ULTRA Passive Samplers

Convenient alternative to canisters and thermal desorption (TD) tubes

- **Results comparable to canisters for EPA Method TO-15** *(see data on page 3)*
  - No cleaning and certification costs
  - Lower purchase price
  - No expensive shipping
- **Choice of 5 sorbents for environmental air sampling, including semi-volatile organic compounds**
  - Anasorb® GCB1
  - Tenax® TA
  - Chromosorb® 106
  - Charcoal (solvent desorption)
  - Carbopack X
- **Sub-ppb level detection, highly sensitive thermal desorption**
  - Rates 15 times higher than tube-style passive monitors for lower detection limits
- **Passive alternative to EPA TO-17 — no pump required**
- **Slide cover for easy on/off sampling**
- **Validated sampling (uptake) rates**
  - See www.skcinc.com/samplingguide/passive
- **Built-in blank/correction sorbent section available**
- **Sample integrity**
  - Sonically welded housing seals the sampler
  - Manufactured in an ultra-clean environment
  - Extensive cleaning and QC procedures
- **Higher uptake rate than passive TD tubes** *(see data on page 3)*
- **Side-by-side comparison studies demonstrate excellent sampling correlation with canisters!**

User-filled option extends shelf-life!

The patented* ULTRA® samples by diffusion and provides low parts per billion (ppb) to parts per trillion (ppt) detection of compounds, including semi-volatile organic compounds (SVOCs). ULTRA Passive Samplers are an economical alternative to stainless steel canisters for EPA TO-15 sampling and show excellent sampling correlation in side-by-side studies with canisters (*see page 3*). ULTRA Passive Samplers have a higher uptake rate than passive TD tubes *(see page 3)*. Operation is as easy as sliding the cover open to start sampling and closing it to stop sampling. ULTRA is available prefilled with sorbent. User-filled ULTRA Passive Samplers¥ are available for extended shelf-life.

* *U.S. Patent No. 6,607,581*

¥ *For user-filled ULTRA samplers, see www.skcinc.com/ultra*

SKC

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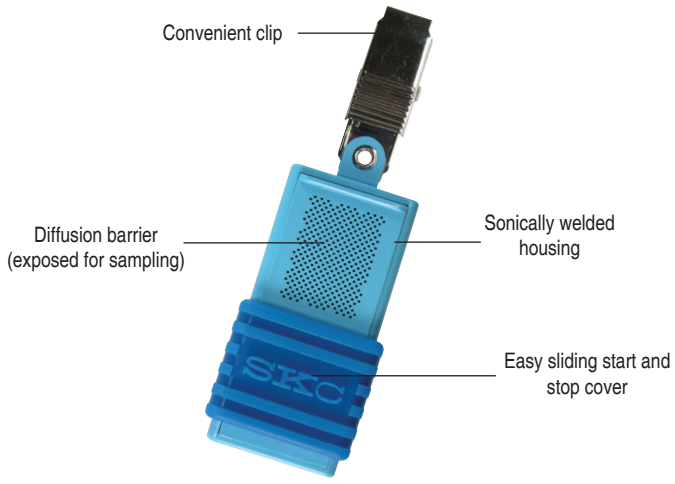
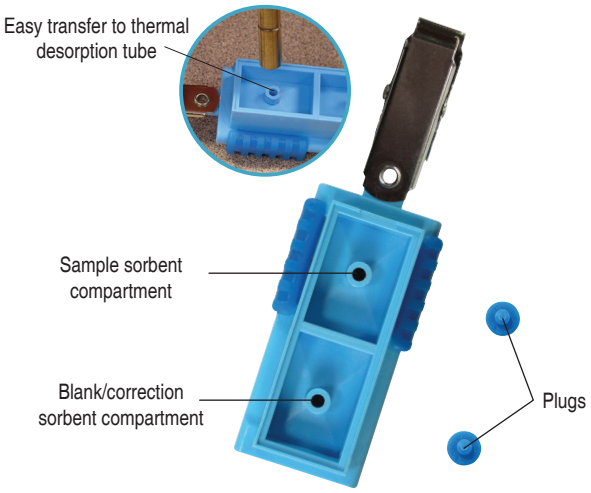
ULTRA Passive Samplers



ULTRA — Front view



ULTRA — Back view

Ordering

ULTRA Passive Samplers prefilled with thermally purged sorbent, pk/5:	Cat. No.	Cat. No.	
Anasorb GCB1,#‡ 370 mg in each compartment or vial	**690-101**	**690-101-NB**	*(NB economy models do not contain sorbent in blank compartment)*
Chromosorb 106,#† 285 mg in each compartment or vial	**690-103**	**690-103-NB**	
Tenax TA,# 253 mg in each compartment or vial	**690-104**	**690-104-NB**	
Charcoal,# 500 mg in each compartment or vial (solvent desorption)	**690-105**	**690-105-NB**	
Carbopack X,# 400 mg in each compartment or vial	**690-106**	**690-106-NB**	

 # Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life. Contact SKC. ‡ Comparable to Carbopack B † Contact SKC for additional information on sampling rates for Chromosorb 106.

ULTRA user-filled with thermally purged sorbent: *User fills sampler with sorbent supplied in vials for extended shelf-life*	Cat. No.
ULTRA Sampler, empty sampler housing only, packaged in reusable pouch *Requires sorbent vials listed below; select sorbent appropriate for the application*	**690-200**
Sorbent Vials, pk/2 Contain purged sorbent (< 25 ng typical background level per vial)	
Anasorb GCB1 in vial,#‡ 370 mg in each vial	**690-201**
Chromosorb 106 in vial,#† 285 mg in each vial	**690-203**
Tenax TA in vial,# 253 mg in each vial	**690-204**
Charcoal in vial, 500 mg in each vial, for solvent desorption	**690-205**
Carbopack X in vial,¶ 400 mg in each vial	**690-206**

Try user-filled samplers for extended shelf-life!

 # Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life. Contact SKC. ¶ Recommended storage at ≤ 39.2 F (4 C). Limited shelf-life; a 6-month shelf-life from date of shipment is guaranteed.
‡ Comparable to Carbopack B † Contact SKC for additional information on sampling rates for Chromosorb 106.

Sampling Accessories	Cat. No.
Rate Reducer, 12 holes, lowers sampling rate for extended sampling time and higher concentrations	**690-300**
Transfer Funnel, for filling sampler housing with sorbent from vials, for ULTRA only	**690-301**
Stand for Indoor Sampling 	**690-302**
Shelter for Outdoor Sampling 	**690-303**

Analysis Accessory	Cat. No.
Thermal Desorption Tube, Perkin Elmer, 0.25 x 3.5 inches (OD x L), includes screens and end caps	**P226530**
Analysis Transfer Funnel, facilitates transfer of sorbent from vial to 0.25-inch OD thermal desorption tube	**590-264**

ULTRA Passive Samplers

Compare ULTRA Passive Sampler and Canisters

Side-by-side studies using ULTRA Passive Samplers (Anasorb GCB1) and stainless steel canisters demonstrate excellent sampling correlation.

Compound	ULTRA (µg/m³)	Canister (µg/m³)
Benzene	4.2	4.5
	2.1	2.0
	1.9	1.6
	6.67	6.8
	1.58	1.5

Compound	ULTRA (µg/m³)	Canister (µg/m³)
Perchloroethylene	1.1	1.6
	2.3	2.2
	32.9	30.0
	1.37	2.0
	2.85	2.6

Compound	ULTRA (µg/m³)	Canister (µg/m³)
Toluene	30.0	26.0
	20.3	19.0
	44.0	46.0
	10.8	8.8
	6.1	3.8

Compound	ULTRA (µg/m³)	Canister (µg/m³)
m,p-Xylene	21.2	19.2
	5.52	5.6
	34.1	36.7
	3.7	2.51
	5.7	5.1

Compound	ULTRA (µg/m³)	Canister (µg/m³)
o-Xylene	7.55	7.9
	1.16	0.93
	1.96	1.9
	8.3	6.2
	13.3	11.0

Sampling Rates and Minimum Reporting Levels for Long-term Sampling

Sampling Rates and MRLs$^{\Delta}$ for ULTRA with Charcoal (Solvent Desorption)

Compound	Sampling Rate (ml/min)		Sampling Period/ Upper Limit (days)	Maximum Recommended Concentration (ppb)	Indoor§ MRL$^{\Delta}$ (µg/m³)		Outdoor§ MRL$^{\Delta}$ (µg/m³)	
	Indoor	Outdoor			7 Day	30 Day	7 Day	30 Day
Benzene	10.70	16.0	30	113	3.98	0.43	1.24	0.29
Ethyl benzene	9.02	12.9	30	85	1.10	0.26	0.77	0.18
Toluene	8.90	14.5	30	500	1.12	0.26	0.69	0.16
Methyl tert-butyl ether	9.84	13.6	30	60	2.0	0.456	1.45	0.34
o-Xylene	8.11	11.9	30	80	1.22	0.29	0.83	0.195

Δ MRL — minimum reporting level: These can vary with each laboratory; check with the laboratory.

§ Indoor — low velocity conditions (< 5 cm/sec), outdoor — 5 to 200 cm/sec, low air velocities, typically found in indoor air, result in lower uptake rates in passive samplers

Compare ULTRA Samplers to Passive TD Tubes

Sampler	ULTRA Passive Sampler	Passive TD Tubes
Sampling Rate for Benzene	16.0 ml/min	0.67 ml/min
Sampling Time	8 to 24 hours	14 days
Desorption	Transfer to TD tube	Direct insertion into thermal desorber
Recommended Applications	Environmental air monitoring, vapor intrusion	Compliance fenceline monitoring of petroleum refineries according to EPA 325

Learn more at **www.skcinc.com!**