Alpha Spectra, Inc. Data Sheet
Integral Type Detector Data Sheet
Grand Junction, Colorado

Alpha Spectra, Inc. manufactures many different type scintillation detectors. Integral style NaI(Tl) scintillators have been reliable detectors over many decades. Our detectors are used for both gross counting and gamma ray spectroscopy measurements.

ASI detectors have been used in numerous applications including: hand held survey instruments, density and level gauges in industry, security, x-ray detection in medical diagnostics, medical radioimmunoassay, academic research, educational labs, nuclear power plant monitoring and low background counting applications.

ASI offers several different integral configurations including: standard, thin integral, side well, and end well types. ASI has built many unusual designs that have met interesting requirements. Each type of detector can be configured with a voltage divider and a preamp. Be sure to give us a call if you have a special configuration in mind.

Typical integral type detectors have from 1” to 5” diameters, but other sizes are also available upon request. Our model 12I12/3 shown here in Figure 1 is the most common size we produce.

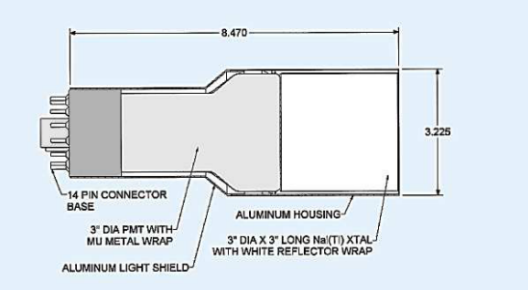

Figure 1. Model 12I12/3.

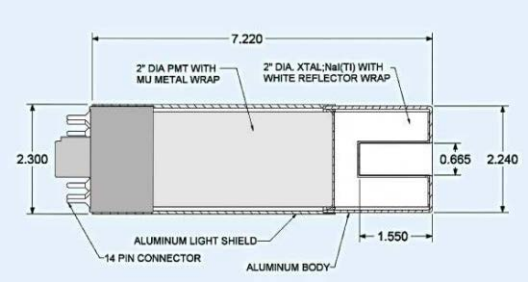

Figure 2. Model 8IEW8/2.

Figure 3. Assortment of integral style detectors. (ASI photo)

End well integral style detectors are the most efficient configuration for radioimmunoassay wipe test and sample counting applications. This detector is typically offered in sizes from 1” to 3” diameters with several different well sizes that match to industry sample size standards. One very common end well style detector for bioassay samples and wipe test counters is our model 8IEW8/2 shown here in Figure 2. This detector accepts standard 12mm x 75mm vials using a liner.

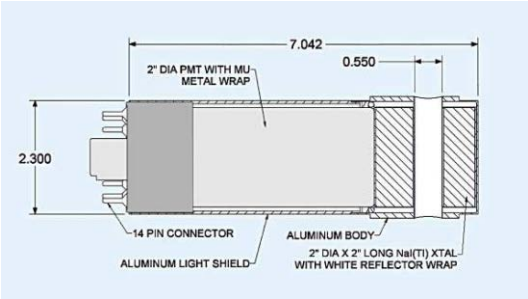

Figure 4. Model 8ISW8/2.

Figure 5. ASI’s 8I8/2 shown with probe handle. (ASI photo)

Alpha Spectra, Inc. NaI(Tl) Specifications

Detector Style:	Standard, thin integral, side well, end well
Crystal Materials Offered:	NaI(Tl), Sodium Iodide
Density:	3.67 g/cc
Effective Atomic Number:	51
Hygroscopic:	Yes
Wavelength of Maximum Emission:	415 nm
Principle Decay:	0.23 μsec (at room temperature)
Index of Refraction:	1.85
Energy Resolution at 662 KeV:	7.5% or better (typical) depends on design configuration. 6.7% or better premium material.
Dimensions:	As required by customer design
Crystal Housings:	Aluminum, stainless steel
Electronics:	14 pin, voltage divider or preamp configuration.
Other Crystal Materials Offered:	CsI(Na), CsI(Tl), BGO, $CeBr_3$ and others. See our materials data sheet. Call for details.

Please contact Alpha Spectra, Inc. so that our design team may help you design a custom detector configuration for your measurement application.

Alpha Spectra, Inc.
SCINTILLATION DETECTORS
800-231-2545 . 970-243-4477 . 970-244-6947FAX
715 Arrowest Ct. Grand Junction, CO 81505
www.alphaspectra.com