



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Technical Specifications for CdTe X-Ray Detector

RFX NO. 6100000818 (Reference No. 1000021474)

Technical requirements for X-ray detector

Overall Features

- Built-in thermoelectric cooler for low-noise application
- Low-power (< 5 W)
- Integrated pulse processor, multi-channel analyser etc to give digital output.
- Must have PC interface with control, data acquisition, and display software.
- API should be available for building custom applications.

Performance Specifications

- Lower energy limit: ≤ 5 keV
- Higher energy limit: ≥ 150 keV
- Sensor area: ≥ 25 mm²
- Thickness: ≥ 1 mm
- Energy resolution: FWHM $\leq 10\%$ at 122 keV (Co-57 line)
- Maximum count rate: $\geq 10^5$ counts/second
- Operating temperature: -20°C to +50°C (suitable for thermal chamber)

Connections

- Minimal connections: only power and data
- Data output: both USB and Ethernet connectivity required
- Power: must operate on low voltage DC power (≤ 15 V)
- No high voltage power will be provided externally

Size & weight

- Compact detector (external dimensions under 20 cm x 10 cm x 5 cm)
- Weight: < 200 gm

Conditions:

- Demonstration of the technical parameters mentioned in the tender, if requested by the committee for technical evaluation of the quoted instrument, will be required.
- Participating vendor should have minimum 5 Years of Experience of supplying and after-sales service support in similar Instruments in premier Government Institutes or Government Organisations in India (vendor must supply supporting documents along-with contact details of the users if requested).

Warranty : One Year from the date of successful installation / commissioning of equipment.