



# PGH-Smart

High Background Gamma Portal  
Whole Body Contamination Monitor



Nuclear



Healthcare



Homeland  
Security  
& Defense



Labs &  
Education



Industrial and  
Manufacturing

## OVERVIEW

The **PGH-Smart** is designed for contamination monitoring in high gamma background areas, such as reactor building.  $4\pi$  shielding and sophisticated morphology correction is then a premium.

It offers an homogeneous body coverage thanks to large detectors and a unique detection geometry.

Automatic door opening, free positioning, quick measurement and voice and visual guidance to the user, gives the PGH-Smart a real ease of use.

The **PGH-Smart** is unique and uses the last proven innovations of the Mirion Technologies Smart range.

## KEY FEATURES

- **Performance:** large surface of detectors, high efficiency geometry,  $4\pi$  shielding, directional morphology compensation
- **Reactivity:** unique algorithm for quick background variation adaptation, quick decision algorithm
- **Reliability:** proven plastic scintillator technology
- **Smart:** localization of the contamination, radionuclide categorization
- **Ease-of-use:** automatic opening of doors, free positioning, voice guidance of the user..

## PHYSICAL AND FUNCTIONAL CHARACTERISTICS

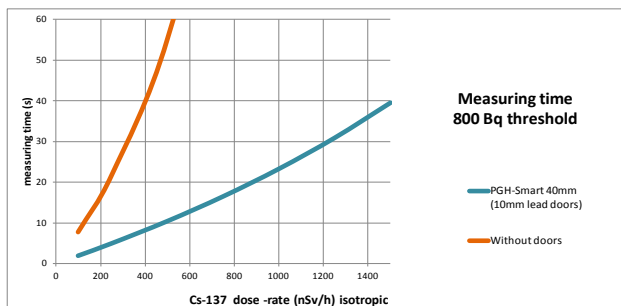
- **Detection volume:** 50x80x210 cm
- **10 plastic scintillation detectors**  
2\*4 lateral detectors + detector head and feet, total 168 liters
- **Energy Range:** 100 keV to 3 MeV
- **Measurement Range:** 10<sup>2</sup> Bq to 10<sup>6</sup> Bq
- **Detection efficiency:** 39% (Co-60, center)
- **Homogeneity:** ± 20%
- **Energy uniformity:** ± 20%
- **Directional morphology compensation**
- **Background monitoring:** suppression of quick variations, quick follow-up of background variation
- **Automatic calculation of measurement time and fast decision algorithm**
- **Spectrometric approach**, isotopic families identification
- Categorization and weighted activity calculation
- Localization of the contamination
- **Measurement history, background, availability, control**
- Detailed data storage, image, localization and spectra
- Data export on USB stick or network
- Latest contaminated measurements recall function
- ISO 11929:2010 compliance

## ELECTRICAL CHARACTERISTICS

- Power supply: 230 V - 110 V
- 2 external USB connectors
- 1 LAN connection via cable gland
- 2 information reports by isolated relays

## ENVIRONMENTAL CHARACTERISTICS

- Operating temperature: 5°C to +40°C
- Storage temperature: -25°C to +60°C
- **compliant to EC EN 61000-6-2, EN61000-6-4, EN6110-1**



## MECHANICAL CHARACTERISTICS

- **Shielding 10, 20 or 40 mm**
- **Dimensions :**
  - overall: 100 x 100 x 245 cm
  - body : 70 x 100 x 220 cm
- **Weight :**
  - from 2000 kg to 4000 kg depending on shielding

## CONSTITUTION

- Proximity detection radar
- 2 leaf shielded doors - automatic or manual opening
- Infrared barrier for doors opening
- Scale integrated in the floor
- Internal LCD color touchscreen + 1 external screen (option)
- Loudspeaker
- Internal lighting: white / green / red / blue
- Camera
- Visual signaling: powered, available, busy, unavailable, contaminated, non-contaminated



Localization of the contamination head and chest examples

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