

SC1101

- **Energy resolution: 6%~9%(Cs-137)**
- **Maximum size: ϕ 150mmx400mm**

The standard type **NaI(Tl) scintillator** is a γ ray detector whose NaI(Tl) crystal is cut into a cylinder and housed in aluminum cases.

For measurements, the radiation can enter from one face of the cylinder or the side, and light output can be obtained from the optical window mounted at the other face.

The standard NaI(Tl) scintillator is used for scintillation measurement or scintillation spectrometer detector for ordinary γ ray because its shape enables it to obtain a uniform light output and the best energy resolution.



Basic Properties

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Density(g/cm ²)	3.67
Melting Point (K)	924
Cleavage plane	<100>
Hardness(Mohs)	2
Hygroscopic	yes
Refractive index at emission peak	1.85
Emission Peak wavelength (nm)	415
Decay time (ns)	250
Light yield (photons/KeV)	38

Features

- Emission spectrum well matched with the sensitivity curve of photomultiplier tubes (PMTs)
- excellent energy resolution
- Maximum size: $\Phi 150\text{mm} \times 400\text{mm}$;

Application Notes

1. Environmental Monitoring of nuclear radiation

Nuclear radiation exist universally in our daily life environment, when the radiation intensity higher than security standard, it would be harmful or even lethal to human beings. For its excellent scintillating properties, NaI(Tl) crystals are widely used to make the detectors to monitor nuclear radiation in the industrial and daily life environment, wide field and space.

2. Nuclear medicine

NaI(Tl) crystals are widely used in the nuclear imaging technology, such as the isotope therapeutic apparatus, Gamma ray cameras ect.. Nuclear imaging is high in sensitivity and accurate in testing results, the method is easy and secure.

3. Industrial CT and security inspection

The NaI(Tl) are used in the metallurgy industrial to test the speed of metal liquid, to test the thickness of the steel plates, they are also used in the level sensors or switches for solid or liquids. Some security inspection instruments use the NaI(Tl) crystals to test the explosive materials.

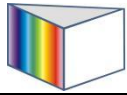
4. Well logging

The NaI(Tl) crystals detect the Gamma ray in the well, by the analysis of the spectrum of the detected scintillating light, the concentration and distribution of the uranium (U), potassium (K) and thorium (Th) in the stratum can be calculated, and the well can be evaluated. NaI(Tl) crystals has high light output and insensitive to temperature change, it has been the first choice for the well logging applications.

Modules or types

Introduction

Model	Type	Category	Package	Remark
SC1101	Standard type	A(rimless)	Aluminum shell, Aluminum entrance window, end optical window	γ -ray detection
		B(rimmed)		

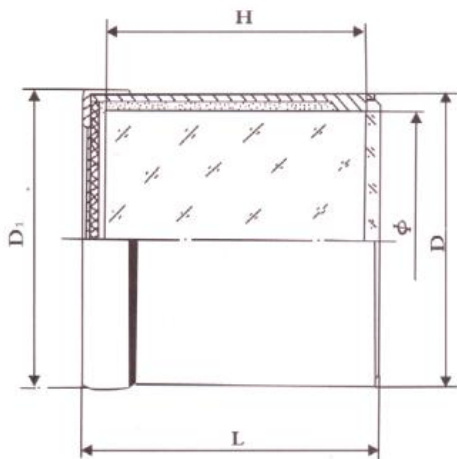


Size of SC1101

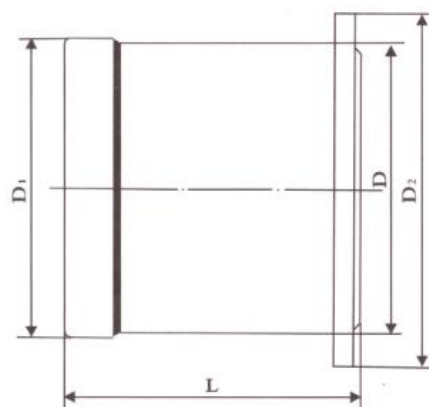
Unit: mm

No.	Size $\phi \times H$	D	D1	D2	L
1	13x30	16.5±0.2	17±0.2		35.5±1.0
2	20x20	25±0.2	26±0.2		26±1.0
3	20x40				46±1.0
4	30x15	35±0.2	36±0.2		21±1.0
5	30x20				26±1.0
6	30x25				31±1.0
7	30x30				36±1.0
8	30x50				56.5±1.0
9	40x25				45±0.2
10	40x30	36±1.0			
11	40x40	46±1.0			
12	40x50	56.5±1.0			
13	50x30	55±0.2	56.5±0.2		36.5±1.0
14	50x50			65-0.2	57±1.5
15	50x60			67±1.5	
16	75x50	81±0.2	82.5±0.2	96-0.23	57±1.5
17	75x75				82±1.5
18	100x50	110±1.0	112±0.5	125-0.26	58±3
19	100x100				108±3
20	125x50	135±1.0	137±0.5	150-0.26	60±3

Note: The size can be adjusted according to customer requirements.



SC1101 A NaI(Tl) drawing



SC1101 B NaI(Tl) drawing