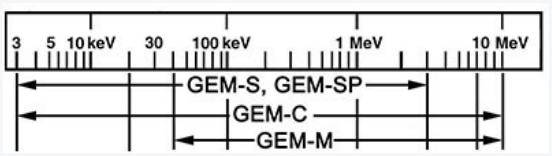
ORTEC

PROFILE GEM HPGe-detektorer

HPGe-gammadetektor

P-typ koaxiala och semi-planara HPGe-detektorer där kristallgeometrin väljs för provets form och önskad mätgeometri.



Detektortyp
P-typ HPGe; koaxial eller semi-planar [1]

Relativ effektivitet
Modellberoende: nominellt 7–175 % (GEM-M, -S, -SP); minst 10–175 % (GEM-C) [2]

Specifikationer

DETEKTOR

Detektortyp	P-typ HPGe; koaxial eller semi-planar	[1]
Kristallgeometri	M/C: koaxial; S/SP: semi-planar	[2]
Provgeometri	S/SP för prover i närgeometri; M/C för prover framför detektorn, även Marinelli-bägare	[2]

PRESTANDA

Relativ effektivitet	Modellberoende: nominellt 7–175 % (GEM-M, -S, -SP); minst 10–175 % (GEM-C)	[2]
Upplösningens mätvillkor	Total systemupplösning uppmätt på fabriken enligt ANSI/IEEE Std 325-1996, vid optimal formningstid med ORTEC DSPEC-50A; garanterad upplösning kan försämras med elektromekaniska kylare eller hybridkylare	[2]

KYLNING

Kylning	LN_2 eller kompatibelt mekaniskt utförande, modellberoende	[1]

MEKANIK

Kristallmått	Angivna och garanterade per modell	[1]

BESTÄLLNING & TILLBEHÖR

Kryostatutföranden	PopTop eller Streamline	[1]
Biasstyrning	SMART-1 som tillval	[1]
Kylning och tillbehör	Kryostat och dewar eller annan kylanordning krävs för drift och medföljer inte detektorn; till en Streamline-detektor måste en kryostat beställas	[2]

ALLMÄNT

Modellserier	GEM-M, GEM-C, GEM-S och GEM-SP	[2]
Frontkontakt	Stabil tunn frontkontakt på S, SP och C	[1]

Modeller

Modell	Detektortyp	Kristalldiameter	Kristallängd	Relativ effektivitet
GEM-C10	P-typ koaxial HPGe, PROFILE C [2]	50 mm ±2 mm [2]	25 mm (minst) [2]	10 % (minst) [2]
GEM-C15	P-typ koaxial HPGe, PROFILE C [2]	50 mm ±2 mm [2]	44 mm (minst) [2]	15 % (minst) [2]
GEM-C20	P-typ koaxial HPGe, PROFILE C [2]	50 mm ±2 mm [2]	60 mm (minst) [2]	20 % (minst) [2]
GEM-C25	P-typ koaxial HPGe, PROFILE C [2]	57 mm ±2 mm [2]	50 mm (minst) [2]	25 % (minst) [2]
GEM-C30	P-typ koaxial HPGe, PROFILE C [2]	57 mm ±2 mm [2]	62 mm (minst) [2]	30 % (minst) [2]
GEM-C40	P-typ koaxial HPGe, PROFILE C [2]	64 mm ±2 mm [2]	58 mm (minst) [2]	40 % (minst) [2]
GEM-C50	P-typ koaxial HPGe, PROFILE C [2]	68 mm ±2 mm [2]	62 mm (minst) [2]	50 % (minst) [2]
GEM-C60	P-typ koaxial HPGe, PROFILE C [2]	68 mm ±2 mm [2]	77 mm (minst) [2]	60 % (minst) [2]
GEM-C70	P-typ koaxial HPGe, PROFILE C [2]	70 mm ±2 mm [2]	85 mm (minst) [2]	70 % (minst) [2]
GEM-C80	P-typ koaxial HPGe, PROFILE C [2]	80 mm ±2 mm [2]	61 mm (minst) [2]	80 % (minst) [2]
GEM-C90	P-typ koaxial HPGe, PROFILE C [2]	80 mm ±2 mm [2]	70 mm (minst) [2]	90 % (minst) [2]
GEM-C100	P-typ koaxial HPGe, PROFILE C [2]	80 mm ±2 mm [2]	82 mm (minst) [2]	100 % (minst) [2]
GEM-C110	P-typ koaxial HPGe, PROFILE C [2]	80 mm ±2 mm [2]	91 mm (minst) [2]	110 % (minst) [2]
GEM-C120	P-typ koaxial HPGe, PROFILE C [2]	82 mm ±2 mm [2]	98 mm (minst) [2]	120 % (minst) [2]
GEM-C130	P-typ koaxial HPGe, PROFILE C [2]	92 mm ±2 mm [2]	67 mm (minst) [2]	130 % (minst) [2]
GEM-C140	P-typ koaxial HPGe, PROFILE C [2]	92 mm ±2 mm [2]	74 mm (minst) [2]	140 % (minst) [2]
GEM-C150	P-typ koaxial HPGe, PROFILE C [2]	92 mm ±2 mm [2]	81 mm (minst) [2]	150 % (minst) [2]
GEM-C175	P-typ koaxial HPGe, PROFILE C [2]	94 mm ±2 mm [2]	100 mm (minst) [2]	175 % (minst) [2]
GEM-M5060	P-typ koaxial HPGe, PROFILE M [1]	50 mm ±2 mm [2]	60 mm (minst) [2]	20 % (nominellt) [2]
GEM-M5970	P-typ koaxial HPGe, PROFILE M [1]	59 mm ±2 mm [2]	70 mm (minst) [2]	38 % (nominellt) [2]
GEM-M7080	P-typ koaxial HPGe, PROFILE M [1]	70 mm ±2 mm [2]	80 mm (minst) [2]	66 % (nominellt) [2]
GEM-M8295	P-typ koaxial HPGe, PROFILE M [1]	82 mm ±2 mm [2]	95 mm (minst) [2]	115 % (nominellt) [2]

GEM-M94100	P-typ koaxial HPGe, PROFILE M [1]	94 mm ±2 mm [2]	100 mm (minst) [2]	175 % (nominellt) [2]
GEM-S5020	P-typ semi-planar HPGe, PROFILE S [1]	50 mm ±2 mm [2]	20 mm (minst) [2]	7 % (nominellt) [2]
GEM-S5825	P-typ semi-planar HPGe, PROFILE S [1]	58 mm ±2 mm [2]	25 mm (minst) [2]	15 % (nominellt) [2]
GEM-S7025	P-typ semi-planar HPGe, PROFILE S [1]	70 mm ±2 mm [2]	25 mm (minst) [2]	20 % (nominellt) [2]
GEM-S7030	P-typ semi-planar HPGe, PROFILE S [1]	70 mm ±2 mm [2]	30 mm (minst) [2]	28 % (nominellt) [2]
GEM-S8530	P-typ semi-planar HPGe, PROFILE S [1]	85 mm ±2 mm [2]	30 mm (minst) [2]	50 % (nominellt) [2]
GEM-S9430	P-typ semi-planar HPGe, PROFILE S [1]	94 mm ±2 mm [2]	30 mm (minst) [2]	65 % (nominellt) [2]
GEM-SP5020	P-typ semi-planar HPGe, PROFILE SP [1]	50 mm ±2 mm [2]	20 mm (minst) [2]	7 % (nominellt) [2]
GEM-SP5825	P-typ semi-planar HPGe, PROFILE SP [1]	58 mm ±2 mm [2]	25 mm (minst) [2]	15 % (nominellt) [2]
GEM-SP7025	P-typ semi-planar HPGe, PROFILE SP [1]	70 mm ±2 mm [2]	25 mm (minst) [2]	20 % (nominellt) [2]
GEM-SP8530	P-typ semi-planar HPGe, PROFILE SP [1]	85 mm ±2 mm [2]	30 mm (minst) [2]	50 % (nominellt) [2]
GEM-SP9430	P-typ semi-planar HPGe, PROFILE SP [1]	94 mm ±2 mm [2]	30 mm (minst) [2]	65 % (nominellt) [2]

Modell	Energiupplösning vid 122 keV	Energiupplösning vid 1,33 MeV	Energiupplösning vid 5,9 keV	Peak-to-Compton-förhållande
GEM-C10	≤ 0,80 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,60 keV FWHM; med kolfiberfönster [2]	≥ 41:1 [2]
GEM-C15	≤ 0,82 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,64 keV FWHM; med kolfiberfönster [2]	≥ 46:1 [2]
GEM-C20	≤ 0,82 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,65 keV FWHM; med kolfiberfönster [2]	≥ 52:1 [2]
GEM-C25	≤ 0,85 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,69 keV FWHM; med kolfiberfönster [2]	≥ 56:1 [2]
GEM-C30	≤ 0,85 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,72 keV FWHM; med kolfiberfönster [2]	≥ 60:1 [2]
GEM-C40	≤ 0,87 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,76 keV FWHM; med kolfiberfönster [2]	≥ 64:1 [2]
GEM-C50	≤ 0,90 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,80 keV FWHM; med kolfiberfönster [2]	≥ 66:1 [2]
GEM-C60	≤ 1,00 keV FWHM [2]	≤ 1,9 keV FWHM [2]	–	≥ 70:1 [2]
GEM-C70	≤ 1,00 keV FWHM [2]	≤ 2,0 keV FWHM [2]	≤ 0,90 keV FWHM; med kolfiberfönster [2]	≥ 75:1 [2]
GEM-C80	≤ 1,00 keV FWHM [2]	≤ 2,0 keV FWHM [2]	≤ 0,95 keV FWHM; med kolfiberfönster [2]	≥ 73:1 [2]
GEM-C90	≤ 1,10 keV FWHM [2]	≤ 2,0 keV FWHM [2]	≤ 0,95 keV FWHM; med kolfiberfönster [2]	≥ 80:1 [2]

GEM-C100	≤ 1,10 keV FWHM [2]	≤ 2,1 keV FWHM [2]	≤ 1,00 keV FWHM; med kolfiberfönster [2]	≥ 83:1 [2]
GEM-C110	≤ 1,10 keV FWHM [2]	≤ 2,1 keV FWHM [2]	≤ 1,05 keV FWHM; med kolfiberfönster [2]	≥ 85:1 [2]
GEM-C120	≤ 1,10 keV FWHM [2]	≤ 2,1 keV FWHM [2]	≤ 1,05 keV FWHM; med kolfiberfönster [2]	≥ 86:1 [2]
GEM-C130	≤ 1,20 keV FWHM [2]	≤ 2,1 keV FWHM [2]	≤ 1,10 keV FWHM; med kolfiberfönster [2]	≥ 83:1 [2]
GEM-C140	≤ 1,20 keV FWHM [2]	≤ 2,2 keV FWHM [2]	≤ 1,10 keV FWHM; med kolfiberfönster [2]	≥ 83:1 [2]
GEM-C150	≤ 1,30 keV FWHM [2]	≤ 2,3 keV FWHM [2]	≤ 1,10 keV FWHM; med kolfiberfönster [2]	≥ 90:1 [2]
GEM-C175	≤ 1,30 keV FWHM [2]	≤ 2,3 keV FWHM [2]	≤ 1,10 keV FWHM; med kolfiberfönster [2]	≥ 90:1 [2]
GEM-M5060	≤ 0,88 keV FWHM [2]	≤ 1,8 keV FWHM [2]	–	≥ 60:1 [2]
GEM-M5970	≤ 0,90 keV FWHM [2]	≤ 1,8 keV FWHM [2]	–	≥ 62:1 [2]
GEM-M7080	≤ 0,95 keV FWHM [2]	≤ 1,9 keV FWHM [2]	–	≥ 75:1 [2]
GEM-M8295	≤ 1,30 keV FWHM [2]	≤ 2,1 keV FWHM [2]	–	≥ 85:1 [2]
GEM-M94100	≤ 1,30 keV FWHM [2]	≤ 2,3 keV FWHM [2]	–	≥ 90:1 [2]
GEM-S5020	≤ 0,65 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,40 keV FWHM; med kolfiberfönster [2]	≥ 35:1 [2]
GEM-S5825	≤ 0,65 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,43 keV FWHM; med kolfiberfönster [2]	≥ 35:1 [2]
GEM-S7025	≤ 0,65 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,45 keV FWHM; med kolfiberfönster [2]	≥ 40:1 [2]
GEM-S7030	≤ 0,70 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,45 keV FWHM; med kolfiberfönster [2]	≥ 40:1 [2]
GEM-S8530	≤ 0,70 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,50 keV FWHM; med kolfiberfönster [2]	≥ 55:1 [2]
GEM-S9430	≤ 0,70 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,50 keV FWHM; med kolfiberfönster [2]	≥ 65:1 [2]
GEM-SP5020	≤ 0,59 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,30 keV FWHM; med kolfiberfönster [2]	≥ 35:1 [2]
GEM-SP5825	≤ 0,59 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,34 keV FWHM; med kolfiberfönster [2]	≥ 35:1 [2]
GEM-SP7025	≤ 0,59 keV FWHM [2]	≤ 1,8 keV FWHM [2]	≤ 0,38 keV FWHM; med kolfiberfönster [2]	≥ 40:1 [2]
GEM-SP8530	≤ 0,63 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,40 keV FWHM; med kolfiberfönster [2]	≥ 55:1 [2]
GEM-SP9430	≤ 0,63 keV FWHM [2]	≤ 1,9 keV FWHM [2]	≤ 0,43 keV FWHM; med kolfiberfönster [2]	≥ 65:1 [2]

Modell	Ändkapselns diameter	Beställningsutföranden
GEM-C10	70 mm (nominellt) [2]	GEM-C10P4 (PopTop) / GEM-C10 (Streamline) [2]
GEM-C15	70 mm (nominellt) [2]	GEM-C15P4 (PopTop) / GEM-C15 (Streamline) [2]
GEM-C20	70 mm (nominellt) [2]	GEM-C20P4 (PopTop) / GEM-C20 (Streamline) [2]
GEM-C25	70 mm (nominellt) [2]	GEM-C25P4 (PopTop) / GEM-C25 (Streamline) [2]

GEM-C30	70 mm (nominellt) [2]	GEM-C30P4 (PopTop) / GEM-C30 (Streamline) [2]
GEM-C40	76 mm (nominellt) [2]	GEM-C40P4 (PopTop) / GEM-C40 (Streamline) [2]
GEM-C50	83 mm (nominellt) [2]	GEM-C50P4 (PopTop) / GEM-C50 (Streamline) [2]
GEM-C60	83 mm (nominellt) [2]	GEM-C60P4 (PopTop) / GEM-C60 (Streamline) [2]
GEM-C70	83 mm (nominellt) [2]	GEM-C70P4 (PopTop) / GEM-C70 (Streamline) [2]
GEM-C80	95 mm (nominellt) [2]	GEM-C80P4 (PopTop) / GEM-C80 (Streamline) [2]
GEM-C90	95 mm (nominellt) [2]	GEM-C90P4 (PopTop) / GEM-C90 (Streamline) [2]
GEM-C100	95 mm (nominellt) [2]	GEM-C100P4 (PopTop) / GEM-C100 (Streamline) [2]
GEM-C110	95 mm (nominellt) [2]	GEM-C110P4 (PopTop) / GEM-C110 (Streamline) [2]
GEM-C120	95 mm (nominellt) [2]	GEM-C120P4 (PopTop) / GEM-C120 (Streamline) [2]
GEM-C130	108 mm (nominellt) [2]	GEM-C130P4 (PopTop) / GEM-C130 (Streamline) [2]
GEM-C140	108 mm (nominellt) [2]	GEM-C140P4 (PopTop) / GEM-C140 (Streamline) [2]
GEM-C150	108 mm (nominellt) [2]	GEM-C150P4 (PopTop) / GEM-C150 (Streamline) [2]
GEM-C175	108 mm (nominellt) [2]	GEM-C175P4 (PopTop) / GEM-C175 (Streamline) [2]
GEM-M5060	70 mm (nominellt) [2]	GEM-M5060P4 (PopTop) / GEM-M5060 (Streamline) [2]
GEM-M5970	70 mm (nominellt) [2]	GEM-M5970P4 (PopTop) / GEM-M5970 (Streamline) [2]
GEM-M7080	83 mm (nominellt) [2]	GEM-M7080P4 (PopTop) / GEM-M7080 (Streamline) [2]
GEM-M8295	95 mm (nominellt) [2]	GEM-M8295P4 (PopTop) / GEM-M8295 (Streamline) [2]
GEM-M94100	108 mm (nominellt) [2]	GEM-M94100P4 (PopTop) / GEM-M94100 (Streamline) [2]
GEM-S5020	70 mm (nominellt) [2]	GEM-S5020P4 (PopTop) / GEM-S5020 (Streamline) [2]
GEM-S5825	70 mm (nominellt) [2]	GEM-S5825P4 (PopTop) / GEM-S5825 (Streamline) [2]
GEM-S7025	83 mm (nominellt) [2]	GEM-S7025P4 (PopTop) / GEM-S7025 (Streamline) [2]
GEM-S7030	83 mm (nominellt) [2]	GEM-S7030P4 (PopTop) / GEM-S7030 (Streamline) [2]
GEM-S8530	108 mm (nominellt) [2]	GEM-S8530P4 (PopTop) / GEM-S8530 (Streamline) [2]
GEM-S9430	108 mm (nominellt) [2]	GEM-S9430P4 (PopTop) / GEM-S9430 (Streamline) [2]
GEM-SP5020	70 mm (nominellt) [2]	GEM-SP5020P4 (PopTop) / GEM-SP5020 (Streamline) [2]
GEM-SP5825	70 mm (nominellt) [2]	GEM-SP5825P4 (PopTop) / GEM-SP5825 (Streamline) [2]
GEM-SP7025	83 mm (nominellt) [2]	GEM-SP7025P4 (PopTop) / GEM-SP7025 (Streamline) [2]
GEM-SP8530	108 mm (nominellt) [2]	GEM-SP8530P4 (PopTop) / GEM-SP8530 (Streamline) [2]
GEM-SP9430	108 mm (nominellt) [2]	GEM-SP9430P4 (PopTop) / GEM-SP9430 (Streamline) [2]

Källor

[1] **PROFILE GEM P-type Coaxial and Semi-Planar HPGe Radiation Detectors**
ORTEC (AMETEK) · product-page · Page heading; More Information; Feature list / More Information · kontrollerad 2026-10-16
https://web.archive.org/web/20261016000000/https://www.ortec-online.com/products/radiation-detectors/high-pu...

[2] PROFILE HPGe Photon Detector – Product Configuration Guide
ORTEC (AMETEK) · datasheet · p. 5; p. 1 text and Fig. 1; p. 22, Ordering Information notes · kontrollerad 2026-10-16
https://edge.sitecorecloud.io/ametekinc1236b-ametekb19a-productiondcfa-1d17/media/Project/Ametek/ortec-onlin...

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Uppgifterna kommer från tillverkarens publicerade dokument. Tillverkaren kan ändra specifikationer; aktuell konfiguration och prestanda bekräftas i offert.