

VaporPin®

Standard Operating Procedure

Leak Testing your Summa Canister Connections Via Mechanical Means (Hand Pump)

Scope & Purpose

Scope

This standard operating procedure (SOP) describes the methodology of testing your Hand Pump Set and using your Hand Pump Set to leak test your Summa canister connections.

Purpose

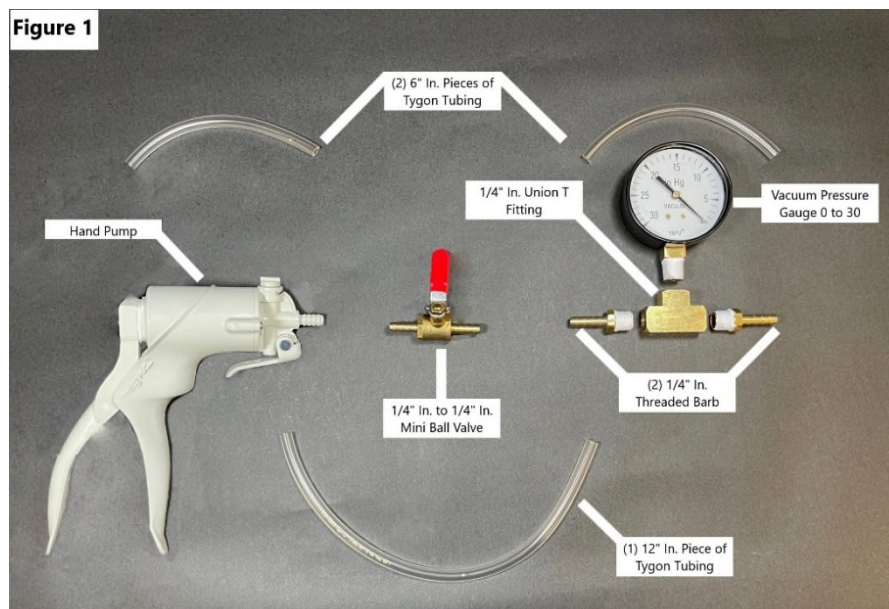
The purpose of this SOP is to detail the methodology for testing your Hand Pump Set and using it to leak test your Summa canister connections.

Equipment Needed

- ¼" In. Union T Fitting
- Hand Pump
- Vacuum Pressure Gauge
- (2) ¼" In. Threaded Barb
- ¼" In. to ¼" In. Mini Ball Valve
- Tygon Tubing
- Binder Clip

Testing your Hand Pump Set (HPSET)

1. In Figure 1 is everything included in the HPSET. The HPSET comes pre-assembled and leaked tested prior to shipping.



2. Fold over the end portion of your 12" In. piece of Tygon twice and pinch it using the provided binder clip. Proceed to use the hand pump to create a vacuum of approximately 15 In. Hg and close off the mini ball valve (Figure 2). A steady vacuum reading will verify if there are not any leaks in your Hand Pump Set.

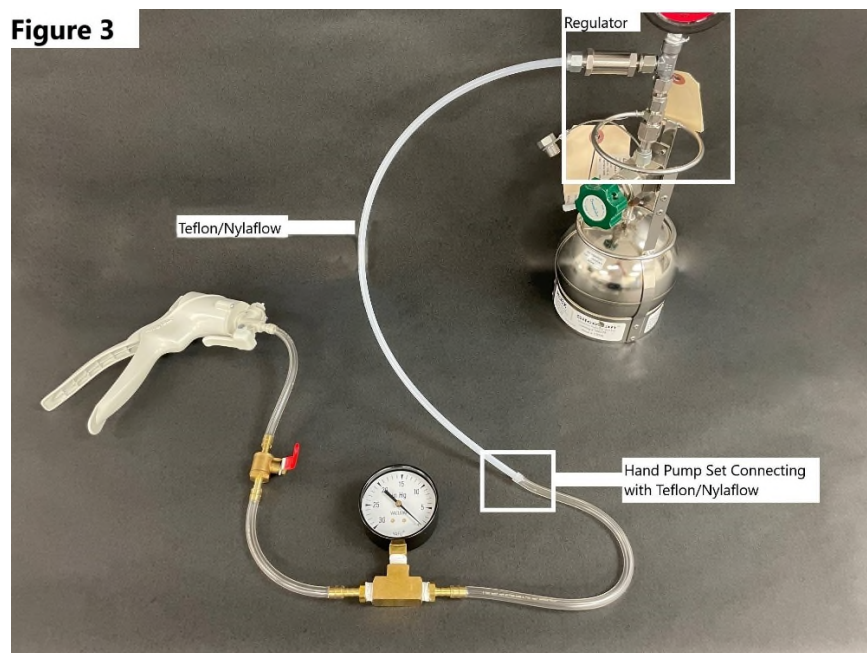
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Leak Test Procedure

1. Prepare your Summa cannister for leak testing by attaching your preferred hard tubing (i.e., Nylaflow or Teflon) to the regulator. Be sure to follow laboratory SOPs when making your attachment to the regulator. If the regulator uses compression-type fittings, use caution not to overtighten them, as this could result in warping the connection enough to produce a leak
2. Connect your Hand Pump Set with your hard tubing (Figure 3) and proceed to use the hand pump to create a vacuum of approximately 15 In. Hg and close off the mini ball valve. **NOTE:** During "closing" of the mini ball valve, there is exposure to your vacuum train, and the needle on your gauge may adjust slightly.



- If you cannot retain a vacuum, there is likely a leak at one of the Summa canister or regulator connections. In this event, consult with the laboratory or sales rep that you have procured your Summa canister from.
5. Once it is confirmed that your sample train has no leaks, cut off from the Hand Pump Set half an inch of Tygon from the connection point of the hard tubing. This is so that you may use the remaining half inch to connect to your Vapor Pin® Sampling Device.