



Technical Data Sheet

Thermal Scientific Laboratory Freezer

Revision-0

Thermo Fisher Scientific, Asheville, North Carolina

	Model Number																											
	1230V/W Automatic Defrost Laboratory Freezer																											
Specifications	Application, Rating and Electrical Data																											
Application	Storage of Laboratory Materials																											
Storage Volume	326 Liters / 11.5 Cubic Feet																											
Temperature Rating	-30°C																											
Electrical Power	230 VAC, 50 hz, 1 Phase																											
Instrument Rated Current	8.0 FLA																											
Building Supply Rating	Breaker 15 Amps/230v±10 Volt while operating																											
Power Plug/Power Cord Length	Country Dependant plug / IEC Cords, 3.048 Meters (10 Feet)																											
Agency Listings	CE																											
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 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																											
Controller/Electrical System Configuration and Features																												
Controller Level	Eye Level																											
Power Switch	Yes																											
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)	133.1 x 53.3 x 50.8 cm (52.4 x 21.0 x 20.0 in)																											
Exterior Dimensions (H x D x W)	186.9 x 76.2 x 61.0 cm (73.6 x 30.0 x 24.0 in)																											
Insulation	5.08 cm (2 in.) High Density HFC-blown Polyurethane Foam (R=42)																											
Door Perimeter heater	Electric																											
Shelves / Capacity	(4) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.)																											
All-Direction Casters	Standard with Two Locking and Two Regular																											
Ship Weight	Approximately 127 kg (280 lbs.)																											
1" Dia access port	Yes																											
Typical Performance Characteristics																												
<p style="font-size: small;">12 cuft Upright Freezer, PD and WU in 20C — Pull Down — Warm Up</p>	<p style="font-size: small;">12 cuft Upright Freezer at -30C Cycle in 20C — MAX — MIN — AVG</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Test Unit Series Number or MSO Number:</td> <td style="text-align: right;">19511-TS-G1-1</td> </tr> <tr> <td>Cabinet Load:</td> <td style="text-align: right;">Unloaded</td> </tr> <tr> <td>Average Cabinet Temp. at -30C Cycle (C):</td> <td style="text-align: right;">-29.7</td> </tr> <tr> <td>Peak Variation from Setpoint (C):</td> <td style="text-align: right;">+10.6 / -4.1</td> </tr> <tr> <td>Uniformity (C):</td> <td style="text-align: right;">3.2</td> </tr> <tr> <td>Stability (C):</td> <td style="text-align: right;">10</td> </tr> <tr> <td>1-min Door Opening Recovery to -30C (min):</td> <td style="text-align: right;">22</td> </tr> <tr> <td>Duty Cycle at -30C (%):</td> <td style="text-align: right;">83</td> </tr> <tr> <td>Cycle (on/off) rate at -30C (min):</td> <td style="text-align: right;">27 / 6</td> </tr> <tr> <td>Energy Consumption (kw-hr/day):</td> <td style="text-align: right;">12.8</td> </tr> <tr> <td>Heat Rejection Rate (btu/hr):</td> <td style="text-align: right;">1817</td> </tr> <tr> <td>Pull Down Time (to -30C) (min):</td> <td style="text-align: right;">86</td> </tr> <tr> <td>Warm Up Time (-30C to -10C) (min):</td> <td style="text-align: right;">63</td> </tr> </table>	Test Unit Series Number or MSO Number:	19511-TS-G1-1	Cabinet Load:	Unloaded	Average Cabinet Temp. at -30C Cycle (C):	-29.7	Peak Variation from Setpoint (C):	+10.6 / -4.1	Uniformity (C):	3.2	Stability (C):	10	1-min Door Opening Recovery to -30C (min):	22	Duty Cycle at -30C (%):	83	Cycle (on/off) rate at -30C (min):	27 / 6	Energy Consumption (kw-hr/day):	12.8	Heat Rejection Rate (btu/hr):	1817	Pull Down Time (to -30C) (min):	86	Warm Up Time (-30C to -10C) (min):	63
Test Unit Series Number or MSO Number:	19511-TS-G1-1																											
Cabinet Load:	Unloaded																											
Average Cabinet Temp. at -30C Cycle (C):	-29.7																											
Peak Variation from Setpoint (C):	+10.6 / -4.1																											
Uniformity (C):	3.2																											
Stability (C):	10																											
1-min Door Opening Recovery to -30C (min):	22																											
Duty Cycle at -30C (%):	83																											
Cycle (on/off) rate at -30C (min):	27 / 6																											
Energy Consumption (kw-hr/day):	12.8																											
Heat Rejection Rate (btu/hr):	1817																											
Pull Down Time (to -30C) (min):	86																											
Warm Up Time (-30C to -10C) (min):	63																											
<p>1) Performance is nominal and individual units may vary.</p> <p>2) Freezer performance will differ due to product amount, product size and operating conditions.</p> <p>3) 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.</p>																												

© 2016 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.