Thermo Scientific TDE Series -40°C Ultra-Low Temperature Freezers

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Thermo Scientific™ TDE Series
-40°C 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 18 minutes

- **Long warm-up time** from -40°C to -20°C in up to 6 hours

- **Three capacities**: 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.[1]

- Secure freezer settings with sample security

- Backed by our Global Service and Support Team

Limit environmental impact and lower HVAC costs

- Uses as low as 4.4 kWh/day, depending on size

- Less heat emission lowers HVAC costs

- Natural refrigerants compliant with EU F-Gas regulation: 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 48 dBA, the sound is comparable to a home refrigerator.[2]

1. Typical freezer data based on internal testing with freezer setpoint at -40°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.

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

• Egonomic 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

Biologics   Molecular Biologics   Get Connected

Upright Freezers (-10°C to -40°C)

General Purpose 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						
TDE40040FD	549	400	208-230V/60Hz	3.4/15 (NEMA 6-15)	75	130.1 x 58.8 x 71.9	198.1 x 71.9 x 97.7	292
TDE40040FV			230V/50Hz	3.2/10 (European)				
TDE50040FD	682	500	208-230V/60Hz	4.0/15 (NEMA 6-15)	93	130.1 x 73.0 x 71.9	198.1 x 86.4 x 97.7**	304
TDE50040FV			230V/50Hz	3.4/10 (European)				
TDE60040FD	816	600	208-230V/60Hz	4.0/15 (NEMA 6-15)	111	130.1 x 87.3 x 71.9	198.1 x 100.6 x 97.7**	348
TDE60040FV			230V/50Hz	3.4/10 (European)				

*Allowance for handle and hinge, add 10.7 cm to cabinet width
**Doorway width clearance is 87.6 cm for TDE50040 and TDE60040

Performance Data

General Purpose Model	Energy Consumption* (kW-hr/day)	Peak Variation from -40°C Setpoint (°C)**	1-min Door Opening Recovery to -38.5°C (min)***	Warm-Up Time (-40°C to -20°C) (min)****	Sound (dBA)
TDE40040FD	4.4	+3.4 / -1.5	18	314	52
TDE40040FV	4.4	+3.2 / -1.6	19	309	51
TDE50040FD	5.1	+2.2 / -2.2	25	318	48
TDE50040FV	5.3	+1.8 / -2.2	22	328	51
TDE60040FD	5.9	+1.5 / -1.9	25	362	49
TDE60040FV	6.2	+1.7 / -1.9	29	339	48

*Energy Consumption: Typical data - internal testing with freezer setpoint at -40°C and 20°C ambient temperature
**Peak Variation from Setpoint: Typical data - internal testing with freezer setpoint at -40°C and 20°C ambient temperature
***Door opening recovery: Typical data - internal recovery testing is to -38.5°C. During the door opening all inner and outer doors are opened for 60 seconds.
****Warm Up Time: Typical data - internal testing with empty freezer setpoint at -40°C and ambient temperature at 20°
For specific model performance data, please refer to the individual technical specification sheet for the desired model.

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

Description	Installation	For Model Series		
		TDE40040	**TDE50040**	**TDE60040**
LN₂ Backup System Maintains temperature down to -80°C with liquid nitrogen.	Factory	LN4567	LN4567	LN4567
	Field	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**
CO₂ Backup System Maintains temperature down to -67°C with CO₂.	Factory	CO4567	CO4567	CO4567
	Field	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**
Chart Recorder (Inkless) Seven-day inkless recorder Range: -115° to +50°C (+5°C resolution) Dia.: 6" (15.2cm)	Factory	N/A	CR4567	CR4567
	Field	N/A	FCR500LE	FCR600LE
Chart Recorder (Ink) Seven day ink recorder Range: -100° to +38°C (+2°C resolution) Dia.: 6" (15.2cm) *Models for TDE40040 are stand alone.*	Factory	N/A	CRP4567	CRP4567
	Field	6383-6D* 6383-6V** 6383-6W***	FCRP500LE	FCRP600LE
Stainless Steel Freezer Interior	Factory	SS34567	SS34567	SS34567
Twist Lock Plug NEMA L6-15P for 208-230V/60Hz	Factory	US230V15ATL	US230V15ATL	US230V15ATL
	Field	TL230V15A	TL230V15A	TL230V15A
Twist Lock Plug NEMA L6-20P for 208-230V/60Hz	Factory	US230V20ATL	US230V20ATL	US230V20ATL
	Field	TL230V20A	TL230V20A	TL230V20A

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

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

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

Accessories

Description	For Model Series		
	TDE40040	**TDE50040**	**TDE60040**
Air Filter (Replacement)	AF34567LE	AF34567LE	AF34567LE
Alarm Delay Module 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
Battery Backup (Replacement)	400159	400159	400159
Chart Paper, for Inkless Recorder, 50/Pack	N/A	6185	6185
Chart Paper, for Ink Recorder, 50/Pack	17020	17020	17020
Cryo Gloves, Medium	4425	4425	4425
Cryo Gloves, Large	4426	4426	4426
Seismic Restraint Kits	TF-ULT400	TF-ULT500	TF-ULT600
Shelf Kits: Include One Shelf and Clips	SK400	SK500	SK600

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Racks for Boxes and Microplates

Racks for 5cm Boxes

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series		
				TDE40040	TDE50040	TDE60040
920090	Sliding Drawer Rack	30.2 x 14 x 68.3	Boxes/Rack	25	25	25
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Boxes/Freezer	400	500	600
1950520	Adjustable Side Access Rack	29.5 x 13.7 x 67.9	Boxes/Rack	25	25	25
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Boxes/Freezer	400	500	600

Racks for 7.62 cm Boxes

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series		
				TDE40040	TDE50040	TDE60040
920091	Sliding Drawer Rack	30.2 x 14 x 68.3	Boxes/Rack	15	15	15
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Boxes/Freezer	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
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Boxes/Freezer	240	300	360

Racking Shelf Kits

Description	Storage Capacities	For Model Series		
		TDE40040	TDE50040	TDE60040
	Catalog No.	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	4	5	6
	Boxes Included	100	125	150

Racks for Standard or Deepwell Microplates

Catalog No.	Description	Dimensions H x W x D cm	Storage Capacities	For Model Series		
				TDE40040	TDE50040	TDE60040
1950592	Side Access Rack with Locking Rod	30.2 x 14 x 65.3	Plates/Rack	147	147	147
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Plates/Freezer	2,352	2,940	3,528
1950523	Side Access Microplate Rack	30.2 x 14 x 65.3	Plates/Rack	105	105	105
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Plates/Freezer	1,680	2,100	2,520
1950642	Sliding Drawer Microplate Rack	30.2 x 14 x 66.3	Plates/Rack	35	35	35
			Racks/Shelf	4	5	6
			Racks/Freezer	16	20	24
			Plates/Freezer	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

Thermo Scientific™ TDE Series -40°C Ultra-Low Temperature Freezers

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

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

		For Model Series	TDE40040	TDE50040	TDE60040
200 µL Capacity Tubes					
3747, 3748, 4988	Matrix 200 µL 2D Internally Threaded Universal Tubes Box Dimensions: 8.5 x 12.8 x 2.75 cm	**Rack Model No.**	**1950787**	**1950787**	**1950787**
		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
		Tubes/Box	96	96	96
		Boxes/Rack	56	56	56
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	86,016	107,520	129,024
500 µL Capacity Tubes					
3734, 3735, 4898	Matrix 500 µL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 2.6 cm	**Rack Model No.**	**1950787**	**1950787**	**1950787**
		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
3736, 3737, 4899	Matrix 500 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
		Boxes/Rack	56	56	56
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	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	**Rack Model No.**	**1950791**	**1950791**	**1950791**
		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
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
		Boxes/Rack	42	42	42
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	64,512	80,640	96,768

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

		For Model Series	TDE40040	TDE50040	TDE60040
750 µL Capacity Tubes					
3731, 3732, 4896	Matrix 750 µL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 3.9 cm	Rack Model No.	**1950791**	**1950791**	**1950791**
		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
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
		Boxes/Rack	42	42	42
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	64,512	80,640	96,768
1 mL Capacity Tubes					
374088, 374089 (including color options)	Nunc Cryobank 1 mL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	Rack Model No.	**1950642**	**1950642**	**1950642**
		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
		Tubes/Box	96	96	96
		Boxes/Rack	35	35	35
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	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	Rack Model No.	**1950799**	**1950799**	**1950799**
		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
		Tubes/Box	96	96	96
		Boxes/Rack	28	28	28
		Racks/Shelf	4	5	6
		Racks/Freezer	16	20	24
		Tubes/Freezer	43,008	53,760	64,512

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Sliding Drawer Racks for Matrix and Cryobank Tubes

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

	For Model Series	TDE40040	TDE50040	TDE60040
1.4 mL Capacity Tubes				
3791, 3792, 4890	Matrix 1.4 mL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	**Rack Model No.** 1950642	1950642	1950642
		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
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
		Boxes/Rack 35	35	35
3711, 3112, 4890	Thermo Scientific Matrix 1.4 mL Human Readable Open Top Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	Racks/Shelf 4	5	6
		Racks/Freezer 16	20	24
		Tubes/Freezer 53,760	67,200	80,640
1.8 to 2 mL Capacity Tubes				
374500, 374501	Nunc 1.8 mL Externally Threaded Universal Tubes Box Dimensions: 8.5 x 12.8 x 5.5cm	**Rack Model No.** 1950642	1950642	1950642
		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
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
		Boxes/Rack 35	35	35
		Racks/Shelf 4	5	6
		Racks/Freezer 16	20	24
		Tubes/Freezer 26,880	33,600	40,320
5 mL Capacity Tubes				
374220, 374222	Nunc Cryobank 5 mL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 9.6 cm	**Rack Model No.** 1950819	1950819	1950819
		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
		Tubes/Box 48	48	48
		Boxes/Rack 21	21	21
		Racks/Shelf 4	5	6
		Racks/Freezer 16	20	24
		Tubes/Freezer 16,128	20,160	24,192

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