SilcoCan Canister with RAVE Valve

cat.# 27400, 27401, 27402, 27403, 27404, 27405, 27406, 27407, 27408, 27409, 27410, 27411, 27412, 27413, 27414, 27415

Overview

A Restek SilcoCan canister offers several important features. We Siltek treat the inner surface for maximum 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 to approximately 15 psig (1.0 bar) with contaminant-free nitrogen prior to shipment.

Prior to Use

Restek SilcoCan canisters are shipped under pressure!

1. Unpack the SilcoCan 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 SilcoCan 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-15 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

1. Connect the canisters to the cleaning system, release any pressure within any of them, and evacuate them. Based on EPA Method TO-15, the ultimate vacuum achieved during cleaning should always be <0.2 mm Hg.
2. After the canisters have been under vacuum for approximately 1 hour, pressurize them with humidified nitrogen to 5 psig (0.34 bar) (if they will be heated during cleaning) or to 30 psig (2.0 bar) (if they will not be heated). Caution: If heat is used during cleaning, use humidified nitrogen only—do not use air. Cleaning SilcoCan canisters with humidified air and heat above 80 °C may damage the fused silica surface, resulting in reduced recoveries of sulfur and other reactive compounds. Pressurization will dilute the contaminants and the water vapor will hydrolyze them. When the system has equilibrated at the designated pressure, proceed to step 3 (heating), or step 4 (no heat).
3. Heat the pressurized canisters to the appropriate temperature. A Restek SilcoCan canister fitted with a gauge can be heated to 120 °C; a canister without a gauge can be heated to 140 °C.**

   Note: These temperature limits only apply using an inert gas like nitrogen. If using air, all SilcoCan canisters must be cleaned at 80 °C or below.
4. Allow the canisters to equilibrate for at least 1 hour. Evacuate the canisters to remove the impurities, then allow them to equilibrate for 1 hour.

Repeat steps 2–4 as necessary. The number of cycles will be determined by how dirty the canisters are and how easily they clean. Without heat, the number of cycles required to clean the canisters may be higher.

Optional gauge
- Quickly confirm vacuum or pressure inside canister.
- Monitor pressure changes.
- Fully protected by canister frame.

Enhanced valve and canister bracket
Canister holder and valve bracket protect canister, tube stub, and valve.

Newest coating technology
To ensure sample stability, SilcoCan canisters are deactivated with innovative Siltek surface treatment, which chemically bonds a fused silica layer to the metal inner surface of the canister. This layer offers unsurpassed inertness for active compounds, including polar and sulfur-containing molecules. It will not crack, chip, or flake off, despite harsh handling in the field or during transport.

¼" Tube stub
Allows user to interchange valves.

Serial controlled
For quick, sure identification.

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 30 psig (2.0 bar) with humidified, certified ultra-high purity air or nitrogen. 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.

*For detailed information about cleaning, certifying, and using canisters, request A Guide to Whole Air Canister Sampling (lit. cat.# EVTG1073A) or search www.restek.com for "EVTG1073A."
**To use temperatures above 120 °C to clean a SilcoCan canister fitted with a gauge, you must remove the gauge and plug the gauge port prior to cleaning.

RESTEK
www.restek.com

Reconditioning Service

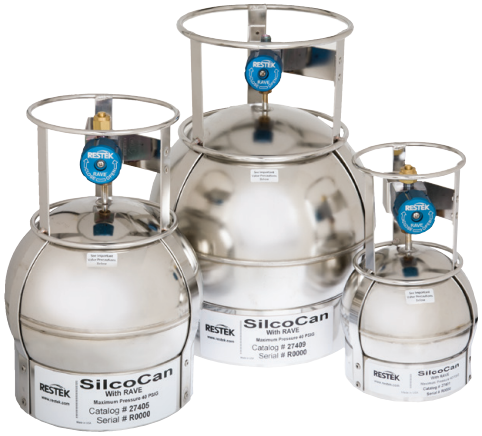
Normal wear and tear on a canister may result in valve damage and leakage. We offer a reconditioning service in which we will replace the valve, clean, and leak test the canister for much less than the cost to replace the entire canister. If you would like this service, please follow the instructions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

1. Contact Restek or your local Restek representative and place an order for cat.# 569419 (RAVE diaphragm valve) 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.

SilcoCan Air Sampling Canisters with RAVE Valve

Description	1 L Volume cat.#	3 L Volume cat.#	6 L Volume cat.#	15 L Volume cat.#
2 Port RAVE Valve	27400	27404	27408	27412
2 Port Siltek-Treated RAVE Valve	27401	27405	27409	27413
3 Port RAVE Valve with Gauge*	27402	27406	27410	27414
3 Port Siltek-Treated RAVE Valve with Gauge*	27403	27407	27411	27415
without Valve	22090	22091	22092	22093

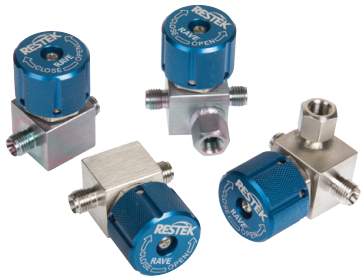
*Range of standard gauge is -30" Hg to 60 psi.
Do not exceed canister maximum pressure of 40 psig (2.75 bar).



Canisters are the gold standard for ambient VOC monitoring.

RAVE Diaphragm Valves

Description	qty.	Siltek-treated cat.	Stainless Steel cat.
1/4" Diaphragm Valve, RAVE (2-port)	ea.	26386	26385
1/4" Diaphragm Valve, RAVE (3-port)	ea.	26388	26387
RAVE Diaphragm Rebuild Kit (includes: 3 diaphragms)	kit	26390	26389



TO-Clean Canister Cleaning System

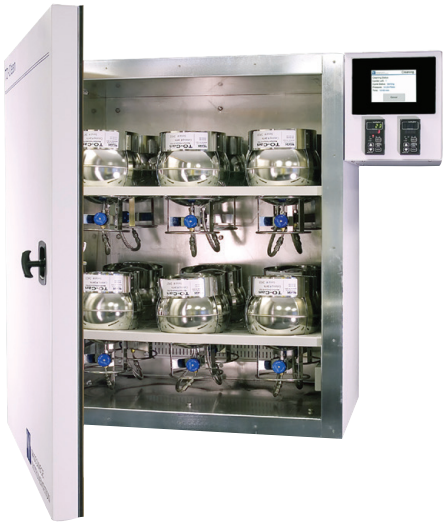
High capacity, fully automated, easy-to-use canister cleaning oven dramatically increases lab efficiency.

- Oil-free pump lowers risk of contamination.
- Compliant to most documented government and standard methods.
- Powerful 6i pump can achieve 50 mTorr in <25 minutes for twelve 6 L canisters; higher power 10i option also available.
- Custom-built trays for different canister sizes.
- Humidifier provides humidified nitrogen to improve cleaning process.
- One-year limited warranty.
- Fully assembled and ready to use.

Description	Type	Voltage	qty.	cat.#
TO-Clean Oven w/Oil Free Pump	Edwards nXDS6i Dry Scroll Pump	120 V, 60 Hz	ea.	26379
TO-Clean Oven w/Oil Free Pump	Edwards nXDS6i Dry Scroll Pump	220/230 V, 50/60 Hz	ea.	26380

Shipping: FedEx Ground, unless otherwise requested. Costs vary depending on ship-to location.

Note: Ovens are built on demand; therefore, a ten-week lead time is required on all orders. A limited cancellation and return policy applies to TO-Clean ovens; contact Restek Customer Service for details.



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

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QUALITY ISO 9001 • 17025 • 17034

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