

### Features

- ✓ Rapidly identifies and quantifies isotopes of interest over time
- ✓ Practical high-performance gamma-ray spectrometer
- ✓ Better than 1.1% FWHM energy resolution at 662 keV
- ✓ Compact and light weight
- ✓ No cryogenic cooling required
- ✓ Real-time view over network
- ✓ Wireless connectivity
- ✓ Pull data using wireless tablet or Ethernet network
- ✓ Stores >6 months of data
- ✓ Start up in only 2 minutes
- ✓ Industry-leading efficiency with up to >19 cm<sup>3</sup> pixelated CZT
- ✓ Energy range covers isotopes of interest up to 3 MeV
- ✓ Air/water tight for easy decontamination
- ✓ Operates in high dose rates
- ✓ Dose-range gauge
- ✓ Backup-power battery
- ✓ Storage case included
- ✓ Software upgrades included
- ✓ Annual recalibration and software updates included

Track real-time isotopic trends in industrial environments with the H3D® S100. S100 is perfectly designed for short- or long-term monitoring.

- ☐ Compact
- ☐ Easy communication
- ☐ Cost effective

20 years of development and 5+ years of application-specific engineering to the exacting standards of nuclear power plant operators to support:

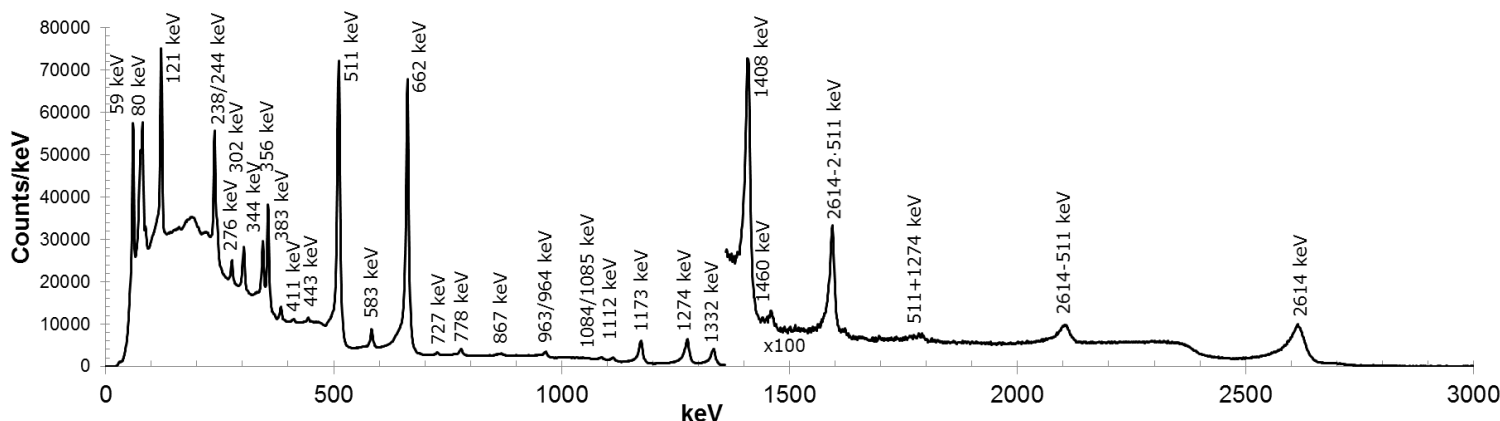
- ☐ Isotopic characterization of pipes and valves
- ☐ Isotopic trend analysis
- ☐ Outage monitoring

**Spectroscopic performance competitive with cryogenically cooled detectors ... at under 6 lbs.**



“H3D's S100 reduced outage costs. Key radionuclide concentrations in the Reactor Coolant System can now be monitored in real time, affecting radiation exposure throughout the outage. This will change how forced oxidation is monitored throughout the industry and provide more data for source-term reduction.”

- Brad Boyer, Radiation Protection Manager, Prairie Island Nuclear Generating Station



## About H3D, Inc.

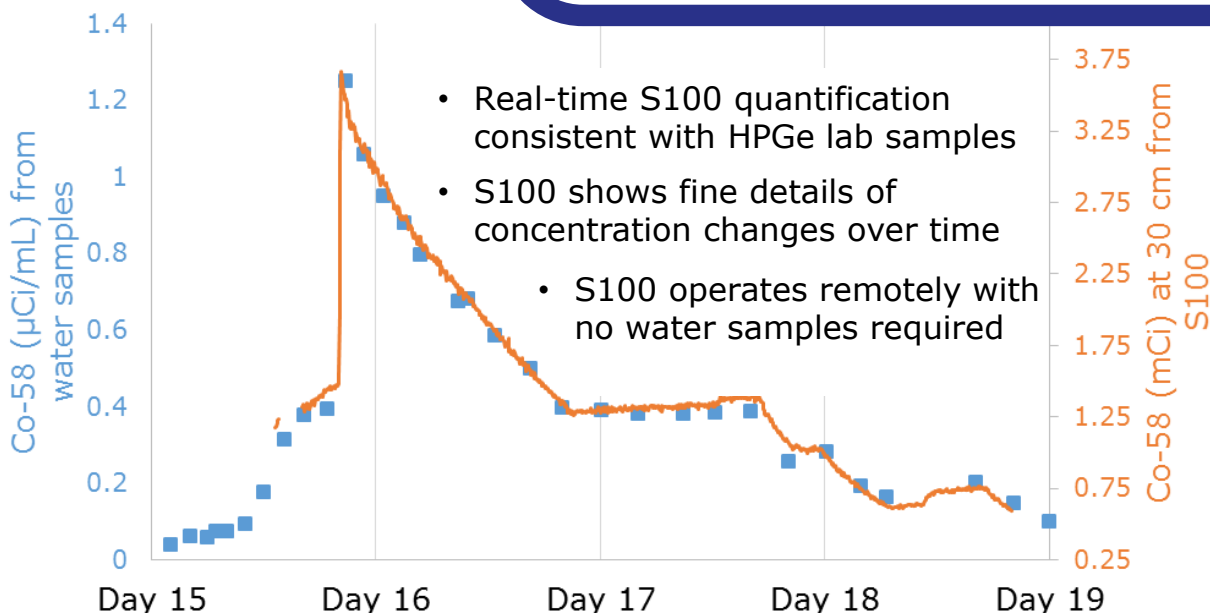
H3D® is commercializing CZT-based 3D radiation-imaging technologies for nuclear power plant, defense & homeland security, and medical applications. We currently ship the H100 to nuclear power plants and research labs around the world. Our team has over 100 years of combined experience in Compton Imaging, CZT readout, and system integration. We are privately held, market-driven, and committed to providing our customers with the highest performance and most user-friendly instruments possible.

### High-Efficiency Option (S400)

Add additional CZT volume:  
Weight: 5.4 lbs (2.5 kg)  
Sensitivity: Detects  $^{137}\text{Cs}$  producing  $\sim 3 \mu\text{R/hr}$  in  $< 15 \text{ s}$   
Crystal Volume:  $> 19 \text{ cm}^3$  CZT

## S100 Specifications

Dimensions:	8.25 in x 3.5 in x 5.75 in (21 cm x 9 cm x 15 cm)
Weight:	5.2 lbs (2.4 kg)
Battery Life:	$> 2$ hours at $23^\circ \text{C}$ ( $73^\circ \text{F}$ ) $> 1$ hours at $-20^\circ \text{C}$ ( $-4^\circ \text{F}$ ) or $50^\circ \text{C}$ ( $122^\circ \text{F}$ )
Power Supply:	100-240 V, 47-63 Hz
Startup & Operating Temp.:	$-20^\circ \text{C}$ to $50^\circ \text{C}$ ( $-4^\circ \text{F}$ to $122^\circ \text{F}$ )
Storage Temperature:	$-20^\circ \text{C}$ to $60^\circ \text{C}$ ( $-4^\circ \text{F}$ to $140^\circ \text{F}$ )
Ingress Protection:	IP65 (IP67 with fan replacement)
Mount:	Mount holes with custom mounting brackets available
System Cooling:	Proprietary external heat sink and removable fan
User Service:	Removable fan cover; replaceable fan and fuse
Energy Resolution:	$\leq 1.1\%$ FWHM at 662 keV
Sensitivity:	Detects $^{137}\text{Cs}$ producing $\sim 3 \mu\text{R/hr}$ in $< 1 \text{ min}$
Energy Range:	50 keV to 3 MeV
Crystal Volume:	$> 4.5 \text{ cm}^3$ CZT (CdZnTe)
Count-Rate Limit:	0.5 rem/hr (5 mSv/hr) bare- $^{137}\text{Cs}$ equivalent
Isotope Library:	Select from 3573 ENDF isotopes & user defined; unlimited
Startup Time:	2 min
Display:	7" 1280x800 HD tablet or internet browser
Tablet Communication:	Peer-to-peer Wifi or Bluetooth, or wired connection
Other Communication:	Ethernet RJ45 port; TCP/IP
Views:	Spectrum, isotope trends
Data Storage:	Removable USB (16 GB) included
Warranty:	2 years (includes annual recalibration and software updates)
Includes:	Visualizer 2.1 software for advanced post processing Power/accessory cables, stylus, and tablet Pelican™ Storm iM2600 Case
Optional Add-On:	Long-range RF communication antenna



Measurement at RHR return in U.S. nuclear facility



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