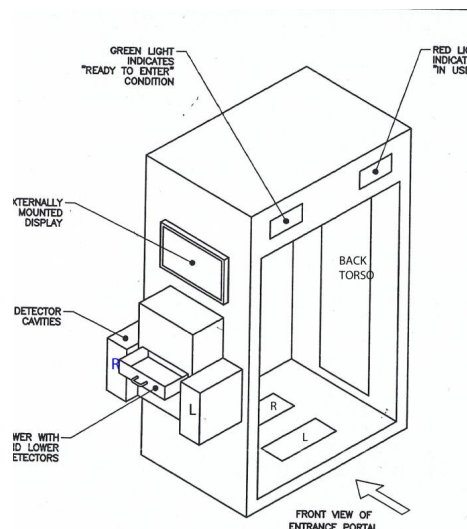


# HAND, FOOT, BODY, HEAD, WITH TOOL DRAWER SCINTILLATION MONITOR

Model ~ HSM-360

## FEATURES:

- SIMULTANEOUSLY DETECTS & SEPARATES BETA FROM EACH OF 11 SCINTILLATION DETECTORS,
- (11) TOTAL SEPARATE READ OUTS (8) LOCATIONS
  - (2) FOOT (1 LEFT) (1 RIGHT)
  - (4) HANDS (2 LEFT/ BACK & PALM)  
(2 RIGHT / BACK & PALM)
  - (2) BODY (1) FRONT (1) BACK
  - (1) HEAD
  - (2) TOOL DRAWER (1 TOP), (1) BOTTOM
- (2) COLOR MONITOR DIGITALLY DISPLAYED
  - (1) EXTERNAL ABOVE THE TOOL BOX
  - (1) INTERNAL WITHIN THE BODY SCANNER
- ULTRA LOW SENSITIVITIES TO GAMMAS
- FULL DYNAMIC BACKGROUND SUBTRACT
- ALARM SETTINGS AS LOW AS BACKGROUND
- AUDIO / VISUAL ALARMS: SEE SPECIFICATIONS
- CIRCUIT, METER, & SPEAKER
- MODULAR ELECTRONICS; USB / ETHERNET PORTS
- BUILT-IN COMPUTER; DATA ARCHIVE & RETRIEVAL
- DUAL ETHERNET CONNECTION FOR REMOTE SIGNALING RELAY
- **IP41**



**HSM-360 FRONT & SIDE VIEW**  
DETAILS ON SEPARATE PAGE

## APPLICATION:

Model **HSM-360**, Hand, Foot, Body, Head, With Tool Drawer monitor is a health physics instrument for all Betas including low energy Betas.

Designed to provide completely automatic detection and measurement of Beta contamination, on the palms and backs of each hand, the bottom surfaces of both shoes, full torso, front and back, and head. A tool drawer measures contamination of tools.

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

## DESCRIPTION:

The **HSM-360** monitor features (2) large full color monitors (1) external for local read out and (1) inside the scanner that enable the occupant to tell - in one look - whether there is contamination of the body and its location.

Numerical read-outs are provided, for each body part detector (11) showing the separate counts on each part. Counts are simultaneously separated for each.

An outstanding feature of the instrument is the low warning levels, permitting alarm settings as low as the background count.

A separate rate meter circuit is provided for each of the (11) detectors including the tool drawer and a speaker for audible check and a meter for visual check.



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The system continues to update the background in every background set time even when the monitor is in idle and not in use and is stored in computer memory.

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

## OPERATION:

No training or particular skill is required in the operation of **HSM-360** monitor. 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”** message is replaced by **“IN USE”**.

**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.

Once the current occupant's scan is completed the **“IN USE”** display is replaced by either the **green “READY.”** If needed, the Message **“Decontamination Required”** will be displayed with location on the monitors. The degree of contamination is indicated on the digital readout with its specific location.

Once decontamination is performed the occupant will restart the system and when monitor records a clean scan of all body parts it will display same and instruct the person when the check is completed and to exit the monitor. The instrument will automatically be ready for the next user.

## SPECIFICATIONS: HSM-360 – Beta

### Detectors & Sensitivity:

Plastic Beta scintillation detectors.

- (10) Total Separate Read Outs (8) Locations
  - (2) Foot (1 Left) (1 Right): 0.37 Bq/cm<sup>2</sup>
  - (4) Hands (2 Left/ Back & Palm): 2.3 Bq/cm<sup>2</sup>  
(2 Right / Back & Palm)
  - (2) Body (1) Front (1) Back: 1.5 Bq/cm<sup>2</sup>
  - (1) Head: 1.5 Bq/cm<sup>2</sup>
  - (2) Tool Drawer (1 Top), (1) Bottom: 1.5 Bq/cm<sup>2</sup>

**Total Sensitive Area:** 4,052<sup>2</sup> “ 2 (26,142 cm<sup>2</sup>)

**Shielding:** Shoe detectors are shielded by 1/4" lead.

**Count Time:** ≤3 seconds User Settable

**Count Range:** 0-100,000 Counts



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**Model ~ HSM-360**

<b>Alarms (User Settable):</b>	Audio / visual – (8) Locations <ul style="list-style-type: none"><li>• Incomplete Check Warning</li><li>• Loss of signal for each of 11 detectors and for each of 8 locations</li><li>• Set points for High/Low</li><li>• Background counting time, signal counting time</li><li>• High background (User Settable)</li><li>• Background and measured CPS data of various detectors and tools</li><li>• HV supply voltage</li><li>• Forced alarm activation function: for checking alarm status</li><li>• Self-diagnostic parameters</li></ul>
<b>Activation Switch:</b>	Correct hand position will activate measurement cycle.
<b>Readout:</b>	User Settable Units: cps, cpm, Bq, $\mu$ Ci, etc.  Ready for Use, Counter in Operation, Check Incomplete, Reset and Repeat, Check O.K, Decontamination Required of any of (8) locations.
<b>Environment:</b>	Preferred Temperature: <45° C; RH: <90%
<b>Power Requirements:</b>	105 to 125 volts, 60 cycle A.C., (240V A.C, 50/60Hz optional)
<b>Finish:</b>	Baked enamel.

## **CABINET WEIGHT & DIMENSIONS:**

<b>Outside Dimensions:</b>	Cabinet: 96" (244 cm) high x 46" (117 cm) wide x 48" (122 cm) deep.
<b>Interior Dimensions:</b>	Cabinet: 72" (183 cm) high x 36" (92 cm) wide x 24" (61 cm) deep.
<b>Accommodates Occupant Weight:</b>	330 lbs (150 kg)

## **TOOL DRAWER WEIGHT & DIMENSIONS:**

<b>Dimensions:</b>	1' x 2' x 6" (31 cm x 61 cm x 16 cm)
<b>Accommodates Weight:</b>	33 lbs ( 15 kg)

**Please see HSM Series Comparison Chart**



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Model ~ HSM-360

HSM SERIES ~ COMPARISON			
WHOLE BODY, HAND, SHOE & CLOTHING MONITOR COMPARISON			
MODEL	DETECTION	DETECTOR TYPE	EXTERNAL TOOL MONITOR
<b>HSM-360</b> WHOLE BODY & TOOL BOX	ALL BETAs including LOW ENERGY BETAS  ULTRA LOW SENSITIVITY TO GAMMAS	<b>TOTAL (11) THIN BETA PLASTIC SCINTILLATION</b> (11) Total Separate Read Outs (8) Locations (2) Foot (1 Left) (1 Right) (4) Hands (2 Left/ Back & Palm) (2 Right / Back & Palm) (2) Body (1) Front (1) Back (1) Head (2) Tool Drawer (1 Top), (1) Bottom	YES
			<b>EXTERNAL CLOTHING PROBE</b>
			NO
MODEL	DETECTION	DETECTOR TYPE	EXTERNAL CLOTHING PROBE
<b>HSM-10A</b> (HAND & SHOE, CLOTHING)	BETA / GAMMA	<b>TOTAL (10) THIN SIDE WALL GM</b> (4) GM T-1100 Per hand; (1) GM T-1200 Per foot <b>OPTIONAL:</b> (1) each additional GM T-1200 for each foot TOTAL (12)	YES TA – P15; GM T-1190
<b>HSM-10B</b> (HAND & SHOE, CLOTHING)	ALPHA, BETA, GAMMA	<b>TOTAL (12) THIN WINDOW PANCAKE GM T-1190</b> (4) GM T-1190 Per hand; (2) GM T-1190 Per foot	YES TA – P15; GM T-1190
<b>HSM-10ABS</b> (HAND & SHOE, CLOTHING)	SEPARATE & SIMULTANEOUS ALPHA & BETA	<b>TOTAL (8) SCINTILLATION</b> Dual phosphor ZnS Alpha and plastic Beta/Gamma scintillation detectors. (2) Per hand; (2) Per foot.	YES TA – P15; GM T-1190
<b>HSM-10G</b> (HAND & SHOE)	SEPARATE & SIMULTANEOUS ALPHA & BETA	<b>TOTAL (6) GAS FLOW PROPORTIONAL</b> 10-3/4" x 6-1/4" each side – (2) Per hand detectors. 16-1/4" x 6-1/4" each shoe – (1) Per shoe.	NO
<b>HSM-10AS</b> (HAND & CLOTHING)	ALPHA	<b>TOTAL (4) ALPHA SCINTILLATION</b> ZnS(Ag) (2) Per hand.	YES TA PAS-8 – ZnS(Ag)
<b>HSM-P-20</b> (Portable HAND, SHOE & CLOTHING)	BETA / GAMMA  OPTIONAL - ALPHA	<b>TOTAL (4) THIN WINDOW PANCAKE GM T-1190</b> (2) Portable Hand / Clothing Detector (2) Portable Shoe Detector. (1) Wheeled Travel Case	YES TA P-15; GM T-1190



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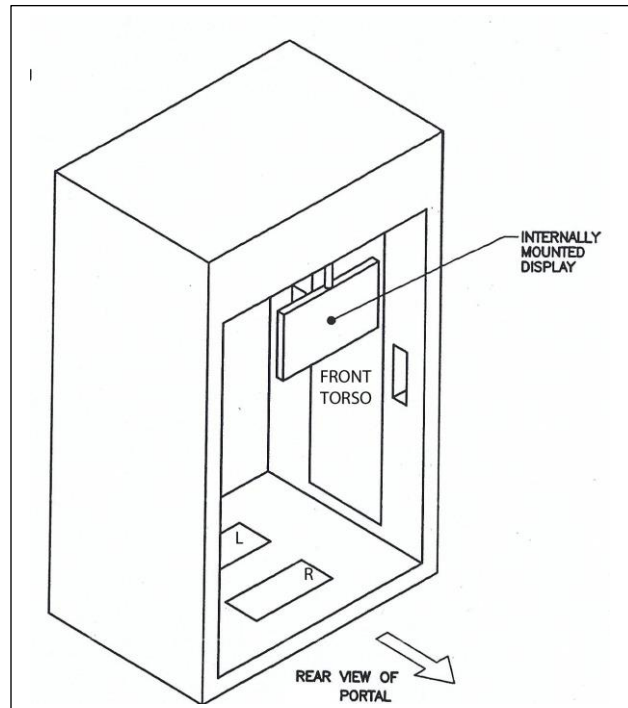
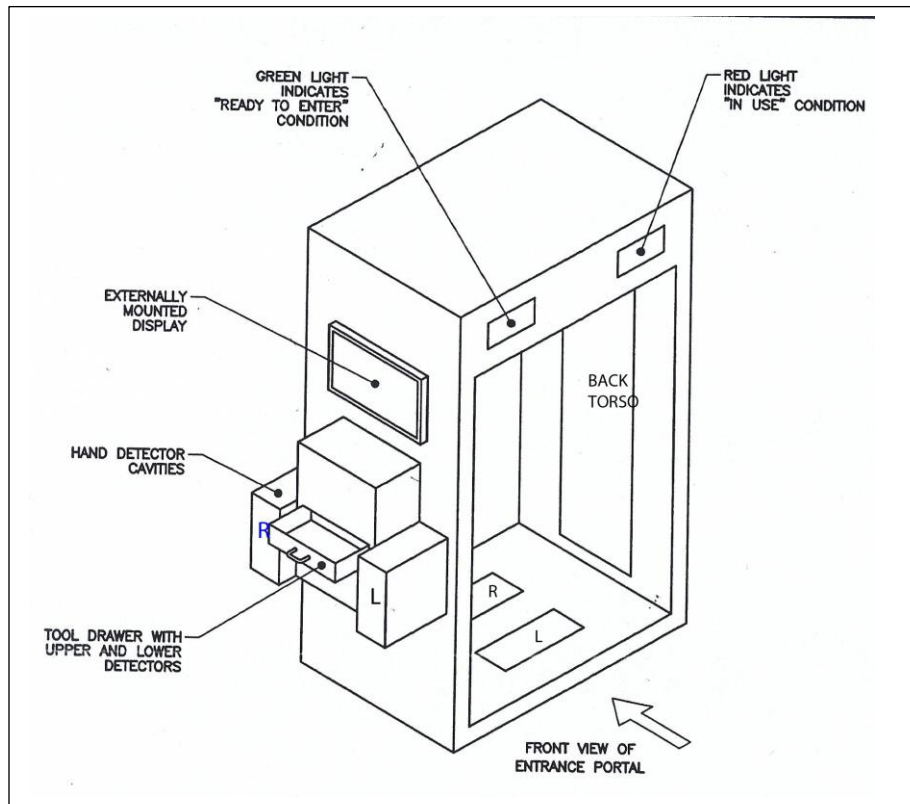


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