

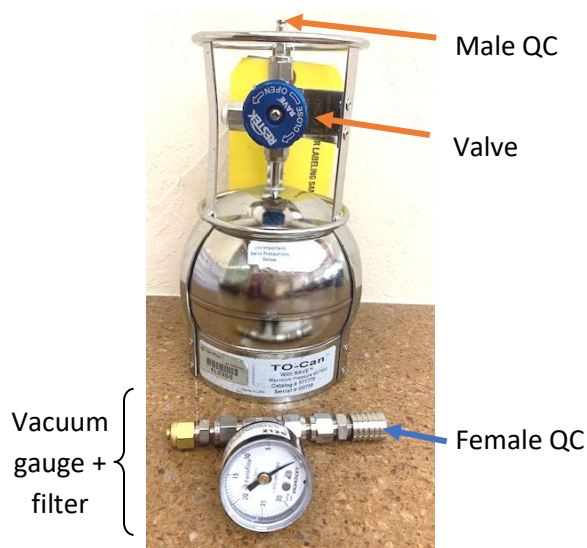
Field Sampling Procedure Using Canisters with Quick-Connect (QC) Fittings: Grab Sample Collection

Equipment provided by the laboratory:

- Evacuated Canister
- Vacuum gauge with a built-in particulate filter
- Chain-of-Custody (COC)

Equipment to be supplied by field technician:

- 9/16" wrench
- 1/2" wrench



Preparing the canister for sample collection:

1) Place the canister in the desired sample location. Confirm valve is closed (turned clockwise).

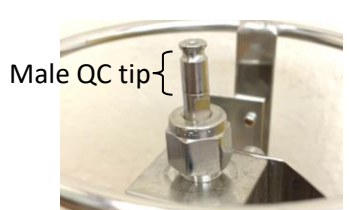


Figure 1. Male QC fitting check

2) Check the male QC on the canister and verify the stem tip is tight. If loose, screw tip clockwise to tighten (Fig 1.)

3) To install the vacuum gauge on the canister, pull back on the sleeve of the female QC fitting (Fig 2.)

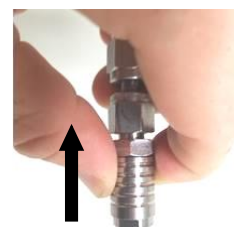


Figure 2. Female QC installation

4) Place the female QC fitting over the male QC fitting located on top of the canister, then release the sleeve once fully seated. Gently pull up on the gauge to make sure it is securely connected to the canister. Once installed the vacuum gauge will read zero.

5) Verify initial canister vacuum and vacuum gauge/filter assembly connection.

- With the brass cap securely installed, open and close the valve quickly to register the vacuum of the canister.
- The vacuum on the gauge should read steady at **25 to 30 in Hg** (Fig. 3)
- Record initial vacuum level ("Hg) on the Chain of Custody (COC) in the "Initial (in Hg)" field.



Figure 3. Pre-sample Vacuum check

Collecting the sample:



Figure 4. Removing brass cap

- 6) To begin sampling, ensure the valve is **CLOSED**, remove the brass nut on the vacuum gauge using a 1/2" wrench to stabilize and 9/16" wrench to turn cap, as pictured in Fig 4.
- 7) Open the canister valve counter clockwise **no more than 1/2 turn** to begin sampling. Attempts to open the valve further can lead to valve damage and sample loss. Note the start date/time on the COC.

- 8) **At the start of sampling, the vacuum gauge will read approximately 16 to 17 in Hg** and remain at this reading for approximately 2 minutes for a 6L canister and 15 seconds for a 1L canister before the vacuum can be observed dropping toward zero. (Fig 5.)



Figure 5. Sample Start Vacuum

- 9) When the vacuum gauge nears 5 in Hg, close the valve by hand-tightening clockwise. (Fig 6.) At the point of closing the valve, note the vacuum and record on the COC in the "Final (in Hg)" field. (Once the valve is closed, the vacuum gauge will read zero.) Do not use tools to tighten the valve.

Record the stop date/time. Approximate canister fill times to 5 in Hg are shown in Table 1.

Table 1. Approximate Fill Times for Grab Samples with filter assembly

Canister Size	Fill time to 5 in Hg
1 Liter	~1 minute
6 Liter	~7 minutes



Figure 6. Sample End Vacuum

Note: Unless specified by your sampling and analysis plan, it is not critical to end the sample at 5 in Hg when collecting grab samples. However, leaving residual vacuum in the canister provides a check that the canister did not leak during transport to the laboratory.

Preparing the canister sample for return shipment to lab:

- 10) Detach the gauge by pulling back the sleeve of the female QC fitting and lifting it upwards off of the canister. Replace the brass nut on the vacuum gauge assembly by hand tightening.
- 11) Finish filling out the COC. In the Can # field, write the serial # or barcode circled below from the base of the canister. This number must be entered exactly as shown onto the COC to ensure no canister discrepancies upon receipt by the lab.



- 12) Make sure all canister tags are filled out and match the COC. If cans are unused, please check the “unused” box on the canister tag. Return canisters and vacuum gauge filter assemblies in boxes provided by the laboratory using the packaging provided. Place the completed COC in each sample box, making sure the samples have been relinquished properly by signing and dating the “Relinquished by:” field. *Note: You may keep a carbon copy of the COC for your records.*
- 13) Securely tape box shut and ship to the laboratory via USPS, FedEx, or UPS. Canisters should be delivered within 10 days of sample collection to ensure laboratory has sufficient time to process samples within the 30 day sample hold time.

Note: A replacement fee will be applied if the vacuum gauge filter assembly is not returned intact.

Laboratory Return Address: Eurofins Air Toxics, 180 Blue Ravine Rd. Suite B, Folsom, CA 95630

For questions, please call 800-985-5995