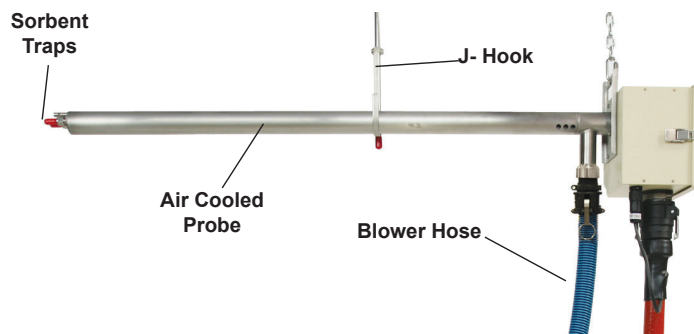


Heated mercury Sorbent Trap Probes for Mercury

Apex Heated Mercury Sorbent Trap Probes are designed to accept a pair of standard 10 mm O.D. sorbent traps. The sorbent traps are placed at the probe inlet to prevent Hg transport losses during sampling. The traps are sealed in place with compression fittings using glass-filled PTFE ferrules. The probe is constructed from corrosion resistant tubing; the outer sheath is 2" O.D. and the inner liners are 1/2". Hastelloy is recommended for XC-6000 applications due the constant exposure to possible corrosive stack environments. Stainless steel probes are available for short term testing such as method 30B applications. The probe is fitted with two heaters; one to heat the traps and the second for heating the portion outside of the stack. Standard lengths are available from 4 to 12 ft. long. Alternate lengths are available upon request.



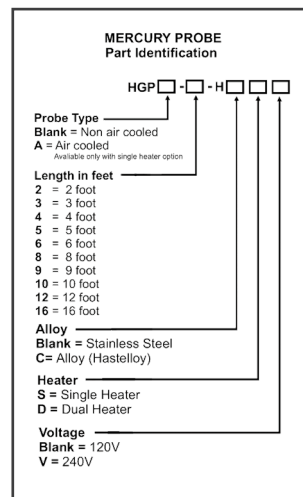
Blower and blower hose sold separately.
See XC-6000EM probe accessories on page 13a for details.

Air-Cooled Probes

For use in high temperature stack gas environments, Apex Instruments HGPA Air-cooled probes feature a 2" stainless steel or Hastelloy outer sheath as standard, individually controlled heat zones and integrated stack, trap and probe thermocouples.

AIR COOLED MERCURY PROBE ACCESSORIES

Part Number	HG, Air Cooled Heated Probe, Stainless Steel with Single Heaters
HGPA-AI6	Air inlet for plant air, 3/8 fnpt, Sanitary cap with pipe thread
ACP-PAA	Air Cooled Probe to Plant Air Adapter, Includes: 1.5" Stainless Steel Sanitary Cap, 1.5" Q-Clamp, and 3/8" FNPT Stainless Steel Half Coupling.



Durable Heated Umbilical Lines for XC-6000EM MercSampler Sorbent Trap Sampling System

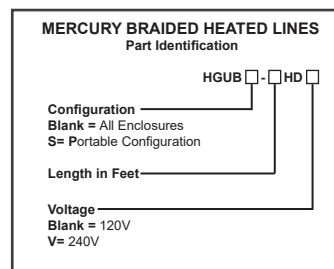
Heated Umbilical Line Features

- Heavy Duty for Permanent or Portable Installation
- Lightweight, Self-Regulated
- Replaceable Sample Lines
- Braided Construction with High Temperature Jacket



Part Number	Length
HGUB-15HD	15'
HGUB-30HD	30'
HGUB-60HD	60'
HGUB-90HD	90'

Add V to end of part number for 240V



For more information, contact us :

Pacwill Environmental

905.563.9097

Toll-Free (Canada): 1-866-840-0014

sales@pacwill.ca

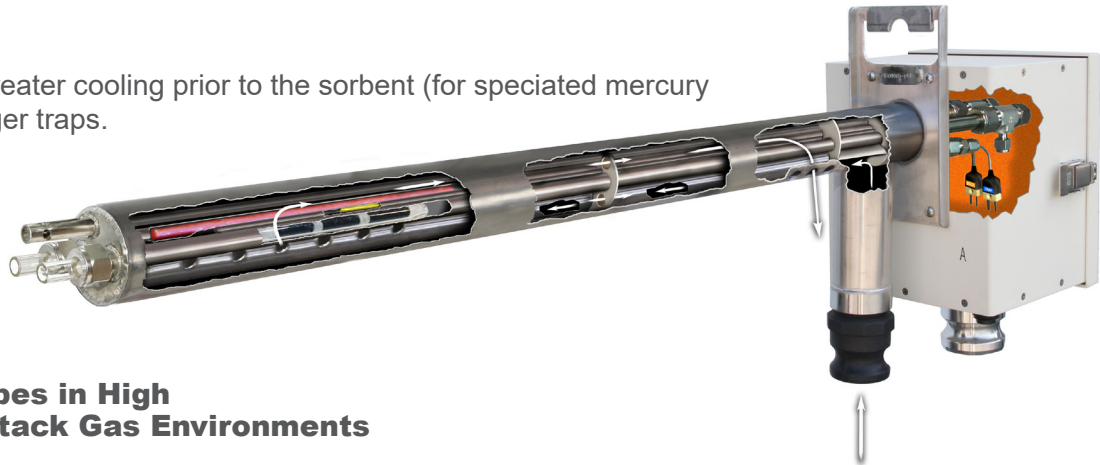
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Apex Air-Cooled Mercury Sorbent Trap Probe

Air-cooled mercury sorbent trap probes are designed for speciated mercury and for total vapor phase mercury sampling where flue gas temperatures exceed 400 degrees F. Air is directed to the trap location at inlet end of the probe. A tubular heater maintains temperature above dew point to prevent condensation.

Tip: To allow for greater cooling prior to the sorbent (for speciated mercury sampling) use longer traps.

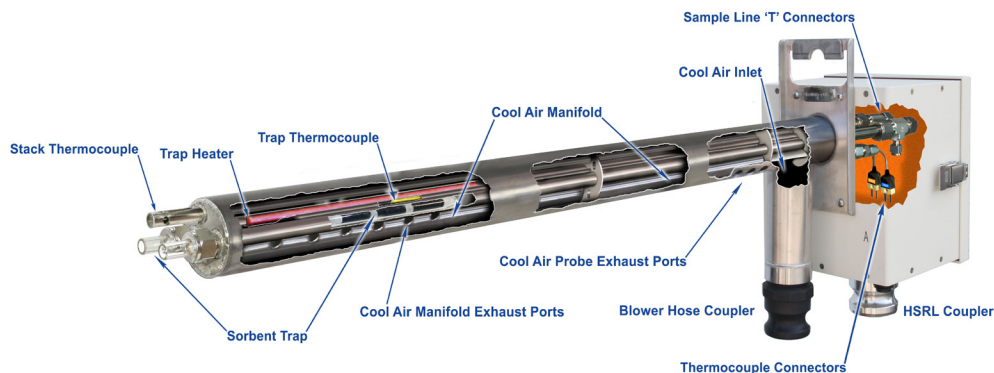
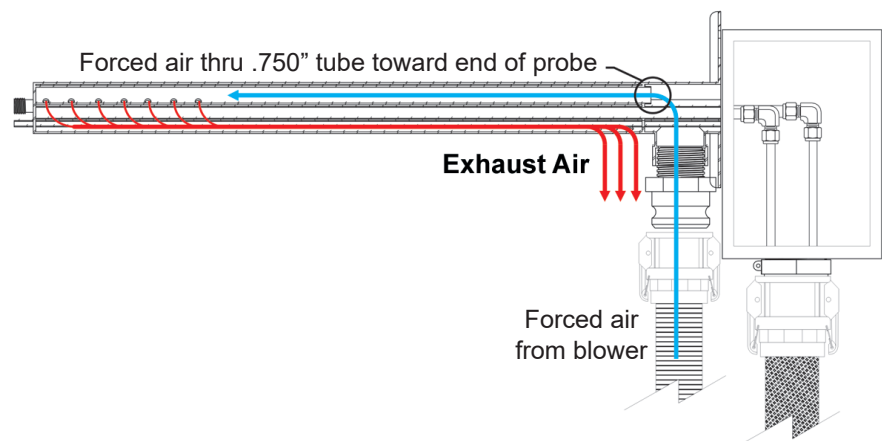


Air-Cooled Probes in High Temperature Stack Gas Environments

- 2" Diameter Stainless Steel or Hastelloy Outer Sheath.
- Air-Cooled Probe with Single Heater.
- Integrated Stack and Trap Thermocouples.
- Blower and Hose Optional.

Air Cooled Probe
HGPA-□-H□□□

Reliable and Easy To Use
With Quick Set-Up Time



Components
Diagram

For more information, contact us :

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Blower Assembly for Mercury Air-Cooled Probes

The blowers offered for mercury air-cooled probes include the following: For longer life, Sorbent Trap Monitoring (STM) continuous sampling and when plant air is not available select the high volume **HGB-VFC20** blower. For short term, Method 30B sampling, the high volume **HGB-93CFM** brush blower mounted in an aluminum enclosure with a convenient handle and Cam-lock connector for quick set-up is available.



HGB-93CFM Brush Blower shown with Air Hose Assembly***
(1-1/2" Vacuum Hose with Cam-Lock Fittings.)



HGB-VFC20 Blower Assembly.***

Mercury Air-Cool Probes require Blower Assembly and Air Hose.

Air Hose Sold Separately.

An alternative option is to use the air system that is already installed on a test location. For this option we offer the Plant Air Adapter for a Mercury Air Cooled Probe.

PAA-ACP



PAA-ACP



Blower Hose

Blower Hose Assembly for Mercury Air-Cool Probes.
1-1/2" Vacuum Hose with Cam-Lock Fittings.

BLOWER HOSE

Part Number	Description
HGBH-5	5 Foot Hose
HGBH-10	10 Foot Hose
HGBH-15	15 Foot Hose
HGBH-20	20 Foot Hose

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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.

Applications:

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



Mercury Sorbent Trap Part Identification

MT□-□-□

Method

B = Method 30B
K = PS-12B
S = Speciated
(available in 300 only)
D = R&D

Configuration

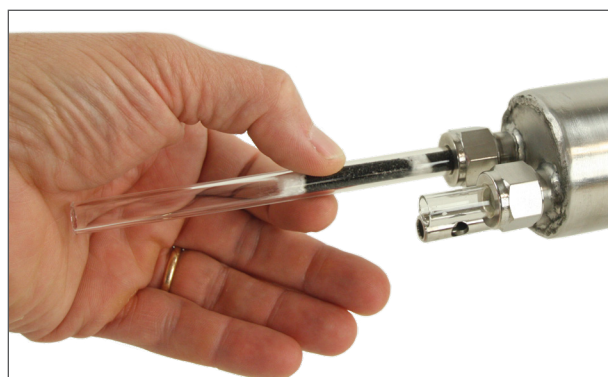
Blank = Standard
H = High Temperature
A = Acid Gas
P = High Particulate
C = High Temperature &
Acid Gas
W = High Moisture

Spiking

S = Spiked
U = Unspiked

ng of Hg

20ng - 60,000ng



Any trap can be customized for special stack conditions.

For high particulate and wet stacks, we recommend using the Apex Sorbent Trap Shield to reduce sorbent trap plugging.

Apex Sorbent Trap Features:

- High Capacity Impregnated Carbon
- Low Mercury Background Levels
- Custom Spiking Available
- Variable Testing Duration
- Textured, Easy Grip Caps
- 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

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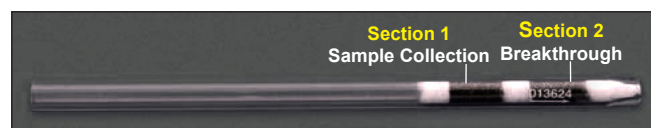
SORBENT TRAPS

PS 12B (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***	4 Sections	.5g Sorbent	.5g Carbon	.5g Carbon	.5g Carbon***
MTK-P-S□	High Particulate ***	4 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-C-U	High Temp/Acid Gas, Unspiked	3 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***	3 Sections	.5g Sorbent	.3g Carbon***	.3g Carbon
MTB-C-S□	High Temp/Acid Gases, Section 1 Spiked***	3 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 Na ₂ CO 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 (Hg_T) 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.

For more information, contact us :

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