Restek[®] Refined

Expansive Line of **Solutions for Gas Sampling**

- Wide range of new cylinders and valves.
- Sulfinert[®] treatment protects active compounds.
- Unique rupture disc tee allows easy disc replacement.
- Metering control valve reduces pressure to GC injector

Visit us at **www.restek.com/petro**



Pure Chromatography

www.restek.com



Sample Cylinders

- All cylinders have 1/4" female NPT threads on both ends.
- TPED compliant cylinders available for EU community.

Swagelok[®] sample cylinders are made of 304L and 316L stainless steel to resist corrosion and DOT rated to 1,800 and 5,000 psig (TPED cylinders rated to 1,450 and 4,350 psig), which allows sampling at gas wellheads as well as on-site refineries. Each cylinder is hydrostatically tested to at least 5/3 the working pressure.



Protecting Your Sulfinert®-Treated Products

Cleaning Tips

When cleaning a treated part, rinse with a solvent that will dissolve probable surface contaminants (i.e., use a nonpolar solvent to remove hydrocarbon contaminants, or a more polar solvent to remove more active contaminants).

Avoid using cleaners containing abrasives as they can scratch the layer. Mild sonication may assist in contaminant removal, but do not oversonicate—this could damage the layer. Solids can be removed with a soft nylon bristle brush using light pressure.

Caution! Do not use basic solutions or soaps with pH>8. Do not steam clean Sulfinert[®]-treated components or lines as this could damage the layer.

Troubleshooting

Under normal use, your treated items should deliver outstanding performance for years to come. However, effective lifetime is dependent on the severity of the environment. Factors that can reduce performance are:

- Contamination—Failure to properly clean the surface can allow increased surface activity.
 If performance changes, thoroughly clean the surface and inspect the layer for damage.
- *Erosion*—Contact with abrasives can accelerate surface wear.
- Bases—Contact with a base (pH 8 or higher) can accelerate deterioration of the layer.

Surface finish and color should stay consistent throughout the life of the product. Changes in the finish or color may indicate a partial loss of the layer. To prevent further loss, ensure no exposure to bases or abrasives.

Applications:

• ASTM D1265

- Hydrocarbon sampling in refineries & petrochemical plants
- Analyzing sulfur or mercury?
- Sulfinert[®] coating provides stable storage of sulfur and mercury at ppb levels.
- Inert coating doesn't flake; more durable than PTFE.

Sample Cylinders, High Pressure (Stainless Steel & Sulfinert®-Treated)

- 304L stainless steel; DOT rating to 1,800 psig (TPED cylinders to 1,450 psig).
- Range of cylinder sizes, 75 cc to 2,250 cc.

1,800 psig (12,411 kPa), 304L SS			TPED, 1,450 psig (9,997 kPa), 304L SS			
Size	Stainless Steel cat.#	Sulfinert-Treated cat.#	Stainless Steel cat.#	Sulfinert-Treated cat.#		
75 cc	22921	24130	22921-PI	24130-PI		
150 cc	22922	24131	22922-PI	24131-PI		
300 cc	22923	24132	22923-PI	24132-PI		
500 cc	22924	24133	22924-PI	24133-PI		
1,000 cc	22925	24134	22925-PI	24134-PI		
2,250 cc	22926	21394	22926-PI	21394-PI		

Sample Cylinders, Ultra-High Pressure (Stainless Steel & Sulfinert®-Treated)

- 316L stainless steel; DOT rating to 5,000 psig (TPED cylinders to 4,350 psig).
- Range of cylinder sizes, 150 cc to 500 cc.

	5,000 psig (34,4	74 kPa), 316L SS	TPED, 4,350 psig (29,992 kPa), 316L SS			
Size	Stainless Steel cat.#	Sulfinert-Treated cat.#	Stainless Steel cat.#	Sulfinert-Treated cat.#		
150 cc	22927	22111	22927-PI	22111-PI		
300 cc	22928	22112	22928-PI	22112-PI		
500 сс	22929	22113	22929-PI	22113-PI		

Sample Cylinder Accessories

Description	Fittings	qty.	cat.#
Sample Cylinder Carrying Handle, 304 SS for 1.9" & 2" OD Cylinders (Includes handle and two attachment rings)		ea.	26373
Sample Cylinder Carrying Handle, 304 SS for 3.5" & 4" OD Cylinders (Includes handle and two attachment rings)		ea.	26374
Sample Cylinder 316 SS End Pipe Plug, Stainless Steel	¹ /4" Male NPT	ea.	26375
Sample Cylinder 316 SS End Pipe Plug, Sulfinert-Treated	¹ /4" Male NPT	ea.	26376
Sample Cylinder 316 SS Hollow Hex Plug	¹ /4" Male NPT	ea.	26377
Sample Cylinder SS Pipe Cap w/Lanyard	¹ /4" Female NPT & 20" Lanyard	ea.	26378
Sample Cylinder SS Pipe Cap, Stainless Steel	¹ /4" Female NPT	ea.	22969
Sample Cylinder SS Pipe Cap, Sulfinert-Treated	¹ /4" Female NPT	ea.	22970
SS=stainless steel			

also available

Certificates are available upon request.



Sample Cylinder Valves (Stainless Steel & Sulfinert®-Treated)

- Multiple valve configurations, including dip tube and rupture disks.
- Large, durable, Kel-F[®] seat ensures leak-free operation.
- Temperature range: -40 °C to 120 °C
- 303 stainless steel.

Alta-Robbins' unique valve design incorporates a fully contained soft seat that provides durability and longer lifetime. Tight shut-off is easily achieved with very low torque, yet the valve is rugged enough to withstand overtightening.

Multiple valve configurations are available for both high-pressure and ultra-highpressure sample cylinders. An outage tube or dip tube provides a headspace above liquefied gases so that, should expansion occur with an increase in temperature, the pressure is not dramatically increased. Outage is expressed as a percent of the total cylinder volume, based on the ratio of the length of headspace to the total length of the cylinder, with a maximum available outage of 50%. The dip tube is welded directly to the male inlet of the valve and cut to a length of up to 5.25 inches. Rupture disks function to protect sample cylinders from overpressurization by venting to the atmosphere. The pressure rating on the rupture disk should always be lower than the cylinder.

Description	Stainless Steel	Sulfinert-Treated
Description	cat.#	Cat.#
3,500 psig (24,132 kPa) DOT Pressure Rating		
1/4" Male NPT x 1/4" Male NPT	26297	21400
1/4" Male NPT x 1/4" Female NPT	26298	26299
1/4" Male NPT x 1/4" Male Compression	26300	21401
1/4" Male NPT x 1/4" Male NPT w/5.25" Dip Tube*	26301	21402*
1/4" Male NPT x 1/4" Male NPT w/1,800 psi (12,411 kPa) Rupture Disk	26302	26303
1/4" Male NPT x 1/4" Female NPT w/1,800 psi (12,411 kPa) Rupture Disk	26304	26305
Replacement Rupture Disk, 1,800 psig (12,411 kPa)	26320	—
5,000 psig (34,474 kPa) DOT Pressure Rating		
1/4" Male NPT x 1/4" Male NPT	26306	26307
¹ /4" Male NPT x ¹ /4" Female NPT	26308	26309
¹ /4" Male NPT x ¹ /4" Male Compression	26310	26311
¹ /4" Male NPT x ¹ /4" Male NPT w/5.25" Dip Tube*	26312	26313
¹ /4" Male NPT x ¹ /4" Male NPT w/2,850 psi (19,650 kPa) Rupture Disk	26314	26315
1/4" Male NPT x 1/4" Female NPT w/2,850 psi (19,650 kPa) Rupture Disk	26316	26317
Replacement Rupture Disk, 2,850 psig (19,650 kPa)	26324	_

*To order a sample cylinder valve with dip tube, please call Restek® Customer Service at 800-356-1688, ext. 3, or contact your Restek® representative. Specify dip tube length or % outage when ordering (maximum length = 5.25"/ 13.3 cm). Note: End of part will not be treated after cutting tube to length.

Rupture Disk Tee (Stainless Steel & Sulfinert®-Treated)

Unlike other designs, Alta-Robbins rupture disk tee is NOT permanently soldered to the disk, making the disks replaceable. Disks are easily changed without removing the valve or tee from the cylinder. These tees are designed to be installed into existing systems to provide reliable overpressure protection.

Description	Stainless Steel cat.#	Sulfinert-Treated cat.#
1,800 psig DOT Pressure Rating		
Rupture Disk Tee, 1/4" Male NPT x 1/4" Female NPT	26318	26319
Replacement Rupture Disk, 316 Stainless Steel (includes one PTFE washer) 26320	—
2,850 psig DOT Pressure Rating		
Rupture Disk Tee, 1/4" Male NPT x 1/4" Female NPT	26322	26323
Replacement Rupture Disk, 316 Stainless Steel (includes one PTFE washer)) 26324	_

Metering Control Valves (Stainless Steel & Sulfinert®-Treated)

- Reduces pressure between sample cylinder and GC injector.
- Maintains fine metering control.

 Contains Kel-F[®] seat. 	Stainless Steel	Sulfinert-Treated
Description	cat.#	cat.#
3,500 psig (24,132 kPa) DOT Pressure Rating		
Metering Control Valve, 1/4" Male NPT x 1/4" Male NPT	26326	26327





26326



Gas Sampling Valves and Sample Loops (Sulfinert®-Treated)

Sulfinert[®] treatment eliminates active sites in the valve or loop for better recovery of active compounds.

Gas Sampling Valves & Replacement Rotors (Sulfinert®-Treated)

(1/16" Fittings, 0.40 mm Port Diameter; "W Type" Valve)

Replacement Rotor (not coated) for 10-Port Sulfinert Gas Sampling Valve

Description	qty.	cat.#
Sulfinert Gas Sampling Valve; 4-Port	ea.	20584
Sulfinert Gas Sampling Valve; 6-Port	ea.	20585
Sulfinert Gas Sampling Valve; 10-Port	ea.	20586
Replacement Rotors (Not Coated)		
Description	qty.	cat.#
Replacement Rotor (not coated) for 4-Port Sulfinert Gas Sampling Valve	ea.	20587
Replacement Rotor (not coated) for 6-Port Sulfinert Gas Sampling Valve	62	20588

20588

Gas Sample Loops (Sulfinert®-Treated) (1/16" fittings, 1 mm ID, for "W Type" valves)

Description	Size	qty.	cat.#	
Sample Loops, Sulfinert-Treated	5 µL	ea.	22840	
Sample Loops, Sulfinert-Treated	10 µL	ea.	22841	
Sample Loops, Sulfinert-Treated	20 µL	ea.	22842	
Sample Loops, Sulfinert-Treated	25 µL	ea.	22843	
Sample Loops, Sulfinert-Treated	50 µL	ea.	22844	
Sample Loops, Sulfinert-Treated	100 µL	ea.	22845	
Sample Loops, Sulfinert-Treated	250 µL	ea.	22846	
Sample Loops, Sulfinert-Treated	500 µL	ea.	22847	
Sample Loops, Sulfinert-Treated	1 mL	ea.	22848	
Sample Loops, Sulfinert-Treated	2 mL	ea.	22849	
Sample Loops, Sulfinert-Treated	5 mL	ea.	22850	



21279

Jumbo Syringe

	SGE			Restek	
Volume	Model	cat.#	qty.	cat.#	
500 mL	500MAR-LL-GT	009910	ea.	21275	
1000 mL	1000MAR-LL-GT	009920	ea.	21276	
2000 mL	2000MAR-LL-GT	009930	ea.	21277	

Syringe O-Rings

Syringe	SGE		Restek	
Volume	cat.#	qty.	cat.#	
500 mL	032527	ea.	21278	
1,000 mL	032532	ea.	21279	

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Lit. Cat.# PCSS1308D-UNV

20589

ea.

