On-line Stack Effluent Monitor

Model: 7033-C

Application

This unit is used to continuously monitor the exhaust stack in nuclear facilities or laboratories working with alpha, beta and gamma isotopes. It provides local and remote alarms and logging features.

Features

- Continuously monitors effluent air in stack for Alpha, Beta & Gamma Isotopes.

- Provides isotope concentration in stack air with Alpha and Gamma MCA spectrometry along with separate beta discrimination.

- Detects and measures noble gases activity concentration.

- Flow controllers continuously control and monitor the airflow.

Specifications

Filters	Card-mounted filters for easy removal or change.
Pump	Double sealed pump to suck air at a distance up to 100m and is sealed to helium leakage better than 1x10E(-9)cc/S.
Collectors	Iodine and Tritium collectors.
TEMPERATURE AND HUMIDITY RANGE	55ºC degree/85%RH
ELECTRONICS DETECTORS & MCA	HPGe detector & Silicon Surface Barrier Detectors: • Alpha Energy Range covers 4 kev to 7MeV with resolution of 19kev • Tested with Am 5.486-Mev; Beta resolution: 12keV. • Gamma Energy covers Range 40KeV to 10MeV. • The minimum detectable activity of the system is less than MPC(a) of corresponding isotope. MCA Models:
	• MCA with HPGe Can analyze Gamma spectrometry on aerosol filter for fission fragments, Gamma spectrometry is not only limited to Noble Gases but also for aerosol, eg. Cs-137, Ce-144, Ru-106, Rh-106, Zr-95, Pr-147 etc. • MCA with Barrier Detector can analyze Alpha spectrometry, meanwhile separate beta activity.
CONTROLLER AND SOFTWARE	Alarm Control: • Generate audible and visual alarms each time when a threshold is • exceeded. • User-set alarm with local and remote reporting. Output: • Isotope Activity on the filter in pCi & Bq. • Integrated airborne activity concentration in pCi. Hr/L. • Mean air borne activity concentration over present time interval in Ci/m³. • Analog current loop signals: 4 to 20mA. Calibration & fault check: • Simple automated checks for calibration, gain and spectrum shape. • Show fault diagnostics on the local display and across the network