SHAKTI

PUMPING LIFE

INSTALLATION & OPERATING INSTRUCTIONS

OPENWELL PUMPS

SOMB SS, SHOS SA, CA & DCSOP SERIES

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Considering continuous product development the information / performance / specification & Illustration disseminated in this manual are subject to change without notice.

1. INTRODUCTION

Please follow the instructions given in this manual before the installation and maintain your submersible pump to get reliable operation. When you order spare parts in future, please inform the nameplate details i.e. Serial Number, Motor Type, Pump Type and other data. Spare parts list of the pump set is given at the end of this manual for your reference.

2. APPLICATION

Shakti Submersible openwell pump is applicable for the domestic water supply, industrial & public water supply schemes where the pump is submerge condition.

3. DELIVERY & STORAGE

3.1 Delivery

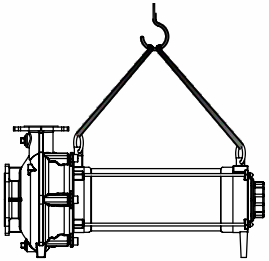
Shakti Submersible openwell pump are supplied from the factory in proper packing in which they should remain until they are to be installed. During unpacking and prior to installation, care must be taken when handling the pump to ensure that the pump should be place horizontally.

3.2 Storage and Handling

Storage temperature for Pumpset – 20ºC to + 60ºC.

The pump and motors must be stored in a dry and closed place. Make sure that the pump cannot roll or fall over. During storage, the pump should be supported. If the pump has been unpacked, It should be stored horizontally, sufficiently supported,

If the product has been stored for a very long period, check the free rotation of the shaft, and level of water inside the motor



4. INSTALLATION

4.1. Operating Condition

4.1.1. Pumped Liquid

Shakti Submersible openwell pump are suitable for thin, non – explosive liquid, not containing Solid particles, the liquid must not attack the pump material chemically, when pumping liquids with density and of viscosity higher than that of water, suitably of motor winding with correspondingly higher outputs must be checked, if required.

4.1.2Submerged Condition

The pump must be submerged in water more than 1 meter.

4.2. Preparation

⚠ Before starting work on the pump, make sure that the electricity supply has been switched off and that it cannot be accidentally switched on.

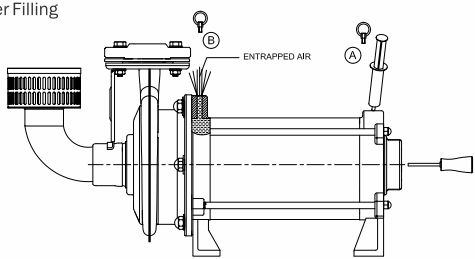
4.2.1.Checking of liquid in motor

The submersible motors are factory –filled with a special non poisonous liquid, which is frost – proof down to -20 c.

⚠ Note:-

The level of the liquid in the motor must be checked and the motor must be refilled, if required, clean water may be used for refilling.

4.2. 2.Water Filling



4.2.3.Water Filling Instructions

4.2.3.1. Open both the water filling plugs (A) and (B).
4.2.3.2. Put the funnel in plug hole (A).
4.2.3.3. Use only clear cold water for filling.
4.2.3.4. Pour the water till the water overflows in plug hole (B).
4.2.3.5. Wait till all the air bubbles are escaped from the inside the motor.
4.2.3.6. Close both the plug tightly.

4.3. GUIDELINES FOR ELECTRICAL CONNECTIONS:

4.3.1. Proper earthing connection should be made at the bolts provided for earthing.

4.3.2. Proper size of cable should be used between supply and motor terminals to minimize voltage drop and to carry full load current as well as the maximum current in the operating voltage range specified.

4.3.3. Nuts at terminal should be tightened properly.

4.4. Only recommended pipe size should be used. Small pipe size, nipples, elbows, bends all give rise to head losses and should either be eliminated or used sparingly.

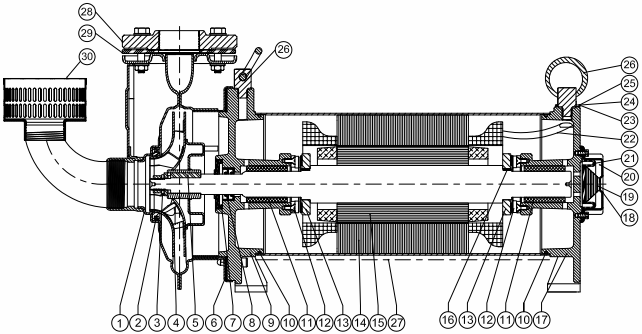
4.5. Provide suitable devices like non-return valve, air valve, surge tank etc. to avoid water hammer problems in long pipeline systems.

4.6. Check the direction of rotation by observing rated discharge, if found low discharge, interchange any two of the supply leads.

4.7. Select suitable DOL/STAR DELTA Starter with correct range of over load relay and it should be suitable for low voltage operation also.

4.8. Operation coil of contractor in the Starter should be capable of operating with wide voltage variations.

5. SECTIONAL VIEW



SECTIONAL VIEW

6 SOMB SS, SHOS SA, CA & DCSOP SERIES SPARE PARTS LIST

PART NO.	PART NAME	MATERIAL
01	PUMP HOUSING	SS AISI 304 / CI FG 260
02	NECKRING FOR PUMP HOUSING	NBR+PPS
03	HEX. NUT + SPRING WASHER	SS AISI 304
04	FABRICATED IMPELLER	SS AISI 304
05	KEY FOR IMPELLER	SS AISI 304
06	MOUNTING GASKET OR O RING	NBR
07	SAND SLINGER	NBR
08	OIL SEAL	STD
09	UPPER HOUSING	SS AISI 304 / CI FG 260
10	O - RING	NBR
11	BUSH	CARBON
12	THRUST BEARING	SS AISI 420
13	REVOLVING PLATE	CI FG 260 + CARBON
14	STATOR SUB ASSLY	N/A
15	ROTOR SUB ASSLY	N/A
16	KEY FOR SHAFT	SS AISI 304
17	LOWER HOUSING	SS AISI 304 / CI FG 260
18	DIAPHRAGM COVER	SS AISI 304
19	DIAPHRAGM SPRING	SS AISI 304
20	DIAPHRAGM PLATE S	S AISI 304
21	DIAPHRAGM	EPDM
22	CABLE	N/A
23	GROMATE WASHER	SS AISI 304
24	GROMATE	NBR
25	CABLE CLOSING COLLER	SS AISI 304
26	EYE BOLT	M.S.
27	STAY BOLT	AISI SS 410
28	DELIVERY FLANGE	CI FG 260
29	DELIVERY GSKET	NBR
30	STRAINER AISI	SS 304

7 MAINTENANCE

When the pump will not be used for a long time:

• When pump is kept unused for a long time, switch off the power. Drain water in the pump and tank to avoid damages, i.e. risk of water freezing. Protect water supply pipe and accessories from frost.

• There is a possibility for the motor not to start in spite of switching on the power because of the sticking and solidification of the dirty particle in the pump head. In that case, it requires some service before usage. Switch off the power, then check the free rotation of the shaft to make it easy, safety and reliable for its operation as usual.

8. FAULT FINDING CHART

Fault	Cause	Remedy
1. The pump does not run	a. The fuses are blown	Replace the blown fuses. If the new ones blow too, the electric installation and drop cable.
	b. The circuit breaker has tripped	Reset the circuit breaker
	c. No electricity supply	Contact the electricity provider
	d. The motor protection has cut off the electricity supply due to overload	Check for Motor / Pump blockage
	f. Over voltage has occurred	Check the electricity supply
2. The pump runs but gives no water	a. The discharge valve is closed	Open the valve
	b. No water or too low water level in well	Allow water to get collected
	c. Check valve is stuck in its closed position	Pull the pump and clean or replace the valve
	d. The suction strainer is closed	Pull the pump and clean the strainer
	e. The pump is defective	Repair / Replace the pump
3. The pump runs at reduced capacity	a. The drawdown is larger than anticipated	Increase the installation depth of the pump Throttle the pump or replace it with a smaller capacity model
	b. The valves in the discharge pipe are partly closed / blocked	Check and Clean / Replace the valve as necessary
	c. The discharge pipe is partly chocked by impurities	Clean / Replace the discharge pipe
	d. The non return valve of the pump is blocked	Pull the pump and clean or replace the valve
	e. The pump and the riser pipe are partly chocked by impurities	Pull out, Check and clean/replace the pump, if necessary clean the pipes
	f. The pump is defective	Repair / Replace the pump
	g. Hole in discharge pipe	Check and repair the pipe
	h. The riser pipe is defective	Replace the riser pipe
	i. Under voltage has occurred	Check the electricity supply
4. Frequent starts & stops	a. The differential of the pressure switch between the start & stop pressures is too small	Increase the differential however the stop pressure must not exceed the operating pressure of the pressure tank and the start pressure should be high enough to ensure sufficient water supply
	b. The water level electrodes or level switches in the reservoir have not been installed correctly	Adjust the intervals of the electrodes level switches to ensure suitable time between the cutting in and cutting out of the pump. See installation & operating instructions for the automatic devices used. If the intervals between start/stop cannot be changed via the automatics, the pump capacity may be reduced by throttling the discharge valve
	c. Non return valve is leaking, Stuck half-open or damaged	Pull the pump and clean / replace the non return valve
	d. The supply voltage is unstable	Check the electrical supply
	e. The motor temperature is too high	Check the water temperature

9 DO'S & DON'T

Do's

- Before installation, rotate the shaft to ensure that pump is not jammed
- Ensure proper earthing is provided
- Mount the Openwell Submersible on a level surface
- Check the direction of rotation of the openwell submerisible matches the arrow mark cast on the volute casing
- Check all fasteners are tight
- In case of high delivery head, use a check valve in the discharge line
- In case of flooded suction, ensure that the pump suction is kept above the motor body to prevent the motor from getting exposed during running and resulting in poor heat dissipation
- Water levels rise significantly during monsoons. Under such conditions, pumps will operate with higher discharges and therefore higher current. It is advisable to install a flow control valve in the delivery pipeline and throttle the discharge till the current is less than that specified on the product nameplate
- Ensure the position of pump strainer is located above the motor to prevent water level from dropping below the motor body

Don't

- Do not use piping smaller than what is mentioned on the nameplate
- Do not place the pump at the bottom of the well as it can sink in the mud at the well bottom. De-silt the well and ensure the pump rests on a firm surface
- Do not have multiple joints on the cable. More the cable joints, more will be the voltage drop
- Do not remove the strainer as debris can get sucked into the pump and jam it
- Do not use to pump corrosive and flammable liquids
- Do not use undersized electric cables between Pump and control panel. Factor in low-voltage usage
- Do not use the power cable for lifting / lowering the pump. Use the eye bolts provided on the motor body
- Do not keep the pump idle for a long time to prevent jamming of the rotating components. Run the pump for a few minutes every week
- Do not operate the pump at shut-off conditions to prevent the pumpset from getting overheated

10. DISPOSAL

Disposal of this product or parts of it must be carried out according to the following guidelines:

1. Disposal of the product and the packaging material in a paper, environmentally sound manner.
1. Use the local public or private waste collection service.
2. In case such waste collection service does not exist or cannot handle the materials used in the product, please deliver the product or any hazardous materials from it to your nearest Shakti service workshop.

WARRANTY CERTIFICATE

Dear Customer,
Congratulation, for purchasing our product.

Pump and Motor are warranted against defects in workmanship and material under normal use, service & specified duty conditions. We provide one time warranty service for twelve months from the date of purchase by the first user.
Shakti Pumps (I) Ltd warrants this product to be free from damage/ defects in material and workmanship under normal use and service for Twelve Months from the date of purchase by the first user. The user shall produce valid and original copy of invoice for availing warranty. The user shall carry defective pump set to nearest authorized service center

This warranty does not cover any loss or damage/ defect of any nature resulting from wrong product selection/ improper installation or installation by unauthorized/ untrained person/ sandy condition/ dry running and improper use of the pump sets.
The warranty also does not cover consequential losses/ damages arising due to failure of pump/ motor.
Our obligation is limited t to recycling or repairing or replacing product/ parts ex-factory. Equipment for repairs should be returned free of cost to us.
The forgoing is subject to the provision that the user does not open the unit and make any change or repair without prior approval of authorized service center during the warranty period.
This warranty excludes every condition whether statutory or otherwise, whatsoever not herein expressly set out.

Customer name: .....Customer's phone:.....

Customer Address: .....

Invoice number: .....Invoice date:.....

Model Name: ..... Model Serial Number:.....

Dealer's Name: .....Dealer's phone:.....

Dealer's Address:.....

APPROVED BY: DATE OF ISSUE

17 - 05 - 2016

INSTALLATION REPORT

Customer's Name: - _____

Customer's Address: -_____

Customer's Ph. No.: _____

Dealer's Name: -_____

Dealer's Address:_____

Dealer's Ph. No._____

Pump Model:-_____S.L.No: _____

Project/Application:_____

Pressure In Kg:-_____Flow in m^3/hr:_____

Liquid:-_____Temp.:_____

Voltage:-_____Current:_____

Packing Condition:-_____

Remarks:_____

_____

_____

Date:-_____ _____

Customer's Signature

BOOK-POST

Stamp

To,
SHAKTI PUMPS (INDIA) LIMITED
Regd. Office & Works : Plot No. 401, Sector - 3,
Pithampur - 454774, Dist.- Dhar (M.P.) - INDIA
Tel: +91-7292 410500, Fax: +91-7292 410645
E-mail : info@shaktipumps.com, sales@shaktipumps.com
Visit us at : www.shaktipumps.com

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Jun. /2026-27/L9/

VC :

SAP NO. 2000019828

India : Toll Free No. 1800 103 5555 **Other Countries : +91-7292 410500**

SHAKTI PUMPS (INDIA) LIMITED

CIN : L29120MP1995PLC009327 I Web: www.shaktipumps.com I E-mail: info@shaktipumps.com, sales@shaktipumps.com

Corporate Office : Plot No. C-04, Silver Spring, Phase-2, Business Park, Indore-452020. (M.P.) INDIA. Tel.: +91 731 3635000

Regd. Office & Factory Add. : Plot No. 401, 402 & 413, Industrial Area, Sector - 3, Pithampur-454774, Dist. Dhar (M.P.) INDIA. Tel.: +91 7292 410500