

# PROTEGE PUMPS®



## Submersible Water Pumps

### User Manual

[Revision 4.0 January 2018]

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READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

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# Safety

Safety messages are designed to alert you to possible dangers or hazards that could cause death, injury or equipment or property damage if not understood or followed. Safety messages have the following symbols:



You **WILL** be KILLED or SERIOUSLY INJURED if you do not follow instructions.



You **CAN** be KILLED or SERIOUSLY INJURED if you do not follow instructions.



You **CAN** be INJURED if you do not follow instructions or equipment damage may occur.

It is important that you read and understand the instruction manual before use and keep the manual in a safe place for future reference. Safety information presented here is generic in nature – some advice may not be applicable to every piece of equipment. The term “equipment” refers to your product, be it electrical mains, battery or petrol engine powered.

Read all safety warnings and all instructions. When using the equipment, basic safety precautions detailed here must always be followed to reduce the risk of fire, electric shock, personal injury and material damage.

**IMPORTANT** – Handle the equipment safely and carefully.

**BEFORE USE** - If you are not familiar with the safe operation/handling of the equipment, or are in any way unsure of any aspect of suitability or correct use it for your application, you should complete training conducted by a person or organization qualified in safe use and operation of this equipment, including fuel/electrical handling and safety.

- Read all safety warnings and all instructions. When using the equipment, basic safety precautions detailed here must always be followed to reduce the risk of fire, electric shock, personal injury and material damage.
- Do not operate the equipment in flammable or explosive environments, such as in the presence of flammable liquids, gases or dust. The equipment may create sparks or heat that may ignite vapors, dust etc
- Keep clear of moving parts.
- Equipment may be a potential source of electric shock or injury if misused.
- Do not operate the equipment if it is damaged, malfunctioning or is in an excessively worn state.
- Do not allow others to use the equipment unless they have read this manual and are adequately trained.

## General Work Area Safety

Work areas should be clean and well lit.

Do not operate the equipment if bystanders, animals etc are within operating range of the equipment or the general work area.

## General Personal Safety

Keep packaging away from children - risk of suffocation! Operators must use the equipment correctly. When using the equipment, consider conditions and pay due care to persons and property.

Prevent unintentional starting of the equipment - ensure equipment and power source switches are in the OFF position before connecting or moving the equipment. Do not carry equipment with hands/fingers touching any controls. Remove any tools or other items that are not a part of the equipment from it before starting or switching on.

Stay alert and use common sense when operating equipment. Do not overreach. Keep proper footing and balance at all times. Do not use equipment when tired or under the influence of drugs, alcohol or medication. This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities.

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. Always wear eye protection. Protective equipment such as respirators, non-skid safety shoes, hard hat, hearing protection etc should be used for appropriate conditions. Other people nearby should also wear appropriate personal protective equipment. Do not wear loose clothing or jewellery, which can be caught in moving parts. Keep hair and clothing away from the equipment.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

## General Equipment Use and Care

Do not force the equipment. Use the correct equipment for your application. The correct equipment will perform better and be safer within its design parameters.

Do not use the equipment if the ON/OFF switch malfunctions – any equipment that cannot be controlled with the ON/OFF switch is dangerous and must be repaired.

Use the equipment and accessories etc. in accordance with these instructions, taking into account working conditions and the work to be performed. Using the equipment for operations different from those intended could result in hazardous situations.

Before use, inspect the equipment for misalignment or binding of moving parts, loose components, damage or any other condition that may affect its operation. If damaged, have the equipment repaired by an authorized service center or technician before use.

Always keep the equipment and accessories (cutting tools, nozzles, bits etc) properly maintained. Keep the equipment, controls and handles dry and free from dirt, oil and grease.

Store the equipment out of reach of children or untrained persons. To avoid burns or fire hazards, let the equipment cool completely before transporting or storing. Never place the equipment in places where there are flammable materials, combustible gases or combustible liquids etc.

The equipment is not weatherproof, and should not be stored in direct sunlight, at high ambient temperatures or locations that are damp or very humid.

## Pump Use and Care

- The water pump creates high pressures. Do not disconnect the pump or pipework until internal pressure has been released.
- Do not pump flammable or explosive liquids such as fuels, oil, kerosene, solvents or thinners.
- Pump only liquids compatible with pump component materials. Failure to follow to this warning can result in serious personal injury, death and/or property damage.
- Do not operate the pump without a liquid source to draw in.
- Maintain the pump, electrical cables and hoses in good operating condition.
- Do not hold or suspend the pump by its electrical cables or other unstable means.
- Improper duty cycle and/or rapid start/stop conditions caused by undersized outlets may cause internal thermal overload protection (if equipped) to trip or can cause premature motor failure due to excessive heat.

### General Fuel Safety



Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources.

- Do not spill fuel. If you spill fuel, wipe it from equipment immediately – if fuel gets on your clothing, change them immediately
- Do not smoke near fuel.
- Always shut off the engine before refuelling.
- Do not refuel a hot engine.
- Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly.
- Always refuel in well ventilated areas.
- Always check for fuel leakage. If fuel leakage is found, do not start or run the engine until all leaks are fixed.

### General Electrical Safety

- Inspect electrical equipment, extension cords, power bars, and electrical fittings for damage or wear before each use. Repair or replace damaged equipment immediately.
- Ensure all power sources conform to equipment voltage requirements and are disconnected before connecting or disconnecting equipment.
- When wiring electrically powered equipment, follow all electrical and safety codes.
- Wherever possible, use a residual current device (RCD).
- Electrically grounded equipment must have an approved cord and plug and be connected to a grounded outlet.
- Do not bypass the on/off switch and operate equipment by connecting and disconnecting the power cord.
- Do not use equipment that has exposed wiring, damaged switches, covers or guards.
- Do not use electrical equipment in wet conditions or damp locations.
- Do not use electrical cords to lift, move or carry equipment.
- Do not tie electrical cords in tight knots and ensure electrical cords do not present trip hazards.

### General Service Information

- Have the equipment serviced or repaired at authorized service centres by qualified personnel only.
- Replacement parts must be original equipment manufacturer (OEM) to help ensure that equipment safety is maintained.
- Do not attempt any maintenance or repair work not described in this instruction manual.
- After use, the equipment and components may still be hot – allow the equipment to cool and disconnect spark plugs and/or electrical power sources and/or batteries from it before making adjustments, changing accessories or performing repair or maintenance.
- Do not make adjustments while the equipment is running.
- Perform all service related activities under suitable conditions, such as a workshop etc.
- Replace worn, damaged or missing warning/safety labels immediately.
- Do not clean equipment with solvents, flammable liquids or harsh abrasives.

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## Applicable Models

This manual applies to the following submersible water pumps:

0.75kW (1HP) Deep Well Water Pump



1.1kW (1.5HP) Deep Well Water Pump



1.5kW (2HP) Deep Well Water Pump



2.2kW (3HP) Deep Well Water Pump



2.2kW (3HP) Dirty Water Pump



1.5kW (2HP) Dirty Water Pump



2kW (2.7HP) Dirty Water Pump



2.2kW (3HP) Sewage Water Pump





## Parts Identification

All pumps include outlet hose fittings, and may include adaptors, hose clamps etc depending on model and type. It is strongly recommended that you familiarise yourself with all major components of the equipment before using it or performing any maintenance tasks.



Products detailed in this manual may vary in appearance, inclusions, description and packaging from those shown or described.



No.	Name	No.	Name
1	Pump Body	5	Electrical Connection Cable
2	Pump Inlet	6	Control Box (where applicable)
3	Pump Outlet	7	Float-Switch (where applicable)
4	Handle / Lift Point		

## Set-Up – Bore Pumps

For bore pumps, note the following when preparing the bore and using the pump:

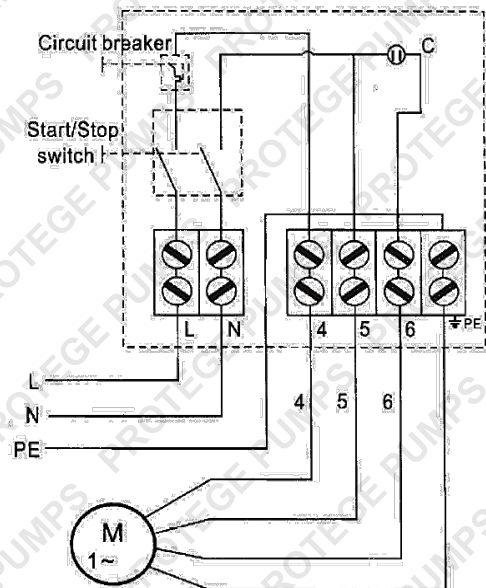
- The bore diameter must be larger than the diameter of the pump. For example, if the pump diameter is 100mm, the bore diameter should be large enough for the pump, cables, hoses, float-switches etc.
- Generally, the bore should be considerably deeper than the depth that the pump will be used at. This is to provide a reservoir of water in the bore for the pump to draw. If the pump is sitting at or near the bottom of the bore it may take a very short amount of time to empty the bore.
- If the pump is to be used at depths greater than the length of the electrical connection cable, the entire cable must be replaced with one of a suitable length. The cable replacement must be performed by a qualified electrician. As cable length increases, the wire gauge must also increase to prevent power loss (voltage drop) through the cable length that may affect pump operation/efficiency. The pumps are capable of operating normally to a maximum 10% variation in the electrical power supply.
- When hanging the pump, use the handle or lift points only.

## Electrical Connections



Electrical connections must be performed by a licensed electrician.

Some pumps feature an electrical control box that accepts 240VAC single-phase and converts it to a three-phase output. The control box provides a switch for starting/stopping the pump and may be equipped with an overload circuit breaker. The pump cable must be connected to the control box, which in turn requires a 240VAC mains electrical supply. The control box and pump cable should be wired as follows:



## Float-Switches

Some pumps feature a float-switch that is used to automatically switch the pump ON and OFF depending on water level in the bore/reservoir. This is to prevent the pump from running "dry". The float-switch, when vertical (floating) allows the pump to run – if the water level drops so that the switch is no longer vertical, the pump stops. Ensure that the float-switch has space to move freely – if the area around the pump is too small, the switch may get caught in the vertical position and will not operate properly.

Float-switch operation should be checked every 3 months. To check, place the pump in a vessel filled with water and raise the float-switch out of the water – the pump should switch OFF, then lower it into the water – the pump should switch ON.

## Connecting Hoses



Always use the correct diameter hose. • Ensure all hoses, joints and clamps are of adequate construction to handle the inlet suction and outlet pressure. • Hoses should be free from damage, kinking or creasing. • All hose connectors and connections must be secure and properly sealed to ensure correct and reliable pump operation. • The pump should be used in accordance with its [specifications](#).

For best performance, always use outlet fittings that are designed for the general water pump application; for example, high pressure, water transfer etc. Poorly matched hose sizes may affect efficiency by increasing pumping resistance (hose diameter too small) or reduced outlet pressure (hose diameter too large).

## Water Pump Operation

Be aware that once the pump motor is running [electrical supply connected and switched "ON"], the pumping action of the machine activates. Note the following recommendations:

- Do not deliberately allow excessive debris through the pump.
- Do not allow the pump to run "dry"; that is, not have sufficient or suitable fluid to draw.
- After use, wash out the pump and hoses to remove corrosive substances, debris or other impurities carried by the pumped fluid.

# Troubleshooting



Do not have the pump running during inspection and maintenance unless specifically required. • Some maintenance activities described may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, have the unit serviced by a service centre or qualified technician. • If problems persist after following all suggested actions, contact a service centre or qualified technician.

The following information may assist in identifying a problem and rectifying it.

## Water pump not starting or not pumping.

Possible Fault	Action
Lack of water	Ensure water pump is sufficiently submerged and water is available to be pumped.
Inlet or outlet hose blocked or impellor locked	Ensure pump inlet is submerged and is not blocked. Ensure inlet is not buried in mud etc. Ensure outlet hose is not kinked or obstructed. Replace damaged hoses. If the impellor is locked, have the pump inspected and repaired.
Input voltage not available or too low or a phase is missing	Ensure that available voltage to the pump is within specifications. For bore pumps, the cable wire diameter must be sufficient for the cable length and pump power requirements. Check for bad electrical connections, faulty cables and switches and short-circuits, and rectify.
Pump motor damaged	Have the pump inspected and repaired.

## Water pump is operating, but output is low.

Possible Fault	Action
Inlet or impellor or hose partially blocked	Ensure that the pump inlet is not blocked – clean any obvious dirt and debris from the inlet. Ensure outlet hose is not kinked or obstructed. Replace damaged hoses. If the impellor is blocked, have the pump inspected and repaired.
Impellor worn or pump motor damaged	Have the pump inspected and repaired.

## Motor is overheating.

Possible Fault	Action
Lift too low	Ensure water pump lift (pumping height) is within specification.
Inlet or impellor or hose partially blocked	Ensure that the pump inlet is not blocked – clean any obvious dirt and debris from the inlet. Ensure outlet hose is not kinked or obstructed. Replace damaged hoses. If the impellor is blocked, have the pump inspected and repaired.
Input voltage too low	Ensure that available voltage to the pump is within specifications. For bore pumps, the cable wire diameter must be sufficient for the cable length and pump power requirements. Check for bad electrical connections, faulty cables and switches and short-circuits, and rectify.
Pump motor damaged	Have the pump inspected and repaired.



# Specifications

Model	Electrical	Outlet	Capacity	Max. Lift	Max. Environment
<b>0.75kW (1HP) Deep Well Water Pump</b>	240VAC/50Hz 6A	30mm (1.25")	4980l/hour @ 26m 4020l/hour @ 44m 3000l/hour @ 61m 2520l/hour @ 69m 1980l/hour @ 77m 1500l/hour @ 83m 1020l/hour @ 88m	90m	70°C ambient 40°C fluid Ph 6.5 to 8.5
<b>1.1kW (1.5HP) Deep Well Water Pump</b>	240VAC/50Hz 8.4A	30mm (1.25")	4980l/hour @ 38m 4020l/hour @ 64m 3000l/hour @ 86m 2520l/hour @ 93m 1980l/hour @ 99m 1500l/hour @ 103m 1020l/hour @ 108m	110m	70°C ambient 40°C fluid Ph 6.5 to 8.5
<b>1.5kW (2HP) Deep Well Water Pump</b>	240VAC/50Hz 11A	30mm (1.25")	4980l/hour @ 51m 4020l/hour @ 91m 3000l/hour @ 121m 2520l/hour @ 132m 1980l/hour @ 143m 1500l/hour @ 149m 1020l/hour @ 155m	155m	70°C ambient 40°C fluid Ph 6.5 to 8.5
<b>2.2kW (3HP) Deep Well Water Pump</b>	240VAC/50Hz 15A	30mm (1.25")	4980l/hour @ 120m 4020l/hour @ 135m 3000l/hour @ 150m 2520l/hour @ 168m 1980l/hour @ 180m 1500l/hour @ 189m 1020l/hour @ 195m	210m	70°C ambient 40°C fluid Ph 6.5 to 8.5
<b>2.2kW (3HP) Dirty Water Pump</b>	240VAC/50Hz 15A	50mm (2")	28800l/hour	28m	70°C ambient 40°C fluid Ph 6.5 to 8.5
<b>1.5kW (2HP) Dirty Water Pump</b>	240VAC/50Hz 11A	25 to 38mm (1 to 1.5")	18000l/hour	9.5m	70°C ambient 30°C fluid Ph 6.5 to 8.5
<b>2kW (2.7HP) Dirty Water Pump</b>	240VAC/50Hz 13A	25 to 38mm (1 to 1.5")	24000L/hour	12.5m	70°C ambient 30°C fluid Ph 6.5 to 8.5
<b>2.2kW (3HP) Sewage Water Pump</b>	240VAC/50Hz 15A	50mm (2")	28800l/hour	28m	70°C ambient 30°C fluid Ph 6.5 to 8.5



**Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death, consult the points below and additionally, the information available at [www.datastreamserver.com/safety](http://www.datastreamserver.com/safety)**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product.</li> <li>• Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable).</li> <li>• Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing.</li> <li>• Ensure all possible users of the product have completed an industry recognized training course before being given access to the product.</li> </ul> | <ul style="list-style-type: none"> <li>• The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third-party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives.</li> <li>• This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example), there is always a small chance of technical issues that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation.</li> <li>• If this item has been purchased in error after considering the points above, simply contact the retailer directly for details of their returns policy, if required.</li> </ul> |
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