

Cassettes

Aluminum, LN₂ cassettes provide structure and ease of handling in cryo applications down to -196°C

Entegris solutions allow you to protect and store your high-value process solutions with reduced risk of product loss, contamination, and compromised quality. Expanding our portfolio further, we offer LN₂ (liquid nitrogen) cassettes for use with Aramus™ single-use bag assemblies. At lower volumes, the Aramus single-use bag assemblies can be combined with LN₂ cassettes to give them rigidity when handled and provide greater protection during freezing, storage, and thawing operations.

Aramus single-use 2D bags are made of a high-grade, gamma-stable fluoropolymer, and provide high purity, exceptional compatibility, and increased safety for critical process fluids and final products. The innovative single-layer technology does not contain curing agents, antioxidants, plasticizers, or adhesives, greatly reducing the potential for process fluid contamination.



Aramus 50 mL bag assembly and cassette

APPLICATIONS

- Cell banking for bioreactor intensification
- Stem cell freezing and storage
- Cryogenic storage of bulk drug or intermediates
- Cryogenic product shipment
- Process sampling and archiving

FEATURES & BENEFITS

Thin, lightweight aluminum construction	Reduces freezing time, saving valuable freezer space
Rigid, durable construction	Provides structure for stacking or racking cryogenic bags, reducing handling risk
Standard cassette sizes available	Fit in many commercially available freezers and racks Each cassette partners with a corresponding Aramus bag assembly geometry
Customizable Aramus bag assemblies	Allow modified geometries that optimize surface area-to-volume ratios for your application
Low cost accessory	Economical solution for cryogenic shipment and storage

ORDERING INFORMATION

Cassette part number	Aramus bag size*	Aramus fill volume (in cassette)	Width	Length	Height
SU-FS-0.05-C2	20 mL, 50 mL	10–20 mL, 35–50 mL	16.0 cm (6.30")	20.3 cm (7.98")	2.0 cm (0.80")
SU-FS-0.10-C2	100 mL	50–100 mL	16.1 cm (6.33")	21.3 cm (8.40")	2.0 cm (0.80")
SU-FS-0.25-C2	250 mL	70–200 mL	15.7 cm (6.17")	30.2 cm (11.90")	2.2 cm (0.88")
SU-FS-0.50-C2	500 mL	100–350 mL	19.1 cm (7.50")	30.5 cm (12.00")	2.3 cm (0.91")

*Additional sizes are available upon request.

TECHNICAL INFORMATION

Average cooling rates, from 4°C to -40°C (39°F to -40°F), observed with Aramus bags stored in cassettes. Data on rates shown in use with different freezers prior to storage in LN₂ temperatures.

Bag size	Standard lab freezer -80°C (-112°F)		Controlled plate freezer	
	At maximum fill	At minimum fill	At maximum fill	At minimum fill
20 mL	-1.38°C (-2.49°F)/min	-1.28°C (-2.30°F)/min	-0.72°C (-1.30°F)/min	-0.66°C (-1.19°F)/min
50 mL	-0.97°C (-1.74°F)/min	-1.30°C (-2.34°F)/min	-0.63°C (-1.13°F)/min	-0.77°C (-1.39°F)/min
100 mL	-0.83°C (-1.50°F)/min	-1.31°C (-2.35°F)/min	-0.52°C (-0.94°F)/min	-0.80°C (-1.44°F)/min
250 mL	-0.73°C (-1.31°F)/min	-1.30°C (-2.33°F)/min	-0.65°C (-1.16°F)/min	-0.84°C (-1.52°F)/min
500 mL	-0.53°C (-0.95°F)/min	-1.12°C (-2.02°F)/min	-0.64°C (-1.16°F)/min	-0.90°C (-1.61°F)/min

Cassettes shown to increase robustness by maintaining bag integrity post-LN₂ vapor phase storage. Aramus bags in cassettes were frozen in LN₂ vapor for 24 hours and then subjected to 12" drops three times:

Bag size	Fill volume	Drop test result
20 mL	20 mL	Pass (8/8)
50 mL	50 mL	Pass (8/8)
100 mL	100 mL	Pass (8/8)
250 mL	200 mL	Pass (8/8)
500 mL	350 mL	Pass (8/8)



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FOR MORE INFORMATION

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