

Uranium Enrichment Monitors

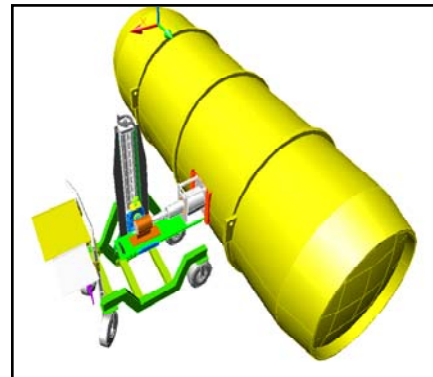
Safeguards Measurements & Process Control

High Accuracy Enrichment Measurements on a Robust Engineered Deployment Platform

PSC offer a range of Uranium Enrichment Monitors to suit every organizational need. Based on International Atomic Energy Authority (IAEA) standard measurement protocols, these systems can perform a variety of functions from “go / no go” classification through to cylinder verification and process control.

Two measurement options are available depending on conditions: Low Resolution Enrichment Meter (NaI detector) using the “Infinite Thickness” method and High Resolution Gamma Spectroscopy (with HPGe) using the “Response Function” method. The latter provides high accuracy in the presence of interfering isotopes, while the former provides a simple push-button approach that is well suited for “dirty” containers with thorium plate-out.

Using the TechniCART™ high performance mobile platform, the detector system can be positioned near to a container of interest and results are displayed on the LCD screen or laptop computer within minutes. The systems provide a quick & easy method for operators to classify uranium enrichment in drums, crates and cylinders (including 48Y and 30B).



Features

- Rapid set-up and deployment; fast counting
- Includes TechniCART™ mobile rugged platform
- Accurate / stable positioning of detector
- Quick release of detector for hand-held operation
- Fully integrated rugged laptop computer
- High performance digital electronics
- LCD screen with backlight
- Integrated collimator & stabilization check-source
- Simple push button operation
- High performance batteries for extended field operation capability ~ 10 hours
- Two options available:
 - *Low Resolution Enrichment Meter (NaI)*
 - *High Resolution Response Function (HPGe)*

Applications

- IAEA Verification
- Cylinder Measurements
- Process Control
- Waste Disposition and Sentencing
- “Go / No Go” Enrichment Determination
- Homeland Security
- Criticality Control

Benefits

- Uses standard IAEA measurement techniques
- Performs in the presence of interfering peaks and high background.
- Corrects for differences between calibration standard composition and container contents

Standard Specifications

	<i>Low Resolution Enrichment Meter</i>	<i>High Resolution Response Function</i>
Detector:	Nal Detector 23mm x 23mm	50mm x 50mm P-Type Coaxial HPGe
Software:	NAIGEM	PC-FRAM (121- 1001 keV)
Count Time:	5 minutes	10 minutes
Calibration Sources:	Required : Simple Calibration Method	Not Required : Self calibrating
Cylinder Condition:	Clean or Dirty	Clean Only (No Thorium Plate-out)
Geometry:	Fixed stand-off using position guide	Variable
Detector Cooling:	Not Required	Liquid nitrogen or mechanical
Wall Thickness:	1.6 cm maximum (operator input)	1.6 cm maximum (self correcting)
Container Types:	Drums, Crates and 48Y /30B Cylinders	Drums, Crates and 48Y /30B Cylinders
Accuracy:	±5%	±3%
Enrichment Range:	Depleted Uranium - 97% U235	Depleted Uranium - 97% U235

Additional Options

- **Energy Calibration Source:**
Eu-152 source available.
- **Calibration Jig:**
Attaches to front of detector for secure placement of calibration sources.
- **TechniCART™ UTV600 Motorized All-Terrain Deployment Platform:**
Allows for advanced mobility with detector operation up to 11 feet from the ground. Supplied with detachable mast with powered detector height adjustment. Rugged laptop mounted in all-weather cab provides touch-screen remote control operation. Includes high capacity batteries for extended field operations.



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