

Specifications	Model Number																										
	FRBB2304A																										
Application, Rating and Electrical Data	Application, Rating and Electrical Data																										
Application	Blood Bank (non-flammable) Refrigerator																										
Storage Volume	650 Liters/23.0 Cubic Feet																										
Temperature Rating	0°C to 8°C @ 15°C to 32°C Ambient																										
Electrical Power	115V 60 Hz 1 Phase																										
Instrument Rated Current	15.0 FLA																										
Building Supply Rating	Breaker 20 Amps/115v±10 Volt while operating																										
Power Plug/Power Cord Length	3.048 Meters (10 feet) 20 Amp Cord (5-20P)																										
Agency Listings	UL, CuL, FDA																										
Sound Pressure Level	N/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 Configuration																										
Refrigeration System	Vapor compression system																										
Compressor / Number	1/3 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/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																										
Remote Alarm Terminals	Yes																										
Power Failure Alarm	Yes																										
Standard Electronic chart Recorder	Optional																										
Dimensions and Construction	Dimensions and Construction																										
Interior Dimensions (H x D x W)	147.3 H X 72.3 F-B X 61.0 W cm (58.0 H X 28.5 F-B X 24.0 W in.)																										
Exterior Dimensions (H x D x W)	199.7 H X 92.6 F-B X 71.1 W cm (78.6 H X 36.4 F-B X 28.0 W in.)																										
Insulation	5.08 cm (2.0") High Density HFC-blown Polyurethane Foam in cabinet																										
Door Perimeter heater	Yes																										
Shelves / Capacity	(7) Drawers Adjustable In 1" Increment. Max. Cap. per Drawer: 27 kg (60 lbs.)																										
All-Direction Casters	Yes																										
Ship Weight	213 kg / 470 lb																										
2" Dia access port	Yes																										
Typical Performance Characteristics	Typical Performance Characteristics																										
<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>23 ft<sup>3</sup> +4C Refrigerator, Pull Down &amp; Warm Up at 20C</p>  </div> <div style="width: 45%;"> <p>23 ft<sup>3</sup> Refrigerator, +4C Cycle at 20C</p>  </div> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Test Unit Series or MSO Number:</td> <td>19029-A-6_D</td> </tr> <tr> <td>Ref body weighting</td> <td>Un-Weighted</td> </tr> <tr> <td>Cabinet Load / Ambient Condition</td> <td>Empty / 20C</td> </tr> <tr> <td>Avg. Cabinet temp at Cycle at 35C (C):</td> <td>3.8</td> </tr> <tr> <td>Peak Variation from Set Point (C):</td> <td>1.6 / 2.9</td> </tr> <tr> <td>Uniformity/Sensitivity (C):</td> <td>0.9 / 3.1</td> </tr> <tr> <td>1-min Door Open Recovery to +4C (min):</td> <td>5</td> </tr> <tr> <td>Cycle (on/off) rate (minutes):</td> <td>6 / 15</td> </tr> <tr> <td>Duty Cycle (%):</td> <td>27.1%</td> </tr> <tr> <td>Avg. energy consumption (kW-hr/day):</td> <td>7.4</td> </tr> <tr> <td>Avg. heat rejection rate (Btu/hr):</td> <td>1049</td> </tr> <tr> <td>Overall Pull Down to +4C (min):</td> <td>29</td> </tr> <tr> <td>Warm Up Time (4 to 10 C) (minutes):</td> <td>72</td> </tr> </table>	Test Unit Series or MSO Number:	19029-A-6_D	Ref body weighting	Un-Weighted	Cabinet Load / Ambient Condition	Empty / 20C	Avg. Cabinet temp at Cycle at 35C (C):	3.8	Peak Variation from Set Point (C):	1.6 / 2.9	Uniformity/Sensitivity (C):	0.9 / 3.1	1-min Door Open Recovery to +4C (min):	5	Cycle (on/off) rate (minutes):	6 / 15	Duty Cycle (%):	27.1%	Avg. energy consumption (kW-hr/day):	7.4	Avg. heat rejection rate (Btu/hr):	1049	Overall Pull Down to +4C (min):	29	Warm Up Time (4 to 10 C) (minutes):	72
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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>																											