RotoPump Drill-Powered Transfer Pump Kit Operator Manual

Model RPU100

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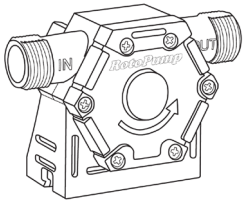
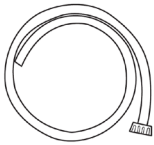
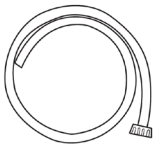
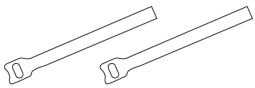
PRODUCT SPECIFICATIONS

ITEM	VALUE
Flow Rate at 3100 RPM	12.5 GPM
Flow Rate at 550 RPM	2.5 GPM
Vertical Self-Priming	15 ft.
Pump Inlet/Outlet Thread Size	3/4 inch
Inlet/Outlet Tube Inner Diameter	1/2 inch

PACKAGE CONTENTS

PART		DESCRIPTION	QTY
A		Pump	1
B		3 ft. x ½ in. blue inlet tube (includes connector & rubber washer)	1
C		3 ft. x ½ in. gray outlet tube (includes connector & rubber washer)	1
D		Hook and Loop Straps	10

SAFETY INFORMATION

SYMBOL	SIGNAL	MEANING
	WARNING:	Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.
	CAUTION:	Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.
	NOTICE / NOTE:	Indicates information considered important but not related to a potential injury but rather to equipment damage.
	Read Operator Manual	The user must read this entire Operator Manual to reduce the risk of personal injury or equipment damage.
	Water Exposure Hazard	To reduce the risk of fire and burns, if using a cordless drill, do not allow the battery to become wet. Use care to keep the battery away from water.
	Slip & Fall Hazard	Surfaces around the pump can become wet and slippery.

Please read and understand this entire Operator Manual before attempting to operate the product. Only use RotoPump in accordance with these instructions for appropriate applications.

Using the RotoPump for purposes other than those intended could result in a hazardous situation.

GENERAL SAFETY

Do not allow the pump or any system component to freeze.
Wear safety glasses at all times when using pumps.
It is not recommended to use for drinking water.

SAFETY INFORMATION

WARNING: FIRE/EXPLOSION HAZARD

- Pump only water or nonflammable liquids. Never pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, or other volatile or flammable liquids.
- Do not use in a flammable and/or explosive atmosphere. Your drill can create sparks that can ignite flammable substances.
- Failure to follow these warnings could result in death or serious injury and/or property damage.

WARNING: RISK OF ELECTRIC SHOCK

- If using a corded drill, connect your drill to a properly grounded 3-prong electrical outlet. The drill should be connected to an outlet equipped with a ground fault interrupter device for maximum safety. Keep hands, feet, and drill motor dry. Using or touching a wet drill motor could result in fatal electrical shock.
- Whether using a corded or cordless drill, ensuring the drill and battery (if equipped) don't become wet is essential. Keep your drill as far as possible from the fluid being pumped.
- Risk of electric shock, personal injury, or death. Never touch or handle a drill-driven pump with wet hands or when standing on a wet or damp surface or in water.
- If using a corded drill, only operate with a double-insulated drill**.**
- **F**ollow all safety precautions recommended by the manufacturer of your drill.

WARNING: RISK OF INJURY FROM ROTATING PUMP

- Before pulling the trigger on your drill, ensure the pump is firmly secured in your gloved hand or securely mounted to a secure stationary object. Start the drill slowly and ensure the pump is held securely in place whenever the drill is rotating.
- Always wear a glove on the hand that holds the downhole pump during operation. If the pump shaft seizes for any reason, the torque from the drill could cause injury. Start the rotation slowly at first to avoid injury.
- Keep your hand on the drill at all times during use. Do not allow your drill to operate unattended.

SAFETY INFORMATION

CAUTION:

- Do not pump oil if debris/metal shavings are present.
- Disconnect your drill before attempting to service the pump.
- Always check the hoses before using the pump. Replace if worn or weak.
- Always check all connections for tightness before using the pump.
- Do not run the pump dry.
- Do not run the pump backward.
- These pumps are not designed or intended to handle sewage or effluent.
- This pump has been evaluated for use with WATER only.
- Maximum continuous operating water temperature for standard model pumps must not exceed 104°F (40°C).
- It is not designed for continuous operation for long periods of time.

NOTE:

- Keep the inlet tube or hose as short as possible, and filled with water.
- Any air leaks in the inlet tube or hose will prevent the pump from priming.
- Hoses of shorter lengths, larger diameters, and stiffer walls will perform better.
- Never operate the impeller dry. Operating it dry for as little as 30 seconds can destroy the impeller. The impeller must be oiled before each use to reduce friction or wear.
- When pumping liquids with small solids to extend pump life, use a strainer on the end of the inlet hose.
- Electric drills are not intended to be operated unattended or continuously. Doing either of these can cause the pump and drill to fail.
- Do not overtighten screws or pump housing damage can occur.
- Water should be removed when it is at room temperature.

BEFORE USING YOUR ROTOPUMP

Perform the following steps before using your Model RPU100 for the first time:

1. Ensure the inlet and outlet tubes are not crimped or kinked.
2. Straighten the tubes as much as possible before use. If the tubes are difficult to straighten, they can be placed in hot water or a 3/4-inch or larger PVC pipe for a period of time to help straighten them out.
3. Ensure the rubber washers are on both the inlet and outlet tube connectors. The rubber washers are critical to ensure a proper seal.
4. Attach the inlet and outlet tubes to the pump by hand-threading the connectors onto each side of the pump, ensuring that they are tightened fully to create a watertight seal. Do not use tools to tighten the connectors to prevent overtightening.

NOTE: The tubes are the same except for the color. The blue tube is intended to be attached to the inlet side, and the gray tube is designed to be attached to the outlet side to make it easier to differentiate them, but they are interchangeable.

OPERATING THE ROTOPUMP

1. Determine the ideal orientation of the pump based on your application. If possible, choose a mounting orientation that minimizes tube curvature to minimize the potential for the tubes to become crimped or kinked.
2. If you mount your pump to an object instead of holding it by hand, mount the pump to a secure stationary object and ensure the pump is securely held in place before proceeding to operation. See the MOUNTING OPTIONS section below for additional details and instructions on various mounting options.

   NOTE: For some mounting options, attaching the pump to your drill may be easier before mounting the pump. If so, ensure your drill is not connected to a power source during setup to avoid potential injury.
3. Attach the metal shaft of the pump to the chuck of your drill, ensuring the chuck is securely tightened around the metal shaft.
4. Place your drill in the forward position. Always use your drill in the forward position to avoid damage to the pump.
5. If you use a 2-speed drill, start with the drill at speed 2 for maximum flow rate. If the drill does not have enough power to pump continuously at speed 2, switch to speed 1.
6. Start slowly to ensure the pump is securely held in your hand or mounted to a secure stationary object, then pull the trigger to full speed to prime the pump and start the water flow.
7. If the water does not start flowing within 10 seconds, release the trigger and check the items below:
   a. Ensure none of the tubes/hoses are crimped or kinked.

b. Ensure the inlet and outlet tubes are securely fastened onto the pump, and the rubber washers in each connector.
c. Ensure the inlet tube is fully inserted into the water source and that nothing obstructs the path of the water from the end of the inlet tube to the pump. If needed, adjust the position of the inlet tube so that it is as straight as possible and fully submerged in the water.
d. Ensure the inlet tube is not creating suction against and sticking to a flat surface. The end of the inlet tube or hose can be cut at an angle or notched out to help prevent it from sticking to flat surfaces.
e. The included hook and loop straps can be used to secure the inlet tube and outlet tubes to help keep them in optimal positions and prevent them from becoming dislodged during use.

8. If water leaks from the inlet or outlet, ensure the inlet and outlet tubes are securely fastened onto the pump, and the rubber washers are in each connector.
9. After each use, remove the inlet tube from the water source and run the pump for a few seconds to ensure all water is expelled. The inlet and outlet tubes can be removed before completing this step.
10. Disconnect your drill from the pump during storage and transportation.

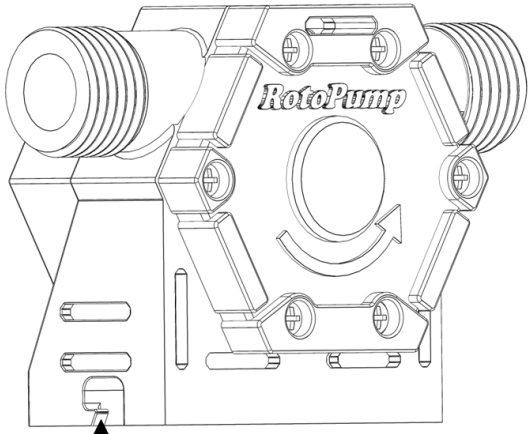
MOUNTING OPTIONS

RotoPump has been designed to allow for mounting in a variety of different orientations to help keep the drill, pump, and tubing in optimal positions during use. Choosing an orientation that is comfortable and keeps the tubes as straight as possible is recommended to avoid kinking and tube collapse. The pump can be mounted with the hook and loop straps included in the kit or by using zip ties or screws.

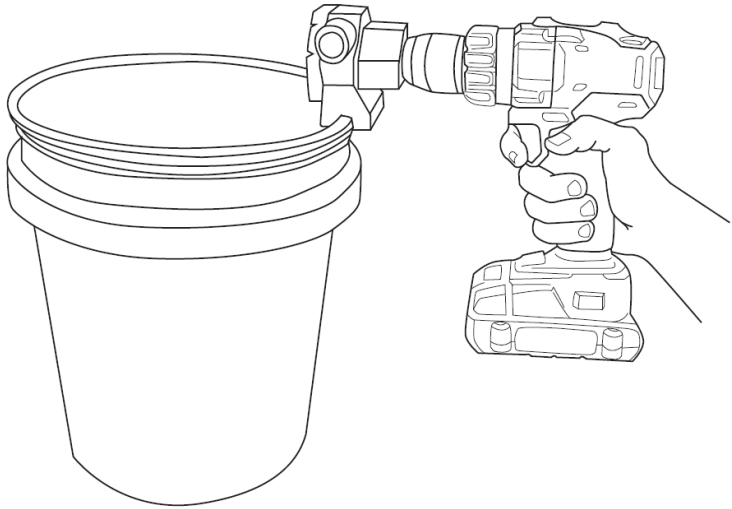
WARNING: Ensure the drill is not connected to a power source during mounting. Ensure the pump is securely attached to the object it is being mounted before operation. Press the drill trigger very slowly at first to ensure the pump doesn't move as the drill trigger is engaged.

Bucket Mount

The bottom of the pump has integrated clips that can be used to attach the bottom of the pump to the top rim of a standard 5-gallon bucket if the bucket is being used to collect water. The bucket clips can help hold the pump in place to prevent it from rotating during use, however, **the bucket clips alone are insufficient to keep the pump in place. Downward force must be placed on the pump to help keep it in place in conjunction with the bucket clips.** Pull the trigger slowly at first to ensure the pump does not rotate.
WARNING: A rotating pump can cause personal injury and property damage.



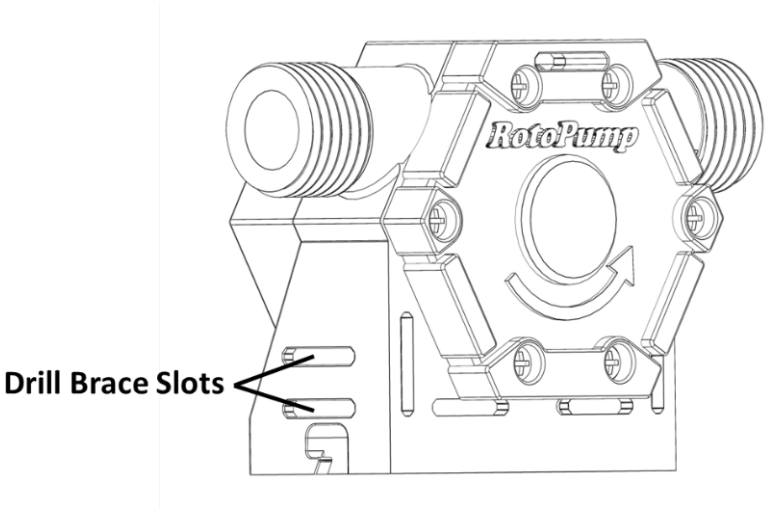
Bucket Mount Clip



Drill Brace

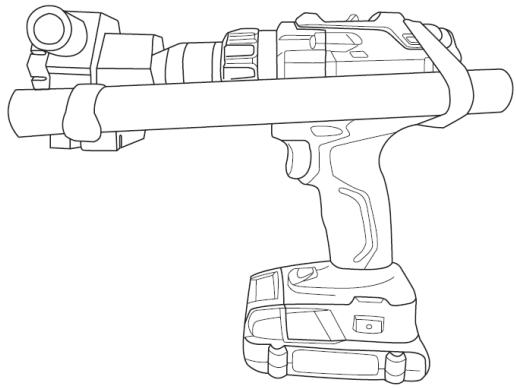
Each side of the pump has a set of two slots (as shown in the image below), which can be used in conjunction with a short length of PVC pipe slightly longer than the drill (not included) and hook & loop straps or zip ties to brace the pump using your drill. Simply thread the strap or zip tie through the 2 slots shown below and loop it around the PVC pipe. Then, attach the other side of the PVC pipe to the rear housing of your drill, ensuring it is tightly secured.

NOTE: The drill brace mounting option depends on the drill design and cannot be used with all drills.

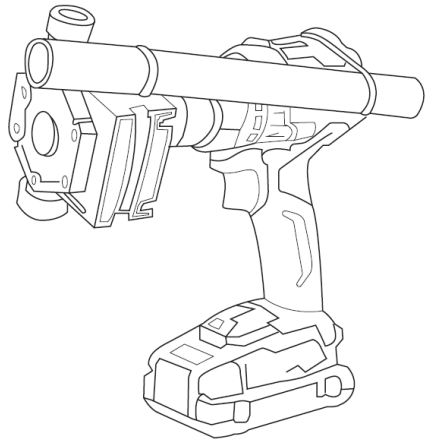


The pump can be initially attached to the drill in an upright (vertical) position, as shown in **Step 1** below. Still, once the trigger is pulled, the pump will rotate roughly 90 degrees to the position shown in **Step 2** below (if the PVC pipe is attached to the left side of the drill, as shown below). Follow the steps below to position the pump before use properly.

Step 1: Mount the pump upright as shown below



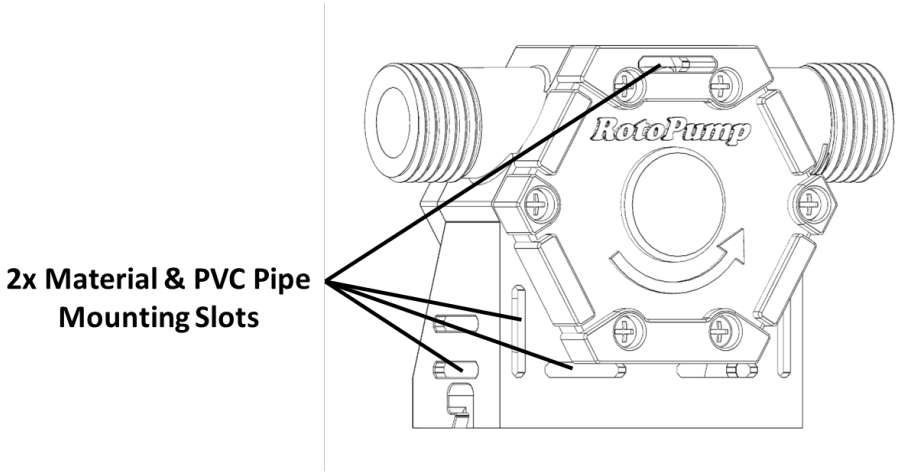
Step 2: Rotate the pump by hand in the direction of the drill rotation as shown until it cannot be rotated further



Step 3: Pull the trigger on the drill, slowly at first, to ensure the pump is securely braced to the drill

Other Mounting Options

The slots in the pump housing can be used to mount the pump in a variety of orientations to 2x material, PVC pipe, or other objects using the hook & loop straps included in the kit or zip ties. Simply thread the hook and loop straps or zip ties through the slots in the housing and tighten them as much as possible around the object being used to mount the pump to ensure the pump is securely mounted and will not rotate during operation.

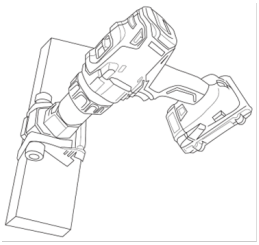
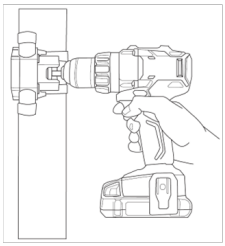
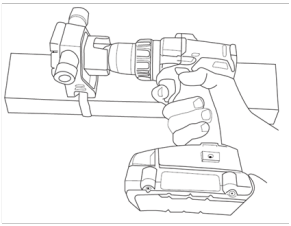
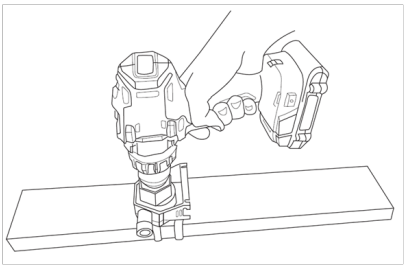
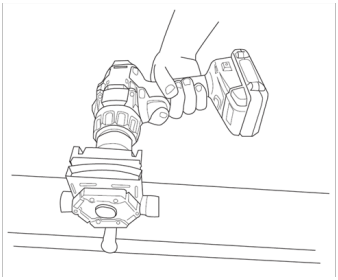


The images below show several mounting options using 2x material and PVC pipe. They are shown without the tubes attached for illustration purposes. Choose an orientation that is both comfortable and keeps the tubes as straight as possible to avoid kinking and tube collapse.

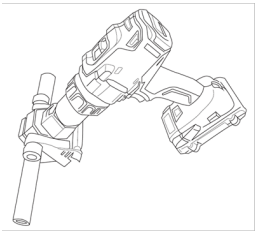
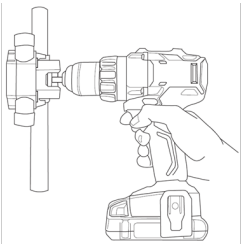
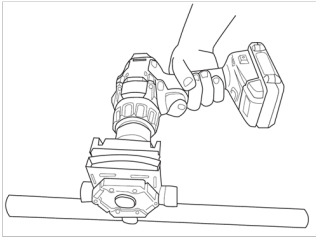
WARNING:

- Ensure your drill is not connected to a power source during setup to avoid potential injury.
- Always ensure the materials you use to mount the pump are of sufficient length and adequately secured on the ground to ensure they do not rotate during operation. Always start the drill slowly at first.

2X Material

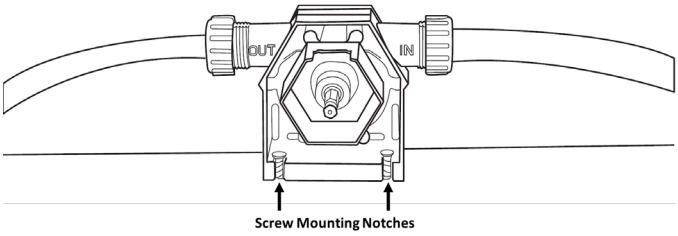






PVC Pipe

Screw Mounting

As an alternative to the mounting options above, the pump can also be mounted to 2x material with screws using the two notches in the back of the pump as shown below.



DRILL AND HOSE COMPATIBILITY

- RotoPump can be used with any corded or cordless drill with a standard 3/8-inch or 1/2-inch chuck. RotoPump cannot be used with impact drivers or cordless screwdrivers with 1/4-inch collets.
- If using a cordless drill, ensure the battery is fully charged before use.
- Higher-power drills will pump water faster than lower-power drills.
- The pump has 3/4-inch male threading on both the inlet and outlet sides, allowing the pump to be used with the included tubes or a standard garden hose.
- The maximum hose length that can be used will depend on the speed and power of the drill being used, and the hose. Larger diameter hoses with stiffer walls and high-power, high-speed drill will result in peak performance.
- The diameter of the outlet hose should be equal to or greater than the diameter of the inlet hose to ensure the pump can expel water sufficiently.

CARE AND MAINTENANCE

Follow the tips below to help extend the life of your pump.

- Always use your drill in the forward position.
- Do not allow the pump to run dry for more than 30 seconds. Check to ensure water is continuously flowing frequently during use.
- Lubricate the pump with vegetable oil before each use.
- Expel water after each use. Do not allow water to freeze in the pump.
- If the pump is stored in freezing temperatures, pour warm water into the pump to thaw the impeller before use.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The pump will not prime / water is not flowing.	The inlet is not sealed at the pump.	Ensure the rubber washer is in place in the connector. Fully tighten the connector.
	The inlet tube is crimped or kinked.	Adjust the inlet tube so it's as straight as possible. If needed, replace the tube. A garden hose can be used.
	The inlet tube is not fully inserted into a water source.	Adjust the inlet tube as needed. Hook and loop straps or PVC pipe can be used to help hold the inlet and outlet tubes in place.
	The inlet tube creates suction against a flat surface.	Adjust the inlet tube as needed. The end of the inlet tube can be cut at an angle or notched out to help prevent it from sticking to flat surfaces.
	The inlet tube is collapsing.	Ensure the tube is not damaged. Replace if necessary. A garden hose can be used. Using your drill at a lower speed can help reduce the likelihood of inlet tube collapse.
	Drill power is not sufficient.	If using a cordless drill, ensure the battery is fully charged. Use the drill in low speed (speed 1) if needed.
	Debris is clogging the tube(s).	Disconnect the tubes, attach them to a spigot, and flush them out.
	Water has frozen inside the pump.	Pour warm water into the pump to thaw any frozen liquids inside.
Connector is leaking.	The tube is not sealed at the pump.	Ensure the rubber washer is in place in the connector and that the connector is fully threaded into the pump.
	The diameter of the outlet hose is too small.	Ensure the diameter of the outlet hose is equal to or greater than the diameter of the inlet hose.
The outlet tube is becoming dislodged.	Pressure is causing the tube to shoot backwards.	Use included hook and loop straps to secure the outlet tube to a bucket handle or PVC pipe.

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