

Freezing Shells

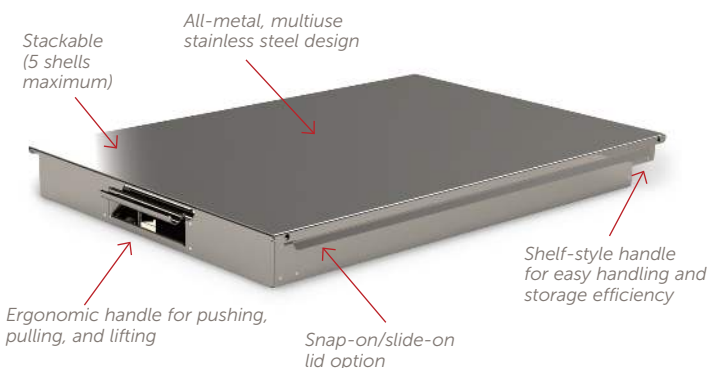
Cleanable, metal shells for use with any commercial, controlled rate plate freezer for bulk drug freezing applications

For the most consistent freezing profiles, highest throughput, and superior protection in -80°C (-112°F) bulk drug freezing workflows, Entegris' Aramus™ bags, when used in conjunction with plate freezers, are the preferred choice. As an extension of our freeze/thaw ecosystem of single-use materials and services, we introduce our metal bioprocess freezing shells. These metal shells enable optimal control in the plate freezing process and state-of-the-art protection when storing and transporting biological materials.

Our metal shells are compatible with high throughput plate freezing systems enabling more rapid freeze/thaw processing, have a stackable design for space efficiency, and are configured for more simplified scale-up. They assure product quality by providing enhanced protection for high-value materials and intermediates in freeze/thaw processes, storage and shipment, bulk product filling, and in cold-chain transport.

APPLICATIONS

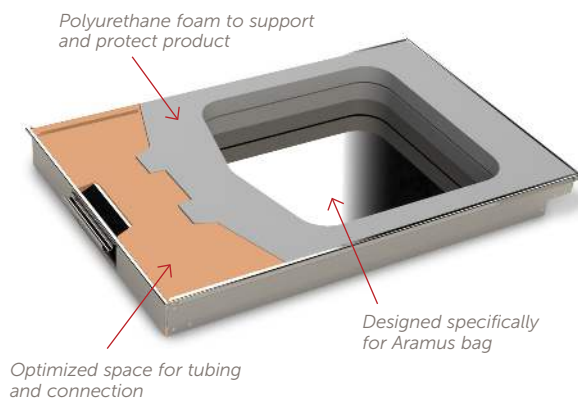
- Bulk drug freezing, storage, and shipment
- Bulk product fill
- Protection and storage of high-value intermediates
- Cold-chain transport



Available as beta-release products for sampling and advanced application testing ahead of commercial launch in 2023.

FEATURES & BENEFITS

All-metal, multiuse stainless-steel construction	Enables quick freeze and thaw, increasing throughput
Robust, thermal design	Provides protection down to -85°C (-121°F) for high-value process fluids, reducing product loss and increasing yield
Compatible with plate freezing technology	Enables high-volume freeze/thaw in shorter periods of time, generating high throughput Maintains product quality by reducing risk of cryo-concentration with homogenous and reproducible freezing and thawing
Built-in scalability	Enables consistent and repeatable freeze/thaw performance across container sizes
Stackable design	Provides storage efficiency, saving valuable freezer space
Ergonomic handle	Allows easy pushing, pulling, and lifting
Sustainable product	Reusing the shells with new bags or easily recycling when ready to dispose reduces waste



SPECIFICATIONS

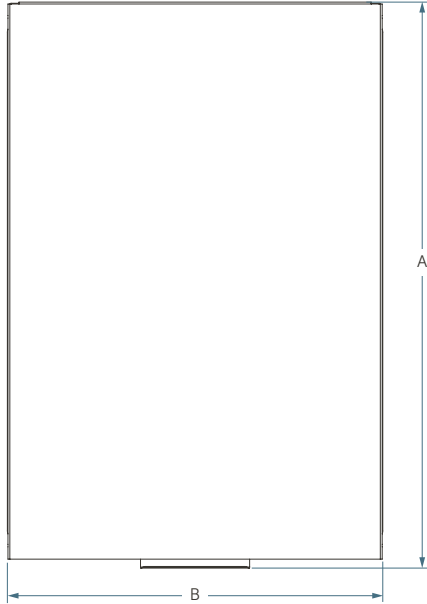
Materials of construction	Frame	304 stainless steel	
	Foam	Polyurethane	
Estimated operating temperature	-85° to 40°C (-121° to 104°F)		
Shell sizes	9.5 L, 11.5 L		
Fill volume range*	9.5 L	5 to 9.5 L	
	11.5 L	6 to 11.5 L	
Maximum fluid throughput	9.5 L shell	RoSS.pFTU Large Scale freezer	152 L
		Hof 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	9.5 L	8.2 kg (18.1 lb)	
	11.5 L	8.7 kg (19.1 lb)	

*Fill volumes are estimates pending completion of verification testing.

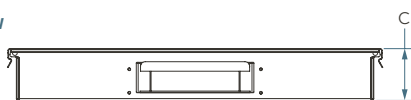
DIMENSIONS

9.5 L Metal Freezing Shell

Top View

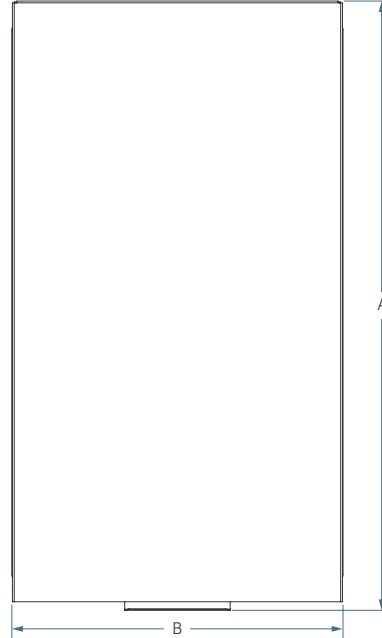


Side View

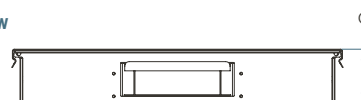


11.5 L Metal Freezing Shell

Top View



Side 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")

ORDERING INFORMATION

Part number	Shell size
SU-MP-000L1	9.5 L
SU-MP-000L2	11.5 L

FOR MORE INFORMATION

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

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