

Technical Data Sheet Thermal Scientific Laboratory Freezer

Revision-0

Thermo Fisher Scientific, Asheville, North Carolina

	Model Number	
	430A Automatic Defrost Laboratory Freezer	
Specifications	Application, Rating and Electrical Data	
Application	Storage of Laboratory Materials	
Storage Volume	133 Liters / 4.9 Cubic Feet	
Temperature Rating	-30°C @ 32°C (90°F) Ambient	
Electrical Power	115 VAC, 60 hz, 1 Phase	
Instrument Rated Current	8.0 FLA	
Building Supply Rating	Breaker 15 Amps/115v±10 Volt while operating	
Power Plug/Power Cord Length	5-15 P/ 10 feet	
Agency Listings	UL, cUL, FDA Indoor Use Only	
Indoor/Outdoor Usage	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)	
Application Environment	Refrigeration Configuration	
Refrigeration System	Vapor Compression System with Automatic Defrost	
Compressor / Number	1/2 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 Environmentally Safe Refrigerant Mixtures	
rtomgerant emarger ammasmy	Controller/Electrical System Configuration and Features	
Controller Level	Ground Level	
Power Switch	Keyed Off-0	
Controller Type	Microprocessor-Based IntrLogic [™] Control	
Setpoint Security / Programmable	Standard / Standard	
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	
Door Open, Probe Failure Alarms	Standard	
Adjustable Warm/Cold Alarms	Standard	
Power Failure Alarm	Standard	
Standard Electronic chart Recorder	Optional	
	Dimensions and Construction	
Interior Dimensions (H x D x W)	50.8 x 50.8 x 50.8 cm (20.0 x 20.0 x 20.0 in)	
Exterior Dimensions (H x D x W)	86.4 x 73.4 x 61.0 cm (34.0 x 28.9 x 24.0 in)	
Insulation	5.08 cm (2 in.) High Density HFC-blown Polyurethane Foam (R=42)	
Door Perimeter heater	Electric	
Shelves / Capacity	(3) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.)	
All-Direction Casters	Standard with Two Locking and Two Regular	
Ship Weight	Approximately 9	
1" Dia access port	Yes Typical Payformanae Characteristics	
	Typical Performance Characteristics	
4ft ³ -30 Freezer, Pull Down and Warm Up at 25	C 4 ft ³ -30 Freezer, -30C Cycle at 25 C Ambient	Test Unit Series or MSO Number: 18815-B-E
Pull Down Warm Up		Avg Cabinet Temp at -30 C Cycle (C): -29.8
	Min Avg Max Probe	PV from Setpoint (C) (including defrost)*: + 13.3 / - 5.6
30.0	U -15	Average Uniformity (C): 1.9
20.0		Average Stability (C): 15.5
10.0 long	te -25	1-min Door Open Recovery to-30C (min) 25
0.0		Duty Cycle at -30C Setpoint (%): 75.7%
10.0 -		Cycle (on/off) rate at -30C (min): 21 / 7
-20.0		Avg. energy consumption (kW-hr/day): 10.1
-30.0 0 20 40 60 80	100 0 72 144 216 288 360 432 504 576 648 720	Avg. heat rejection rate (Btu/hr): 1442
Time, Minutes	Time, Minutes	Overall Pulldown Time (to -30C) (min): 49
		Warmup Time (-30 to -10 C) (min): 75
		* PV = Peak Variation
		1. F _ A GUIV FUNDION

- 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.

© 2013 Thermo Scientific Inc. All trademarks are the property of Thermo Scientific Inc. and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.