

# NuDET NAI

## Sodium Iodide Scintillation Detectors and Probes



The NAI series offers a variety of NaI(Tl) scintillation detectors with standard shapes and dimensions. The integrally-mounted scintillation assemblies are hermetically sealed units containing NaI(Tl) crystal, optically coupled to a photomultiplier tube (PMT). The assemblies are designed for crystals up to 3 inches diameter. The NAI probes distinguish themselves by their high efficiency and consistent energy resolution.

### Benefits

- In-house production ensures consistent quality and high performance
- Advanced encapsulating techniques and photomultiplier selection lead to improved energy resolution and the long-term stability of the probes
- Integrally-mounted scintillation assemblies offer many advantages, such as permanent light-sealing, thus protecting the photomultiplier against light and physical damage

### Key figures

< 7%

➔ Energy resolution for 2" x 2" detector at 662 keV

< 7.5%

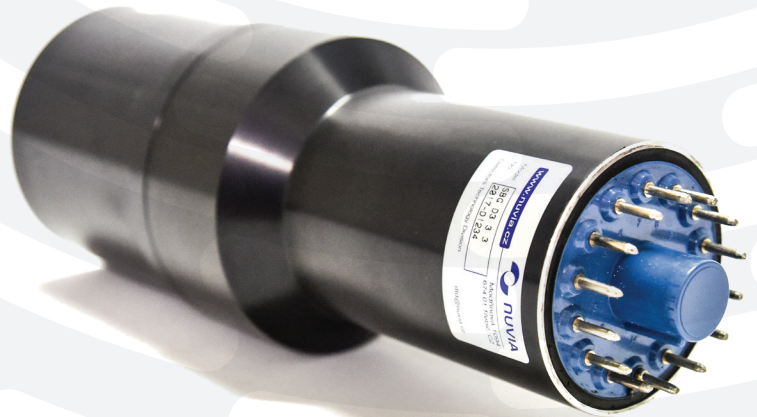
➔ Energy resolution for 3" x 3" detector at 662 keV

## Product description

**Nal(Tl) detectors are available in three basic configurations:**

- SBG Nal(Tl) scintillation probes,
- SBW well-type Nal(Tl) scintillation probes,
- SNG Nal(Tl) scintillation probes with integrated voltage divider.

A complete SBG detector includes a PMT (standard 14-pin plug). Model SNG comes with an integrated voltage divider and connector or cable interface.



## Product application

- Gamma ray spectroscopy
- Radioisotope assay
- Thyroid uptake measurement
- Health physics
- Radiation detection.

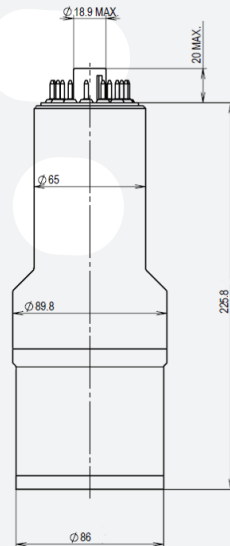
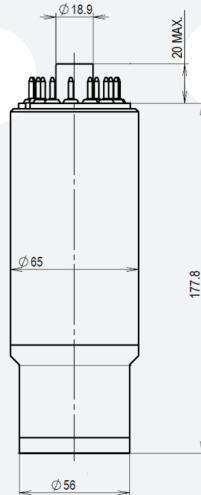


## Product specifications

- Thin aluminium radiation entrance window
- Mechanic adjustments (special flanges, mounting fixtures or other adjustments and modifications)
- Integrated low-background voltage divider
- Choice of connectors or cable interface

Standard 2" x 2" and 3" x 3" Probes	SBG.D2.2.2	SBG.D3.3.3
<b>Detector</b>	Integrally-mounted scintillation assembly with Nal(Tl) scintillation detector	Integrally-mounted scintillation assembly with Nal(Tl) scintillation detector
<b>Crystal size</b>	2" x 2"	3" x 3"
<b>Resolution</b>	<7% at 662 keV	<7.5% at 662 keV
<b>Interface/socket</b>	PMT pins (standard 14-pin plug)	PMT pins (standard 14-pin plug)

Dimensions (mm)



## Nal(Tl) Properties

Density	Max. emission	Decay constant	Refractive index	Conversion efficiency	Hygroscopic
3.67 g/cm <sup>3</sup>	415 nm	0.23 μs	1.85	100	yes