Single Phase Openwell Submersible Monoblocks

Instruction &
Operating Manual

Taro™ Pumps

Texmo Industries
Est. 1956

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1. Introduction

Thank you for choosing a quality product manufactured by Texmo Industries. We request you to read this manual thoroughly so as to ensure that the product you have purchased will be operated correctly.

This manual is intended to provide you with information on your product and information on installation and operation. You will also find information on how you could contact Texmo Industries, should you need further information or help and support

2. Warranty information

Please refer to your warranty card or visit **www.taropumps.com** for more information on your warranty.

3. Complying standards

IS 3043: Code of Practice for earthing: Specification
IS 9283: Motors for Submersible Pumpsets: Specification
IS13730: Specifications for Particular Types of Winding Wires
IS 14220: Open well Submersible Pumpsets : Specification

4. Contents of the packing box

Based on the model you have purchased, your Single Phase Openwell Submersible is packed along with the instruction manual and warranty card in either a corrugated box or in a wooden crate.

5. Information about your pump

The discharge of a pump depends on the static suction lift. During summer, the static suction lift increases due to drop in water levels, and this results in reduced discharge. This will require frequent lowering of the pump to reduce the static suction lift. During monsoons, water levels can significantly rise. Under such conditions, there is a possibility that the pump can get submerged, resulting in the motor getting damaged. Such issues are overcome by the use of an openwell submersible pump as it operates submerged in water.

Single phase monoblock There are three series of Single Phase Openwell Submersibles:

✔	TSSM
✔	SSM
✔	SVSM

The TSSM and SSM Series are operated horizontally. However, the SVSM series can be operated vertically inside a 6-inch borewell as well as horizontally in a sump / tank by provision of two suitable clamps supplied along with the product.

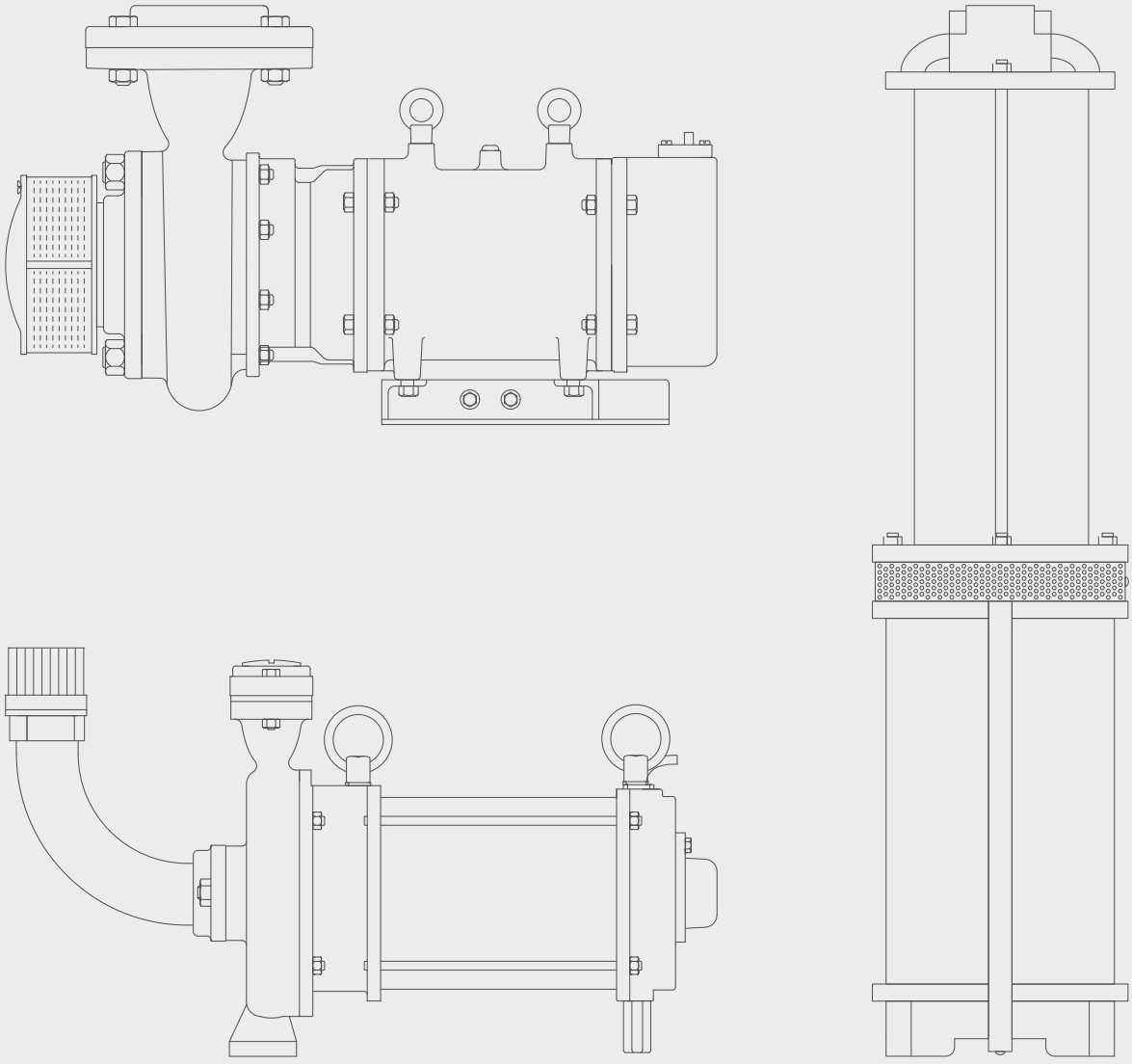
Texmo Single Phase Openwell Submersible Monoblocks are manufactured using high quality raw materials and components using state-of-the-art manufacturing facilities and will give trouble-free performance if properly installed and maintained. These are compact pumping systems with the pump and motor mounted on a common shaft. As a coupling is not required, alignment of the pump and motor is assured. Installation therefore quick and easy. They do not require frequent maintenance as the packing rope and grease-lubricated deep groove ball bearings are replaced by oilseals and water-lubricated journal bearings respectively. Such products find application for irrigation of farms, domestic water supply, cooling water circulating systems, fountains, dairies, water supply to high rise buildings, housing complexes, bungalows, cattle and poultry farms.

Prior to installation, read this manual thoroughly and follow the instructions for installation and maintenance of our Single Phase Openwell Submersible Monoblock to ensure reliable operation. The product should be installed by technically qualified personnel in compliance with national and local electrical codes and as per our instructions in order to avoid electrical shocks, unsatisfactory performance, and / or equipment failure.

6. Schematic drawing

View of an Single Phase Openwell Submersible Monoblock is shown below in Fig. 1:

Fig. 1 View of Single Phase Openwell Submersible Monoblock



7. Key specifications & features

Standard Specifications of Single Phase Openwell Submersible are shown below in TABLE 1:

Power	SVSM: 1.0, 1.5 HP
	SSM: 1 - 5 HP
	TSSM: 0.5, 1.0 HP
Phase	1
Motor Type	Squirrel-cage Induction Motor – Wet type
Operating Voltage	180 - 240 V
Frequency	50 Hz
Speed	2850 rpm
Duty	S1 Continuous
Max. Fluid Temperature	33^0C
Impeller Type	Radial

Key features

- Wide voltage band operation
- The motor houses water-lubricated journal bearings to take up the radial loads
- A water-lubricated thrust bearing is provided to take up the thrust load generated by the rotating impeller
- A water-lubricated counter thrust bearing is provided to limit the movement of the shaft when the Single Phase Openwell Submersible is switched OFF
- The rotors are dynamically balanced
- Adequate motor surface area is provided for effective cooling

- The water-filled motor is provided with single-lip oilseals to prevent the pumped medium from entering the motor
- To prevent sand / small stones from entering the seal chamber, a sand guard is provided
- The TSSM and SSM series products have a single impeller rotating within a volute casing
- The SVSM series is a multi-stage pump with NORYL impellers rotating inside a NORYL diffuser housing
- The impeller of TSSM and SSM are dynamically balanced. Impellers of SVSM are plastic injection molded and hence do not need to be dynamically balanced
- The delivery pipe engages with the mating thread provided on the delivery chamber of the SVSM
- Strainer assembly, fitted on the pump suction flange of TSSM and SSM products, prevents the entrance of large size debris into the pump. For SVSM products, a strainer is wrapped around the suction chamber, prevents debris from entering the pump

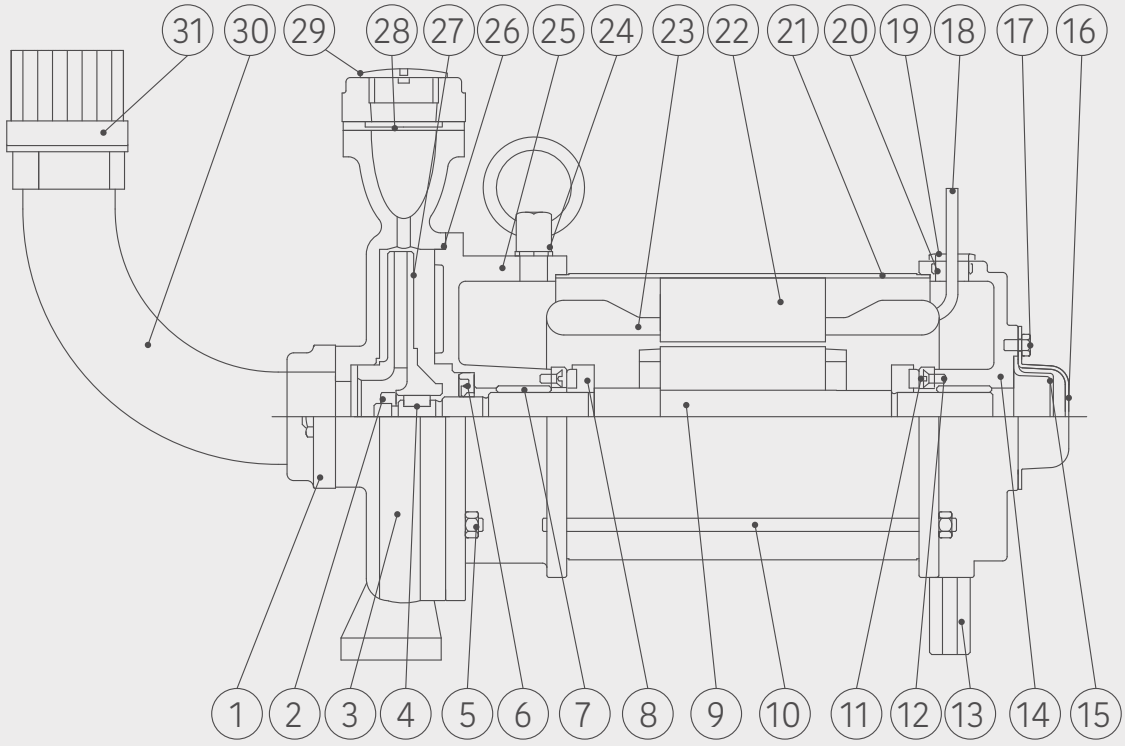
Electrical connection

- Standard products are supplied with a 3-m long 3-core PVC-insulated flat cable
- On demand, 10-m long cable can also be supplied with TSSM models
- Control panel is offered with some of our products
- For products supplied without a control panel, the customer shall ensure appropriate capacitors are used (CSCR)

8. Cross-section view

Cross-section view of TSSM Series Openwell Submersible Monoblock is shown below in Fig. 2:

Fig. 2 Cross-section view of single phase openwell submersible monoblock “TSSM” series



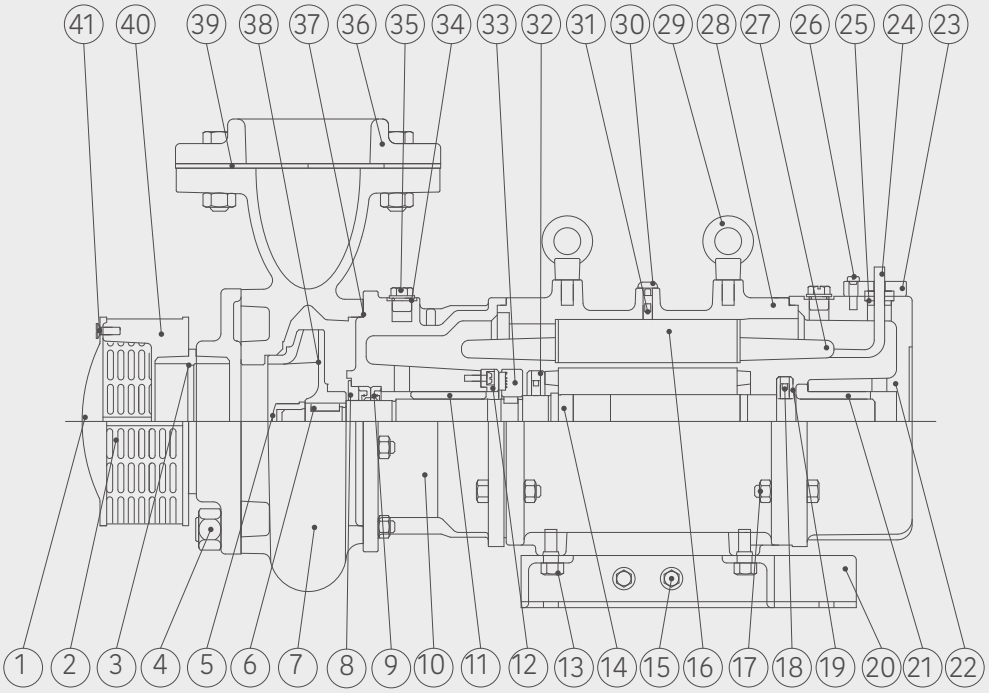
No.	PART NAME
1	Flange Oval
2	Lock Nut
3	Casing
4	Parallel Key
5	Hex Nut
6	Oil Seal
7	Bush
8	Thrust Collar
9	Rotor With Shaft
10	Stud
11	Thrust Pad

No.	PART NAME
12	Csk Head Hex Socket Set Screw
13	Support - Rear Cover
14	Rear Cover
15	Diaphragm
16	Diaphragm Cap
17	Hexagon Head Bolt
18	Pvc Insulated Cable
19	Cable Gland
20	Cable Gland Bush
21	Stator Housing Shell

No.	PART NAME
22	Stator Stack
23	Coil
24	Eye Bolt (Collapsable Ring) & Washer
25	Front Cover
26	O-Ring
27	Impeller
28	Gasket Oval
29	Plug
30	Bend
31	Strainer

Cross-section view of a SSM Series Single Phase Openwell Submersible Monoblock is shown below in Fig. 3:

Fig. 3 Cross-section view of single phase openwell submersible monoblock “SSM” series



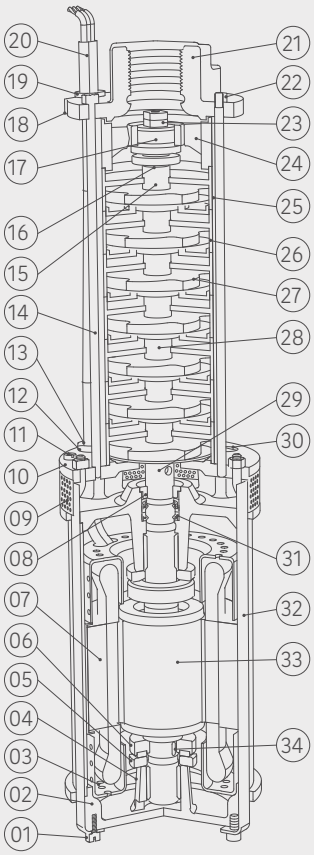
No.	PART NAME
1	Strainer Cap
2	Strainer
3	Nipple
4	Stud & Nut
5	Hexagon Dome Nut
6	Parallel Key
7	Casing
8	Sand Guard
9	Oil Seal
10	Front Cover
11	Bush
12	Thrust Pad
13	Hex. Head Bolt
14	Rotor With Shaft

No.	PART NAME
15	Hex. Head Bolt & Washer
16	Stator Stack
17	Hex. Head Bolt & Nut
18	Hex. Socket Set Screw
19	CT & BG Collar
20	Base Plate
21	Thrust Bush
22	Rear Cover
23	Cable Gland
24	PVC Insulated Cable
25	Cable Gland Bush
26	C.H Screw
27	Coil
28	Motor Body

No.	PART NAME
29	Eye Bolt
30	Cap
31	Hex. Socket Set Screw
32	Rotor Balancing Collar
33	Thrust Collar
34	O-Ring
35	Drain Plug
36	Flange Circular
37	Gasket Circular
38	Impeller
39	Gasket Circular
40	Strainer Bracket
41	CSK Screw

Cross-section view of a SVSM Series Single Phase Vertical Openwell Submersible Monoblock is shown below in Fig. 4:

Fig. 4 Cross-section of a single phase vertical openwell submersible monoblock “SVSM” series



No.	PART NAME
1	Hex Socket Head Cap Screw
2	Motor Base
3	Wdg Over Hang Protector
4	Carbon Bush
5	Thrust Pad
6	Thrust Collar
7	Body With Stator
8	Sand Guard
9	Strainer
10	Suction Chamber
11	Earth Screw

No.	PART NAME
12	Washer
13	Cable Gland
14	Stud
15	Sleeve
16	Lock Pin
17	Bush
18	Cable Clamp
19	Cable Protector
20	Cable
21	Delivery Chamber
22	Hexagonal Nut
23	Lock Nut

No.	PART NAME
24	Intermediate Housing
25	Pump Housing Shell
26	Diffuser Housing
27	Impeller
28	Pump Shaft
29	Coupling
30	Drain Plug With Washer
31	Oil Seal
32	Tie Bar
33	Rotor With Shaft
34	Parallel Key

9. Pre-installation requirements

Arrangement for Installation

- Use the services of a professional and trained mechanic with experience in erecting Openwell submersible
- Ensure proper safety precautions during installation
- Use the eye bolts / lifting lugs for lifting / lowering the Single Phase Openwell submersible using appropriate equipment

General Installation Precautions

- Open the packaging and note down the serial number and model for future reference
- Ensure all fasteners are tightened properly
- Use prescribed pipe sizes as mentioned on the product nameplate
- Use a check valve fitted on the delivery line when the Single Phase Openwell submersible has high delivery heads
- Use a power cable without joints from the Single Phase Openwell submersible to the control panel. It is not recommended to use a power cable with large number of joints as this can result in a significant voltage drop
- If used in a well, check the level of silt at the bottom of the well. De-silt if necessary
- Check the availability of Single Phase power
- Check if the motor is completely filled with water. Top up if required with pure drinking water
- It is recommended to assemble the Single Phase Openwell submersible on a fairly level base to prevent the pump and piping from getting stressed
- To prevent the motor from getting exposed during pumping, ensure the suction strainer is fitted above the level of the motor. This is done by fitting one end of a bend to the pump suction flange and the strainer to the other end of the bend, thereby ensuring that the level does not fall below the strainer
- While installing the Openwell Submersible, ensure the Openwell Submersible is not subject to shock loads which can damage the Openwell Submersible parts

 Note	If you detect damage or discrepancy in the product, contact the dealer from whom the pump was purchased
 Warning	Do not use this pump for oil or toxic, acidic, corrosive, and flammable liquids. Pumping flammable liquids could cause explosion
 Caution	Use the eye bolt for lifting/lowering the Single Phase Openwell submersible. Ensure suitable precautions are taken while lifting and lowering the product
 Caution	Use trained professionals to install the Single Phase Openwell Submersible
 Warning	Use a power supply cable that has sufficient rating. Factor in low-voltage operation
 Warning	Provide proper Earthing. Improper Earthing can cause electrical shock
 Caution	Use a Megger to verify the insulation resistance of the motor. Insulation resistance should be 20MΩ minimum
 Caution	Do not run the Single Phase Openwell Submersible dry as it contains water-lubricated bearings and oilseals
 Warning	Mount the TSSM and SSM pumps with their axis horizontal. SVSM products can be mounted vertically or horizontally

 Note	Check the bottom of the well. In case there is mud accumulated at the well bottom, de-silt the well
 Note	Periodically de-silt the bottom of the well so that the Openwell Submersibles rests on the rocky bottom

Operation Precautions

 Warning	Switch OFF the power before working on electrical lines
 Caution	Do not use this pump for pumping liquid exceeding 33^{0}C as this may lead to product failure
 Warning	Do not switch ON the pump if there is any human contact with the pumped medium. If any electrical leakage occurs, this could be fatal
 Caution	The Single Phase Openwell Submersible has water-lubricated journal and thrust bearings and therefore shall not be run dry. Starting of the Single Phase Openwell Submersible without water must be strictly avoided as it will cause damage to the bearings
 Caution	Ensure proper direction of rotation of the pump on powering up

10. Installation procedure

Please follow the below procedure to install the Single Phase Openwell Submersible monoblock

 Caution	The supply voltage should be within the specified voltage range. Water temperature for operation of the pump should not exceed 33^{0}C. Failure to observe the precautions given above could cause the pump to malfunction and may lead to current leakage or electrical shock.
 Warning	If you find any abnormalities like vibration, noise, smell, etc. from the pump during trial operation, switch OFF the pump and contact the dealer from whom this pump was purchased.

Installation:

The following steps are executed prior to installation:

- Open the filling plugs and top up, if necessary, the motor with pure drinking water
- Measure the insulation resistance using a megger of 500 VDC
- Ensure contact points are clean
- Connect the measuring cable to the ground conductor
- Connect the other measuring cable to every core of the motor cable in succession
- Ensure that the insulation resistance, as shown on the megger, is a minimum of 20MΩ
- Check the direction of the rotation
- Use prescribed pipe sizes as mentioned on the product nameplate
- Refer Fig. 5, shown below, for locating the Single Phase Openwell Submersible for operation with flooded suction

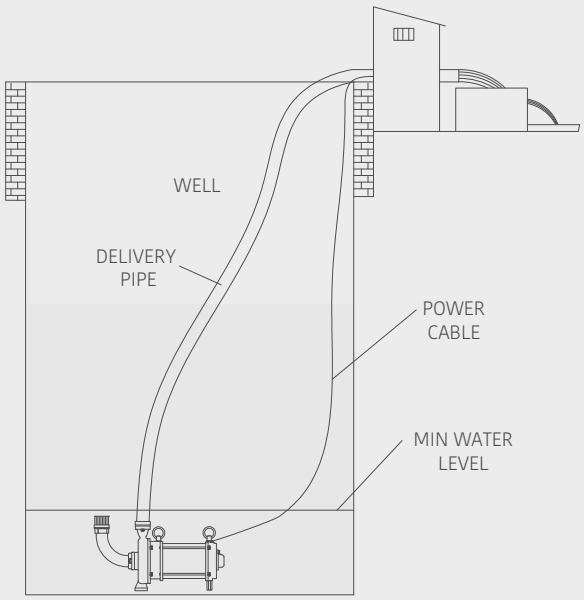


Fig. 5 Single phase openwell submersible monoblock with flooded suction

Prior to installation, unscrew the Brass Plugs 1 and 2, fitted on top of the motor as shown in Fig. 5 below, and fill the motor with pure drinking water till water overflows from the other filling hole. Gently rock the motor to release air bubbles and further top up if necessary. Then replace the two plugs.

In case the installation has a high delivery head, mount a good quality check valve in the delivery line.

Fig. 6 Filling the motor of single phase openwell submersible monoblock with pure drinking water

SVSM products are prefilled with pure drinking water and dispatched from the factory. TSSM and SSM products shall be filled with pure drinking water before installation. For SSM and TSSM products (Fig. 6a and b), unscrew plugs 1 and 2, fitted on top of the motor and fill up the motor with pure drinking water. For SVSM products, in case the motor is not full, top up the motor with pure drinking water, as illustrated below in Fig. 6c. Gently rock the motor to release air bubbles and further top up if necessary. Then replace the two plugs.

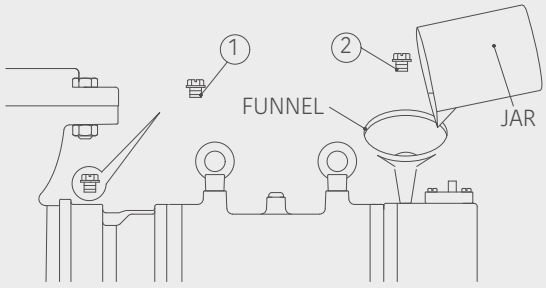


Fig. 6(a)

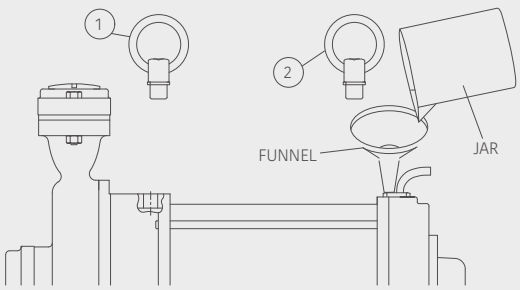


Fig. 6(b)

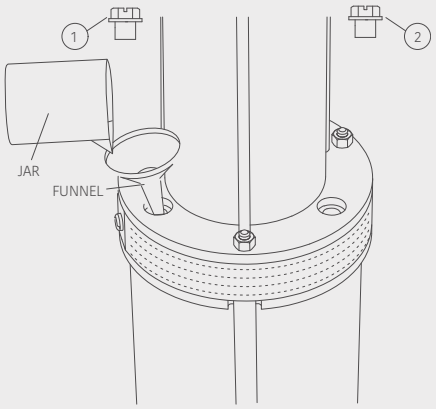


Fig. 6(c)

SVSM – Horizontal Mounting:

Motor and pump stand assembly – procedure

Refer Fig. 7 and Fig. 8 for the assembling the motor stand and pump stand.

Fig. 7 Assembly procedure – Motor stand

Remove the screws in the clamps (a) and insert Motor Stand in the motor base flange (b) as shown in below pictures and tight the screws (c).

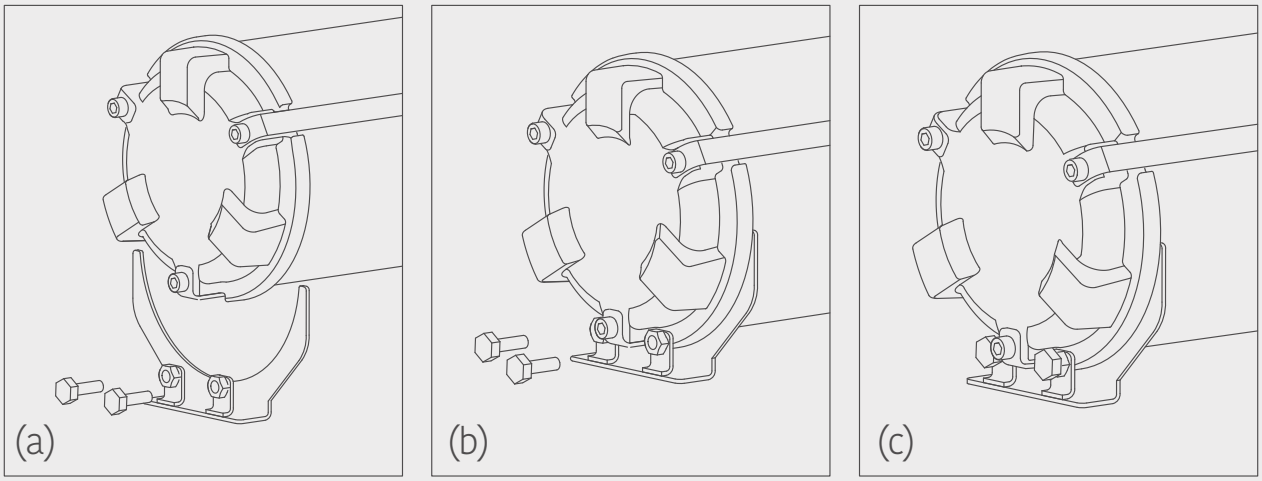
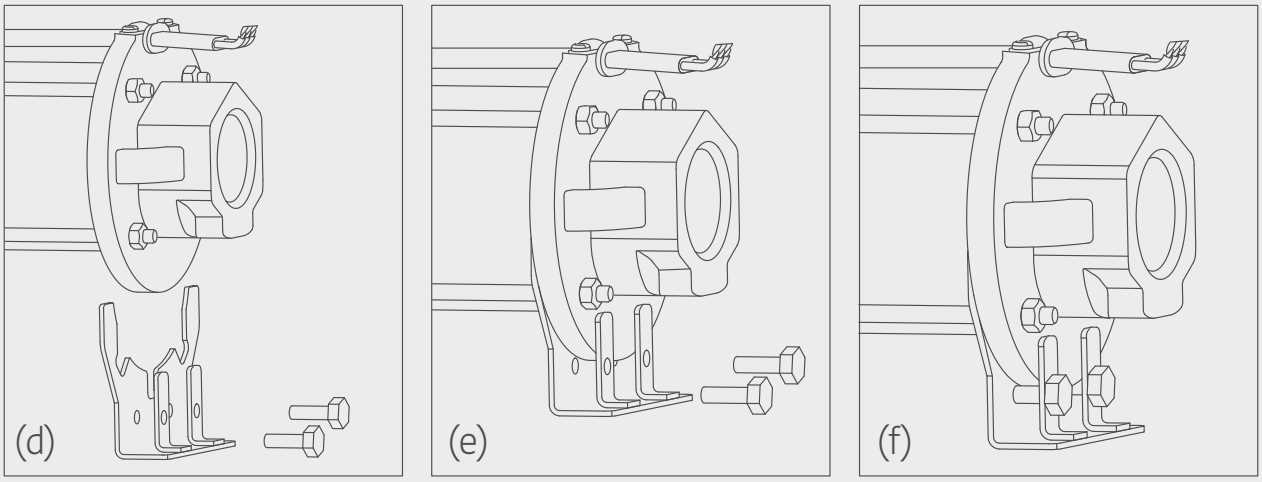


Fig. 8 Assembly procedure – Pump stand

Similarly assemble the pump stand in the delivery flange as shown in pictures (d), (e) and (f) and tighten the screws.



Both Motor & Pump Stands should be assembled opposite to the cable side

Waterproofing the Submersible Motor Cable - Supply Cable Joint

Danger

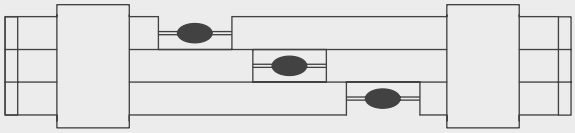
Hazardous voltage will cause death, serious injury, electrocution
Disconnect all power before working on this equipment and that it cannot be accidentally switched ON.

- Standard Single Phase Openwell Submersible are supplied with a 3-core PVC-insulated flat cable of length 3 meters. On demand a 10-m long cable can be supplied
- The free end of the 3-core cable of the motor needs to be connected to the supply cable from the control panel
- As this joint is always nearly submerged in water, the joint needs to be waterproof

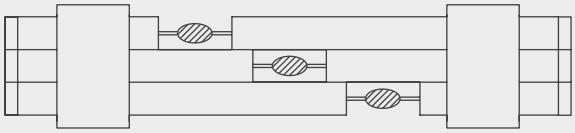
Refer the sequence shown in Fig. 9 below for insulating the cable joint for under water application:

Procedure for joining and insulating the 3 core conductors

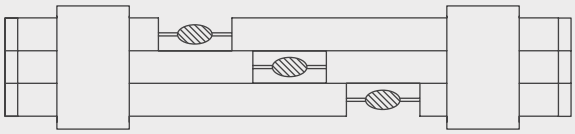
Step 1: Soldering / knot the copper strands



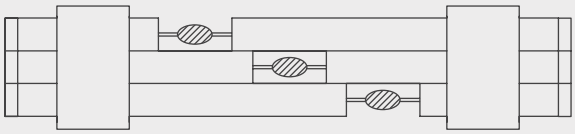
Step 2: Layer 1 - 1st layer of virgin rubber insulation



Step 3: Layer 2 - 1st layer of PVC insulation tape



Step 4: Layer 3 - 2nd layer of virgin rubber insulation



Step 5: Layer 4 - 2nd layer of PVC insulation tape

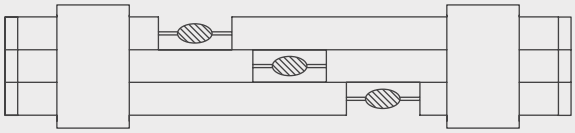
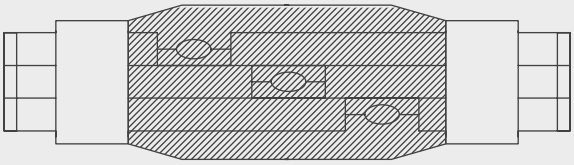


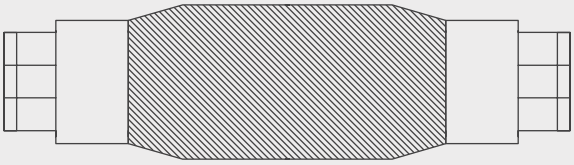
Fig. 9 Cable Joint for Under Water Application

Proedure for joining and insulating the cable joint for under-water cable

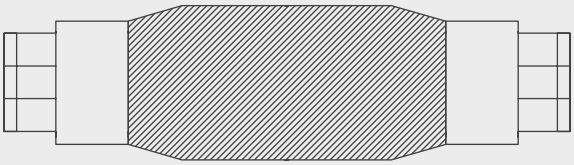
Step 6: Layer 1 - 1st layer of virgin rubber insulation



Step 7: Layer 2 - 1st layer of PVC insulation tape



Step 8: Layer 3 - 2nd layer of PVC insulation tape



Cable Lead Wire Connection to Control Panel

Cable	Terminal
Red	R
Yellow	Y
Blue	B

Cable Selection

Refer TABLE 2 for the selection of cables from Control Panel to Submersible Motor:

Submersible Cable Selection Chart (For 220 V, 50 Hz Ac power supply)

FL Current (Amps)	Motor Rating		Cable size in Sq.mm								
			1.5	2.5	4.0	6.0	10.0	16.0	25.0	35.0	50.0
	KW	HP	Maximum Length of Cable in Metres								
4.5	0.37	0.5	160	267	430	646					
5.4	0.55	0.75	133	222	359	538					
6	0.75	1	120	200	323	484	837				
9.5	1.1	1.5	75	126	204	306	529	835			
13	1.5	2	55	92	149	223	386	610	946		
20	2.2	3		60	96	145	251	396	615	866	
28	3.7	5			69	103	179	283	439	618	888

Notes:

- Table shows maximum allowable length of submersible cable for the given full load current where site voltage is normal ie 220 V.
- For other voltages, the cable size is to be selected for the length which is calculated as follows.
- Calculated length = (220 / Actual voltage) x Actual length

Checking direction of rotation of Single Phase Openwell Submersible Monoblock

Danger

Hazardous voltage will cause death, serious injury, electrocution.
All electrical work must be performed by an authorised electrician, in compliance with local electrical equipment standards and internal wiring codes.

- Connect the Single Phase Openwell Submersible to the control panel, power up the Openwell Submersible, and observe if the direction of rotation of the impeller matches the arrow mark on the volute casing / suction chamber
- In case the direction does not match the arrow mark, please take the product to the dealer from whom the purchase was made for rectification

Electrical Installation

- Check the power supply voltage and frequency and compare with the product requirements specified on the nameplate
- Observe relevant EB regulations while giving power supply to the motor
- As far as possible, do not use multiple joints in the electrical cabling while connecting the Control Panel to the Single Phase Openwell Submersible
- Ground the Single Phase Openwell Submersible using the two earth screws provided on the base plate of SSM and single earth screw provided on the motor body of SVSM
- Ensure electrical joints, if any, are properly and adequately insulated
- Connect the cable properly to the starter terminals to avoid loose connections
- Factor in low-voltage operation while selecting cable size

Electrical Wiring Work

Warning

All electrical work must be performed by an authorised electrician in compliance with local electrical equipment standards and internal wiring codes. Improper wiring can lead to current leakage, electrical shock, or fire.

Earthing

Fig. 10 Earth Connections – SSM and SVSM

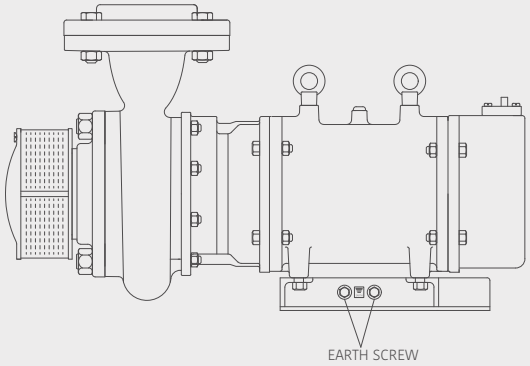


Fig. 10(a)

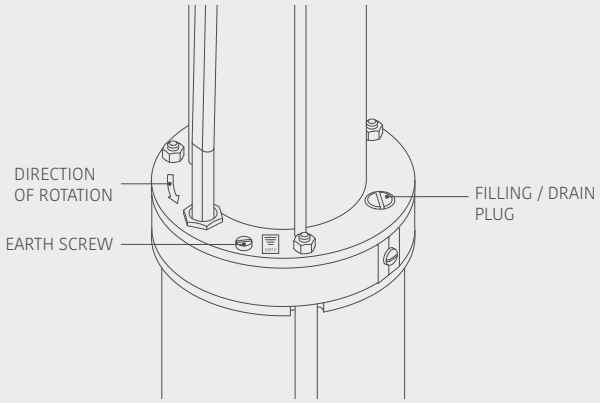


Fig. 10(b)

Warning

Be sure to install the ground wire securely. Failure to observe this precaution could damage the pump and cause current leakage, which may lead to electrical shock

Caution

Do not connect the ground wire to a gas pipe, water pipe, lightning rod, or telephone ground wire. Improper grounding could cause electrical shock

Connecting the Power Supply

 Caution	Observe relevant Electricity Board regulations while powering up the pumpset
 Warning	Before inserting the power plug or connecting the wires to the terminal board, make sure the power supply is properly disconnected. Failure to do so may lead to electrical shock, short, or injury caused by the unintended starting of the pump
 Caution	Do not use damaged cables, power plugs, or loose power outlets. Failure to observe this precaution could lead to electrical shock, short circuit or fire

11. Basic troubleshooting

Warning

To prevent serious accidents, disconnect the power supply before inspecting the pump.

Read this operation manual thoroughly before requesting repair. Contact the dealer from whom the pump was purchased. Servicing and troubleshooting must be handled by qualified persons with proper tools and equipment. Common faults, root causes for these, and suggested actions are provided in TABLE 2 below:

Fault	**Possible Causes**	**Suggested Actions**
Pump does not run	No power supply to the motor	Check for availability of power
	Burnt motor coil	Rewind the motor
	Low-voltage operation	Operate in the recommended voltage range
	The motor starter overload has tripped	Reset the motor starter overload. If it trips again, check the voltage
	Pump is jammed	Dismantle the pump and clear the jammed parts
	Fuse has blown	Replace fuse
	Loose connections	Tighten the electrical connections
	Pump has been kept idle for a long time	Ensure free rotation of shaft by running the pump for a few minutes at least every alternate day
Less discharge from pump	Low-voltage operation	Check the supply voltage, Operate in the recommended voltage range
	Wrong direction of rotation	Send the pump to authorised service centre
	Increased delivery head	Ensure delivery head within specified value
	Smaller pipe size used when compared to nameplate recommendations	Replace with suggested pipe size

Fault	Possible causes	Suggested actions
Less discharge from pump	Discharge pipe internally coated with depositions	Clean the pipe
	Foreign bodies lodged in impellers	Check the impellers and remove the foreign bodies
	The valve in the discharge pipe is partly closed / blocked	Check and clean / replace the valves, if necessary
	Discharge pipe internally coated with depositions	Check and clean NRV. Replace if necessary
	Foreign bodies lodged in impellers	Check and replace
	Leakage in the pipework	Check and repair / replace piping
Total head developed is too low	Abrasive wear of pump hydraulics due to operation in water of higher sand content or corrosiveness	Change the worn-out pump parts
	Running at low-voltage	Wait for voltage to increase or contact local EB representative
	Low system head and therefore higher discharge	Throttle the discharge
Pump runs rough and noisy	Dry running of pump	Keep pump idle for sometime/reduce the discharge by throttling
	Shaft is bent	Replace the shaft
	Excessive wear and tear	Service the pump replacing the worn out parts
Pump leaks excessively	Gaskets / O-rings damaged	Check and replace gaskets / O- rings
	Pipeline damaged	Check and replace piping
	Gaskets / O-rings damaged	Check and replace gaskets / O- rings
	Pipeline damaged	Check and replace piping

 Note	Conduct trial operation after maintenance
 Note	Dispose replaced components with appropriate care so as to protect the environment
 Warning	Do not try to solve unspecified troubles of Single Phase OWS as it may lead to severe damage to the pump or injury to personnel. Contact the dealer from whom this pump was purchased
 Caution	If the Single Phase Openwell Submersible runs with unusual noise, stop it immediately. Check (a) the journal bearings for wear (b) rotor outside diameter rubbing against stator inner diameter.

12. Preventive maintenance checks

Precautions to be taken

 Warning	Disconnect the power supply before starting maintenance or inspection of the pump to avoid electrical shock
 Note	If you find any damages or abnormalities, switch OFF the pump and report the problem to the dealer from whom the set was purchased

NOTE: The manufacturer assumes no responsibility for damage or injury due to disassembly in the field.

A definite schedule of preventive maintenance inspections should be established to avoid breakdown, serious damage, and / or extensive downtime. The schedule will depend on operating conditions and experience with similar equipment. The below checklist does not represent an exhaustive survey of maintenance steps necessary to ensure safe operation of the Single Phase Openwell submersible.

 Warning	The pump must not be operated with the delivery valve shut-off for more than a few seconds; otherwise the motor will overheat, possibly causing permanent damage
 Warning	Utilise the services of an electrician to carry out electrical measurements / checking the functioning of the control panel

It is good practice to monitor the conditions and performance of the Single Phase Openwell Submersible. Diagnosis may be carried out by checking the following:

- Closing the delivery valve for a few seconds only and check the shut-off head generated by the pump. Do not run at shut-off conditions for a prolonged period of time as the water in the volute casing will get hot
- Checking the current drawn by the pump at the duty flow rate
- Both these data should be compared to corresponding data recorded when the unit was initially installed
- Any reduction in shut-off head may indicate wear of the pump hydraulics
- Any increase in motor current at duty flow rate indicates a possible overload condition
- Measure the insulation resistance of the winding to check the condition of the motor
- Open the filling plugs and check the level of water inside the motor. Top up, if required, with pure drinking water
- Check the level of silt at the bottom of the well and de-silt if necessary
- Check the direction of rotation of the Openwell Submersible
- Check all electrical connections are proper

13. Do’s and don’ts

Do’s	Don’ts
Before installation, rotate the shaft to ensure that pump is not jammed	Do not use piping smaller than what is mentioned on the nameplate
Ensure proper earthing is provided	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
Mount the Openwell Submersible on a level surface	Do not have multiple joints on the cable. More the cable joints, more will be the voltage drop
Check the direction of rotation of the openwell submerisible monoblock matches the arrow mark cast on the volute casing	Do not remove the strainer as debris can get sucked into the pump and jam it
Rubber gaskets assembled on the openwell submersible monoblock do not have a central hole. Cut out the central hole and re-install	Do not use to pump corrosive and flammable liquids
Check all fasteners are tight	
In case of high delivery head, use a check valve in the discharge line	Do not use undersized electric cables between Pump and control panel. Factor in low-voltage usage
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	Do not use the power cable for lifting / lowering the pump. Use the eye bolts provided on the motor body
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	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
Ensure the position of pump strainer (TSSM and SSM) is located above the motor to prevent water level from dropping below the motor body	Do not operate the pump at shut-off conditions to prevent the pumpset from getting overheated

14. Important safety instructions

Only qualified personnel should be involved for inspection, maintenance, and repairs. The successful and safe operation of such a product depends on proper handling, installation, and maintenance. It is suggested that in case of non-functioning of the product, the customer is requested to contact the dealer through whom the purchase was made.

Danger

Hazardous voltage will cause death, serious injury, electrocution.
Disconnect all power before working on this equipment.
Maintenance should be performed by only qualified personnel.

15. Storage & handling

- The Single Phase Openwell Submersibles are supplied from the factory in proper packing in which they should remain until they are to be installed
- The product should be stored in a closed, dry, and well-ventilated room
- Do not store the products under direct sunlight
- Handle the pumps with care and do not expose the product to unnecessary impact and shocks
- During unpacking and prior to installation, care must be taken while handling the pump to ensure that the product is not subjected to shock loads
- If the product has been stored for a very long period, check the condition of the rubber gaskets, free rotation of the shaft, and level of water inside the motor

 Caution	If the pumpset is stored, the shaft must be turned by hand at least once a month
 Caution	If the pumpset has been stored for more than one year before installation, dismantle the pumpset and check the rotating parts before use. After re-assembly, ensure the impeller can rotate freely when turned by hand
 Caution	Oil seals, in back to back configuration, are provided to prevent water from inside the motor from escaping. Do not attempt to run the pump dry. If used to lift water from bore wells, ensure the pump is primed and then only run it

16. Company contact information

For most up to date information on Texmo Industries, please visit www.taropumps.com

P.B.No. 5303,
Mettupalayam Road,
Coimbatore - 641 029, India

1800-102-8888
www.taropumps.com
info@taropumps.com

Taro™ Pumps

Texmo Industries
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