

Mercury Sorbent Traps

As part of your total mercury sampling solution for MATS and MACT regulations, Apex Instruments provides high quality, reliable sorbent traps and trap analysis services from our in-house mercury lab. Utilizing premium carbon which is chemically treated for optimum mercury adsorption and retention, Apex Instruments is able to provide any trap configuration for your unique sampling conditions, including challenges with high temperature, high acid gasses, high particulate or high moisture in the sample gas stream. All sorbent media goes through rigorous QA/QC procedures to ensure the finest sorbent media is available and spiking levels are accurate to meet monitoring requirements.

Apex Instruments has performed extensive field testing and conducted lab carbon screening studies in extreme environments of high SO₂, particulate, moisture, and high temperature stack conditions to demonstrate Apex Instruments' sorbents durable performance and reliable analytical results. Apex Instruments can also implement unique acid gas scrubbing media in high SO₂/SO₃ applications which minimizes breakthrough issues and ensures successful mercury sampling results.

Methods:

Method PS 12B Traps

Traps typically used for long term compliance sampling.
240mm trap length

Method 30B/RATA Traps

Used in conjunction with PS-12B traps for performing method 30B RATA testing or Low Emission Emitter testing (LEE).
240mm trap length

Speciated Traps

Used for species evaluation and research.
300mm trap length

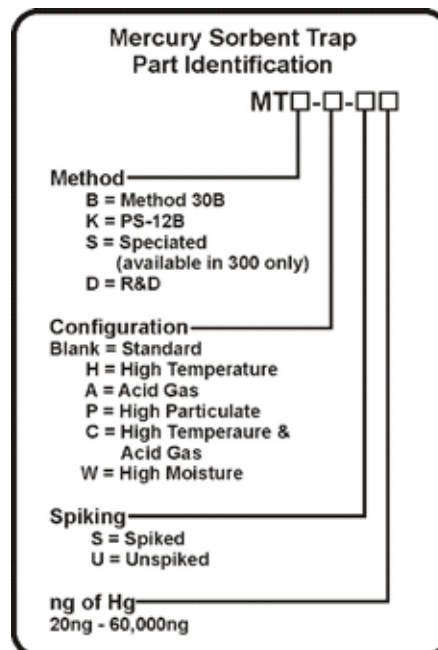
R&D Traps

Used for base line testing



Apex Sorbent Trap Features:

- High Capacity Impregnated Carbon
- Custom Spiking Available
- Variable Testing Duration
- Textured, Easy Grip Caps to ensure Accurate Leak Checking
- Durable Glass Tubes
- Protective Transport Tubes
- Chain of Custody Included
- Long Term Storage



Legend Configuration Key

Condition	Stack Temp	SO ₂ Level	Trap Size
Blank= Standard	200-400°F	<500PPM	10mm OD x 240mm L
H= High Temp	>400°F	-	10mm OD x 240mm L
A= Acid Gases	200-400°F	>500PPM	10mm OD x 240mm L
P= High Particulate	ALL	-	10mm OD x 240mm L
C=High Temp & Acid Gas	>400°F	>500PPM	10mm OD x 240mm L
W= High Moisture	<200°F	-	10mm OD x 300mm L Optional: 10mm OD x 400mm L

PS 12B (Appendix K) (10mm O.D. x 240mm L)



Part Number	Stack Condition	# of Sections	Pre Section	Section 1	Section 2	Section 3***
MTK-S□	Standard***	3 Sections	-	.5g Carbon	.5g Carbon	.5g Carbon***
MTK-H-S□	High Temp***	3 Sections	-	.7g Carbon	.5g Carbon	.5g Carbon***
MTK-A-S□	Acid Gases***	3 Sections	.5g Sorbent	.5g Carbon	.5g Carbon	.5g Carbon***
MTK-P-S□	High Particulate***	3 Sections	Inert Pre-Filter	.5g Carbon	.5g Carbon	.5g Carbon***

***- Section 3 is Spiked. Indicate spike level ng. Standard Spike Levels Range from 1,000ng to 20,000ng. **Custom Levels Available.**

EPA Reference (Method 30B) (10mm O.D. x 240mm L)



Part Number	Stack Condition	# of Sections	Pre Section	Section 1***	Section 2
MTB-U	Standard, Unspiked	2 Sections	-	.3g Carbon***	.3g Carbon
MTB-H-U	High Temp., Unspiked	2 Sections	-	.5g Carbon***	.3g Carbon
MTB-A-U	Acid Gases, Unspiked	2 Sections	.5g Sorbent	.3g Carbon***	.3g Carbon
MTB-C-U	High Temp/Acid Gas, Unspiked	2 Sections	.5g Sorbent	.5g Carbon***	.3g Carbon
MTB-S□	Standard, Section 1 Spiked***	2 Sections	-	.3g Carbon***	.3g Carbon
MTB-H-S□	High Temp, Section 1 Spiked***	2 Sections	-	.5g Carbon***	.3g Carbon
MTB-A-S□	Acid Gases, Section 1 Spiked***	2 Sections	.5g Sorbent	.3g Carbon***	.3g Carbon
MTB-C-S□	High Temp/Acid Gases, Section 1 Spiked***	2 Sections	.5g Sorbent	.5g Carbon***	.3g Carbon

***- Section 1 is Spiked. Indicate spike level ng. Standard Spike Levels Range from 50ng to 500ng. **Custom Levels Available.**

R&D Traps for Research & Baseline Testing

Speciated Mercury Traps (10mm O.D. x 300mm L) **Speciated Mercury Measurement of Flue Gas Requires use of Air Cooled Probes Evaluation & Research**



Part #	Stack Condition	# of Sections	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6
MTB-S-U	Speciated, Unspiked	6 Sections	Quartz Wool	.3g NaCO ₃	1.0g KCl	.7g KCl	.3g Carbon	.3g Carbon

Flue gas Oxidized Hg (Hg₂⁺) species are adsorbed by potassium chloride (KCl). After passing through the KCl sorbent, Elemental Hg (Hg⁰) is collected by iodated carbon sorbent. Total Hg (Hgt) is determined by summation of species.

Proper temperature maintenance is critical (between 110°C-120°C) for accurate speciation results. Sorbent trap shields are used to prevent buildup of particulate, which can potentially oxidize mercury creating a bias.

Mercury Traps R&D (10mm O.D. x 240mm L)

Research or Baseline Testing



Part Number	Stack Condition	# of Sections	Section 1	Section 2	Section 3
MTK-U	Standard, Unspiked	3 Sections	.5g Carbon	.5g Carbon	.5g Carbon

Mercury Traps R&D (10mm O.D. x 240mm L)

Research or Baseline Testing



Part Number	Stack Condition	# of Sections	Section 1	Section 2	Section 3	Section 4
MTD-U	Standard, Unspiked	4 Sections	.3g Carbon	.3g Carbon	.3g Carbon	.3g Carbon

Trap Suitability Study – Recognizing that every source has different conditions (NO_x, SO₂, moisture content, etc.), our Analysis Division can develop R&D traps configured for your stack condition. Call for more information.