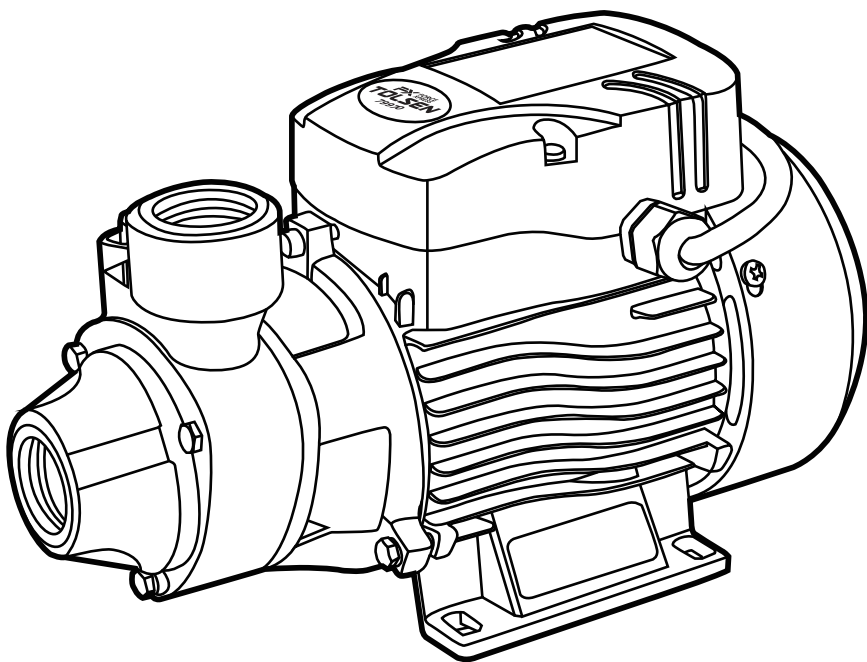


# TOLSEN **FORCE XPRESS**

## **79970 PERIPHERAL PUMP**

**INSTRUCTION MANUAL**

**220-240V~50Hz 370W 0.5Hp**



**SAVE THIS MANUAL !**

You will need this manual for safety instructions, operating procedures and warranty.  
Put it and the original sales receipt in a safe dry place for future reference.

## WARNING

### Before start-up, note the following

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The Pump must be connected to a Ground Fault Circuit Interrupter (GFCI) protected plug which has been installed according to regulations. The plug must have a supply voltage of 220-240 VAC at 50 Hz.

## CAUTION

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This Pump has been evaluated for use with water only.

**IMPORTANT! For your own safety before starting to run the Pump, please have the following items checked by an expert:**

1. Risk of electric shock – This Pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.
2. Risk of electric shock – This Pump has not been investigated for use in swimming pool areas.
3. The electrical connections must be protected from moisture.
4. If there is danger of flooding, the electrical connections must be taken to higher ground.
5. Circulation of caustic fluids, as well as the circulation of abrasive materials, must be avoided at all costs.
6. The Pump must be protected from frost.
7. The Pump must be protected from running dry.
8. Access by children should also be prevented with appropriate measures.
9. To prevent death from electric shock, Pump must be connected only to a GFCI protected outlet.
10. Do not use an extension cord with this item.
11. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
12. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur.



It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

## Fluid Type

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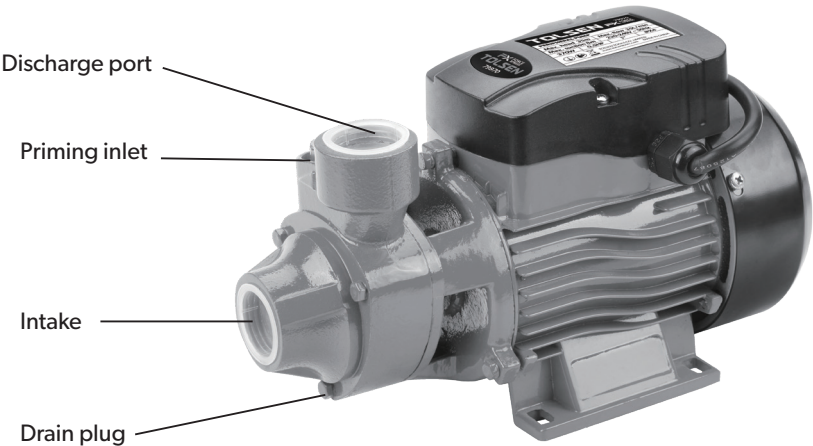
The Pump is designed for use with water with a maximum temperature of 77° F (25°C).

Do not use the Pump for other fluids, especially not fuels, cleaning fluids, or other chemical products.

SPECIFICATIONS

Electrical Rating	220-240VAC / 50Hz
Maximum Flow	35L/min
Maximum Suction	8m
Maximum Delivery Height	35m
Discharge Port	1"
Power Cord Length	0.3m

Components



## INSTALLATION

The Pump must be installed in a stationary position with a fixed pipeline and a steady water supply.

### Installation Instructions

This Pump is designed for use as a well pump.

**WARNING! TO PREVENT SERIOUS INJURY FROM ELECTRIC SHOCK:**

Install indoors or in weather-proof well house only. This Pump is non-submersible.

Do not plug in the power cord when wet or standing on damp or wet ground.

Do not plug in the power cord until instructed to do so.

**NOTE:**

- a. ONLY pump clean water.
  - b. Additional components (such as valves and pipes) may be required for installation, but not included.
  - c. Installation requires skilled workmanship and compliance with local building codes.
- If you are not confident in your ability to properly and safely install this Pump, have a qualified technician perform the installation.
- d. The water to be pumped must be clean and must be free of sand and grit, which would damage the Pump and void the warranty.

**Note:** This Pump is intended for shallow well application only and is not intended to be used as a booster pump.

**Note:** For optimal performance, install the Pump as close to the well head as possible.

2. Install a Foot Valve at the bottom of the suction pipe. The Foot Valve must be under the Pumping Water Level, the level that the water falls to when the Pump operates.
  3. Install a sterile Well Seal at the top of the suction pipe to keep the well clean. Protect from rust inside a frost-proof enclosure.
  4. Intake and discharge pipes must be at least 1" in diameter.
  5. Lay an off-set line from the well to the structure the Pump will be installed in. The off-set line should slope slightly towards the well. Systems with longer off-set lines should use larger diameter pipe to improve efficiency.
  6. Install the Pump on a rigid, level, dry platform. This platform must provide a solid, level surface that is capable of supporting the weight of the Pump and attached piping filled with water. Do not allow water to contact the Pump's housing.
- NOTICE:** DO NOT INSERT fittings into the Intake Hole farther than 1/2"—this can DAMAGE the Pump, diminish Pump functions, and/or STOP water flow.
7. Keep the Head, the height that the pump discharge must push water before discharge, to a minimum. The Vertical Well Lift, Off-set Line Length, and Head added together must be less than Maximum Delivery Height to have flow at output. Effective flow decreases to 0 GPH as Maximum Delivery Height reaches its maximum.
  8. For your protection, the power outlet used should have a Ground Fault Circuit Interrupter (GFCI). Have it installed by a qualified electrician. Keep power line away from water.
  9. The inlet and discharge lines should not be wedged or stressed in a way that puts strain on the Pump. Do not support the Pump with the inlet or discharge lines.

## OPERATION

After reading these instructions, consider the following points before starting the Pump:

**1. Before starting the Pump for the first time, prime it as follows:**

- a. Fill the suction Pipe and Pump Body through the Priming Inlet.
  - b. Close the Inlet after verifying that there are no leaks.
  - c. Open the spigots, faucets and/or taps on the Delivery Pipe so that air can be released from the suction cycle.
2. Make sure the intake pipe is fully submerged before continuing.

**Do not handle or perform maintenance on the Pump if the Power Cord is plugged in.**

3. Verify that the Pump sits on a rigid, level, dry platform which provides a solid surface capable of supporting the Pump and attached piping filled with water.
4. Verify that the discharge pipe is properly connected.
5. Verify that the electrical connection is 220-240 VAC, 50 Hz.
6. Verify that the electrical socket is GFCI protected and in good condition. Test GFCI protected outlet before use.
7. Verify that water and moisture cannot get near the power supply socket.
8. Verify that the Pump is installed so as to prevent running dry.
9. Run Pump for two minutes. If it fails to pump water, disconnect power, re-fill pump body through priming inlet and re-start.
10. To begin pumping, plug in the Power Cord.

**WARNING!**

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION: Unplug the Pump from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

If the Pump is moved during operation, flush it out with clean water after every use.

## MAINTENANCE

### Quarterly Maintenance

The below maintenance must be performed at least once every 3 months under optimal conditions. For frequent use, or dirty areas, more frequent maintenance is required. If the Pump fails to function properly, have it serviced by a qualified service technician.

1. Clean the inlet screen on the intake port regularly to remove accumulated debris.
2. Wipe the Pump clean with a soft, damp cloth with soapy water. Do not use solvents. Do not get the electrical components wet.
3. Do not disassemble the pump or motor as this will damage the water seals. All repairs should be performed by a qualified technician.
4. Drain water from Pump before storage by disconnecting the water lines and removing the Drain Plug. Replace the Plug when finished. If storing the Pump for a long time, store it in a dry location, and apply a light layer of oil to the metal parts prior to storage, to inhibit rust. Do not expose to freezing temperatures.
5. After storage, check the Impeller to make sure it turns easily and is not oxidized.

## TROUBLESHOOTING

problem	possible causes	Likely Solutions
The Pump won't start	<ol style="list-style-type: none"> <li>1. No power.</li> <li>2. Thermal Protection cut out.</li> <li>3. Blocked impeller.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connections, and breaker/fuse.</li> <li>2. Allow Pump to cool.</li> <li>3. Free the impeller.</li> </ol>
The Pump operates but it won't discharge water	<ol style="list-style-type: none"> <li>1. Pump not primed.</li> <li>2. Lift height exceeded.</li> <li>3. Inlet tube not submerged.</li> <li>4. Air in suction pipe.</li> <li>5. Inlet screen clogged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Prime Pump.</li> <li>2. Reduce lift height.</li> <li>3. Submerge the inlet.</li> <li>4. Check pipe and seals.</li> <li>5. Clean screen.</li> </ol>
Only a low volume of water flows	<ol style="list-style-type: none"> <li>1. Inlet pipe is too small.</li> <li>2. Liquid is too dirty.</li> <li>3. Lifting height exceeded.</li> <li>4. Piping corroded, causing friction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase pipe diameter.</li> <li>2. Clean screen frequently.</li> <li>3. Reduce lifting height.</li> <li>4. Replace piping, with plastic where possible.</li> </ol>
Pump will not hold prime	<ol style="list-style-type: none"> <li>1. Foot/check valve not installed in suction line.</li> <li>2. Foot/check valve leaks water back to well.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install foot and check valve in suction line.</li> <li>2. Replace foot/ check valve.</li> </ol>
Water is full of bubbles at outlet	<ol style="list-style-type: none"> <li>1. Pumping bubbles temporarily as air is purged after initial setup.</li> <li>2. Leak in suction side of pump system.</li> <li>3. Well is gaseous.</li> <li>4. Water level below suction inlet of foot valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Temporary self-remedying issue.</li> <li>2. Check for and fix leaks.</li> <li>3. Install a sleeve in the well.</li> <li>4. Lower suction line into water and re-prime. If water is deeper than Maximum Suction Lift, then a deep well pump may be needed.</li> </ol>
Motor runs, but water is not pumping	<ol style="list-style-type: none"> <li>1. Improper priming.</li> <li>2. Air leakage.</li> <li>3. Vertical lift too high.</li> <li>4. Water level below suction inlet of foot valve.</li> <li>5. Frozen pipes.</li> <li>6. Foot valve in dirt or sand.</li> <li>7. Foot/ check valve clogged.</li> <li>8. Pressure switch is set too low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Prime the Pump by pouring clean water into the Priming Inlet.</li> <li>2. Check all pipes and joints in the suction line for air leakage using soapy water.</li> <li>3. Reduce vertical lift to within specifications. See Installation on page 5</li> <li>4. Lower suction line into water and re-prime. If water is deeper than Maximum Suction Lift, then a deep well pump may be needed.</li> <li>5. Thaw the pipes. Bury pipes below freeze line/insulate pipes.</li> <li>6. Raise foot valve to clean water level.</li> <li>7. Clean or replace foot/ check valve.</li> <li>8. Have the pressure switch adjusted by qualified technician (30 PSI Start, 50 PSI Stop).</li> </ol>
Pump does not shut off	<ol style="list-style-type: none"> <li>1. Pressure switch contacts welded together.</li> <li>2. Fixture (toilet, faucet, etc.) open or leaking.</li> <li>3. Impeller is clogged.</li> <li>4. Pipeline leakage.</li> <li>5. Foot/ check valve leaks water back to well.</li> </ol>	<ol style="list-style-type: none"> <li>1. Have the pressure switch replaced by a qualified technician.</li> <li>2. Close or repair fixture.</li> <li>3. Clean impeller.</li> <li>4. Repair pipeline.</li> <li>5. Replace foot/ check valve.</li> </ol>



Follow all safety precautions whenever diagnosing or servicing the Pump.

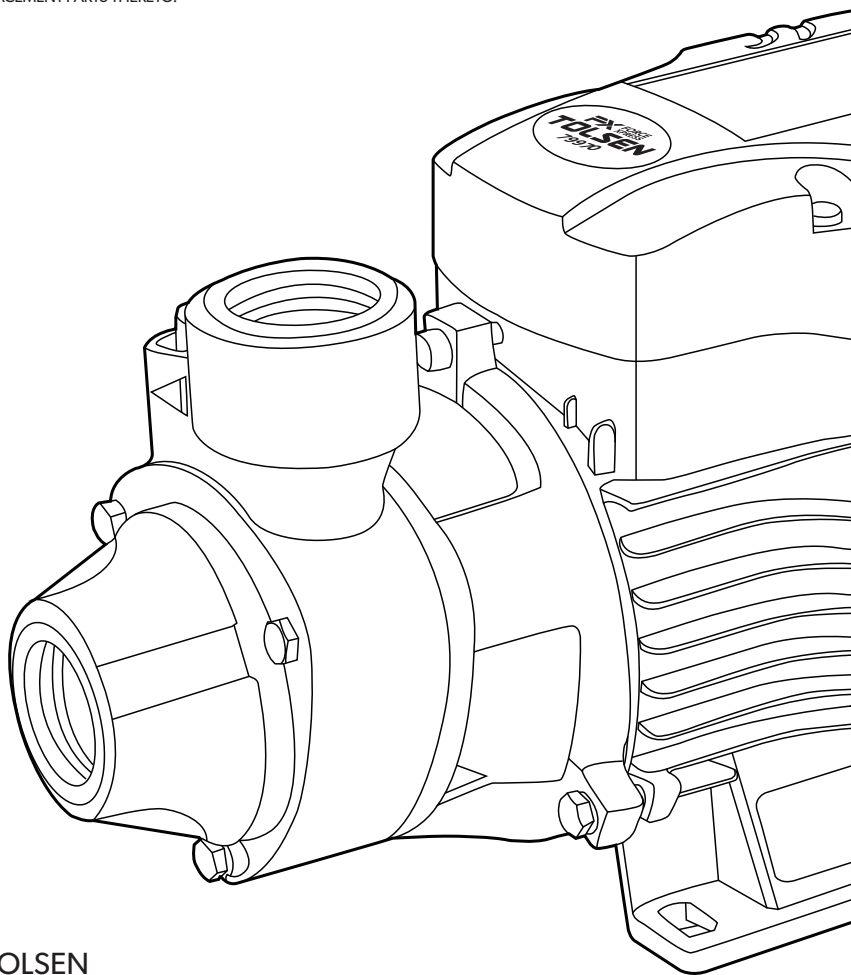
Disconnect power supply before service.

Do not disassemble the Pump or motor as this will damage the water seals.

All repairs should be performed by a qualified technician.

## Please read the following carefully

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