



# Operating Instructions

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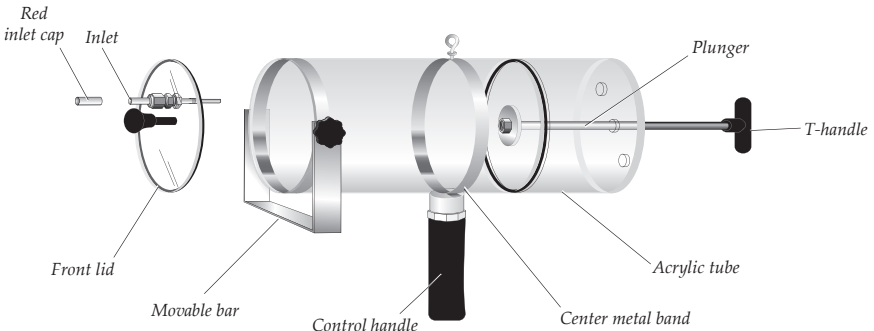
## Vac-U-Tube Cat. No. 231-945

### Introduction

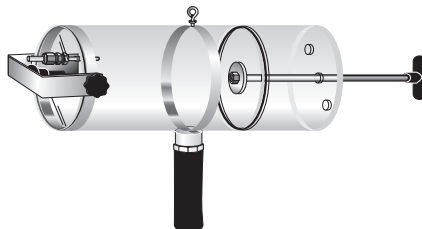
The Vac-U-Tube fills a 0.7-liter sample bag without the use of an electronic pump and can be used for headspace and soil gas sampling and for testing monitoring wells.

The Vac-U-Tube is an acrylic tube with plunger and removable front lid and functions as a syringe (*Figure 1*). A specially designed sample bag (SKC Cat. No. 232-945A) is inserted inside the tube for collection of an air sample. The sample bag is precisely sized to fit exactly inside the Vac-U-Tube and allow for proper inflation. Fully inflated, the bag holds 0.7 liter.

The movable bar on the front of the Vac-U-Tube locks the front lid in place to ensure a proper seal during operation (*Figure 2*).



**Figure 1.** Vac-U-Tube



**Figure 2.** Vac-U-Tube with front lid locked in place

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## Checking Pump/Kit Contents

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Use the table below to verify that you received all items associated with the Cat. No. ordered. If you are missing items, contact SKC at 800-752-8472 (U.S. only) or 724-941-9701.

If You Have Cat. No.	Your Package Should Contain
231-945	Vac-U-Tube hand pump with strap and carry case

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## Required Equipment/Media

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- Tedlar sample bag, 0.7 liter, single polypropylene fitting (Cat. No. 232-945A)

## Operation

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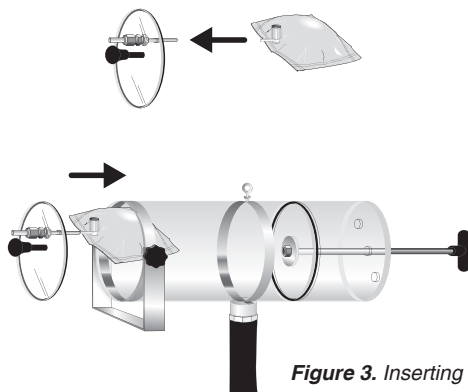
### Insert the Bag (Figure 3)

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1. Insert the sample bag valve side stem into the short piece of PTFE tubing on the inside of the Vac-U-Tube front lid.

*Note: Before inserting the bag into the tube, ensure that the plunger has been positioned to a point halfway down the tube (the center metal band is a good mark).*

2. With the valve side stem inserted into the PTFE tubing on the inside of the front lid, open the bag valve by turning the entire upper portion of the valve fitting (including the brown or white septum cap and the white septum body) **counterclockwise** one revolution.
3. Insert the bag into the Vac-U-Tube. The bag should have a slight bend along its length to allow proper inflation.
4. With the bag inserted into the Vac-U-Tube and the front lid in place, move the front bar up over the knob to seal the tube (Figure 4).



**Figure 3.** Inserting the sample bag

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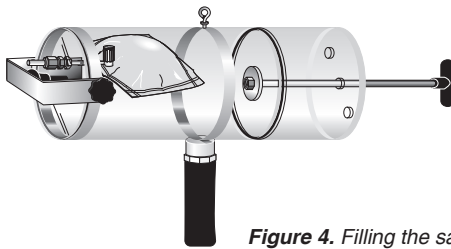
## Fill the Bag

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1. Before sampling, flush the sample bag thoroughly with the cleanest air available at least 3 times.
2. When ready to take a sample, remove the red cap from the inlet on the outside of the front lid.
3. With one hand, hold the control handle and with the other, pull the T-handle on the top of the Vac-U-Tube to inflate the bag (Figure 4). Monitor the inflation of the bag (see sample bag operating instructions 3781 for correct inflation) and stop when sufficient sample is taken.



**Sample bags are designed for single use only.**



**Figure 4.** Filling the sample bag

**Note:** A technique for taking the sample is to rotate the Vac-U-Tube about 90 degrees with the control handle in front, resting the back corner of the tube on the hip and pulling the T-handle. This allows for a better position while taking a sample.

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## Remove the Bag

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1. After taking the sample, replace the red cap on the inlet on the front lid and swing the front bar down while holding the lid.
2. Remove the lid; close the sample bag valve by turning the entire upper portion of the fitting (including the brown or white septum cap and the white septum body) **clockwise** and disconnect the bag. Record any pertinent sampling information.

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## How to Handle Sample Bags after Sampling

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**It is important to handle sample bags after sampling as follows:**

- Keep sample bags out of direct sunlight.
- Do not use sample bags to collect unstable or highly reactive compounds.
- Pack sample bags loosely and with padding to minimize possible puncturing during shipment.
- Do not ship sample bags by air unless the cargo cabin is pressurized; a significant decrease in barometric pressure may cause sample bags to burst.

## Maintenance

Lubricate the O-rings periodically with silicone lubricant:

1. Remove the O-ring from the front lid and apply lubricant.
2. For the plunger O-ring, pull the plunger to the back of the Vac-U-Tube, wipe the interior with a moist cloth, and apply lubricant to the inner circumference near the plunger. The plunger can then be pushed in and out 3 to 4 times to distribute the lubricant on the O-ring and along the inside of the tube.

*Note: Fluoropolymer/silicone spray lubricant can be used (either aerosol or liquid spray).*

Check the knurled knobs holding the front bar occasionally to ensure correct tightness. The bracket that holds the front bar may require an occasional adjustment by loosening and repositioning the screw with the lid on to maintain the correct tension on the lid.

## Accessories/Replacement Parts

Description	Cat. No.
Replacement Lid Gasket	P231945G
Replacement Lid	P231945L
Vac-U-Tube Sample Bags	232-945A

## SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty.asp>.

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