



# REF20 Upright

laboratory and pharmacy refrigerators

## Features

Powerful refrigeration system and superior plenum air distribution

- modular refrigeration system with microprocessor controller provides a  $\pm 1$  C (1.8 F) performance throughout
- industry-exclusive plenum air distribution delivers cold air at six different levels
- auto-evaporating condensate

User-friendly interface

- 7" LCD capacitive touchscreen digital temperature display available in user-programmable C or F
- integral event and data logging with easy downloading via convenient USB port

Protection for your valuable products

- audible and visual high/low temperature, door open, power failure, low battery alarms
- dry contacts for remote alarming

Full stainless steel cabinet and high quality components

- full stainless steel interior and exterior provide resistance to rust and corrosion
- quick-connect RTD product temperature probe easily accessible inside storage cabinet
- dished stainless floor contains spills for easy clean up
- heavy-duty dual casters roll easily and lock securely
- 2.75" (6.98 cm) of CARB compliant non-HFC foam throughout
- four heavy-duty epoxy-coated shelves standard on LB models, six baskets standard on PH models

Heavy-duty door for ease of use and energy savings

- dual-pane glass door with ADA-compliant full length locking handle
- energy efficient low-E glass coating to reduce energy loss by 30 - 50% compared to non-coated glass
- glass remains condensation-free to 27 C (80 F) at 60% RH and eliminates need for heated doors in most applications
- self-closing hinges lock open at 90 degrees for easy product loading

Cool, energy-efficient LED lights

- full length LED light bars illuminate all shelves or baskets
- instant-on LEDs eliminate delay of fluorescent lights and deliver longer life
- energy-efficient LEDs allow products to be placed next to lights
- auto-on with door opening; ON/OFF front panel switch

Model configurations					
Storage system	Hinging	Heated door	Keypad	Door style	Item number
4 shelves	right	yes	yes	glass	REF20-LB-RHTKPG
4 shelves	right	yes	no	glass	REF20-LB-RHT00G
4 shelves	right	no	yes	glass	REF20-LB-R00KPG
4 shelves	right	no	yes	stainless steel	REF20-LB-R00KPS
4 shelves	right	no	no	glass	REF20-LB-R0000G
4 shelves	right	no	no	stainless steel	REF20-LB-R0000S
4 shelves	left	yes	yes	glass	REF20-LB-LHTKPG
4 shelves	left	yes	no	glass	REF20-LB-LHT00G
4 shelves	left	no	yes	glass	REF20-LB-L00KPG
4 shelves	left	no	yes	stainless steel	REF20-LB-L00KPS
4 shelves	left	no	no	glass	REF20-LB-L0000G
4 shelves	left	no	no	stainless steel	REF20-LB-L0000S
6 baskets	right	yes	yes	glass	REF20-PH-RHTKPG
6 baskets	right	yes	no	glass	REF20-PH-RHT00G
6 baskets	right	no	yes	glass	REF20-PH-R00KPG
6 baskets	right	no	yes	stainless steel	REF20-PH-R00KPS
6 baskets	right	no	no	glass	REF20-PH-R0000G
6 baskets	right	no	no	stainless steel	REF20-PH-R0000S
6 baskets	left	yes	yes	glass	REF20-PH-LHTKPG
6 baskets	left	yes	no	glass	REF20-PH-LHT00G
6 baskets	left	no	yes	glass	REF20-PH-L00KPG
6 baskets	left	no	yes	stainless steel	REF20-PH-L00KPS
6 baskets	left	no	no	glass	REF20-PH-L0000G
6 baskets	left	no	no	stainless steel	REF20-PH-L0000S

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## Features (continued)

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### Warranty

- 2 year parts and labor
  - 5 year compressor parts only
  - optional extended one year warranty (item# EW12)
    - 3 year parts and labor
    - 5 year compressor parts only
  - optional extended three year warranty (item# EW36)
    - 5 year parts and labor
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### Certifications



Commercial Refrigerator  
SAFETY US/CA – SA12646

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## Factory-installed options

- Left-hinged door, facing unit (right-hinged door standard)
  - Integral keypad and electronic locking system with keyed access manual override
  - Solid stainless steel door with 2.60" (6.60 cm) thick insulation and ADA-compliant full-length locking handle (full-length glass door standard)
  - Heated glass door and frame (recommended for ambients above 27 C (80 F), 60% RH) (glass door only)
- NOTE: Factory-installed options must be specified at time of order – for details contact factory or your local sales representative.
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## Accessories

- Replacement CRS (Complete Refrigeration System) module. 2 years parts, 5 years compressor parts, 2 years labor warranty. (item# 00939785)
  - Additional shelves (2), REF20-LB (item# 00927251)
  - Replacement "quick-connect" RTD probe with certificate of NIST-traceable calibration (item# 01140458)
  - Pyxis® compatible door bracket (item# 00927202)
  - Omniceil® compatible door bracket (item# 00966432)
  - medDISPENSE® compatible door bracket (item# 00978296)
  - Glycerine, 16 oz (item# 00959296)
  - Additional key for glass door (item# 00945436)
  - Additional key for solid door (item# 01035013)
  - Wall bracket kit, seismic anchoring (item# 00927194)
- NOTE: Accessories ship separately.
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Touchscreen display



Heavy-duty epoxy coated shelves on LB models



"Floating" basket system on PH models



## Specification

Nominal capacity	19.7 cu ft
Ventilation clearance	10.00" (25.4 cm) top, 2.00" (5.08 cm) back

### Exterior

<b>W1</b> Width	29.75" (75.6 cm)
<b>D1</b> Depth with handle	30.50" (77.5 cm)
<b>H1</b> Height with casters	79.50" (201.9 cm)
Casters	(4) swiveling dual wheel casters with toe locks
<b>D2</b> Door swing	56.50" (143.5 cm)

### Interior

Height	55.94" (142.1 cm)
Lighting	(2) energy efficient full length LED lights
Storage system	(4) full, epoxy-coated shelves, adjustable in 1/2" (1.27 cm) increments on LB models, (6) full extension, epoxy-coated baskets on PH models
Shelf dimensions (LB models)	23.38" W x 19.50" D (59.4 cm x 49.5 cm)
Overall basket dimensions (PH models)	23.50" W x 20.00" D x 6.38" H (59.7 x 50.8 x 16.21 cm)
Inside basket dimensions (PH models)	21.75" W x 19.25" D x 5.88" H (55.2 x 48.9 x 14.94 cm)
Space between baskets (PH models)	8.00" (20.32 cm)
Working load rating per shelf or basket	59 lb (27 kg)
Max. load rating per shelf or basket	88 lb (40 kg)

### Door configurations

Door	dual-pane glass door or solid stainless steel
Door lock	cylinder type with one key
Door handle	ADA-compliant, full length handle
Door hinges	torsion rod self-closing with 90° hold open feature
Gasket	magnetic dart style (replaceable)

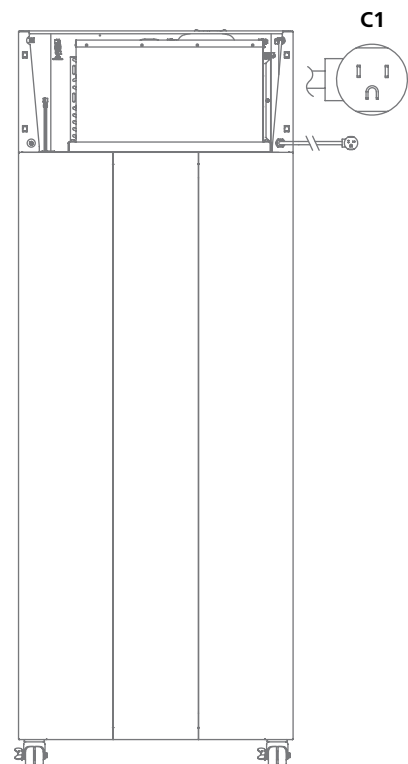
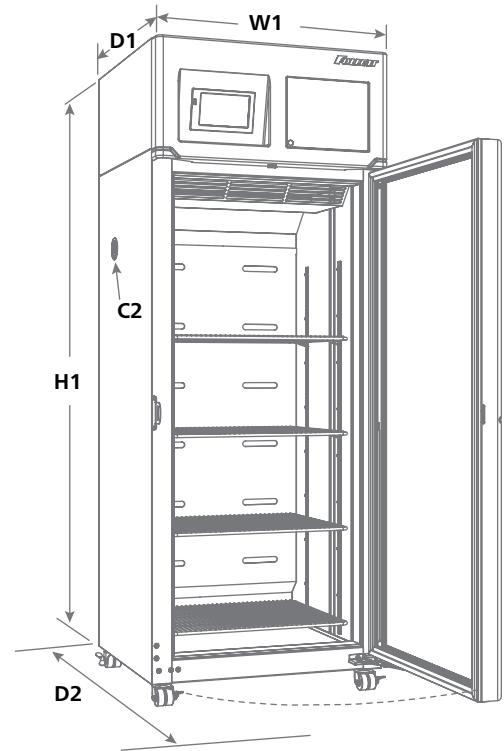
### Electrical

<b>C1</b> Electrical	10.6 run load amps, NEMA 5-15 90° hospital-grade plug. 9' (2.7 m) cord.
Maximum size of branch circuit overcurrent device	15 amps dedicated circuit

### Controls

Temperature display	7" LCD capacitive touchscreen digital temperature display available in user-programmable C or F
<b>C2</b> 3rd party probe access	soft access port on left side of cabinet
Product temperature display probe	(1) quick-connect RTD ( $\pm 0.4$ C, $\pm 0.7$ F)
Temperature probe calibration	top probe calibration in 0.1° increments
Password protection PIN	4 digit password to prevent interface setting/selection changes
Date and time	programmable
Product simulation bottle size	(1) 125 ml

## Dimensional drawing



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Refrigeration and defrost probes	NTC thermistor type
Refrigeration cycle with probe error	factory set at 4 min on, 8 off, user adjustable
Programmable operating range	2.2 to 10 C (36 to 50 F)
Factory preset	4.4 C

### Alarming

High and low product temperature alarm	audible and visual, user programmable set points in C or F
Power failure alarm	audible and visual
Door ajar alarm	audible and visual
Probe error alarm	audible and visual – product temperature probes, refrigeration and defrost
Alarm mute	10 minute ring-back
Alarm volume	0-10 scale
Low battery alert	audible and visual
Back-up battery status	shows voltage level
Min/max temperature log	shows highest and lowest product temperature since last reset occurred
Remote contacts	NO/NC standard, located behind front panel

### Data logging

Information log	graphs or displays temperature data and displays chronological event data (50,000 data points)
Data export	USB export capabilities

### System performance

Top-to-bottom temperature consistency	± 1 C (1.8 F)
Refrigeration system	integral top-mounted module with 1/3 hp compressor and air-cooled condenser
Refrigerant and charge	non-CFC R134a refrigerant, 11.4 oz
Air circulation system	ducted air to each storage level through back plenum openings, front face return
Air temperature pull down	24 to 5 C (75 to 41 F) in 30 minutes
Product simulation bottle temperature pull down	24 to 5 C (75 to 41 F) in 120 minutes
Energy consumption	5.4 kWh/day (auto-off defrost)
BTU/hr normal heat rejection, includes duty cycle (75 F ambient)	955 BTU/hr (280 Watts)
BTU/hr maximum (total) heat rejection, continuous operation (75 F ambient)	3185 BTU/hr (933 Watts)

### Shipping

Shipping size	42.00" W x 43.00" D x 86.00" H (106.7 x 109.2 x 218.4 cm)
Approximate refrigeration module net weight	62 lb (28 kg)
Approximate net weight	REF20-LB models – 290 lb (132 kg) REF20-PH models – 380 lb (172 kg)
Approximate ship weight	REF20-LB models – 410 lb (186 kg) REF20-PH models – 473 lb (215 kg)

NOTE: For indoor use only

SHORT FORM SPECIFICATION: Upright refrigerator with 19.7 cu ft of nominal capacity. To include (choose one ) \_\_\_\_ (4) full, epoxy-coated shelves, adjustable in 1/2" (1.27 cm) increments or \_\_\_\_ 6 full extension, epoxy-coated "floating" baskets. Environmentally responsible R134a refrigeration system to include an integral top-mounted module with 1/3 hp compressor and air-cooled condenser. 7" LCD capacitive touchscreen with user selectable C or F. Event and data logging with USB download capability. Air circulation system to duct air through back plenum openings with front face return. Storage area to be insulated with CARB compliant non-HFC foam. 9' (2.7 m) power cord with NEMA 5-15 90° hospital-grade plug. UL listed.

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