

## CAUTION

Your pump will provide longer, trouble-free service if you follow these precautions:

- Do not try to disassemble the pump. It is permanently sealed at the factory.
- Do not allow liquids to be drawn into the pump. (Liquids will damage the internal mechanism). To prevent liquids from entering the pump, use a trap (as described in "To Transfer Liquids").
- Protect the inside of the pump from volatile acid and solvent vapors, which will also damage the mechanism. If such vapors are accidentally pumped in, quickly remove the exhaust port cover and flush the pump thoroughly with clean water. Aim the pump so that no damage is caused by liquid shooting from the exhaust port. Replace the cover and pump in air to dry out the mechanism. Lubricate with a non-petroleum-based (vegetable or silicone) oil.
- When cleaning the pump, do not immerse it or use solvents. Wipe it with a mild detergent solution to remove surface dirt.
- To prevent breakage do not force the pump handle. If operation becomes difficult, lubricate the piston shaft with a few drops of non-petroleum-based (vegetable or silicone) oil.

### Use your pump with other NALGENE® Brand Products

In addition to the products shown on this insert, use your pump with:

- All NALGENE Disposable and Reusable Filterware
- NALGENE Filtering Flasks (Cat. No. DS4101)

For more information, refer to the current NALGENE® Labware Catalog or contact Nalge Nunc International Technical Support Group.



**NALGENE®**  
Brand Products

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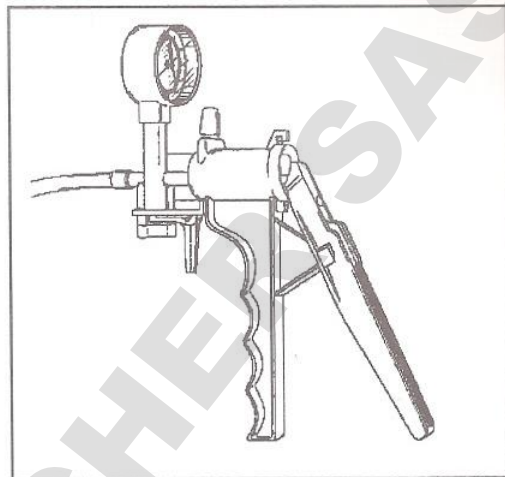
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## NALGENE® Repairable Hand-Operated Vacuum Pumps

Cat. No. 6132-0010, Plastic pump with gauge, 15cc  
Cat. No. 6132-0020, Plastic pump with gauge, 36cc  
Cat. No. 6133-0010, Metal pump with gauge, 15cc



NALGENE® Cat No. 6132 repairable, multi-purpose vacuum pumps are molded of durable polyvinyl chloride (PVC). Cat. No. 6133 is cast from light, strong aluminum.

Both quickly and easily attain a vacuum of 25 in. (635mm) Hg. For convenience, all pumps have a removable cover on the exhaust port and a spring-loaded valve to release the vacuum without disconnecting the unit from the line. The nozzle fits 1/4-in. (6.35mm) I.D. tubing. All units come equipped with 2-ft. (60.9-cm) length of 1/4-in. I.D. NALGENE 180 Clear Plastic Tubing (Cat. No. 8000-0070).

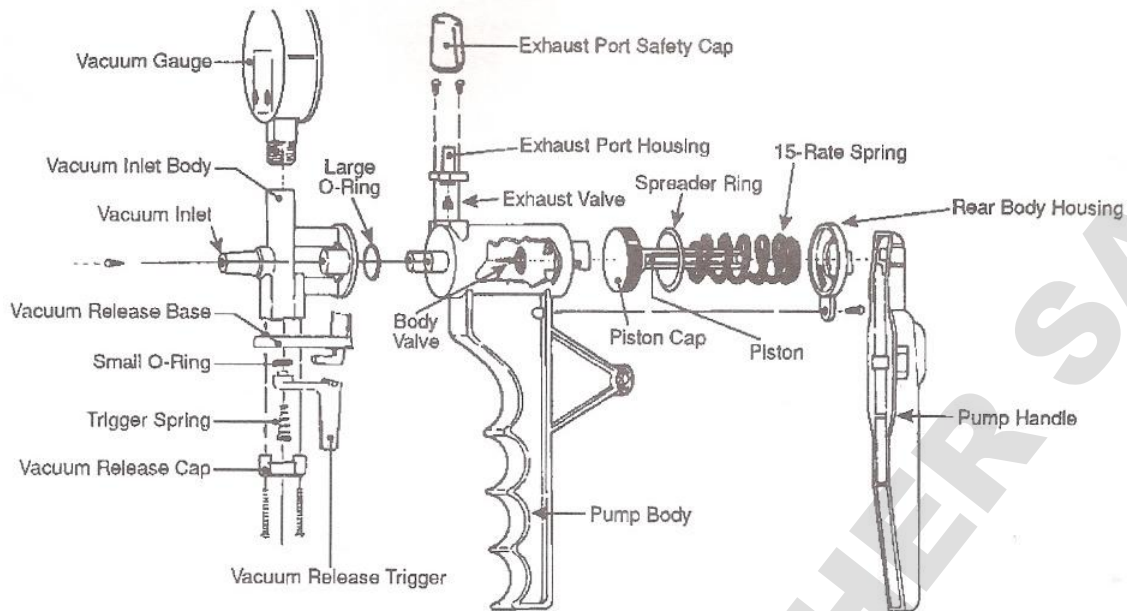
These pumps can be easily disassembled for repair or replacement of internal parts - see instructions on next page. Repair kits include all necessary maintenance parts and detailed diagrams. Order Cat. No. 6132-1000 for plastic pumps, Cat. No. 6133-1000 for the aluminum pump.

The smaller (-0010) pumps have a pumping rate of 15cc/stroke and provide 3 psig (0.21 bar) positive pressure at the exhaust port. The larger (-0020) pump has a rate of 36cc/stroke and produces 7 psig (0.48 bar) at the exhaust port. For both pumps, full blank port pressure is obtained with only two strokes.

These pumps are self-lubricating. Gauges are calibrated in kPa and inches of mercury.

### Applications

- Siphoning • Filtration • Adjusting vacuum-operated apparatus • Checking for equipment leaks • Bleeding fluid lines • Evacuation and indirect transfer of liquids



### How to Use

1. Attach one end of the tubing to the vacuum inlet of the pump and the other end to the container to be evacuated. Make sure all the connections are tight. Air is exhausted at the rate of 15cc/stroke for the smaller pumps and 36cc/stroke for the larger pumps (at atmospheric pressure).
2. Pull the spring-loaded release valve to release all or part of the vacuum without disconnecting the pump from the line.

### To Transfer Liquids

NALGENE® hand-operated Vacuum Pumps are not intended for direct transfer of liquids. However, they can be safely used to transfer liquids indirectly, using a set-up like the one shown below. Note: Use a NALGENE Straight-Side Wide-Mouth Jar (Cat. No. 2116) as a trap between the receiving container and the pump. The trap prevents liquid from being drawn into the pump.

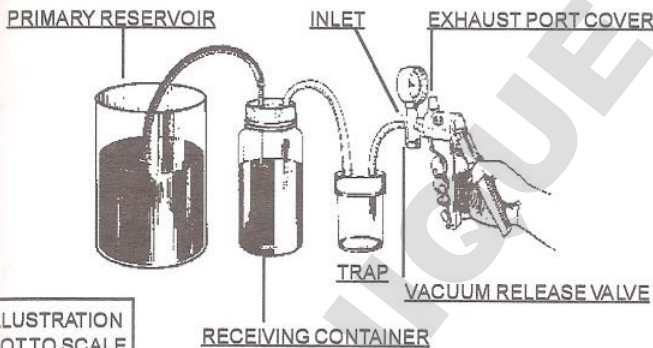


ILLUSTRATION NOT TO SCALE

NALGENE® Fluid Transfer Closures (Cat. No. DS2153-0070) are shown on the trap and the receiving container (NALGENE Mason Jar, Cat. No. 2116-0125, -0250) Flexible tubing, 1/4-in. I.D., is also shown (Cat. No. 8000-0070).

### Disassembly Instructions

Tools needed: Phillips screw driver, pliers

#### Main Body

- Pull pump handle away from body and disengage from pins on the end of the piston.
- Remove single screw from back of pump body. **NOTE: these parts are under tension.** Turn rear body housing to disengage. Pull off.
- Pull out 15-rate spring, spreader ring, piston and piston cap. Retrieve body valve from front of piston chamber. Install new parts from appropriate repair kit. Apply lubricant to piston cap. Reassemble.
- Pliers may be needed to pull out the spring-loaded position and attach it to the pump handle.

#### Vacuum Inlet Body

- Remove two screws from the front of the vacuum inlet body.
- Replace the large o-ring at the back of the vacuum inlet body.

#### Vacuum Release Assembly

- Remove two screws from the vacuum release cap.
- Pull off cap.
- Pull out trigger spring, trigger and small O-ring.
- Replace needed parts and reassemble.

#### Exhaust Port

- Remove plastic exhaust port cap
- Remove two screws from the exhaust port housing.
- Pull off housing – note how it mates with piston body.
- Replace chisel-shaped plastic exhaust valve.
- Reassemble and replace cap.

Pump gauges can be replaced. Contact NNI Technical Support at 1-800-625-4327 for information.