Technical description of MANUELA™

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Overall characteristics of the MANUELA™ tool

- Device CE marked
- Autonomy: **~3 hours** of continuous scanning
- Weight: **~1.5 kg**
- Radiological measurements are taken automatically and continuously with an integrated time of **1 second**
- Accuracy of spatial positioning of the measurement points: 3 cm
- Operating range for 3D scan: **0.3 m** to **5 m**
- Radiological measurement distance: at probe
- Tool dimensions: **300 mm x 240 mm x 120 mm**
- Conditions of use: indoor; between **0** and **40°C**

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Main components of the MANUELA™ tool

A thermo-molded housing with integrated LED module

A touchscreen tablet:

- Operating System: Windows 10

A 3D camera:

- Operating range: **0.3m to 5m**
- Lighting conditions: **20 lx** at a minimum, **50 lx** or more to get optimal results
- Resolution: 1280 x 720 @30 frames per second

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A dose rate measurement probe:

- Detector: **Geiger-Muller**
- Display units: **µSv/h, µSv H*(10) gamma radiation equivalent dose rate**
- Energy range: **36 keV to 1.5 MeV**
- Gamma radiation measuring range (137Cs equivalent): **0.7 µSv/h to 10 Sv/h**
- Sensitivity: **0.74 c/s per µSv/h (137Cs)**
- Background: Ambient **<0.1 µGy/h (10 µR/h), 0.10 c/s**
- Conformity: CEM – CE – IEC 60846
- Temperature: **-10 °C** to **+50 °C**
- Relative Humidity: **40%** to **95%** at **+35°C**

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Option CZT gamma spectrometer:

- Detector: **10mm x 10mm x 10mm** CZT coplanar-grid detector
- Energy range: **30keV to 3MeV**
- Energy resolution: **2.0 – 2.5% FWHM @ 662 keV**
- Maximum rate: **30,000 c/s**
- Number of channels: **4096 (12 bit)**

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