Product Data Sheet
16 Cu. Ft. Laboratory Refrigerator and Freezer Combo Unit

LRP-HC-RFC-16A

Product Description

These Laboratory refrigerator and freezer combination units are designed with a variable speed compressor to deliver unparalleled temperature control. Safeguard your samples with superior temperature uniformity and recovery, even after frequent door openings. Monitor your laboratory equipment though intuitive digital displays and protective alarms. Champion sustainability with natural hydrocarbon refrigerants—which not only contribute to energy savings, but also foster a greener laboratory footprint. Elevate your laboratory cooling experience with an integrated solution that brings together innovation, performance, and precision.

Images

Certifications

General Description and Application

Storage capacity (cu. ft)	13 Cu. Ft. Refrigerator / 3 Cu. Ft. Freezer
Door	Double Swing Solid Right Hinged Doors
Shelves (Frg/Frz)	3 adjustable, vented stainless steel shelves refrigerator / 1 fixed shelf freezer
Drawers (Frg/Frz)	Non-applicable
Mounting and Installation	Leveling Legs
Interior lighting	12V LED light bar (Refrigerator)
Airflow Management (Refrigerator)	Forced draft air circulation (Refrigerator)
External probe access	Probe access port (3/4") dia., 2 ea. (1 for Refrigerator/1 for Freezer)
Insulation	Cabinet is foamed-in-place with EPA compliant high density urethane foam
Exterior materials	Bioscience Grey powder coated canopy, white textured chamber exterior
Access control	Keyed door lock
General warranty	Two (2) years parts and labor warranty
Compressor warranty	Seven (7) years compressor warranty
Product Weight (lbs)	262
Shipping Weight (lbs)	292
Rated Amperage	3 Amps
Power Plug/Power Cord	NEMA 5-15 Plug
Facility Electrical Requirement	110-120V AC: 15 A (minimum)
Agency Listing and Certification	ETL, C-ETL listed and certified to UL 471 Standard for Commercial Refrigerators and Freezers and CSA C22.2#120 Refrigeration Equipment

Performance

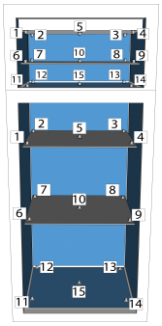
Refrigerator Uniformity[1] (Cabinet air)	+/-0.22°C
Refrigerator Stability[2] (Cabinet air)	±0.48°C
Refrigerator Maximum temperature variation (Cabinet air)	±0.71°C
Freezer Uniformity[1] (Cabinet air)	±0.69°C
Freezer Stability[2] (Cabinet air)	±1.14°C
Freezer Maximum temperature variation (Cabinet air)	±1.95°C
Energy Consumption (KWh/day)	3.73
Average Heat Rejection (BTU/hr)	5.25
Average Heat Rejection (BTU/hr)	746
Noise Pressure Level (dBA)	48 or less installed
Pull down time to nominal operating temp (Frg/Frz)	40 min / 165 min

Frg Temperature Probes [1, 2]

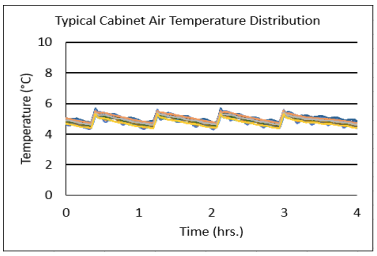
Probe	Ave	Min	Max
1	4.8	5.6	4.3
2	4.8	5.5	4.4
3	4.9	5.4	4.4
4	4.9	5.5	4.5
5	4.8	5.3	4.5
6	4.7	5.4	4.4
7	5.1	5.5	4.7
8	5.0	5.5	4.7
9	4.9	5.5	4.4
10	4.9	5.4	4.5
11	5.1	5.7	4.7
12	4.9	5.6	4.6
13	5.1	5.6	4.7
14	5.1	5.6	4.7
15	5.0	5.4	4.6
Bal	N/A	N/A	N/A
Bag	N/A	N/A	N/A

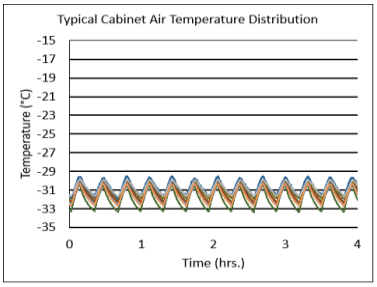
Frz Temperature Probes [1, 2]

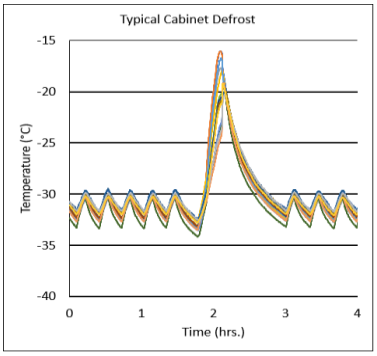
Probe	Ave	Min	Max
1	-30.7	-29.5	-32.1
2	-31.3	-30.0	-32.6
3	-31.6	-30.5	-32.7
4	-31.4	-30.3	-32.5
5	-31.5	-30.3	-32.6
6	-31.0	-30.0	-32.0
7	-31.3	-30.2	-32.3
8	-31.3	-30.2	-32.4
9	-31.0	-30.0	-32.0
10	-30.9	-29.9	-31.9
11	-30.7	-29.9	-31.9
12	-32.0	-30.4	-33.4
13	-31.5	-30.3	-32.7
14	-31.6	-30.3	-32.7
15	-30.8	-29.9	-31.7
Bal	N/A	N/A	N/A
Bag	N/A	N/A	N/A



Temperature Charts [4]







Notes on Performance Data: Performance data acquired at 22°C ambient, 5°C/-33°C nominal set points in an empty cabinet with shelves using air probes, during stabilized steady state operation and a DAQ sampling rate of one measurement every 10 seconds

1 - Uniformity is defined as the maximum variance in temperature across all probes at any point in time over the testing period

2 - Stability is defined as the maximum variance in temperature experienced by any single probe over the testing period

3 - Data per Energy Star test results or equivalent testing and calculation. Heat rejection based on daily averages, not continuous operation. Performance exceeds Energy Star requirements.

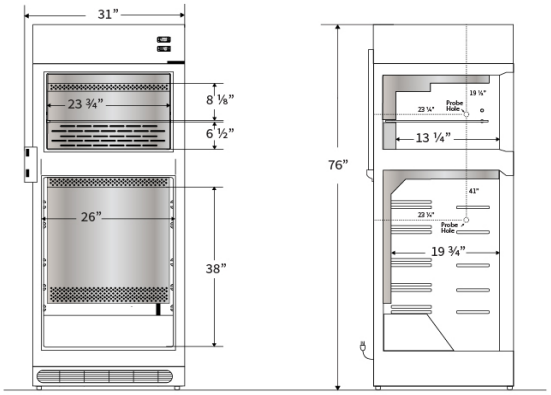
4- Charts are representative of the product and actual performance may vary slightly

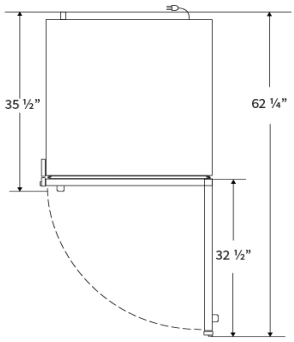
Refrigeration System	
Compressor	Variable speed (VSC), Refrigerator. Rated speed range: 1300-4000 rpm
Refrigerant	R600a
Condenser	Anti-fouling tube and grid design
Evaporator	Fin and tube design, high efficiency fan
Defrost (Refrigerator/Freezer)	Cycle Optimized Zero-Energy / Auto Defrost

Controller, Configuration, Alarms and Monitoring	
Controller technology	Individual XRi77CH microprocessor temperature controllers for both the refrigerator and freezer with digital temperature display, °C/°F switchable
Battery Backup	12V high-capacity battery, controller, all alarms active, temperature monitoring DAQ and event logging active on battery backup
Display technology	Bi-Colored LED display and alarm module with .1°C resolution, touchpad controls, resettable 1-point min/max history
Digital Communication	RS-485 (MODBUS)
Chart Recorder	Non-applicable
Adjustable Temperature Range (Refrigerator)	1°C to 10°C
Adjustable Temperature Range (Freezer)	-35°C to -15°C
External alarm connection	State switching remote alarm contacts
Alarms	Audible and visual high and low temperature alarms, refrigerator and freezer, 36 hour battery back-up on alarms, high/low temperature & loss of power, remote alarm contacts, door alarm
Controller probe	2 probes for each chamber; 1 in air and 1 in sample bottle
Disclaimer*	Notes on Performance Data: Performance data acquired at 22°C ambient, 5°C/-33°C nominal set points in an empty cabinet with shelves using air probes, during stabilized steady state operation and a DAQ sampling rate of one measurement every 10 seconds 1 - Uniformity is defined as the maximum variance in temperature across all probes at any point in time over the testing period 2 - Stability is defined as the maximum variance in temperature experienced by any single probe over the testing period 3 - Data per Energy Star test results or equivalent testing and calculation. Heat rejection based on daily averages, not continuous operation. Performance exceeds Energy Star requirements. 4- Charts are representative of the product and actual performance may vary slightly

Dimensions

	Width (in.)	Depth (in.)	Height (in.)	Door Swing (in.)	Total open Depth (in.)
Exterior	31''	35 1/2''	76''	32 1/2''	62 1/4''
Interior	Top 23 3/4 - Bottom 26''	Top 13 1/4 Bottom 19 3/4''	52 5/8''		





Contact		
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