



Restek Air

# The RAVE Family of Air Sampling Valves: Excellence Is Our Standard

- Proven long life
- Leak-free performance
- Effortless operation
- Enhanced damage resistance

**NEW!** RAVEqc  
Quick-Connect  
Air Valves



**RESTEK**

Pure Chromatography

[www.restek.com](http://www.restek.com)



### Available options:

- All RAVE, RAVEn, and RAVEqc valves are made in the U.S. from rugged stainless steel and are available with or without Siltek treatment for added inertness.
- RAVE and RAVEn diaphragm valves: choose from 2-port or 3-port (for optional gauge) models. Rebuild kits available.
- RAVEqc quick-connect valves: browse our rapidly expanding selection of valve and fitting options online.



Restek Air Valve Excellence (RAVE) valves feature proven long life, leak-free performance (helium leak tested to  $1 \times 10^{-6}$  mL/sec), and effortless operation. Restek's original RAVE diaphragm valves, designed for reliability and ease of use, are standard on our full line of SilcoCan, TO-Can, and miniature air sampling canisters. RAVEn diaphragm valves bring RAVE brand quality to your Entech air canisters. Now, the new line of RAVEqc quick-connect air valves offers an even faster, tool-free means of collecting your sample in the field or analyzing it the lab. RAVEqc quick-connect air valves are ideal for both Restek and Entech air cans.

## RAVE Diaphragm Air Valves

- **Durable design**—diaphragm sealing mechanism engineered for long life.
- **Leak-free performance**—every valve is helium leak-tested to  $1 \times 10^{-6}$  mL/sec.
- **Effortless operation**—easily finger turn to achieve full valve closure (only 10 in-lb).
- **Enhanced damage-resistance**—W-type valve seats are work-hardened and wetted surfaces contain no moving parts.

**UPGRADE YOUR ENTECH CANS:** RAVEn valves for 3.2, 6, and 15 L air canisters bring RAVE family quality to your Entech cans. Replace your TOV, TOV-2, or TrueSeal valves without modification!

Turn to your trusted partner for air sampling and chromatography. Order Restek Air Valve Excellence for your Restek or Entech air sampling canisters today.

[www.restek.com/air](http://www.restek.com/air)

# Excellence Is Our Standard – RAVE Diaphragm Valves Are Standard on All Restek Air Canisters

If you use a traditional diaphragm valve, RAVE valves are now standard on our full line of SilcoCan, TO-Can, and miniature air sampling canisters. Restek Air Valve Excellence (RAVE) valves are also available separately for upgrading existing air canisters to improve reliability and performance. Choose RAVE valves to upgrade your Restek canisters or RAVEn valves to upgrade your Entech canisters.

## RAVE Diaphragm Valves

For Restek air sampling canisters

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 and RAVEn Diaphragm Rebuild Kit [includes: diaphragms (3)]	kit	26390	26389

## RAVEn Diaphragm Valves

For Entech air sampling canisters

Description	qty.	Siltek-Treated cat.#	Stainless Steel cat.#
1/4" Diaphragm Valve, RAVEn (2-Port)	ea.	27377	27376
1/4" Diaphragm Valve, RAVEn (3-Port)	ea.	27379	27378
RAVE and RAVEn Diaphragm Rebuild Kit [includes: diaphragms (3)]	kit	26390	26389

## SilcoCan Air Sampling Canisters with RAVE Valve

Ideal for low-level reactive sulfur (5–20 ppb), TO-14A, or TO-15 compounds

Siltek-treated canister with optional Siltek-treated valve offers unsurpassed inertness, even for sulfur-containing or brominated compounds.

Description	qty.	1 L Volume cat.#	3 L Volume cat.#	5 L Volume cat.#	15 L Volume cat.#
2-Port RAVE Valve	ea.	27400	27404	27408	27412
2-Port Siltek-Treated RAVE Valve	ea.	27401	27405	27409	27413
3-Port RAVE Valve with Gauge*	ea.	27402	27406	27410	27414
3-Port Siltek-Treated RAVE Valve with Gauge* without Valve	ea.	27403	27407	27411	27415
	ea.	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).

## TO-Can Air Sampling Canisters with RAVE Valve

Optimized for Methods TO-14A, TO-15, IP-1A, ASTM D5466, OSHA PV 2120, and NJ DEP Low Level TO-15

SUMMA canister equivalent features proprietary electropolished surface that maintains compound stability.

Description	qty.	1 L Volume cat.#	3 L Volume cat.#	5 L Volume cat.#	15 L Volume cat.#
2-Port RAVE Valve	ea.	27416	27418	27420	27422
3-Port RAVE Valve with Gauge*	ea.	27417	27419	27421	27423
without Valve	ea.	22094	22095	22096	22097

\*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.




# RAVEqc Quick-Connect Air Valves

- **Simplify your workflow**—tool-free design makes it fast and easy for anyone to make consistent, quality connections.
- **Extend air canister and valve lifetime**—no wrenches means no overtightening or cross-threading damage.
- **Stand-alone or supporting roles**—use alone or pair with a bellows/diaphragm valve for the ultimate in sample security and convenience.
- Compatible with Entech Micro-QT valves.

**CHECK FLOW STATUS AT A GLANCE:**



If the parts are connected, the valve is **open**.



If they're apart, it's **closed**.\*

\* Open-position valves also available.

## Save Time with RAVEqc Quick-Connect Air Valves

In addition to being tool-free, easy to use, and reducing the risk of damage, RAVEqc quick-connect air valves make connecting and disconnecting to other devices faster than with compression fittings. As shown in Table I, a skilled user working confidently and quickly was able to attach 12 canisters with RAVE diaphragm valves to an oven in about 5 minutes. That same user was able to get 12 canisters with RAVEqc quick-connect air valves hooked up in half the time!

**Table I:** Connect and disconnect your air canisters in half the time with RAVEqc quick-connect air valves.

Valve	Attach (sec)	Detach (sec)	Total (sec)	x12 Canister (sec)	Oven Load/Unload (min)
RAVEqc 1	8.32	5.45	13.77	165.2	
RAVEqc 2	6.56	5.22	11.78	141.4	
RAVEqc 3	6.65	4.59	11.24	134.9	
RAVEqc Avg.	7.18	5.09	12.26	147.2	<b>2.45</b>
RAVE 1	13.70	14.18	27.88	334.6	
RAVE 2	12.63	12.25	24.88	298.6	
RAVE 3	13.03	10.63	23.66	283.9	
RAVE Avg.	13.12	12.35	25.47	305.7	<b>5.09</b>

# Simplify Your Workflow with Tool-Free RAVEqc Quick-Connect Air Valves

Whether you need to replace your existing bellows/diaphragm valves or want the extra sample security of using two valves in tandem, RAVEqc quick-connect air valves are a tool-free, easy-to-use option that will make air sampling and analysis much easier. There's never any question about whether or not the valve is open because you can tell at a glance. If the male and female valves are connected, the flow path is open. If they aren't, it's closed. Open-position valves also available.\*

## RAVEqc Quick-Connect Air Valves

Description	Material	Similar to Entech Part #	qty.	cat.#
Female RAVEqc Valve to 1/16" Male Compression Fitting	Stainless Steel	FQT-100	ea.	27341 <b>NEW!</b>
	Siltek-Treated	FQT-100S	ea.	27342 <b>NEW!</b>
Female RAVEqc Valve to 1/8" Male Compression Fitting	Stainless Steel	FQT-200	ea.	27343 <b>NEW!</b>
	Siltek-Treated	FQT-200S	ea.	27344 <b>NEW!</b>
Female RAVEqc Valve to 1/4" Male Compression Fitting, High-Flow, Open-Position	Stainless Steel		ea.	27345 <b>NEW!</b>
	Siltek-Treated		ea.	27346 <b>NEW!</b>
Female RAVEqc Valve to 1/4" Tube End Fitting	Stainless Steel	FQT-T400	ea.	27347 <b>NEW!</b>
	Siltek-Treated	FQT-T400S	ea.	27348 <b>NEW!</b>
Male RAVEqc 3-Port Valve to 1/4" Male Compression Fitting without Gauge	Stainless Steel	MQT-400L-D	ea.	27349 <b>NEW!</b>
	Siltek-Treated	MQT-400L-DS	ea.	27350 <b>NEW!</b>
Male RAVEqc 3-Port Valve to 1/4" Male Compression Fitting with Gauge	Stainless Steel	MQT-400L-G	ea.	27351 <b>NEW!</b>
	Siltek-Treated	MQT-400L-GS	ea.	27352 <b>NEW!</b>
Male RAVEqc Valve to 1/4" Male Compression Fitting	Stainless Steel	MQT-400	ea.	27367
	Siltek-Treated	MQT-400S	ea.	27368
Female RAVEqc Valve to 1/4" Male Compression Fitting	Stainless Steel	FQT-400	ea.	27369
	Siltek-Treated	FQT-400S	ea.	27370
Male RAVEqc Valve to 1/4" Tube End Fitting, Extended (1.58")	Stainless Steel	MQT-T400	ea.	27371
	Siltek-Treated	MQT-T400S	ea.	27372
Male RAVEqc Valve to 1/4" Tube End Fitting, Short (1.23")	Stainless Steel	MQT-ST400	ea.	27373
	Siltek-Treated	MQT-ST400S	ea.	27374
Female RAVEqc Valve to 1/4" NPT Fitting	Stainless Steel		ea.	27365 <b>NEW!</b>
	Siltek-Treated		ea.	27366 <b>NEW!</b>

\* Open-position option available to prevent vacuum/pressure from being trapped by the valve when desired (e.g., when using a vacuum/pressure gauge). High flow facilitates use with canister cleaning ovens.

## RAVEqc Caps

- Avoid the introduction of foreign material (e.g., dust) into male RAVEqc quick-connect air valves and protect them from physical damage.
- Choose premium caps for convenient, one-handed "quick-connect" operation.

Description	qty.	cat.#
Female RAVEqc Premium Quick-Connect Cap	ea.	27353
Female RAVEqc Standard Cap	ea.	27354



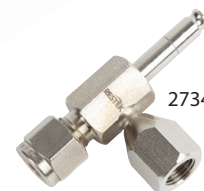
27367



27369



27373



27349



27353

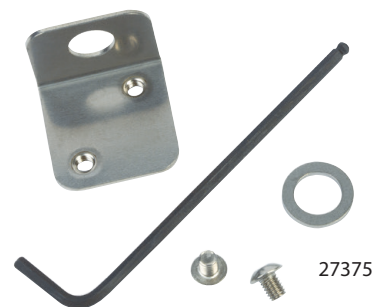


27354

## RAVEqc Valve Bracket

Required for use with Restek 1, 3, 6, and 15 L air sampling canisters when using the compression fitting mounted directly on the 1/4" canister tube stub (not for use with Restek miniature canisters or Entech canisters).

Description	qty.	cat.#
RAVEqc Valve Bracket, for Attaching to Restek Canister	ea.	27375



## Which RAVEqc Quick-Connect Air Valves do I Need?

Use these guidelines to select the perfect RAVEqc quick-connect air valve for your application!

- Every RAVEqc quick-connect air valve has two halves (valve end and fitting end). Match each end to the opposite gender valve or fitting. For fittings, also be sure to match the connection dimension.

### Examples:

- o To connect directly to a Restek air can with a tube stub 1/4" female compression fitting, use a bracket and any RAVEqc air valve with a 1/4" male compression fitting.



*Bracket for Restek cans only.*

- o To connect to the 1/4" male compression fitting on a diaphragm valve that is installed on an air canister, use a RAVEqc quick-connect air valve with a tube end fitting.



- For tube end fittings, choose length based on the clearances you need for installation.
- For reactive compounds, use Siltek-treated valves for a highly inert sample path.
- Male valves are less expensive than female valves, so use them on your most numerous devices (e.g., air canisters, not cleaning ovens).

# Rely on Restek for Air Sampling Solutions

## 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 sweep gas to improve cleaning process.
- One-year limited warranty.
- Fully assembled and ready to use.

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

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



26379

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.

## Accessories for TO-Clean Canister Cleaning System

Description	qty.	cat.#
Oil-free Pump Silencer	ea.	26383
Oil-free Pump Exhaust Tubing for Customer Exhaust (20' PVC tubing, clamps, adapters, O-rings)	ea.	26384
1 L Option: includes tubing, fittings, and inserts for twenty-four 1-L canisters	ea.	22920
3 L Option: includes tubing, fittings, and inserts for twelve 3-L canisters	ea.	22126
Mini-Can Option: includes tubing, fittings, and inserts for either twenty-four 400-cc or twenty-four 1000-cc mini-canisters	ea.	22127

## Miniature Air Sampling Canisters (Electropolished Stainless Steel & Siltek Treated)

- Ideal for indoor air, personal, emergency response, or soil gas sampling.
- Available with RAVEqc quick-connect fitting that is compatible with sampling and analysis instruments.

Description	qty.	cat.#
Electropolished Stainless-Steel Miniature Canister with male RAVEqc Quick-Connect Fitting (cat.#27367); A compatible female fitting, such as cat.# 27369 (sold separately), is required to complete the valve connection.	ea.	24188
Siltek-Treated Miniature Canister with male RAVEqc Quick-Connect Fitting (cat.#27367); A compatible female fitting, such as cat.# 27369 (sold separately), is required to complete the valve connection.	ea.	24189
Siltek-Treated Miniature Canister with male Siltek-Treated RAVEqc Quick-Connect Fitting (cat.# 27368); A compatible female fitting, such as cat.# 27370 (sold separately), is required to complete the valve connection.	ea.	24190
Electropolished Stainless-Steel Miniature Canister with RAVE Valve	ea.	26456
Siltek-Treated Miniature Canister with RAVE Valve	ea.	26457
Siltek-Treated Miniature Canister with Siltek-Treated RAVE Valve	ea.	26458
Electropolished Stainless-Steel Miniature Canister without Valve	ea.	24205
Siltek-Treated Miniature Canister without Valve	ea.	24207

Do not exceed canister maximum pressure of 40 psig (2.75 bar).  
Restek no longer offers 1000 cc miniature air sampling canisters.





### Passive Air Sampling Kits—Integrated (Stainless Steel & Siltek Treated)

Superior Performance—an Excellent Restek Value

- Provide accurate integrated sampling without a sampling pump.
- Siltek-treated components ensure accurate sampling of active components.
- Excellent for sampling times from 0.5 hour to 125 hours.

Canister Volume/Sampling Time					Flow Capacity	Orifice Size	qty.	Siltek-Treated cat.#	Stainless Steel cat.#
400 cc	1 Liter	3 Liter	6 Liter	15 Liter					
8 hour	24 hour	48 hour	125 hour	—	0.5–2 mL/min	0.0008"	kit	24217	24216
2 hour	4 hour	12 hour	24 hour	60 hour	2–4 mL/min	0.0012"	kit	24160	24165
1 hour	2 hour	6 hour	12 hour	30 hour	4–8 mL/min	0.0016"	kit	24161	24166
—	1 hour	4 hour	8 hour	20 hour	8–15 mL/min	0.0020"	kit	24162	24167
—	—	2 hour	3 hour	8 hour	15–30 mL/min	0.0030"	kit	24163	24168
—	—	1 hour	1.5 hour	4 hour	30–80 mL/min	0.0060"	kit	24164	24169
—	—	—	0.5 hour	1 hour	80–340 mL/min	0.0090"	kit	22101	22100

\*Vacuum/pressure gauge included in kit; air sampling canisters sold separately.



24267

### Canister Air Sampling Timer

- Program 12 timed events up to 7 days in advance!
- Capable of both manual and automated operation.
- Perfect for either grab or time-integrated sampling.
- Long battery life; recharges conveniently using the USB port on any PC.
- All stainless-steel sample flow path ensures inertness, improving accuracy.

Description	Certification/Compliance	qty.	cat.#
Canister Air Sampling Timer	CE	ea.	24267



24285



24268

### Ashcroft Test Gauges

- Accurate measurement of vacuum to -30" Hg and pressure to 60 psi.
- Available in both analog and digital formats.
- Accuracy to +/- 0.25%.
- Gauge connector to canister valve available.

Description	Diameter	Fittings	qty.	cat.#
Test Gauge, Analog	6"	1/4" NPT	ea.	24285
Ashcroft 2074 Digital Pressure Gauge*			ea.	24268
Ashcroft Gauge Connector to Canister Valve, stainless steel, connects 1/4" male NPT to 1/4" male compression fitting			ea.	22121

\*Not CE approved.

Learn more at [www.restek.com/air](http://www.restek.com/air)

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Pure Chromatography

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