

Frozen Transfers With Celsius® – Linking Drug Substances to Drug Product Sites Worldwide

Overview

Complete Robust Scalable



1. Complete Solutions

Complete solutions from one supplier create reliable platform logistics for consistent operations.

Complete Logistics for Celsius® FFT



Complete Logistics for Celsius®-Paks



Full Control of Process Logistics – Optimized Accessories from Fill to Drain
Safe and Robust Handling – Qualified Shippers and Shipping Methods

Benefit From Exceptional Robustness, Reliable Platform Solutions, and Scalability to Expand Your Frozen Product Transfers With Confidence

Maximum Product Security

- Safe and easy-to-use minimizes risk of product loss
- Long-term product integrity and stability
- Safe international shipments without temperature excursions

Excellent Process Reliability

- Consistency builds stronger cold chain operations and improves output
- Application support and accountability when you need it

Increased Production Flexibility

- Low-risk and quick adoption today with flexibility to expand tomorrow
- Consistent quality and design control ensure business continuity
- Stability assessments for earlier and smarter process decisions

2. Robust Solutions

Fully integrated, proven systems produce exceptional robustness that safeguards frozen product throughout its lifecycle.

360 µm

Strength & flexibility
Performance & quality

Protects bag | tubing
Confident handling

2-level protection
Independent qualified

Passed ISTA7D Shipping Test
Passed ASTM D4169 AL1 Shipping Test

360 tests in real
process conditions

Celsius FFT Containers with SafeForm™ Technology

Connection Tests	Functional Tests
Liquid Robustness	Freeze & Thaw Cycles
Extreme F&T Conditions	Shipping: simulated + real
Pass	Frozen Robustness
	Rotate Lift Drop
	Pass

- Bag + container + system + shipper + extensive tests with Design and Process Control
- Proven robustness down to -80°C

3. Scalable Solutions

Scalable solutions ensure easy adoption today and create opportunity for tomorrow's frozen transfers.

Benchtop	Celsius® FFT	Celsius® FFTp	Celsius®-Pak
Celsius® S System (30 mL - 100 mL)	Conventional Freezer (2 L - 12 L)	Horizontal Plate Freezer (6 L - 12 L)	Celsius® FT33 66 100 (1 L - 100 L)

15-years innovation leader in F&T technologies for bioprocess

- 250,000 Celsius® bags sold
- 15 commercial apps for BDS