

611-2220 (30-260) Lift Pump

Warranty and Parts:

We replace all missing or defective parts free of charge. All products are guaranteed free from defect for 90 days after sale, defined as 90 days after date of invoice. This guarantee does not include accident, misuse, or normal wear and tear.

Introduction:

A water pump is a great instrument to demonstrate a simple hydraulic system. Our 30-260 lift pump will allow viewing of the actual operation of this classic pump design.

Other materials needed:

- Water
- Food coloring

Operation:

The Lift Pump will need to be set up prior to use. After removing the parts from the package, slide the end of the handle into the top of the pump plunger. Insert the bolt through the hole and secure it with the nut. Do not over tighten, the handle must move freely in the joint. The hole in the middle of the handle must be secured in the frame in the same manner, again, do not over tighten the bolt; the handle must pivot freely in the joint.

Next, fill the reservoir in the bottom of the frame with water until it is about one inch deep. The inlet tube must be at least $\frac{1}{2}$ inch under water.

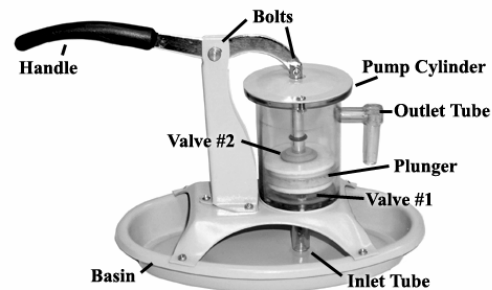
The pump may be hard to start when it is dry. To ease the initial pump action, pour a small amount of water down the top of the plunger shaft. This will lubricate the pump and help it to draw water up.

Food coloring may be added to help an audience view the pump action, keep in mind that an overzealous “pumper” may pump hard enough to spray water right out of the basin.

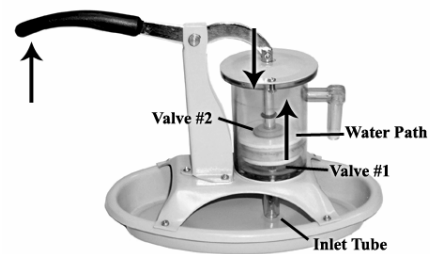
How it works:

The Lift Pump demonstrates a simple well pump at work. The system utilizes two one way valves that draw water from the lower basin into the cylinder, and then from the cylinder up and out of the outlet tube.

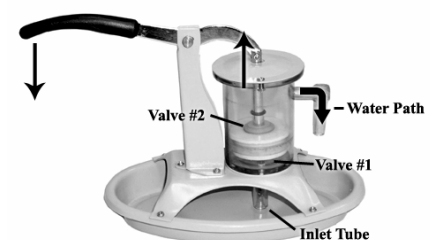
Step 1: Push the handle down, this will cause the plunger in the pump cylinder to move upwards. As the plunger moves up, pressure causes valve #1 to open and valve #2 to close. As a result, water is pulled up the inlet tube and through valve one. The lower part of the cylinder fills with water from the basin.



Step 2: Pull the pump handle back up. This causes the water pressure to close valve #1 and open valve #2. The water is pushed through valve #2 and above the plunger.



Step 3: Push the pump handle down again. As in step 1, Valve #1 opens and Valve #2 closes. This forces the water trapped above the plunger to be pushed out of the outlet tube.



This system repeats itself as long as the handle is pumped.

Storage and Maintenance:

Completely dry the unit after use. Light oil may be used on the metal parts. The plunger and seals should be lubricated with water just prior to use. This is accomplished by pouring water directly down the plunger shaft.

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