

TRIATHALON TRITIUM and C-14 STACK MONITOR

TRIATHALON 氚和碳-14 烟囱道监视器
Triathalon CAM-TCI –H-3 plus- Inorganic C-14 (CO₂)
Triathalon CAM-TCI –H-3 加无机 C-14 (CO₂)
Triathalon CAM-TCO –H-3 plus- Organic C-14
Triathalon CAM-TCO –H-3 加有机 C-14
Triathalon CAM-TC –Multi-Nuclide System
Triathalon CAM-TC –多核素系统

PWR & BWR Produce Tritium- 10 Curie/Giga-Watt/yr

FEATURES:产品特点

•MICRO PROCESSOR OPERATION

微处理器操作

•USB and ETHERNET PORTS

USB 和以太网接口

•DIGITAL ACCURACY

数字精度

•SENSITIVE TO:

H-3 10⁻⁷ μCi/cc,

CO₂ 10⁻⁸ μCi/cc,

Organic C-14 10⁻⁷ μCi/cc z

敏感度 :

H-3 10⁻⁷ μCi/cc

CO₂ 10⁻⁸ μCi/cc

有机碳-14 10⁻⁷ μCi/cc z

•READS DIRECTLY IN μCi/cc or Bq/l

直接读出单位 μCi/cc or Bq/l

•INCLUDES ALARM 包括报警

•DATA LOGGING STANDARD 数据记录标准

•HARD COPY PRINTER –(optional) 硬拷贝打印机(选购)

•DYNAMIC BACKGROUND COMPENSATION 动态本底补偿

•CAN ACTUATE REMOTE CONTROLS 可启动遥控

•CAN OPERATE IN PRESENCE OF OTHER RADIOACTIVE GASES (See Chart)

可以在其他气体存在的情况下操作 (见表)

•CLEANS GAS STREAM OF PARTICULATES AND IONS

清除粒子气流和离子



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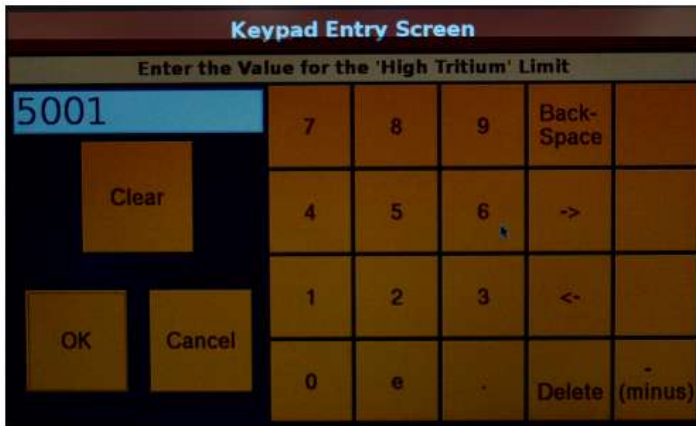
TECHNICAL ASSOCIATES

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GENERAL DESCRIPTION: 基本说明

TA-OVERHOFF TRIATHLON MODEL CAM-TC Tritium and C14 Stack Monitors are sensitive, rugged stack or effluent monitors for designed and built for **Nuclear Power Plant use**. Commercial version available for research labs, room air, glove boxes and other applicable uses.

The subtractive balanced chamber electrometer circuit and optional Radon Rejection decreases background effects to negligible levels, and the deionized and filtered intake reduces to negligible levels spuriousness based on smokes, dusts, and existing ionization in the air. Inlet and outlet hoses allow the return of monitored air to source: interiors of fume hoods and exhaust stacks, etc. All instruments are calibrated at the factory. Calibration check may be performed in the field with a license exempt μ Curie level beta source.

TA-OVERHOFF TRIATHLON 型号为 CAM-TC 是一款敏感的氚和 C14 烟囱道监测器，为核电站设计制造。也可供应用于研究实验室、室内空气、手套箱或其它应用的商业版的机型。消减平衡室静电电路和可选择的氡抑制将本底的影响减少到可以忽略的水平，去离子和过滤的入流减少到可以忽略的水平，根据烟雾，粉尘和空气中的电离子。出入口软管可以使监测的空气返回到源头，如风柜和排烟道的内部。所有仪器工厂校准，校准检查可用免执照的 μ Curie 水平的 β 源在现场完成。

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Airborne Activity 气溶胶辐射	Model	CAM TCO (1)	CAM TCI (1)	CAM TC	CAM 33	CAM 33-4	CAM 33-6	321/421 NPPM (1)
	Chemical Form							
Tritium H3 氚 H3	T ₂ , HTO T ₂ O	YES	YES	YES			YES	YES
Carbon C-14: 碳-14 Inorganic 无机 Organic 有机	CO ₂	—	YES	YES			OP	
	Various	YES	—	OP			YES	
Particulate 粒子	Alpha							
Particulate 粒子	Beta				YES	YES	YES	
Iodine 碘				OP	YES	YES	YES	
Noble Gas: 惰性气体 Gross/All 总 Argon 氩 Xeon 氙 Radon 氡		RX	RX	YES OP OP RX	YES	YES	YES OP OP RX- OP	CURIE-Mev OP OP RX

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Number of Channels YES = Measures Separately 分别测量

RX = Rejects 抑制

OP = Optional 可选

Note(1) Models CAM-TCO and CAM-TCI work best if no other nuclides are present.
 注 (1) 在没有其它核素出现情况下 , 型号 CAM-TCO 和 CAM-TCI 效果最好

Measurement Ranges of Optional Detectors 可选探测器测量范围	From 从	4 Decade Model	6 Decade Model
Tritium 氚	10^{-7}	10^{-3}	10^{-1} uCi/cc
Inorganic C-14 无机碳-14	10^{-8}	10^{-4}	10^{-2} uCi/cc
Organic C-14 有机碳-14	10^{-9}	10^{-5}	10^{-3} uCi/cc
Alpha particulate α 粒子	5×10^{-8}	10^{-4}	uCi/cc

•Background: 本底

Essentially eliminated by subtractive balanced chambers. (Radon Rejection Optional)
 通过消减平衡室 (可选氡抑制) 根本上消除本底干扰

•Smoke, Dust & Ion Elimination:消除烟、尘和离子

Filter and deionizer reduce effects to negligible levels. 滤网和去离子装置将影响减少到可以忽略的水平

•Circuit: 电路

Electrometer circuit amplifies net difference between a 30 liter tritium internal chamber and a background chamber of similar size and configuration.
 静电电路放大了 30 升氚内室和同尺寸和布局的本底室的不同

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•Calibration:校准

Can be calibrated internally with tritium (or HTO)and CO2 gas, or on a gamma calibration course; or can be checked at a single point with an external (not provided) beta source. Organic Carbon Channel can be calibrated with C-14 disk source.

内部氚 (或 HTO) 和 CO2 气体校正 , 或用伽马校正方法 , 或外部贝塔源单点校正 (不提供) , 用光盘校正有机碳通道。

•Output: 输出

USB Port is standard ethernet port is optional。 Optional 0-5 volt or 4-20 mA.

标准的 USB 端口 , 以太网可选。 可选购 0-5 伏或 4-20 毫安

•Alarm: 报警

High Level: Red flashing light plus warbling sound。 System Fault Alarm: White steady light

高报警 : 红灯闪烁加颤音 , 系统故障报警 : 白色稳定灯光

•Remote Alarm: 遥控报警

3 Relays provided for operators use 三个继电器供操作者使用

•Data-logging: 数据录入

Use Serial port or on board data logging optional

使用串行端口或可选机载数据录入

•Dimensions: 尺寸

23" wide x 66" high x 36" deep.

23" 宽 x 66" 高 x 36" 长

•Shipping Weight: 635 lbs. 装船重量 635 磅

•Optional Accessories: 可选配件

Remote alarm (audible & visual)遥控报警 (视听)

Model RDX-8 (including 25" of cable). Can be used to 500 feet. 4-20 mA for computer.

型号 RDX-8 (包括 25" 缆线) 。可到 500 英尺。电脑用 4-20 mA

•Optional Features: 可选功能

Interconnection to/from port of other gas or particulate monitor.

与其它气体或粒子监测器端口相互连接

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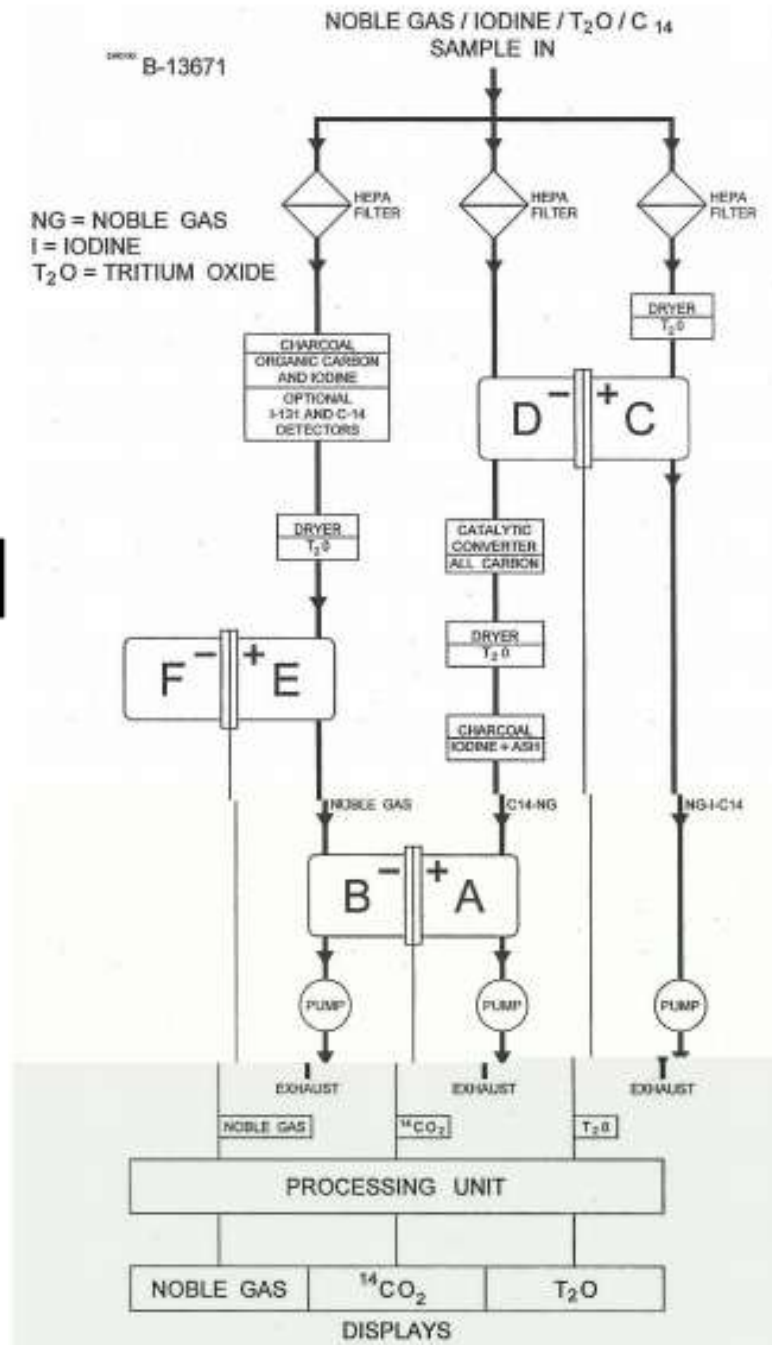
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CAM - TC



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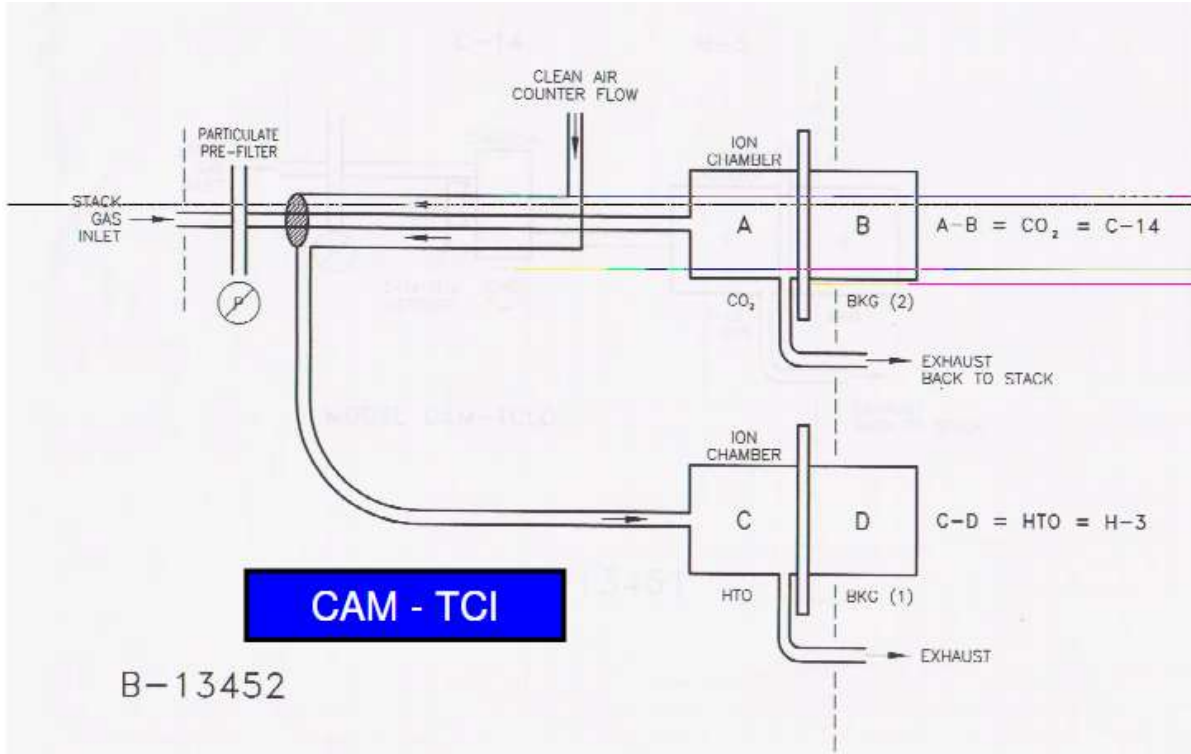
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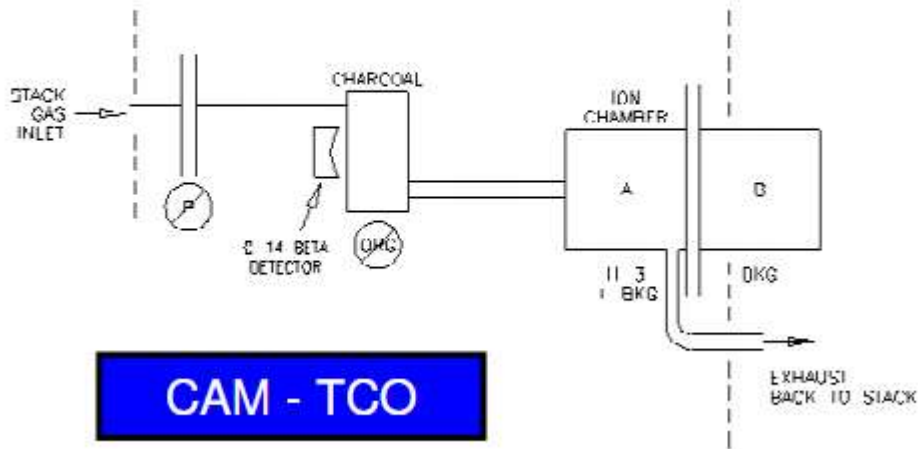
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A B = HTO = H 3
C 14 H 3



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