

P100

Directional Imaging Spectrometer

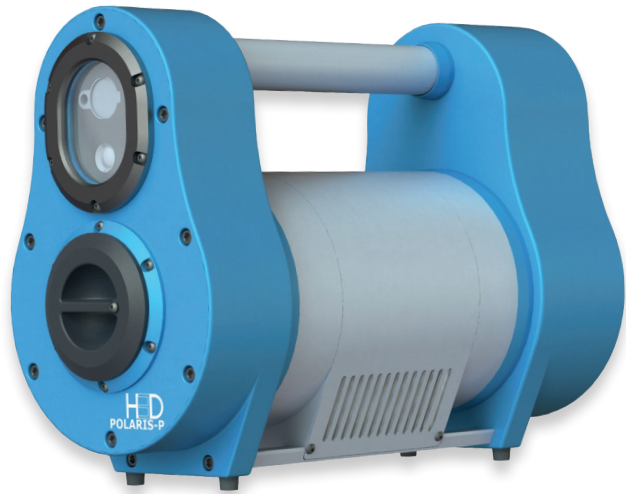
The H3D® P100 is the solution for the identification and quantification of gamma ray sources in the presence of strong gamma ray sources:

- Easy to use.
- Portable.
- Cost effective.

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

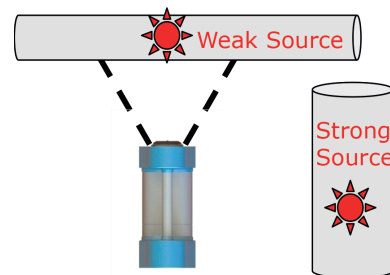
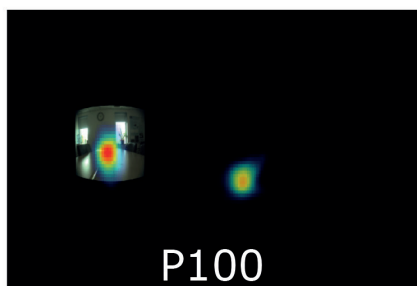
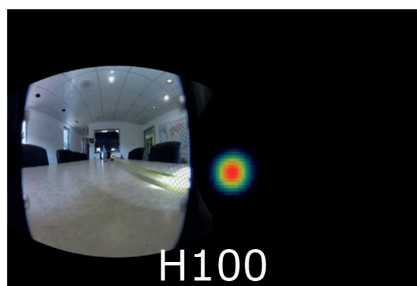
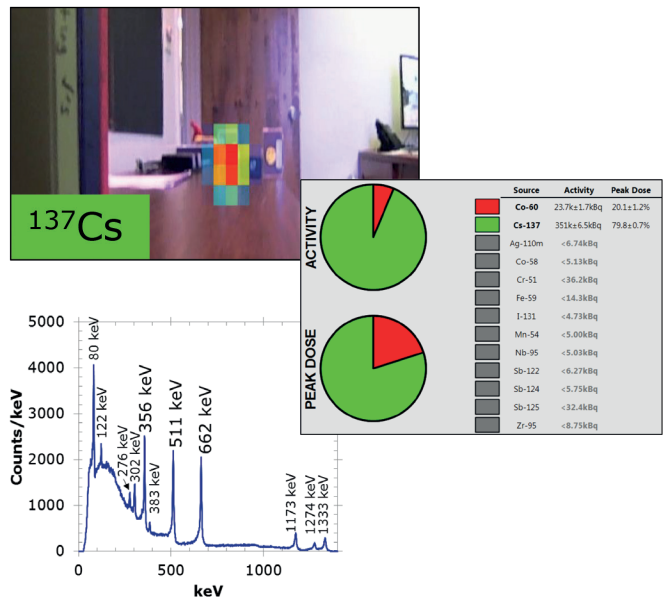
- Isotopic characterisation.
- Quantitative analysis of radiation in pipes and ducts.
- Emergencies, incidents, and outages.

Spectroscopic performance competitive with cryogenically cooled detectors and directional isotope specific gamma ray imaging using a tungsten collimator.



Features

- Sensing and imaging over collimated directions, using an embedded tungsten collimator.
- Isotopic quantification of gamma ray sources.
- Real time spectroscopy, ID, and imaging.
- Better than 1.1% FWHM energy resolution at 662 keV.
- No cryogenic cooling required.
- Omnidirectional sensing and imaging.
- Energy range covers isotopes of interest up to 3 MeV.
- Rangefinder for detector to source distance estimation.
- Wireless or wired tablet operation.
- Air/water tight for easy decontamination.
- Precision overlay of gamma ray and optical images.
- Images both point and distributed sources.
- Easily exchangeable tungsten plug.
- Operates at high dose rates.
- Tripod mount.
- Annual recalibration and software updates included.



When imaging a weak source in the presence of a strong source, the H100 sees only the strong source, but the P100 can see the weak source because of the P100's collimator.

Specifications

Dimensions	31.2 cm x 13.8 cm x 22.6 cm	Energy Range	50 keV to 3 MeV (spectroscopy) 250 keV to 3 MeV (imaging)
Weight	15.9 kg	Crystal Volume	>4.5 cm ³ CZT (CdZnTe)
Collimator Thickness	2.54 cm with removable plug	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
Battery Life	>10 hours at 23° C (73° F) >5 hours at -20° C (-4° F) or 50° C (122° F)	Isotope Library	Select from 3573 ENDF isotopes and user defined; unlimited
Power Supply	100-240 V, 47-63 Hz	Start Up Time	2 min at 23° C (73° F)
Start up and Operating Temperature	-20° C to 50° C (-4° F to 122° F)	User Interface	7" 1280 x 800 HD tablet
Storage Temperature	-20° C to 60° C (-4° F to 140° F)	Tablet Communication	Peer-to-peer Wifi or Bluetooth, or wired connection
Ingress Protection	IP65 (IP67 with fan replacement)	Other Communication	Ethernet RJ45 port; TCP/IP
Tripod Mounts	3/8"-16	Views	Spectrum, gamma image, optical image, composite image
System Cooling	Proprietary external heat sink and removable fan	Data Storage	Removable USB (16 GB) flash drive
Range Finder	Integrated Class 2 laser; 635 nm; <1 mW	Warranty	2 years (includes annual recalibration and software updates)
Energy Resolution	≤1.1% FWHM at 662 keV	Includes	Visualiser software for advanced post processing Power/accessory cables, stylus, tablet, and collimator Transport and storage case
Optical Field of View	100° horizontal, 85° vertical; full colour		
Optical Registration	±2° to radiation image		
Radiation Field of View	60° collimated, 4π leakage through collimator		
Angular Precision	±1° source localisation for all 4π (real time)		
Angular Resolution	~30° FWHM for all 4π (real time) ~20° FWHM for all 4π (post processing)		
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		

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



Southern Scientific Limited

Scientific House, The Henfield Business Park
Shoreham Road, Henfield, BN5 9SL, UK

E-mail: info@southernscientific.co.uk

Tel: +44 (0)1273 497600

Fax: +44 (0)1273 497626

www.southernscientific.co.uk

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