CORIOLIS C2

α, β and γ Personnel Contamination Monitor

CORIOLIS C2 allows the detection of radioactive material/contamination on everybody leaving a controlled area or site by using 5 large β surface multi-channel proportional counters
Control is performed in 2 steps: front and back of body. User-friendly human machine interface is provided through user vocal and visual guidance.

CORIOLIS C2 is well-suited for the control of personnel leaving a controlled area on nuclear sites even in presence of a fluctuating γ background.

Technical characteristics

- **Detectors :**
  - ✓ mosaic gas tight proportional counter
  - ✓ each detector has its own module connected to processing unit via RS 422 (detectors connected in chain)
  - ✓ body : 4 DAB-10 detectors each 100 x 40 cm2 covering a total surface of 200 X 80 cm^2 each for the body. Each body detector includes 10 internal counting cells with a surface of 10 cm * 40 cm (Total of 40 measurements)
  - ✓ feet : 1 DAB-4 detector 40 x 30 cm^2. The detector includes 3 counting cells with a surface of 10 cm * 40 cm
  - ✓ processing unit :
    - acquisition board and embedded industrial PC (fanless type)
    - background level is automatically updated between control phases
    - contamination control duration optimization. Measuring time is adjusted according to the background and the preset MDA
- **MDA :** 50 Bq of ^{60}Co equivalent (Background: 150 nGy/h, Measurement time < 5s, False alarm rate: < 0.15%, non detection probability: < 2.5 %)
- **Dimensions :** 235 x 100 x110 cm^3 - entry : 205 x 60 cm^2
- **Weight :** approximately 550 kg (without lead shielding)
- **Environmental conditions :** +5°C to +45°C
- **Gas supply :** Argon / CO2 very low consumption
- **Interfaces :** dosimeter reader, supervisor, local alarms centralisation box
- **Options :**
  - ✓ supervisor
  - ✓ additional DSP gamma plastic scintillation detector
  - ✓ alpha detection (same DAB detector)

- ✓ **Detector based on a new patented generation of mosaic gas tight proportional counter which allows:**
  - **hidden zones,**
  - **combined good efficiency and signal to noise ratio leads to industry best Minimum Detectable Activities**
- ✓ **Important reduction of gas consumption with the use of newly design gas tight proportional counter (patented).**
- ✓ **Reduced gas consumption: one bottle only required for a one year use (standard 10 litres - 200 bars)**
- ✓ **Low influence of fluctuating gamma background**
- ✓ **Very good iso-sensitivity on the whole area of each detector (> 90%)**
- ✓ **Very transparent protection grid (> 80%) providing high shock resistance**
- ✓ **Very good efficiency for low energy isotopes: Detection of Fe 55 (6.5keV) and C-14**
- ✓ **Compatibility with Saphymo dosimetry systems**
- ✓ **Maintenance simplification**

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