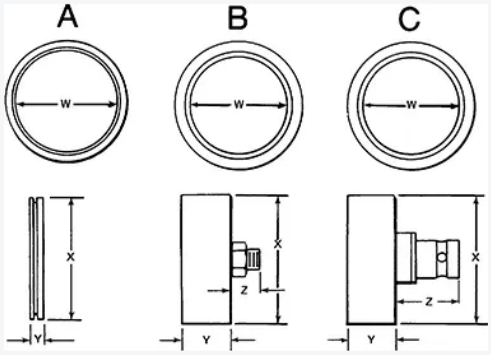
ORTEC

ORTEC A Series

Partially depleted silicon surface-barrier detectors

ORTEC A Series comprises 29 models (partially depleted silicon s urface-barrier detectors). The models differ in active area, d epletion depth and warranted resolution, among other things – c ompare them in the model table.



Detector type

Partially depleted silicon surface barrier [1]

Specifications

Detector type	Partially depleted silicon surface barrier	[1]
Resolution measurement conditions	^{241}Am, 5.486 MeV alphas; standard ORTEC electronics; 0.5 µs shaping time c onstants	[1]
Measurement and warranty temperature	21 ±1 °C	[2]
Resolution reference geometry	Thin-window point source; distance at least 2 times the detector diameter	[2]
Mount options per product guide	A/B/C	[3]
Alpha Suite compatibility	Not guaranteed compatible; requires an approved special for compatibility and warranted specifications	[3]

Models

Model	Minimum active area	Guaranteed maximum alpha resolution	Minimum depletion depth	Ordering condition
A-013-025-1000	≥25 mm² [3]	≤13 keV FWHM [4]	≥1000 µm [4]	–
A-014-025-1000	≥25 mm² [3]	≤14 keV FWHM [4]	≥1000 µm [4]	–
A-014-025-1500	≥25 mm² [3]	≤14 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-014-050-1000	≥50 mm² [3]	≤14 keV FWHM [4]	≥1000 µm [4]	–
A-014-100-1000	≥100 mm² [3]	≤14 keV FWHM [4]	≥1000 µm [4]	–
A-015-050-1000	≥50 mm² [3]	≤15 keV FWHM [4]	≥1000 µm [4]	–
A-015-100-1000	≥100 mm² [3]	≤15 keV FWHM [4]	≥1000 µm [4]	–
A-015-150-1000	≥150 mm² [3]	≤15 keV FWHM [4]	≥1000 µm [4]	–
A-016-025-1500	≥25 mm² [3]	≤16 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-016-025-2000	≥25 mm² [3]	≤16 keV FWHM [4]	≥2000 µm [4]	This depth requires special order according to manufacturer [1]

A-016-050-1500	≥50 mm² [3]	≤16 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-016-150-1000	≥150 mm² [3]	≤16 keV FWHM [4]	≥1000 µm [4]	–
A-017-050-2000	≥50 mm² [3]	≤17 keV FWHM [4]	≥2000 µm [4]	This depth requires special order according to manufacturer [1]
A-017-100-1500	≥100 mm² [3]	≤17 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-017-300-1000	≥300 mm² [3]	≤17 keV FWHM [4]	≥1000 µm [4]	–
A-018-050-1500	≥50 mm² [3]	≤18 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-018-100-2000	≥100 mm² [3]	≤18 keV FWHM [4]	≥2000 µm [4]	This depth requires special order according to manufacturer [1]
A-018-150-1500	≥150 mm² [3]	≤18 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-018-300-1000	≥300 mm² [3]	≤18 keV FWHM [4]	≥1000 µm [4]	–
A-018-450-1000	≥450 mm² [3]	≤18 keV FWHM [4]	≥1000 µm [4]	–
A-019-100-1500	≥100 mm² [3]	≤19 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-019-150-2000	≥150 mm² [3]	≤19 keV FWHM [4]	≥2000 µm [4]	This depth requires special order according to manufacturer [1]
A-019-450-1000	≥450 mm² [3]	≤19 keV FWHM [4]	≥1000 µm [4]	–
A-020-150-1500	≥150 mm² [3]	≤20 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-020-300-1500	≥300 mm² [3]	≤20 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-021-450-1500	≥450 mm² [3]	≤21 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-022-300-2000	≥300 mm² [3]	≤22 keV FWHM [4]	≥2000 µm [4]	This depth requires special order according to manufacturer [1]
A-023-300-1500	≥300 mm² [3]	≤23 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]
A-026-450-1500	≥450 mm² [3]	≤26 keV FWHM [4]	≥1500 µm [4]	This depth requires special order according to manufacturer [1]

Sources

[1] A Series Partially Depleted Silicon Surface Barrier Radiation Detector
RTEC (AMETEK) · product-page · Page heading; Ordering Information, footnote **; Ordering Information, column header "Minimum Depletion Depth 1500 µm§" and footnote § · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/silicon...

[2] Introduction to Charged-Particle Detectors
RTEC (AMETEK) · application-note · p. 8, "Test Data and General Information – Alpha Resolution"; p. 3, "Energy Resolution and Noise" · checked 2026-10-16
https://web.archive.org/web/20220928135003/https://www.ortec-online.com/-/media/ametekortec/other/introducti...

[3] ORTEC Product Guide
RTEC (AMETEK) · catalog · PDF p. 11 (printed p. 8), table "Standard Mounting Information"; PDF p. 11 (printed p. 8) "Ordering Information"; same note on the series table page; PDF p. 5 (printed p. 2), table "A Series Partially Depleted Silicon Surface Barrier Detectors"; PDF p. 11 (printed p. 8) · checked 2026-10-16
https://web.archive.org/web/20230405035438/https://www.ortec-online.com/-/media/ametekortec/product-guide/pr...

[4] A Series – Partially Depleted Silicon Surface Barrier Detectors (brochure 25-1020)
ORTEC (AMETEK) · brochure · p. 1, Ordering Information table, "Guaranteed Maximum Resolution (keV)**", α column; footnote **; p. 1, Ordering Information table, column "Minimum Depletion Depth 1000 µm"; p. 1, Ordering Information table, column "Minimum Depletion Depth 1500 µm §" · checked 2026-10-16
https://edge.sitecorecloud.io/ametekinc1236b-ametekb19a-productiondcfa-1d17/media/Project/Ametek/ortec-onlin...

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.