

Technical Data Sheet Chromatography Refrigerator

Revision-0

Thermo Fisher Scientific, Asheville, North Carolina

Model Number																							
FRCR4504V																							
Application, Rating and Electrical Data																							
Application	Chromatography (non-flammable) Refrigerator																						
Storage Volume	1297 Liters/45.8 Cubic Feet																						
Temperature Rating	1°C to 8°C @ 15°C to 32°C Ambient																						
Electrical Power	220-240V 50 Hz 1 Phase																						
Instrument Rated Current	8.5 FLA																						
Building Supply Rating	Breaker 15 Amps/230v±10 Volt while operating																						
Power Plug/Power Cord Length	European plug for V / IEC Cords, 3.048 Meters (10 feet)																						
Agency Listings	CE, FDA																						
Sound Pressure Level	60 dB(A)																						
Indoor/Outdoor Usage	Indoor Use Only																						
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (60° F - 90° F)																						
Refrigeration Configuration																							
Refrigeration System	Vapor compression system																						
Compressor / Number	1/2 HP Hermetic Compressor / 1																						
Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1																						
Expansion Device	Capillary Tube																						
Evaporator Type	Forced-Air Evaporator																						
Defrost Method	Microprocessor controlled off cycle every 1 hr. Programmable interval, duration and temperature settings																						
Refrigerant Charge/Flammability	Environmentally Safe R134a																						
Controller/Electrical System Configuration and Features																							
Controller Level	Eye Level																						
Power Switch	Keyed Off-On - Alarm																						
Controller Type	IntrLogic Control System: Digital display, Graphic thermometer, Automatic defrost system																						
Setpoint Security / Programmable	Yes / Yes																						
Compressor Safe Guard	High Pressure Cutout Switch/High Temp Cutout Switch/Current protection																						
Control Sensor	Stainless Steel Shielded RTD weighted with 250ml ethylene glycol solution																						
Remote Alarm Terminals	Yes																						
Power Failure Alarm	Yes																						
Standard Electronic chart Recorder	Optional																						
Dimensions and Construction																							
Interior Dimensions (H x D x W)	147.3 H X 66.0 F-B X 132.0 W cm (58.0 H X 26.0 F-B X 52.0 W in.)																						
Exterior Dimensions (H x D x W)	196.9 H X 89.0 F-B X 144.0 W cm (77.5 H X 35.0 F-B X 56.5 W in.)																						
Insulation	5.08 cm (2.0") High Density HFC-blown Polyurethane Foam in cabinet																						
Door Perimeter heater	Yes																						
Shelves / Capacity	6 Shelves																						
All-Direction Casters	Yes																						
Ship Weight	304 kg / 670 lb.																						
2" Dia access port	Yes																						
Typical Performance Characteristics																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>45 ft³ +4 Refrigerator, Pull Down and Warm Up at 25 C</p> </div> <div style="width: 45%;"> <p>45 ft³ +4 Refrigerator, 4C Cycle at 25 C Ambient</p> </div> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Test Unit Series or MSO Number:</td> <td>18815-CB-AE</td> </tr> <tr> <td>Avg Cabinet Temp at +4 C Cycle (C):</td> <td>3.4</td> </tr> <tr> <td>Peak Variation from Setpoint (C):</td> <td>+ 3.2 / - 4.1</td> </tr> <tr> <td>Average Uniformity (C):</td> <td>3.5</td> </tr> <tr> <td>Average Stability (C):</td> <td>4.0</td> </tr> <tr> <td>Duty Cycle at +4C Setpoint (%):</td> <td>49.2%</td> </tr> <tr> <td>Cycle (on/off) rate at +4C (min):</td> <td>5 / 5</td> </tr> <tr> <td>Avg. energy consumption (kW-hr/day):</td> <td>16.6</td> </tr> <tr> <td>Avg. heat rejection rate (Btu/hr):</td> <td>2359</td> </tr> <tr> <td>Overall Pulldown Time (to +4C) (Min):</td> <td>24.0</td> </tr> <tr> <td>Warmup Time (+4 to 15C) (minutes):</td> <td>81</td> </tr> </table>		Test Unit Series or MSO Number:	18815-CB-AE	Avg Cabinet Temp at +4 C Cycle (C):	3.4	Peak Variation from Setpoint (C):	+ 3.2 / - 4.1	Average Uniformity (C):	3.5	Average Stability (C):	4.0	Duty Cycle at +4C Setpoint (%):	49.2%	Cycle (on/off) rate at +4C (min):	5 / 5	Avg. energy consumption (kW-hr/day):	16.6	Avg. heat rejection rate (Btu/hr):	2359	Overall Pulldown Time (to +4C) (Min):	24.0	Warmup Time (+4 to 15C) (minutes):	81
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<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>																							