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
- Protection and storage of high-value intermediates
- Bulk product fill
- Cold-chain transport

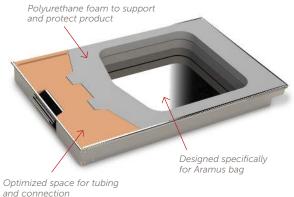


Available as beta-release products for sampling and advanced application testing ahead of commercial launch in 2023.

FEATURES & BENEFITS

All-metal, multiuse Enables quick freeze and thaw, increasing stainless-steel throughput construction Robust, thermal Provides protection down to -85°C (-121°F) design for high-value process fluids, reducing product loss and increasing yield Compatible with Enables high-volume freeze/thaw in shorter plate freezing periods of time, generating high throughput technology 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 Reusing the shells with new bags or easily product recycling when ready to dispose reduces waste







SPECIFICATIONS

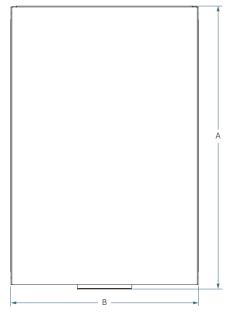
Materials of construction	Frame	304 stainless steel	
	Foam	Polyurethane	
Estimated operating temperature	-85° to 40°C (-121° to 104°F)		
Shell sizes	9.5 L, 11.5 L		
Fill volume range*	9.5 L	5 to 9.5 L	
	11.5 L	6 to 11.5 L	
Maximum fluid throughput	9.5 L shell	RoSS.pFTU Large Scale freezer	152 L
		Hof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

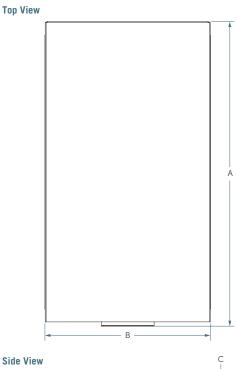
DIMENSIONS

9.5 L Metal Freezing Shell

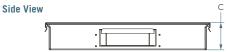
Top View



11.5 L Metal Freezing Shell







Size	A	В	С
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 <u>entegris.com</u> and select the <u>Contact Us</u> link to find the customer service center nearest you.

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Corporate Headquarters 129 Concord Road Billerica, MA 01821 USA

Customer Service
Tel +1 952 556 4181

Fax +1 952 556 8022 Toll Free 800 394 4083

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