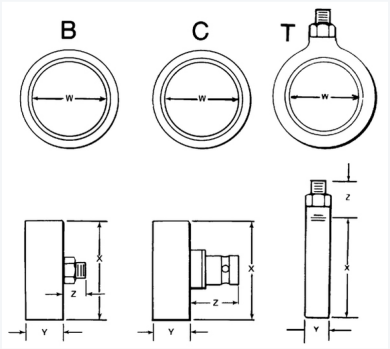
ORTEC

ORTEC kiseldetektorer för alfaspektrometri

Silicon detectors for alpha spectrometry

Silicon charged-particle detectors for alpha spectrometry, from low-background ion-implanted models to ruggedized surface-barrier detectors.



Detector type
ULTRA/ULTRA-AS: ion-implanted silicon; R: ruggedized silicon surface barrier [1]

Depletion depth
ULTRA and R: minimum 100/300/500 µm depending on model; ULTRA-AS: approximately 100 µm [2]

Energy resolution, example model
BU-020-450-AS: ≤20 keV FWHM at 5.486 MeV (^{241}Am), ORTEC electronics, 1 µs shaping; measured and warranted at 21 ±1 °C [2]

Specifications

Detector type	ULTRA/ULTRA-AS: ion-implanted silicon; R: ruggedized silicon surface barrier	[1]
Active detector area	ULTRA: 25–3000 mm²; R: 50–2000 mm²; example BU-020-450-AS: 450 mm²	[1]
Depletion depth	ULTRA and R: minimum 100/300/500 µm depending on model; ULTRA-AS: approximately 100 µm	[2]
Energy resolution, example model	BU-020-450-AS: ≤20 keV FWHM at 5.486 MeV (^{241}Am), ORTEC electronics, 1 µs shaping; measured and warranted at 21 ±1 °C	[2]
Bias polarity	ULTRA/ULTRA-AS: positive; R: negative	[2]
Mounts/connections	B: rear Microdot; C: rear BNC; T: side Microdot, ULTRA/AS up to 600 mm²	[2]
Alpha Suite compatibility	Guaranteed: B-mount ULTRA-AS and low-background R; others require approved special configuration	[2]
Measurement environment	R Series: vacuum or air with ambient light	[3]

Sources

[1] **Si Charged Particle Radiation Detectors for Alpha Spectroscopy**
ORTEC (AMETEK) · product-page · Introduction and table footnote †; Table 'Range of Active Area'; R range from R Series ordering tables (S33); example from ULTRA-AS table (S32) · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/silicon...

[2] **ULTRA and ULTRA-AS Ion Implanted Silicon Charged Particle Radiation Detectors**
ORTEC (AMETEK) · product-page · Ordering Information for ULTRA (tables) and ULTRA-AS; Ordering Information for ULTRA-AS; overview footnote (S31); More Information, footnote ** · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/silicon...

[3] **R Series Ruggedized Partially Depleted Silicon Radiation Detector**
ORTEC (AMETEK) · product-page · Main Application · checked 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/silicon...

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.