bertin vf nuclear

NUCLEAR FACILITIES | WASTE MANAGEMENT | NON-NUCLEAR INDUSTRY | NUCLEAR MEDICINE

GD-5x series

GAMMA DETECTORS

KEY FEATURES

- Scintillation probes
- High sensitivity to gamma radiation
- Water and dust resistance

DESCRIPTION

GD probes can typically be used as sensitive external detectors for dose rate monitors in environmental monitoring, as detectors in process liquid activity monitors in nuclear facilities, or in laboratories.

The detector uses a NaI(Tl), YAP(Ce), $CeBr_3$, or CLYC:Ce scintillation crystal. On request, detectors with other types of scintillators, such as $LaBr_3$, YAG(Ce), or CaF_2, can also be manufactured. A photomultiplier is used to process and amplify the signal. The signal can then be further analysed spectrometrically using a multichannel analyser.

NaI(Tl) crystals are a proven solution but can only be used under normal operating temperatures.

YAP(Ce) crystals can operate at higher temperatures because their measurement parameters are less affected by temperature changes.

YAG(Ce) crystals have higher radiation resistance, allowing them to function even under high dose rates. $CeBr_3$ and $LaBr_3$ crystals are suitable for applications requiring higher energy resolution. $CeBr_3$ crystals enable precise measurements even at low radiation levels.

CLYC:Ce crystals allow for the detection of both gamma rays and neutrons, making them a potential replacement for proportional detectors with the He-3 tubes.

All GD probes are waterproof and hermetically sealed.

GD probes can also be manufactured with a potassium chloride capsule for temperature stabilization of spectra.

GD probes can optionally be supplied with the DIM-15 multichannel analyzer, configurable with 1K, 2K, 4K, or 8K channels. Using spectrometric peak analysis, the DIM-15 analyzer can identify and quantify up to sixteen gamma-emitting radionuclides.

RELATED PROCUCTS

DIM-15 BOX	Multichannel Analyser (4096 channels)
SW RadSpec	Spectroscopy Software

SPECIFICATION

Model	GD-51 N1x1	GD-51 Y1x1.5 HT	GD-51 C1x1	GD-51 CLBC1x1
Scintillation detector	NaI(Tl)	YAP(Ce)	CeBr3	CLYC:Ce
Energy range	50 keV – 3 MeV	50 keV – 3 MeV	50 keV – 3 MeV	50 keV – 3 MeV
Energy resolution (^{137}Cs, 662 keV)	<8 %	<6%	<5 %	<5 %
Crystal dimensions (ø × v)	25,4 × 25,4 mm	25,4 × 38,1 mm	25,4 × 25,4 mm	25,4 × 25,4 mm
Dimensions (ø × v)	37 × 210 mm	42 × 200 mm	37 × 210 mm	37 × 210 mm
Power supply	max. 1200 V DC	max. 1500 V DC	max. 1200 V DC	max. 1200 V DC
Temperature range	5 to 45 °C	5 to 120 °C	5 to 45 °C	5 to 45 °C
Option for version with LED check source	Yes	Yes	Yes	Yes

GD-5x series

GAMMA DETECTORS

SPECIFICATION

Model	GD-52 N2x1	GD-52 N2x2	GD-52 N2.5x2.5
Scintillation detector	NaI(Tl)	NaI(Tl)	NaI(Tl)
Energy range	50 keV – 3 MeV	50 keV – 3 MeV	50 keV – 3 MeV
Energy resolution (^{137}Cs, 662 keV)	<8 %	<8 %	<8 %
Crystal dimensions (ø × v)	50,8 x 25,4 mm	51 × 51 mm	63 × 63 mm
Dimensions (ø × v)	65 × 206 mm	65 × 232 mm	90 × 250 mm
Power supply	max. 1200 V DC	max. 1200 V DC	max. 1200 V DC
Temperature range	5 to 45 °C	5 to 45 °C	5 to 45 °C
Option for version with LED check source	Yes	Yes	Yes

SPECIFICATION

Model	GD-53 N3x1	GD-54 N4x4x16
Scintillation detector	NaI(Tl)	NaI(Tl)
Energy range	50 keV – 3 MeV	50 keV – 3 MeV
Energy resolution (^{137}Cs, 662 keV)	<8 %	<8 %
Crystal dimensions (ø × v)	76 × 25,4 mm	100 × 100 × 400 mm
Dimensions (ø × v)	95 × 220 mm	110 x 622 mm
Power supply	max. 1200 V DC	max. 1200 V DC
Temperature range	5 to 45 °C	5 to 45°C
Option for version with LED check source	No	Yes

GD-53 N3x1 probe

DIM-15 BOX Spectrometric Module

GD-52 N2x2 probe with handle

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Specification subject to change without prior written notice.