

Model 83i Mercury Probe / Converter

Low maintenance dilution probe converts mercury and scrubs sample gas.



Key Features

- Dilution system for wet basis measurement
- High flow inertial filter to reduce particulate matter contamination
- Glass coated components to prevent reactions with mercury
- Conversion at the stack to prevent loss of elemental mercury
- Proprietary dry converter/scrubber requires no wet chemistry or water supply

The Model 83i Mercury Probe is one of the four major components of the Mercury Freedom System.

The Model 83i consists of a dilution probe, inertial filter, and a proprietary dry converter/scrubber housed in an insulated NEMA 4X stainless steel enclosure. The probe has been specifically designed for monitoring mercury emissions from coal-fired power plants and waste incinerators. Artifacts due to interactions with the fly ash are minimized using a high-flow, sintered-metal inertial filter to provide a particle-free, vapor-phase sample for analysis. Automated blow-back helps to ensure trouble-free continuous operation, and all components exposed to sample gas are glass-coated to prevent reactions with mercury.

To prevent sample condensation, all key components (inertial filter, eductor,

dilution module, and venturi) are further enclosed in a heated aluminum cabinet. The converter/scrubber converts oxidized forms of mercury to elemental mercury while removing interfering gases from the sample stream. Weighing only 92 pounds, the probe has been designed for easier maintenance and service. Latched panels are easily removed from three sides of the probe allowing quick access to the interior. Inside, the components are so easily accessed that they can be serviced or removed in a matter of minutes.

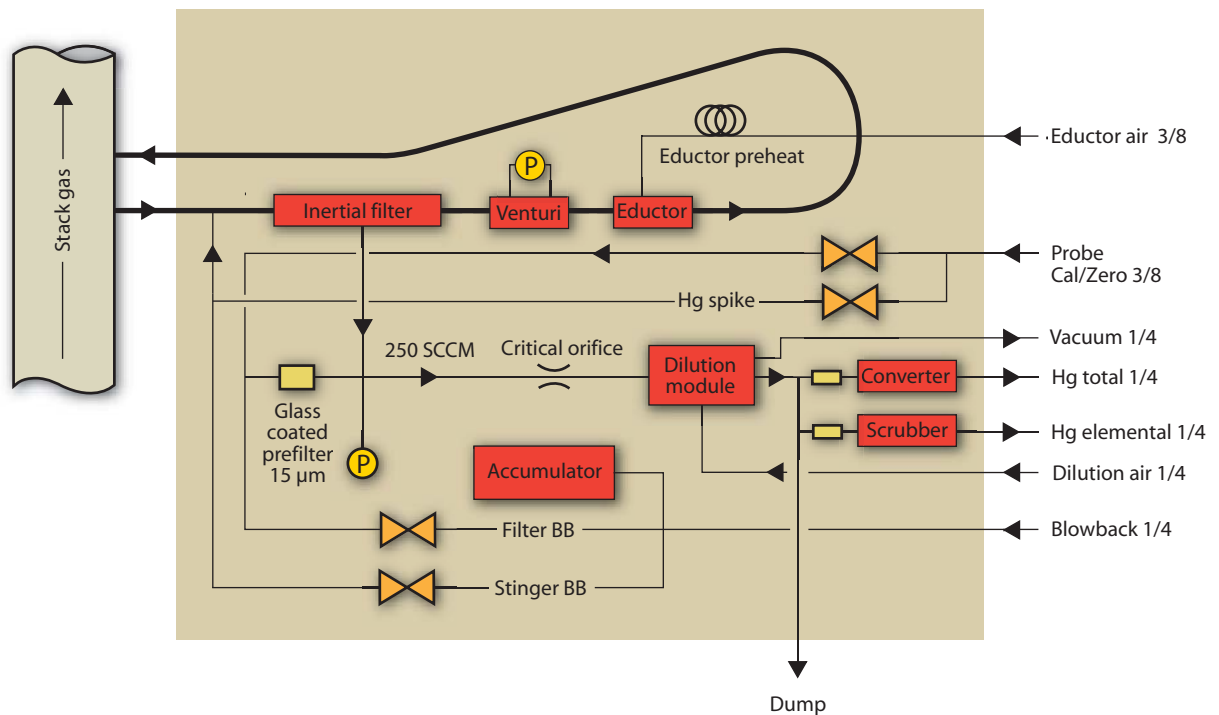
Designed to meet the provisions of 40CFR Parts 60 and 75, the Mercury Freedom System provides a complete mercury monitoring solution that measures elemental, ionic, and total mercury in exhaust stacks from both coal-fired boilers and waste incinerators.

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. Thermo Electron offers comprehensive, flexible support solutions for all phases of the product lifecycle. Through predictable, fixed-cost pricing, Thermo services help protect the return on investment (ROI) and total cost of ownership of your Thermo Electron air quality products.

Product Specifications

Size and Weight	34.5" (L) x 10.5" (W) x 18.5" (H), 92 lbs.
Materials	Main enclosure: 304 stainless steel Glass coated inertial filter: 316L stainless steel Dilution sampler: 316L stainless steel, glass coated All wetted parts are made of 316L stainless steel
Installation	The probe mounts via a 2" ANSI flange to the mantle assembly which as a 4" ANSI flange. This 4" flange is then mounted to the sample port. The sample inlet is a 1/2" tube and sample outlet is a 3/4" tube.
Power Requirements	All power supplied by the Model 82i Mercury Probe Controller
Thermocouple	Type K
Flow Rate (fast loop)	2 CFM
Flow Rate (sample)	250 sccm
Dilution Ratios	Nominal from 25:1 to 100:1

Model 83i Hg Probe



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