

thermo scientific



# Thermo Scientific TDE Series Ultra-Low Temperature Freezers

Medical Device

**ThermoFisher**  
SCIENTIFIC

# 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
- **Fast door opening recovery** in as little as 14 minutes
- **Long warm-up time** from -80°C to -50°C in up to 5 hours
- **Four capacities:** 300, 400, 500 and 600 2-inch boxes
- **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
- FDA Class II Medical Device 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 11.2 kWh/day, depending on size
- Less heat emission lowers HVAC costs
- Natural refrigerants compliant with EU F-Gas regulation: R170 and R290
- Environmentally-friendly, water-blown foam insulation
- 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 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



### Upright Freezers (-50°C to -86°C)

FDA Class II Model	Capacity		Electrical	Amps / Breaker (Plug type)	Max Shelf Weight kg	Interior Dimensions H x W x D cm	Exterior Dimensions H x W* x D cm	Shipping Weight kg
	Liters	Cryoboxes 5 cm						
TDE30086LD	422	300	208-230V/60Hz	5.6/15 (NEMA 6-15)	57	130.1 x 45.2 x 71.9	198.1 x 58.4 x 97.7	323
TDE30086LV			230V/50Hz	5.9/10 (European)				
TDE40086LD	549	400	208-230V/60Hz	5.9/15 (NEMA 6-15)	75	130.1 x 58.8 x 71.9	198.1 x 71.9 x 97.7	312
TDE40086LV			230V/50Hz	5.3/10 (European)				
TDE50086LD	682	500	208-230V/60Hz	5.0/15 (NEMA 6-15)	93	130.1 x 73.0 x 71.9	198.1 x 86.4 x 97.7**	333
TDE50086LV			230V/50Hz	5.9/10 (European)				
TDE60086LD	816	600	208-230V/60Hz	6.2/15 (NEMA 6-15)	111	130.1 x 87.3 x 71.9	198.1 x 100.6 x 97.7**	372
TDE60086LV			230V/50Hz	6.1/10 (European)				

\*Allowance for handle and hinge, add 10.7 cm to cabinet width

\*\*Doorway width clearance is 87.6 cm for TDE50086 and TDE60086



### Performance Data

Model Series	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)
TDE30086	11.2	+5.9/-3.7	14	248	52
TDE40086	12.3	+5.7/-2.9	17	257	51
TDE50086	12.7	+4.2/-2.9	21	260	50
TDE60086	14.2	+3.4/-2.9	24	297	50

\*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

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

Description	Installation	For Model Series			
		TDE30086	TDE40086	TDE50086	TDE60086
<b>LN<sub>2</sub> Backup System</b> Maintains temperature down to -80°C with liquid nitrogen. <i>Models for TDE30086 are stand alone.</i>	Factory	N/A	LN4567	LN4567	LN4567
	Field	FLN300D* FLN300V** FLN300W***	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**
<b>CO<sub>2</sub> Backup System</b> Maintains temperature down to -67°C with CO <sub>2</sub> . <i>Models for TDE30086 are stand alone.</i>	Factory	N/A	CO4567	CO4567	CO4567
	Field	FCO300D* FCO300V** FCO300W***	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**
<b>Chart Recorder (Inkless)</b> Seven-day inkless recorder Range: -115° to +50°C (+5°C resolution) Dia.: 6" (15.2cm)	Factory	N/A	N/A	CR4567	CR4567
	Field	N/A	N/A	FCR500LE	FCR600LE
<b>Chart Recorder (Ink)</b> Seven day ink recorder Range: -100° to +38°C (+2°C resolution) Dia.: 6" (15.2cm) <i>Models for TDE30086 and TDE40086 are stand alone.</i>	Factory	N/A	N/A	CRP4567	CRP4567
	Field	6383-6D* 6383-6V** 6383-6W***	6383-6D* 6383-6V** 6383-6W***	FCRP500LE	FCRP600LE
<b>Stainless Steel Freezer Interior</b>	Factory	SS34567	SS34567	SS34567	SS34567
<b>Water-Cooled Condenser Option</b>	Factory	N/A	WC34567****	WC34567****	WC34567
<b>Twist Lock Plug NEMA L6-15P for 208-230V/60Hz</b>	Factory	US230V15ATL	US230V15ATL	US230V15ATL	US230V15ATL
	Field	TL230V15A	TL230V15A	TL230V15A	TL230V15A
<b>Twist Lock Plug NEMA L6-20P for 208-230V/60Hz</b>	Factory	US230V20ATL	US230V20ATL	US230V20ATL	US230V20ATL
	Field	TL230V20A	TL230V20A	TL230V20A	TL230V20A

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

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

\*\*\*W = 230V/50Hz (UK plug)


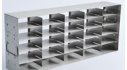
\*\*\*\* Water-cooled option only available on 230V/50Hz units

## Accessories



Description	For Model Series			
	TDE30086	TDE40086	TDE50086	TDE60086
<b>Air Filter (Replacement)</b>	AF34567LE	AF34567LE	AF34567LE	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	6903	6903	6903
<b>Battery Backup (Replacement)</b>	400159	400159	400159	400159
<b>Chart Paper, for Inkless Recorder, 50/Pack</b>	N/A	N/A	6185	6185
<b>Chart Paper, for Ink Recorder, 50/Pack</b>	17020	17020	17020	17020
<b>Cryo Gloves, Medium</b>	4425	4425	4425	4425
<b>Cryo Gloves, Large</b>	4426	4426	4426	4426
<b>Seismic Restraint Kits</b>	TF-ULT300	TF-ULT400	TF-ULT500	TF-ULT600
<b>Shelf Kits: Include One Shelf and Clips</b>	SK300	SK400	SK500	SK600

# Racks for Boxes and Microplates

## Racks for 5cm Boxes

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series			
				TDE30086	TDE40086	TDE50086	TDE60086
 920090	Sliding Drawer Rack	30.2 x 14 x 68.3	Boxes/Rack	25	25	25	25
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Boxes/Freezer	300	400	500	600
 1950520	Adjustable Side Access Rack	29.5 x 13.7 x 67.9	Boxes/Rack	25	25	25	25
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Boxes/Freezer	300	400	500	600




## Racks for 7.62 cm Boxes

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series			
				TDE30086	TDE40086	TDE50086	TDE60086
 920091	Sliding Drawer Rack	30.2 x 14 x 68.3	Boxes/Rack	15	15	15	15
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Boxes/Freezer	180	240	300	360
 1950521	Adjustable Side Access Rack for 3 in. boxes	29.5 x 13.7 x 67.9	Boxes/Rack	15	15	15	15
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Boxes/Freezer	180	240	300	360

## Racking Shelf Kits

Description	Storage Capacities	For Model Series			
		TDE30086	TDE40086	TDE50086	TDE60086
	Catalog No.	RSK300SD4	RSK400SD4	RSK500SD4	RSK600SD4
Sliding Drawer Racks with Boxes for One Shelf (12.7 x 12.7 x 5 cm Boxes with 100-Count Cell Dividers)	Racks Included	3	4	5	6
	Boxes Included	75	100	125	150

## Racks for Standard or Deepwell Microplates

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series			
				TDE30086	TDE40086	TDE50086	TDE60086
 1950592	Side Access Rack with Locking Rod	30.2 x 14 x 65.3	Plates/Rack	147	147	147	147
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Plates/Freezer	1,764	2,352	2,940	3,528
 1950523	Side Access Microplate Rack	30.2 x 14 x 65.3	Plates/Rack	105	105	105	105
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Plates/Freezer	1,260	1,680	2,100	2,520
 1950642	Sliding Drawer Microplate Rack	30.2 x 14 x 66.3	Plates/Rack	35	35	35	35
			Racks/Shelf	3	4	5	6
			Racks/Freezer	12	16	20	24
			Plates/Freezer	420	560	700	840

## Boxes and Dividers

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

## Vials and Tubes

Catalog No.	Description	Quantity
377267	Thermo Scientific™ Nunc™ 1.8 mL 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

		For Model Series	TDE30086	TDE40086	TDE50086	TDE60086
<b>200 µL Capacity Tubes</b>						
3747, 3748, 4988	Matrix 200 µL 2D Internally Threaded Universal Tubes Box Dimensions: 8.5 x 12.8 x 2.75 cm	<b>Rack Model No.</b>	<b>1950787</b>	<b>1950787</b>	<b>1950787</b>	<b>1950787</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
		Tubes/Box	96	96	96	96
		Boxes/Rack	56	56	56	56
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	64,512	86,016	107,520	129,024
<b>500 µL Capacity Tubes</b>						
3734, 3735, 4898	Matrix 500 µL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 2.6 cm	<b>Rack Model No.</b>	<b>1950787</b>	<b>1950787</b>	<b>1950787</b>	<b>1950787</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
3736, 3737, 4899	Matrix 200 µL 2D Internally Threaded Universal Tubes with Installed DuraSeal™ Seal Box Dimensions: 8.5 x 12.8 x 2.75 cm	Tubes/Box	96	96	96	96
		Boxes/Rack	56	56	56	56
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	64,512	86,016	107,520	129,024
374086, 374087 (including color options)	Nunc Cryobank 500 µL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 3.5 cm	<b>Rack Model No.</b>	<b>1950791</b>	<b>1950791</b>	<b>1950791</b>	<b>1950791</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
3743, 3744, 3745 (including color options)	Matrix 500 µL 2D Internally Threaded ScrewTop Tubes Box Dimensions: 8.5 x 12.8 x 4.4 cm	Tubes/Box	96	96	96	96
		Boxes/Rack	42	42	42	42
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	48,384	64,512	80,640	96,768

## Sliding Drawer Racks for Matrix and Cryobank Tubes

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

		For Model Series	TDE30086	TDE40086	TDE50086	TDE60086
<b>750 µL Capacity Tubes</b>						
3731, 3732, 4896	Matrix 750 µL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 3.9 cm	<b>Rack Model No.</b>	<b>1950791</b>	<b>1950791</b>	<b>1950791</b>	<b>1950791</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
3729, 4896	Matrix 750 µL 2D Tubes with Installed DuraSeal Seal Box Dimensions: 8.5 x 12.8 x 3.9 cm	Tubes/Box	96	96	96	96
		Boxes/Rack	42	42	42	42
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	48,384	64,512	80,640	96,768
<b>1 mL Capacity Tubes</b>						
374088, 374089 (including color options)	Nunc Cryobank 1 mL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	<b>Rack Model No.</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
		Tubes/Box	96	96	96	96
		Boxes/Rack	35	35	35	35
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	40,320	53,760	67,200	80,640
3740, 3741, 3742 (including color options)	Matrix 1 mL 2D Internally Threaded Screw Top Tubes Box Dimensions: 8.5 x 12.8 x 5.8 cm	<b>Rack Model No.</b>	<b>1950799</b>	<b>1950799</b>	<b>1950799</b>	<b>1950799</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
		Tubes/Box	96	96	96	96
		Boxes/Rack	28	28	28	28
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	32,256	43,008	53,760	64,512



## Sliding Drawer Racks for Matrix and Cryobank Tubes

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

		For Model Series	TDE30086	TDE40086	TDE50086	TDE60086
<b>1.4 mL Capacity Tubes</b>						
3791, 3792, 4890	Matrix 1.4 mL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	<b>Rack Model No.</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
3801, 4890	Matrix 1.4 mL 2D Tubes with Installed DuraSeal Seal Box Dimensions: 8.5 x 12.8 x 4.9 cm	Tubes/Box	96	96	96	96
		Boxes/Rack	35	35	35	35
3711, 3112, 4890	Matrix 1.4 mL Human Readable Open Top Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	40,320	53,760	67,200	80,640
<b>1.8 to 2 mL Capacity Tubes</b>						
374500, 374501	Nunc 1.8 mL Externally Threaded Universal Tubes Box Dimensions: 8.5 x 12.8 x 5.5cm	<b>Rack Model No.</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>	<b>1950642</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
374221, 374223	Nunc Cryobank 2 mL Internally Threaded Tubes Box Dimension: 8.5 x 12.8 x 5.5 cm	Tubes/Box	48	48	48	48
		Boxes/Rack	35	35	35	35
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	20,160	26,880	33,600	40,320
<b>5 mL Capacity Tubes</b>						
374220, 374222	Nunc Cryobank 5 mL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 9.6 cm	<b>Rack Model No.</b>	<b>1950819</b>	<b>1950819</b>	<b>1950819</b>	<b>1950819</b>
		Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm	14 x 30.3 x 68.5 cm
		Tubes/Box	48	48	48	48
		Boxes/Rack	21	21	21	21
		Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
Tubes/Freezer	12,096	16,128	20,160	24,192		

Find out more at [thermofisher.com/cold](https://www.thermofisher.com/cold)