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-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. 80 °C for a SilcoCan canister—with or without a gauge—cleaned in the presence of oxygen.*
   b. 120 °C for a SilcoCan canister in the presence of an inert gas with a gauge.
   c. 140 °C for a SilcoCan canister in the presence of an inert gas 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.

*Caution: 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.

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.

¼" Tube stub
Allows user to interchange valves.

Serial controlled
For quick, sure identification.

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.

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.

RESTEK
Pure Chromatography

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

27405

Canisters are the gold standard for ambient VOC monitoring.

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

RAVE Diaphragm Valves

Description	Material	Used with	qty.	cat.#
1/4" Diaphragm Valve, RAVE (2-port)	Stainless Steel	Restek air sampling canisters	ea.	26385
	Siltek Treated	Restek air sampling canisters	ea.	26386
1/4" Diaphragm Valve, RAVE (3-port)	Stainless Steel	Restek air sampling canisters	ea.	26387
	Siltek Treated	Restek air sampling canisters	ea.	26388

RAVE and RAVEn Diaphragm Rebuild Kit

Description	Includes	Material	qty.	cat.#
RAVE and RAVEn Diaphragm Rebuild Kit	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

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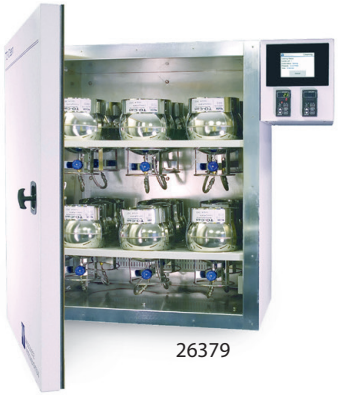
TO-Clean Canister Cleaning System

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

Description	Type	Voltage	Certification/ Compliance	qty.	cat.#
TO-Clean Oven w/Oil Free Pump	Edwards nXDS6i Dry Scroll Pump	120 V, 60 hz	CE	ea.	26379
	Edwards nXDS6i Dry Scroll Pump	220/230 V, 50/60 hz	CE	ea.	26380
	Edwards nXDS10i Dry Scroll Pump	120 V, 60 hz	CE	ea.	26381
	Edwards nXDS10i Dry Scroll Pump	220/230 V, 50/60 hz	CE	ea.	26382



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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).

www.restek.com

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