

HAND & SHOE MONITOR

手、鞋监测仪

Model ~ HSM-10A & HSM-10B

FEATURES: 特点

- DETECTS BETA, LOW ENERGY BETA, GAMMA, ALPHA
- 探测 β 低能 β γ α
- FULL DYNAMIC BACKGROUND SUBTRACT
- 全动态本底扣除
- COLOR MONITOR READ-OUT
- 彩屏读数器
- ALARM SETTINGS AS LOW AS BACKGROUND
- 报警设定可低至本底
- POSITIVE WARNING OF INCOMPLETE CHECK
- 未完成检测发出警告
- EXTERNAL CLOTHING PROBE WITH SEPARATE CIRCUITRE, METER, & SPEAKER
- 外置衣物探头，带独立电路，仪表和扬声器
- SOLID STATE MODULARE ELECTRONICS
- 固态模块电子学



APPLICATION: 应用

Models **HSM-10A**, and **HSM-10B** Hand and Shoe Monitors are health physics instruments.

型号HSM-10A/10B手鞋监测仪属物理保健仪器

Designed to provide completely automatic detection and measurement of Beta-Gamma (plus Alpha in case of **HSM-10B**) contamination on the palm and back of each hand, the bottom surfaces of both shoes, and also the hair and clothing.

设计为全自动检测并测量手掌/手背、鞋底、头发和衣物上的辐射污染

Extremely simple operation allows the individual worker to perform this check without direct supervision of the health physicist.

操作极其简单所以无需保健物理专家监督，工人可进行仪器操作

DESCRIPTION: 描述

The **HSM-10 series** monitors feature large full color LCD display screen that enable the user to tell - in one look - whether he is contaminated, and where.

HSM-10系列监测器彩色LCD大屏显示，用户一眼就看出他是否被污染及污染地方。

Numerical read-outs are provided along the bottom of the monitor panel, showing the total count on each hand and the combined count for both shoes.

监测仪控制板下方显示的数字读数显示每只手的总计数和鞋综合计数。



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An outstanding feature of the instrument is the low warning levels, permitting alarm settings as low as the background count. 此仪器一个显著特点是新的更低的报警限值，可低到本底计数。

A separate rate meter circuit is provided for the EXTERNAL CLOTHING PROBE, including a speaker for audible check and a meter for visual check.

单独仪表线路用于外置衣物探头，包括一个声音检测扬声器，用于视觉检测的仪表

All the detecting elements and sections exposed to contamination are designed for easy decontamination. A roll of kraft paper mounted in the base for use over the shoe deck preventing contaminated material from dropping into the detector chambers.

In the **HSM-10B** quarter mil Mylar can be substituted for the kraft paper to allow detection of Alphas.

所有的暴露污染的检测部件都设计为容易去污。底座装有一卷牛皮纸用于覆盖脚踏板，以防污染物掉在探头室内
在型号**HSM-10B**中可用1/4密耳厚迈拉膜替换牛皮纸以允许测 α

OPERATION: 操作

No training or particular skill is required in the operation of **HSM-10 series** monitors. The user merely steps on the shoe deck and inserts hands into the two waist-high probe openings.

The counting process is started and continued by pressure of the fingertips at the rear of the probe openings, and by the weight of the person on the shoe deck. As soon as the counting starts, the **Ready for Use** message is replaced by **Counter in Operation**.

操作**HSM-10系列**监测器无需技能和培训，用户只需踩在脚踏板上，双手插入齐腰高探头入口内，则开始计数，通过探头开口内后方指尖压力和脚踏板上人的重量持续计数。一旦计数开始，“准备使用”会变为“计数器工作中”

NOTE: If at any time during the counting cycle, the user removes either hand from the hand probe or steps off the shoe deck, the cycle will automatically stop and the orange message, **Check Incomplete - Reset and Repeat** will light up. This positive warning prevents erroneous readings.

注：在计数进行中，在任何时间只要用户将任何一只手从手探头中移出或从脚踏板上下来，循环自动停止，橘色信息“检测未完成-重置/重复”将亮起，此警示防止错误读数。

As soon as the preset time has elapsed, the **Counter in Operation** is replaced by either the green **Check O.K.** panel or the bold red **Decontamination Required**. Message is dependent upon whether the radioactivity present is above or below the alarm setting.

一旦预设时间过去，“计数器工作中”会被绿色“检测 O.K.”或粗体红字“要求去污”替换，视目前辐射活度在报警设定之上或之下而定。数字读数显示污染程度。

If decontamination is required, bold red panels marked **Left Hand**, **Right Hand**, or **Shoes** will light up, indicating the location of contamination.

如果要求去污，深红色控制板标志“左手”“右手”或“鞋”将亮起，表明污染位置。

The degree of contamination is indicated on the digital readout. After the check is completed, the instrument is automatically ready for the next user.

污染程度显示在数字读数器上，检测完毕后仪器自动为下一位用户准备。

The **CLOTHING PROBE**, is used to detect contamination on hair and clothing. The output of the clothing probe is read visually on its own count rate meter and audibly by the speaker.

The clothing Probe consists of the extremely sensitive T/A Model P-15 Pancake Unit. It has a wide face and a thin window and high sensitivity for fast checking of surfaces.



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Model ~ HSM-10A & HSM-10B

衣物探头用于检测头发和衣物污染。衣物探头输出在自带计数率表上显示读数，同时扬声器声音报警。衣物探头由极其灵敏的T/A Model P-15扁平管单元组成，带宽脸薄窗用于快速检测表面，灵敏度高。

SPECIFICATIONS: HSM-10A

HSM-10A规格

Sensitivity:	Less than .01 μC of 0.2 MeV or higher beta.
灵敏度:	0.2MeV或较高能 β 测量低于.01
Detectors:	Four T/A type T-1100 halogen quenched, stainless steel, 30 mg/cm ² , side window GM tubes monitor each hand and one long TA T-1200 Tube monitors each foot. Clothing probe is a T/A Model P-15 with a T-1190 pancake Alpha, Beta, Gamma sensitive GM tube.
探测器:	四种TA公司 T-1100卤素淬灭不锈钢30mg/cm ² ,边窗GM管探头, 每只手一个, 每只脚一个TAT-1200管探头。衣物探头为TA型号P-15, 带一个T-1190 α β γ 灵敏GM管。
Counters:	Three five-digit on-screen Counters for hand and shoe probes.
计数器:	手、鞋探头带5位数屏显计数器
Shielding:	Hand and Shoe detectors are shielded by 1/4" lead.
屏蔽:	手和鞋探测器带1/4"铅屏蔽
Count Time:	Resettable 10, 20 or 30 seconds.
计数时间:	重设时间10,20,30秒
Count Range:	0-99,999 counts Digital each hand or both feet; Clothing probe has four analog ranges: 0-500; 5,000; 50,000; 500,000 cpm.
计数范围:	0-99,999, 每只手和双脚, 衣物探头有四个模拟量程0-500; 5,000; 50,000; 500,000 cpm.
Alarm:	Continuously settable to 10,000 total counts, either hand or both feet.
报警:	可连续设定到10,000总计数, 单手或双脚
Readout:	Ready for Use, Counter in Operation, Check Incomplete, Reset and Repeat, Check O.K., Decontamination Required, Left Hand, Shoes, Right Hand. A 5" meter for clothing probe, plus audible signal.
读出:	准备使用, 计数器工作中, 检测未完成, 重设/重复, 检测 O.K., 要求去污, 左手, 鞋, 右手。
Power Requirements:	105 to 125 volts, 60 cycle A.C., (220V A.C, 50/60Hz optional)
电源要求:	105 - 125 v, 周期为60 A.C电源., (220V A.C, 50/60Hz 可选)
Finish:	Grey baked enamel.
表面:	灰色烤漆

WEIGHT & DIMENSIONS: 重量&尺寸



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Dimensions: Cabinet: 67-3/4" high x 27-1/2" wide x 24" deep.
Shoe Deck: 23" long x 18" wide x 4-1/2" high.

尺寸: 机柜: 67-3/4" 高 x 27-1/2" 宽 x 24" 深.

Shipping Weight: 650 lbs.
邮寄重量:

SPECIFICATIONS: HSM-10B

HSM-10B规格:

Identical to HSM-10A except that thin window (1.5 mg/cm²) pancake tubes are used in place of side window GM tubes.

与HSM-10A唯一区别是: 使用薄窗(1.5 mg/cm²)扁平管探头取代边窗GM管探头。

Overall sensitivity is thus increased and detection of Betas below 0.2 MeV and Alphas of 4 MeV or over is available.

总体上灵敏度因此增加, 0.2MeV以下 β 和4MeV或以上 α 可以测到。

Detectors: Four T/A type 1190 thin window pancake GM tubes for each hand and two for each foot.

- **探测器:** 四种TA公司1190薄窗扁平GM管用于每只手或脚, 用作衣物探头。

A T/A P-15 probe with type 1190 pancake tube serves as clothing monitor.
衣物监测器配备T/A带P-15探头的1190扁平管

Sensitivity: Less than .005 μ C of Beta above 0.2 MeV.

Alpha or lower energy Betas are also detected but with less sensitivity.

NOTE: If protective kraft paper or plastic is used in shoe probes, probes become insensitive to Alpha and soft Beta radiation.

灵敏度: 0.2MeV以上 β 测量低于.005 μ C

注: α 或更低能 β 也能检测到, 但灵敏度较低, 如果在鞋探头上使用牛皮纸或塑料, 对 α 和软 β 辐射不敏感



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