

P100S Collimated Spectrometer

The H3D® P100S is a shielded version of the S100. It identifies, quantifies, and tracks isotopic trends in an object of interest, even in the presence of stronger gamma ray sources.

With real time networked interface and mounting brackets, use it for short or long term monitoring of an object of interest.

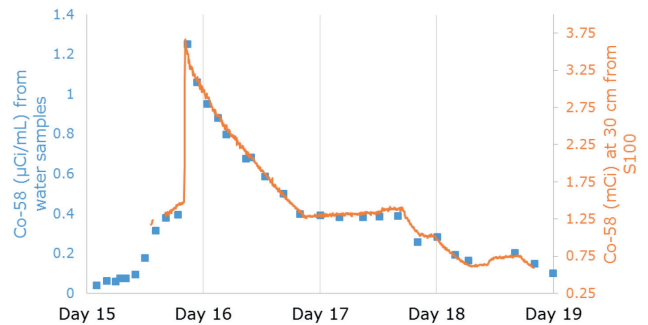
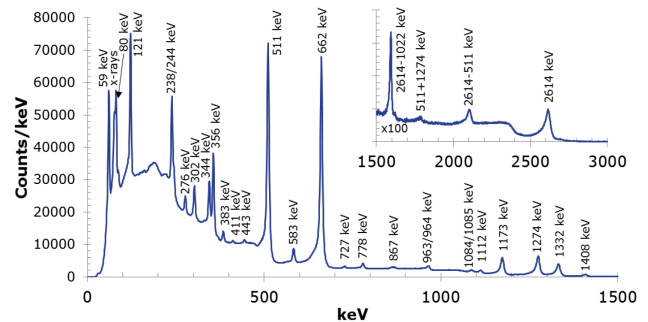
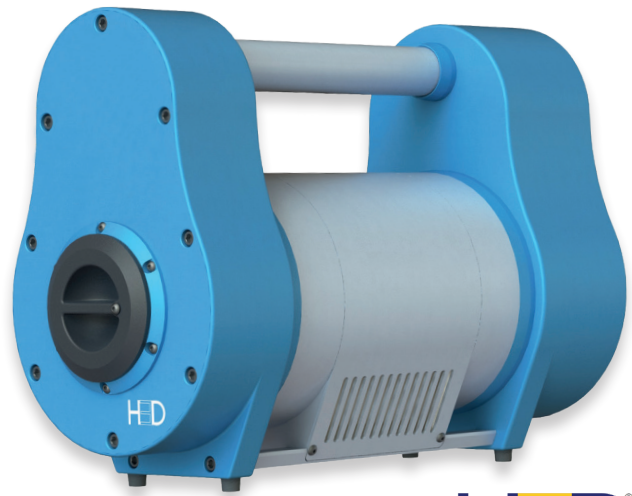
With portable design, removable tungsten plug, and embedded battery and computer, use it for precise quantification measurements even in challenging field environments.

Perfect for:

- Isotopic characterisation and quantification of pipes, valves, and ducts.
- Isotopic trend analysis.
- Outage monitoring.

Features

- Practical high performance gamma ray spectrometer.
- Rapidly identifies and quantifies isotopes of interest in one direction over time.
- Embedded tungsten collimator up to 1 inch (2.54 cm) thick.
- Better than 1.1% FWHM energy resolution at 662 keV.
- Industry leading efficiency with >4500 mm³ pixelated CZT.
- Compact and portable.
- Easily exchangeable tungsten plug.
- Compatible with H3D dashboard trends software.
- Embedded battery.
- No cryogenic cooling required.
- Viewable over Ethernet, Wifi, or other wireless network.
- Wireless or wired tablet operation.
- Stores >6 months of data.
- Start up in only 2 minutes.
- Energy range covers isotopes of interest up to 3 MeV.
- Air/water tight for easy decontamination.
- Operates in high dose rates.
- Tripod and other mount points.
- Storage case included.
- Software upgrades included.
- Annual recalibration and software updates included.



S100 spectrometer measurement at RHR return in US nuclear facility

Real-time quantification consistent with HPGe lab samples. Shows fine details of concentration changes over time with no water samples required.

Source	Activity	Peak Dose
Co-60	23.7k±1.7kBq	20.1±1.2%
Cs-137	351k±6.5kBq	79.8±0.7%
Ag-110m	<6.74kBq	
Co-58	<5.13kBq	
Cr-51	<36.2kBq	
Fe-59	<14.3kBq	
I-131	<4.73kBq	
Mn-54	<5.00kBq	
Nb-95	<5.03kBq	
Sb-122	<6.27kBq	
Sb-124	<5.75kBq	
Sb-125	<32.4kBq	
Zr-95	<8.75kBq	

Automated identification and quantification

Specifications

Dimensions	31.2 cm x 13.8 cm x 22.6 cm
Weight	15.9 kg
Collimator Thickness	2.54 cm with removable plug
Battery Life	>10 hours at 23° C (73° F) >5 hours at -20° C (-4° F) or 50° C (122° F)
Power Supply	100-240 V, 47-63 Hz
Operating Temperature	-20° C to 50° C (-4° F to 122° F)
Start up Temperature	4° C to 38° C (40° F to 100° F)
Storage Temperature	-20° C to 60° C (-4° F to 140° F)
Ingress Protection	IP65 (IP67 with fan replacement)
Tripod Mounts	3/8"-16 tripod; other tripod mounts
System Cooling	Proprietary external heat sink and removable fan
User Service	Removable fan cover; replaceable fan and fuse
Energy Resolution	≤1.1% FWHM at 662 keV
Field of View	60° collimated
Sensitivity	Detects ¹³⁷ Cs producing ~3 µR/hr in <1 min (spectroscopy) Localise point source of ¹³⁷ Cs producing ~3 µR/hr in <5 min

Energy Range	50 keV to 3 MeV
Crystal Volume	>4.5 cm ³ CZT (CdZnTe)
Count Rate Limit	0.5 rem/hr (5 mSv/hr) front bare ¹³⁷ Cs equivalent, without plug 4.5 rem/hr (45 mSv/hr) front bare ¹³⁷ Cs equivalent, with plug
Isotope Library	Select from 3573 ENDF isotopes and user defined; unlimited
Start Up Time	2 min at 23° C (73° F)
User Interface	7" 1280 x 800 HD tablet
Tablet Communication	Peer-to-peer Wifi or Bluetooth, or wired connection
Other Communication	Ethernet RJ45 port and TCP/IP; other RF
Views	Spectrum, isotope trends
Data Storage	Removable USB (16 GB) included
Warranty	2 years (includes annual recalibration and software updates)
Includes	Power/accessory cables, stylus, and tablet Pelican™ Storm iM1650 Case

Specifications are subject to change without notice.
For the most up-to-date specifications, please visit www.hd3gamma.com



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Version 1.0 May 2020