Collecting Soil Gas Samples with the IsoSampler™ GO SG and IsoTubes®

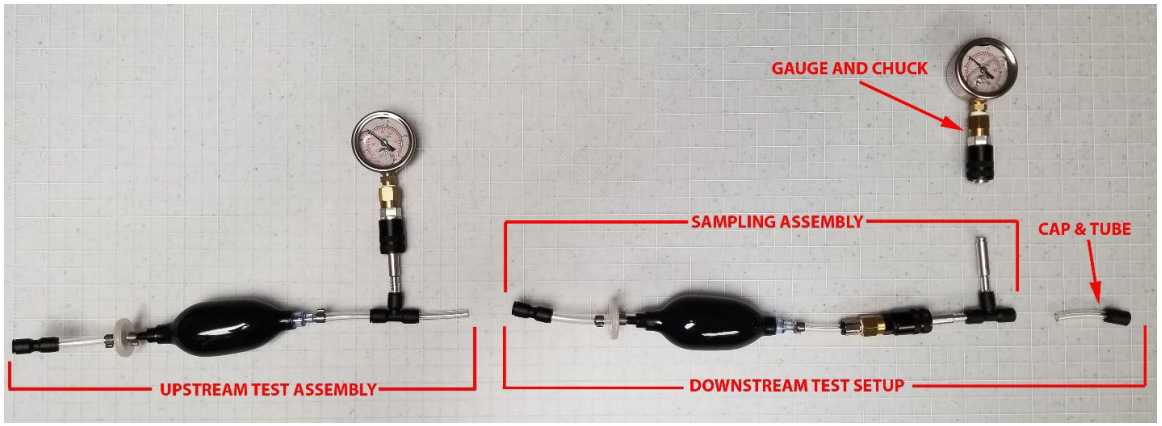
Section 1: Leak Testing Procedure

The leak test must be done with two pressure gauges as described below because the hand pumps have check valves which would prevent the downstream gauge from detecting a leak past the outlet of the pump.

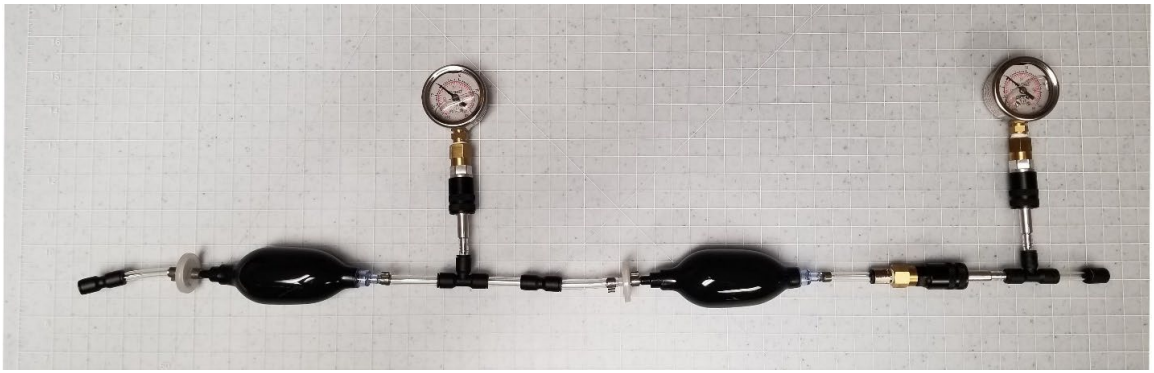
Set Up the Leak Test Configuration

Required Components:

- Upstream Test Assembly
- Gauge and Chuck Assembly
- Sampling Assembly
- Cap and Tube



1. Assemble the leak test configuration as shown.
   - Connect the Upstream Assembly to the Sampling Assembly
   - Connect the Gauge and Chuck to the test port on the Sampling Assembly
   - Connect the Cap and Tube to the outlet port of the Sampling Assembly



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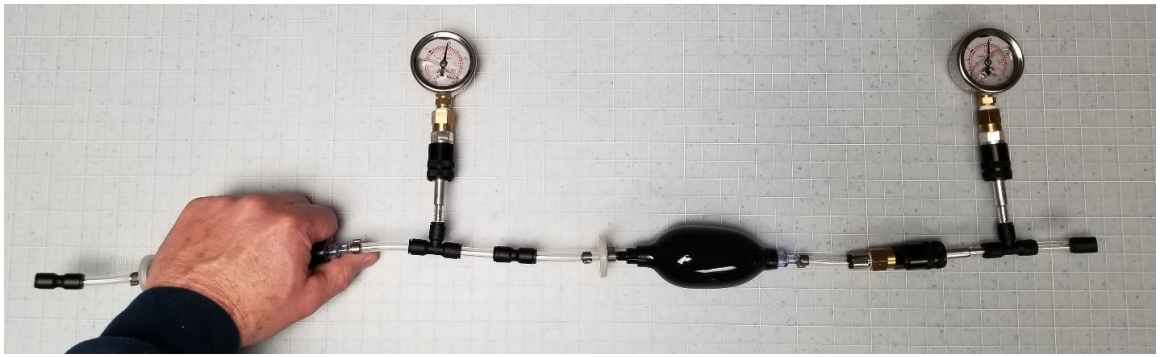
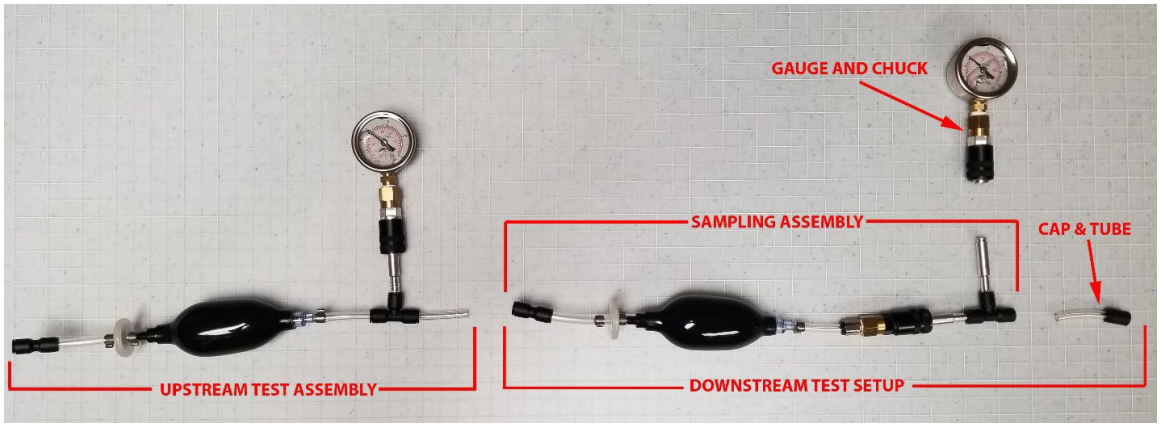
Perform the Leak Test

2. Starting with the upstream assembly, squeeze the pumps several times to generate approximately 10 psig at both test gauges.
3. Observe the gauges for approximately 30 seconds and watch for a pressure drop.
   - If the pressure remains steady, continue.
   - If a pressure drop is observed, use Snoop or soapy water to find the leak. Troubleshoot the leaking component and retest.



Break Down the Leak Test Configuration

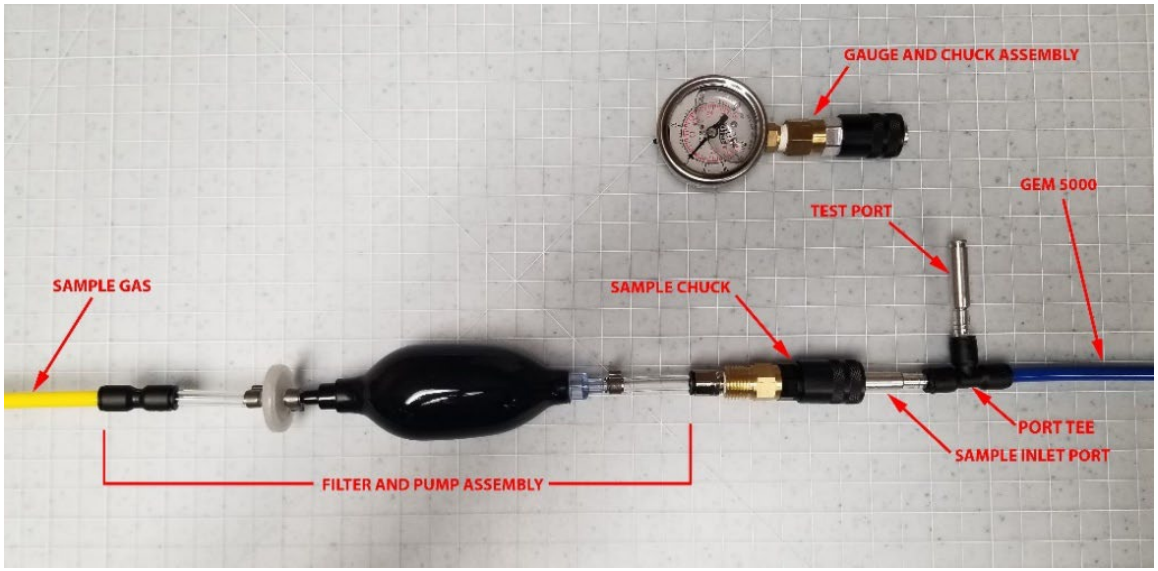
4. Separate the Leak Test Configuration into its four original parts as shown.
   - Store the Upstream Test Assembly and the Cap and Tube.
   - **The Sampling Assembly is now ready to collect samples.**



Section 2: Sampling Procedure

Set Up the Sampling Configuration

1. Assemble the Sampling Configuration as shown.
   - Connect the sample gas inlet line to the Filter and Pump Assembly by the ¼" push-to-connect union.
   - Connect the Filter and Pump Assembly to the Sample Chuck.
   - Connect the Sample Chuck to the Sample Inlet Port.
   - Connect the GEM5000 or other gas analyzer to the Port Tee.

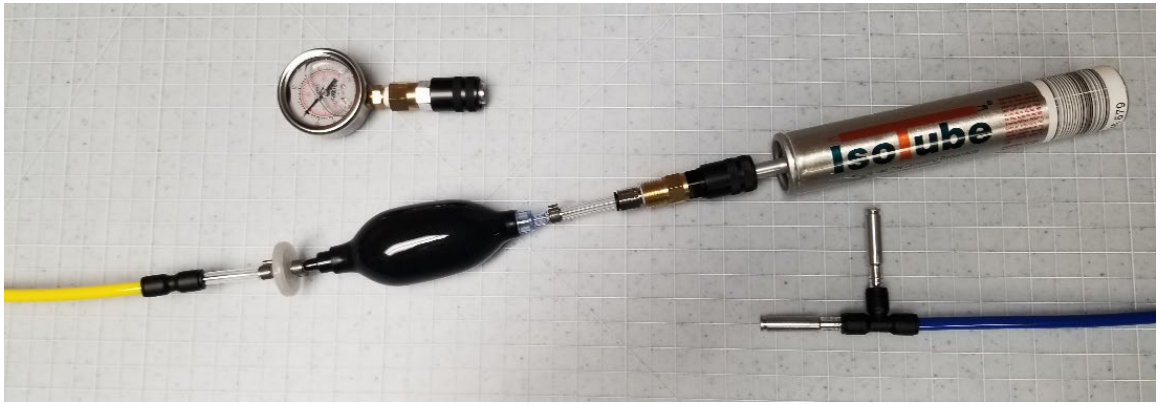


Check an Evacuated IsoTube

2. Remove a new IsoTube from the plastic film. Connect the IsoTube to the pressure checker by pressing the valve stem into the chuck until it clicks into place as shown.
   - The vacuum reading on a new IsoTube should be between -30 and -20 inHg. If the reading is not at least -20 inHg of vacuum, do not use the IsoTube. Open another IsoTube and repeat.
   - After confirming the vacuum level, remove the pressure checker from the IsoTube by pulling back the outer sleeve of the chuck until the tube is released.

Collect a Sample

3. Run the GEM5000 or other gas analyzer for at least a minute before sampling to purge the system of air.
4. Disconnect the sample chuck from the sample inlet port and connect it to an evacuated IsoTube.



5. Squeeze the hand pump several times to pressurize the IsoTube.
    - This step is critical to ensure the laboratory has enough sample gas to do the analysis.

6. Disconnect the IsoTube and re-connect the sample inlet port to the chuck.

Check the Sample Pressure

7. Connect the filled IsoTube back to the pressure checker.
   - Sample pressure should be approximately 3-10 psig. If the pressure is outside this range, do NOT try to vent the gas or pump more gas into the tube. **It is most important that the pressure is not negative.**
   - If the IsoTube is still evacuated, repeat the collection process with a new evacuated IsoTube.
   - If multiple samples consecutively fail to generate pressure, troubleshooting may be required.
   - When finished, remove the pressure checker from the IsoTube.

Label and Package Collected Samples

8. Replace the end cap on the IsoTube valve and fill out one of the included labels with the sample information using a ball point pen (press hard, as three copies are made).
   - Attach the label to the IsoTube and return the IsoTube to the shipping carton.
   - When an entire sheet of sample tags has been used, one of the copies should be placed in the box with the IsoTubes and the other can be retained for your records.
   - Shipping instructions for return shipping to the laboratory are included with every box of IsoTubes and can also be found at isotechlabs.com.