

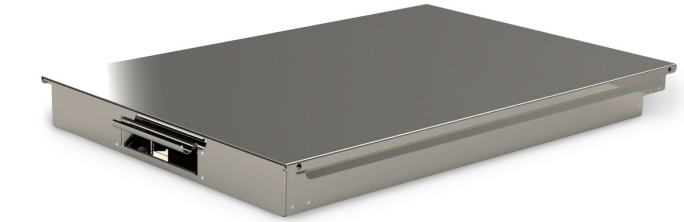
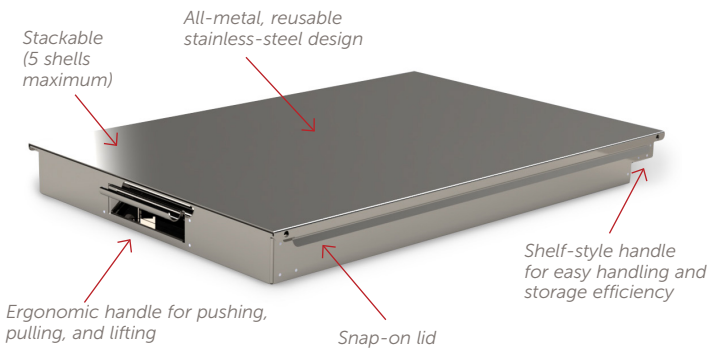
Plate Freezing Shells

Reusable metal shell solution for use with Aramus™ bag assemblies in bioprocess and cold-chain applications

Entegris plate freezing shells are ideal for those looking to improve handling, efficiency, throughput, and total cost of ownership in bulk-drug substance plate freezing and cold-chain applications. The plate freezing shells are designed for use with Aramus™ bag assemblies to provide a high-purity, easy-to-use, robust solution. Each shell is comprised of a stainless-steel frame (base and lid) with polyurethane foam inserts for complete bag protection. The lid is easily snapped on/off for quick assembly/disassembly and may be retained with pushpins for added protection and tamper resistance. Ergonomic handles are designed for use with cryogenic gloves and improved handling while inserting and removing the shells from a plate freezer. The shells can accommodate standard tubing lengths with common connectors, and partial fill can be easily adapted to allow for flexibility in fill volume. Optimized for high volume throughput and consistent freeze profiles in plate freezers, the shells are also stackable which significantly improves space efficiency during storage and shipping. Our standard size offerings are optimal for scale-up and reduce your product loss by assuring your high-value material and intermediates are protected.

APPLICATIONS

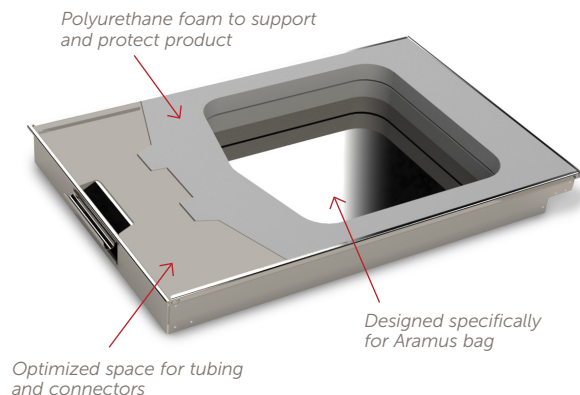
- Bulk-drug filling and draining
- Bulk-drug shipment
- Bulk-drug freezing and storage
- Cold-chain support



Samples available for advanced application testing.

FEATURES & BENEFITS

Robust Design	Stainless-steel frame provides protection down to -80°C (-112°F)
Freeze-Thaw Performance	Conduction of stainless-steel enables consistent and quick freezing and thawing which increases throughput and maintains product quality by reducing cryo-concentration
Versatile	Accommodates up to 12" of tubing with most aseptic connectors and a partial fill range 50% – 100%
Scalable	Enables consistent and repeatable freeze and thaw performance
Infrastructure compatibility	Optimized for maximum volume throughput in plate freezers. Stackable for efficient storage and shipping
Ergonomic handle	Ergonomic handles are designed for use with cryogenic gloves
Reuse	Qualified for 3x reuse and easy cleaning
Shipping	Designed for use with cold-chain shipping containers. Contact your Entegris account manager for support in configuring your solution



SPECIFICATIONS

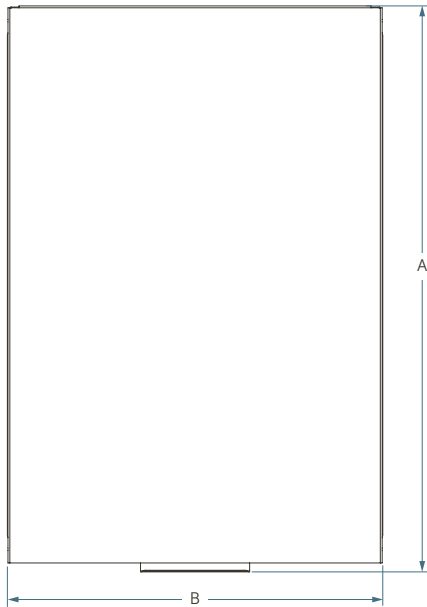
Materials of construction	304 stainless-steel frame, polyurethane foam	The 304 stainless-steel frame is compliant with TSE/BSE, Reach, RoHS, Latex Free, Phthalates Free, and Conflict Minerals Free	
		The polyurethane foam is compliant with TSE/BSE, Reach, RoHS, Latex Free, Phthalates Free, BPA free, and Conflict Minerals Free	
Estimated operating temperature	-80° to 40°C (-112° to 104°F)		
Fill volume range	9.5 L	4.75 to 9.5 L	
	11.5 L	5.75 to 11.5 L	
Maximum fluid throughput	9.5 L shell	RoSS.pFTU Large Scale freezer	152 L
		Hof FTU-5610 Pharma freezer	95 L
	11.5 L shell	RoSS.pFTU Large Scale freezer	184 L
		Hof FTU-5610 Pharma freezer	172.5 L
Shell weight (empty)	9.5 L	8.2 kg (18.1 lb)	
	11.5 L	8.7 kg (19.1 lb)	

Contact your Entegris account manager for partial foam configuration.

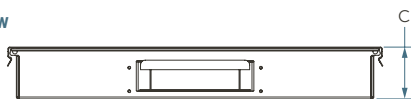
DIMENSIONS

9.5 L Plate Freezing Shell

Top View

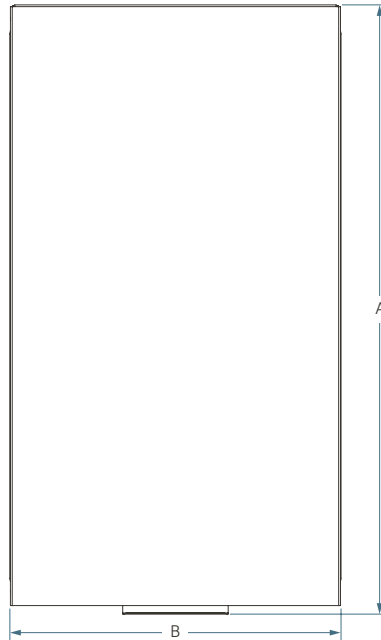


Front View

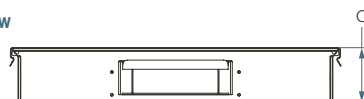


11.5 L Plate Freezing Shell

Top View



Front View

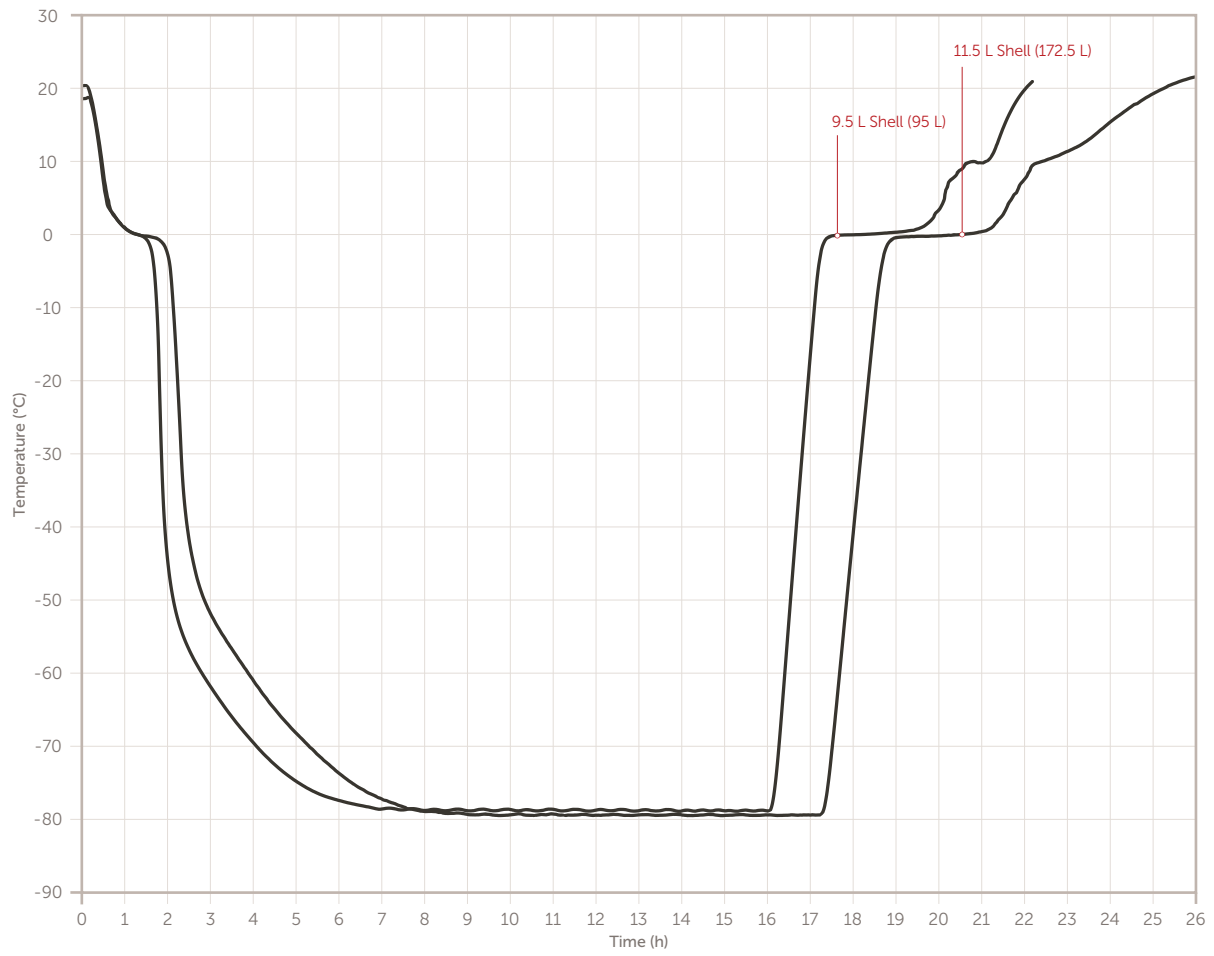


Size	A	B	C
9.5 L	762 mm (30.1")	508 mm (20.0")	71 mm (2.8")
11.5 L	851 mm (33.5")	462 mm (18.2")	76 mm (3.0")

PERFORMANCE

HOF 5610 Freeze Profile

Average temperature of all last-point-to-freeze locations



ORDERING INFORMATION

Size	Part number	Description	Minimum order quantity and delivery increment
9.5 L	SU-MP-000L1	Entegris Plate Freezing Shell, 9.5 L Aramus	2
	SU-MP-FF-000L1-50	50% partial fill foam, Entegris Plate Freezing Shell, 9.5 L Aramus	2
	SU-MP-FF-000L1-100	Replacement foam, Entegris Plate Freezing Shell, 9.5 L Aramus	4
11.5 L	SU-MP-000L2	Entegris Plate Freezing Shell, 11.5 L Aramus	2
	SU-MP-FF-000L2-50	50% partial fill foam, Entegris Plate Freezing Shell, 11.5 L Aramus	2
	SU-MP-FF-000L2-100	Replacement foam, Entegris Plate Freezing Shell, 11.5 L Aramus	4
Both Sizes	SU-MP-P-0001	10-pack retainment pins for Entegris Plate Freezing Shells	1

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](https://www.entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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