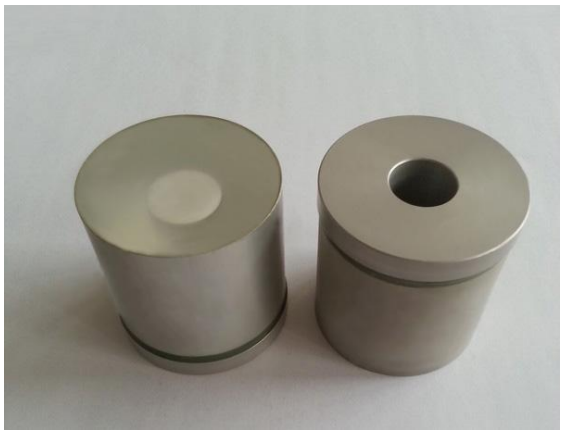
SC1103

- **Efficiency detecting low-level radiaton**
- **High detection efficiency**

The well-type **NaI(Tl) scintillator** is a γ ray detector with a cylindrical part (well) that is set concentrically in a cylindrical NaI(Tl) crystal.
This assembly is housed in aluminium cases.
For measurements, specimen is entered to well part and light output can be obtained from the optical window mounted at the other face.
This design is especially useful when low-level radiation must be efficiently detected.



Basic Properties

Basic Properties	
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

- Efficiently detecting low-level radiation
- High detection efficiency

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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
SC1103	Well type	A(rimless)	Aluminum shell, Aluminum entrance window, end optical window	This type is especially useful when low-level radiation must be efficiently detected
		B(rimmed)		

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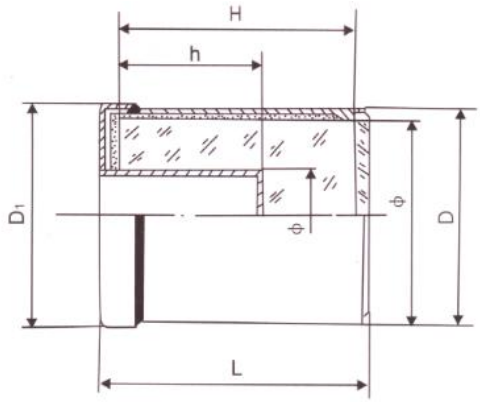
Size of SC1103

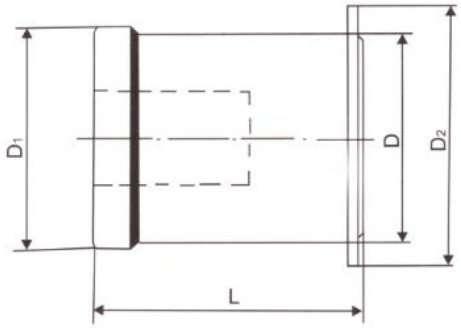
Unit: mm

No.	Crystal size		D	D_1	D_2	L
	φ×H	φ×h				
1	40×50	15×30	45±0.2	46±0.2	55-0.2	56.5±1.0
2		20×40				
3	50×50	20×30	55±0.2	56.5±0.2	65-0.2	57±1.5
4		25×40				
5	75×75	25×40	81±0.2	82.5±0.2	96-0.23	82±1.5
6		30×50				
7	100×100	30×60	110±1.0	112±0.5	125-0.26	108±3

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



SC1103 A NaI(Tl) drawing



SC1103 B NaI(Tl) drawing

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