

Thermo Scientific™ TSX Series Ultra-Low Freezers

Now available in four sizes



Designed to meet the highest protection and sustainability standards for ultra-low storage

- Best peak variation of energy-efficient ultra-low freezers: less than 5°C
- Fastest door opening recovery on the market: 17 minutes
- 0.85°C steady-state temperature variation over time
- Best overall temperature uniformity: < 5.2°C with door openings, < 4.0°C with no door openings
- Longest warm-up time from -80°C to -50°C at 5.05 hours
- NEW! Four capacities: 400, 500, 600 and 700 2-inch box
- NEW! Re-designed, user interface with capacitive touch



Designed to keep samples safe

- Low peak variation protects samples throughout the entire freezer cabinet¹
- V-Drive technology with adaptive control is designed to detect high and low usage patterns, adjust compressor speeds, and reduce energy without compromising protection
- Records temperature and events for the lifetime of the freezer
- No expensive, free-piston engines to repair
- Backed by our Global Service and Support Team

Designed to limit environmental impact and protect your budget

- Reduce energy usage up to 70% by replacing an older ultra-low freezer with a new TSX²
- Uses less than 8 kWh/day, depending on size
- Produces less environmental heat emissions and lowers HVAC costs
- SNAP compliant, natural hydrocarbon refrigerants
- SNAP compliant, environmentally-friendly, water-blown foam insulation
- Manufactured in an award-winning,³ zero-waste to landfill facility

User-friendly design and lab footprint

- All new freezer and user interface design
- Available in four sizes
- Quiet enough to reside directly in the laboratory. At just 45.5 dBA, the sound is comparable to a home refrigerator
- Advanced security features

All data based on internal data unless otherwise noted. Data on file.

1. Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C. Performance data varies across freezer size and electrical specifications.

2. For energy savings up to 70% at -80°C set point, reference info was: 8.7 kWh/day TSX600 compared >5 year large ULT 31.9 kWh/day energy calculator. At -70°C set point, reference info was: 7.9 kWh/day TSX600 compared >5 year large ULT 31.9 kWh/day energy calculator.

3. *Industry Week Best Plant Award*, 2013. <http://www.industryweek.com/quality/2013-iw-best-plants-winner-thermo-fisher-scientific-growing-quality-culture-lab>

User friendly touch-screen interface and cabinet

- NEW! Easy-to-use** set-up wizard, event log, temperature mapping and data downloads
- NEW! Capacitive touch** – even when using latex gloves
- Eliminate the need for a separate chart recorder** with datalogging and temperature mapping features, all exportable via a built-in USB port
- Advanced security features:** alarm settings, padlock-compatible doors and optional access card entry
- Ergonomic design:** comfortable door handle, eye-level touch-screen and shelf-level placement that doesn't require floor-level loading of racks
- Four capacities** (400, 500, 600 and 700 2-inch box) to accommodate a variety of storage needs and lab footprint specifications



Specifications & Ordering Information

Thermo Scientific TSX Series Upright Freezers (-50°C to -86°C)

Model Number	Capacity		Electrical	Amps / Breaker (Plug)	Max. Shelf Weight lbs (kg)	Interior Dimensions H x W x D in (cm)	Exterior Dimensions H x W* x D in (cm)	Shipping Weight lbs (kg)
	cu. ft. (liters)	2" cryobox						
TSX40086A	19.4	400	115V / 60Hz	9.0/15 (NEMA 5-15)	165	51.2 x 23.1 x 28.3	78.0 x 28.3 x 37.6	665 (302)
TSX40086D	(549)		208-230V / 60Hz	4.0/10 (NEMA 6-15)	(75)	(130.1 x 58.8 x 71.9)	(198.1 x 71.9 x 95.5)	640 (290)
TSX50086A	24.1	500	115V / 60Hz	9.5/15 (NEMA 5-15)	205	51.2 x 28.8 x 28.3	78.0 x 34.0 x 37.6**	721 (327)
TSX50086D	(682)		208-230V / 60Hz	5.1/10 (NEMA 6-15)	(93)	(130.1 x 73.0 x 71.9)	(198.1 x 86.4 x 95.5)	696 (316)
TSX60086A	28.8	600	115V / 60Hz	8.5/15 (NEMA 5-15)	245	51.2 x 34.4 x 28.3	78.0 x 39.6 x 37.6**	790 (358)
TSX60086D	(816)		208-230V / 60Hz	4.0/10 (NEMA 6-15)	(111)	(130.1 x 87.3 x 71.9)	(198.1 x 100.6 x 95.5)	765 (347)
TSX70086A	33.5	700	115V / 60Hz	10.6/15 (NEMA 5-15)	285	51.2 x 40.0 x 28.3	78.0 x 45.2 x 37.6**	894 (406)
TSX70086D	(949)		208-230V / 60Hz	5.8/10 (NEMA 6-15)	(129)	(130.1 x 101.6 x 71.9)	(198.1 x 114.8 x 95.5)	869 (394)

* Allowance for handle and hinge, add 4.2 in (10.7 cm) to cabinet width

** Doorway width clearance is 34.5 in (87.6 cm) for TSX50086, TSX60086, and TSX70086

Performance Data

Model Number	Energy Consumption (kW-hr/day)* Standard Mode	Peak Variation from -80°C setpoint (°C)**	Door Opening Recovery (minutes)	Warm Up Time (-80°C to -50°C) (minutes)***	Noise Level (dBA)
TSX40086A	8.3	+6.0 / +1.1	17	267	47.5
TSX40086D	7.9				
TSX50086A	8.7	+7.1 / +0.4	24	282	49.0
TSX50086D	8.3				
TSX60086A	9.4	+6.9 / +1.8	24	303	45.5
TSX60086D	8.7				
TSX70086A	10.4	+7.0 / +1.6	27	282	48.0
TSX70086D	9.6				

* Energy Calculation: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C

** Peak Variation From Setpoint: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C

*** Warm Up Time: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C



Find out more at thermofisher.com/tsx

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Options and Accessories (Field Installed must be installed by a qualified professional)

Options	Installation	TSX40086	TSX50086	TSX60086	TSX70086
LN2 Backup System Maintains temperature down to -80°C with liquid nitrogen.	Factory Installed	LN4567	LN4567	LN4567	LN4567
	Field Installed	FLN4567LE	FLN4567LE	FLN4567LE	FLN4567LE
CO2 Backup System Maintains temperature down to -67°C with CO2.	Factory Installed	CO4567	CO4567	CO4567	CO4567
	Field Installed	FCO4567LE	FCO4567LE	FCO4567LE	FCO4567LE
Chart Recorder (Inkless) 6" (15.2 cm), seven day inkless recorder, -115° to +50°C, +5°C resolution	Factory Installed	CR4567	CR4567	CR4567	CR4567
	Field Installed	FCR400TSXLE	FCR500TSXLE	FCR600TSXLE	FCR700TSXLE
Chart Recorder (Ink) 6" (15.2 cm), seven day inkless recorder, -115° to +50°C, +5°C resolution	Factory Installed	CRP4567	CRP4567	CRP4567	CRP4567
	Field Installed	FGRP400TSXLE	FGRP500TSXLE	FGRP600TSXLE	FGRP700TSXLE
Access Key Option Card Access control. Includes five key cards. Supports ISO15693 and ISO14443 protocols.	Factory Installed	RAC34567	RAC34567	RAC34567	RAC34567
	Field Installed	FAC34567LE	FAC34567LE	FAC34567LE	FAC34567LE
Stainless Steel Freezer Interior	Factory Installed	SS34567	SS34567	SS34567	SS34567
Twist Lock Plug NEMA L5-20P for 115V / 60Hz	Factory Installed	US125V20ATL	US125V20ATL	US125V20ATL	US125V20ATL
	Field Installed	TL125V20A	TL125V20A	TL125V20A	TL125V20A
Twist Lock Plug NEMA L6-15P for 208-230V / 60Hz	Factory Installed	US230V15ATL	US230V15ATL	US230V15ATL	US230V15ATL
	Field Installed	TL230V15A	TL230V15A	TL230V15A	TL230V15A
Twist Lock Plug NEMA L6-20P for 208-230V / 60Hz	Factory Installed	US230V20ATL	US230V20ATL	US230V20ATL	US230V20ATL
	Field Installed	TL230V20A	TL230V20A	TL230V20A	TL230V20A
Shelf Kit: Includes one shelf and shelf support clips	Factory Installed	TSX5SHELFOPTION	TSX5SHELFOPTION	TSX5SHELFOPTION	TSX5SHELFOPTION
	Field Installed	SK400TSX	SK500TSX	SK600TSX	SK700TSX
Accessories		TSX40086	TSX50086	TSX60086	TSX70086
Access Key Pack (U.S.): Includes five key cards. Supports ISO15693 protocol		ACU34567	ACU34567	ACU34567	ACE34567
Chart Paper Ink (Pack of 50)		17020	17020	17020	17020
Chart Paper Inkless (Pack of 50)		6185	6185	6185	6185
Replacement Air Filter		AF34567LE	AF34567LE	AF34567LE	AF34567
Replacement Back-Up Battery		400159	400159	400159	400159
Alarm Delay Module: Eliminates nuisance alarms due to intermittent or transitory conditions. Adjustable delay requires alarm condition to exist for user defined period before signal is released to monitoring system.		6903	6903	6903	6903
Cryo Gloves Medium		4425	4425	4425	4425
Cryo Gloves Large		4426	4426	4426	4426
Seismic Restraint Kit		TF-ULT400	TF-ULT500	TF-ULT600	TF-ULT700

* A = 115V/60Hz (NEMA 5-20 plug)

** D = 208-230V/60Hz (NEMA 6-15 plug)

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