

Technical Data Sheet Thermal Scientific Laboratory Freezer

Revision-0

Thermo Fisher Scientific, Asheville, North Carolina

	Model Number
	2330A Automatic Defrost Laboratory Freezer
Specifications	Application, Rating and Electrical Data
Application	Storage of Laboratory Materials
Storage Volume	659 Liters / 23.3 Cubic Feet
Temperature Rating	-30°C @ 32°C (90°F) Ambient
Electrical Power	115 VAC, 60 hz, 1 Phase
Instrument Rated Current	16.0 FLA
Building Supply Rating	Breaker 20 Amps/115v±10 Volt while operating
Power Plug/Power Cord Length	5-20 P/ 10 feet
Agency Listings	UL, cUL, FDA
Indoor/Outdoor Usage	Indoor Use Only
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)
Defrice antice Outlean	Refrigeration Configuration
Refrigeration System	Vapor Compression System with Automatic Defrost
Compressor / Number	1 hp Reciprocating Compressor / 1
Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1
Expansion Device	Capillary Tube
Evaporator Type	Forced Air Evaporator Coil
Defrost Method	Automatic Defrost
Refrigerant Charge/Flammability	Non-Flammable, CFC/HCFC-Free Enviromentally Safe Refrigerant Mixtures Controller/Electrical System Configuration and Features
Controlled Lovel	
Controller Level	Eye Level Keyed Off-On - Alarm
Power Switch Controller Type	Microprocessor-Based IntrLogic TM Control
	Standard / Standard
Setpoint Security / Programmable Compressor Safe Guard	High Pressure Cutout Switch/High Temp Cutout Switch/Current protection
Control Sensor	Stainless Steel Shielded RTD in Air
Remote Alarm Terminals	Standard
	Standard
Door Open, Probe Failure Alarms Adjustable Warm/Cold Alarms	Standard
Power Failure Alarm	Standard
Standard Electronic chart Recorder	Optional
Startdard Electronic Gridit (1000rde)	Dimensions and Construction
Interior Dimensions (H x D x W)	147.3 x 73.7 x 61.0 cm (58.0 x 29.0 x 24.0 in)
Exterior Dimensions (H x D x W)	201.2 x 94.5 x 71.1 cm (79.2 x 37.2 x 28.0 in)
Insulation	5.08 cm (2 in.) High Density HFC-blown Polyurethane Foam (R=42)
Door Perimeter heater	
Door Perimeter heater	Electric
Shelves / Capacity	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.)
Shelves / Capacity All-Direction Casters	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular
Shelves / Capacity All-Direction Casters Ship Weight	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.)
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Shelves / Capacity All-Direction Casters Ship Weight 1" Dia access port	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.) Yes Typical Performance Characteristics C 23 ft ³ -30 Freezer, -30C cycle at 25 C Ambient Avg Cabinet Temp at -30 C Cycle (C): -30.2
Shelves / Capacity All-Direction Casters Ship Weight 1" Dia access port	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.) Yes Typical Performance Characteristics C 23 ft³-30 Freezer,-30C Cycle at 25 C Ambient Min Avg Max Probe -10 Frobe Probe Frobe Have Cabinet Temp at -30 C Cycle (C): -30.2 PV from Setpoint (C) (including defrost)*: + 16.4 / - 8.2
Shelves / Capacity All-Direction Casters Ship Weight 1" Dia access port 23 ft³ -30 Freezer, Pull Down and Warm Up at 25 C	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.) Yes Typical Performance Characteristics C 23 ft³-30 Freezer,-30C Cycle at 25 C Ambient Min Avg Max Probe Probe Avg Cabinet Temp at -30 C Cycle (C): -30.2 PV from Setpoint (C) (including defrost)*: + 16.4 / - 8.2 Average Uniformity (C): 3.8
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Shelves / Capacity All-Direction Casters Ship Weight 1" Dia access port 23 ft³ -30 Freezer, Pull Down and Warm Up at 25 C	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.) Yes Typical Performance Characteristics Test Unit Series or MSO Number: 18829-A-B Avg Cabinet Temp at -30 C Cycle (C): -30.2 PV from Setpoint (C) (including defrost)*: + 16.4 / - 8.2 Average Uniformity (C): 3.8 Average Stability (C): 19.1 1-min Door Open Recovery to-30C (min) 15 Duty Cycle at -30C Setpoint (%): 64.7% Cycle (on/off) rate at -30C (min): 16 / 9 Avg. energy consumption (kW-hr/day): 16.3 Avg. heat rejection rate (Btu/hr): 2317
Shelves / Capacity All-Direction Casters Ship Weight 1" Dia access port 23 ft² -30 Freezer, Pull Down and Warm Up at 25 C Pull Down Warm Up 30.0	Electric (4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.) Standard with Two Locking and Two Regular Approximately 168 kg (370 lbs.) Yes Typical Performance Characteristics Test Unit Series or MSO Number: 18829-A-B Avg Cabinet Temp at -30 C Cycle (C): -30.2 PV from Setpoint (C) (including defrost)*: + 16.4 /- 8.2 Average Uniformity (C): 3.8 Average Stability (C): 19.1 1-min Door Open Recovery to-30C (min) 15 Duty Cycle at -30C Setpoint (%): 64.7% Cycle (on/off) rate at -30C (min): 16.3
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- 1) Performance is nominal and individual units may vary.
- 2) Freezer performance will differ due to product amount, product size and operating conditions.
- 3) Continuous product enhancements may, without notice, result in amendments or ommisions to this specification. Thermo Scientific cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.

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