## Model
### i.Series® iUF116 Upright Ultra-Low Temperature Freezer

## Specifications

### Application, Rating and Electrical Data

| | |
|---|---|
| Application | Storage of biological samples |
| Storage Volume | 16cf (453L) |
| Storage Capacity | 320 standard 2" (51mm) boxes |
| Temperature Range | -50°C to -86°C @ 32°C (90°F) Ambient |
| Electrical Power | 208/230V 60Hz, 1 Phase |
| Maximum Current | 11 FLA |
| Auto-Voltage Safeguard | Optional boost system |
| Building Supply Rating | 15 amp dedicated ground circuit |
| Power Plug / Power Cord Length | NEMA 6-15 plug, 7.5ft (2286mm) |
| Certification / Agency Listing | QPS |
| Sound Pressure Level (dBA) | <70 dB |
| Indoor/Outdoor Use | Indoor use only |
| Application Environment | Non-corrosive, non-flammable, non-explosive, 15°C to 32°C (59°F to 90°F) |
| Lifetime of Product | 10 years |

### Refrigeration System

| | |
|---|---|
| Refrigeration System | Two Stage Cascade System |
| Compressor / Number | 1.5 HP hermetic / 2 |
| Condenser Type / Number | Air-cooled fin and tube / 1 |
| Expansion Device | TXV valve - high stage<br>Cap tube - low stage |
| Evaporator Type | Split, cold wall |
| Defrost Method | Manual |
| Refrigerant Charge | R601 natural refrigerant - low stage<br>R508B nonflammable CFC/HCFC-free - low stage<br>R404A nonflammable CFC/HCFC-free - high stage |

### Performance Data

| | |
|---|---|
| Energy Consumption | 18.5 kWhr/day at -80°C Setpoint |
| Uniformity | +/-5°C at -80°C Setpoint |

### Warranty

| | |
|---|---|
| Rel.i™ (US/Canada) | 5 years compressor, 2 years parts and labor |
| Outside US/Cnada | Consult your local representative |

### Controller

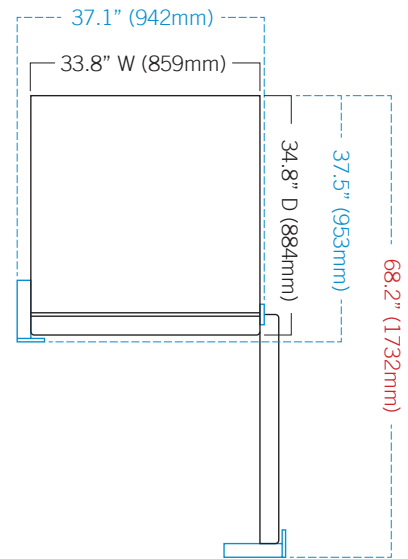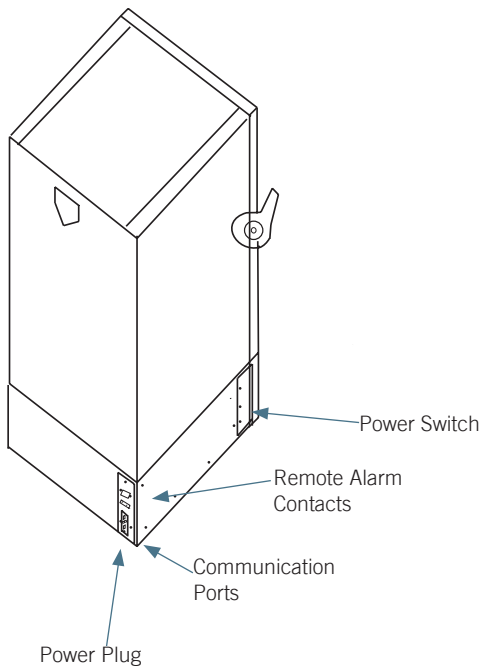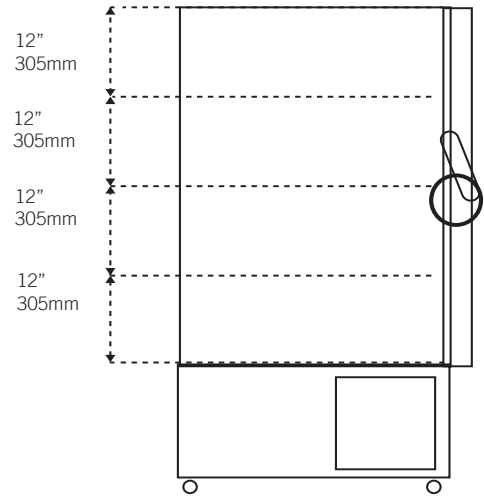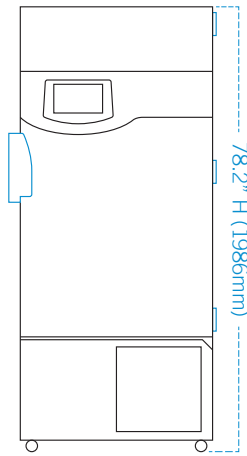| | |
|---|---|
| Interface | i.C³®, eye-level, color touchscreen |
| Power Switch | On/Off with circuit breaker |
| Controller Type | Microprocessor with touchscreen input and display. Includes USB hub for data retrieval. |
| Security | Lockable door, PIN access control, password setpoints, padlock hasp |
| Compressor Safeguard | High ambient temperature warning, compressor and condenser over-temperature alarms |
| Control Sensor | RTD (Platinum) (1 ea) |
| Communication Ports | (1) RS232 Port (rear) and (1) USB Port (side of door-mounted user interface) |
| Warm / Cold Alarms | Fully adjustable |
| Event Log | All alarms, door openings, download via USB |
| Temperature Log | 60 days, download via USB |
| Access Log | 60 days, download via USB |
| Battery Back-up | 20 hour display and alarm battery back-up for i.C³® touchscreen (12V, lead acid battery) |

### Dimensions and Construction

| | |
|---|---|
| Interior (w x h x d) in (mm) | 23.1 x 49.5 x 23.3 / (587 x 1257 x 592) |
| Exterior (w x h x d) in (mm) | 33.8 x 78.2 x 34.8 / (859 x 1986 x 884) |
| Exterior (w x h x d) in (mm) (Inc. handle, casters, hinges) | 37.1 x 78.2 x 37.5 / (942 x 1986 x 953)<br>Fits through standard 36" (914mm) doorway |
| Insulation | 5" (127mm) Ecomate®, non HFC |
| Door | 1, solid |
| Access Ports | 2, external |
| Perimeter Heater | Hot gas loop |
| Compartments & Inner Doors Shelves / Capacity | 4<br>3 adjustable stainless steel / 160 lb (73 kg) max cap. |
| Casters / Legs | Standard / swivel, locking plus leveling legs |
| Net Weight | 607 lb (275 kg) |
| Shipping Weight | 701 lb (318 kg) |
| Options / Accessories | Chart Recorder, LN2 and CO2 back-up systems, -70°C factory preset, voltage boost system |
| Clearance Requirements | Allow 4" (102mm) behind unit<br>Allow 8" (203mm) above unit |

bsi. ISO 13485 Medical Devices Quality Management
FM 536286

12"
305mm

12"
305mm

12"
305mm

12"
305mm

78.2" H (1986mm)

37.1" (942mm)

33.8" W (859mm)

34.8" D (884mm)

37.5" (953mm)

68.2" (1732mm)

Power Switch

Remote Alarm Contacts

Communication Ports

Power Plug

**Helmer**
S C I E N T I F I C