



# Thermo Scientific TDE Series Ultra-Low Temperature Freezers



# Thermo Scientific™ TDE Series Ultra-Low Temperature Freezers

- **H-drive hydrocarbon refrigeration system** provides sustainable performance with reliability you can count on
- **Low peak variation** helps ensure sample temperature protection throughout entire cabinet
- **ENERGY STAR®** certified
- **Fast door opening recovery** in as little as 23 minutes
- **Long warm-up time** from -80°C to -50°C in up to 5 hours
- **Decrease storage footprint** up to 25%
- **5-year** standard warranty



## Designed to keep your samples safe

- Worry-free storage; with low peak variation, samples are protected throughout the entire cabinet.<sup>1</sup>
- Secure freezer settings with sample security
- General purpose models for non-diagnostic general laboratory use and FDA Class II Medical Device models for Storage of Blood, Plasma, Tissue, Skin, and Bone<sup>3</sup>
- Backed by our Global Service and Support Team

## Limit environmental impact and lower HVAC costs

- Uses as low as 13.7 kWh/day, depending on size
- Less heat emission lowers HVAC costs
- SNAP and EU F-Gas regulation compliant, natural hydrocarbon refrigerants
- Environmentally-friendly, water-blown foam insulation is compliant with SNAP and EU F-Gas regulations
- Manufactured in an award-winning, zero-waste-to-landfill facility

## User-friendly and quiet

- New HIC touch screen user interface
- Quiet enough to reside directly in the laboratory; at just 50.5 dBA, the sound is comparable to a home refrigerator.<sup>2</sup>

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

3. FDA Class II Models are listed under product code KSE, regulation number 864.9700. This unit is not intended for use in classified hazardous locations, nor to be used for the storage of flammable inventory. Reference: AABB - Technical Manual 17th Ed., page 273,274. STANDARDS FOR TISSUE BANKING 14th Ed., Section E, E3.300, E3.310, Table E3.331.

Note for clarity: The 'Bone' is the Osteoarticular Graft, a weight bearing allograft with intact articular surfaces, consisting of a joint with associated soft tissue and bone. STANDARDS FOR TISSUE BANKING 14th Ed., Section page 8.

# Dependable storage with operational savings and sustainability

## User-friendly HIC interface and cabinet

- Easy to use: plug in and go; no setup required
- H-drive Information Center (HIC) combines easy-to-read temperature with simple capacitive touch buttons
- Advanced security features: alarm settings, setpoint security passcode, and padlock-compatible doors
- Ergonomic design: single-hand door operation, eye-level display, and shelf-level placement that do not require floor-level loading of racks
- Four inner doors minimize ambient temperature during sample retrieval



## Specifications & Ordering Information



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### Upright Freezers (-50°C to -86°C)

General Purpose Model	FDA Class II Model	Capacity		Electrical	Amps / Breaker (Plug type)	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. (L)	Cryoboxes (2 in.)						
TDE60086EA	TDE60086MA	28.8 (816)	600	115V/60Hz	12.7/20 (NEMA 5-20)	245 (111)	51.2 x 34.4 x 28.3 (130.1 x 87.3 x 71.9)	78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7)	820 (372)
TDE60086ED	TDE60086MD			208-230V/60Hz	6.2/15 (NEMA 6-15)				
TDE60086EV	TDE60086MV			230V/50Hz	6.1/10 (European)				

\*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 TDE60086



### Performance Data

General Purpose Model	FDA Class II Model	Energy Consumption* (kW-hr/day)	Peak Variation from -80°C Setpoint (°C)**	60 Second Door Opening Recovery Time (minutes)	Warm-Up Time (-80°C to -50°C) (minutes)***	Noise Level (dBA)
TDE60086EA	TDE60086MA	13.7	+3.9/-2.9	25	301	50.5
TDE60086ED	TDE60086MD	13.8	+3.9/-3.3	23	290	50.5
TDE60086EV	TDE60086MV	14.6	+2.8/-2.4	24	300	50.5

\*Energy Consumption: Typical data - internal testing with freezer setpoint at -80°C and 20°C ambient temperature

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

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

# Thermo Scientific™ TDE Series Ultra-Low Temperature Freezers

**Options (Field installations must be performed by a qualified professional)**

Description	Installation	Model Series TDE60086
<b>LN<sub>2</sub> Backup System</b> Maintains temperature down to -80°C with liquid nitrogen.	Factory	LN4567
	Field	FLN456LEA* FLN456LED** FLN456LEV***
<b>CO<sub>2</sub> Backup System</b> Maintains temperature down to -67°C with CO <sub>2</sub> .	Factory	CO4567
	Field	FCO456LEA* FCO456LED** FCO456LEV***
<b>Chart Recorder (Inkless)</b> Seven-day inkless recorder Range: -115° to +50°C (+5°C resolution) Dia.: 6 in. (15.2cm)	Factory	CR4567
	Field	FCR600LE
<b>Chart Recorder (Ink)</b> Seven-day ink recorder Range: -100° to +38°C (+2°C resolution) Dia.: 6 in. (15.2cm)	Factory	CRP4567
	Field	FCRP600LE
<b>Stainless Steel Freezer Interior</b>	Factory	SS34567
<b>Water-Cooled Condenser Option</b>	Factory	WC34567****
<b>Twist Lock Plug</b> NEMA L5-20P for 115V/60Hz	Factory	US125V20ATL
	Field	TL125V20A
<b>Twist Lock Plug</b> NEMA L6-15P for 208-230V/60Hz	Factory	US230V15ATL
	Field	TL230V15A
<b>Twist Lock Plug</b> NEMA L6-20P for 208-230V/60Hz	Factory	US230V20ATL
	Field	TL230V20A

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

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

\*\*\*V = 230V/50Hz (European plug)

\*\*\*\* WC34567 not available on 115V/60Hz models



## Accessories

Description	Model Series TDE60086
<b>Air Filter (Replacement)</b>	AF34567LE
<b>Alarm Delay Module</b> Eliminates nuisance alarms due to intermittent or transitory conditions. (The alarm conditions must exist for a user-defined period before the signal is broadcast.)	6903
<b>Battery Backup (Replacement)</b>	400159
<b>Chart Paper, for Inkless Recorder, 50/Pack</b>	6185
<b>Chart Paper, for Ink Recorder, 50/Pack</b>	17020
<b>Cryo Gloves, Medium</b>	4425
<b>Cryo Gloves, Large</b>	4426
<b>Seismic Restraint Kits</b>	TF-ULT600
<b>Shelf Kits: Include One Shelf and Clips</b>	SK600



# Thermo Scientific™ TDE Series Ultra-Low Temperature Freezers

## Racks for Boxes and Microplates

### Racks for 2 in. (5 cm) Boxes

Catalog No.	Description	Dimensions H x W x D in. (cm)	Storage Capacities	Model Series TDE60086
 920090	Sliding Drawer Rack	11.9 x 5.5 x 26.9 (30.2 x 14 x 68.3)	Boxes/Rack	25
			Racks/Shelf	6
			Racks/Freezer	24
			Boxes/Freezer	600
 1950520	Adjustable Side Access Rack	11.6 x 5.4 x 26.75 (29.5 x 13.7 x 67.9)	Boxes/Rack	25
			Racks/Shelf	6
			Racks/Freezer	24
			Boxes/Freezer	600

### Racks for 3 in. (7.62 cm) Boxes




Catalog No.	Description	Dimensions H x W x D in. (cm)	Storage Capacities	Model Series TDE60086
 920091	Sliding Drawer Rack	11.9 x 5.5 x 26.9 (30.2 x 14 x 68.3)	Boxes/Rack	15
			Racks/Shelf	6
			Racks/Freezer	24
			Boxes/Freezer	360
 1950521	Adjustable Side Access Rack for 3 in. boxes	11.6 x 5.4 x 26.75 (29.5 x 13.7 x 67.9)	Boxes/Rack	15
			Racks/Shelf	6
			Racks/Freezer	24
			Boxes/Freezer	360

### Racking Shelf Kits

Description	Storage Capacities	Model Series TDE60086
	Catalog No.	RSK600SD4
Sliding Drawer Racks with Boxes for One Shelf (5 x 5 x 2 in. Boxes with 100-Count Cell Dividers)	Racks Included	6
	Boxes Included	150

# Thermo Scientific™ TDE Series Ultra-Low Temperature Freezers

## Racks for Standard or Deepwell Microplates

Catalog No.	Description	Dimensions H x W x D in. (cm)	Storage Capacities	Model Series TDE60086
 1950592	Side Access Rack with Locking Rod	11.9 x 5.5 x 25.7 (30.2 x 14 x 65.3)	Plates/Rack	147
			Racks/Shelf	6
			Racks/Freezer	24
			Plates/Freezer	3,528
 1950523	Side Access Microplate Rack	11.9 x 5.5 x 25.7 (30.2 x 14 x 65.3)	Plates/Rack	105
			Racks/Shelf	6
			Racks/Freezer	24
			Plates/Freezer	2,520
 1950642	Sliding Drawer Microplate Rack	11.9 x 5.5 x 26.9 (30.2 x 14 x 68.3)	Plates/Rack	35
			Racks/Shelf	6
			Racks/Freezer	24
			Plates/Freezer	840

## Boxes and Dividers

Catalog No.	Description	# of Dividers	Quantity	Color
5026-0909	Thermo Scientific™ Nalgene™ polycarbonate 2 in. (5.08cm) box for 1.2 to 2mL vials	81	24/Case	White
5954	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	White
820002	2 in. (5.08 cm) Fiberboard Box	81	1	White
820109	2 in. (5.08 cm) Fiberboard Box	100	1	White
5956	3 in. (7.62 cm) Fiberboard Box	0	12/Pack	White
820003	3 in. (7.62 cm) Fiberboard Box	81	1	White
1950878	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Multiple
1950879	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Pink
1950880	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Red
1950881	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Yellow
1950882	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Green
1950883	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Blue
1950884	2 in. (5.08 cm) Fiberboard Box	0	12/Pack	Black

## Fiberboard Dividers

Catalog No.	Description	Quantity/Pack
5958	Grid Dividers, Hold 100 x 12 mm Tubes/Vials	12
6212	Grid Dividers, Hold 81 x 13 mm Tubes/Vials	12
5960	Grid Dividers, Hold 64 x 14 mm Tubes/Vials	12
5959	Grid Dividers, Hold 49 x 16 mm Tubes/Vials	12

# Thermo Scientific™ TDE Series Ultra-Low Temperature Freezers

## Vials and Tubes

Catalog No.	Description	Quantity
377267	Thermo Scientific™ Nunc™ 1.8mL Screw-Top Round-Bottom Vials with Internal Threading	1,800/Case

## Sliding Drawer Racks for Matrix and Cryobank Tubes

Racks work with all Thermo Scientific™ Matrix™ and Nunc™ Cryobank Tubes

			Model Series TDE60086
200 µL Capacity Tubes			
3747, 3748, 4988	Matrix 500 µL 2D Internally Threaded Universal Tubes  Box Dimensions: 3.365 x 5.03 x 1.082 in. (8.5 x 12.8 x 2.75 cm)	Rack Model No.	1950787
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
		Tubes/Box	96
		Boxes/Rack	56
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	129,024
500 µL Capacity Tubes			
3734, 3735, 4898	Matrix 500 µL 2D Open Top Tubes  Box Dimensions: 3.365 x 5.03 x 1.022 in. (8.5 x 12.8 x 2.6 cm)	Rack Model No.	1950787
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
3736, 3737, 4899	Matrix 500 µL 2D Internally Threaded Universal Tubes with Installed DuraSeal™ Seal  Box Dimensions: 3.365 x 5.03 x 1.082 in. (8.5 x 12.8 x 2.75 cm)	Tubes/Box	96
		Boxes/Rack	56
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	129,024
374086, 374087  (including color options)	Nunc Cryobank 500 µL Internally Threaded Tubes  Box Dimensions: 3.365 x 5.03 x 1.394 in. (8.5 x 12.8 x 3.5 cm)	Rack Model No.	1950791
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
3743, 3744, 3745  (including color options)	Matrix 500 µL 2D Internally Threaded ScrewTop Tubes  Box Dimensions: 3.365 x 5.03 x 1.745 in. (8.5 x 12.8 x 4.4 cm)	Tubes/Box	96
		Boxes/Rack	42
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	96,768



## Sliding Drawer Racks for Matrix and Cryobank Tubes

Racks work with all Thermo Scientific™ Matrix™ and Nunc™ Cryobank Tubes

			Model Series TDE60086
750 µL Capacity Tubes			
3731, 3732, 4896	Matrix 750 µL 2D Open Top Tubes  Box Dimensions: 3.365 x 5.03 x 1.55 in. (8.5 x 12.8 x 3.9 cm)	Rack Model No.	1950791
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
3729, 4896	Matrix 750 µL 2D Tubes with Installed DuraSeal Seal  Box Dimensions: 3.365 x 5.03 x 1.55 in. (8.5 x 12.8 x 3.9 cm)	Tubes/Box	96
		Boxes/Rack	42
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	96,768
1 mL Capacity Tubes			
374088, 374089 (including color options)	Nunc Cryobank 1 mL Internally Threaded Tubes  Box Dimensions: 3.365 x 5.03 x 1.92 in. (8.5 x 12.8 x 4.9 cm)	Rack Model No.	1950642
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
		Tubes/Box	96
		Boxes/Rack	35
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	80,640
3740, 3741, 3742 (including color options)	Matrix 1 mL 2D Internally Threaded Screw Top Tubes  Box Dimensions: 3.365 x 5.03 x 2.3 in. (8.5 x 12.8 x 5.8 cm)	Rack Model No.	1950799
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
		Tubes/Box	96
		Boxes/Rack	28
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	64,512



## Sliding Drawer Racks for Matrix and Cryobank Tubes

Racks work with all Thermo Scientific™ Matrix™ and Nunc™ Cryobank Tubes

			Model Series TDE60086
1.4 mL Capacity Tubes			
3791, 3792, 4890	Matrix 1.4 mL 2D Open Top Tubes  Box Dimensions: 3.365 x 5.03 x 1.92 in. (8.5 x 12.8 x 4.9 cm)	Rack Model No.	1950642
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
3801, 4890	Matrix 1.4 mL 2D Tubes with Installed DuraSeal Seal  Box Dimensions: 3.365 x 5.03 x 1.92 in. (8.5 x 12.8 x 4.9 cm)	Tubes/Box	96
		Boxes/Rack	35
3711, 3112, 4890	Thermo Scientific Matrix 1.4 mL Human Readable Open Top Tubes  Box Dimensions: 3.365 x 5.03 x 1.92 in. (8.5 x 12.8 x 4.9 cm)	Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	80,640
1.8 to 2 mL Capacity Tubes			
374500, 374501	Nunc 1.8 mL Externally Threaded Universal Tubes  Box Dimensions: 3.365 x 5.03 x 2.15 in. (8.5 x 12.8 x 5.5 cm)	Rack Model No.	1950642
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
374221, 374223	Nunc Cryobank 2 mL Internally Threaded Tubes  Box Dimension: 3.365 x 5.03 x 2.15 in. (8.5 x 12.8 x 5.5 cm)	Tubes/Box	48
		Boxes/Rack	35
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	40,320
5 mL Capacity Tubes			
374220, 374222	Nunc Cryobank 5 mL Internally Threaded Tubes  Box Dimensions: 3.365 x 5.03 x 3.78 in. (8.5 x 12.8 x 9.6 cm)	Rack Model No.	1950819
		Freezer Rack Dimensions W x H x D	5.5 x 11.9 x 26.96 in. (14 x 30.3 x 68.5 cm)
		Tubes/Box	48
		Boxes/Rack	21
		Racks/Shelf	6
		Racks/Freezer	24
		Tubes/Freezer	24,192

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