

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
- SNAP compliant, natural hydrocarbon refrigerants
- Environmentally-friendly, water-blown foam insulation is compliant with SNAP
- 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
- 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 (-10°C to -40°C)

General Purpose 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.)						
TDE40040FA	19.4	400	115V/60Hz	7.2/20 (NEMA 5-20)	165	51.2 x 23.1 x 28.3	78.0 x 28.3 x 38.5	642
TDE40040FD	(549)		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)
TDE50040FA	24.1	500	115V/60Hz	7.5/20 (NEMA 5-20)	205	51.2 x 28.8 x 28.3	78.0 x 34.0 x 38.5**	668
TDE50040FD	(682)		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)
TDE60040FA	28.8	600	115V/60Hz	7.5/20 (NEMA 5-20)	245	51.2 x 34.4 x 28.3	78.0 x 39.6 x 38.5**	765
TDE60040FD	(816)		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)

*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 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)
TDE40040FA	5.2	+2.6 / -2.2	20	300	49
TDE40040FD	4.4	+3.4 / -1.5	18	314	52
TDE50040FA	5.3	+3.0 / -2.4	24	350	51
TDE50040FD	5.1	+2.2 / -2.2	25	318	48
TDE60040FA	6.0	+1.4 / -2.4	23	384	49
TDE60040FD	5.9	+1.5 / -1.9	25	362	49

*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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User-friendly HIC interface and cabinet

- Easy to use: plug in and go; no setup required
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- Advanced security features: alarm settings, setpoint security passcode, and padlock-compatible doors
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Specifications & Ordering Information



Upright Freezers (-10°C to -40°C)

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.)						
TDE40040LA	19.4	400	115V/60Hz	7.2/20 (NEMA 5-20)	165 (75)	51.2 x 23.1 x 28.3	78.0 x 28.3 x 38.5 (198.1 x 71.9 x 97.7)	642 (292)
TDE40040LD	(549)		208-230V/60Hz	3.4/15 (NEMA 6-15)		(130.1 x 58.8 x 71.9)		
TDE50040LA	24.1	500	115V/60Hz	7.5/20 (NEMA 5-20)	205 (93)	51.2 x 28.8 x 28.3	78.0 x 34.0 x 38.5** (198.1 x 86.4 x 97.7)	668 (304)
TDE50040LD	(682)		208-230V/60Hz	4.0/15 (NEMA 6-15)		(130.1 x 73.0 x 71.9)		
TDE60040LA	28.8	600	115V/60Hz	7.5/20 (NEMA 5-20)	245 (111)	51.2 x 34.4 x 28.3	78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7)	765 (348)
TDE60040LD	(816)		208-230V/60Hz	4.0/15 (NEMA 6-15)		(130.1 x 87.3 x 71.9)		

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

**Doorway width clearance is 34.5 in (87.6cm) for TDE50040 and TDE60040



Performance Data

FDA Class II 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)
TDE40040LA	5.2	+2.6 / -2.2	20	300	49
TDE40040LD	4.4	+3.4 / -1.5	18	314	52
TDE50040LA	5.3	+3.0 / -2.4	24	350	51
TDE50040LD	5.1	+2.2 / -2.2	25	318	48
TDE60040LA	6.0	+1.4 / -2.4	23	384	49
TDE60040LD	5.9	+1.5 / -1.9	25	362	49

*Energy Consumption: Typical data - internal testing with freezer setpoint at -40°C and 20°C ambient temperature

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****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.

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

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	FLN456LEA* FLN456LED**	FLN456LEA* FLN456LED**	FLN456LEA* FLN456LED**
CO₂ Backup System Maintains temperature down to -67°C with CO ₂ .	Factory	CO4567	CO4567	CO4567
	Field	FCO456LEA* FCO456LED**	FCO456LEA* FCO456LED**	FCO456LEA* FCO456LED**
Chart Recorder (Inkless) Seven-day inkless recorder Range: -115° to +50°C (+5°C resolution) Dia.: 6 in. (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 in. (15.2cm) <i>Models for TDE40040 are stand alone.</i>	Factory	N/A	CRP4567	CRP4567
	Field	6383-6A* 6383-6D**	FCRP500LE	FCRP600LE
Stainless Steel Freezer Interior	Factory	SS34567	SS34567	SS34567
Twist Lock Plug NEMA L5-20P for 115V/60Hz	Factory	US125V20ATL	US125V20ATL	US125V20ATL
	Field	TL125V20A	TL125V20A	TL125V20A
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

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

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