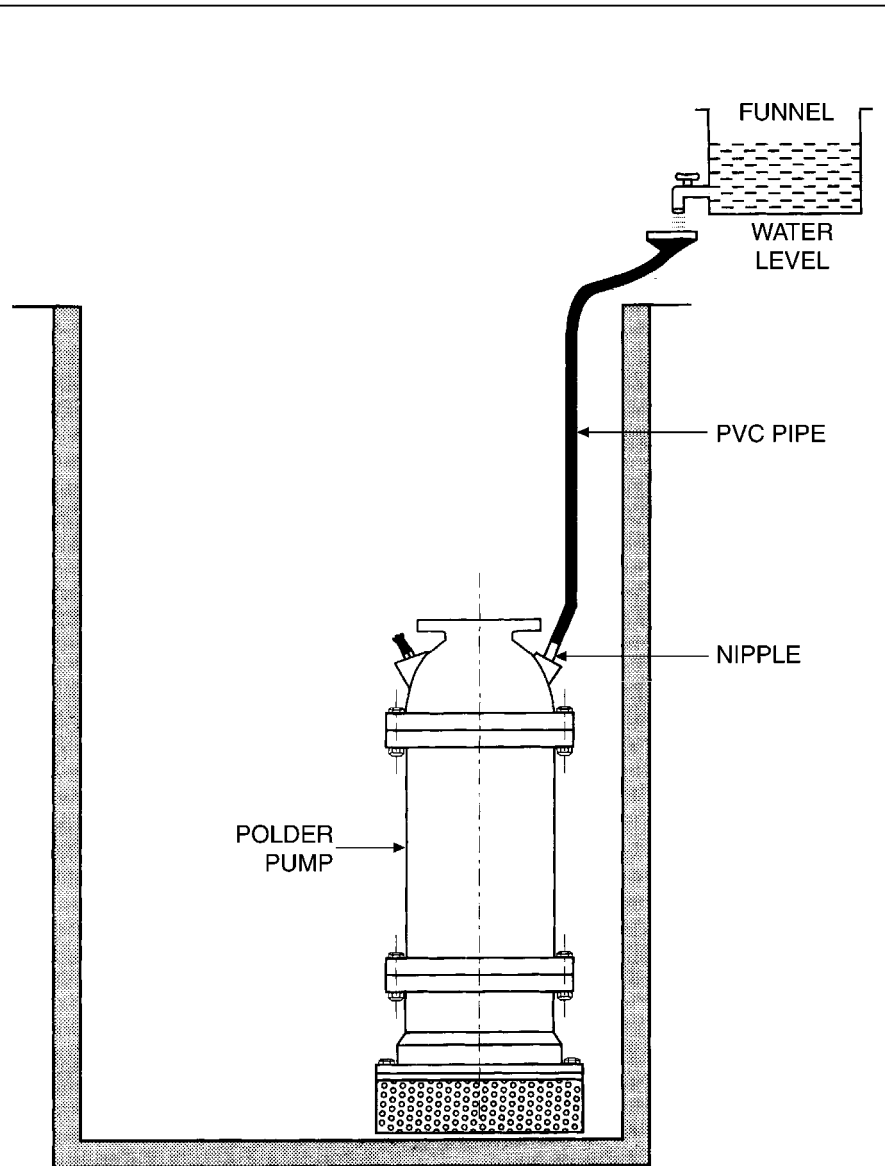
A Mark of Quality

CROSS SECTION DRAWING



No.	DESCRIPTION	MATERIAL
01	DELIVERY FLANGE	M.S.
02	CABLE GROMMET	NI. RUBBER
03	CABLE	STD.
04	GLNAD COVER	C.I. IS210FG260
05	STATOR CIRCLIP	SPRING STEEL
06	STATOR	M.S. FAB. +SI STAMPING
07	HARDWARE SET	M.S.
08	REV. PLATE	FIBER + G.M.
09	THRUST BEARING	G.M.
10	MECH. SEAL UPPER	TC/TC
11	MECH. SEAL LOWER	Cr./Cr. MO STEEL
12	IMPELLER	GUN METAL
13	NECK RING	G.M.
14	SUCTION STRAINER	BRASS
15	BASE	C.I. IS210FG260
16	LOCKING NUT	S.S.
17	IMPELLER WASHER	S.S.
18	ROTOR CIRCLIP	SPRING STEEL
19	MECH. SEAL COVER	C.I. IS210FG260
20	BYPASS	C.I. IS210FG260
21	C.T. BEARING	G.M.
22	LOWER HOUSING	C.I. IS210FG260
23	BEARING BUSH	G.M.
24	ROTOR SHAFT	S.S. AISI410
25	ROTOR	SS + SI STAMPING
26	HOLDING HOOK	M.S.
27	UPPER HOUSING	C.I. IS210FG260
28	"O" RING	NI. RUBBER
29	DRAIN PLUG	G.M.
30	DELIVERY OUTLET	C.I. IS210FG260

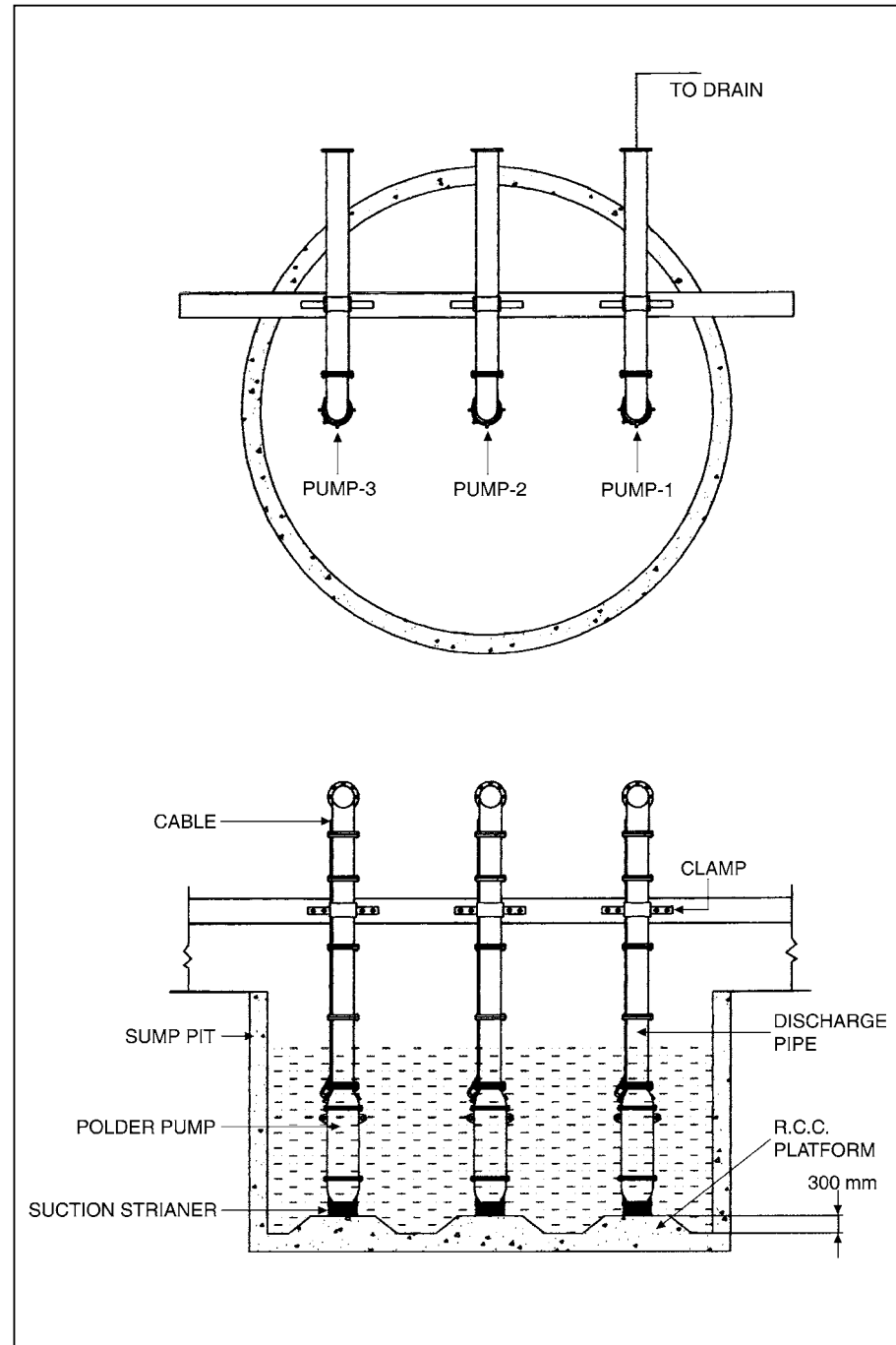
DAILY OPERATION INSTRUCTION



CAUTION :

Every time before starting the pump make sure that water level is maintained upto funnel otherwise pump will burn.

INSTALLATION



INTRODUCTION

MBH Polder pumps are portable pumping units which have pump below and motor above construction. These are powered by squirrel cage induction motor suitable for 400/440 Volts, 3 phase, 50 Hz, AC supply which is totally enclosed. The motor windings are water and oil resistant and ingress of water or moisture inside the motor due to seal failure or other reason will not render the pump inoperative. The pump motor unit of close coupled construction and the double casing design provides effective water cooling of the motor by flowing water around the motor casing. The motor is sealed by special mechanical seal so that the pumping water does not enter the motor chamber and damage the motor. All parts are made from specially selected material and processed to ensure long life under arduous operating condition.

RECOMMENDATIONS

1. Follow maintenance schedule strictly, so as to avoid costly repairs in the long run.
2. A good quality motor starter must be used, (Preferably with an ammeter) as it is the lifeline of a Polder Pump set.
3. Before starting the pump, be sure to maintain water level upto funnel, otherwise pump will burn. (Please refer installation Drawing.)
4. Protect cable from damage during storage, transportation and operation. A damaged cable may give shock or burn the motor.
5. Check water level in motor before starting the pump set.
6. Ensure that pump rotates in correct direction (clockwise), counter clockwise rotation results in lower discharge and increased wear.
7. Observe that the strainer does not get clogged by leaves, suspended material or any other undesirable material.
8. If water available falls short of the pump capacity, it will result in spurting, which is harmful for the pump. In such a case reduce discharge by throttling.

PRECAUTION FOR LONG STORAGE

Clean pump set with fresh water and wipe the cable. Put pump set in a cool, dry and shaded place in vertical position and the wrapped cable on top of the pump. Do not leave cable on the floor where it is likely to get damaged.


MAINTENANCE

1. Check water level in motor before starting.
2. Remove only base, clean impeller and guide vane after every 250 hrs. operation.
3. Examine sealing arrangement for wear or damage every six months running.
4. Use clear water in motor for cooling purpose.
5. Use oil for sealing chamber CASTROL or EQUIVALENT Cr.SAE 250 or SERVO 250 mfg. By I.O.C.

SALIENT FEATURES Highlights of Submersible Polder Pumps in comparison with Centrifugal / Vertical Turbine Pumps.

	SUBMERSIBLE POLDER PUMPS	CENTRIFUGAL PUMPS	VERTICAL TURBINE PUMPS
1.	Could completely / partially be submerged in water.	Not possible, since motor not sealed and is wound with enamelled winding wire.	Pump is of course submerged, but needs pump house, in-well, jack-well etc.
2.	Due to high portability, no permanent structure is needed. A simple pit / tank filled with water is quite sufficient and could be discharged with flexible rubber / PVC pipe / M. S. pipe.	The nature of pump needs permanent structure, suction pipe, foot valve, etc. making it cumbersome.	Pump needs permanent structure like pump house, pump foundation etc. and installation is quite cumbersome.
3.	An absolutely trouble-free compact design pump.	a) Gland leakage, b) Air locking & c) Foot valve choking (logging) are regular and needs constant attention.	a) Needs column pipe assembly, shaft assembly and bowl assembly. Because of lengthy column shaft assembly continuous vibration occurs resulting in more wear and tear. As a result of this, there would be constant gland leakage from the shaft sleeve. b) Proper alignment is a must.
4.	Self-priming (submerged).	Priming is necessary.	Self-priming (submerged). Constant attention is a must.
5.	Needs no extra man-power.	Constant attention is a must.	Needs regular replacement of parts and repairing costs are quite extravagant.
6.	Quite a long life.	Needs regular replacement of parts. Particularly, horizontal pumps need proper alignment and periodical check-up is a must.	Bowl bearing bushes are regularly getting worn out as they are directly coming into contact with water duly mixed with silt/mud/sludge.
7.	Here, the impeller is semi-open type and motor portion is completely sealed with mechanical seal. Hence, entering of silt/mud/sand particles/scales etc. is eliminated. Even bearing portion is safe. Particles upto 25 mm size could pass through along with water.	Can only be used for plain water.	We have models to give a discharge of water upto 10,000 LPM and head upto 100 Mtrs.

TROUBLE SHOOTING CHART

Pump fails to deliver	The discharge is too low.	The line current is excessive.	The total head is too low.	The power consumption is excessive.	Noisy operation of pump.	 <p style="text-align: center;">POLDER PUMP</p>	
	•		•			The Pump delivers against an excessively high discharge pressure.	Open the isolating valve further, until the duty point conditions have been attained.
	•					The Pump and / or piping are incompletely vented.	Vent the pump & system completely.
	•		•		•	Suction line or impeller clogged.	Remove deposits in the Pump and piping.
	•	•	•	•	•	Reverse Rotation.	Change over two of the phase leads of the power supply cable.
	•		•	•	•	Excessive wear of the pump internals.	Replace worn components by new ones.
		•				Operating voltage too low.	Check the supply terminals inform the supply authorities.
		•	•			The motor is running on two phases only.	Replace the defective fuse, check the cable connection.
					•	The rotor is out of balance.	Clean the rotor, Rebalance the rotor dynamically.
•						The motor refuses to run because there is no voltage.	Check the electrical system, inform the supply authority.
•	•					Defective motor or cable.	Please consult our works.
•	•		•			Defective riser pipe(pipe & gasket)	Replace defective lengths or riser pipe by new ones, fit new gaskets.
	•					Abnormal (excessive) drop in the liquid level during operation.	Please consult our works.
	•	•	•			The Star-Delta motor remains stuck at the star stage during start-up.	Check the switchgear/control panel.
	•					The isolating valve in the discharge line is not fully open.	Open the valve fully.
		•				Defective ammeter.	Replace with new one.
		•				The insulation resistance of the winding is inadequate (The minimum resistance in warm condition during operation should be 1000 ohms/volt of operating volt.)	Please consult our works.
		•	•	•		Bushes are damaged in the motor.	Change the bushes.
					•	Vibration caused by improper installation.	Rectify the installation.

MBH[®] PUMPS

GUARANTEE

POLDER PUMP

The Pump is guaranteed against defects in material and workmanship under normal use and service for the period of 15 months from the date of purchase or 12 months from the date of commissioning whichever is less.

The General terms and conditions for above guarantee are :

1. The guarantee is valid only if the pump is operated strictly as per the instructions given in the user guide attached herewith.
2. Our obligation is limited to rectifying; repairing or replacing defective items, ex-works/service station/Authorized Service Center, provided the purchaser has given immediate written notice. The equipment for repairs should be returned to us duly packed, on pre-paid freight basis.

Model : _____ Pump Sr. No. _____

Customer Name : _____

Address : _____

Date of Purchase / Bill No.: _____

Dealers Name : _____

Signature : _____ Date : _____

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14, G.I.D.C. Naroda Indl. Estate, Ahmedabad - 382 330, India.

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E-mail : marketing@mbhpumps.com • Website : www.mbhpumps.com

MBH PUMPS

POLDER PUMP



These pumps are submersible type, hence do not require pump house. The pump motor unit is close coupled construction and the double casing design provides an effective water cooling to the motor by water flowing around the motor casing.

TECHNICAL SPECIFICATIONS :

Head : upto 100 mtrs.
Capacity : upto 1500 cu.mtr./hr.
Stage : One / Two
Lubrication : Water
HP : 1.5 to 250
RPM : 2900 / 1450
Bearing : Bush Bearing
Seal : Mechanical Seal
Impeller : Bronze

APPLICATIONS :

- ◆ For Clear Water
- ◆ Dam Site

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Our Product Range



**PORTABLE
SUBMERSIBLE
PUMP**



**HORIZONTAL
SPLIT CASING
PUMP**



**SUBMERSIBLE
SEWAGE
PUMP**



**CENTRIFUGAL
PUMP
TYPE HC**



**SELF PRIMING
CENTRIFUGAL
PUMP**



ISO 9001:2008
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