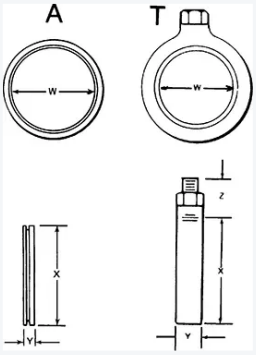
ORTEC

ORTEC C Series

Annular partially depleted surface-barrier detectors

ORTEC C Series comprises 16 models (annular partially depleted 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

Annular partially depleted silicon surface barrier [1]

Specifications

Detector type	Annular 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/T (open back)	[3]
Alpha Suite compatibility	Not guaranteed compatible; requires an approved special for compatibility and warranted specifications	[3]
Central hole	4 mm standard; 6/8 mm or other geometry by special order	[1]

Models

Model	Total area including hole	Guaranteed maximum alpha resolution	Minimum depletion depth
C-017-050-100	50 mm² [4]	≤17 keV FWHM [4]	≥100 µm [4]
C-017-050-300	50 mm² [4]	≤17 keV FWHM [4]	≥300 µm [4]
C-017-050-500	50 mm² [4]	≤17 keV FWHM [4]	≥500 µm [4]
C-018-050-1000	50 mm² [4]	≤18 keV FWHM [4]	≥1000 µm [4]
C-019-150-100	150 mm² [4]	≤19 keV FWHM [4]	≥100 µm [4]
C-019-150-300	150 mm² [4]	≤19 keV FWHM [4]	≥300 µm [4]
C-019-150-500	150 mm² [4]	≤19 keV FWHM [4]	≥500 µm [4]
C-020-150-1000	150 mm² [4]	≤20 keV FWHM [4]	≥1000 µm [4]
C-021-300-100	300 mm² [4]	≤21 keV FWHM [4]	≥100 µm [4]
C-021-300-300	300 mm² [4]	≤21 keV FWHM [4]	≥300 µm [4]
C-021-300-500	300 mm² [4]	≤21 keV FWHM [4]	≥500 µm [4]
C-022-300-1000	300 mm² [4]	≤22 keV FWHM [4]	≥1000 µm [4]

C-025-450-100	450 mm² [4]	≤25 keV FWHM [4]	≥100 µm [4]
C-025-450-300	450 mm² [4]	≤25 keV FWHM [4]	≥300 µm [4]
C-025-450-500	450 mm² [4]	≤25 keV FWHM [4]	≥500 µm [4]
C-025-450-1000	450 mm² [4]	≤25 keV FWHM [4]	≥1000 µm [4]

Sources

[1] **C Series Annular Partially Depleted Silicon Surface Barrier Radiation Detector**
RTEC (AMETEK) · product-page · Page heading; Ordering Information, footnote **; Ordering Information note · 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**
ORTEC (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 · checked 2026-10-16
https://web.archive.org/web/20230405035438/https://www.ortec-online.com/-/media/ametekortec/product-guide/pr...

[4] **C Series – Annular Partially Depleted Silicon Surface Barrier Detectors (brochure 020821)**
RTEC (AMETEK) · brochure · p. 1, Ordering Information table, column "Total Area Including 4-mm-diam. Hole (mm²)"; p. 1, Ordering Information table, "Guaranteed Maximum Resolution (keV)**", α column; footnote **; p. 1, Ordering Information table, column "Minimum Depletion Depth 100 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.