VeriDose Solid-State Diode Detectors*

INTRODUCTION
Using the VeriDose PDMQC or the VeriDose 5 Patient Dose Monitor in conjunction with VeriDose Diode Detectors, you can verify the given dose quickly and accurately during treatment, thus avoiding potential misadministration of radiation.

APPLICATIONS
Nuclear Associates' VeriDose Diode Detectors are solid-state silicon-based radiation detectors that utilize a p-n junction. These rugged diodes are encased within a biocompatible polystyrene material. A low noise coaxial cable is used to connect the diode to an electrometer. When attached to an electrometer, these diodes provide enhanced sensitivity and instantaneous response time.

FEATURES
• Waterproof design with appropriate build-up for all clinical photon and electron energies
• Flat bottom permits secure, easy placement on the patient
• Color-coded for ease of identification • Dose rate independent
• Responds to photons and electrons
• Responds to dose rates of 1.0 cGy/min to 1000 cGy/min
• Can be used on continuous (60 Co) X-ray beams, pulsed (linear-accelerator) X-ray beams, and electron beams

• Optimized for use with all Nuclear Associates Patient Dose Monitors and high-quality medical-grade ionization chamber electrometers
• All diodes are supplied with a non-crimp repairable cable with a BNC connector

Designed to provide superior response, reliability, and performance
Long-lifetime diodes. Tested to 2 x 10 6 cGray in a high-energy electron beam, the most damaging radiation
Very low dose rate and temperature dependence
Hemispherical shape improves isotropic response and reduces angular and field-size dependencies

SPECIFICATIONS

PHOTON AND ELECTRON DIODE DETECTORS
Nominal Sensitivity 1.5 nC/cGy
Sensitivity Volume 0.25 mm 3
Output Polarity Positive/Negative
Linearity
1% for dose ranges from 0.01 Gy to 10 Gy
1% for dose rates 3 to 5 Gy/min
Reproducibility 0.2%
Angular Dependence
2% ± 60° for lower energy diodes (Models 30-471NAD and 30-472NAD)
2% ± 10°; < 5% ± 60° (for higher energy photon diodes and electron diodes)
Sensitivity Loss at 10 kGy < 15%
Cable Length 3 m
Dimensions 8 mm Ø
Weight 42 gm

Options

Model	Range	Polarity/Color	Build-Up	Type Build-Up(g/cm2)
30-471NAD	1-4 MV	Positive/Blue	Cu	0.732
30-471-8000NAD	1-4 MV	Negative/Blue		
30-472NAD	5-11 MV	Positive/Yellow	Cu	1.359
30-472-8000NAD	5-11 MV	Negative/Yellow		
30-473NAD	12-17 MV	Positive/Red	Tu	2.606
30-473-8000NAD	12-17 MV	Negative/Red	Tu	3.574
30-474NAD	18-25 MV	Positive/Green		
30-474-8000NAD	18-25 MV	Negative/Green		
30-475NAD	6-25 MV	Positive/Gray		0.284
30-475-8000NAD	6-25 MeV	Negative/Gray		
88-490NAD30	ft (9.14 m) Diode Extension Cable			
88-490-1000NAD	10 ft Diode Extension Cable			

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