Helmer SCIENTIFIC

Helmer Scientific, Noblesville, Indiana
www.helmerinc.com

Technical Data Sheet
High-Performance, Medical-grade Refrigerator
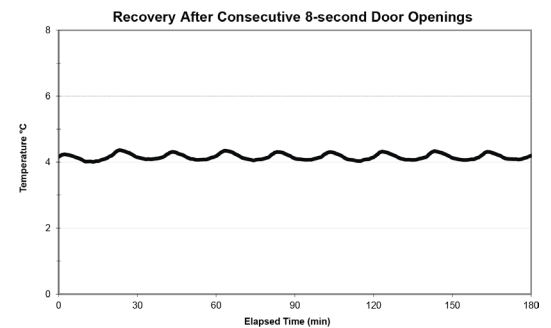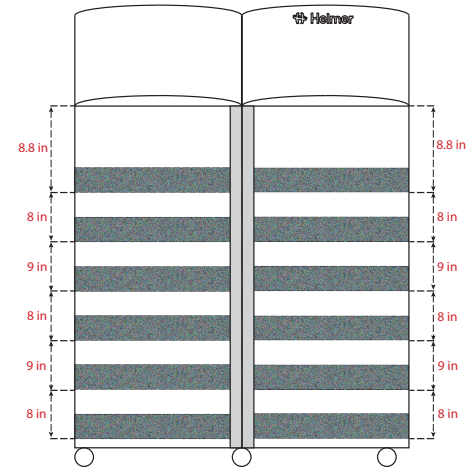Model: iBR458-GX, i.Series® Blood Bank / Upright

Application, Rating, & Electrical Data

Application	High-performance storage of blood and other medical and scientific products
Storage Volume	58.5 cu ft	1656 L	864 Blood bags
Temperature Range	+2℃ to +10℃
Set Point	+4℃
Electrical Power	115V 60Hz	220-240V 50/60Hz
Maximum Current	6.3 A	3.5 A
Facility Supply Rating	Branch circuit with earth ground, meeting plug/cord ratings as well as local electrical safety codes and requirements 110-120V AC: 15 A (minimum) 220-240V AC: 10 A (minimum)
Power Plug/Power Cord Length	NEMA 5-15 hospital-grade	115V 60Hz, 8 to 10 ft (2.4-3.0m) Inquire about additional plug/cord options
Certification/Agency Listing	QPS (Certified to UL and CSA Standards) IEC/UL61010-2-01: 2016	IEC 61010-1:2010, AMD1:2016
Indoor/Outdoor Use	Indoor use only, non-residential
Application Environment	Non-corrosive, non-flammable, non-explosive
Ambient Operating Temperature	+15℃ to +32℃	+59°F to +90°F

Refrigeration

Refrigeration System	VCC compressor-based, forced-air hydrocarbon
Compressor	Hermetic, variable speed (VCC). Rated speed range: 3500-4500 rpm
Condenser Type	Air-cooled fin and tube, sealed
Expansion Device	Cap tube
Evaporator Type	Direct expansion with forced-air fin and tube
Defrost Method	Automatic
Refrigerant	R290, Propane, EU F-Gas and EPA SNAP compliant

Controller / Configuration Settings

User Interface	i.C³® color touchscreen, door mounted, 7in	177mm, ℃ or °F
Power Switch	On/Off
Controller Type	Microprocessor with touchscreen input & display
Security	Lockable doors, key locks
Control Sensor	RTD, stainless steel
Communication Ports	USB, Remote alarm contacts, RJ45 (Ethernet). API available for Ethernet connectivity development
Power Failure Alarm	Yes
High/Low Alarms - Tests	Yes, fully adjustable, automatic (Peltier) testing
Door Ajar Alarm	Yes, fully adjustable
Condenser Temperature Alarm	Yes, fully adjustable
Min/Max Temperature	Yes, display and reset
Download	Yes, via USB. CSV and PDF
Event Log	Yes, all alarms, door openings, download via USB
Temperature Log	Yes, download via USB
Interactive Temperature Graph	Yes
Chart Recorder	Yes, integrated, 4" (102mm) diameter, inkless pressure-sensitive charts, backup battery
Temperature Monitoring Ballast	Yes, two 4 oz bottles with screw caps, solid ballasts optional
Battery Back-up	Yes, 20 hr display & alarm back up for i.C³® touchscreen	Rechargeable 12V, lead acid

Performance Characteristics

Uniformity	℃	+/-1.0
Recovery to 8℃ after 3 min door opening	min	6
Stability	℃	2.3
Energy Consumption	kWh/day	6.58
Noise emission	dB	54
Heat Rejection / Emission	BTU/hr	2002
Pull-down time to 4℃	min	45

All performance data from 58 cu ft refrigerator, 25ºC ambient, 4.0ºC

Recovery After Consecutive 8-second Door Openings

Stability
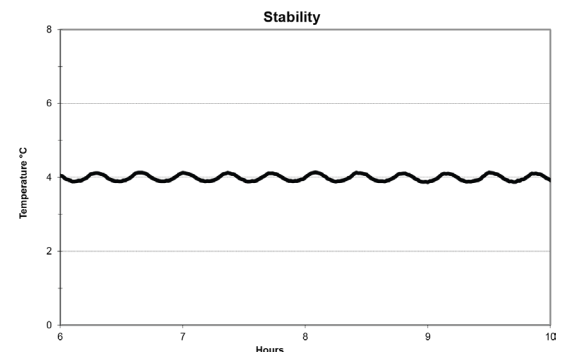
Dimensions and Construction

Interior (w x h x d)	54.7 x 58.1 x 31.8 in | 1390 x 1476 x 809 mm
Exterior (w x h x d)	59 x 79.6 x 35.8 in | 1499 x 2021 x 1014 mm
Overall Exterior (w x h x d)	59 x 79.6 x 40.9 in | 1499 x 2021 x 1038 mm * includes handles
Insulation	Sustainable, US EPA, and SNAP approved foam
Exterior/Interior Finish	Bacteria-resistant powder-coating
Trim/Skirt Kit Details (sold separately)	Trim kit - side rails 3 x 81.8 in | 77 x 2078 mm; top rail 3 x 65 in | 77 x 1651 mm; Bacteria-resistant powder-coating; 1 kit per side needed Skirt kit - 2.7 x 58.9 in | 67 x 1495 mm; Clean room side only; Bacteria-resistant powder-coating
Door	4, dual-pane glass
Access Port	Top Access Port- for external monitoring probe(s) (0.75 in | 19 mm diameter) Left Sidewall Port - with interior and exterior plugs (1.75 in | 45 mm diameter)
Interior Storage (w x h x d)	12 liquid-tight, stainless steel, 2-way drawers, adjustable 21.5 x 4.1 x 26.9 in | 547 x 104 x 683 mm, 100 lb | 46 kg max capacity/drawer
Casters	Yes, swivel-locking
Net Weight	913 lb | 414 kg
Shipping Weight	1049 lb | 476 kg
Clearance Requirements	Minimum of 8" (203mm) above the control side of the refrigerator. Clearance above the solid cover on the clean room side may be 0".
Options | Accessories	Chart Recorder, Chart Paper, Skirt Kit, Wall Trim Kit, Ventilated Shelves, Bridge Shelves, Liquid-tight Drawers, Storage Tray Package, Drawer Dividers, Solid Ballast, Solid Door, Remote Alarms, Floor Bracket Kit, Stainless Steel Interior, Screen Protector, USB Flash Drive, Side Wall Access Ports, Temperature Validation, Certificate of Calibration, Validation Guide (IQ/OQ), Extended Warranty
Warranty	Rel.i™ Plus Warranty- 7 years compressor, 2 years parts, 1 year labor Outside US and Canada - Contact your distributor for warranty information

Pass-Thru Placement for Building-in

When placing a pass-thru refrigerator between two rooms, size the opening to fit the width of the cabinet. From front to back, the flange between the top covers indicates the separation between the clean room and ante-room (control) sides. The refrigerator should be positioned so that the wall header is over the solid cover, but not over the flange or the blue bezel. A minimum overhead clearance of 8" (204mm) is required on the ante-room side of the cabinet. Zero clearance is required above the clean room side, as well as on the left and right sides of the cabinet.
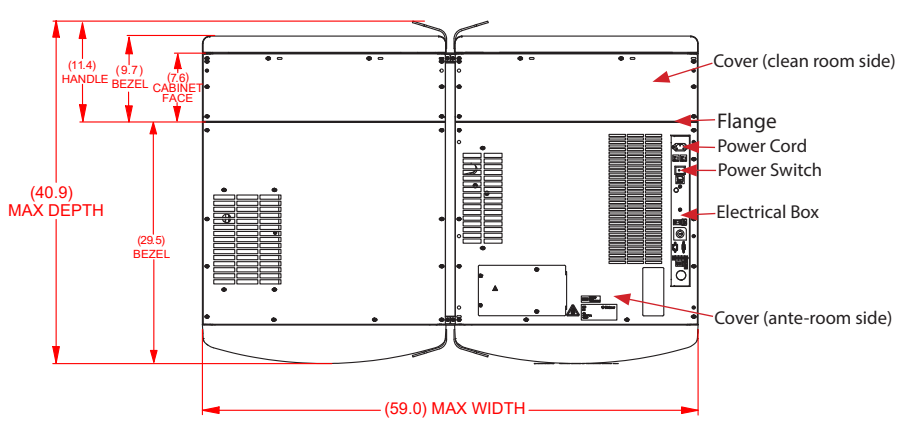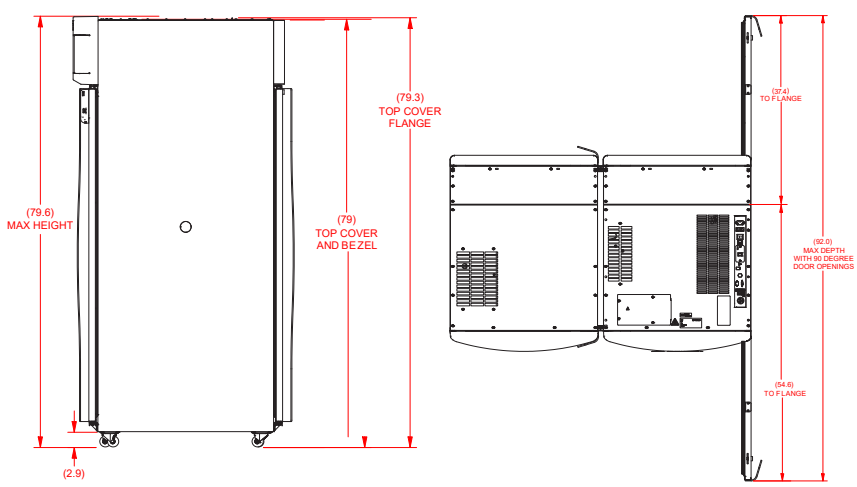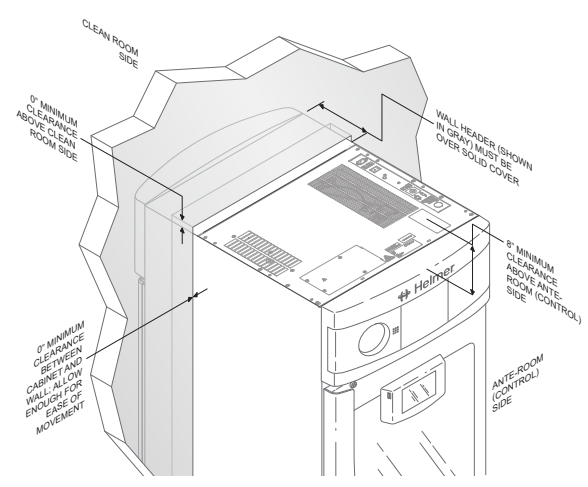

Ante-room   Clean Room
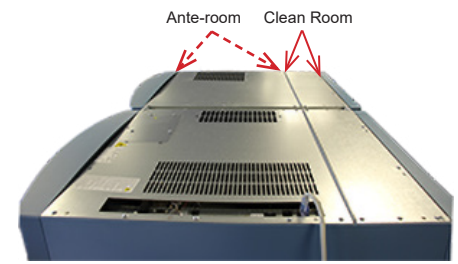
NOTICE

If adding Trim and/or Skirt kit(s) to the unit(s), kit dimensions must be considered prior to building-in.

(79.6) MAX HEIGHT
(79.3) TOP COVER FLANGE
(79) TOP COVER AND BEZEL
(2.9)
(37.4) TO FLANGE
(92.0) MAX DEPTH WITH 90 DEGREE DOOR OPENINGS
(34.6) TO FLANGE

Wall Header Placement and Required Clearances
Shown from ante-room (control) side. Appearance may vary.

CLEAN ROOM SIDE
0" MINIMUM CLEARANCE ABOVE CLEAN ROOM SIDE
WALL HEADER (SHOWN IN GRAY) MUST BE OVER SOLID COVER
8" MINIMUM CLEARANCE ABOVE ANTE-ROOM SIDE (CONTROL)
0" MINIMUM CLEARANCE BETWEEN CABINET AND WALL; ALLOW ENOUGH FOR EASE OF MOVEMENT
ANTE-ROOM (CONTROL) SIDE

(11.4) HANDLE
(9.7) BEZEL
(7.6) CABINET FACE
(40.9) MAX DEPTH
(29.5) BEZEL
(59.0) MAX WIDTH

Cover (clean room side)
Flange
Power Cord
Power Switch
Electrical Box
Cover (ante-room side)

Optional Trim Kit and Skirt Kit Placement
Shown from clean room side. Appearance may vary.
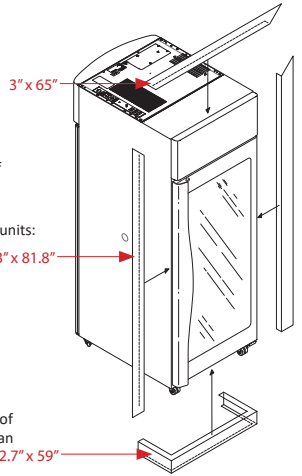
Trim Kit
Attaches to the wall around cabinet. Top piece extends across full width of unit; may be installed on the clean room or ante-room side.

Clearance needed between adjacent units:
- 6.2" for full access to both units with trim around each unit
- 5.0" for full access to both units with trim around one unit
- 2.5" for full access to one unit with no trim installed.

Skirt Kit
Attaches to the underside of cabinet. Front piece extends across full width of unit; may only be installed on the clean room side.

3" x 65"
3" x 81.8"
2.7" x 59"

ISO 13485 SGS

RoHS COMPLIANT

CE 2797