thermo 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.
- Secure freezer settings with sample security
- Get Connected with DeviceLink™ Hub (Coming Soon)
- 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.²

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.

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







Molecular Biologics

Upright Freezers (-50°C to -86°C)

General	Сар	Capacity Amps / Breaker Max Shelf Interior Dimensions		Exterior Dimensions	Shipping			
Purpose Model	Liters	Cryoboxes 5 cm	Electrical	(Plug type)	Weight kg	H x W x D cm	H x W* x D cm	Weight kg
TDE30086FD	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
TDE30086FV	422	300	230V/50Hz	5.9/10 (European)	37	130.1 x 43.2 x 71.9	190.1 x 30.4 x 97.7	323
TDE40086FD	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
TDE40086FV	549	400	230V/50Hz	5.3/10 (European)	75	130.1 X 30.0 X 7 1.9	196.1 X / 1.9 X 97.7	312
TDE50086FD	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
TDE50086FV	002	500	230V/50Hz	5.9/10 (European)	93	130.1 x 73.0 x 71.9	190.1 X 00.4 X 97.7	333
TDE60086FD	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
TDE60086FV	010	500	230V/50Hz	6.1/10 (European)		130.1 x 67.3 x 71.9	190.1 x 100.0 x 97.7	312

^{*}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

 $^{^{\}star}\text{Energy Consumption: Typical data - internal testing with freezer setpoint at -80°C and 20°C ambient temperature}$

^{**}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)

			For Model Series					
Description	Installation	TDE30086	TDE40086	TDE50086	TDE60086			
	Factory	N/A	LN4567	LN4567	LN4567			
LN ₂ Backup System Maintains temperature down to -80°C with liquid nitrogen. Models for TDE30086 are stand alone.	Field	FLN300D* FLN300V** FLN300W***	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**	FLN456LED* FLN456LEV**			
CO, Backup System	Factory	N/A	CO4567	CO4567	CO4567			
Maintains temperature down to -67°C with CO ₂ . Models for TDE30086 are stand alone.	Field	FCO300D* FCO300V** FCO300W***	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**	FCO456LED* FCO456LEV**			
Chart Recorder (Inkless) Seven-day inkless recorder	Factory	N/A	N/A	CR4567	CR4567			
Range: -115° to +50°C (+5°C resolution) Dia.: 6' (15.2cm)	Field	N/A	N/A	FCR500LE	FCR600LE			
Chart Recorder (Ink)	Factory	N/A	N/A	CRP4567	CRP4567			
Seven day ink recorder Range: -100° to +38°C (+2°C resolution) Dia.: 6" (15.2cm) Models for TDE30086 and TDE40086 are stand alone.	Field	6383-6D* 6383-6V** 6383-6W***	6383-6D* 6383-6V** 6383-6W***	FCRP500LE	FCRP600LE			
Stainless Steel Freezer Interior	Factory	SS34567	SS34567	SS34567	SS34567			
Twick Look Plus NEMA LC 15D for 200 220V/2015	Factory	US230V15ATL	US230V15ATL	US230V15ATL	US230V15ATL			
Twist Lock Plug NEMA L6-15P for 208-230V/60Hz	Field	TL230V15A	TL230V15A	TL230V15A	TL230V15A			
Turist Lock Plan NEMA LC 200 for 200 220V/2011-	Factory	US230V20ATL	US230V20ATL	US230V20ATL	US230V20ATL			
Twist Lock Plug NEMA L6-20P for 208-230V/60Hz	Field	TL230V20A	TL230V20A	TL230V20A	TL230V20A			

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

Accessories

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

^{**}V = 230V/50Hz (European plug)

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

Racks for Boxes and Microplates

Racks for 5cm Boxes

Outolo v No	December 1	Dimensions	Chamana Canadiki a	For Model Series			
Catalog No.	Description	H x W x D cm	Storage Capacities	TDE30086	TDE40086	TDE50086	TDE60086
			Boxes/Rack	25	25	25	25
920090	Sliding Drawer Rack	30.2 x 14 x 68.3	Racks/Shelf	3	4	5	6
920090			Racks/Freezer	12	16	20	24
			Boxes/Freezer	300	400	500	600
			Boxes/Rack	25	25	25	25
1050500	Adjustable Side	00 5 40 7 07 0	Racks/Shelf	3	4	5	6
1950520	Access Rack	29.5 x 13.7 x 67.9	Racks/Freezer	12	16	20	24
			Boxes/Freezer	300	400	500	600

Racks for 7.62 cm Boxes

Outstand No.	B	Dimensions	0	For Model Series			
Catalog No.	Description	H x W x D cm	Storage Capacities	TDE30086	TDE40086	TDE50086	TDE60086
			Boxes/Rack	15	15	15	15
920091	Sliding Drawer Rack	30.2 x 14 x 68.3	Racks/Shelf	3	4	5	6
920091			Racks/Freezer	12	16	20	24
			Boxes/Freezer	180	240	300	360
			Boxes/Rack	15	15	15	15
1050504	Adjustable Side	00 5 40 7 07 0	Racks/Shelf	3	4	5	6
1950521	Access Rack for 3 in. boxes	29.5 x 13.7 x 67.9	Racks/Freezer	12	16	20	24
			Boxes/Freezer	180	240	300	360

Racking Shelf Kits

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

Racks for Standard or Deepwell Microplates

Catalog No.	Dimensions S		Storage Capacities	For Model Series				
Catalog No.	Description	H x W x D cm		TDE30086	TDE40086	TDE50086	TDE60086	
			Plates/Rack	147	147	147	147	
1950592	Side Access Rack with	30.2 x 14 x 65.3	Racks/Shelf	3	4	5	6	
1950592	Locking Rod	30.2 X 14 X 00.3	Racks/Freezer	12	16	20	24	
6-cientententententente			Plates/Freezer	1,764	2,352	2,940	3,528	
	Side Access Microplate Rack	30.2 x 14 x 65.3	Plates/Rack	105	105	105	105	
4050500			Racks/Shelf	3	4	5	6	
1950523			Racks/Freezer	12	16	20	24	
			Plates/Freezer	1,260	1,680	2,100	2,520	
			Plates/Rack	35	35	35	35	
45 777 777	Sliding Drawer	30.2 x 14 x 66.3	Racks/Shelf	3	4	5	6	
1950642	Microplate Rack		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 TubesRacks work with all Thermo Scientific[™] Matrix[™] and Nunc[™] Cryobank Tubes

		For Model Series	TDE30086	TDE40086	TDE50086	TDE60086
200 μL Cap	pacity Tubes					
		Rack Model No.	1950787	1950787	1950787	1950787
	Matrix 200 µL 2D	Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm			
3747, 3748,	Internally Threaded Universal Tubes	Tubes/Box	96	96	96	96
4988	Box Dimensions:	Boxes/Rack	56	56	56	56
	8.5 x 12.8 x 2.75 cm	Racks/Shelf	3	4	5	6
		Racks/Freezer	12	16	20	24
		Tubes/Freezer	64,512	86,016	107,520	129,024
500 μL Cap	pacity Tubes					
	Matrix EOO at OD	Rack Model No.	1950787	1950787	1950787	1950787
3734, 3735, 4898	Matrix 500 µL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 2.6 cm	Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm			
	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
3736,		Boxes/Rack	56	56	56	56
3737, 4899		Racks/Shelf	3	4	5	6
4099		Racks/Freezer	12	16	20	24
		Tubes/Freezer	64,512	86,016	107,520	129,024
		Rack Model No.	1950791	1950791	1950791	1950791
374086, 374087 (including color options)	Nunc Cryobank 500 µL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 3.5 cm	Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm			
		Tubes/Box	96	96	96	96
3743, 3744,	Matrix 500 µL 2D Internally Threaded	Boxes/Rack	42	42	42	42
3745 (including	ScrewTop Tubes	Racks/Shelf	3	4	5	6
color options)	Box Dimensions: 8.5 x 12.8 x 4.4 cm	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
750 μL Cap	pacity 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	1950791
		Freezer Rack Dimensions W x H x D	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
1 mL Capa	acity Tubes					
		Rack Model No.	1950642	1950642	1950642	1950642
374088,	Nunc Cryobank 1 mL Internally Threaded Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	Freezer Rack Dimensions W x H x D	14 x 30.3 x 68.5 cm			
374089 (including		Tubes/Box	96	96	96	96
color		Boxes/Rack	35	35	35	35
options)		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	Rack Model No.	1950799	1950799	1950799	1950799
		Freezer Rack Dimensions W x H x D	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

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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	TDE30086	TDE40086	TDE50086	TDE60086
1.4 mL Cap	pacity Tubes					
		Rack Model No.	1950642	1950642	1950642	1950642
3791, 3792, 4890	Matrix 1.4 mL 2D Open Top Tubes Box Dimensions: 8.5 x 12.8 x 4.9 cm	Freezer Rack Dimensions W x H x D	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	Thermo Scientific 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
1.8 to 2 mL	L 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	1950642
		Freezer Rack Dimensions W x H x D	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
5 mL Capa	acity 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	1950819
		Freezer Rack Dimensions W x H x D	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

