

SilcoCan® Canister

cat.#s 24180-83; 24140-43; 22090-93

Overview

A SilcoCan® canister offers several important features. We Siltek® treat the inner surface for maximum inertness, then examine the Siltek® layer with a boroscope, to ensure it is flawless and uniform. 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 a temperature limit of 250°C. We leak check the system under vacuum using helium, to ensure the canister and valve are leak-tight, then pressurize the canister with contaminant-free nitrogen before we ship it.

Prior to Use

SilcoCan® canisters are shipped under pressure!

1. Unpack the SilcoCan® canister from its box. Remove the ¼-inch plug nut 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 authorization number. *Please do not return the canister, or any other Restek product, without a return authorization number.*
3. We recommend that you certify your canister clean, according to US EPA Compendium Method TO-12, TO-14A, or TO-15, 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 EPA Compendium Method TO-12, TO-14A, or TO-15, after cleaning the canister, to certify the canister clean prior to reuse.

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 <0.2mm Hg.
2. After the canisters have been under vacuum for approximately 1 hour, pressurize them with humidified nitrogen to 5psig (if they will be heated during cleaning) or to 30psig (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).

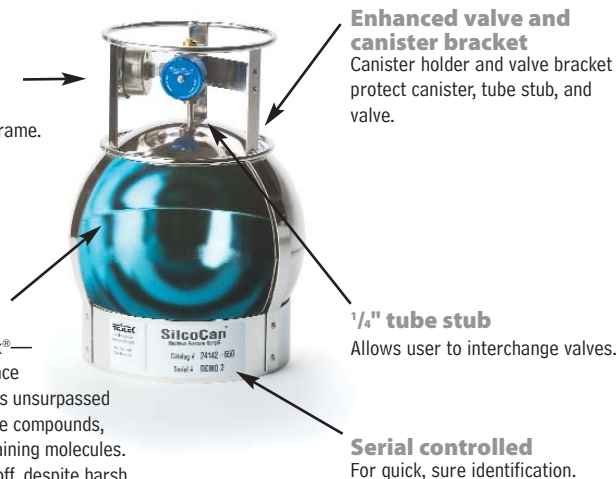
3. Heat the pressurized canisters to the appropriate temperature. A SilcoCan® canister fitted with a gauge can be heated to 90°C; a canister without a gauge can be heated to 250°C.**
4. Allow the canisters to equilibrate for at least 1 hour. Evacuate the canisters to remove the impurities, then allow 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.
- Can be heated to 90°C during cleaning.

Newest coating technology

SilcoCan® canisters are now deactivated with Siltek®—Restek's latest innovative surface treatment. This treatment offers unsurpassed inertness and stability 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.



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.

Certifying a Cleaned Canister

We recommend certifying canisters for both cleanliness and analyte stability. To certify a canister clean, pressurize the cleaned canister to 30psig with humidified, certified ultra-high purity air or nitrogen. Analyze an aliquot of the canister content by GC/MS, GC/FID, or GC/ECD. US EPA Method TO-14A/15 specifies a canister must contain less than 0.2ppbv of any target volatile organic compound; EPA Method TO-12 specifies less than 0.02ppmC, as detected by GC/FID. 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 Passive Air Sampling (lit. cat.# 59977B).*

***To use temperatures above 90°C to clean a SilcoCan® canister fitted with a gauge, you must remove the gauge and plug the gauge port prior to cleaning. Our Air Canister Heating Jacket (cat.# 24123) will save time and effort, and minimize potential for contamination, by enabling you to quickly and efficiently clean a canister at 75°C with the gauge in place (at 150°C without gauge).*

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.
- Use 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 40psig.

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 your Restek representative or Customer Service at 800-356-1688, ext. 3, and place an order for part number 560838 using your company purchase order.
2. Obtain a return authorization number to affix on the outside of the shipping container.
3. Clean canister before shipment to Restek.
4. Return canister intact. Do not remove valves or gauges that were part of the original canister.

Note: If attaching any of Restek's passive sampling kits to a 3L canister, use a Siltek treated (cat.# 563646) or stainless steel (cat.# 563647) connector between the two components.

SilcoCan® Canisters (1/4" Valve)

volume	w/Nontreated Valve		w/Siltek-Treated Valve		w/No Valve	
	qty.	cat.#	qty.	cat.#	qty.	cat.#
1L	ea.	24180	ea.	24180-650	ea.	22090
3L	ea.	24181	ea.	24181-650	ea.	22091
6L	ea.	24182	ea.	24182-650	ea.	22092
15L	ea.	24183	ea.	24183-650	ea.	22093

volume	w/Gauge & Nontreated Valve		w/Gauge & Siltek-Treated Valve	
	qty.	cat.#	qty.	cat.#
1L	ea.	24140	ea.	24140-650
3L	ea.	24141	ea.	24141-650
6L	ea.	24142	ea.	24142-650
15L	ea.	24143	ea.	24143-650

Replacement Diaphragm Valve

2-port	cat.# 24145
3-port	cat.# 24147

Siltek Diaphragm Valve

2-port	cat.# 24144
3-port	cat.# 24146

Air Canister Heating Jacket (cat.# 24123)

The ultimate in controlled heating, for reliably cleaning your air canisters!

- Closely simulates oven environment—heats entire canister and valve.
- Easily fits canister up to 6 liters.
- Prevents sample condensation, for accurate subsampling.
- Lightweight, comfortable to the touch when heated.
- Connect up to five Canister Heating Jackets to one 15 amp circuit.

Whether you made your canister cleaning system or purchased a commercial system, the Restek Canister Heating Jacket will help you clean your canisters faster and more efficiently. The novel design ensures the entire canister, including the valve, is heated during the cleaning cycle, to remove contaminants most effectively. It also can be used to keep the sample heated during aliquot removal. The Canister Heating Jacket incorporates two heat settings—low (75°C) and high (150°C). Connect up to five Canister Heating Jackets to one 15 amp circuit.



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Call Technical Service at 800-356-1688 or 814-353-1300, ext. 4 (or your Restek representative) if you have any questions about this product or any other Restek product.



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