

# PRORIL

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## Instruction Manual



**SUBMERSIBLE PUMPS** 50Hz / 60Hz

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Dear Customer,

Thank you for choosing a PRORIL submersible pump. This manual provides instructions for the installation, operation, and maintenance of the pump. Please read this manual carefully before installing and using the product, and keep this manual handy for future reference. Improper use of the product can cause personal injury and damage to property, and may void the warranty. Upon receiving the pump, it should be inspected for damage or shortages. Please visit our website [www.proril.com](http://www.proril.com) for further technical reference. Thank you!

## Safety Information

**Please read this manual thoroughly before operating the product, and retain it for future reference. Disregard of this warning could result in personal injury.**



### WARNING

- ▲ Do not operate the product near potentially explosive environment.
- ▲ Do not use the product in the presence of flammable liquids or gases.
- ▲ Make sure that the product is properly grounded and provided with leakage breaker to prevent the users from serious electric shock injury.
- ▲ Always turn off the power, before inspection, maintenance, and adjustment.
- ▲ Never attempt to change the settings of all protective devices without consulting with a PRORIL representative.
- ▲ The product is designed for moving waste water, raw and clean water. The following shall not be handled for the pump and your safety:
  - i ) Flammable, toxic, abrasive, crystallizing and polymerizing liquid.
  - ii ) Liquid chemicals and food, alkaline and corrosive liquid.
  - iii ) High temperature, high viscosity and high solid matter content liquid.
- ▲ Protect the electric plug or the end of the power cable from invasive moisture at all times.
- ▲ Never touch the piping or electrical connections while the pump is running.
- ▲ Never touch the water while the pump is under operation!
- ▲ Never put the pump into operation if it has been partially dismantled.
- ▲ Never run pump without water, do not operate the pump out of water or insufficient water.
- ▲ Do not use the pump if the power cable is damaged.

If you have any question, please contact our representative or company.

**This pump is NOT intended for use where water is occupied by people.**

## Application

The product is designed for moving waste water, raw and clean water.

Please note that the product is not meant to be used for pumping seawater and flammable, corrosive, explosive or dangerous liquids.

## Product Warranty

PRORIL's sole obligation under this warranty shall be limited to the repair or replacement of any parts that the Seller determines, in its discretion, to be defective.

The warranty is void if the damage is caused by the following factors:

- Improper installation
- Deficient maintenance
- Damage caused by improper use, or abuse.
- Third party modifications made or attempted to alter the pump.
- Normal wear and tear
- The pump has been used for purposes other than those for which it is intended.

PRORIL assumes no liability for the following:

- Body injuries
- Material damages
- Economic Losses

PRORIL reserves the right to change design and specifications without prior notification.

## Transportation and Storage


- Make sure the pump is properly secured, and cannot roll or fall over.
- Always lift the pump by its lifting handle or by using suitable equipment. Never lift the pump by the motor cable or hose.
- Let the pump run in the clean water after use in order to extend the life span of the pump.
- Choose a location free from heat, dirt, humidity, and vibrations if the pump is stored for an extended period of time.
- In cold climates, do not allow water in the pump to freeze.
- After an extended storage time, the pump should be inspected before use:
  - Attention! Disconnect power cable before inspecting the pump!
  - Turn the impeller by hand before using the pump.
  - Check the seals and the cable entry.

## Before Installation

- Check the nameplate for output and voltage required for the pump.
  - It is important that you check whether the pump is to be used with 50Hz or 60Hz.
  - Serious damage may occur if it is connected to an improper voltage.
- Make sure if the voltage of the power supply is identical to the one indicated on the nameplate (label) of the pump.
- Do not plug in to other voltage and phase than what is indicated on the nameplate.
- In case of doubt please contact your supplier.

## Product Nameplate

The nameplate provides important details. Be careful not to exceed the given specifications in the use of the product.



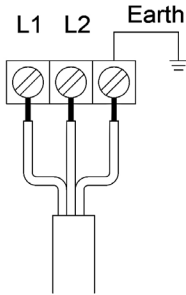
NO. \_\_\_\_\_

MODEL \_\_\_\_\_

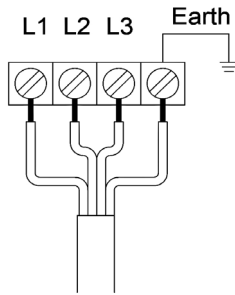
Frequency	Hz	Discharge	mm
Head	m	Flow	m <sup>3</sup> /min
Output	kW	Phase	∅
Voltage	V	Current	A
Revolution	/min	Weight	kg
IP		Insulation	Class
Depth	m	<b>MADE IN TAIWAN</b>	

Name	Description
No.	Serial Number
Model	Pump Model
Frequency	Power Frequency (Hz)
Head	Maximum Pressure Head (m)
Output	Pump Output (kW)
Voltage	Operating Voltage (V)
Revolution	Rotational Speed
Discharge	Outlet Size (mm)
Flow	Maximum Capacity
Phase	Number of Phase (∅ )
Current	Electric Current (A)
Weight	Pump Weight (kg)
IP	Class of Protection
Insulation	Class of Insulation
Depth	Maximum Submersion Depth (m)

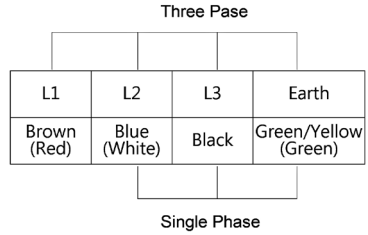
**Electrical Connections**



**Single Phase**



**Three Phase**



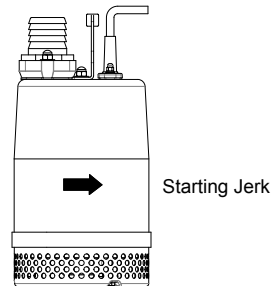
- All wiring, electrical connections and system grounding must comply with all national and local codes and regulations. A certified electrician must be employed to perform all electrical work.
- Before starting work on the product, make sure that the product and the control panel are isolated from the power supply and cannot be energized.
- It is important that the pump should be properly grounded and provided with leakage breaker to prevent the users from serious electric shock injury.
- Make sure if the voltage of the power supply is identical to the one indicated on the nameplate (label) of the pump. Do not plug in to other voltage and phase than what is indicated on the nameplate.
- Water leakage into electrical parts can cause damaged equipment or a blow fuse. Keep the end of the power cable above the liquid level.
- Damaged cables should always be replaced. Do not operate the pump if the cables are damaged!
- For three-phase motor, be careful of the direction of rotation. If the power source is connected to the reverse phase to result in the wrong motor rotation, please change the connection of any two incoming wires.
- Please install over-current protective device (circuit breaker or fuse) and over-load protective device to protect the pump.
- The voltage drop in long cables must be taken into account.

## Pump Installation

- Before installation, check your local electrical and plumbing regulations. These regulations are for your safety.
- Use the pump dimensional drawing to ensure proper installation.
- Make sure the cables are not kinked or nipped.
- Ensure that hoses, tubes and valves are suitable for the pressure of the pump. Place the pump on a flat base and make sure it cannot fall over or sink.
- Make sure that the pump cannot rotate at the startup or during operation.
- Make sure that the impeller rotation is correct.
- Should there be any problems occurred during installation, please get in touch with a PRORIL representative.
- DO NOT dismantle the product before/during installation without any authorized instructions from PRORIL.

## Operation

- Make sure the pump is on a firm and stable surface and cannot roll or fall over.
- Check the direction of rotation.
  - The correct starting rotation of the pump is counter-clockwise (seen from above).
  - If the direction of rotation is incorrect, two of the wires should be switched (consult a certified electrician).



- !** NEVER hold the handle while checking the direction of rotation. The starting jerk may be very violent.
- !** WARNING! Changing the direction of rotation on a plug connection without phase shifter can only be performed by a certified electrician.
- !** ATTENTION! If the built-in motor safety is activated, the pump will shut down and restart automatically as soon as the motor has cooled down.
- !** WARNING: if you need to work on the pump, make sure that it is isolated from the power supply and cannot be energized.

## Maintenance and Inspection

- Regular checkups and preventive maintenance will ensure a more reliable and safe operation. An initial inspection of the pump within 3 to 4 months after installation is recommended. Subsequent inspections/maintenance can be carried out every 6 months.
- Always disconnect the pump from the power supply before inspecting the pump.
- Make sure that the pump cannot roll or fall over to injure people and damage property.
- Rinse the pump thoroughly with clean water before working on the pump.
- The pump should not be activated if it is partially dismantled.
- Worn impellers often have very sharp edges. Be very careful when replacing them!

## EU Regulatory Notice

The product complies with the following EU directives:



2006/42/EC Machinery Directive

2014/35/EU Low Voltage Directive

2014/30/EU Electromagnetic Compatibility Directive

## Environmental Safety

Dispose appropriately of all waste.

This product has been made from high-quality materials and parts which can be re-used and recycled. Follow local laws and regulations regarding recycling if the unit or parts are accepted by an authorized recycling company.

Help protect the environment by recycling used products.

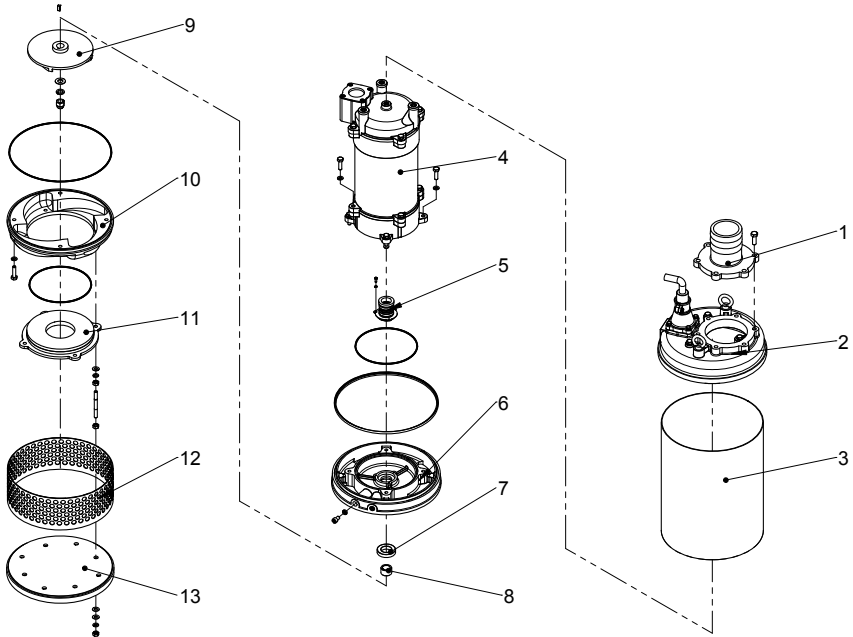


## Troubleshooting

Problems	Possible Causes	Solutions
Pump fails to start.	No electricity	Contact the electric power company or an electrical repair shop
	Open circuit or poor connection of the cable.	check if there is an open circuit in the wiring
	Impeller is clogged.	Inspect the pump and remove the block.
Pump starts but stops immediately, causing the motor protector to activate.	Impeller is clogged.	Inspect the pump and remove the block.
	Voltage drop	Correct the voltage rating, or use a cable that meets the standard length.
	A 50Hz model is operated at 60Hz.	Check the nameplate and replace the pump or impeller.
	The strainer is clogged, and the pump was operated dry for long hours.	Remove the block.
	Motor abnormal	Repair the motor or replace with a new motor.
	The pump is picking up too much sediment.	Place the pump on a concrete surface to prevent the pump from picking up sediment.
The pump's head and pumping volume is lower.	The impeller is worn.	Replace a new impeller.
	The hose may be clogged.	Reduce the number of bends in the hose, or in an area with a large amount of debris, use the pump in a basket.
	The strainer is clogged or buried.	Reduce the number of bends in the hose, or in an area with a large amount of debris, use the pump in a basket.
	The motor rotates in reverse.	Exchange the power supply terminal connection.
The pump makes noise or vibration.	The bearing of the motor may be damaged or the impeller is damaged.	Repair or replace the part.

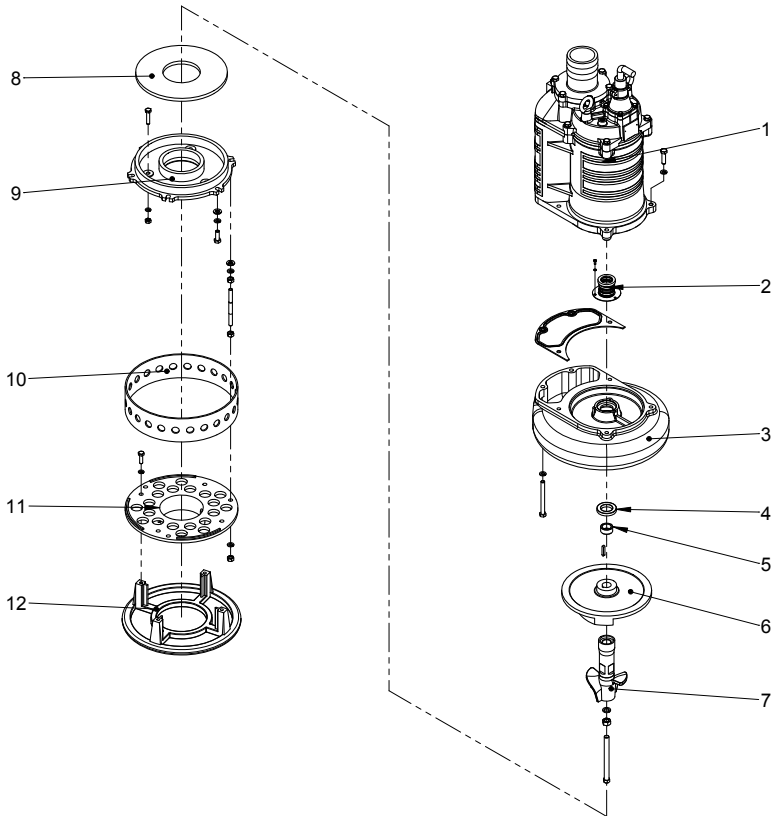
**Parts List**

**1. Center-Line Dewatering Pumps**



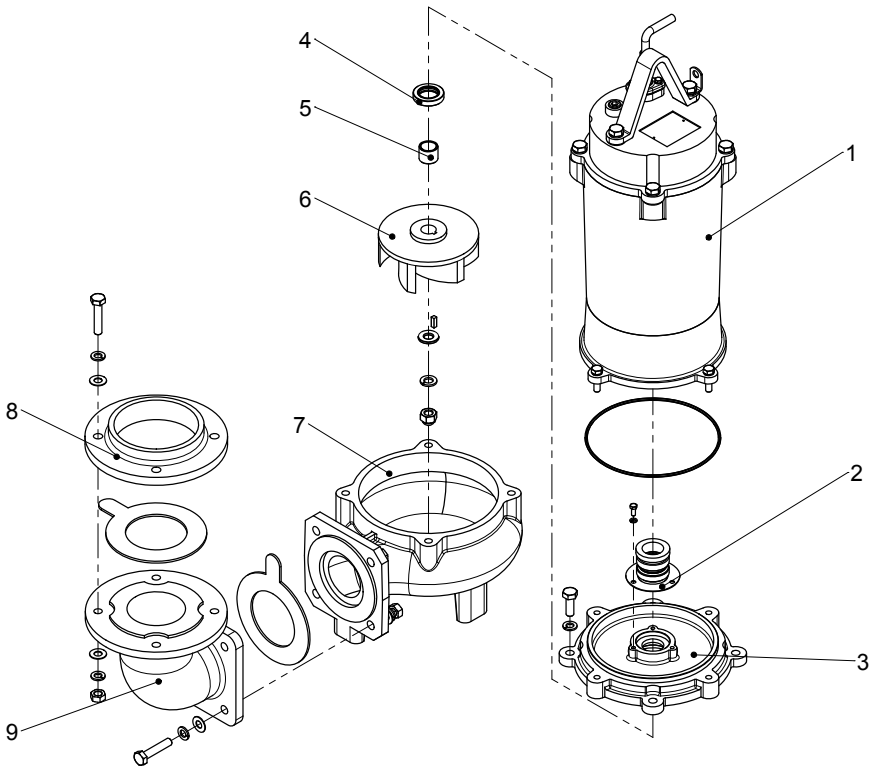
Pos.No	Denomination	Pos.No	Denomination
1	Discharge	8	Shaft sleeve
2	Upper cover	9	Impeller
3	Outer case	10	Pump casing
4	Motor	11	Inlet plate
5	Mech.seal	12	Strainer
6	Seal bracket	13	Base plate
7	Oil seal		

## 2. Slurry Pumps



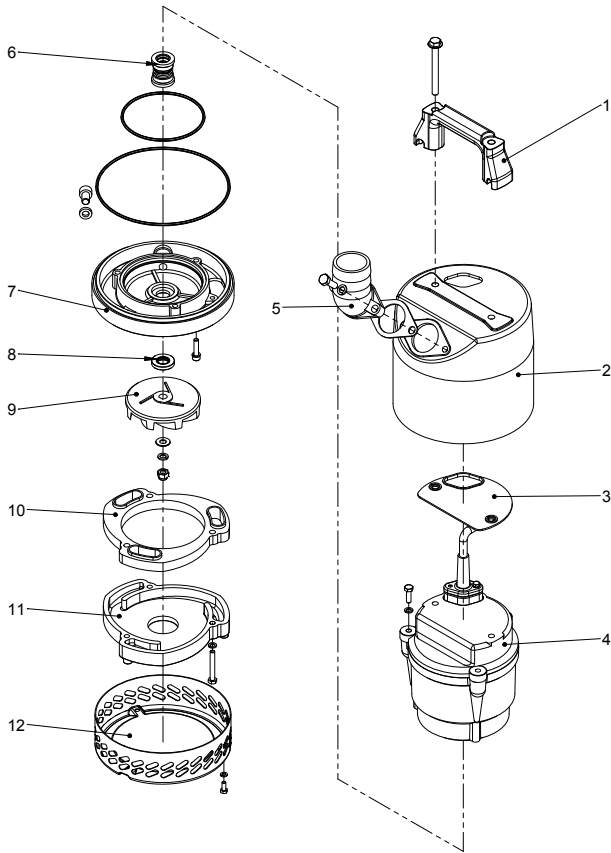
Pos.No	Denomination	Pos.No	Denomination
1	Motor	7	Agitator
2	Mech.seal	8	Wear plate
3	Pump casing	9	Inlet plate
4	Oil seal	10	Strainer
5	Shaft sleeve	11	Strainer Base
6	Impeller	12	Base plate

**3. Sewage and Wastewater Pumps**



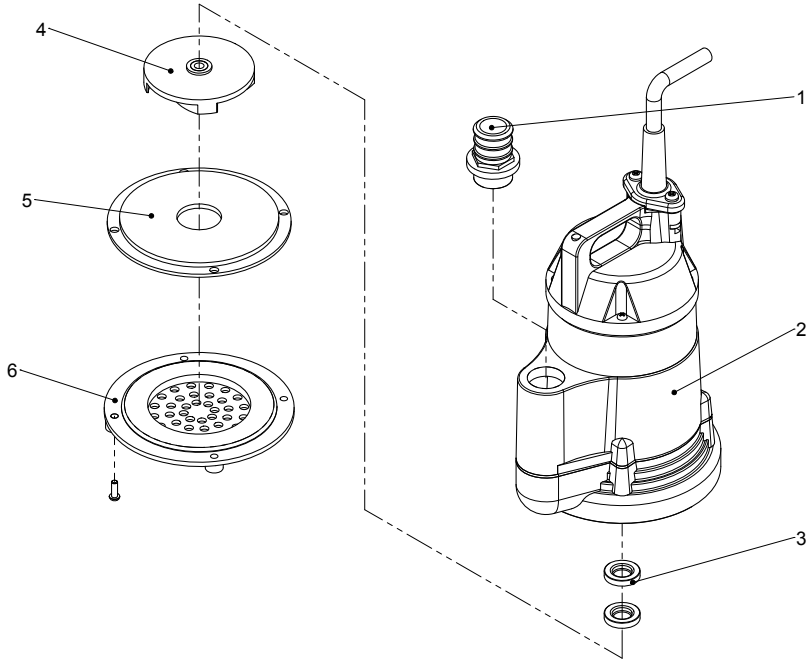
Pos.No	Denomination	Pos.No	Denomination
1	Motor	7	Pump casing
2	Mech.seal	8	Flange
3	Seal bracket	9	Discharge elbow
4	Oil seal		
5	Shaft sleeve		
6	Impeller		

### 4. Portable Dewatering Pumps



Pos.No	Denomination	Pos.No	Denomination
1	Handle	7	Seal bracket
2	Outer case	8	Oil seal
3	Gasket	9	Impeller
4	Motor	10	Gasket
5	Discharge	11	Inlet plate
6	Mech.seal	12	Strainer

**5. Utility Pumps**



Pos.No	Denomination	Pos.No	Denomination
1	Discharge	4	Impeller
2	Motor	5	Inlet plate
3	Oil seal	6	Base plate



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