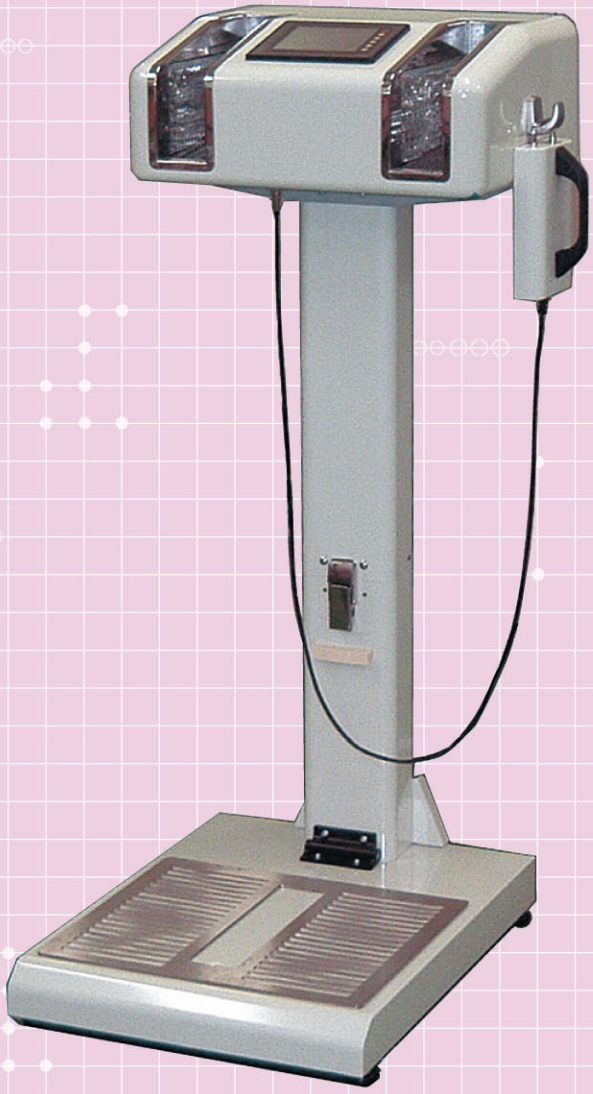
e-Front runners

NHP

Hand and Foot Surface Contamination Monitor

This monitoring device can be installed at the exits of radiation controlled areas in nuclear power plants and other such facilities, where radioactive materials are handled. This device detects radioactive contamination on the surfaces of hands, feet and clothes. It occurs alarm and displays the affected locations on the LCD screen when the count exceeds user-programmable alarm level.



FEATURES

- Reduction in size and weight by employing semiconductor detectors and FRP body
- The body can be folded
- No gas supply device and routine maintenance required by employing semiconductor detectors
- Contaminated areas will appear on the display, when contamination is detected.
- Color LCD screen which is easy to read and operate.
- An alarm sounds when the user programmable threshold is exceeded.

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ECNO:2307

SPECIFICATIONS

Radiation Detected	: Beta rays
Detector	: Silicon semiconductor
Measurement Range	: For hands and feet 0 to 99999 counts
	: For clothes 0 to 999.9 s^{-1}
Area Measured	: Hands (palms • backs), feet, clothes
Display	: 5.7 in. TFT Color LCD
Power Supply	: 120V AC 50/60 Hz
Operating Temperature	: 0 to 40°C / 32 to 104 °F
Operating Humidity	: 35 to 85%
Size	: 500×1270×800 mm
	/ 19.7×50×31.5 in. approx. (W×H×D)
	: 500×855×450 mm
	/ 19.7×33.7×17.7 in. approx. (W×H×D)(folded)
Mass	: 35 kg / 77.2 lb approx.
Compliance Code	: IEC61098 (2003), JIS Z4338 (2006)

Minimum detectable surface emission rate

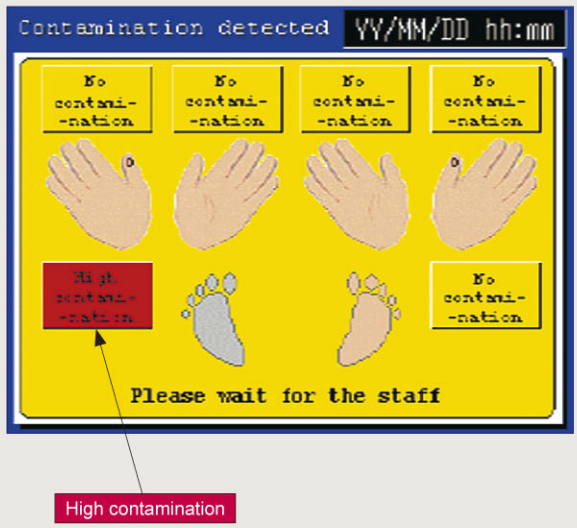
Measurement Part	Minimum Detectable Surface Emission Rate(s^{-1})
Hand	10.4
Foot	28.2
Clothes	9.6

[Procedure (complies with IEC61098(2003))]
Measure the natural counting rate over 10 minutes under the maximum reference background (0.1μGy/h, irradiating ^{60}Co source from the side of the monitor) and calculate the minimum detectable surface emission rate.
[Source]
Hand : ^{36}Cl 100mm × 150mm surface source
Foot : ^{36}Cl 100mm × 300mm surface source
Clothes : ^{36}Cl 100mm × 100mm surface source
[Formula]

$$M_1 = \left(0.05B_2 + 3\sqrt{\frac{B_2}{t} + \frac{B_2}{T}}\right) / E_{ff}$$

M_1 : Minimum detectable surface emission rate (s^{-1})
B_2 : Count rate to the maximum reference background (s^{-1})
t : BG measurement time (600sec)
T : Measurement time (10sec)
E_{ff} : Effective instrument efficiency

Screen example



⚠CAUTION
*Read the instruction manual provided before using this product, to make sure you operate it safely.

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