TO-Can Canister with RAVE+ Valve

cat.# 27314-27321

Overview

A Restek TO-Can canister offers several important features. The inside surface is electropolished and passivated for excellent inertness. The unique holder attaches the handle and base to the canister without welds, and it protects the canister, tube stub, and valve. The diaphragm valve has a metal-to-metal seat, and all canisters and valves are leak checked to $1x10^{-6}$ mL/sec. Each canister is slightly pressurized with contaminant-free nitrogen to approximately 15 psig (1.0 bar) prior to shipment.

Prior to Use

Restek TO-Can canisters are shipped under pressure!

1. Unpack the TO-Can canister from its box. Remove the ¼-inch brass cap from the top of the valve.
2. Turn the knob to the open position. Nitrogen should be released. If not, the system is not leak tight and should be returned. Please contact Technical Service, or your Restek representative, for a return material authorization (RMA) number. Please do not return the canister, or any other Restek product, without an RMA number and a completed health and safety declaration.
3. We recommend that you certify your canister is clean, according to U.S. EPA Compendium Methods, such as TO-12, TO-14A, TO-15, TO-15A, NJ Low Level TO-15, and China NEPS HJ 759, prior to use.

Cleaning for Reuse

To clean a TO-Can canister and valve, we recommend a procedure such as that summarized here. We also recommend performing a blank analysis according to your method; for example, TO-15A, after cleaning the canister to certify the canister is clean prior to reuse.

IMPORTANT PRECAUTIONS!

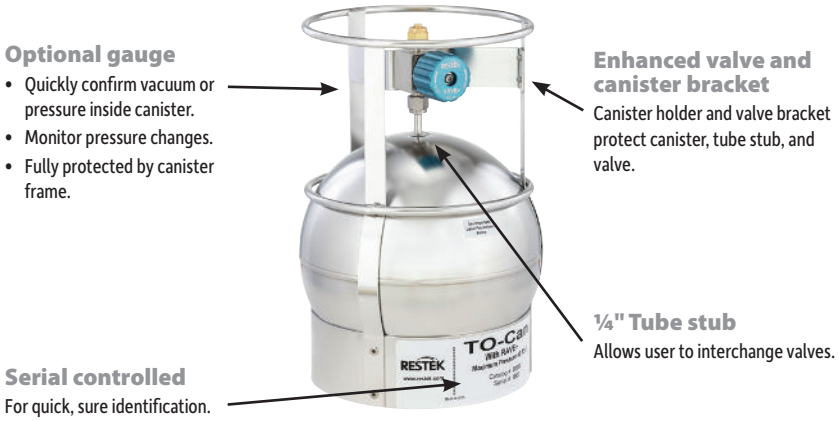
- Only hand tighten knob to close valve. Overtightening will damage the seat, causing leakage.
- Tighten compression fitting on valve inlet only ¼ turn past finger-tight. Overtightening will cause leakage.
- Always use a prefilter during sampling to prevent particulate damage to valve.
- Do not disassemble valve—disassembly will void warranty.
- Protect valve inlet by replacing brass cap when not in use.
- Do not exceed canister maximum pressure of 40 psig (2.75 bar).

Typical Cleaning Method

The following general canister cleaning procedure is based on method TO-15A and is appropriate for most applications. However, you should develop a specific procedure from these general steps by testing every canister for cleanliness after each cycle to determine the number of cycles necessary for proper cleaning. Every canister should be tested until you have demonstrated that your specific procedure (number of cycles, vacuum/pressure, temperature, and time) is effective and reliable for your application.

1. Connect the canisters to the cleaning system and release any pressure within them.
2. Evacuate the canisters to at least 7 kPa/28" Hg vacuum and hold for at least one minute.
3. Pressurize the canisters to ≤30 psig with 30%-70%RH humidified air or nitrogen and hold for at least one minute. Pressurization will dilute the impurities and the moist air will hydrolyze them.
4. Heat the pressurized canisters to a temperature that is appropriate for the equipment you are using. Do not exceed these maximum temperatures:

   a. 120 °C for a TO-Can canister with a gauge.
   b. 140 °C for a TO-Can canister without a gauge (plug the gauge port prior to cleaning).
5. Perform at least five evacuation/pressurization cycles. More cycles may be performed as needed and the total number of cycles will be determined by how dirty the canisters are and how easy they are to clean.
6. Once the canisters are clean, prepare them for sample collection by evacuating them to ≤0.0067 kPa/≤ 50 mTorr.



Certifying a Cleaned Canister

We recommend certifying canisters for both cleanliness and analyte stability. To certify a canister is clean, pressurize the cleaned canister to 14.7 psia or 101.3 kPa with humidified, certified ultra-high purity air. Analyze an aliquot of the canister content by GC-MS, GC-FID, or GC-ECD. If a canister does not meet specification, it must be recleaned and retested.

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Reconditioning Service

Normal wear and tear on a canister may result in valve damage and leakage. We offer a reconditioning service in which we will replace the valve, clean, and leak test the canister for much less than the cost to replace the entire canister. If you would like this service, please follow the instructions below:

1. Contact Restek or your local Restek representative and place an order for cat.# 569419 (RAVE or RAVE+ diaphragm valves) using your company purchase order.
2. Obtain a Service Authorization No. (SRV) to affix on the outside of the shipping container.
3. Clean canister before shipment to Restek and include a completed health and safety declaration.
4. Return canister intact. Do not remove valves or gauges that were part of the original canister.

TO-Can Air Sampling Canisters with RAVE+ Valves

Modification	Volume	qty.	cat.#
2-Port RAVE+ Valve	1 L	ea.	27314
3-Port RAVE+ Valve with Gauge	1 L	ea.	27315
without Valve	1 L	ea.	22094
2-Port RAVE+ Valve	3 L	ea.	27316
3-Port RAVE+ Valve with Gauge	3 L	ea.	27317
without Valve	3 L	ea.	22095
2-Port RAVE+ Valve	6 L	ea.	27318
3-Port RAVE+ Valve with Gauge	6 L	ea.	27319
without Valve	6 L	ea.	22096
2-Port RAVE+ Valve	15 L	ea.	27320
3-Port RAVE+ Valve with Gauge	15 L	ea.	27321
without Valve	15 L	ea.	22097

*Range of standard gauge is –30" Hg to 60 psi.
Do not exceed canister maximum pressure of 40 psig (2.75 bar).

27314

RAVE+ Diaphragm Air Valves

For Restek air sampling canisters

Description	Material	qty.	cat.#
1/4" Diaphragm Valve, RAVE+ (2-port)	Stainless Steel	ea.	27325
	Siltek Treated	ea.	27326
1/4" Diaphragm Valve, RAVE+ (3-port)	Stainless Steel	ea.	27327
	Siltek Treated	ea.	27328

27325

RAVE+ Guards

Description	Material	qty.	cat.#
RAVE+ Guard: 2 µm Frit Filter, & Holder	Stainless Steel	ea.	27292
	Siltek-Treated Stainless Steel	ea.	27293
RAVE+ Guard: 7 µm Frit Filter, & Holder	Stainless Steel	ea.	27294
	Siltek-Treated Stainless Steel	ea.	27295
RAVE+ Guard: Holder without Frit Filter	Stainless Steel	ea.	27296
	Siltek-Treated Stainless Steel	ea.	27297


RAVE+ Guard: Stainless Steel

RAVE+, RAVE, and RAVEn Diaphragm Rebuild Kit

Includes	Material	qty.	cat.#
a tube of grease; two screws; a bonnet (metal ring); a button assembly (small white circular piece); and a diaphragm stack (thin metal disks)	Stainless Steel	kit	26389
a tube of grease; two screws; a bonnet (metal ring); a button assembly (small white circular piece); and a diaphragm stack (Siltek-treated thin metal disks)	Siltek Treated	kit	26390


26389

Questions about this or any other Restek product?
Contact us or your local Restek representative (www.restek.com/contact-us).

www.restek.com

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