

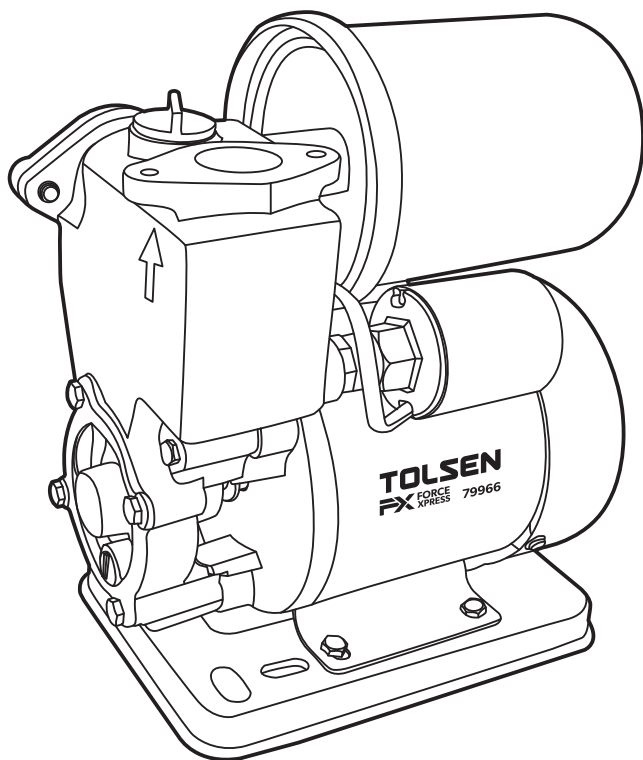
# TOLSEN **FX** FORCE XPRESS

## 79966

### AUTOMATIC SELF-PRIMING PERIPHERAL PUMP

INSTRUCTION MANUAL

220-230V~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 220-230V 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 <80°C. Do not use the pump for other fluids, especially not fuels, cleaning fluids, or other chemical products.

### SPECIFICATIONS

Electrical Rating	220-230V 50Hz ; 1/2HP (370W)
Power Cord Length	0.8m
Maximum Flow @ 0'	35L/min
Maximum Head lift @ 0 Flow	30m
Discharge Port	1''

### INSTALLATION


The pump must be installed in a stationary position with either:

- a. A fixed pipeline or
- b. A flexible hose pipe.

#### Please note!

1. Do not install the pump by suspending it unsupported from its delivery pipe or power cord. The pump must be suspended from the handle or be placed on the bottom of the basin. To ensure that the pump works properly, keep the bottom free from sludge and dirt of all kinds.
2. If the water level sinks too low, any sludge in the basin will dry out and stop the pump from starting. To help ensure the pump will start as required, check the pump regularly with start-up tests.

#### Power supply

1. The pump is equipped with a shock-proof plug according to regulations. The pump is designed to be connected to 220-230 VAC, 50 Hz GFCI protected socket.
2. Make sure that the socket is sufficiently secured and is in excellent condition.
3. When the plug is inserted into the socket, the pump will be on standby.
4.  **WARNING:** To prevent death from electric shock, pump must be connected only to a GFCI protected outlet.

**WARNING!** If the power cord or plug is damaged, do not use the pump. The power cord or plug may only be repaired by a certified electrician.

#### Areas of use

1. This pump is designed to pump water only.
2. This pump is designed to be used for: Pumping drinking water from shallow wells and cisterns. Irrigation systems.
3. This pump should NOT be used for: Continuous run, fountain/pond water features. Water with dirt and debris.
4. This pump can also be used to transfer water (e.g. household, farming, plumbing).
5. Do not use as a booster pump in a city water system.

## 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.

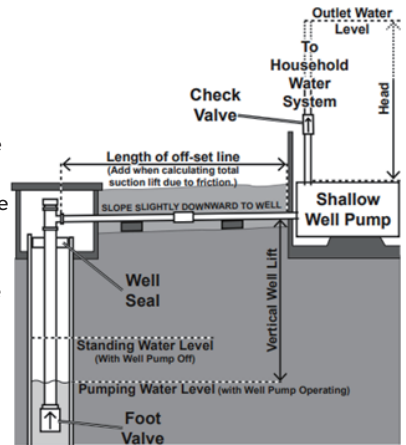
**NOTE:**

- 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.
1. The illustration below shows an example of a proper shallow well pump installation. The total suction lift (vertical well lift + length of off-set line) must not exceed Maximum Suction Lift.

**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.



Pump Setup Example

**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. To prevent leaks, use metal fittings for all pipe connections to pump ports. Do not use plastic fittings.
8. 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.
9. 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.
10. 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. The Compression Tank has a rubber bladder inside that has been pressurized to 23 PSI. Air can be added using a bicycle pump.
2. Make sure the intake pipe is fully submerged before continuing.
3. 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 release from the suction cycle.
4. This is a self-starting pump that uses a pressure switch. Once the power cord is connected, the pump can start at any time. Do not handle or perform maintenance on the pump if the power cord is plugged in.
5. Verify that the pump rests on the floor of the basin, if it is not suspended by the handle.
6. Verify that the discharge pipe is properly connected.
7. Verify that the electrical connection is 230 VAC, 50 Hz.
8. Verify that the electrical socket is GFCI protected and in good condition. Test GFCI protected outlet before use.
9. Verify that water and moisture cannot get near the power supply socket.
10. Verify that the pump is installed so as to prevent running dry.
11. Run pump for two minutes. If it fails to pump water, disconnect power, re-fill pump body through priming inlet and re-start.
12. To begin pumping, plug in the power cord. When the line is pressurized, the pump will go to standby mode until the pressure falls below its starting pressure.

## Maintenance

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**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.

## Quarterly Maintenance

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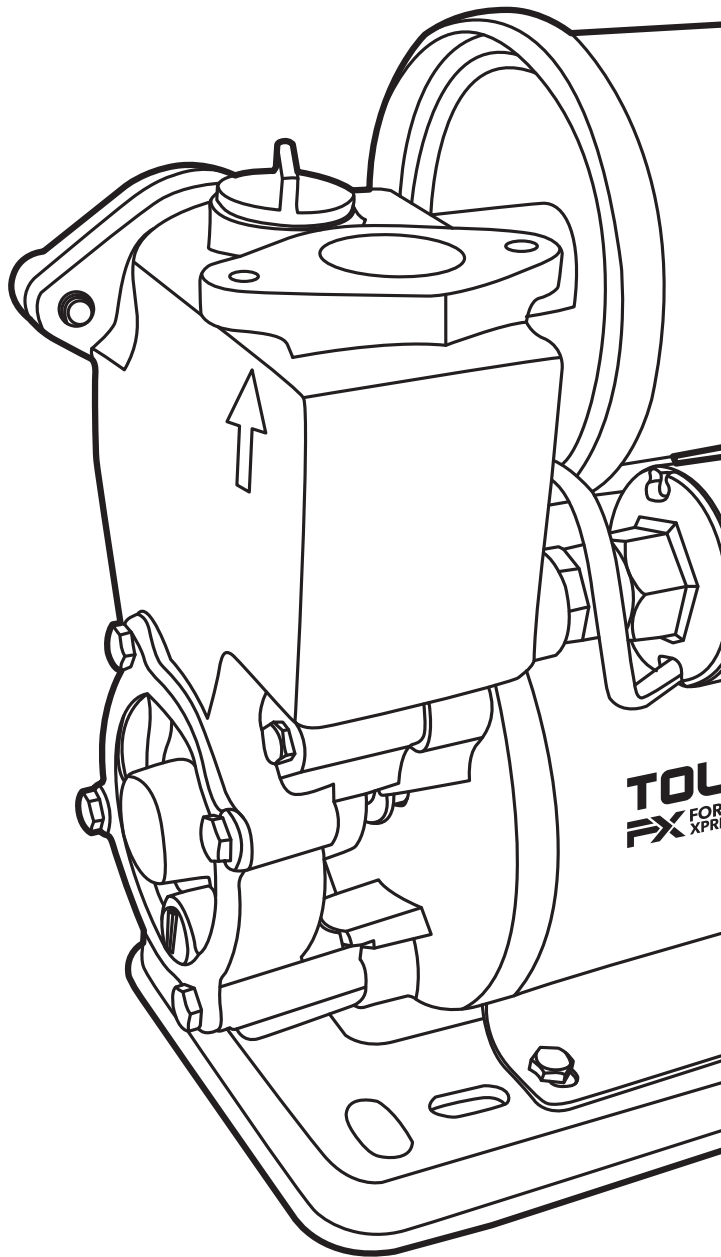
The below maintenance must be performed at least once every 3 months under optimal conditions.

For frequent use, or dirty areas, more frequent maintenance is required.

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. Drain water from pump before storage by disconnecting the water lines and turning the Pump upside down. 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.
4. After storage, check the Impeller to make sure it turns easily and is not oxidized.

## TROUBLESHOOT

problem	possible causes	Likely Solutions
The Pump won't start	<ol style="list-style-type: none"> <li>1. No power.</li> <li>2. Pressure switch disconnected.</li> <li>3. Thermal Protection cut out.</li> <li>4. Blocked impeller</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connections, and breaker/fuse.</li> <li>2. Check gauge.</li> <li>3. Allow pump to cool.</li> <li>4. 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. Tank's rubber bladder under-inflated.</li> <li>5. 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. Inflate to 23 PSI.</li> <li>5. Replace piping, with plastic where possible.</li> </ol>
Motor overheats often	Pump cycling too often.	Cut-in and cut-out pressure may be set too close together. Have the pressure switch adjusted by a qualified technician.
Pump/motor cycles rapidly	Cut-in and cut-out pressure may be set too closely.	Have the pressure switch adjusted by a qualified technician.
Tank bladder will not hold pressure	<ol style="list-style-type: none"> <li>1. Air inlet valve is leaking.</li> <li>2. Bladder is broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check air tank for leaks using soapy water and replace bladder if needed.</li> <li>2. Replace bladder.</li> </ol>
Water pumps intermittently	Water level is being drawn below foot valve.	Lower foot valve.
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. 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.</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. Tank bladder pressure is too low.</li> <li>5. Pipeline leakage.</li> <li>6. 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. Inflate to 23 PSI.</li> <li>5. Repair pipeline.</li> <li>6. Replace foot/check valve.</li> </ol>



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