ORTEC®

AMETEK®

Product Guide
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ULTRA Ion-Implanted Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Guaranteed Maximum Resolution (keV FWHM)		Minimum Depletion Depth 100 µm	Guaranteed Maximum Resolution (keV FWHM)		Minimum Depletion Depth 300 µm	Guaranteed Maximum Resolution (keV FWHM)		Minimum Depletion Depth 500 µm
	α	β	Model	α	β	Model	α	β	Model
25	12	6	U-012-025-100	11	5	U-011-025-300	11	5	U-011-025-500
	14	8	U-014-025-100	13	7	U-013-025-300	12	6	U-012-025-500
50	12	6	U-012-050-100	11	5	U-011-050-300	11	5	U-011-050-500
	14	8	U-014-050-100	13	7	U-013-050-300	13	7	U-013-050-500
100	13	7	U-013-100-100	12	6	U-012-100-300	12	6	U-012-100-500
	15	9	U-015-100-100	14	8	U-014-100-300	14	8	U-014-100-500
150	14	9	U-014-150-100	13	8	U-013-150-300	12	7	U-012-150-500
	16	10	U-016-150-100	15	9	U-015-150-300	14	9	U-014-150-500
300	16	11	U-016-300-100	15	10	U-015-300-300	14	9	U-014-300-500
	19	14	U-019-300-100	18	13	U-018-300-300	17	12	U-017-300-500
450	17	12	U-017-450-100	16	11	U-016-450-300	15	10	U-015-450-500
	21	16	U-021-450-100	20	15	U-020-450-300	19	14	U-019-450-500
600	22	17	U-022-600-100	21	16	U-021-600-300	20	15	U-020-600-500
	24	19	U-024-600-100	23	18	U-023-600-300	22	17	U-022-600-500
900	27	22	U-027-900-100	25	20	U-025-900-300	23	18	U-023-900-500
	33	28	U-033-900-100	30	25	U-030-900-300	28	23	U-028-900-500
1200	35	30	U-035-1200-100	30	25	U-030-1200-300	28	23	U-028-1200-500
	42	37	U-042-1200-100	37	32	U-037-1200-300	35	30	U-035-1200-500
2000	50	45	U-050-2000-100	40	35	U-040-2000-300	35	30	U-035-2000-500
	58	53	U-058-2000-100	48	43	U-048-2000-300	43	38	U-043-2000-500
3000	60	55	U-060-3000-100	55	50	U-055-3000-300	50	45	U-050-3000-500
	70	65	U-070-3000-100	65	60	U-065-3000-300	60	55	U-060-3000-500

ULTRA-AS Ion-Implanted Detectors

- ~100 µm active depth to minimize cosmic background. Recommended for Alpha Suite models.
- Mount must be specified when ordering. See Ordering Information on page 8.

Active Area (mm^2)	Alpha Resolution (keV FWHM at 5.486 MeV)	Model
300	19	U-019-300-AS
450	20	U-020-450-AS
490	20	U-020-490-AS
600	24	U-024-600-AS
900	29	U-029-900-AS
1200	37	U-037-1200-AS
2000	53	U-053-2000-AS
3000	64	U-064-3000-AS

A Series Partially Depleted Silicon Surface Barrier Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 1000 µm	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 1500 µm	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 2000 µm
	α	β	Model	α	β	Model	α	β	Model
25	13	6	A-013-025-1000	14	9	A-014-025-1500	16	11	A-016-025-2000
	14	6	A-014-025-1000	16	11	A-016-025-1500			
50	14	7	A-014-050-1000	16	11	A-016-050-1500	17	12	A-017-050-2000
	15	8	A-015-050-1000	18	13	A-018-050-1500			
100	14	7	A-014-100-1000	17	12	A-017-100-1500	18	13	A-018-100-2000
	15	8	A-015-100-1000	19	14	A-019-100-1500			
150	15	9	A-015-150-1000	18	13	A-018-150-1500	19	14	A-019-150-2000
	16	10	A-016-150-1000	20	15	A-020-150-1500			
300	17	13	A-017-300-1000	20	15	A-020-300-1500	22	17	A-022-300-2000
	18	14	A-018-300-1000	23	18	A-023-300-1500			
450	18	13	A-018-450-1000	21	16	A-021-450-1500			
	19	14	A-019-450-1000	26	21	A-026-450-1500			

B Series Totally Depleted Silicon Surface Barrier Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)		Depletion Depth 150 µm (Range: 125–175 µm)	Depletion Depth 200 µm (Range: 176–225 µm)	Depletion Depth 250 µm (Range: 226–275 µm)	Depletion Depth 300 µm (Range: 276–350 µm)	Depletion Depth 400 µm (Range: 351–450 µm)
	α	β	Model	Model	Model	Model	Model
50	15	6	B-015-050-150	B-015-050-200	B-015-050-250	B-015-050-300	B-015-050-400
	16	7	B-016-050-150	B-016-050-200	B-016-050-250	B-016-050-300	B-016-050-400
150	17	9	B-017-150-150	B-017-150-200	B-017-150-250	B-017-150-300	B-017-150-400
	18	10	B-018-150-150	B-018-150-200	B-018-150-250	B-018-150-300	B-018-150-400
300	19	12	B-019-300-150	B-019-300-200	B-019-300-250	B-019-300-300	B-019-300-400
	20	15	B-020-300-150	B-020-300-200	B-020-300-250	B-020-300-300	B-020-300-400
450	23	17	B-023-450-150	B-023-450-200	B-023-450-250	B-023-450-300	B-023-450-400
	24	19	B-024-450-150	B-024-450-200	B-024-450-250	B-024-450-300	B-024-450-400

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)		Depletion Depth 500 µm (Range: 451–550 µm)	Depletion Depth 700 µm (Range: 650–750 µm)	Depletion Depth 1000 µm (Range: 950–1050 µm)
	α	β	Model	Model	Model
50	15	8	B-015-050-500	B-015-050-700	B-015-050-1000
	16	9	B-016-050-500	B-016-050-700	B-016-050-1000
150	17	9	B-017-150-500	B-017-150-700	B-017-150-1000
	18	10	B-018-150-500	B-018-150-700	B-018-150-1000
300	19	13	B-019-300-500	B-019-300-700	B-019-300-1000
	20	14	B-020-300-500	B-020-300-700	B-020-300-1000
450	21	16	B-021-450-500	B-021-450-700	B-021-450-1000
	23	18	B-023-450-500	B-023-450-700	B-023-450-1000

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)		Depletion Depth 1500 µm (Range: 1450–1550 µm)	Guaranteed Maximum Resolution (keV)		Depletion Depth 2000 µm (Range: 1950–2050 µm)
	α	β	Model	α	β	Model
50	17	12	B-017-050-1500	18	13	B-018-050-2000
	19	14	B-019-050-1500			
150	19	14	B-019-150-1500	20	15	B-020-150-2000
	21	16	B-021-150-1500			
300	21	16	B-021-300-1500	23	18	B-023-300-2000
450	24	19	B-024-450-1500	26	21	B-026-450-2000

C Series Annular Partially Depleted Silicon Surface Barrier Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Total Area Including 4-mm-diam Hole (mm^2)	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 100 µm	Minimum Depletion Depth 300 µm	Minimum Depletion Depth 500 µm	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 1000 µm
	α	β	Model	Model	Model	α	β	Model
50	17	9	C-017-050-100	C-017-050-300	C-017-050-500	18	10	C-018-050-1000
150	19	12	C-019-150-100	C-019-150-300	C-019-150-500	20	12	C-020-150-1000
300	21	14	C-021-300-100	C-021-300-300	C-021-300-500	22	15	C-022-300-1000
450	25	20	C-025-450-100	C-025-450-300	C-025-450-500	25	20	C-025-450-1000

D Series Planar Totally Depleted Silicon Surface Barrier Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Maximum Thickness Variation (µm)	Depletion Depth 15 µm (Range: 7–15 µm)	Depletion Depth 25 µm (Range: 15.1–25 µm)	Depletion Depth 40 µm (Range: 25.1–40 µm)
		Model	Model	Model
10	±0.5	D-020-010-15		
50	±0.5	D-035-050-15	D-035-050-25	D-020-050-40
150	±1.0		D-060-150-25	D-035-150-40
300	±1.0		D-095-300-25	D-055-300-40
450	±3.0		D-100-450-25	D-090-450-40

Active Area (mm^2)	Maximum Thickness Variation (µm)	Depletion Depth 50 µm (Range: 40.1–65 µm)	Depletion Depth 75 µm (Range: 65.1–85 µm)	Depletion Depth 100 µm (Range: 85.1–110 µm)
		Model	Model	Model
50	±0.5	D-015-050-50	D-015-050-75	D-015-050-100
150	±1.0	D-030-150-50	D-030-150-75	D-025-150-100
300	±1.0	D-045-300-50	D-040-300-75	D-030-300-100
450	±3.0	D-070-450-50	D-060-450-75	D-060-450-100

F Series Heavy-Ion Partially Depleted Silicon Surface Barrier Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Maximum Noise (keV)	≥60 µm Partially Depleted
		Model
100	18	F-018-100-60
300	23	F-023-300-60
400	28	F-028-400-60
600	33	F-033-600-60
900	35	F-035-900-60

R Series Ruggedized Partially Depleted Silicon Detectors

- Mount must be specified when ordering. See Ordering Information on page 8.
- Only ULTRA-AS in B mount (page 1), BR-SNA (page 5), ENS (page 6), and ENS8 (page 7) detector models are guaranteed compatible with Alpha Suite products (ARIA, DUO, MEGA, ENSEMBLE). All other detector models require an approved special for compatibility and warranted specifications.

Active Area (mm^2)	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 100 µm	Minimum Depletion Depth 300 µm	Guaranteed Maximum Resolution (keV)		Minimum Depletion Depth 500 µm
	α	β	Model	Model	α	β	Model
50	15	7	R-015-050-100	R-015-050-300	15	7	R-015-050-500
	17	8	R-017-050-100	R-017-050-300	17	8	R-017-050-500
150	16	10	R-016-150-100	R-016-150-300	16	10	R-016-150-500
	19	11	R-019-150-100	R-019-150-300	18	11	R-018-150-500
300	19	13	R-019-300-100	R-019-300-300	19	13	R-019-300-500
	21	15	R-021-300-100	R-021-300-300	21	15	R-021-300-500
450	20	14	R-020-450-100	R-020-450-300	20	14	R-020-450-500
	24	19	R-024-450-100	R-024-450-300	24	18	R-024-450-500
600	25	17	R-025-600-100	R-025-600-300	25	19	R-025-600-500
	33	28	R-033-600-100	R-033-600-300	33	29	R-033-600-500
900	30	25	R-030-900-100	R-030-900-300	30	25	R-030-900-500
	40	35	R-040-900-100	R-040-900-300	53	48	R-053-900-500
2000	50	45	R-050-2000-100	R-050-2000-300	50	45	R-050-2000-500
	60	55	R-060-2000-100	R-060-2000-300	80	75	R-080-2000-500

Low-Background ("SEE-NO-ALPHA") R Series for Alpha Spectrometers

Active Area (mm^2)	Minimum Depletion Depth 100 µm
	Model
300	TR-SNA-300-100
450	TR-SNA-450-100
600	TR-SNA-600-100

Active Area (mm^2)	Minimum Depletion Depth 100 µm
	Model
300	BR-SNA-300-100
450	BR-SNA-450-100
600	BR-SNA-600-100
900	BR-SNA-900-100

Alpha Suite Alpha Spectrometers

Model	Description
ALPHA-ARIA	Single input NIM spectrometer. Includes one ENS-ST-1, USB Cable and MAESTRO software.
ALPHA-DUO	Dual input benchtop spectrometer. Includes two each ENS-ST-1, one each ENS-ST-KK, one each ENS-CG, USB Cable and MAESTRO software.
ALPHA-MEGA	Single input benchtop spectrometer for up to 4" samples. Includes one each MEGA-ST, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-2	2 input benchtop spectrometer (one ALPHA-DUO-M1 module). Includes one each ENS-ST-KK, one each ENS-CG, USB Cable and MAESTRO software.
ALPHA-ENSEMBLE-4	4 input benchtop spectrometer (two ALPHA-DUO-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, USB Cable and MAESTRO software.
ALPHA-ENSEMBLE-6	6 input benchtop spectrometer (three ALPHA-DUO-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, USB Cable and MAESTRO software.
ALPHA-ENSEMBLE-8	8 input benchtop spectrometer, (four ALPHA-DUO-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, USB Cable and MAESTRO software.
ALPHA-ENSEMBLE-1M	Single input benchtop spectrometer (one ALPHA-MEGA-M1 module). Includes one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-2M	2 input benchtop spectrometer (two ALPHA-MEGA-M1 modules). Includes one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-3M	3 input benchtop spectrometer (three ALPHA-MEGA-M1 modules). Includes one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-4M	4 input benchtop spectrometer (four ALPHA-MEGA-M1 modules). Includes one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-1D-1M	3 input benchtop spectrometer (one ALPHA-DUO-M1 module and one ALPHA-MEGA-M1 module). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-1D-2M	4 input benchtop spectrometer (one ALPHA-DUO-M1 module and two ALPHA-MEGA-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-1D-3M	5 input benchtop spectrometer (one ALPHA-DUO-M1 module and three ALPHA-MEGA-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-2D-1M	5 input benchtop spectrometer (two ALPHA-DUO-M1 modules and one ALPHA-MEGA-M1 module). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-2D-2M	6 input benchtop spectrometer (two ALPHA-DUO-M1 modules and two ALPHA-MEGA-M1 modules). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.
ALPHA-ENSEMBLE-3D-1M	7 input benchtop spectrometer (three ALPHA-DUO-M1 modules and one ALPHA-MEGA-M1 module). Includes one each ENS-ST-KK, one each ENS-CG, one each MEGA-CG, MAESTRO Software and USB cable.

Expansion Modules for Alpha Ensemble

ALPHA-DUO-M1	Dual input Alpha Ensemble expansion spectrometer. Includes two each ENS-ST-1.
ALPHA-MEGA-M1	Single input Alpha Ensemble expansion spectrometer. Includes one each MEGA-ST.

Accessories

ENS-CG	Chamber Door O-Rings for Aria and Duo Package of 10.
ENS-RACKMOUNT	Installed 19" Rackmount must be ordered with an ALPHA-ENSEMBLE.
ENS-RM-KIT	Rackmount kit for ALPHA-ENSEMBLE not installed.
ENS-ST-KK	Sample Trays for Aria and Duo. (1 each of all four sample trays).
ENS-ST-1	Sample Tray for Aria and Duo, fits 3/4 in. and 1 in. samples.
ENS-ST-2	Sample Tray for Aria and Duo, fits 1/2 in. and 7/8 in. samples.
ENS-ST-3	Sample Tray for Aria and Duo, fits 1-1/4 in. and 1-1/2 in. samples.
ENS-ST-4	Sample Tray for Aria and Duo, fits 1-3/4 in. and 2 in. samples.
MEGA-CG	Chamber Door O-Rings for Mega. Package of 5.
MEGA-ST	Sample Tray for Mega. Fits sample sizes up to 4.18 inches (106 mm). Includes Spring Loaded Filter Retainer.
RCAP-ST	Biased Sample Tray Assembly ALPHA-DUO and ALPHA-ENSEMBLE. Includes batteries and pegs to adjust for various sizes of samples.

Detectors for Alpha Suite Spectrometers – installed and system tested

ENS-U300	300 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U450	450 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U490	490 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U600	600 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U900	900 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U1200	1200 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U2000	2000 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-U3000	3000 mm^2 low-background ULTRA-AS detector for Alpha Suite Spectrometer
ENS-R300	300 mm^2 low-background Ruggedized detector for Alpha Suite Spectrometer
ENS-R450	450 mm^2 low-background Ruggedized detector for Alpha Suite Spectrometer
ENS-R600	600 mm^2 low-background Ruggedized detector for Alpha Suite Spectrometer
ENS-R900	900 mm^2 low-background Ruggedized detector for Alpha Suite Spectrometer

Spare Detector Sets for Alpha Suite Spectrometers

- Can only be ordered in conjunction with an ALPHA-ENSEMBLE-8 system including 8 each ENS- model detectors at full price. Customer may then order one set of spare detectors (ENS8 model) per ALPHA-ENSEMBLE-8 system including 8 each ENS- detectors at full price ordered. Spare detectors ordered must be the same size as or smaller than the 8 each ENS- model detectors ordered at full price with the ALPHA-ENSEMBLE-8 system.
- ENS8 model detectors are not installed or system tested.

Model	Description
ENS8U300	Eight 300 mm^2 ULTRA-AS Detectors.
ENS8U450	Eight 450 mm^2 ULTRA-AS Detectors.
ENS8U490	Eight 490 mm^2 ULTRA-AS Detectors.
ENS8U600	Eight 600 mm^2 ULTRA-AS Detectors.
ENS8U900	Eight 900 mm^2 ULTRA-AS Detectors.
ENS8U1200	Eight 1200 mm^2 ULTRA-AS Detectors.

Portable Pump Station

Model	Description
ALPHA-MINI-PPS	Miniature vacuum pump station with power supply. Includes 10 inch and 3 foot vacuum hose. Recommended for small, single or dual chamber installations only (e.g., a single Alpha-Aria or Alpha-Duo).
ALPHA-MINI-PPS-REPKIT	Overhaul kit for ALPHA-MINI-PPS pump.
ALPHA-PPS-115	115-V Portable Pump Station
ALPHA-PPS-230	230-V Portable Pump Station

A-576 A-PAD Preamplifier, Amplifier, Discriminator with Bias Supply

Model	Description
A576	A-PAD Preamplifier, Amplifier, Discriminator with Bias Supply. **NON ROHS.**

Vacuum Chambers

Model	Description
807	Vacuum Chamber
808	Vacuum Chamber
808OPT1	4-ft Vacuum Hose for connection to ALPHA-PPS Pump Station

576-VM Vacuum Manifold and Control

Model	Description
576-VM	Vacuum Manifold and Control (115/230 V AC). **NON ROHS.**

Ultra-Thin-Window Alpha Source

- U.S. users must have an NRC and/or Agreement State License with provisions for type and quantity of isotope involved. A copy of this license, authorizing the possession of the source ordered, must accompany an order for the source.

Model	Description
Am-1C	Calibrated ^{241}Am Source

RCAP-2 Ion Recoil Contamination Avoidance Package

Model	Description
RCAP-2-120V	Ion Recoil Contamination Avoidance Package. 120 Volt.
RCAP-2-240V	Ion Recoil Contamination Avoidance Package. 240 Volt.
RCAP-ST	Biased Sample Tray Assembly for RCAP-2 Systems. Includes batteries and pegs to adjust for various sizes of samples.

WARRANTY

ORTEC warrants that all Charged-Particle Detectors will be delivered free from defects in materials and workmanship and will perform in accordance with performance specifications. ORTEC makes no other warranties express or implied and specifically **NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

ORTEC's exclusive liability for breach of the foregoing warranty is limited to repairing or replacing, at ORTEC's option, defective items returned at Buyer's expense within the following warranty periods:

A Series.....one year
B Series.....one year
C Series .....one year
D Series (>25 µm thick) .....one year
D Series (≤25 µm thick) .....three months
F Series.....three months
R Series .....one year
ULTRA/ULTRA-AS.....one year

In the event Charged-Particle Detectors have been subject to mishandling, abuse, radiation damage, or failure to adhere to the use and handling precautions contained in the manual furnished with the detector, no warranty coverage will be afforded.

ORTEC's liability on any claim of any kind, including negligence, for loss or damages arising out of, connected with, or resulting from this agreement, or from the performance or breach thereof, or from the manufacture, sale delivery, resale, repair, or use of any item or services covered by or furnished under any agreement shallin no case exceed the price allocable to the item or service or part thereof which gives rise to the claim. In the event ORTEC fails to manufacture or deliver items other than standard products that appear in ORTEC's catalog, ORTEC's exclusive liability and Buyer's exclusive remedy shall be release of the Buyer from the obligation to pay the purchase price. **IN NO EVENT SHALL ORTEC BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES.**

ORDERING INFORMATION

- ENS- Series detectors (installed and tested when purchasing a new system), ENS8 Series (8-Pack spares with a new system), ULTRA-AS in B mount and BR-SNA models are guaranteed compatible with the Alpha Suite products (DUO, MEGA, ARIA, ENSEMBLE). All other detectors require an approved special for compatibility and warranted specifications.

To order the detector most suitable for your particular needs, select the model number of the detector desired and add the appropriate letter prefix for the mounting desired.

The model numbers for all series of detectors consist of four components: the letter indicates the series; the first three Digits indicate:

1. The maximum room-temperature alpha resolution in keV FWHM for the Series A, B, C, R, ULTRA, and ULTRA-AS.

2. The maximum total system noise width in keV FWHM for the D and F Series detectors.

The next group of digits indicates the minimum active area in mm^2.

Note that the area indicated for the C Series includes the 4-mm-diameter hole.

The last three digits indicate the depletion depth.

Example: BU-012-100-300 is an ULTRA Partially Depleted detector in a B Mount with a rear Microdot connector with:

- <12 keV alpha resolution
- 100-mm^2 active area
- ≥300-µm depletion depth

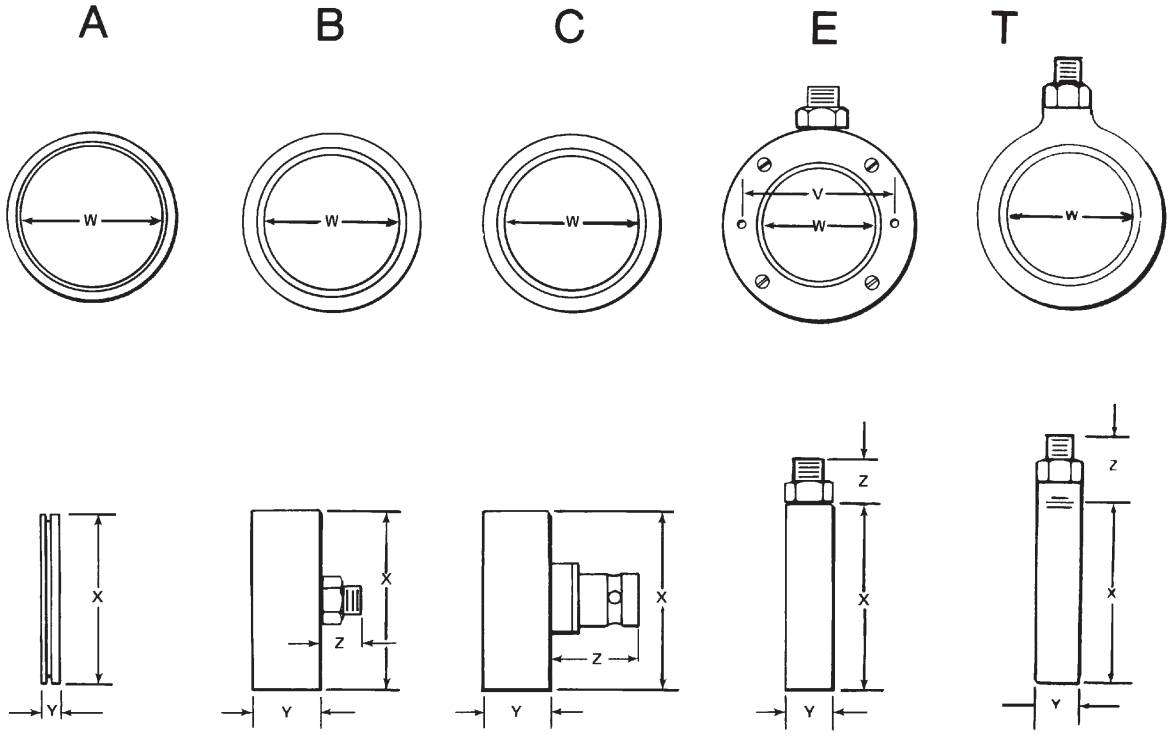
This sample detector would be shipped with a standard rear Microdot connector (B Mount). If a rear BNC connector (C Mount) were desired, the model number should be designated:

CU-012-100-300

STANDARD MOUNTING INFORMATION

- Contact the factory for special mounting arrangements.

Detector Series	Specification	Mount
ULTRA and ULTRA-AS	600 mm^2 and below	B, C, or T (closed back)
ULTRA and ULTRA-AS	above 600 mm^2	B or C
A		A, B, or C
B		A or T (open back)
C		A or T (open back)
D	≤40 µm depletion depth	A or T (open back)
D	>40 µm depletion depth	A or E
F		A, B, or C
R		A, B, C, or T (closed back)



Detector Size (mm^2)	W (Nominal)	Type A Mount		Type B Rear Microdot			Type C Rear BNC			Type E Demountable Transmission				Type T Transmission Mount		
		X*	Y	X	Y	Z	X	Y	Z	X	Y	Z	V	X	Y	Z
0.25	5.6	15.2	3.7	16.7	12.3	7.1	16.7	12.3	15.9	25.1	7.7	7.0	18.2	19.4	7.6	9.9
050	8.0	15.2	3.7	16.7	12.3	7.1	16.7	12.3	15.9	25.1	7.7	7.0	18.2	19.4	7.6	9.9
100	11.3	22.0	3.7	23.6	12.3	7.1	23.6	12.3	15.9	31.9	7.7	7.0	25.0	26.1	7.6	9.9
150	13.8	22.0	3.7	23.6	12.3	7.1	23.6	12.3	15.9	31.9	7.7	7.0	25.0	26.1	7.6	9.9
200	16.0	27.1	3.7	28.6	12.3	7.1	28.6	12.3	15.9	37.1	7.7	7.0	30.1	31.6	7.6	9.9
300	19.5	27.1	3.7	28.6	12.3	7.1	28.6	12.3	15.9	37.1	7.7	7.0	30.1	31.6	7.6	9.9
400	22.6	30.5	3.7	32.0	12.3	7.1	32.0	12.3	15.9							
450	23.9	30.5	3.7	32.0	12.3	7.1	32.0	12.3	15.9	40.2	7.7	7.0	33.3	34.8	7.6	9.9
600	27.6	34.1	3.7	36.1	12.3	7.1	36.1	12.3	15.9	43.8	7.7	7.0	36.9	38.4	7.6	9.9
900	33.9	43.2	3.7	45.2	12.3	7.1	45.2	12.3	15.9	58.8	7.7	7.0	50.8			
1200	40.0			48.8	12.3	7.1	48.8	12.3	15.9							
1700	47.0			59.0	12.3	7.1	59.0	12.3	15.9							
2000	51.0			65.5	12.3	7.1	65.5	12.3	15.9							
3000	62.0			76.2	12.3	7.1	76.2	12.3	15.9							
Tolerances	±0.5	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3	±0.3

V, W, X, Y, and Z dimensions given in millimeters.
For A and B Series 1500 or 2000 µm deep add 1.5 mm to Y dimension.

GEM HPGe Coaxial Detector (PopTop or Streamline)

- Endcap Diameter must be specified, see Endcap Diameter column [e.g., GEM10-70, GEM40P4-76].
- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.
- Monte Carlo drawing and certified factory test results included.

Base Model No.	Relative Photopeak Efficiency (%) (Minimum)	Resolution @122 keV (keV) FWHM (Maximum)	Resolution @1.33 MeV (keV) FWHM (Maximum)	Peak-to-Compton Ratio (Minimum)	Peak Shape FW.1M/ FWHM (Maximum)	Peak Shape FW.02M/ FWHM (Typical)	Endcap Diameter (mm) Nominal
GEM10	10	0.80	1.7	41:1	1.9	2.6	-70
GEM15	15	0.82	1.8	46:1	1.9	2.6	-70
GEM20	20	0.82	1.8	52:1	1.9	2.6	-70
GEM25	25	0.82	1.8	56:1	1.9	2.6	-76
GEM30	30	0.85	1.8	60:1	1.9	2.6	-76
GEM40	40	0.87	1.8	64:1	1.9	2.6	-76
GEM50	50	0.90	1.9	66:1	1.9	2.6	-83
GEM60	60	1.00	1.9	70:1	1.9	3.0	-95
GEM70	70	1.00	2.0	75:1	2.0	3.0	-95
GEM80	80	1.10	2.0	77:1	2.0	3.0	-95
GEM90	90	1.20	2.0	80:1	2.0	3.0	-95
GEM100	100	1.20	2.1	83:1	2.0	3.0	-95
GEM110	110	1.30	2.1	85:1	2.0	3.0	-95
GEM120	120	1.30	2.1	86:1	2.0	3.1	-108
GEM130	130	1.30	2.1	90:1	2.0	3.1	-108
GEM140	140	1.30	2.2	90:1	2.0	3.1	-108
GEM150	150	1.30	2.3	90:1	2.0	3.1	-108

GEM Detector Options	
P4	**PopTop Only.** PopTop capsule, add “P4” to the model number [e.g., GEM40P4-76].
-RB	**PopTop Only.** Reduced background PopTop capsule with Carbon Fiber endcap, add “-RB” to the model number [e.g., GEM10P4-70-RB].
-LB-C	**Streamline Only.** Low-Background Detector with Carbon Fiber Endcap, add “-LB-C” to the model number [e.g., GEM70-95-LB-C]. Requires selection of a Low-Background LB cryostat.
-XLB-C	**Streamline Only.** Extra-Low-Background Detector with Carbon Fiber Endcap, add “-XLB-C” to the model number [e.g., GEM90-95-XLB-C]. Requires selection of a Low-Background XLB cryostat.
-HJ	**Streamline Only.** Remote preamplifier and high voltage filter for use with HJ type cryostat, add “-HJ” to the model number [e.g., GEM40-76-HJ]. Requires selection of HJ cryostat. Not compatible with -PL or -SMP options.
-ICS-E	**ICS Streamline Only.** Integrated Cryocooling System with external preamp. Cryostat sealed with a cryocooler and immune to thermal short cycling, add “-ICS-E” to the model number [e.g., GEM10-70-ICS-E]. Requires selection of an ICS-E cryostat.
-ICS-HJ	**ICS Streamline Only.** Integrated Cryocooling System with remote preamp and high voltage filter. Cryostat sealed with a cryocooler and immune to thermal short cycling, add “-ICS-HJ” to the model number [e.g., GEM70-95-ICS-HJ]. This option is inclusive of cryostat and does not require selection of an additional cryostat. Not compatible with other options.
-ICS-LB-HJ	**ICS Streamline Only.** Integrated Cryocooling System with remote preamp and high voltage filter, High Purity Al Endcap and Cu Mount. Cryostat sealed with a cryocooler and immune to thermal short cycling, add “-ICS-LB-HJ” to the model number [e.g., GEM130-108-ICS-LB-HJ]. This option is inclusive of cryostat and does not require selection of an additional cryostat. Not compatible with other options.
-PL	PLUS Ultra-high-count-rate Preamplifier, add “-PL” to the model number [e.g., GEM10P4-70-PL]. Not compatible with -HJ option.
-SMP	SMART-1 detector option for positive bias detector, add “-SMP” to the model number [e.g., GEM80P4-95-SMP]. Not compatible with -HJ option.

GEM PopTop Cryostats and Dewars

Model	Description
CFG-MG4-1.2G	Gamma Gage Cryostat with 1.2-liter Dewar, Pistol Grip handle and mounting holes to fit the M-1-T1 Tripod (for 83 mm or smaller endcaps)
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar (for 83 mm or smaller endcaps)
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation. (FWHM resolution below 100 keV may degrade by up to 10%.)
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

GEM Streamline Cryostats

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to cryostat model: -70, -76, -83, -95, -108 [e.g., CFG-SJ-95 for GEM80-95, or CFG-SL-XLB-76 for GEM30-76-XLB-C].
- Dewar required. Select dewar from GEM Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-GG	Gamma Gage Cryostat
CFG-HJ	J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD	Down-Looking Cryostat
CFG-SH	Horizontal Cryostat (Dipstick type)
CFG-SJ	J-type Cryostat
CFG-SL	Side-Looking Cryostat
CFG-SV	Vertical Cryostat (Dipstick type)
LOW-BACKGROUND	
CFG-GG-LB	Low-Background Gamma Gage Cryostat
CFG-HJ-LB	Low-Background J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD-LB	Low-Background Down-Looking Cryostat
CFG-SH-LB	Low-Background Horizontal Cryostat (Dipstick type)
CFG-SJ-LB	Low-Background J-type Cryostat
CFG-SL-LB	Low-Background Side-Looking Cryostat
CFG-SV-LB	Low-Background Vertical Cryostat (Dipstick type)
CFG-SD-XLB	Extra-Low-Background Down-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SH-XLB	Extra-Low-Background Horizontal Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SJ-XLB	Extra-Low-Background J-type Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SL-XLB	Extra-Low-Background Side-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SV-XLB	Extra-Low-Background Vertical Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.

GEM Streamline Dewars

Model	Choose	Description
CFG-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage/Fill Dewar for DWR-xG
CFG-HJ, SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

GEM Streamline ICS Cryostat

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to Cooling Rod Length model: -70, -76, -83, -95, -108 [e.g., CFG-ICS-E, ICS-LLE139-76 for GEM30-76-ICS-E].
- FWHM resolution below 100 keV may degrade by up to 10%.

Model	Description
CFG-ICS-E	Integrated Cryocooling System with External Preamp. **Cooling Rod Length must be specified, see below.**
	Cooling Rod Length. Add as separate line item ICS-LLExxx where xxx = one of the following lengths (mm): 025, 114, 139, 190* and **append matching Detector Endcap Size** [e.g., ICS-LLE114-70].
CFG-ICS-E-PL	Integrated Cryocooling System with External PLUS Preamp. **Cooling Rod Length must be specified, see below.**
	Cooling Rod Length. Add as separate line item ICS-LLExxx where xxx = one of the following lengths (mm): 025, 114, 139, 190* and **append matching Detector Endcap Size** [e.g., ICS-LLE114-70].

*Recommended cooling rod length: 139 mm for use with 4” lead shield. 190 mm for use with 6” lead shield. Other lengths available by special order.

PROFILE Series GEM Detectors (PopTop or Streamline)

- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.
- Monte Carlo drawing and certified factory test results included.
- GEM-M and GEM-C are optimized for use with samples in front of the detector such as filters, Petri dishes, bottles or Marinelli Beakers: Choose the largest diameter which will fit within the Marinelli well.
- GEM-S and GEM-SP are optimized for "close geometry" samples such as filters, Petri dishes, and bottles. If possible, choose a crystal diameter >20% larger than your sample.

Base Model No.	Crystal Diameter ±2 mm	Crystal Length mm Minimum	Resolution @ 5.9 keV keV FWHM Maximum§	Resolution @ 14.4 keV keV FWHM Typical§	Resolution @ 46 keV keV FWHM Typical	Resolution @ 122 keV keV FWHM Maximum	Resolution @ 1.33 MeV keV FWHM Maximum	Peak Shape FW.1M/ FWHM Typical	Peak Shape FW.02M/ FWHM Typical	Peak to Compton Ratio Minimum	Relative Efficiency % Nominal	Energy Rate Limit MeV/s Minimum	Endcap Diameter mm Nominal
GEM-M5060	50	60				0.88	1.8	1.9	2.6	60:1	20	125,200	70
GEM-M5970	59	70				0.90	1.8	1.9	2.7	62:1	38	125,200	70
GEM-M7080	70	80				0.95	1.9	2.0	3.0	75:1	66	125,200	83
GEM-M8295	82	95				1.30	2.1	2.0	3.1	85:1	115	125,200	95
GEM-M94100	94	100				1.30	2.3	2.0	3.1	90:1	175	125,200	108
GEM-S5020	50	20	0.40	0.50	0.53	0.65	1.8	1.9	2.6	35:1	7	3,700	70
GEM-S5825	58	25	0.43	0.50	0.55	0.65	1.8	1.9	2.7	35:1	15	3,700	70
GEM-S7025	70	25	0.45	0.55	0.58	0.65	1.9	1.9	2.8	40:1	20	125,200	83
GEM-S7030	70	30	0.45	0.55	0.60	0.70	1.9	2.0	2.9	40:1	28	125,200	83
GEM-S8530	85	30	0.50	0.58	0.63	0.70	1.9	2.0	2.9	55:1	50	125,200	108
GEM-S9430	94	30	0.50	0.58	0.65	0.70	1.9	2.0	2.9	65:1	65	125,200	108
GEM-SP5020	50	20	0.30	0.35		0.59	1.8	1.9	2.6	35:1	7	5,600	70
GEM-SP5825	58	25	0.34	0.38		0.59	1.8	1.9	2.7	35:1	15	5,600	70
GEM-SP7025	70	25	0.38	0.40		0.59	1.8	1.9	2.8	40:1	20	5,600	83
GEM-SP8530	85	30	0.40	0.43		0.63	1.9	2.0	2.9	55:1	50	5,600	108
GEM-SP9430	94	30	0.43	0.45		0.63	1.9	2.0	2.9	65:1	65	5,600	108

Base Model No.	Crystal Diameter ±2 mm	Crystal Length mm Minimum	Resolution @ 5.9 keV keV FWHM Maximum§	Resolution @ 14.4 keV keV FWHM Typical§	Resolution @ 122 keV keV FWHM Maximum	Resolution @ 1.33 MeV keV FWHM Maximum	Peak Shape FW.1M/ FWHM Typical	Peak Shape FW.02M/ FWHM Typical	Peak to Compton Ratio Minimum	Relative Efficiency % Minimum	Endcap Diameter mm Nominal
GEM-C10	50	25	0.60	0.70	0.80	1.8	1.9	2.6	41:1	10	70
GEM-C15	50	44	0.64	0.74	0.82	1.8	1.9	2.6	46:1	15	70
GEM-C20	50	60	0.65	0.75	0.82	1.8	1.9	2.6	52:1	20	70
GEM-C25	57	50	0.69	0.78	0.85	1.8	1.9	2.6	56:1	25	70
GEM-C30	57	62	0.72	0.78	0.85	1.8	1.9	2.6	60:1	30	70
GEM-C40	64	58	0.76	0.80	0.87	1.8	1.9	2.6	64:1	40	76
GEM-C50	68	62	0.80	0.83	0.90	1.9	1.9	2.6	66:1	50	83
GEM-C60	68	77	083	0.93	1.00	1.9	1.9	2.8	70:1	60	83
GEM-C70	70	85	0.90	0.95	1.00	2.0	1.9	3.0	75:1	70	83
GEM-C80	80	61	0.95	0.95	1.00	2.0	1.9	3.0	73:1	80	95
GEM-C90	80	70	0.95	1.03	1.10	2.0	1.9	3.0	80:1	90	95
GEM-C100	80	82	1.00	1.05	1.10	2.1	1.9	3.0	83:1	100	95
GEM-C110	80	91	1.05	1.08	1.10	2.1	1.9	3.0	85:1	110	95
GEM-C120	82	98	1.05	1.08	1.10	2.1	1.9	3.0	86:1	120	95
GEM-C130	92	67	1.10	1.16	1.20	2.1	2.0	3.1	83:1	130	108
GEM-C140	92	74	1.10	1.16	1.20	2.2	2.0	3.1	83:1	140	108
GEM-C150	92	81	1.10	1.25	1.30	2.3	2.0	3.1	90:1	150	108
GEM-C175	94	100	1.10	1.25	1.30	2.3	2.0	3.1	90:1	175	108

§) Only applies to detectors equipped with carbon fiber windows.

PROFILE Detector Options

Model	Description
P4	**PopTop Only.** PopTop capsule, add "P4" to the model number. [e.g., GEM-M5970P4].
-RB	**PopTop Only.** Reduced background PopTop capsule with Carbon Fiber Endcap, add "-RB" to the model number [e.g., GEM-M5970P4-RB].
-LB-C	**Streamline Only.** Low-Background Detector with Carbon Fiber Endcap, add "-LB-C" to the model number [e.g., GEM-M94100-LB-C]. Requires selection of a Low-Background LB cryostat.
-XLB-C	**Streamline Only.** Extra-Low-Background Detector with Carbon Fiber Endcap, add "-XLB-C" to the model number [e.g., GEM-S8530-XLB-C]. Requires selection of a Low-Background XLB cryostat.
-HJ	**Streamline Only.** Remote preamplifier and high voltage filter for use with HJ type cryostat, add "-HJ" to the model number [e.g., GEM-M5970-HJ]. Requires selection of HJ cryostat. Not compatible with -PL or -SMP options.
-ICS-E	**ICS Streamline Only.** Integrated Cryocooling System with External Preamp. Cryostat sealed with a cryocooler and immune to thermal short cycling, add "-ICS-E" to the model number [e.g., GEM-C50-ICS-E]. Requires selection of ICS-E cryostat. Contact Factory for availability with GEM-SP.
-ICS-HJ	**ICS Streamline Only.** Integrated Cryocooling System with remote preamp and high voltage filter. Cryostat sealed with a cryocooler and immune to thermal short cycling, add endcap size and "-ICS-HJ" to the model number [e.g., GEM-S5020-70-ICS-HJ]. This option is inclusive of cryostat and does not require selection of an additional cryostat. Not compatible with other options or GEM-SP.
-ICS-LB-HJ	**ICS Streamline Only.** Integrated Cryocooling System with remote preamp and high voltage filter, High Purity Al Endcap and Cu Mount. Cryostat sealed with a cryocooler and immune to thermal short cycling, add endcap size and "-ICS-LB-HJ" to the model number [e.g., GEM-M5060-70-ICS-LB-HJ]. This option is inclusive of cryostat and does not require selection of an additional cryostat. Not compatible with other options or GEM-S.
-PL	**GEM-M and GEM-C Only.** PLUS Ultra-high-count-rate Preamplifier, add "-PL" to the model number [e.g., GEM-M5970P4-PL]. Not compatible with -HJ option.
-SMP	SMART-1 detector option for positive bias detector, add SMP to model number [e.g., GEM-S7025P4-SMP]. Not compatible with -HJ option.

PROFILE PopTop Cryostats and Dewars

Model	Description
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar (for 83 mm or smaller endcaps)
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation. (FWHM resolution below 100 keV may degrade by up to 10%.)
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5" diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5" diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

PROFILE Streamline Cryostats

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to cryostat model: -70, -83, -95 -108 [e.g., CFG-SJ-95 for GEM-M8295, or CFG-SL-XLB-83 for GEM-S7025-XLB-C]
- Dewar required. Select dewar from Profile Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-GG	Gamma Gage Cryostat
CFG-HJ	J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD	Down-Looking Cryostat
CFG-SH	Horizontal Cryostat (Dipstick type)
CFG-SJ	J-type Cryostat
CFG-SL	Side-Looking Cryostat
CFG-SV	Vertical Cryostat (Dipstick type)
LOW-BACKGROUND	
CFG-GG-LB	Low-Background Gamma Gage Cryostat
CFG-HJ-LB	Low-Background J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD-LB	Low-Background Down-Looking Cryostat
CFG-SH-LB	Low-Background Horizontal Cryostat (Dipstick type)
CFG-SJ-LB	Low-Background J-type Cryostat
CFG-SL-LB	Low-Background Side-Looking Cryostat
CFG-SV-LB	Low-Background Vertical Cryostat (Dipstick type)
CFG-SD-XLB	Extra-Low-Background Down-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SH-XLB	Extra-Low-Background Horizontal Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SJ-XLB	Extra-Low-Background J-type Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SL-XLB	Extra-Low-Background Side-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SV-XLB	Extra-Low-Background Vertical Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.

PROFILE Streamline Dewars

Model	Choose	Description
CFG-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage/Fill Dewar for DWR-xG
CFG-HJ, SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

PROFILE Streamline ICS Cryostat

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to Cooling Rod Length model: -70, -83, -95, -108 [e.g., CFG-ICS-E, ICS-LLE114-83 for GEM-M7080-ICS-E].
- Contact Factory for availability with GEM-SP.
- FWHM resolution below 100 keV may degrade by up to 10%.

Model	Description
CFG-ICS-E	Integrated Cryocooling System with External Preamp. **Cooling Rod Length must be specified, see below.** **Cooling Rod Length. Add as separate line item ICS-LLExxx** where xxx = one of the following lengths (mm): 025, 114, 139, 190*, and **append matching Detector Endcap Size** [e.g., ICS-LLE190-70].
CFG-ICS-E-PL	Integrated Cryocooling System with External PLUS Preamp. **Cooling Rod Length must be specified, see below.** **Cooling Rod Length. Add as separate line item ICS-LLExxx** where xxx = one of the following lengths (mm): 025, 114, 139, 190*, and **append matching Detector Endcap Size** [e.g., ICS-LLE190-70].

*Recommended cooling rod length: 139 mm for use with 4” lead shield. 190 mm for use with 6” lead shield. Other lengths available by special order.

GAMMA-X HPGe Coaxial Detector (PopTop or Streamline)

- Endcap Diameter must be specified, see Endcap Diameter column[e.g., GMX10P4-70, GMX40P4-76].
- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.
- Monte Carlo drawing and certified factory test results included.

Base Model No.	Relative Photopeak Efficiency % (Minimum)	Resolution			Peak-to-Compton Ratio (Minimum)	Peak Shape		Endcap Diameter (mm) Nominal
		@ 5.9 keV (keV FWHM) (Typical*)	@122 keV (keV FWHM) (Maximum)	@1.33 MeV (keV FWHM) (Maximum)		FW.1M/ FWHM (Maximum)	FW.02M/ FWHM (Typical)	
GMX10	10	0.60	0.85	1.8	40:1	1.9	2.6	-70
GMX15	15	0.64	0.88	1.9	44:1	1.9	2.6	-70
GMX20	20	0.65	0.88	1.9	48:1	1.9	2.8	-70
GMX25	25	0.69	0.90	1.9	48:1	1.9	2.8	-76
GMX30	30	0.72	0.90	1.9	52:1	1.9	2.8	-76
GMX35	35	0.73	1.00	2.0	55:1	2.0	3.0	-76
GMX40	40	0.76	1.00	2.0	59:1	2.0	3.0	-76
GMX45	45	0.80	1.10	2.1	60:1	2.0	3.0	-83
GMX50	50	0.80	1.10	2.2	58:1	2.0	3.0	-83
GMX60	60	1.10	1.30	2.3	56:1	2.0	3.0	-95
GMX70	70	1.10	1.30	2.3	60:1	2.0	3.0	-95
GMX80	80	1.10	1.30	2.3	63:1	2.0	3.0	-95
GMX90	90	1.20	1.40	2.4	64:1	2.1	3.1	-95
GMX100	100	1.20	1.40	2.5	64:1	2.2	3.2	-95

GMX Detector Options

P4	**PopTop Only.** PopTop capsule, add "P4" to the model number. [e.g., GMX60P4-95].
-RB	**PopTop Only.** Reduced background PopTop capsule with Carbon Fiber Endcap, add "-RB" to the model number [e.g., GMX10P4-70-RB].
-LB-C	**Streamline Only.** Low-Background Detector with Carbon Fiber Endcap, add "-LB-C" to the model number [e.g., GMX60-95LB-C]. Requires selection of a Low-Background LB cryostat.
-XLB-C	**Streamline Only.** Extra-Low-Background Detector with Carbon Fiber Endcap, add "-XLB-C" to the model number [e.g., GMX90-95-XLB-C]. Requires selection of a Low-Background XLB cryostat.
-A	Aluminum endcap (no Be) at no extra charge, add "-A" to the model number [e.g., GMX90P4-95-A]. This option deletes the 5.9-keV resolution specification.
-CW	Carbon Fiber Window (0.9 mm thick) at no extra charge, add "-CW" to the model number [e.g., GMX90P4-95-CW]. This option deletes the 5.9-keV resolution specification.
-HJ	**Streamline Only.** Remote preamplifier and high voltage filter for use with HJ type cryostat, add "-HJ" to the model number[e.g., GMX40-76-HJ]. Requires selection of HJ cryostat. Not compatible with -PL or -SMN options.
-PL	PLUS Ultra-high-count-rate Preamplifier, add "-PL" to the model number [e.g., GMX90P4-95-PL]. Not compatible with -HJ option.
-SMN	SMART-1 option for negative bias detector, add "-SMN" to the model number [e.g., GMX70P4-95-SMN]. Not compatible with -HJ option.

*Typical, not warranted.

GMX PopTop Cryostats and Dewars

Model	Description
CFG-MG4-1.2G	Gamma Gage Cryostat with 1.2-liter Dewar, Pistol Grip handle and mounting holes to fit the M-1-T1 Tripod (for 83 mm or smaller endcaps)
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar (for 83 mm or smaller endcaps)
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation. (FWHM resolution below 100 keV may degrade by up to 10%.)
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

GAMMA-X Streamline Cryostats

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to cryostat model: -70, -76, -83, -95 [e.g., CFG-SJ-95 for GMX70-95 or CFG-SL-XLB-76 for GMX30-76-XLB-B]
- Dewar required. Select dewar from GAMMA-X Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-GG	Gamma Gage Cryostat
CFG-HJ	J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD	Down-Looking Cryostat
CFG-SH	Horizontal Cryostat (Dipstick type)
CFG-N-SH	Horizontal Cryostat with vacuum valve (Dipstick type). Requires model VV02 and model 496-1 (110 V/60 Hz) or model 496-2 (220 V/50 Hz).
CFG-SJ	J-type Cryostat
CFG-SL	Side-Looking Cryostat
CFG-SV	Vertical Cryostat (Dipstick type)
LOW-BACKGROUND	
CFG-GG-LB	Low-Background Gamma Gage Cryostat
CFG-HJ-LB	Low-Background J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SD-LB	Low-Background Down-Looking Cryostat
CFG-SH-LB	Low-Background Horizontal Cryostat (Dipstick type)
CFG-SJ-LB	Low-Background J-type Cryostat
CFG-SL-LB	Low-Background Side-Looking Cryostat
CFG-SV-LB	Low-Background Vertical Cryostat (Dipstick type)
CFG-SD-XLB	Extra-Low-Background Down-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SH-XLB	Extra-Low-Background Horizontal Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SJ-XLB	Extra-Low-Background J-type Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SL-XLB	Extra-Low-Background Side-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SV-XLB	Extra-Low-Background Vertical Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.

GMX Streamline Dewars

Model	Choose	Description
CFG-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage/Fill Dewar for DWR-xG
CFG-HJ, SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

GWL Series HPGe Well Detector (Streamline)

- If dimensional considerations are critical, contact factory.
- Cryostat and dewar are not included with detector.
- Cryostat and dewar are required for operation.
- A cryostat must be ordered with a Streamline detector.

Model No.	Volume cc Nominal	Well Tube Diameter mm Nominal	Well Tube Depth mm Nominal	Resolution @ 1.33 MeV keV FWHM Maximum	Resolution @ 122 keV keV FWHM Maximum	Endcap Diameter mm Nominal
GWL-90-10	90	10	40	2.1	1.2	70
GWL-90-15	90	15.5	40	2.3	1.4	70
GWL-110-10	110	10	40	2.1	1.2	70
GWL-110-15	110	15.5	40	2.3	1.4	70
GWL-120-10	120	10	40	2.1	1.2	70
GWL-120-15	120	15.5	40	2.3	1.4	70
GWL-130-10	130	10	40	2.1	1.2	70
GWL-130-15	130	15.5	40	2.3	1.4	70
GWL-150-10	150	10	40	2.1	1.2	83
GWL-150-15	150	15.5	40	2.3	1.4	83
GWL-170-10	170	10	40	2.1	1.2	83
GWL-170-15	170	15.5	40	2.3	1.4	83
GWL-190-10	190	10	40	2.1	1.2	83
GWL-190-15	190	15.5	40	2.3	1.4	83
GWL-220-10	220	10	40	2.1	1.2	95
GWL-220-15	220	15.5	40	2.3	1.4	95
GWL-250-10	250	10	40	2.1	1.2	95
GWL-250-15	250	15.5	40	2.3	1.4	95
GWL-280-10	280	10	40	2.2	1.2	95
GWL-280-15	280	15.5	40	2.3	1.4	95
GWL-300-10	300	10	40	2.2	1.2	95
GWL-300-15	300	15.5	40	2.3	1.4	95
GWL-350-10	350	10	40	2.2	1.2	95
GWL-350-15	350	15.5	40	2.3	1.4	95
GWL-400-10	400	10	40	2.2	1.2	108
GWL-400-15	400	15.5	40	2.3	1.4	108
GWL-450-10	450	10	40	2.2	1.2	108
GWL-450-15	450	15.5	40	2.3	1.4	108

GWL Detector Options

-LB-AWT	Low-Background Detector with OFHC Cu Endcap and High Purity Al Well Tube, add "-LB-AWT" to the model number [e.g., GWL-350-15-LB-AWT]. Requires selection of a Low-Background LB cryostat.
-XLB-AWT	Extra-Low-Background Detector with OFHC Cu Endcap and High Purity Al Well Tube, add "-XLB-AWT" to the model number [e.g., GWL-150-15-XLB-AWT]. Requires selection of a Low-Background XLB cryostat.
-HJ	Remote preamplifier and high voltage filter for use with HJ type cryostat, add "-HJ" to the model number [e.g., GWL-350-15-HJ]. Requires selection of HJ cryostat.

GWL Streamline Cryostats

- May only be purchased with a detector.
- Dewar required. Select dewar from GWL Streamline Dewars.
- Append matching Detector Endcap Size designation to cryostat model: -70, -83, -95, -108 [e.g., CFG-SJ-95 for GWL-280-15 or CFG-SL-XLB-83 for GWL-170-10-XLB-AWT]
- Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-HJ	J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SJ	J-type Cryostat
CFG-SL	Side-Looking Cryostat
CFG-SV	Vertical Cryostat (Dipstick type)
LOW-BACKGROUND	
CFG-HJ-LB	Low-Background J-type Cryostat with Remote Preamp. (For -HJ option only.)
CFG-SJ-LB	Low-Background J- type Cryostat
CFG-SL-LB	Low-Background Side-Looking Cryostat
CFG-SV-LB	Low-Background Vertical Cryostat (Dipstick type)
CFG-SJ-XLB	Extra-Low-Background J- type Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SL-XLB	Extra-Low-Background Side-Looking Cryostat. Includes ~1” thick lead shield between crystal mount and external preamp.
CFG-SV-XLB	Extra-Low-Background Vertical Cryostat (Dipstick type). Includes ~1” thick lead shield between crystal mount and external preamp.

GWL Streamline Dewars

Model	Choose	Description
CFG-HJ, SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-SV	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

GLP Planar, HPGe Low-Energy Photon Spectrometer (PopTop or Streamline)

- For Streamline remove the "P4" from the model number.
- If dimensional considerations are critical, contact factory.
- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.

Model No.	Active Diameter mm Nominal	Area mm^2 Nominal	Depth mm Nominal	Resolution @5.9 keV keV FWHM Maximum	Resolution @122 keV keV FWHM Maximum	Energy Rate Limit MeV/s Minimum	Endcap Diameter mm Nominal	Be Window Thickness mm Nominal
GLP-1007P4*	10	80	7	0.19	0.51	3,700	70	0.1
GLP-1610P4*	16	200	10	0.22	0.56	3,700	70	0.1
GLP-2510P4	25	500	10	0.35	0.58	6,200	70	0.25
GLP-2513P4	25	500	13	0.32	0.58	6,200	70	0.25
GLP-3210P4	32	800	10	0.38	0.61	6,200	70	0.25
GLP-3213P4	32	800	13	0.36	0.60	6,200	70	0.25
GLP-3610P4	36	1000	10	0.41	0.63	6,200	70	0.25
GLP-3613P4	36	1000	13	0.38	0.62	6,200	70	0.25

*Detector will be fabricated with a 0.1 mm thick Be window while supplies last.

GLP Detector Options

-SMN	SMART-1 detector option for negative bias detector, add "-SMN" to the model number [e.g, GLP-25300/13P4-SMN or GLP-10180/07-SMN].

GLP PopTop Cryostats and Dewars

Model	Description
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation. (FWHM resolution below 100 keV may degrade by up to 10%.)
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5" diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5" diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

GLP Streamline Cryostats

- May only be purchased with a detector.
- Dewar required. Select dewar from GLP Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-LP-GG-70	Gamma Gage Cryostat
CFG-LP-SD-70	Down-Looking Cryostat
CFG-LP-SH-70	Horizontal Cryostat (Dipstick type)
CFG-LP-SJ-70	J-type Cryostat
CFG-LP-SL-70	Side-Looking Cryostat
CFG-LP-SV-70	Vertical Cryostat (Dipstick type)

GLP Streamline Dewars

Model	Choose	Description
CFG-LP-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage Fill Dewar for DWR-xG
CFG-LP-SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-LP-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-LP-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

SGD Planar Safeguards Detectors (PopTop or Streamline)

- For Streamline remove the "P4" from the model number.
- Available with internal shielding, contact the factory for details.
- If dimensional considerations are critical, contact factory.
- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.

Model	Active Diameter (mm)	Thickness (mm)	Warranted Resolution (eV) @122 keV @ 1 kcps (6 µs)	Warranted Resolution (eV) @122 keV @ 50 kcps (1 µs)	Warranted FW.1M/FWHM @ ≤50 kcps	Warranted FW.02M/FWHM @ ≤50 kcps	Endcap Diameter (mm)	Al Window (mm)
SGD-16550P4	16	15	550	615	1.87	2.50	70	1
SGDGLP-06480P4	6	5	480	N/A	N/A	N/A	70	1
SGDGLP-10485P4	10	7	485	N/A	N/A	N/A	70	1
SGDGLP-16525P4	16	10	525	N/A	N/A	N/A	70	1
SGDGLP-25545P4	25	13	545	N/A	N/A	N/A	70	1
SGDGLP-32570P4	32	13	570	N/A	N/A	N/A	70	1
SGDGLP-36585P4	36	13	585	N/A	N/A	N/A	70	1

SGD Planar Detector Options

-SMN	SMART-1 detector option for negative bias detector, add "-SMN" to the model number [e.g., SGD-16550P4-SMN or SGD-16550-SMN]

SGD Planar PopTop Cryostats and Dewars

Model	Description
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation.
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5" diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5" diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

SGD Planar Streamline Cryostats

- May only be purchased with a detector.
- Dewar required. Select dewar from SGD Planar Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-LP-GG-70	Gamma Gage Cryostat
CFG-LP-SD-70	Down-Looking Cryostat
CFG-LP-SH-70	Horizontal Cryostat (Dipstick type)
CFG-LP-SJ-70	J-type Cryostat
CFG-LP-SL-70	Side-Looking Cryostat
CFG-LP-SV-70	Vertical Cryostat (Dipstick type)

SGD Planar Streamline Dewars

Model	Choose	Description
CFG-LP-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage Fill Dewar for DWR-xG
CFG-LP-SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-LP-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-LP-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

SGD GEM Safeguards Detectors (PopTop or Streamline)

- For Streamline remove the "P4" from the model number.
- If dimensional considerations are critical, contact factory.
- Cryostat and dewar or other cooling device are not included with detector.
- Cryostat and dewar or other cooling device are required for operation.
- A cryostat must be ordered with a Streamline detector.
- Monte Carlo drawing included.

				Resolution		Peak Shape		Resolution, Short Shaping Time				
Model No.	Active Diameter mm Nominal	Thickness mm Minimum	Relative Efficiency % Nominal	@1.33 MeV keV FWHM @1 kcps Maximum	@122 keV keV FWHM @1 kcps Maximum	FW.1M/ FWHM @1kcps Maximum	FW.02M/ FWHM @1kcps Maximum	@1.33 MeV keV FWHM @1 kcps Maximum	@1.33 MeV keV FWHM @30 kcps Maximum	@122 keV keV FWHM @1 kcps Maximum	@122 keV keV FWHM @30 kcps Maximum	Endcap Diameter mm Nominal
SGD-GEM-3615P4	36	15	2	1.7	0.61	1.9	2.6	1.8	2.0	0.65	0.67	70
SGD-GEM-5030P4	50	30	13	1.7	0.65	1.9	2.6	1.9	2.1	0.69	0.75	70
SGD-GEM-5050P4	50	50	20	1.8	0.75	1.9	2.6	2.0	2.1	0.88	0.89	70
SGD-GEM-6560P4	65	60	50	1.8	0.80	1.9	2.6	2.1	2.2	0.94	0.96	83

SGD GEM Detector Options	
-SMP	SMART-1 detector option for positive bias detector, add "-SMP" to the model number [e.g., SGD-GEM-5050P4-SMP]

SGD GEM PopTop Cryostats and Dewars

Model	Description
CFG-PD4-7.5	Down-looking Cryostat with 7.5-liter Dewar
CFG-PD4-13	Down-looking Cryostat with 13-liter Dewar
CFG-PD4-30	Down-looking Cryostat with 30-liter Dewar
CFG-PG4-1.2	Gamma Gage Cryostat with 1.2-liter Dewar
CFG-PG4-3	Gamma Gage Cryostat with 3-liter Dewar
CFG-PG4-5	Gamma Gage Cryostat with 5-liter Dewar
CFG-PH4	Horizontal Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-PMOD4-3	Gamma Gage Cryostat with 3-liter Multi-Orientation Dewar
CFG-PMOD4-7	Gamma Gage Cryostat with 7-liter Multi-Orientation Dewar
CFG-PS4-7.5	Side-Looking Cryostat with 7.5-liter Dewar
CFG-PS4-13	Side-Looking Cryostat with 13-liter Dewar
CFG-PS4-30	Side-Looking Cryostat with 30-liter Dewar
CFG-PS4-MOBIUS-B	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar
CFG-PS4-MOBIUS-B-DET	Side-Looking Cryostat with Mobius Recycler 27-liter Dewar for purchase in combination with any PopTop detector.
CFG-PSHP4	Down-Looking Shallow-Hole Probe with 0.7-liter Dewar
CFG-PV4	Vertical Cryostat (Dipstick type). Dewar not included. Choose DWR-30, DWR-30-OP, MOBIUS-PT or MOBIUS-PT-DET.
CFG-ICS-P4	Integrated Cryocooling System. Includes 2 year warranty on cryocooler, internal controller and active noise cancellation.
MOBIUS-PT	Mobius Recycler 27-liter Dewar
MOBIUS-PT-DET	Mobius Recycler 27-liter Dewar for purchase in combination with detector and vertical or horizontal dipstick cryostat.
DWR-30	30-liter Dewar. Includes collar for 1.5" diameter cryostat.
DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5" diameter cryostat.
DWR-S/F	Storage/Fill Dewar for CFG-PG4-x

SGD GEM Streamline Cryostats

- May only be purchased with a detector.
- Append matching Detector Endcap Size designation to cryostat model: -70, -83, [e.g., CFG-SJ-83 for SGD-GEM-6560]
- Dewar required. Select dewar from SGD GEM Streamline Dewars.
- Horizontal and Vertical Cryostats include CFG-ADAPTOR to increase cryostat diameter from 1.25 inch to 1.5 inch for use with DWR-30 and DWR-30-OP.

Model	Description
CFG-GG	Gamma Gage Cryostat
CFG-SD	Down-Looking Cryostat
CFG-SH	Horizontal Cryostat (Dipstick type)
CFG-SJ	J-type Cryostat
CFG-SL	Side-Looking Cryostat
CFG-SV	Vertical Cryostat (Dipstick type)

SGD GEM Streamline Dewars

Model	Choose	Description
CFG-GG	DWR-1.2G	1.2-liter All-Orientation Dewar
	DWR-3.0G	3.0-liter All-Orientation Dewar
	DWR-5.0G	5.0-liter All-Orientation Dewar
	DWR-MOD-3L	3-liter Multi-Orientation Dewar
	DWR-MOD-7L	7-liter Multi-Orientation Dewar
	DWR-0.7-SHP-G	0.7-liter Shallow-Hole Probe Dewar
	DWR-S/F	Storage Fill Dewar for DWR-xG
CFG-SJ, SL	DWR-7.5B	7.5-liter Side-Looking Dewar
	DWR-13B	13-liter Side-Looking Dewar
	DWR-30B	30-liter Side-Looking Dewar
	MOBIUS-B	Mobius Recycler 27-liter Side-Looking Dewar
CFG-SD	DWR-7.5D	7.5-liter Down-Looking Dewar
	DWR-13D	13-liter Down-Looking Dewar
	DWR-30D	30-liter Down-Looking Dewar
CFG-SV, SH	DWR-30	30-liter Dewar. Includes collar for 1.5” diameter cryostat.
	DWR-30-OP	30-liter Offset-Port Dewar. Includes collar for 1.5” diameter cryostat.
	MOBIUS-ST	Mobius Recycler 27-liter Dewar for purchase stand alone
	MOBIUS-ST-DET	Mobius Recycler 27-liter Dewar for purchase in combination with Detector

ACTINIDE-85 Lung Monitor Detector

Model	Description
ACT85P4-RB	ACTINIDE-85 detector in reduced background PopTop capsule with Carbon Fiber endcap
ACTINIDE-85 Detector Options	
-SMP	SMART-1 detector option for positive bias detector, add “-SMP” to the model number [e.g., ACT85-SMP, ACT85P4-RB-SMP].

TETRAD Detector

Model	Description
TETRAD-20	20% N-type Detector System. Includes 4 each 20% N-type detectors and 5.0-liter All-Orientation Dewar/Cryostat.

Photon Detector Accessories

Model	Description
CFG-ADAPTOR	Adaptor to increase cryostat diameter from 1.25 inch to 1.5 inch
CLAMP-1.25	Detector clamp for 1.25” dipstick diameter
CLAMP-1.50	Detector clamp for 1.50” dipstick diameter
CRE-1	4-in. Cooling Rod Extension; used on dipstick detectors
DIM-POSGE	Detector interface module for non-SMART positive bias HPGe detector
DIM-NEGGE	Detector interface module for non-SMART negative bias HPGe detector
DWR-30-NC	30-liter Dewar without collar
HT-1	Heater Tape
ICS STAND 2	Vertical Orientation Height Adjustment Stand for ICS cooled detectors
LNTC1.25R	Liquid Nitrogen Transfer Collar with fill/vent tubes to fit a 1.25” diameter cryostat (all mounting hardware included)
LNTC1.5R	Liquid Nitrogen Transfer Collar with fill/vent tubes to fit a 1.5” diameter cryostat (all mounting hardware included)
M-1-T1	Variable Length Tripod
PTPA	PopTop Pumpout Adapter
PTVSO	PopTop Valve Shaft Operator
SENSADPTR	Vent Port Sensor Installation Adapter for MOD Dewar
SMART-INTERFACE	SMART Detector to Non-SMART Electronics Interface Cable
VVO-1	Vacuum Valve Operator
VVO-2	Old Style Vacuum Valve Operator
469	For use with ORTEC Detectors with other manufacturer’s HV supplies equipped with shutdown circuitry with HV on in open circuit condition and HV off in short circuit condition.
496D-1	Digital Temperature Controller with Heater Tape
596-A	Temperature Controller for detectors with internal heater elements inside special cryostats

Lead Shields and Accessories

Model	Description
HPLBS1	Top Loading Lead Shield for PV, SV, and ICS cryostats. Includes stand.
HPLBS1F	Front Loading Lead Shield for PV, SV, and ICS cryostats. Includes stand.
HPLBS2	Top Loading Lead Shield for SJ and HJ cryostats. Includes stand.
HPLBS2F	Front Loading Lead Shield for SJ and HJ cryostats. Includes stand.
HPULB4S1	Top Loading Lead Shield for PV and SV cryostats. Includes split plug and stand.
LFT1	Lifting tool for removing the 9” bottom plate from the HPLBS1 Lead Shield
PLG1	Single piece, close fit plug for vertical dipstick cryostat in HPLBS1 Lead Shield
PLG1F	Two piece, close fit plug for vertical dipstick cryostat in HPLBS1F Lead Shield
PLG2	Two piece, close fit plug for X-COOLER cold head in HPLBS1 Lead Shield
DS30	Dewar Leveling Stand
LSLT	Table-Top Leveling Option (HPLBS1 and HPLBS1F Only)

Liquid Nitrogen Level Monitor

Model	Description
729A	Liquid Nitrogen Level Monitor for all Ge and Si(Li) detectors (without probe)
LNP-7D	Probe for use with 729A; fits standard 7.5-liter bucket type dewar
LNP-30B	Probe for use with 729A; fits 30-liter bucket type dewar
LNP-30D-2	Probe for use with 729A; used on dipstick cryostat CFG-PH4 or CFG-PV4. Center hole is 1.5-in.
LNP-30D-3	Probe for use with 729A; used on all dipstick cryostats except CFG-PH4 or CFG-PV4. Center hole is 1.25-in.

CryoSecure Option for Mechanical Cooler

Model	Description
CRYOSECURE	Compressor Power Controller

Automatic and Manual Liquid Nitrogen Transfer System Components

Model	Description
B/PFA-1.2	Bayonet/Pressure Fill Adapter for 1.2-liter dewar
B/PFA-3.0	Bayonet/Pressure Fill Adapter for 3.0-liter dewar
B/PFA-5.0	Bayonet/Pressure Fill Adapter for 5.0-liter dewar
DWR-30	30-Liter Dewar
DWR-30-OP	30-Liter Offset-Port Dewar
DWR-S/F	Optional Storage Fill Dewar for CFG-PG4-x or DWR-xG
FFMOD3L-H	Funnel for filling MOD3L dewar horizontally
FFMOD7L-H	Funnel for filling MOD7L dewar horizontally
NTC/7.5B	Nitrogen Transfer Collar (with pressure plates) for 7.5-liter bucket
NTC/13	Nitrogen Transfer Collar (with pressure plates) for 13-liter bucket
NTC/15B	Nitrogen Transfer Collar (with pressure plates) for 15-liter bucket
NTC/30	Nitrogen Transfer Collar (with pressure plates) for 30-liter bucket
PFB-MOD3L	Pressure Fill Bayonet for DWR-MOD-3L or CFG-PMOD4-3
PFB-MOD7L	Pressure Fill Bayonet for DWR-MOD-7L or CFG-PMOD4-7
STD 50L	50-Liter Dewar
TL-3	Transfer Line, 3-ft. length
TL-6	Transfer Line, 6-ft. length
TL-9	Transfer Line, 9-ft. length
TL-12	Transfer Line, 12-ft. length
TL-15	Transfer Line, 15-ft. length
TL-18	Transfer Line, 18-ft. length
TL-21	Transfer Line, 21-ft. length
TL-24	Transfer Line, 24-ft. length
TL-OFFSTD	Transfer Line, specify 25–40 ft.length
VL-6	Vent Line, 6-ft. length
VL-9	Vent Line, 9-ft. length
VL-12	Vent Line, 12-ft. length
VL-15	Vent Line, 15-ft. length
VL-18	Vent Line, 18-ft. length
VL-21	Vent Line, 21-ft. length
VL-24	Vent Line, 24-ft. length
VL-30	Vent Line, 30-ft. length
WD/30	Withdrawal Device (30-liter dewar)
WD-50	Withdrawal Device (50-liter dewar)

Scintillation Detectors and Accessories

- NaI detectors are not CE or ROHS compliant and must be ordered as a Special if compliance is required.

Model	Description
2BY2	Rugged Integrated 2” by 2” NaI detector with HV and Preamplifier. **NON ROHS.**
2BY2-DD	Rugged Integrated 2” by 2” NaI detector with HV and Preamplifier. For use with DigiDART. **NON ROHS.**
3BY3	Rugged Integrated 3” by 3” NaI detector with HV and Preamplifier. **NON ROHS.**
3BY3-DD	Rugged Integrated 3” by 3” NaI detector with HV and Preamplifier. For use with DigiDART. **NON ROHS.**
905-1	NaI Scintillation Detector, 1x1-in. crystal, 2-in. tube. **NON ROHS.**
905-3	NaI Scintillation Detector, 2x2-in. crystal, 2-in. tube. **NON ROHS.**
905-4	NaI Scintillation Detector, 3x3-in. crystal, 3-in. tube. **NON ROHS.**
905-16	NaI Scintillation Detector, 4x4x16-in. crystal, 3-in. tube. **NON ROHS.**
905-21	Fast plastic detector assembly including a 1.25” diameter to .75” diameter truncated cone, 1” thick detector element, Hamamatsu R329-02 PMT or equivalent, 265A tube base, and 218 mu metal shield.
DIM-POSNAI	Detector interface module for positive bias NaI detector.
LABR-1X1	LaBr3(Ce) scintillation detector, 1 x 1-in. crystal with 1.5-in. diameter 14-pin PMT; resolution 3.5% guaranteed.
LABR-1.5X1.5	LaBr3(Ce) scintillation detector, 1.5 x 1.5-in. crystal with 2-in. diameter 14-pin PMT; resolution 3.0% target.
LABR-2X2	LaBr3(Ce) scintillation detector, 2 x 2-in. crystal with 2-in. diameter 14-pin PMT; resolution 3.5% target.
LABR-3X3	LaBr3(Ce) scintillation detector, 3 x 3-in. crystal with 3-in. diameter 14-pin PMT; resolution 3.5% target.
LEAD SHIELD G-5	Table-Top Lead Shield for NaI detector.

Exempt Quantity Sealed Radioactive Sources

- The following sources, mounted in 2.5 cm diameter sealed plastic disks, are exempt from USNRC and State licensing and present no special storage or disposal requirements.
- These sources are manufactured by: SPECTRUM TECHNIQUES, Oak Ridge, TN.

U.S. Customers order:

Model	Description
RSS3	Set of three solid sources: Po-210 (0.1 µCi), Sr-90 (0.1 µCi), and Co-60 (1.0 µCi)
RSS5	Set of five solid sources: Po-210 (0.1 µCi), Sr-90 (0.1 µCi), Tl-204 (1 µCi), Co-60 (1 µCi), and Cs-137 (5 µCi)
RSS8	Set of eight solid sources: Ba-133 (1 µCi), Cd-109 (1 µCi), Co-57 (1 µCi), Co-60 (1 µCi), Cs-137 (1 µCi), Eu-152 (0.5 µCi), Na-22 (1 µCi), and a mixed source of Cs-137 (0.5 µCi) and Zn-65 (1 µCi)

Non-U.S. Customers order:

Model	Description
RSS3UN	Set of three solid sources: Po-210 (0.1 µCi), Sr-90 (0.1 µCi), and Co-60 (0.5 µCi)
RSS5EU	Set of five solid sources: Po-210 (0.1 µCi), Sr-90 (0.1 µCi), Tl-204 (0.25 µCi), Co-60 (1 µCi), and Cs-137 (0.25 µCi)
RSS8UN	Set of eight solid sources: Ba-133 (1 µCi), Cd-109 (1 µCi), Co-57 (1 µCi), Co-60 (1 µCi), Cs-137 (0.1 µCi), Eu-152 (0.5 µCi), Na-22 (1 µCi), and Zn-65 (1 µCi)
RSS8EU	Set of eight solid sources: Ba-133 (1 µCi), Cd-109 (1 µCi), Co-57 (1 µCi), Co-60 (1 µCi), Cs-137 (0.25 µCi), Eu-152 (0.5 µCi), Na-22 (1 µCi), and Zn-65 (1 µCi)

Chart of Radioactive Decay

Model	Radioactive Material	Standard Activity/Source (µCi)	UCNRC 30.71 Schedule B Exempt Quantities (µCi)	Half-life†	Radiation	Energy† (keV)	Branch† (%)	Feeds
Ba-133	Barium 133	1	10	10.7 y	γ	81	32.8	
					γ	276.3	7.3	
					γ	302.7	18.6	
					γ	355.9	62.3	
					γ	383.7	8.8	
Cd-109	Cadmium 109	1	10	453.4d	γ	88	3.8	
Cs-137	Cesium 137	1 & 5	10	30.1 y	γ	32.2	3.7	
					γ	661.6	84.6	
					β	511.6	94.6	
					β	1173.2	5.4	
Co-57	Cobalt 57	1	100	270 d	γ	14.4	9.5	
					γ	122.1	85.6	
					γ	136.4	10.6	
Co-60	Cobalt 60	1	1	5.3 y	γ	1173.2	99.9	
					γ	1332.5	99.9	
					β	317.9	100.0	
Mn-54	Manganese 54	1	10	312.2 d	γ	834.8	99.9	
Po-210	Polonium 210	0.1	0.1	138.4 d	α	5304.5	99.9	
Na-22	Sodium 22	1	10	2.60 y	γ	511	179.8	
					γ	1274.5	99.9	
Sr-90	Strontium 90	0.1	0.1	28.5 y	β	546	100.0	Y-90
				64.1 hr	β	2283.9	99.9	
Tl-204	Thallium 204	1	10	3.8 y	β	763.4	97.4	
Zn-65	Zinc 65	1	10	243.8 d	γ	1115.5	50.8	
Pb-210	Lead Nitrate	0.1	0.1	20.4 y	γ	46.5	4.0	
				5 d	β	63	19.8	
				138.4 d	β	1161.4	100.0	Bi-210
					α	5304.5	99.9	Po-210

†Half-life, Energy, and Branch Ratio data reproduced from: Nuclide Navigator II nuclide database software program, Version 2.00, November 22, 1996, from ORTEC.

Amplifiers

Model	Description	Width
FTA820A	Octal Fast-Timing Amplifier (200 gain, non-inverting).	NIM-1
427A	Delay Amplifier. **NON ROHS.**	NIM-1
460	Delay Line Amplifier (with standard 1-µs delay lines).	NIM-1
474	Timing Filter Amplifier. **NON ROHS.**	NIM-1
533	Dual Sum and Invert Amplifier. **NON ROHS.**	NIM-1
570	Spectroscopy Amplifier	NIM-1
572A	Spectroscopy Amplifier. **NON ROHS.**	NIM-1
575A	Spectroscopy Amplifier. **NON ROHS.**	NIM-1
579	Fast-Filter Amplifier	NIM-1
590A	Amplifier and Timing SCA. **NON ROHS.**	NIM-1
671	Spectroscopy Amplifier	NIM-1
672	Spectroscopy Amplifier (with AUTO-PZ)	NIM-2
673	Spectroscopy Amplifier and Gated Integrator	NIM-2
855	Dual Spectroscopy Amplifier. **NON ROHS.**	NIM-1
863	Quad Timing Filter Amplifier. **NON ROHS.**	NIM-1
9302	Amplifier and Discriminator. **NON ROHS.**	NIM-1
9309-4	Quad Fast Amplifier	NIM-1
9310-16	16 Channel Fast Amplifier	NIM-1
9327	1-GHz Amplifier and Timing Discriminator. **NON ROHS.**	PREAMP

Counters, Timers, and Ratemeters

Model	Description	Width
EASY-MCS	Multichannel Scaler with Software	
EASY-PKG-1	EASY-MCA-2K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.	
EASY-PKG-2	EASY-MCA-8K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.	
MCS-PCI-OPT2	Fan-Out Cable for MCS-PCI	
449	Log/Lin Ratemeter. **NON ROHS.**	NIM-2
449-2	Log/Lin Ratemeter with audible output option. **NON ROHS.**	NIM-2
871	Timer and Counter (non-printing). **NON ROHS.**	NIM-2
928	Combination MCB/Quad Counter/Dual Timer module. Includes MAESTRO software, Front Panel software and USB cable.	NIM-1
928-COUNT2	Dual Counter/Single Timer module. Includes Front Panel software and USB cable.	NIM-1
928-COUNT4	Quad Counter/Dual Timer module. Includes Front Panel software and USB cable.	NIM-1
974A	CCNIM Quad 100-MHz Counter/Timer. **NON ROHS.**	NIM-2
976	Quad 250-MHz Counter/Timer	NIM-2
978	Dual Timer	NIM-1
994	CCNIM Dual Counter and Timer (requires interface option for computer operation). **NON ROHS.**	NIM-2
995	CCNIM Dual Counter (requires interface option for computer operation). **NON ROHS.**	NIM-2
996	CCNIM Timer and Counter (requires interface option for computer operation). **NON ROHS.**	NIM-1
9349	Log/Lin Ratemeter. **NON ROHS.**	
994, 995, and 996 Options		
99X-1	RS-232-C Interface Option (requires C-75 Cable). **NON ROHS.**	
99X-4	Internal +6 V Supply Option (available only for 994 and 995). **NON ROHS.**	
C-75	RS-232-C Null Modem Cable, female-to-female (3-m length)	
C-80	RS-232-C Extension Cable, male-to-female (3-m length)	
C-488-2	IEEE-488 Interface Cable (2-m length)	
C-488-4	IEEE-488 Interface Cable (4-m length)	

Delays, Gate and Delay Generators, Logic Modules, and Linear Gates

Model	Description	Width
CO4020	Quad 4-Input Logic Unit (requires 6 V). **NON ROHS.**	NIM-1
DB463	Delay Box.	RACK
GG8020	Octal Gate and Delay Generator (requires 6 V) **NON ROHS.**	NIM-1
414A	Fast Coincidence. **NON ROHS.**	NIM-2
416A	Gate and Delay Generator. **NON ROHS.**	NIM-1
418A	Universal Coincidence. **NON ROHS.**	NIM-1
425A	Nanosecond Delay. **NON ROHS.**	NIM-1
426	Linear Gate. **NON ROHS.**	NIM-1
499	Fast/Slow NIM Logic Converter.	NIM-1
542	Linear Gate and Stretcher. **NON ROHS.**	NIM-1

Digital Current Integrator

Model	Description	Width
439	Digital Current Integrator. **NON ROHS.**	NIM-3

Fast-Timing Discriminators

Model	Description	Width
CF8000	Octal Constant-Fraction Discriminator. **NON ROHS.**	NIM-1
CFD-DELAY-5NS	Delay Plug-in for CF8000	
CFD-DELAY-10NS	Delay Plug-in for CF8000	
CFD-DELAY-30NS	Delay Plug-in for CF8000	
CFD-DELAY-50NS	Delay Plug-in for CF8000	
584	Constant-Fraction Discriminator. **NON ROHS.**	NIM-1
935A	Quad 200-MHz Constant-Fraction Discriminator.	NIM-1
9302	Amplifier and Discriminator. **NON ROHS.**	NIM-1
9307	pico-TIMING Discriminator (requires 6 V). **NON ROHS.**	NIM-1
9327	1-GHz Amplifier and Timing Discriminator	PREAMP

HV Bias/NIM Power Supplies and Bins

Model	Description	Width
428	Detector Bias Supply.	NIM-2
469	For use with ORTEC Detectors with other manufacturer's HV supplies equipped with shutdown circuitry with HV-on in open circuit condition and HV-off in short circuit condition.	
556	High-Voltage Power Supply (3 kV)	NIM-2
556H	High-Voltage Power Supply (3 kV)	NIM-2
659	5-kV Detector Bias Supply	
660	Dual 5-kV Detector Bias Supply	NIM-1
710	Quad 1-kV Bias Supply. **NON ROHS.**	NIM-1
4001A	NIM Bin	NIM-2
4001A/4002A	NIM Bin and 96-W Power Supply (with ±12 V, ±24 V)	
4001A/4002D	NIM Bin and 160-W Power Supply (with ±6 V, ±12 V, ±24 V)	
4001C	NIM Bin (with copper bus bars)	
4001C/4002D	NIM Bin (with copper bus bars) and 160-W Power Supply (with ±6 V, ±12 V, ±24 V)	
4001C/4002E	NIM Bin (with copper bus bars) and BLACK MAX PS (with ±6 V, ±12 V, ±24 V)	
4002A	96-W Power Supply for NIM Bin (with ±12 V, ±24 V)	
4002D	160-W Power Supply for NIM Bin (with ±6 V, ±12 V, ±24 V)	
4002E	BLACK MAX Power Supply for NIM Bin (with ±6 V, ±12 V, ±24 V)	
4002P	Portable Power Supply (with ±12 V, ±24 V)	
4002P-C1	Preamp Power Fan-Out Cable for 4002P	
4003	Preamplifier Power Output	
4006	Mini Bin and Power Supply	NIM-1

Multichannel Scalers and/or Multiple-Stop Time Spectrometers

Model	Description
EASY-MCS	Multichannel Scaler with Software
EASY-PKG-1	EASY-MCA-2K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.
EASY-PKG-2	EASY-MCA-8K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.
MCS-PCI-OPT2	Fan-Out Cable MCS

Non-NIM MCA

Model	Description
EASY-MCA-2K	2k Multichannel Analyzer with MAESTRO Software
EASY-MCA-8K	8k Multichannel Analyzer with MAESTRO Software
EASY-PKG-1	EASY-MCA-2K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.
EASY-PKG-2	EASY-MCA-8K Multichannel Analyzer with MAESTRO software and EASY-MCS Multichannel Scaler with software.

NIM MCAs and MCBs

Model	Description	Width
ASPEC-927	Dual 16k Multichannel Buffer with MAESTRO Software and 10-ft. USB Cable	NIM-1
927-OPT1	Female BNC adapter cable for Sample Changer I/O on ASPEC-927	
927-PKG-1	ASPEC-927 with MAESTRO, GammaVision Software and 10-ft. USB Cable	
928	Combination MCB/Quad Counter/Dual Timer module. Includes MAESTRO software, Front Panel software and USB cable.	NIM-1
928-MCB	16k MCB module. Includes MAESTRO software and USB cable.	NIM-1
Interface and Cable for NIM MCB		
DPM-USB	Dual-Port Memory to USB Interface Converter, 15-ft cable	
DPM-UPGRADE-USB	DPM-USB and CONNECTIONS Driver Update to MAESTRO	
DPM-M32-USB	DPM-USB with Complete MAESTRO Upgrade	

Photomultiplier Tube Bases

Model	Description
218	Magnetic Shield
265A	Photomultiplier Base
266	Photomultiplier Base
269	Photomultiplier Base
276	Photomultiplier Base with Preamplifier
276L	Low-Power Photomultiplier Base.
296	ScintiPack High-Rate PMT Base with Preamplifier and HV Supply
296-ADAPT	Signal Break-Out Adaptor for 296
DIM-296	296 ScinitPack High-Rate PMT Base for use with DigiDart or DSPEC jr 2.0
digiBASE	14-Pin PMT Base for NaI Applications. Complete with Digital MCA, Preamplifier, High Voltage Supply, and MAESTRO Software. USB Connection.
digiBASE-CH	DigiBASE with USB connection only. NO software.
digiBASE-PKG-1	DigiBASE with A66SV-BW software
digiBASE-E	High Performance 14-Pin PMT Base for Scintillation Detectors. Complete with Digital MCA, Preamplifier, High Voltage Supply, and MAESTRO Software. PoE Ethernet Connection.
digiBASE-E-PKG-1	DigiBASE-E with A66SV-BW software

Preamplifiers

Model	Description	Width
VT120A	Fast-Timing Preamplifier (200 gain, non-inverting)	PREAMP
VT120B	Fast-Timing Preamplifier (200 gain, inverting)	PREAMP
VT120C	Fast-Timing Preamplifier (20 gain, non-inverting)	PREAMP
C-VT120	Power Cable Assembly for VT120A/B/C (3-m length)	PREAMP
113	Scintillation Preamplifier	
142A	Preamplifier. **NON ROHS.**	PREAMP
142B	Preamplifier. **NON ROHS.**	PREAMP
142C	Preamplifier. **NON ROHS.**	PREAMP
142AH	Preamplifier	PREAMP
142IH	Preamplifier	PREAMP
142PC	Preamplifier	PREAMP
9301	Fast Preamplifier. **NON ROHS.**	PREAMP
9305	Fast Preamplifier. **NON ROHS.**	PREAMP
9306	1-GHz Preamplifier	PREAMP
9326	Fast Preamplifier with 3-m DC power cable. **NON ROHS.**	PREAMP

Pulse Generators

Model	Description	Width
419	Precision Pulse Generator. **NON ROHS.**	NIM-2
480	Pulser. **NON ROHS.**	NIM-1

Single-Channel Pulse-Height Analyzers

Model	Description	Width
550A	Single-Channel Analyzer. **NON ROHS.**	NIM-1
551	Timing Single-Channel Analyzer. **NON ROHS.**	NIM-1
552	Pulse-Shape Analyzer/Timing SCA. **NON ROHS.**	NIM-1
850	Quad Single-Channel Analyzer (requires 6 V). **NON ROHS.**	NIM-1

Time-to-Amplitude Converters and Time Calibrator

Model	Description	Width
462	Time Calibrator. **NON ROHS.**	NIM-2
566	Time-to-Amplitude Converter. **NON ROHS.**	NIM-1
567	Time-to-Amplitude Converter/SCA. **NON ROHS.**	NIM-2

Cables, Connectors, and Accessories

Model	Description
BL050	BNC/LEMO Adapter with male BNC and female LEMO
BNC/SMA	BNC to SMA Adapter with male BNC and female SMA
C-USB-HUB-4B	4-Port USB Hub
C-USB-HUB-7B	7-Port USB Hub
C-13	BNC to Microdot Vacuum Feedthrough with female BNC and male Microdot
C-16	Microdot to BNC Adapter with male Microdot and female BNC
C-17	BNC to Microdot Adapter with male BNC and female Microdot
C-18-X-S	Microdot 100-Ω Miniature Cable with two Microdot male plugs; X=length, ft
C-18-0	Microdot 100-Ω Miniature Cable with two Microdot male plugs; 2-in. length
C-18-2	Microdot 100-Ω Miniature Cable with two Microdot male plugs; 2-ft length
C-19-X-S	Microdot 100-Ω Miniature Cable with one each BNC and Microdot male plug; X=length, ft
C-19-2	Microdot 100-Ω Miniature Cable with one each BNC and Microdot male plug
C-21	Microdot 293-3913 Miniature 100-Ω cable; X=length, ft
C-22	Microdot male plug for Miniature 100-Ω Cable
C-23	Assembly Tool for C-21 and C-22
C-24-X-S	RG-62A/U 93-Ω Cable with two BNC male plugs; X=length, ft
C-24-.5	RG-62A/U 93-Ω Cable with two BNC male plugs; 6-in. length
C-24-1	RG-62A/U 93-Ω Cable with two BNC male plugs; 1-ft length
C-24-2	RG-62A/U 93-Ω Cable with two BNC male plugs; 2-ft length
C-24-4	RG-62A/U 93-Ω Cable with two BNC male plugs; 4-ft length
C-24-8	RG-62A/U 93-Ω Cable with two BNC male plugs; 8-ft length
C-24-12	RG-62A/U 93-Ω Cable with two BNC male plugs; 12-ft length
C-25-X-S	RG-58A/U 50-Ω Cable with two BNC male plugs; X=length, ft
C-25-.5	RG-58A/U 50-Ω Cable with two BNC male plugs; 6-in length
C-25-1	RG-58A/U 50-Ω Cable with two BNC male plugs; 1-ft length
C-25-2	RG-58A/U 50-Ω Cable with two BNC male plugs; 2-ft length
C-25-4	RG-58A/U 50-Ω Cable with two BNC male plugs; 4-ft length
C-25-8	RG-58A/U 50-Ω Cable with two BNC male plugs; 8-ft length
C-25-12	RG-58A/U 50-Ω Cable with two BNC male plugs; 12-ft length
C-27	Terminator, 100-Ω, BNC male plug
C-28	Terminator, 50-Ω, BNC male plug
C-29	BNC Tee Connector
C-30	Microdot to Microdot Connector with female Microdot on both ends
C-31	BNC to Microdot Adapter with male BNC and male Microdot
C-34-X-S	RG-59B/U 75-Ω Cable with one each SHV female and MHV male plug; X=length, ft
C-34-12	RG-59B/U 75-Ω Cable with one each SHV female and MHV male plug; 12-ft length
C-36-X-S	RG-59B/U 75-Ω Cable with two SHV female plugs; X=length, ft
C-36-2	RG-59B/U 75-Ω Cable with two SHV female plugs; 2-ft length
C-36-12	RG-59B/U 75-Ω Cable with two SHV female plugs; 12-ft length
C-37	SHV Female Plug
C-38	SHV Male Bulkhead Jack

Cables, Connectors, and Accessories (continued)

Model	Description
C-43-X-S	RG-59B/U 75-Ω Cable with one SHV female plug and one open end; X=length, ft
C-45-X-S	RG-62A/U 93-Ω Cable with one each SHV female and BNC male plug; X=length, ft
C-46	SHV Tee Connector
C-62	BNC Connector, female-to-female
C-63	SHV Connector, male-to-male
C-75	RS-232-C Null Modem Cable, female-to-female (3-m length)
C-80	RS-232-C Extension Cable, male-to-female (3-m length)
C-488-2	IEEE-488 Interface Cable (2-m length)
C-488-4	IEEE-488 Interface Cable (4-m length)
IT100	Inverting Transformer
LB050	LEMO/BNC Adapter with male LEMO and female BNC
LL174-X-S	RG-174 50-Ω Cable with two LEMO male plugs; X=length, ft
LL174-0	RG-174 50-Ω Cable with two LEMO male plugs; 0.1-m length
LL174-1	RG-174 50-Ω Cable with two LEMO male plugs; 0.25-m length
LL174-2	RG-174 50-Ω Cable with two LEMO male plugs; 0.5-m length
LL174-3	RG-174 50-Ω Cable with two LEMO male plugs; 1-m length
LL174-4	RG-174 50-Ω Cable with two LEMO male plugs; 2-m length
LT050	50-Ω Terminator, LEMO
MT050	50-Ω Matched Tee Signal Splitter
PRN-C-2	Printer Port Cable, male to female, 25 pin conductor; 2-ft length
PRN-C-10	Printer Port Cable, male to female, 25 pin conductor; 10-ft length
SMA50	50-Ω SMA Terminator
SMA58-0.15	RG58U 50-Ω Coaxial Cable with SMA connectors; 0.15-m length
SMA58-0.5	RG58U 50-Ω Coaxial Cable with SMA connectors; 0.5-m length
SMA58-1.5	RG58U 50-Ω Coaxial Cable with SMA connectors; 1.5-m length
SMA/BNC	SMA to BNC Adapter with male SMA and female BNC
T50	50-Ω Terminator, BNC (±1%, 1/2 W)
TA050	Tee Adapter, LEMO
TF50	50-Ω Feedthrough Terminator, BNC (±2%, 1 W)
USB-CONC-110	5-Port USB Concentrator. 110 Volt. Allows up to 5 ORTEC USB MCAs to be connected to a PC over ethernet via TCPIP Protocol.
USB-CONC-220	5-Port USB Concentrator. 220 Volt. Allows up to 5 ORTEC USB MCAs to be connected to a PC over ethernet via TCPIP Protocol.
USBEXT	USB Active Extension Cable. 5-m (16.4 ft).
121-C1	Preamplifier Power Cable Extender; 10-ft length. M-F 9-pin D connectors.
121-C1-X-S	Preamplifier Power Cable Extender; X=length, ft
400-1B	Blank Panel, single-width NIM
400-2B	Blank Panel, double-width NIM
400-3B	Blank Panel, triple-width NIM
400A	Blank NIM Module
400B	Blank NIM Module
400C	Blank NIM Module
401-C3	Module Extender Cable; 3-ft length
401-C3-X-S	Module Extender Cable; X=length, ft

Detective DX1 Next Generation HPGe Radioisotope Identifier

Model	Description
DX1	Next Generation 3 MeV Enhanced Capability HPGe Radioisotope Identification Device (Gamma only). Includes GPS, mains adapter, vehicle power cable, USB flash drive, shoulder strap, Sleuth, RAPiD, Dose, and Easy ID applications, MAESTRO-PRO software and wheeled hard-sided case.
DX1-N	Next Generation 3 MeV Enhanced Capability HPGe Radioisotope Identification Device (Gamma and Neutron). Includes GPS, mains adapter, vehicle power cable, USB flash drive, shoulder strap, Sleuth, RAPiD, Dose, and Easy ID applications, MAESTRO-PRO software and wheeled hard-sided case.
DX1-8	Next Generation 8 MeV Enhanced Capability HPGe Radioisotope Identification Device (Gamma only). Includes GPS, mains adapter, vehicle power cable, USB flash drive, shoulder strap, Sleuth, RAPiD, Dose, and Easy ID applications, MAESTRO-PRO software and wheeled hard-sided case
DX1-8-N	Next Generation 8 MeV Enhanced Capability HPGe Radioisotope Identification Device (Gamma and Neutron). Includes GPS, mains adapter, vehicle power cable, USB flash drive, shoulder strap, Sleuth, RAPiD, Dose, and Easy ID applications, MAESTRO-PRO software and wheeled hard-sided case.
DX1-ACC-BAT	Lithium-Ion Battery.
DX1-ACC-DUAL-CHGR	Standalone dual battery charger and calibrator.
DX1-ACC-SHOULDER-STRAP	Shoulder Strap with Stylus and Retractable Cord.
DX1-ACC-STYLUS	Stylus
DX1-ACC-SCREEN-PROTECT	Toughscreen Protector
DX1-ACC-VEHCHGR	Vehicle powered adapter cable.
DX1-ACC-PS	Universal AC mains power supply.
DX1-ACC-TRANSPORTCASE	Wheeled Transport Case
DX1-ACC-MANUAL	User's Manual.
DX1-ACC-USBFLASH	USB Mini Flash Drive.
DX1-ACC-NEUTRON-DETECTOR	Neutron Detector
DX1-ACC-COL-ST	Steel Collimator 4 mm thick.
DX1-ACC-COL-W	Tungsten Collimator 4 mm thick.
DX1-ACC-RCFILTER	Low Energy Gamma Filter.
DX1-ACC-EXT-BATT	External Military 2590 battery with charger and cable.
DX1-ACC-2950-CABLE	Cable for Military 2590 battery.
DX1-ACC-RESERVE-COVER	Connector Dustcap, 12 mm
DX1-ACC-TH-CAL	Thoriated Tungsten Electrodes.
DX1-ACC-TRIPOD	Variable length tripod.
DX1-ACC-MOUNT-BRKT	Vertical Mounting Bracket for tripod.
DX1-ACC-TRIPOD-WITH-BRKT	Variable length tripod with vertical mounting bracket.
DX1-OPT-RFSECURE	Removal of WiFi, Bluetooth, and GPS signal capability from DX1 (only at time of order of new unit).

RADEAGLET-R Rugged Radioisotope Identification Device

Model	Description
RADEAGLET-R-2SG	Rugged Gamma Handheld RIID with 2x1 NaI(Tl) detector and GM tube. Includes Wrist Strap, KCl Calibration Source, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-E	Rugged Gamma Handheld RIID with 2x1 NaI(Tl) detector, GM tube and embedded source. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-P	Rugged Gamma Handheld RIID with 2x1 NaI(Tl) detector, GM tube and GPS. Includes Wrist Strap, KCl Calibration Source, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-P-E	Rugged Gamma Handheld RIID with 2x1 NaI(Tl) detector, GM tube, GPS and embedded source. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-N	Rugged Gamma/Neutron Handheld RIID with 2x1 NaI(Tl) detector, GM tube and Neutron detector. Includes Wrist Strap, KCl Calibration Source, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-N-E	Rugged Gamma/Neutron Handheld RIID with 2x1 NaI(Tl) detector, GM tube, Neutron detector and embedded source. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-N-P	Rugged Gamma/Neutron Handheld RIID with 2x1 NaI(Tl) detector, GM tube, Neutron detector and GPS. Includes Wrist Strap, KCl Calibration Source, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-2SG-N-P-E	Rugged Gamma/Neutron Handheld RIID with 2x1 NaI(Tl) detector, GM tube, Neutron detector, GPS and embedded source.Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-1LG	Rugged Gamma Handheld RIID with 1x1 LaBr3(Ce) detector and GM tube. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-1LG-P	Rugged Gamma Handheld RIID with 1x1 LaBr3(Ce) detector, GM tube and GPS. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-1LG-N	Rugged Gamma Handheld RIID with 1x1 LaBr3(Ce) detector, GM tube and Neutron detector. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RADEAGLET-R-1LG-N-P	Rugged Gamma Handheld RIID with 1x1 LaBr3(Ce) detector, GM tube, Neutron detector and GPS. Includes Wrist Strap, Wall Plug/Charger Module, Auto Power Adapter, Wi-Fi dongle, Bluetooth dongle, USB Cable, and Carry Case.
RE-CA019	Auto Power Adapter, 12V
RTR-AP013-E	Accu pack for 6 each non-rechargeable AA batteries (not included)
RTR-AP013-L	Accu pack with Li-Ion Batteries
RTR-AP013-EXT-BAT-CHARGER	External Battery Charger
RTR-BTDONGLE	Bluetooth Dongle
RTR-CC001	Carry Case
RTR-CC-FOAM	Foam Insert for Carry Case
RTR-CM-EU	Wall Plug/Charger Module - EU
RTR-CM-US	Wall Plug/Charger Module - US
RTR-CM-UK	Wall Plug/Charger Module - UK
RTR-HOLSTER	Carry Holster
RTR-HSBT	Head Set with Bluetooth Communication
RTR-IP-2AB	innoPROBE Alpha/Beta Detector
RTR-IP-2AB-HOUSING	innoPROBE Alpha/Beta Detector Housing
RTR-K40BOX	Calibration Source Box with potassium chloride (KCl). ICSC 1450.
RTR-MANUAL	Manual
RTR-SCREWDRIVER	Screwdriver for Accu Pack
RTR-TESTSHEET	Factory Test Sheet (specify Radeaglet-R Serial Number)
RTR-USB-MAGNETIC	USB Cable with Magnetic Connector
RTR-USB-STICK	USB Stick
RTR-WIFIDONGLE	WiFi Dongle
RTR-WS	Wrist Strap

Detective Portable Spectrometers

- See page 37 for accessories.

Model	Description
DETECTIVE-DX1-TS	Ultra-Light-Weight, Portable, High Efficiency, Standard HPGe Spectrometer. Includes mains adapter, vehicle power cable, USB flash drive, shoulder strap, MAESTRO-PRO software and wheeled hard-sided case. **Does not include** Radioisotopic Identification applications (Detective X, Sleuth, and RAPiD)

DigiDART Portable MCA

- Contact factory for use with -PL option detector.

Model	Description
DIGIDART	DIGIDART with MAESTRO Software, 2 cables, battery and charger, operator manual, instruction card and USB Driver instruction sheet. NO DIM, for use with SMART-1 detector.
DIGIDART-POSGE	DIGIDART with DIM-POSGE detector interface module for non-SMART positive bias HPGe detector.
DIGIDART-NEGGE	DIGIDART with DIM-NEGGE detector interface module for non-SMART negative bias HPGe detector.
DIGIDART-POSNAI	DIGIDART with DIM-POSNAI detector interface module for positive bias NaI detector.
DIGIDART-296	DIGIDART with DIM-296 detector interface module for NaI detector.
DIGIDART-PKG-1	DIGIDART with GammaVision Software. NO DIM, for use with SMART-1 detector.
DIGIDART-PKG-8	DIGIDART with ISOTOPIC Software. NO DIM, for use with SMART-1 detector.
DIGIDART-R	DIGIDART with RS-232-C communications. NO DIM, for use with SMART-1 detector.
DIGIDART-R-POSNAI	DIGIDART with detector interface module for positive bias NaI detector with RS-232-C communications.
DIGIDART-32	32k channel DigiDART with MAESTRO Software, NO DIM, for use with SMART-1 detector.
DIGIDART-32-POSGE	DIGIDART-32 with DIM-POSGE detector interface module for non-SMART positive bias HPGe detector.
DIGIDART-32-296	DIGIDART-32 with DIM-296 detector interface module for NaI detector.
DIGIDART-OPT1	Spare high capacity battery.
DIGIDART-OPT2	Battery charger 110–240 V 50/60 Hz.
DIGIDART-OPT2-E	Battery charger 110–40 V 50/60 Hz, CE approved for Europe.
DIGIDART-OPT3	Field Kit: carry strap/belt strap, auto adapter, universal mains adaptor, spare battery.
DIGIDART-OPT5	Cable to connect DigiDART to Radiant 200 (10 ft. length).
DIGIDART-OPT6	Fanout cable for use with detectors not including a DIM. Provides analog and gate input. Requires conventional preamp output pulse.

DigiDART-LF Portable MCA

- Contact factory for use with -PL option detector.

Model	Description
DIGIDART-LF	DigiDART-LF Portable “SMART” MCA for NaI(Tl), LaBr and other Scintillation Detectors
DD-LF-POSNAI	DigiDART-LF with DIM-POSNAI detector interface module for positive bias NaI detector
DD-LF-296	DigiDART-LF with DIM-296 detector interface module for NaI or LaBr detector
DD-LF-2BY2	DigiDART-LF with rugged, integrated 2” x 2” NaI detector/DIM-296 assembly and carry case. **NON ROHS.**
DD-LF-3BY3	DigiDART-LF with rugged, integrated 3” x 3” NaI detector/DIM-296 assembly and carry case. **NON ROHS.**

DSPEC 50/502 and DSPEC 50A/502A Digital Signal Processing Based Gamma-Ray Spectrometers

- Detector connection cables not included.

Model	Description
DSPEC-50	DSPEC 50 with MAESTRO Software, single MCA, and single internal High Voltage Power Supply
DSPEC-502	DSPEC 502 with MAESTRO Software, two MCAs, and two internal High Voltage Power Supplies
DSPEC-50A	DSPEC 50 (Advanced) with MAESTRO-Pro Software, single MCA, and single internal High Voltage Power Supply
DSPEC-502A	DSPEC 502 (Advanced) with MAESTRO-Pro Software, two MCAs, and two internal High Voltage Power Supplies
931431	Detector Interface Module (DIM) cable, 4-ft length
683410	Detector Interface Module (DIM) cable, 10-ft length
DIM-CABLE-X-S	Detector Interface Module (DIM) cable; X=length, ft

DSPEC Pro Digital Signal Processing Based Gamma-Ray Spectrometer

- Contact factory for use with -PL option detector.

Model	Description
DSPEC-PRO	DSPEC Pro with MAESTRO. No DIM, for use with SMART-1 equipped detector.
DSPEC-PRO-MOD1	DSPEC Pro with “Always-On” feature and MAESTRO. No DIM, for use with SMART-1 equipped detector.
DSPEC-PRO-POSGE	DSPEC Pro with MAESTRO and DIM-POSGE for use with NON-SMART-1 detector.
DSPEC-PRO-POSGE-MOD1	DSPEC Pro with “Always-On” feature, MAESTRO and DIM-POSGE for use with NON-SMART-1 detector.
DSPEC-PRO-NEGGE	DSPEC Pro with MAESTRO and DIM-NEGGE for use with NON-SMART-1 detector.
DSPEC-PRO-POSNAI	DSPEC Pro with MAESTRO and DIM-POSNAI for use with NaI detector
DSPEC-PRO-296	DSPEC Pro with MAESTRO and DIM-296 for use with NaI detector
DSPEC-PRO-PKG-1	DSPEC Pro. with MAESTRO and GammaVision software. No DIM, for use with SMART-1 equipped detector.
DSPEC-PRO-PTK	DSPEC Pro with MAESTRO and A11 Programmer’s Toolkit software. No DIM, for use with SMART-1 equipped detector.
DSPEC-PRO-CH	DSPEC Pro ONLY. No Software.

DSPEC jr 2.0 Digital Signal Processing Based Gamma-Ray Spectrometer

- Contact factory for use with -PL option detector.

Model	Description
DSPEC-jr-2.0	DSPEC jr 2.0 with MAESTRO, No DIM, for use with SMART-1 equipped detector.
DSPEC-jr-2.0-POSGE	DSPEC jr 2.0 with MAESTRO and DIM-POSGE for use with Non-SMART-1 detector.
DSPEC-jr-2.0-NEGGE	DSPEC jr 2.0 with MAESTRO and DIM-NEGGE for use with Non-SMART-1 detector.
DSPEC-jr-2.0-POSNA	DSPEC jr 2.0 with MAESTRO and DIM-POSNAI, for use with NaI detector.
DSPEC-jr-2.0-296	DSPEC jr 2.0 with MAESTRO and DIM-296, for use with NaI detector.
DSPEC-jr-2.0-PKG-1	DSPEC jr 2.0 with MAESTRO and GammaVision, No DIM, for use with SMART-1 equipped detector.

DSPEC-LF Digital Signal Processing Based Gamma-Ray Spectrometer

- Contact factory for use with -PL option detector.

Model	Description
DSPEC-LF	DSPEC-LF with MAESTRO, No DIM, for use with SMART-1 equipped detector.
DSPEC-LF-POSGE	DSPEC-LF with MAESTRO and DIM-POSGE for use with Non-SMART-1 detector.
DSPEC-LF-NEGGE	DSPEC-LF with MAESTRO and DIM-NEGGE for use with Non-SMART-1 detector.
DSPEC-LF-POSNAI	DSPEC-LF with MAESTRO and DIM-POSNAI, for use with NaI detector.
DSPEC-LF-296	DSPEC-LF with MAESTRO and DIM-296, for use with NaI detector.
DSPEC-LF-PKG-1	DSPEC-LF with MAESTRO and GammaVision, No DIM, for use with SMART-1 equipped detector.

IDM Interchangeable Detector Module

Model	Description
IDM-200-V	IDM-200-V Interchangeable Detector Module for System Integrators. Includes AC/DC power adaptor, IP68 USB cable, internal back up battery operating manual and MAESTRO software.
IDM-200-ACC-PS	AC/DC Power Adapter Charger.
IDM-200-ACC-USB	IP68 USB Cable.
EXT-BAT-IDM	Ultra Battery Extender. Includes battery, charger and cable for IDM models.

ACE Mate Amplifier and Bias Supply

Model	Description
925-SCINT	ACE Mate Preamp/Amp/Bias Supply with Built-in Ratemeter and SCA

NaI Spectrometers

Model	Description
digiBASE	14-Pin PMT Base for NaI Applications. Complete with Digital MCA, Preamplifier, High Voltage Supply, and MAESTRO Software. USB Connection.
digiBASE-CH	DigiBASE with USB connection only. NO software.
digiBASE-PKG-1	DigiBASE with A66SV-BW Software
digiBASE-E	High Performance 14-Pin PMT Base for Scintillation Detectors. Complete with Digital MCA, Preamplifier, High Voltage Supply, and MAESTRO Software. PoE Ethernet Connection.
digiBASE-E-PKG-1	DigiBASE-E with A66SV-BW Software

GammaScreen-8 8-Channel Rapid Analysis of Multiple Gamma Emitting Radionuclides in Clinical Samples

Model	Description
GammaScreen-8	Complete 8 detector system including all detectors, electronics, PC hardware and software. (Sample containers not included but supplied at extra cost if required.)

FoodGuard-1 NaI-based Food Monitoring System

- NaI detectors are not CE or ROHS compliant and must be ordered as a Special if compliance is required.

Model	Description
FOODGUARD-1	A complete NaI-based food monitoring system including 905-4 NaI detector, G5-FOODGUARD-1 lead shield, digiBASE MCA, FoodGuard-1 software, Marinelli beakers (6), 40K (KCl) ring source, and Marinelli beaker calibration check source (~2 kg of KCl). **NON ROHS.**
FOODGUARD-1-CART	A complete NaI-based food monitoring system including 905-4 NaI detector, G5-FOODGUARD-1 lead shield, FGCART transport cart, digiBASE MCA, FoodGuard-1 software, Marinelli beakers (6), 40K (KCl) ring source, and Marinelli beaker calibration check source (~2 kg of KCl). **NON ROHS.**
FOODGUARD-1-PC	A complete NaI-based food monitoring system including 905-4 NaI detector, G5-FOODGUARD-1 lead shield, digiBASE MCA, FoodGuard-1 software, Marinelli beakers (6), 40K (KCl) ring source, Marinelli beaker calibration check source (~2 kg of KCl), laptop, and laser printer. **NON ROHS.**
FOODGUARD-1-PC-CART	A complete NaI-based food monitoring system including 905-4 NaI detector, G5-FOODGUARD-1 lead shield, FGCART transport cart, digiBASE MCA, FoodGuard-1 software, Marinelli beakers (6), 40K (KCl) ring source, Marinelli beaker calibration check source (~2 kg of KCl), laptop, and laser printer. **NON ROHS.**
FG-1-MARINELLI-CASE	Case (33) of 1L Marinelli Beakers for FoodGuard-1 system.
FGCART	Transport Cart. Securely carries the shielded detector and provides a convenient shelf mount for the system laptop computer.

FoodGuard-2 HPGe-based Food Monitoring System

Model	Description
FOODGUARD-2-AK	FoodGuard-2 Add-On Kit comprising: FoodGuard-2 Software, Connections Software upgrade, 6 each 2-liter Marinelli beakers and 40K check standard.

Alpha/Beta and Alpha Counters

Model	Description
ORT-ASC-950-DP-G	Automatic Swipe Counter with Dual Scintillator Detector and Cosmic Guard. Color Touch Screen Interface. USB Data Export/Import. (No P-10 Gas Required).
ORT-ASC-950-OPT-04	Expanded 100 Sample Capacity Stack for ASC only.
ORT-ASC-950-OPT-05	Extra Left 50 Sample Stack Stand and 50 Sample Carriers (51–100).
ORT-ASC-950-OPT-06	Extra Left 100 Sample Stack Stand and 100 Sample Carriers (51–150).
ORT-ASC-950-SHLD	2 inch Lead Shield.
ORT-MDS-CTRL	MDS Control Pack. Includes Vista 2000 software, RS232/485 interface, null modem cable, and gas regulator.
ORT-MDS-RACK	Support Rack for two MPC-9604 Subsystems.
ORT-MPC-900-DP	Desktop Gross Alpha/Beta Counter-Dual Scintillator Detector. Color Touch Screen Interface, USB Data Export/Import. No P-10 gas required.
ORT-MPC-900-DP-G	Desktop Gross Alpha/Beta Counter-Dual Scintillator Detector and Cosmic Guard. Color Touch Screen Interface, USB Data Export/Import. No P-10 gas required.
ORT-MPC-900-GFL-2	Desktop Gross Alpha/Beta Counter-Windowless Gas Flow Detector. Color Touch Screen Interface, USB Data Export/Import.
ORT-MPC-900-GFW-2	Desktop Gross Alpha/Beta Counter-Windowed Gas Flow Detector. Color Touch Screen Interface, USB Data Export/Import.
ORT-MPC-900-SHLD	2 inch Lead Shield.
ORT-MPC 9604	Four Detector Alpha/Beta Counting Unit Subsystem to expand an existing MDS System.
ORT-VISTA 2000	Counting System Control Software for Radiochemistry Applications.
ORT-VISTA FC	Health Physics Software Application
ORT-WPC-1050-GFW-2	Automatic 2 inch ultra low level Alpha/Beta System with thin window gas flow detector, 50 sample capacity , 50 sample carriers and planchet inserts. Note: 1 inch sample version also available. Color Touch Screen Interface, USB Data Export/Import.
ORT-WPC-1050-OPT-04	Expanded 100 Sample Capacity Option For WPC-1050 Only.
ORT-WPC-1050-OPT-05	Extra Left 50 Sample Stack and Support Stand with 50 Sample Carriers (51–100).
ORT-WPC-1050-OPT-06	Extra Left 100 Sample Stack and Support Stand with 100 Sample Carriers (51–150).
ORT-WPC-1150-GFW-3	Automatic Low-Level Alpha/Beta Counting Instrument with 5” Sample Changer with 3.5 Inch Diameter Windowed GFPC. Color Touch Screen Interface, USB Data Export/Import.
ORT-WPC-1150-GFW-5	Automatic Low-Level Alpha/Beta Counting Instrument with 5” Sample Changer with 5 Inch Diameter Windowed GFPC. Color Touch Screen Interface, USB Data Export/Import.
PIC-110-1002	7.5” Cosmic Guard Detector
PIC-110-1029	2.25” Pancake Detector
PIC-110-1073	Scintillation Guard Detector
PIC-120-0006	Replacement Anode for 2 1/4” Windowless Detectors
PIC-120-0007	Windowless Gasket Set, includes 1 each carrier arm seal, carrier arm window, hemi detector top seal, and 2.25 in. windowless seal
PIC-120-0008	Ultra-thin (80 µg/cm^2) detector window for all 2 1/4” gas flow and DP detectors
PIC-120-0010-ASC	DP Shield Assembly for ASC-950-DP
PIC-120-0010-DP	DP Shield Assembly for ASC-950-DP
PIC-120-0011	Mobile Cart with Slide Drawer
PIC-120-0023	5” Diameter 80 µg/cm^2 Window
PIC-120-0033	Carrier Set 1-50+QC+Group
PIC-120-0033-ASC	ASC Carrier Set 1-50+QC+Group
PIC-120-0034	Carrier Set Any Sequence
PIC-120-0034-ASC	ASC Carrier Set Any Sequence
PIC-120-0036-ASC	100 Sample Option for ASC-950
PIC-120-0037	Window Gasket, set of 3
PIC-120-0064	3.5” Diameter 80 µg/cm^2 Window
PIC-120-0075-ASC-50	ASC 50 Sample Stack, Stand and Carrier Set
PIC-120-0075-ASC-100	ASC 100 Sample Stack, Stand and Carrier Set
PIC-120-0084	MPC-900 Guard Option
PIC-140-0045	1’ Source Centering Ring
PIC-140-0115SS-1/8	1/8” Stainless Steel Sample Holder for MPC-1000
PIC-140-0115SS-1/4	1/4” Stainless Steel Sample Holder for MPC-1000
PIC-140-0115SS-5/16	5/16” Stainless Steel Sample Holder for MPC-1000
PIC-140-0278-1/8	1/8” Sample Holder for MPC-900
PIC-140-0278-1/4	1/4” Sample Holder for MPC-900
PIC-140-0278-5/16	5/16” Sample Holder for MPC-900
PIC-140-0305-01	1/8” Planchet Holders (set of 50)
PIC-140-0305-02	1/4” Planchet Holders (set of 50)
PIC-140-0305-03	5/16” Planchet Holders (set of 50)
PIC-700-0007	2 x 1/8” SS Planchets (Set of 100)
PIC-700-0008	2 x 1/4” SS Planchets (Set of 100)
PIC-700-0009	2 x 5/16” SS Planchets (Set of 100)

PINS Portable Isotopic Neutron-Spectroscopy Chemical Assay System

Model	Description
PINS3-CF	Portable Chemical and Explosives Identification System. Includes trans-SPEC-N HPGe Gamma Spectrometer, Laptop, PINS Chemical and Explosives Analysis and Identification Software, measurement table assembly, safety signs and tools, external DC power supply, and ruggedized, wheeled transport and shipping container. NEUTRON SOURCE NOT INCLUDED.
PINS3-CF-RN	Portable Chemical and Explosives Identification System. Includes trans-SPEC-N HPGe Gamma Spectrometer, Laptop, PINS Chemical and Explosives Analysis and Identification Software, Radiological and Nuclear Identification Software, measurement table assembly, safety signs and tools, external DC power supply, and ruggedized, wheeled transport and shipping container. NEUTRON SOURCE NOT INCLUDED.
PINS3-CW-G2	Portable Chemical Identification System. Includes miniGen Neutron Generator, trans-SPEC-N HPGe Gamma Spectrometer, Laptop, PINS Chemical Analysis and Identification Software, measurement table assembly, safety signs and tools, external DC power supply, and ruggedized, wheeled transport/shipping containers.
PINS3-CW-G2-RN	Portable Chemical Identification System. Includes miniGen Neutron Generator, trans-SPEC-N HPGe Gamma Spectrometer, Laptop, PINS Chemical Analysis and Identification Software, measurement table assembly, safety signs and tools, external DC power supply, and ruggedized, wheeled transport/shipping containers and Radiological and Nuclear Identification Software.
SIMULANTS-12	Calibration and Training Simulants. Qty 1 EA: CG, HE (Comp. B), HE (HMX), PoP, FS, GB, HC, HD, WP, L, VX, and Sand. Includes HazCom labels and 3 shipping drums.
PINS3-SW-UPG	PINS3 Software Upgrade to Latest Version. Requires previous purchase of PINS3 System and ITAR approval. Software will be delivered via AMEFEX Secure File Transfer. Includes MAESTRO software.

GRACE Gamma Ray Analysis of Chemical Elements

Model	Description
GRACE-CB-L	GRACE Chemical Element Analysis System. Includes Trans-SPEC-X-N HPGe Gamma Spectrometer, Mini-Gen Neutron Generator, INL Analysis Software, Tablet Computer, Measurement Table Assembly, Portable Power Supply, AC/DC Power Cables, Backpacks with Coyote Brown Cover, Frame (Size L), and Transport Cases.
GRACE-CB-XL	GRACE Chemical Element Analysis System. Includes Trans-SPEC-X-N HPGe Gamma Spectrometer, Mini-Gen Neutron Generator, INL Analysis Software, Tablet Computer, Measurement Table Assembly, Portable Power Supply, AC/DC Power Cables, Backpacks with Coyote Brown Cover, Frame (Size XL), and Transport Cases.
GRACE-MC-L	GRACE Chemical Element Analysis System. Includes Trans-SPEC-X-N HPGe Gamma Spectrometer, Mini-Gen Neutron Generator, INL Analysis Software, Tablet Computer, Measurement Table Assembly, Portable Power Supply, AC/DC Power Cables, Backpacks with Multicam Cover, Frame Size (L), and Transport Cases.
GRACE-MC-XL	GRACE Chemical Element Analysis System. Includes Trans-SPEC-X-N HPGe Gamma Spectrometer, Mini-Gen Neutron Generator, INL Analysis Software, Tablet Computer, Measurement Table Assembly, Portable Power Supply, AC/DC Power Cables, Backpacks with Multicam Cover, Frame Size (XL), and Transport Cases.
GR-RAD-NUKE-SW	Addition of Radiological and Nuclear Identification Software. Can only be ordered at time of GRACE System order.
GR-COVER-CB	Backpack Covers - Coyote Brown
GR-COVER-MC	Backpack Covers - Multicam
GR-FRAME-CB-L	Harness Frame - Coyote Brown - Size Large
GR-FRAME-CB-XL	Harness Frame - Coyote Brown - Size Extra Large
GR-FRAME-MC-L	Harness Frame - Multicam - Size Large
GR-FRAME-MC-XL	Harness Frame - Multicam - Size Extra Large
GR-BATTERY	Backpack Battery - Spare
GR-CHARGER	Backpack Battery Charger - Spare
GR-PWR-PT-CBL	Cable for System Operation via AC or DC Mains Power (one included with system)
TRANS-SPEC-X-N	Trans-SPEC-X-N Portable Spectrometer complete with universal mains supply and MAESTRO Pro software.
SIMULANTS-12	Calibration and Training Simulants. Qty 1 EA: CG, HE (Comp. B), HE (HMX), PoP, FS, GB, HC, HD, WP, L, VX, and Sand. Includes HazCom labels and 3 shipping drums.

M-1 In Situ Soil Counting Systems

Model	Description
M1-xxx-DDD	Includes GEM P-type coaxial detector with SMART-1 technology in PopTop capsule with warranted efficiency ≥xxx%, L:D ratio in the range 0.5–1.3 (see page 10 for further detector details), and single 10-ft DigiDART-to-detector connection cable. MG Gamma Gage cryostat and dewar (capacity “DDD” = 1.2, 3.0, or 5.0 liter), M-1-T1 tripod, DigiDART, DigiDART-OPT3, ISOPLUS software, Laptop computer and System User’s Manual Set.
M1-30-DDD	M-1 In Situ Soil Counting System incorporating GEM30 detector
M1-40-DDD	M-1 In Situ Soil Counting System incorporating GEM40 detector
M1-50-DDD	M-1 In Situ Soil Counting System incorporating GEM50 detector
M1-70-DDD	M-1 In Situ Soil Counting System incorporating GEM70 detector
M1-90-DDD	M-1 In Situ Soil Counting System incorporating GEM90 detector
M1-100-DDD	M-1 In Situ Soil Counting System incorporating GEM100 detector
M1-120-DDD	M-1 In Situ Soil Counting System incorporating GEM120 detector
DWR-S/F	Storage Fill Dewar
M-1-T1	Variable-length Tripod

ISO-CART Mobile Assay System

Model	Description
ISO-CART-85-PC	Complete ISO-CART-85 System, factory calibrated. Includes ISO-CART-II, IDM-200-V-ISO-2-DCC, ISO-2-IDM-SHD, IDM-200-V, ISOTOPIC software, ISO-CAL, and laptop computer.
ISO-CART-85-NOPC	Complete ISO-CART-85 System. Includes ISO-CART-II, IDM-200-V-ISO-2-DCC, ISO-2-IDM-SHD, IDM-200-V, and ISOTOPIC software.
ISO-GEMxx-DDD ISO-GMXxx-DDD	Complete system includes: ISO-CART-II, SHD-1, ISO-DCC, HPGe Detector with SMART-1 technology and bayonet pressure fill adaptor, digiDART, ISOTOPIC software, and Laptop Computer. System is integrated and tested and supplied with factory calibration. See GEM and GMX detector sections for specifications. NOTE: Contact factory for ISO-CART systems based on alternate detector types. Choice of cryostat and dewar "DDD" as follows: 3.0 = 3.0-liter Gamma Gage dewar; M7L = 7.0-liter MOD dewar.
ISOCART-GEM25-DDD	ISO-CART-II Mobile Assay System incorporating GEM25 detector
ISOCART-GEM40-DDD	ISO-CART-II Mobile Assay System incorporating GEM40 detector
ISOCART-GEM60-DDD	ISO-CART-II Mobile Assay System incorporating GEM60 detector
ISOCART-GEM80-DDD	ISO-CART-II Mobile Assay System incorporating GEM80 detector
ISOCART-GEM100-DDD	ISO-CART-II Mobile Assay System incorporating GEM100 detector
ISOCART-GEM120-DDD	ISO-CART-II Mobile Assay System incorporating GEM120 detector
ISOCART-GMX25-DDD	ISO-CART-II Mobile Assay System incorporating GMX25 detector
ISOCART-GMX40-DDD	ISO-CART-II Mobile Assay System incorporating GMX40 detector
ISOCART-GMX60-DDD	ISO-CART-II Mobile Assay System incorporating GMX60 detector
ISOCART-GMX80-DDD	ISO-CART-II Mobile Assay System incorporating GMX80 detector
Options and Accessories	
ISO-CART-II	ISO-CART-II only (Detector/Collimator Carrier (DCC) not included).
ISO-CAL	Point-source calibration at the factory. (If computer not ordered, files supplied on CD).
ISO-SCALE	Platform scale with indicator floor stand
ISO-TURNTABLE-110	Turntable for drum rotation. Capacity = 445 kg (1000 lb). 110 V, 60 Hz.
ISO-TURNTABLE-240	Turntable for drum rotation. Capacity = 445 kg (1000 lb). 240 V, 50 Hz.
ISO-TURNTABLE-OPT1-2	Increase in turntable RPM from 1 RPM to 2 RPM. Must be ordered with turntable.
ISO-TURNTABLE-OPT1-3	Increase in turntable RPM from 1 RPM to 3 RPM. Must be ordered with turntable.
ISO-TURNTABLE-OPT2	Wireless On/Off via hand-held remote. Must be ordered with turntable.
ISO-TURNTABLE-OPT3	Power Cord Extension from standard 6 ft. to a maximum of 75 ft. Price per foot. Must be ordered with turntable.
ISO-TURNTABLE-OPT4	Hardwired Switch Cable Extension up to 75 ft. Price per foot. Must be ordered with turntable.
ISO-CASE	Transportation case for digiDART, laser range finder, and laptop.
ISO-BOX	Airworthy "roll-in" system transportation box for complete ISO-CART (detector ships in its own crate), includes space for ISO-CASE.
for Detector/Dewar Only	
ISO-DCC	Detector/Collimator Carrier (slide and plate). Compatible with CFG-PG4-3 and CFG-PMOD4-7
SHD-1	5/8-inch Lead Shield/Collimator, copper lined
SHD-3	Heavy Duty Lead Shield (1.8" thick) for high backgrounds
ISO-BACKSHIELD	Removable Backshield for PopTop Detector
ISO-LASERMETER	Laser Range Finder
ISO-LSRMTR-ADAPT-1	Lasermeter adapter for SHD-1 shield
ISO-LSRMTR-ADAPT-3	Lasermeter adapter for SHD-3 shield
ISO-DEWAR	STD 50L dewar, WD-50 withdrawal device, and TL-6 6-ft. transfer line
for IDM Only. (For use with ISO-CART-II only.)	
IDM-200-V-ISO-2-DCC	Detector/Collimator Carrier for IDM-200-V. For use with ISO-CART-II only.
ISO-2-IDM-FOV-2	2" Steel Field of View Collimator for use with IDM-200-V, Sn/Cu lined. For use with ISO-CART-II only.
ISO-2-IDM-FOV-4	4" Steel Field of View Collimator for use with IDM-200-V, Sn/Cu lined. For use with ISO-CART-II only.
ISO-2-IDM-FOV-6	6" Steel Field of View Collimator for use with IDM-200-V, Sn/Cu lined. For use with ISO-CART-II only.
ISO-2-IDM-SHD	Modular collimator kit for use with IDM-200-V. Includes 1 each ISO-2-IDM-FOV-2, ISO-2-IDM-FOV-4, ISO-2-IDM-FOV-6 and 3 each ISO-2-IDM-SHD-2. For use with ISO-CART-II only.
ISO-2-IDM-SHD-EXT	Bottle counting shield extension for ISO-2-IDM-SHD. Includes 6 each 1-L bottles. For use with ISO-CART-II only.
ISO-2-IDM-SHD-2	2" deep lead sectional shield for FOV collimator. 1" wall thickness. For use with ISO-CART-II only.

Experiment Products

- Due to the complexity of in country regulations regarding the importation of radioactive sources we are recommending that customers order directly from the source suppliers. They can be found on the ORTEC website here http://www.ortec-online.com/service-and-support/library/educational-experiments

Model	Description
01865-AB	2.5µ Mylar 3" x 300'
01866-AB	3.6µ Mylar 3" x 300'
01867-AB	6.0µ Mylar 3" x 300'
305-AX	Thin Window Vacuum Chamber with Source Holder
4542PC	Proportional Counter, Xenon, 10 mil Be
5T1200B2/2	1.2" x 0.2" NaI Detector with PMT and Be window
AL-ROD-AX	0.5" x 4" Al rod
ALRD-AX	Aluminum Absorber Rod 6-cm dia x 7-cm long
CURD-AX	Copper Absorber Rod 6-cm dia x 7-cm long
DETECTOR-STAND-AX	NaI Detector Downlooking Stand with source and foil holder
FERD-AX	Iron Absorber Rod 6-cm dia x 7-cm long
FOIL-AL-30	Box of ten 1/2" diameter Al foils, 0.030" thick
FOIL-AL-5	Box of ten 1/2" diameter Al foils, 0.005" thick
FOIL-CD-40	Box of ten Cd covers, 0.040" thick
FOIL-CU-10	Box of ten 1/2" diameter Cu foils, 0.010" thick
FOIL-FE-5	Box of ten 1/2" diameter Fe foils, 0.005" thick
FOIL-MO-3	Box of ten 1/2" diameter Mo foils, 0.003" thick
FOIL-NI-10	Box of ten 1/2" diameter Ni foils, 0.010" thick
FOIL-NI-3	Box of ten 1/2" diameter Ni foils, 0.003" thick
FOIL-SN-4	Box of ten 1/2" diameter Sn foils, 0.004" thick
FOIL-TA-5	Box of ten 1/2" diameter Ta foils, 0.005" thick
GP35	GM Probe with Stand and Cables
GPI	GM Pulse Inverter
P2I16/2(329)	1/2" x 4" Fast Plastic Detector with PMT
PC-STAND-AX	Proportional Counter stand with source holder
PBRD-AX	Lead Absorber Rod 6-cm dia x 7-cm long (clad in 0.062" thick copper)
PERD-AX	Polyethylene Absorber Rod 6-cm dia x 7-cm long (shadow bar)
POLYCARB-SHEET	12"x12"x0.060" Polycarb Sheet
PTFE-SHEET	12"x12"x0.093" PTFE Sheet
RAS20	Set of 20 Absorbers (Pb, Al, Poly, Plastic)
SA04544M	Ring Stand with Triangular Support (Retort Stand)
SB10760M	Right-Angle Clamp Holder (Retort Stand)
SB28602M	3-Fingered Extension Clamp (Retort Stand)
SPA38	1.5 x 1.5" NaI Detector with PMT Stand and Cables

Software

Model	Description
A11-BW	CONNECTIONS Programmer's Toolkit
A11-GW	Documentation for A11-BW
A11-UW	Update from A11-B32 or A11-BW to latest version A11-BW
A36-BW	AlphaVision Alpha Analysis Software
A36-BVW	AlphaVision Alpha Analysis Software with A36-VW V&V Test Results and Certificate of Validation
A36-GW	Documentation for AlphaVision
A36-NW	AlphaVision additional network copy
A36-UW	Update for AlphaVision
A36-UVW	Update for AlphaVision with A36-VW V&V Test Results and Certificate of Validation
A36-VW	AlphaVision V&V Test Results and Certificate of Validation
A44-BW	GammaVision Report Writer
A44-GW	Documentation for GammaVision Report Writer
A44-UW	Update for GammaVision Report Writer
A65-BW	MAESTRO Multichannel Analyzer (MCA) Application Software. Includes standalone or first network copy binary use license.
A65-GW	Hard Copy Documentation for MAESTRO. Note: A PDF version of the MAESTRO manual is installed with the application. Hard copy documentation must be ordered separately if desired.
A65-NW	Single Use Network Copy. Requires current version of A65-BW
A65-UW	MAESTRO update from A65-BW or A65-B32 models.
A65-VW	MAESTRO V&V Test Results and Certificate of Validation.
A65-2YW	2 Year Software Subscription for MAESTRO
A65-3YW	3 Year Software Subscription for MAESTRO
A65-4YW	4 Year Software Subscription for MAESTRO
A65-5YW	5 Year Software Subscription for MAESTRO
A66-BW	GammaVision Gamma-Ray HPGe Spectral Analysis
A66-BVW	GammaVision Gamma-Ray HPGe Spectral Analysis Software. Includes A66-VW V&V Test Results and Certificate of Validation
A66-GW	Documentation for GammaVision
A66-NW	GammaVision additional network copies
A66-UW	Update for GammaVision
A66-UVW	Update for GammaVision. Includes A66-VW V&V Test Results and Certificate of Validation
A66-VW	Verification and Validation Documentation for GammaVision
A66-2YW	2 year update subscription for GammaVision
A66-3YW	3 year update subscription for GammaVision
A66-4YW	4 year update subscription for GammaVision
A66-5YW	5 year update subscription for GammaVision
A66MP-BW	MAESTRO-Pro Spectroscopy Software for Windows. Single PC License
A66MP-NW	MAESTRO-Pro Single PC Network license. Requires current version of A66MP-BW on the same network
A66MP-UW	MAESTRO-Pro Single PC update license from A66MP-BW or A65-BW
A66SV-BW	GammaVision Gamma Spectroscopy Software for Windows (Scintillator Only Option)
A66SV-NW	GammaVision Single Use Network Copy (Scintillator Only Option). Requires current version of A66SV-BW.
A66SV-UW	GammaVision Update from A35-B32 (ScintiVision) or A66SV-BW (GammaVision Scintillator Only Option)
A73-B32	Operating Software for EASY-MCS
A73-G32	Documentation for EASY-MCS Hardware and Software
A73-U32	Upgrade to the latest version of EASY-MCS software
ANGLE-BW	Advanced Gamma Spectroscopy Efficiency Calibration Software. Single PC License.
ANGLE-GW	Documentation for ANGLE
ANGLE-UW	Update from ANGLE V4 to V5. (Update from V3 or earlier requires purchase of ANGLE-BW)
C53-BW	Nuclide Navigator Pro Single Computer License
C53-CDW	Nuclide Navigator Pro 5-User License. Requires purchase of C53-BW.
C53-UW	Nuclide Navigator Pro Update from C53-B32 or C53-BW

Software

Model	Description
FG-1-BW	FoodGuard-1 Software
FRAM-BW	FRAM Gamma-Ray Isotopic Analysis Software
FRAM-GW	Documentation for FRAM
FRAM-UW	Update for FRAM
GlobalValue-BWS	Global Value Productivity Suite for GammaVision - Site License. For use with Networked Database Connections. Includes 4-days on-site installation and training (All travel expenses included).
GlobalValue-UWS	Global Value Productivity Suite for GammaVision - Site License Upgrade. For use with Networked Database Connections. Includes 2-days on-site installation and training. (All travel expenses included.) Requires previous Site License model (Global Value, Global Value-BWS or GlobalValue-UWLS).
GlobalValue-BWL	Global Value Productivity Suite for GammaVision - Single Computer License. For use on a single computer with databases stored on the same computer. No on-site time included.
GlobalValue-UWL	Global Value Productivity Suite for GammaVision - Single Computer License Upgrade. For use on a single computer with databases stored on the same computer. Requires previous version of Global Value-BWL. No on-site time included.
GlobalValue-UWLS	Global Value Productivity Suite for GammaVision - Single Computer to Site License Upgrade. For use with Networked Database Connections. Requires previous version of Global Value-BWL. No on-site time included.
ISOPLUS-BW	ISOTOPIC Software for the analysis of containers, objects and soils.
ISOPLUS-GW	Documentation for ISOTOPIC
ISOPLUS-NW	ISOTOPIC Network Copy
ISOPLUS-UW	Update for ISOTOPIC
ISOPLUS-VW	Verification and Validation Documentation for ISOTOPIC
ISOPLUS-2YW	2 year update subscription for ISOTOPIC
ISOPLUS-3YW	3 year update subscription for ISOTOPIC
ISOPLUS-4YW	4 year update subscription for ISOTOPIC
ISOPLUS-5YW	5 year update subscription for ISOTOPIC
LVIS-GAMMA	LabVision Counting Laboratory Spectrometry Management Software for Windows. Includes standalone or network copy and binary use license.
LVIS-GAMMA-N	LabVision Single Use Network Copy. Requires current version of LVIS-GAMMA.
LVIS-GAMMA-U	LabVision Update from LVIS-GAMMA, LVIS-GAMMA-N, or GammaVision to latest version of LabVision.
LVIS-ROI	LabVision Counting Laboratory Spectrometry Management Software for Windows (ROI Analysis Only Option).
LVIS-ROI-N	LabVision Single Use Network Copy (ROI Analysis Only Option). Requires current version of LVIS-ROI.
LVIS-ROI-U	LabVision Update from LVIS-ROI, LVIS-ROI-N, GammaVision, or MAESTRO-Pro to current version of LabVision (ROI Analysis Only Option).
RENP-BW	Renaissance Whole Body Counter Software
RENP-GW	Additional Hard Copy Documentation for Renaissance
RENP-NW	Renaissance Single Use Network Copy
RENP-UW	Update from RENP-B32, RENP-BW, or RENP-NW to latest version of Renaissance

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801 South Illinois Avenue, Oak Ridge, TN 37830

(865) 482-4411 ● ortec.info@ametek.com ● www.ortec-online.com