H3D

H Series

Gamma imaging

See where gamma radiation originates. The H Series combines spectroscopy, isotope identification and imaging in a portable system.



Detector type	Spectroscopy energy range	IP rating
CZT (CdZnTe) [1]	**50–3000 keV (H100/H400/H420/H1600)** [2]	**H100/H400/H420/H1600: IP67 (excluding external media)** [4]

Specifications

DETECTOR

Detector type	CZT (CdZnTe)	[1]
Detector volume	H100: 6 cm³; H400/H420: >19 cm³; H1600: >77 cm³	[2]
Radiation field of view	H100/H400/H420: 4π (360°), Compton; H420: 64° × 64°, coded aperture	[3]

PERFORMANCE

Energy resolution at 662 keV	<1.1% FWHM (H100, H400, H420, H1600, H1610); <0.8% FWHM (H400+, H420+, H1600+, H1610+)	[2]

MEASURING RANGE

Spectroscopy energy range	50–3000 keV (H100/H400/H420/H1600)	[2]
Imaging energy range	H100/H400/H1600: 250–3000 keV; H420: 250–3000 keV (Compton), 50–1500 keV (coded aperture; optional extension to 3000 keV at lower efficiency)	[3]

SOFTWARE & DATA

Software	H100/H400/H420: Visualizer for post-processing	[5]
Nuclide library	Selected from 3,573 ENDF isotopes and user-defined; unlimited	[1]

CONNECTIVITY & INTERFACE

User interface	Tablet; H100/H400/H420: 7-inch, 1920 × 1080	[1]
Communication	H100/H400/H420: Wi-Fi, Bluetooth or wired tablet connection; Ethernet RJ45, TCP/IP	[5]
Data storage	H100/H400/H420: removable USB storage, 64 GB included	[1]

POWER & BATTERY

Power supply	H100/H400/H420: 100–240 V, 47–63 Hz	[1]

Battery life	H100 >7 h; other models >6 h	[2]

MECHANICAL

Weight (manufacturer unit)	H100 7.3 lb; H400, H420, H400+ and H420+ 7.8 lb; H1600 and H1600+ 11.7 lb; H1610 and H1610+ ~12.7 lb	[2]

ENVIRONMENT & RATINGS

IP rating	H100/H400/H420/H1600: IP67 (excluding external media)	[4]
perating temperature	−20 to +50 °C; H420: coded-aperture imaging unavailable below −10 °C	[3]

GENERAL

Startup time	<1.5 minutes	[2]

Models

Model	Energy resolution at 662 keV	Imaging range	CZT volume	Weight (manufacturer unit)
H100	<1.1 % FWHM [2]	250–3000 keV [2]	6 cm³ [2]	7.0 lb (3.2 kg) [1]
H400	<1.1 % FWHM [2]	250–3000 keV [2]	>19 cm³ [2]	7.1 lb (3.2 kg) [5]
H400+	<0.8 % FWHM [2]	250–3000 keV [2]	>19 cm³ [2]	7.1 lb (3.2 kg) [5]
H420	<1.1 % FWHM [2]	50–3000 keV [2]	>19 cm³ [2]	8.0 lb (3.6 kg) [3]
H420+	<0.8 % FWHM [2]	50–3000 keV [2]	>19 cm³ [2]	8.0 lb (3.6 kg) [3]
H1600	<1.1 % FWHM [2]	250–3000 keV [2]	>77 cm³ [2]	11.7 lb [4]
H1600+	<0.8 % FWHM [2]	250–3000 keV [2]	>77 cm³ [2]	11.7 lb [4]
H1610	<1.1 % FWHM [2]	50–3000 keV [2]	>77 cm³ [2]	≈12.7 lb [2]
H1610+	<0.8 % FWHM [2]	50–3000 keV [2]	>77 cm³ [2]	≈12.7 lb [2]

Model	Battery life	Temperature rating (manufacturer unit)	Dimensions
H100	>7 hours at 23 °C; >3 hours at −20 °C or +50 °C [1]	−4–122 °F [2]	24 × 8.6 × 18 cm (nominal); with the add-on Exoskeleton 37.5 × 14 × 22 cm [1]
H400	>7 hours at 23 °C; >3 hours at −20 °C or +50 °C [5]	−4–122 °F [2]	24 × 9.5 × 18 cm (nominal); with the add-on Exoskeleton 37.5 × 14 × 22 cm [5]
H400+	>7 hours at 23 °C; >3 hours at −20 °C or +50 °C [5]	−4–122 °F [2]	24 × 9.5 × 18 cm (nominal); with the add-on Exoskeleton 37.5 × 14 × 22 cm [5]
H420	>6 hours at 23 °C; >2 hours at −20 °C or +50 °C [3]	−4–122 °F; coded-aperture imaging not available below 14 °F [3]	24 × 9.5 × 18 cm (nominal) [3]
H420+	>6 hours at 23 °C; >2 hours at −20 °C or +50 °C [3]	−4–122 °F; coded-aperture imaging not available below 14 °F [3]	24 × 9.5 × 18 cm (nominal) [3]
H1600	>6 hours at 23 °C [4]	−4–122 °F [2]	12.7 × 20.3 × 17.8 cm (5.0 × 8.0 × 7.0 in) [4]
H1600+	>6 hours at 23 °C [4]	−4–122 °F [2]	12.7 × 20.3 × 17.8 cm (5.0 × 8.0 × 7.0 in) [4]
H1610	>6 hours at 23 °C [4]	−4–122 °F [2]	–

H1610+	>6 hours at 23 °C [4]	−4–122 °F [2]	–

Sources

[1] **H100 Gamma-Ray Imaging Spectrometer – H100 Specifications (CWNPP-54)**
H3D · datasheet · p. 2 'H100 Specifications', Crystal Volume; p. 2 'Display'; p. 2 'Data Storage' · checked 2026-10-16
https://h3dgamma.com/H100Specs.pdf

[2] **H Series – Industrial Imaging Spectrometer**
H3D · product-page · h100.php model table, row 'CZT Volume (cm3)' (columns H100, H400, H420, H400+, H420+, H1600, H1610, H1600+, H1610+); h100.php model table, row 'Spectrometer Range (keV)'; h100.php model table, column 'H100' (columns H100, H400, H420, H400+, H420+, H1600, H1610, H1600+, H1610+), row 'Startup · checked 2026-10-16
https://h3dgamma.com/h100.php

[3] **H420 Gamma-Ray Imaging Spectrometer – H420 Specifications (LE-23)**
H3D · datasheet · H420 sheet p. 2 'Energy Range'; H100/H400/H1600 '250 keV to 3 MeV (imaging)' in their sheets and in S1 row 'Imaging Rang; H420 sheet p. 2 'Radiation Field of View'; H100/H400 sheets p. 2; H420 sheet p. 2 'Startup & Operating Temp.' · checked 2026-10-16
https://h3dgamma.com/H420Specs.pdf

[4] **H1600 Gamma-Ray Imaging Spectrometer – H1600 Expected Base Specifications (AM-1)**
H3D · datasheet · p. 2 'Ingress Protection' – identical in the H100, H400, H420 and H1600 sheets; p. 2 'Weight'; p. 2 'Battery Life' · checked 2026-10-16
https://h3dgamma.com/H1600Specs.pdf

[5] **H400 Gamma-Ray Imaging Spectrometer – H400 Specifications (LV-28)**
H3D · datasheet · p. 2 'Tablet Communication' / 'Other Communication'; p. 2 'Includes'; p. 2 'Weight' · checked 2026-10-16
https://h3dgamma.com/H400Specs.pdf

Every value is taken from the manufacturer’s own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer’s published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.