

Technical Data Sheet

Thermo Scientific[™] Ultra-Low Temperature Freezer

Upright Model Release - 83 5ID

Thermo Fisher Scientific, Asheville, North Carolina

TDEES0088FV With optional Sinner door configuration Application Serving of General (non filemation) Laboratory (Notrino) Berrary of General (non filemation) Laboratory (Notrino) Temperatures Kerray Serving of General (non filemation) Laboratory (Notrino) Berrary of Control (Notrino) Serving Contractor (Not Net28) Patients Status) Control (Not Net28) (Notrol (Not Net28) (Not Net28) Control (Not Net28) (Not Net28) Cont		Mod	del Number
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Application Environment Indoor Use Only. Vernitized 19* C - 32* C (69* F - 90* F) Average Multipart article (*) 5.2 Average Statisty article (*) 5.12 × 28.3 × 28.8 (1302 × 710 × 728 m) 5.4 Warm Up Time (-80*C16 - 50*C) (mil) 5.4 Shart Capacity Statistes Statistics 7.4 Door Seal Silicone-Based High Photoney Valuer Bloom Pour Up Statistics Statistics Shart Capacity Adjustable Sharkes in 12 (25mn) Incomments 5.6 Mainter Zelencer Material Painter Statistics 7.6 Other Cplins U22 × 02 Statistics State (0; 0; 7.8) 7.6 Controller Type HiC Interface: T-asgment Display eth Capacity (0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0		Non-Corrosive, Non-Flammable, Non-Explosive	
Average Stability at 30°C (°C) 2.9 Pull Down Tree (-80°C (°C)) 312 Attem Commensions (H > D × W) 7.8 × 38.5 × 38.2 m (1930 × 179 × 270 mm) 312 Attem Commensions (H > D × W) 7.8 × 38.5 × 38.2 m (1931 × 179 × 270 mm) 312 Sheping Weight / Net Weight 7.8 × 38.5 × 38.2 m (1931 × 179 × 270 mm) 312 Sheping Weight / Net Weight 7.8 × 38.5 × 38.2 m (1981 × 179 × 170 mm) 312 Maximum Conscriptions with High-Denning Sea Gaster with Electrical Cables terminates Sea Gaster with Electrical Sea (Saster with Electrical Sea (Saste	Application Environment	Indoor Use Only, Ventilated 15° C - 32° C (59° F - 90° F)	
Dimensions and Construction Warm Up Time (-80°C to -60°C) (min) 312 textor Dimensions (H x D x W) 75 ± 22.83 ± 28 ± ni (1981 x 1978 x 970 mm) 312 Warm Up Time (-80°C to -60°C) (min) 312 textor Dimensions (H x D x W) 83.12 x 42.73 x 41 his (1211 x 1088 x 109 his (120 x 106 his (120 k 106			Average Stability at -80°C (°C) 2.9
 Stelet Dremesions (H x D x W) St 2 x 22 3 x 22		imensions and Construction	
attemp: Demonstruct (H & D X W) 78 x 38 5 x 38 2 m (1981 x 978 x 109 m) Shipping Weight (H X D XW) 312 x 4 25 x 41 8 m (211 x 1098 x 1094 mo) Insulation Vacuum Insulator PolyureBano Foam Door Seal Silicone-Based High Petrmener Seath Shelves Adjusable Shewish I'1 (25mm) Increments Maintum Capacity of Shell 205 lbs. (91 7 kg) Content Load not be scoot 11400 (517 hg) Controller Level Too Coctasters Shelves LN2 or CO2 Backup System, Char Recoder, WIC Capacitive Touch Scoren (hg) and Diplay with USB Data Retrieval Controller Level Too Power Switch (Rear) Man Circuit Breaker Controller Level Too Controller Level Neg Constact Thermore Shiper Count Bidons State Capacity Total Strate Strate Monitoring (compatible) Fully Adjustable Fully Adjustable Other Options W1C Capacitive Touch Scoren (hg) contacts Thermore Shiper Count Fully Adjustable Controter Level Fully Adjustable			warm up time (-80°C to -50°C) (min) 312
hiphiph Demonstrants (H x D x W) Bapping Weight / Nat Weight 173 Hb. (20 A Q) 173 Hb. (20 A Q) 173 Hb. (20 A Q) 174 bb. (20 A B A C) 174 bb. (20 A B A C) 174 bb. (20 A B A C) 174 bb. (· · · · ·		
Shipping Waight / Net Weight 7.24 fbs. (333 kg) / 640 fbs. (200 kg) Insulation Vacuum insulation Problewith High-Density Water-Blown Polyviethine Found Door Seal Silicone-Based High Performance Seal Gasket with Electrical Cables (Parmeter Heater Shalves 4 Stanless Steel Adjustable Shalves in 12 (Strom) Increments Maximum Capacity per Shaft: 205 lbs. (91.7 kg) Shall Capacity Cabler Loads to 16 Exceed 1140 (617.1 kg) Other Options LN2 or CO2 Backup System. Chart Recorder, ViC Capacitive Touch Screen Rout and With Locks Other Options LN2 or CO2 Backup System. Chart Recorder, ViC Capacitive Touch Screen Rout and Strong Backup System. Chart Recorder, Nuclear Unit Disbla with Capacitive Touch Screen Buttons Stepont Security Refrigeration Control Processor Stafe Guard High Temp Cutou Sweth, Current, Logic protection Control Second Fill (1000 chm Ratument RTD) Controller Type Entrance Tome Montoring (compatible) Paylisable Warm Cold Alarms Faste Sid-20m A (1000 chm) Ratument RTD) Compressor Churches Refrigeration Control Second Fill (200 km Statel Capacity Compressor Capacity Two Stage Cascade System Found Alarms Compressor Capacity Two Stage Cascade System Found Alarms Compressor Capacity Trave Found Alarms Como			
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		GWP: 3 (R290) , 6 (R170)	
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- Freezer performance in normal and marked and interview.
 Freezer performance will differ due to product amount, product size and operating conditions.
 Continuous product enhancements may, without notice, result in amendments or omissions to this specification. Thermo Scientific
- cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.

Manufacturer measured compressor capacity taken at standard -35°C/45°C (Evap/Cond) condition.

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REAR

FRONT

M3

M1

M13

M11

M23

M21

Typical Cabinet Temperature Map ULT 500, 4 Inner-Shelves + Base, Single Outer Door

Top View of Shelves

M5

M10

M15

M20

M25

M4

M2

M14

M12

M24

M22

1: -77.7C 3: -77.5C	∳ 5: -77.8C	2: -77.70 4: -77.90
	↓ 10: -80.9C	
11: -81.9C 13: -82.3C	↓ 15: -82.3C ● ● ←	12: -81.8
	20: -82.7C	
21: -80.6C	↓ 25: -80.5C	22: -80.1 24: -81.0

Temperatures are averages during > 12 cycles after reaching a setpoint of -80C

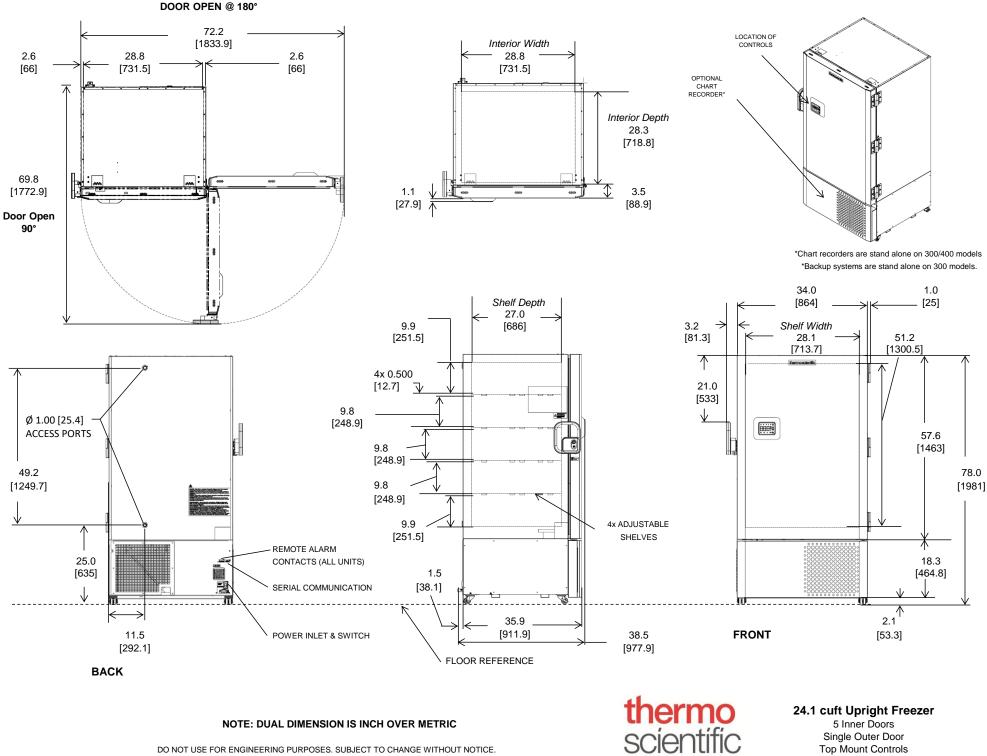
19715-B-68

Cabinet Average: -80.8 C Probe Average: -80.8 C Peak Variation: +4.2 C / -3.8 C

	M1	M2	M3	M4	M5	M10	M11	M12	M13
Avg	-77.7	-77.7	-77.5	-77.9	-77.8	-80.9	-81.9	-81.8	-82.3
Max	-76	-76.1	-75.8	-76.3	-76.2	-79.2	-80.6	-80.5	-80.9
Min	-79.3	-79.2	-79.3	-79.5	-79.3	-82.5	-83	-82.9	-83.6

	M14	M15	M20	M21	M22	M23	M24	M25
Avg	-82.4	-82.3	-82.7	-80.6	-80.1	-81.1	-81	-80.5
Max	-81	-80.9	-81.6	-79.4	-78.8	-79.6	-79.4	-79.2
Min	-83.8	-83.5	-83.7	-81.8	-81.5	-82.8	-82.7	-81.8

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NOTE: DUAL DIMENSION IS INCH OVER METRIC

DO NOT USE FOR ENGINEERING PURPOSES. SUBJECT TO CHANGE WITHOUT NOTICE.

24.1 cuft Upright Freezer 5 Inner Doors Single Outer Door Top Mount Controls