



method **applications**

Method	Application
US EPA	TO-17
ASTM	D6196
NIOSH	2549
DIN EN ISO	16017

Specifications

Dimensions: 1/4" OD x 3 1/2" long
 Low sampling rates: 0.01-0.20 L/min.
 (<10L total volume)
 Long-term storage caps are supplied
 with conditioned tubes

Thermal Desorption Unit (TDU) Tubes

- Variety of sorbents to collect a wide range of VOCs, including Tenax® and carbon sorbents.
- Use glass tubes for maximum inertness in active sampling.
- Choose stainless steel tubes for either active or passive sampling. No sampling pump necessary for passive sampling with diffusion caps!
- Individually etched with unique serial number for convenient sample identification.
- Available unconditioned or preconditioned and ready to sample. Tubes are reusable after thermal desorption.

High-quality thermal desorption tubes by Markes International. These sorbent tubes are suitable for ppt to ppm concentrations of volatile organic compounds (VOCs) in ambient, indoor, and industrial hygiene environments. Available in both stainless steel and glass (for thermally labile VOCs), they fit Markes ULTRA-UNITY™, PerkinElmer, and Shimadzu thermal desorbers. Packed tubes come with a report detailing the total mass of sorbent in the tube; conditioned tubes also include a blank chromatogram.

Thermal Desorption Tube Sorbent	Vapor Phase Organics Applications
Tenax® TA	C6/7 to C26
Graphitized Carbon	C5/6 to C14
Tenax® GR/Carbopack™ B	n-C5/6 to n-C20 (EPA Methods TO-14A/TO-15/TO-17)
Carbopack™ B/Carbosieve™ SIII	n-C2/3 to n-C12/14 (EPA Methods TO-14A/TO-15/TO-17)
Tenax® TA/Graphitized Carbon/Carboxen™ 1000	C2/3 to C20
Carbopack™ C/Carbopack™ B/Carbosieve™ SIII	n-C2/3 to n-C16/20 (EPA Methods TO-14A/TO-15/TO-17)

Thermal Desorption Unit Tubes (Unconditioned and Conditioned & Capped)

Description	qty.	Unconditioned		Conditioned & Capped	
		Stainless Steel cat.#	Glass price	Stainless Steel cat.#	Glass price
TDU Tubes, Tenax TA	10-pk.	24056	24062	24080	24086
TDU Tubes, Graphitized Carbon	10-pk.	24057	24063	24081	24087
TDU Tubes, Tenax GR/Carbopack B	10-pk.	24058	24064	24082	24088
TDU Tubes, Carbopack B/Carbosieve SIII	10-pk.	24059	24065	24083	24089
TDU Tubes, Tenax TA/Graphitized Carbon/Carboxen 1000	10-pk.	24060	24066	24084	24090
TDU Tubes, Carbopack C/Carbopack B/Carbosieve SIII	10-pk.	24061	24067	24085	24091

Thermal Desorption Unit Tubes (Empty)

- Empty tubes for direct desorption of VOCs in liquids, solids, or pastes.
- Stainless steel: front sorbent-retaining gauze fitted, rear gauze and gauze retaining spring supplied.
- Glass: with glass frit positioned 15 mm from sampling end.

Description	qty.	Stainless Steel cat.#	Glass price
TDU Tubes, Empty	10-pk.	24054	24055

Thermal Desorption Unit Tubes (Calibration)

Description	qty.	Stainless Steel cat.#	Glass price
TDU Tubes, Calibration, Tenax TA 1cm Bed	10-pk.	24075	24076
Calibration Solution Loading Rig			ea. 24077
Calibration Solution Loading Rig Replacement Septa, 9.5mm			10-pk. 24078
Certified Reference Standard, 100ng BTX on Tenax TA			10-pk. 24079

Thermal Desorption Unit Tubes (Accessories)

Description	Benefits/Uses	qty.	cat.	price
1/4" Brass Cap and PTFE Ferrules	Long-term storage of blank/sampled tubes.	20-pk.	24068	
1/4" PTFE Ferrules	Long-term storage caps.	20-pk.	24069	
CapLok Tool	Use for tightening long-term storage caps.	ea.	24070	
Pen Clip		10-pk.	24071	
TubeMate Tool	Assists with tube packing.	ea.	24072	
1/4" Stainless Steel Union and PTFE Ferrules	Use for connecting tubes in series.	10-pk.	24073	
Diffusion Caps	Required for diffusive sampling with stainless steel tubes.	10-pk.	24074	

