



P-type HPGe Coaxial Detectors GCDX

(with extended energy range)

Application

Detection of Gamma-rays in nuclear energetics and environmental control, in industry and scientific research, in medicine and other applications.

Complete set (standard)

- HPGe coaxial detector
- Preamplifier with cooled input stage
- Dewar vessel
- Cable set
- Documentation

Accessories (optional)

- Multichannel Analyzer (Digital or Analog-Digital)
- Analytical Software packages:
 - quantitative and qualitative analysis
 - γ -spectra modeling & efficiency registration calculation for complex geometry objects
 - extended radionuclide library
- Liquid nitrogen storage and filling system
- Liquid nitrogen sensor and monitor
- Cable set extension

Features

- 10% - 100% and higher efficiency HPGe coaxial detectors are available
- Extended energy range 3 keV - 10 MeV
- Input window materials: Aluminum, Beryllium or Carbon-fiber
- Built-in or Remote Preamplifier types are available depending on application
- Low instrument background
- High energy rate up to 200000 MeV/s
- Excellent peak symmetry & high resolution
- HV supply protection if detector is warm
- High count rate indicator
- Variable cryostat design modifications

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Specification

Model	Relative Efficiency, %	Energy resolution			Peak/Compton ratio	Peak Shape	
		5.9 keV, (eV)	122 keV, (eV)	1.33 MeV, (keV)		FW.1M FWHM	FW.02M FWHM
GCDX - 10 175	10	400	720	1.75	41:1	1.9	2.65
GCDX - 15 180	15	450	740	1.80	46:1	1.9	2.65
GCDX - 20 180	20	460	760	1.80	51:1	1.9	2.65
GCDX - 25 185	25	480	775	1.85	55:1	1.9	2.65
GCDX - 30 185	30	500	800	1.85	58:1	1.9	2.65
GCDX - 35 190	35	550	830	1.90	60:1	1.9	2.65
GCDX - 40 190	40	600	850	1.90	62:1	1.9	2.65
GCDX - 50 190	50	620	875	1.90	64:1	1.9	2.65
GCDX - 60 200	60	670	900	2.00	68:1	2.0	3.00
GCDX - 70 200	70	700	950	2.00	73:1	2.0	3.00
GCDX - 80 210	80	750	950	2.10	77:1	2.0	3.00
GCDX - 100 210	100*	800	1000	2.10	81:1	2.0	3.00

* Detectors with higher efficiency are available

Energy range:

3 keV - 10 MeV with Be input window

5 keV - 10 MeV with carbon fiber input window

Advantages

- HPGe detectors with extended energy range GCDX provide outstanding performance not only as regular coaxial detectors but also allowing to go lower in energy range down to 3 keV. Thin contact structure of the HPGe detector accompanying with input window made of Beryllium or Carbon fiber guarantee low energy photon transition to the HPGe crystal and its registration.
- Input window of the detector is integrated into the end cap of the detector by using high-tech vacuum-tight materials.
- GCDX HPGe detectors are showing way better performance, such as resolution improvement, if you consider energy range from 100 keV to 662 keV. This is vitally important for those applications where radionuclides with lower energies are required to measure and analyze.
- Over-square shape HPGe crystals provide better efficiency while measuring relatively compact samples like bottles, vials, petri dishes, etc. Increase of efficiency is observed due to the fact that HPGe crystal is having larger diameter in relationship to its height.

Over-square shape
HPGe detectors
are available upon request

