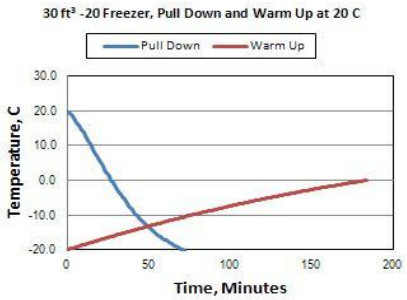
Technical Data Sheet

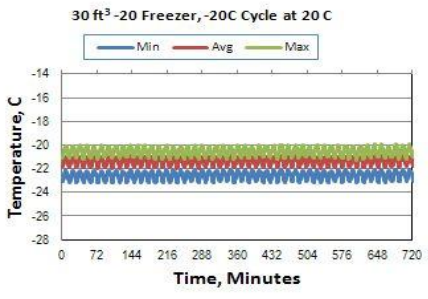
Thermal Scientific Enzyme Freezer

Revision-0

Thermo Fisher Scientific, Asheville, North Carolina

Specifications	Model Number
	3020D Manual Defrost Enzyme Freezer
Specifications	**Application, Rating and Electrical Data**
Application	Storage of Enzyme Materials
Storage Volume	826 Liters / 29.2 Cubic Feet
Temperature Rating	-20°C @ 32°C (90°F) Ambient
Electrical Power	208/230V, 60HZ, 1 Phase
Instrument Rated Current	5.6 FLA
Building Supply Rating	Breaker 15 Amps/230v±10 Volt while operating
Power Plug/Power Cord Length	6-15 P/ 10 feet
Agency Listings	UL, cUL
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)
	Refrigeration Configuration
Refrigeration System	Vapor Compression System
Compressor / Number	1 hp Reciprocating Compressor / 1
Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1
Expansion Device	Capillary Tube
Evaporator Type	Cold Wall With Enhanced Heat Transfer Treatment
Defrost Method	Manual Defrost
Refrigerant Charge/Flammability	Non-Flammable, CFC/HCFC-Free Enviromentally Safe Refrigerant Mixtures
	Controller/Electrical System Configuration and Features
Controller Level	Eye Level
Power Switch	Keyed Off-On - Alarm
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)	147.3 x 73.7 x 76.2 cm (58.0 x 29.0 x 30.0 in)
Exterior Dimensions (H x D x W)	202.7 x 94.5 x 86.4 cm (79.8 x 37.2 x 34.0 in)
Insulation	5.08 cm (2 in.) High Density HFC-blown Polyurethane Foam (R=42)
Door Perimeter heater	Electric
Shelves / Capacity	(9) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.)
All-Direction Casters	Standard with Two Locking and Two Regular
Ship Weight	Approximately 202 kg (445 lbs.)
1" Dia access port	Yes
	Typical Performance Characteristics





Test Unit Series or MSO Number:	18861-B-D2
Avg Cabinet Temp at -20 C Cycle (C):	-21.3
PV from Setpoint (C)*:	+ 0.9 / - 3.2
Average Uniformity (C):	2.8
Average Stability (C):	1.5
1-min Door Open Recovery to-20C (min)	24
Duty Cycle at -20C Setpoint (%):	55.7%
Cycle (on/off) rate at -20C (min):	10 / 8
Avg. energy consumption (kW-hr/day):	11.5
Avg. heat rejection rate (Btu/hr):	1632
Overall Pulldown Time (to -20C) (min):	81
Warmup Time (-20 to 0 C) (min):	185
* PV = Peak Variation	

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.