

# HFM11-GF

## Gas flow hand and foot monitor

The HFM11-GF hand and foot monitor provides fast, thorough, hand and foot monitoring with reliability and ease of use. Available with gas flow detectors.



### Key Features:

- Low power fan-less operation
- Long hand detectors for wrist & forearm coverage
- Large touch-screen color LCD display - no keyboard required
- Easy to maintain detector assemblies, no tools required
- Optional frisker probe
- Hex-mesh grills for greater comfort and detector protection
- Automated calibration and checking routines

The HFM11-GF hand and foot monitor high-efficiency foot detectors help to reduce monitoring times, the longer hand detectors provide wrist and forearm coverage and there is an optional frisker probe available for additional monitoring. Status, instructions and results are clearly shown on the large color LCD touch-screen, making the monitor especially easy to use.

The HFM11-GF hand and foot monitor is

also designed with economy and reliability in mind. The low power consumption means there is no need for a cooling fan which might suck in dust and dirt, and there are no moving parts to fail - solid state Flash storage is used instead of a hard disk in the industrial PC controller, and photobeams are used in the positioning sensors instead of microswitches.

The modular 'X-channel' platform, with common controller boards and simple cabling, provides for easy, low cost maintenance. It also provides detector intelligence and powerful controller functionality - such as the automated calibration and source checking routines. The X-channel architecture also allows easy retro-fitting of options such as the frisker probe. Gas flow measurement is now handled electronically by onscreen flow graphs and leak and high/low flow alarms.

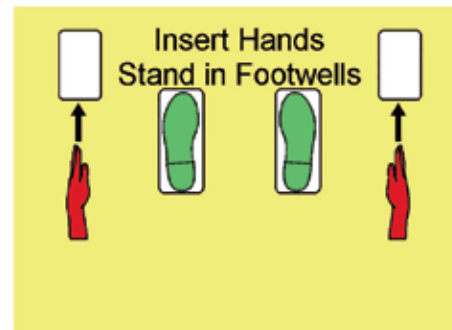
Sophisticated voltage scanning software included which will clearly display the optimum voltage in order to minimize cross-talk between alpha and beta channels (gas flow).



Optional Frisker

## HFM11-GF Hand and Foot Monitor Specifications

	HFM11-GF		Optional DP11A/1 Frisker
Detectors:	Hand Counters (x4)	Foot Counters (x2)	(1X)
Operating voltage:	1900 V	1900 V	1750 V
Sensitive area	460 cm <sup>2</sup> each	570 cm <sup>2</sup> each	100 cm <sup>2</sup>
Window:	0.9 mg/cm <sup>2</sup> aluminized Mylar		0.9 mg/cm <sup>2</sup> aluminized Mylar
Gas supply/fill:	Ar/CH <sub>4</sub> or Ar/CO <sub>2</sub> . Flow rate 25 to 50 cm <sup>3</sup> / min.		Ar/CH <sub>4</sub> or Ar/CO <sub>2</sub> . Flow rate 25 to 50 cm <sup>3</sup> / min.
Efficiencies:	Hand	Foot	Frisking Probe
Alpha: (% of surface emission rate)	<sup>241</sup> Am 40 %	35%	36%
Beta: (% of surface emission rate)	<sup>14</sup> C 33%	30%	35%
	<sup>60</sup> CO 45%	42%	43%
	<sup>36</sup> Cl 50%	45%	50%
	<sup>90</sup> Sr/ <sup>90</sup> Y 54%	48%	52%
Gamma: (approx. counts/s in a uniform field of 1 μSv/h due to 660 keV photons)	100	200	40
Monitor			
Alarm settings:	By the use of large area calibrated sources or by touch-screen entry of calculated efficiencies. All HFMs are factory-tested with reference sources.		
Background update time:	100 s rolling average, with checking for changing background		
Monitoring time:	Auto assessment of time required to meet the statistical requirements in the given background: 1 to 100 s		
Control:	Audible and visual alarms occur if a hand or foot is out of position.		
Indications:	Digital screen displays for alpha and beta levels for each hand and foot. Magnitude and type of contamination is displayed.		
Audible indication:	Separate indications for 'Out Of Position', 'Clear' and 'Alarm' states, as on previous HFM versions.		
Probability of false alarm:	0.1 to 10 sigma in 0.1 sigma steps		
Probability of detection:	0 to 10 sigma in 0.1 sigma steps		
Self test:	High Voltage, detector response, detector contamination and background level are monitored.		
Digital I/O connections:	RS-232, Parallel printer port, Ethernet and USB.		
Environmental:	Operational temperature range: 5 °C to 45 °C (41 °F to 113 °F) Humidity: up to 95% at 35 °C (95 °F) (non-condensing)		
Power requirements:	90 to 264 VAC (auto-ranging power supply), 47 to 63 Hz, 85 VA max.		
Dimensions:	Height:	1400 mm (55.1")	
		1765 mm (69.5") with lid fully open	
	Width:	876 mm (34.5") + frisker housing 75 mm (3")	
	Depth:	825 mm (32.5")	
Weight:	125 kg (275 lb) approx. unpacked. Frisker options 5 kg (11 lb), including frisker probe 0.7 kg (1.5lb)		



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