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"CONSERVE WATER FOR THE NEXT GENERATION"

TEXMO INDUSTRIES
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INSTRUCTION MANUAL

Open well Submersible Pumpset

INSTALLATION AND COMMISSIONING

Do's & Don'ts

- Place the pump on a level surface with proper fastening arrangement for vibration free operation.
- Ensure that the motor is filled with pure drinking water free of any silt or foreign particles without air getting entrapped inside. Replace the water filling plugs without fail.
- Verify that the motor insulation resistance between the windings and the body is above 20 mega-ohms
- Provide earthing through the screws provided
- Use correct size of cable and set the relay at the recommended range. For low voltage conditions, the next higher size of cable should be preferred.
- Use recommended size of pipes. Usage of smaller size pipes will reduce the water output considerably. Avoid over size pipes
- Provide adequate support to the pipes to minimize the additional load on the pump casing
- Use Teflon tape for all pipe fittings / pipe joints to ensure leak proofing. Jute ropes will prove ineffective
- Check for free rotation of the pump shaft before starting the pump
- Erect the pump set with an minimum submergence of 1 meter. Avoid dry running
- Don't fill the motor with oil / coolant or distilled water, as it may be detrimental to the life of the motor.
- Don't carry out frequent meggar tests on the motor, as it will weaken the winding insulation
- Don't connect earth wire to pump casing or delivery pipes which may not serve the purpose
- Don't run the pump dry to avoid damage to the parts, especially the seals

PUMP OPERATION AND MAINTENANCE

- Set the relay at 1 to 1.2 times the full load current for DOL motors and 0.7 times the full load current for S/D motors
- Provide single phase preventer to avoid the coil getting burnt out due to phase imbalances (3 phase)
- Provide a dry run preventer to protect the pump components from dry running
- Don't use over size backup fuse wires which will damage the motor winding in case of starter failures / short circuiting
- Allow atleast 5 minutes between subsequent starts to avoid any jerk to the pump
- Run the pump once in every 2 to 3 days for a few minutes to maintain free rotation of pump shaft
- Don't operate the pump set with very low or intermittent discharge and in such cases throttle the discharge with a gate valve to avoid dry running
- The pump and motor taken out for service should be kept immersed in water to avoid corrosion
- Ensure free rotation of pump shaft before starting, if the pump has been idle for a few days
- Don't operate the pump with the delivery valve fully shut
- Don't run the pump at voltages beyond the recommended range
- Replace the water in the motor once a year.

TROUBLE SHOOTING

Possible Causes

Remedial action

Fails to start

- No power supply
- Very low voltage
- Pump is jammed
- Pump seizing
- Defective motor winding
- Loose connections
- Pump has been kept idle for a long time

- Check incoming power supply and rectify
- Operate in the recommended voltage range
- Dismantle the pump and clear the jammed parts
- Avoid dry running by using dry run protector
- Change the winding
- Check the connections
- Ensure free rotation of shaft by running the pump for a few minutes at least every alternate day

Delivers less or no water

- Very less supply voltage
- Low water level
- Incorrect direction of rotation
- Excessive delivery head
- Leakage in the pipe lines
- Choked (blocked) impeller
- Choked suction line
- Motor speed is too low
- Pipe size is inadequate

- Check the supply voltage
- Ensure sufficient submergence of suction inlet
- Change the direction by interchanging the phase leads (3 phase)
- Ensure delivery head within specified value
- Check the piping system and rectify the faults
- Service the pump clearing the impeller blockages
- Clear the blockages in strainer
- Service the motor and rectify the faults
- Use recommended size of pipes

More current / Fuse blows off frequently

- Low voltage
- Gate valve is partially closed
- Defective fuse
- Defective motor winding
- Damage to thrust bearing
- Decreased system head
- Excessive wear and tear due to rubbing of parts

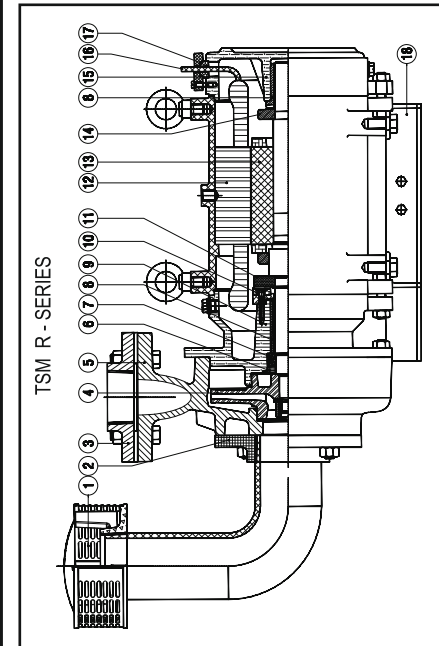
- Check the voltage
- Check and open the delivery side valve fully
- Check and replace / rectify the fuse
- Change the winding
- Replace the worn out bearing
- Throttle the discharge slightly
- Service the pump replacing the worn out parts

Excessive vibration

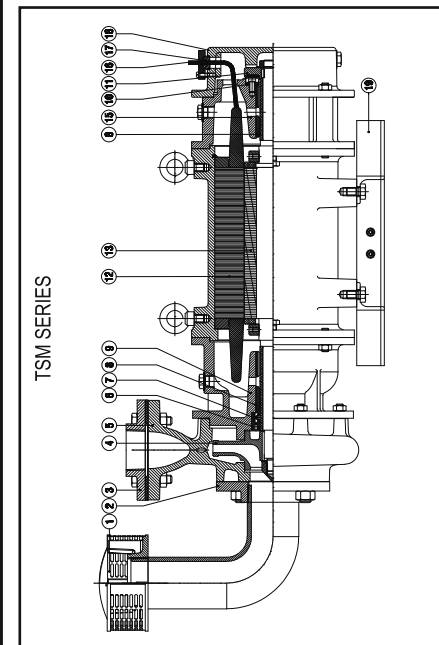
- Improper pipe fittings
- Dry running of pump
- Damaged bush / thrust bearing
- Shaft has deformed
- Excessive wear and tear

- Check all the pipelines and ensure rigid fittings
- Keep pump idle for sometime / reduce the discharge by throttling
- Replace the damaged bearing
- Replace the shaft
- Service the pump replacing the worn out parts

HALF SECTION VIEW



- SPARE PARTS**
- 1 STRAINER UNIT
 - 2 SUCTION FLANGE
 - 3 DELIVERY FLANGE
 - 4 IMPELLER
 - 5 CASING
 - 6 SAND GUARDS *
 - 7 OIL SEALS *
 - 8 BEARING BUSH *
 - 9 FRONT BEARING HOUSING
 - 10 THRUST BEARING *
 - 11 THRUST COLLAR *
 - 12 BODY WITH STATOR
 - 13 ROTOR WITH SHAFT
 - 14 COUNTER THRUST COLLAR
 - 15 REAR BEARING HOUSING
 - 16 CABLE
 - 17 CABLE GUARD
 - 18 END COVER
 - 19 BASE PLATE



- SPARE PARTS**
- 1 MOTOR BASE
 - 2 THRUST SEGMENT ASSEMBLY *
 - 3 THRUST COLLAR *
 - 4 COUNTER THRUST RING
 - 5 BEARING BUSH *
 - 6 BOTTOM BEARING HOUSING
 - 7 ROTOR WITH SHAFT
 - 8 BODY WITH STATOR
 - 9 SOLUTION CHAMBER
 - 10 OIL SEALS *
 - 11 SAND GUARDS *
 - 12 SUCTION FLANGE
 - 13 INTERMEDIATE PLATE
 - 14 IMPELLER
 - 15 DIFFUSER HOUSING
 - 16 STAGE SLEEVE *
 - 17 DIFFUSER BEARING BUSH *
 - 18 DELIVERY CHAMBER
 - 19 DELIVERY FLANGE
 - 20 CABLE GUARD
 - 21 CABLE PROTECTORS
 - 22 CABLE