Radiation detection

NUCARE

RAD IQ™ FS1000

Rice Radiation Monitoring Conveyor

A high throughput food radiation monitoring solution!

The RAD IQ™ FS1000food radiation monitoring conveyor system measures radiation levels in food samples while fast moving . It is designed to accommodate standard 30 kg rice bag with maximum speed of 5 seconds per bag.

The system includes two large 4x2x16 inch NaI(Tl) detectors installed in a 50 mm (~2 inches) collimator and additional shadow shielding surrounding the detector with 50 mm lead prevents background radiation from coming to the detector. The total system weight including conveyor is approximately 2,600 kg.

The specific nuclide analysis software provided reports the levels of Iodine, Cesium, and other radionuclides identified in the sample. The system is designed to satisfy the requirements and regulations governing the food industry.

Nucare provides the complete system including the necessary computer, touch screen and accessories.

Key features

- Nuclide Specific Analysis – reports presence of Iodine and Cesium radionuclides and others
- 15 inch touch screen monitor for display and user inputs
- 4π shielding (except for the sample entrance and exit sides)
- Accommodates up to 30 kg rice bag
- Low detection limit at high speed allows 4 samples/min throughput

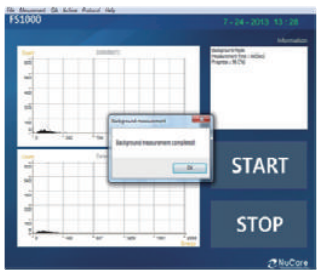
Key Specifications

Detection limit [1]	25 Bq/kg @ 5 sec. 10 Bq/kg @ 15 sec.	Radionuclides Identified	Iodine and Cesium families, others
System Weight	2,600kg(5,732lb)	Dimensions	3640(W)×1430(D)×1400(H) mm
Throughput	2,000 samples/8 hour	Screening level	50 Bq/kg
Detector	NaI(Tl), 4×2×16 inch×2ea.	Resolution	7.5% ± 1% @ 662keV(Cs-137)
Energy Range	20 to 2000 keV	Lead shield	50 mm
Conveyor speed	5 – 40 sec./sample, 8 steps	Operating Temperature	-15℃(5℉)~50℃(122℉)

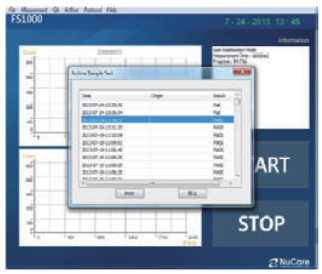
1) Background dose rate of 0.1 uSv/h

Application SW

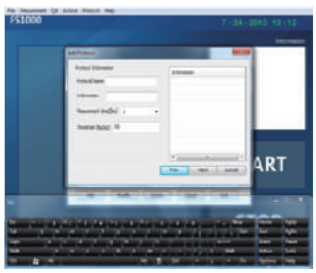
The large display provides the user's easy recognition for pass or fail result from distance. Using the touch screen, system configuration and control can be achieved without any supplementary input devices. Spectral information, total activity, confident levels for identified radionuclides, measurement conditions, and the measurement result as shown below. In addition, a detailed printed report is available which may be customized to specific requirements.



Background Measurement



Archived Database Measurement



Virtual keyboard operation

Calibration

NUCARE

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