

# Freezer Operation Manual

## i.Series® and Horizon Series™



Model Group	i.Series	Horizon Series
Plasma Storage	iPF120-4, iPF120-8, iPF125-4, iPF125-8	HPF120-4, HPF120-8, HPF125-4, HPF125-8
	iHPPF120-4, iHPPF120-8, iHPPF125-4, iHPPF125-8	HHPF120-4, HHPF120-8, HHPF125-4, HHPF125-8
Laboratory	iLF120, iLF125	HLF120, HLF125

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## Document History

Revision	Date	CO	Supersession	Revision Description
M	02 MAY 2014*	9415	M supersedes A, B, C, D, E, F, G, H, I, J, K, L	Revised layout for ease of navigation and locating information.

\* Date submitted for Change Order review. Actual release date may vary.

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# Section I: General Information

## 1 About this Manual

### 1.1 Intended Audience

This manual is intended for use by end users of the freezer and authorized service technicians.

### 1.2 Model References

Generic references are used throughout this manual to group models that contain similar features. For example, “125 models” refers to all models of that size (iPF125-4, iPF125-8, iHPF125-4, iHPF125-8, HPF125-4, HPF125-8, HHPF125-4, HHPF125-8, iLF125, HLF125). This manual covers all upright freezers, which may be identified singly, by their size, or by their respective “Series.”

### 1.3 Copyright and Trademark

Helmer®, i.Series®, i.Center®, Horizon Series™, and Rel.i™ are registered trademarks or trademarks of Helmer, Inc. in the United States of America. Copyright © 2014 Helmer, Inc. All other trademarks and registered trademarks are the property of their respective owners.

Helmer, Inc., doing business as (DBA) Helmer Scientific and Helmer.

## 2 Safety

The operator or technician performing maintenance or service on Helmer Scientific products must (a) inspect the product for abnormal wear and damage, (b) choose a repair procedure which will not endanger his/her safety, the safety of others, the product, or the safe operation of the product, and (c) fully inspect and test the product to ensure the maintenance or service has been performed properly.

### 2.1 Safety Definitions

The following general safety alerts appear with all safety statements within this manual. Read and abide by the safety statement that accompanies the safety alert symbol.



**WARNING** The safety statement that follows this safety alert symbol indicates a hazardous situation which, if not avoided, could result in serious injury.



**CAUTION** The safety statement that follows this safety alert symbol indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



**NOTICE** The safety statement that follows this safety alert symbol indicates a situation which, if not avoided, could result in damage to the product or stored inventory.

## 2.2 Product Labels



Caution: Risk of damage to equipment or danger to operator



Caution: Hot surface



Caution: Shock/electrical hazard



Caution: Unlock all casters



Earth / ground terminal



Protective earth / ground terminal

## 2.3 Avoiding Injury

- ▶ Review safety instructions before installing, using, or maintaining the equipment.
- ▶ Before moving unit, ensure door is closed and casters are unlocked and free of debris.
- ▶ Before moving unit, disconnect the AC power cord and secure the cord.
- ▶ Never physically restrict any moving component.
- ▶ Avoid removing electrical service panels and access panels unless so instructed.
- ▶ Keep hands away from pinch points when closing the door.
- ▶ Avoid sharp edges when working inside the electrical compartment and refrigeration compartment.
- ▶ Ensure biological materials are stored at recommended temperatures determined by standards, literature, or good laboratory practices.
- ▶ Proceed with caution when adding and removing samples from the freezer.
- ▶ Use supplied power cord only.
- ▶ Using the equipment in a manner not specified by Helmer Scientific may impair the protection provided by the equipment.
- ▶ Decontaminate parts prior to sending for service or repair. Contact Helmer Scientific or your distributor for decontamination instructions and a Return Authorization Number.
- ▶ Ensure biological materials are stored safely, in accordance with all applicable organizational, regulatory, and legal requirements.
- ▶ The freezer is not considered to be a storage cabinet for flammable or hazardous materials.

## 3 General Recommendations

### 3.1 Intended Use

Helmer freezers are intended for the storage of blood products and other medical and scientific products.

### 3.2 General Use

Allow freezer to come to room temperature before powering on.

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**NOTE** During initial startup, high temperature alarm may activate while freezer reaches operating temperature.

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### 3.3 Initial Loading

Allow chamber temperature to stabilize at the setpoint before storing product.

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**NOTE** Do not overload top drawer, basket, or shelf such that airflow from the unit cooler is obstructed.

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**4 Specifications**

	120	120-4	120-8	125	125-4	125-8
<b>Exterior Dimensions <sup>(1)</sup></b>						
Width	30.75" (781 mm)					
Height	80.00" (2032 mm)					
Depth	32.50" (826 mm)			38.50" (978 mm)		
<b>Physical</b>						
Weight (iPF, HPF, iHPF, HHPF)	-	483 lbs (219 kg)	499 lbs (227 kg)	-	531 lbs (241 kg)	551 lbs (250 kg)
Weight (iLF, HLF)	437 lbs (199 kg)	-	-	475 lbs (216 kg)	-	-
Interior Volume	20.2 ft <sup>3</sup> / 572 L			25.2 ft <sup>3</sup> / 714 L		
<b>Refrigeration System</b>						
Refrigerant	R-404A (non-CFC)					
Compressor	1.25 HP, air-cooled					
Initial Charge	29.0 oz. (822 g)					
<b>Operational</b>						
Default Set Point	-30 °C (-22 °F)					
Temperature Control Range	-15 °C to -30 °C (5 °F to -22 °F)					
<b>Cabinet</b>						
Insulation	High-density, non-CFC foam					
Wall Thickness	2" (51 mm)					
Door Thickness	2" (51 mm)					
External Material	Galvanized steel with bacteria-resistant powder-coated finish					
Internal Material	iPF, iHPF, iLF models: Stainless steel HPF, HHPF, HLF models: Galvanized steel with bacteria-resistant powder-coated finish					
Drawer, Shelf, or Basket Load	100 lbs (46 kg)					
External Top Port	1 standard					
Temperature Chart Recorder	4" (102 mm) 7-day inkless, pressure-sensitive chart paper, backup battery; standard on plasma storage models; optional on laboratory models					
<b>Interior Configuration</b>						
iPF, HPF, iHPF, HHPF <sup>(2)</sup>	-	4 drawers, 4 shelves	8 drawers	-	4 drawers, 4 shelves	8 drawers
iLF, HLF	4 shelves	-	-	4 shelves	-	-
<b>Electrical</b>						
Input Voltage and Frequency	230 V (50 Hz); 208/230 V (60 Hz)					
Voltage Tolerance	±10%					
Circuit Breakers	12 A (quantity 2)					
Power Consumption	4.3 A					
Power Source	Grounded outlet, meeting national electric code (NEC) and local electrical requirements					

(1) Includes features that protrude from the cabinet.

(2) Models with the "-4" designation include four drawers and four shelves. Models with the "-8" designation include eight drawers.

	120	120-4	120-8	125	125-4	125-8
<b>Control and Monitoring</b>						
<b>Interface</b>	iPF, HPF, iLF, iHPF models: Monitoring and display system; separate temperature control system HLF, HHPF models: Temperature control and display system					
<b>Alarms</b>	<ul style="list-style-type: none"> <li>▶ iPF, iLF, iHPF models: High and condenser temperature; door open; AC power failure; no battery; probe failure; change chart paper</li> <li>▶ HPF, HLF, HHPF models: High temperature; door open; AC power failure</li> </ul>					
<b>Remote Alarm Interface</b>	Dry contacts (standard)					
<b>Remote Alarm Capacity</b>	<ul style="list-style-type: none"> <li>▶ iPF, HPF, iLF, iHPF models: 0.5 A at 30 V (RMS); 1.0 A at 24 V (DC)</li> <li>▶ HLF, HHPF models: 0.25 A at 30 V (RMS); 0.25 A at 60 V (DC)</li> </ul>					
<b>Environmental</b>						
<b>Operating Standards</b>	<ul style="list-style-type: none"> <li>▶ Indoor use only</li> <li>▶ Altitude (maximum): 2000 m</li> <li>▶ Ambient temperature range: 15 °C to 32 °C</li> <li>▶ Relative humidity (maximum for ambient temperature): 80% for temperatures up to 31 °C, decreasing linearly to 50% at 40 °C</li> </ul>					



**CAUTION**

- ▶ The interface on the remote alarm monitoring system is intended for connection to the end user's central alarm system(s) that uses normally-open or normally-closed dry contacts.
- ▶ If an external power supply exceeding 30 V (RMS) or 60 V (DC) is connected to the remote alarm monitoring system's circuit, the remote alarm will not function properly; may be damaged; or may result in injury to the user.

**NOTE** In the event of a power failure, the power failure alarm condition is transmitted through the remote alarm contacts.

## 5 Compliance

### 5.1 Regulatory Compliance

This device complies with the requirements of directive 93/42/EEC concerning Medical Devices, as amended by 2007/47/EC.

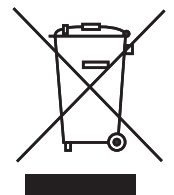
Sound level is less than 70 dB(A).



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### 5.2 WEEE Compliance

The WEEE (waste electrical and electronic equipment) symbol (right) indicates compliance with European Union Directive WEEE 2002/96/EC and applicable provisions. The directive sets requirements for the labeling and disposal of certain products in affected countries.



When disposing of this product in countries affected by this directive:

- ▶ Do not dispose of this product as unsorted municipal waste.
- ▶ Collect this product separately.
- ▶ Use the collection and return systems available locally.

For more information on the return, recovery, or recycling of this product, contact your local distributor.



**6 Installation**

**6.1 Location Requirements**

- ▶ Has a grounded outlet meeting national electric code (NEC) and local electrical requirements.
- ▶ Is clear of direct sunlight, high temperature sources, heating vents, and air conditioning vents.
- ▶ Minimum 8" (203 mm) above, and minimum of 3" (76 mm) behind.
- ▶ Meets the limits specified for ambient temperature and relative humidity.

**6.2 Placement**



**WARNING** To prevent tipping, ensure the casters are unlocked and the door is closed before moving the freezer.



**CAUTION** Do not use the water evaporation tray, located on the rear of the freezer, as a handle. The tray may be hot.

- 1 Ensure all casters are unlocked and door is closed.
- 2 Roll freezer into place and lock casters.
- 3 Ensure freezer is level.

**6.3 Temperature Probes**

For each probe bottle, use:

- ▶ Approximately 4 oz. (120 mL) of product simulation solution (1:1 ratio of water to propylene glycol or equivalent low-temperature fluid).



6.4 Chart Recorder

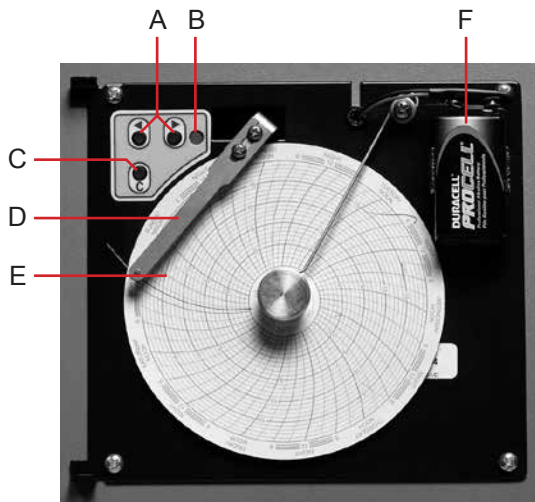


Chart recorder with paper and battery installed.

Label	Description	Function
A	Left and Right Arrow buttons	Adjust settings and stylus position
B	LED	Indicates status of chart recorder in operating mode, or selected temperature range in paper change mode
C	Chart change button	Adjust position of stylus when changing chart paper, or run a test pattern
D	Stylus	Mark temperature line on paper
E	Reset button	Restart chart recorder
F	Backup battery	Provides power during AC power failure. Connect prior to use.

6.4.1 Install and Change Chart Paper

- 1 Press and hold **C** button. When stylus begins to move left, release button. The LED flashes to indicate current temperature range.
- 2 When stylus stops moving, remove chart knob then move knob up and away from chart paper.
- 3 Place new chart paper on chart recorder.
- 4 Gently lift stylus and rotate paper so current time line corresponds to time line groove.



- 5 Hold chart paper and reinstall chart knob.

**NOTE** For accurate temperature reading, ensure that current time is aligned with time line groove when chart knob is tightened.

- 6 Confirm the temperature range is set to the correct value.
- 7 Press and hold **C** button. When the stylus begins to move right, release the button.
- 8 Confirm the stylus is marking the temperature correctly.

**7 Maintenance Schedule**

Maintenance tasks should be completed according to the following schedule. Refer to the service manual for more detail on the various tasks.

**NOTE** These are recommended minimum requirements. Regulations for your organization or physical conditions at your organization may require maintenance items to be performed more frequently, or only by designated service personnel.

Task	Frequency		
	Quarterly	Annually	As Needed
Test the high temperature alarm.	✓		
Test the power failure alarm (as required by your organization's protocols).	✓		
Test the door alarm (as required by your organization's protocols).			✓
Check the temperature calibration on the monitor and change it if necessary.	✓		
(Models with chart recorders) Check the backup battery for the chart recorder after an extended power failure and change it if necessary, or change the battery if it has been in service for one year. Refer to the Temperature Chart Recorder Operation and Service Manual.			✓
<ul style="list-style-type: none"> <li>▶ Inspect electrical components and wiring terminals in the electrical box for discoloration. Contact Helmer Technical Service if any discoloration is found.</li> <li>▶ Inspect all wiring terminals for secure connection. Tighten wiring terminal connections as necessary.</li> </ul>	✓		
Check the level of the solution in the probe bottle(s). Refill or replace solution if necessary.			✓
Examine the probe bottle(s) and clean or replace if necessary.		✓	
Clean the condenser grill and external drain fan.	✓		
Clean the door gaskets, interior, and exterior of the freezer.			✓



**NOTICE** Clean the condenser grill on a quarterly basis.

**NOTE**

- ▶ During a power failure, the backup batteries provide power to the monitoring system and the power failure alarm. If the backup batteries are not functioning, the power failure alarm will not be activated.
- ▶ If the backup batteries do not provide power to the monitoring system during the power failure alarm test, replace the batteries.
- ▶ If battery (batteries) have been in service for one year, replace battery (batteries).

## Section II: i.Series® - All Models

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**NOTE** This section applies to iPF, iLF, and iHPF models.

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### 8 Operation

#### 8.1 Initial Start Up

- 1 Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
- 2 Insert the D-cell backup battery in the monitoring system backup battery pack.
- 3 Select language.
  - a The SYSTEM OPTIONS screen is displayed.
  - b To select a different language, press the **INC** or **DEC** buttons until the preferred language is displayed. This assumes the language was previously loaded from the flash memory card.
  - c Press the **HOME** button. All text will display in the selected language.

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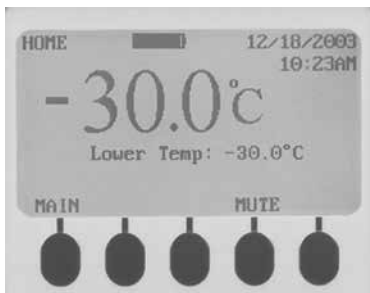
**NOTE** Active alarms are displayed on the HOME screen. If an alarm condition other than High Temperature occurs, refer to the service manual for troubleshooting.

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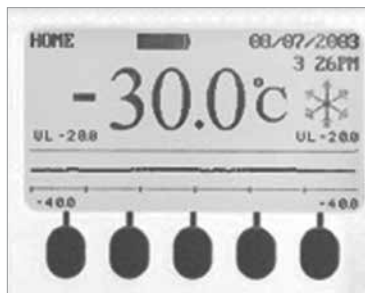
- 4 If an alarm sounds, temporarily mute the alarm by pressing the **MUTE** button.

#### 8.2 Normal Operation

The HOME screen displays temperature and alarm information, and provides buttons for reaching other functions of the i.Center monitoring system. If the temperature graph is enabled, a graph of the chamber temperature is displayed over time on the HOME screen. Temperature setpoints and calibration settings are configured through the temperature controller.



*i.Center Home screen.*



*i.Center temperature graph.*

## 8.3 Change Temperature Setpoint



*Independent temperature controller.*



- NOTICE**
- ▶ Do not change the setpoint to a value outside the temperature control range.
  - ▶ Parameter values are factory-preset and should not be changed unless directed by Helmer Technical Service.

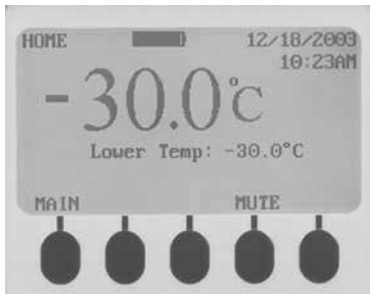
- NOTE**
- ▶ Default setpoint is -30.0 °C.
  - ▶ When there is no interaction for four minutes, the temperature controller exits program mode and returns to normal mode.
  - ▶ The reference temperature displayed on the temperature controller may not be the same as the temperature displayed on the i.Center monitoring system.

- 1 Observe the chamber temperature displayed on the i.Center monitoring system.
- 2 Determine how much the freezer setpoint will be changed.

- EXAMPLE**
- ▶ Current setpoint is -30.0 °C
  - ▶ Target setpoint is -28.0 °C
  - ▶ Setpoint adjustment value is +2.0 °C

- 3 On the temperature controller, press and hold the **P** button.
  - ▶ “PXX” is displayed, where “XX” is a parameter number.
- 4 Adjust the freezer setpoint.
  - a Press the **UP** or **DOWN** arrow buttons until “P03” is displayed.
  - b Press the **P** button.
    - ▶ The current setpoint is displayed.
  - c Press the **UP** or **DOWN** arrow buttons to change the temperature setpoint by the same value as determined in step 2.
  - d Press the **P** button.
    - ▶ The setpoint is changed and “P03” is displayed.
- 5 Exit program mode:
  - a Press the **UP** or **DOWN** arrow buttons until “P01” is displayed, or
  - b Do not press any buttons for four minutes. Parameter 01 (“P01”) is displayed.

8.4 Set Alarm Parameters



i. Center Home screen.

- 1 Press the **MAIN** button.
- 2 Press the **DOWN** button to highlight Edit Configuration. Press the **SELECT** button.
- 3 Enter the password when prompted.
- 4 Press the **DOWN** button to highlight Alarm Setpoints. Press the **SELECT** button.
- 5 Press the **DOWN** button to highlight the desired alarm setting.
- 6 Press the **INC** or **DEC** buttons to set the alarm setpoint.
- 7 Press the **BACK** button to return to the Edit Configuration screen, or press the **HOME** button to exit. The new settings are saved.

8.5 Active Alarms

The HOME screen displays the number and type of alarms that are active.

Alarm	Description
High Temperature	Chamber temperature reading is above high temperature alarm setpoint
Low Battery	Battery voltage is low
No Battery	Battery voltage is zero or battery (or batteries) has been removed
Power Failure	Power to unit has been disrupted
Door Open	Door is open beyond user-specified duration
Condenser Temperature	Condenser temperature reading is above high temperature alarm setpoint

8.6 Mute and Disable Active Alarms

- 1 On the HOME screen, press the **MUTE** button once to mute an alarm for five minutes.
  - ▶ “MUTE05” is displayed, indicating that five minutes remain on the mute timer.
- 2 Each additional press of the **MUTE** button adds five minutes of muting.
  - ▶ The timer duration is changed, and the new time is displayed.

**8.7 Defrost Status**

While the freezer is defrosting the defrost icon appears on the i.Center HOME screen.



**9 i.Center Screen Reference**

**HOME** screen

**MAIN** button

**MAIN** screen

**MUTE** button (changes mute timer)

**MAIN** screen

**Event Log** option

(Press the **SELECT** button)

**EVENT LOG** screen

**System Alarm Test & Status** option

**SYSTEM ALARM TEST & STATUS** screen

**Edit Configuration** option

(Enter the password)

**CONFIGURATION** screen

**View Configuration** option

**VIEW CONFIGURATION** screen

**Product/Company Information** option

**INFORMATION** screen

**i.Help Index** option

**i.Help** screen

**EVENT LOG** screen

**EVENT LOG DETAIL** screen

**SYSTEM ALARM TEST & STATUS** screen

**Start High Alarm Auto Test** option

**Cancel High Test** option

**Chart Paper Days Left or Chart Paper Timer** display

**Door Status** display

**Condenser Temp** display

**CONFIGURATION** screen**Set Date & Time** option**SET DATE & TIME** screen**System Options** option**SYSTEM OPTIONS** screen**Alarm Setpoints** option**SET ALARM SETPOINT** screen**Temperature Calibration** option**TEMPERATURE CALIBRATION** screen**Factory Default Settings** option**FACTORY DEFAULT SETTINGS** screen**Change Password** option

(Enter a new password)

**SYSTEM OPTIONS** screen**Language** option**Date Format** option**Alarm Volume** option**Alarm Pulse** option**Temperature Units** option**Chart Paper Timer** option**SET ALARM SETPOINT** screen**High Alarm Setpoint** option**Cond. Alarm Setpoint** option**Door Ajar Timeout** option**Power Failure Timeout** option**Temperature Graph** option**TEMPERATURE CALIBRATION** screen**Select Temp Probe** option**Temperature** option**VIEW CONFIGURATION** screen**Clock Mode** display**Date Format** display**Door Ajar Timeout** display**Pwr Failure Timeout** display**High Alarm Setpoint** display**Cond. Alarm Setpoint** display**Alarm Volume** display**Alarm Pulse** display**Chart Paper Days Left** or **Chart Paper Timer** display**Temperature Graph** display



10 Components

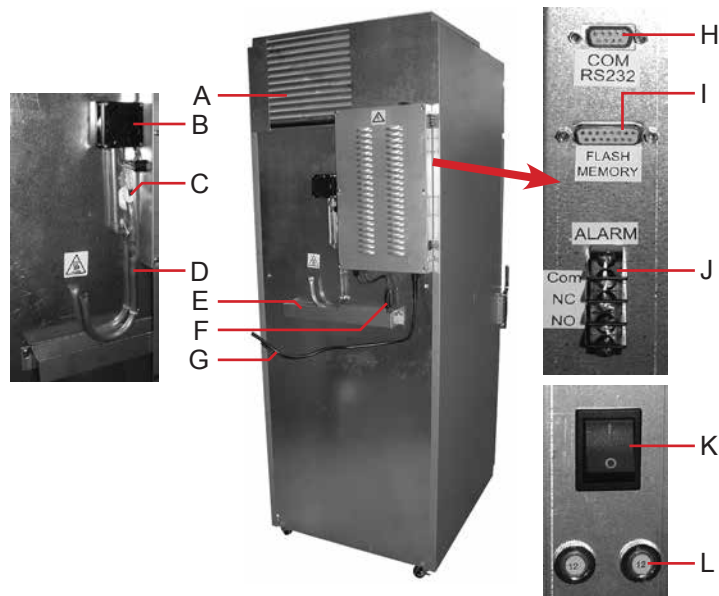
10.1 Front and Chamber



Left: Chamber and front features (iPF120-4 model shown).  
 Right: Cold-Shield™ door (iPF120-8 model shown).

Label	Description
A	Chart recorder (standard on plasma storage models, optional on laboratory models)
B	i.Center monitoring system
C	Unit cooler with fan guard
D	Upper probe bottle
E	Shelf
F	Drawer
G	Caster
H	Cold-Shield™ system (8-drawer plasma storage models)
Not shown	Door lock
	Standard for adjusting storage components
	Drawer slide
	Lower probe bottle

- NOTE**
- ▶ Plasma storage models (iPF, iHPF) with the “-4” designation feature four drawers and four shelves as the standard storage configuration.
  - ▶ Plasma storage models (iPF, iHPF) with the “-8” designation feature eight drawers as the standard storage configuration.
  - ▶ Laboratory models (iLF) feature four shelves as the standard storage configuration.

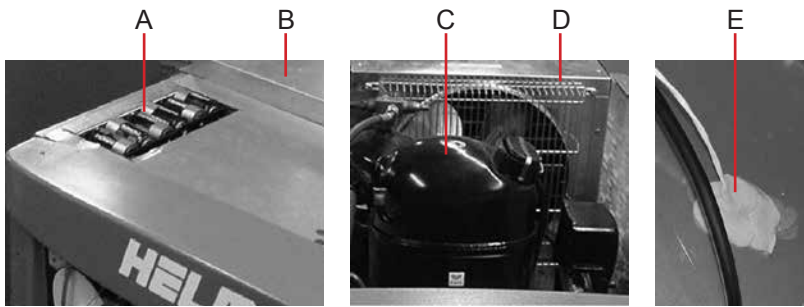


Rear features (iPF120-4 model shown).

Label	Description
A	Condenser grill
B	External drain fan
C	Drain line heater
D	Drain line
E	Water evaporation tray
F	Condensate evaporator
G	Power cord
H	RS-232 COM port (optional)
I	Flash port
J	Remote alarm interface
K	AC ON/OFF power switch
L	Circuit breakers
Not shown	Product specification label

10.3

Top



Top features (iPF120-4 model shown).

Label	Description
A	Monitoring system backup batteries
B	Service cover
C	Compressor
D	Condenser
E	Access port
Not shown	Condenser probe

## Section III: Horizon Series™ - Plasma Storage Models

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**NOTE** This section applies to HPF models.

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### 11 Operation

#### 11.1 Initial Start Up

- 1 Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
- 2 Insert the D-cell backup battery in the monitoring system backup battery pack.
- 3 Select language.
  - a The SYSTEM OPTIONS screen is displayed.
  - b To select a different language, press the **INC** or **DEC** buttons until the preferred language is displayed. This assumes the language was previously loaded from the flash memory card.
  - c Press the **HOME** button. All text will display in the selected language.

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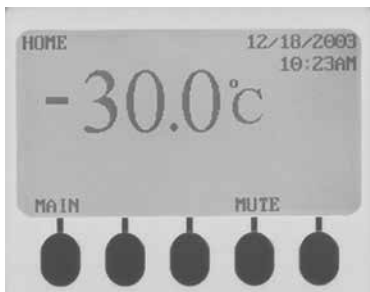
**NOTE** Active alarms are displayed on the HOME screen. If an alarm condition other than High Temperature occurs, refer to the service manual for troubleshooting.

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- 4 If an alarm sounds, temporarily mute the alarm by pressing the **MUTE** button.

#### 11.2 Normal Operation

The HOME screen displays temperature and alarm information, and provides buttons for reaching other functions of the Horizon Series monitoring system. Temperature setpoints and calibration settings are configured through the temperature controller.



*Horizon Series Home screen.*

## 11.3 Change Temperature Setpoint



Independent temperature controller.



- NOTICE**
- ▶ Do not change the setpoint to a value outside the temperature control range.
  - ▶ Parameter values are factory-preset and should not be changed unless directed by Helmer Technical Service.

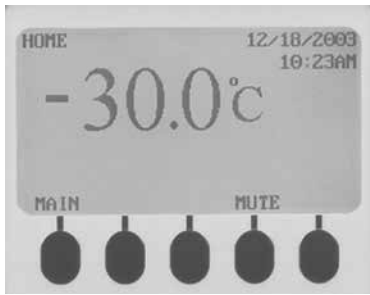
- NOTE**
- ▶ Default setpoint is -30.0 °C.
  - ▶ When there is no interaction for four minutes, the temperature controller exits program mode and returns to normal mode.
  - ▶ The reference temperature displayed on the temperature controller may not be the same as the temperature displayed on the Horizon Series monitoring system.

- 1 Observe the chamber temperature displayed on the Horizon Series monitoring system.
- 2 Determine how much the freezer setpoint will be changed.

- EXAMPLE**
- ▶ Current setpoint is -30.0 °C
  - ▶ Target setpoint is -28.0 °C
  - ▶ Setpoint adjustment value is +2.0 °C

- 3 On the temperature controller, press and hold the **P** button.
  - ▶ “PXX” is displayed, where “XX” is a parameter number.
- 4 Adjust the freezer setpoint.
  - a Press the **UP** or **DOWN** arrow buttons until “P03” is displayed.
  - b Press the **P** button.
    - ▶ The current setpoint is displayed.
  - c Press the **UP** or **DOWN** arrow buttons to change the temperature setpoint by the same value as determined in step 2.
  - d Press the **P** button.
    - ▶ The setpoint is changed and “P03” is displayed.
- 5 Exit program mode:
  - a Press the **UP** or **DOWN** arrow buttons until “P01” is displayed, or
  - b Do not press any buttons for four minutes. Parameter 01 (“P01”) is displayed.

11.4 Set Alarm Parameters



Horizon Series Home screen.

- 1 Press the **MAIN** button.
- 2 Press the **DOWN** button to highlight Edit Configuration. Press the **SELECT** button.
- 3 Enter the password when prompted.
- 4 Press the **DOWN** button to highlight Alarm Setpoints. Press the **SELECT** button.
- 5 Press the **DOWN** button to highlight the desired alarm setting.
- 6 Press the **INC** or **DEC** buttons to set the alarm setpoint.
- 7 Press the **BACK** button to return to the Edit Configuration screen, or press the **HOME** button to exit. The new settings are saved.

11.5 Active Alarms

The HOME screen displays the number and type of alarms that are active.

Alarm	Description
High Temperature	Chamber temperature reading is above high temperature alarm setpoint
Power Failure	Power to unit has been disrupted
Door Open	Door is open beyond user-specified duration

11.6 Mute and Disable Active Alarms

- 1 On the HOME screen, press the **MUTE** button once to mute an alarm for five minutes.
  - ▶ “MUTE05” is displayed, indicating that five minutes remain on the mute timer.
- 2 Each additional press of the **MUTE** button adds five minutes of muting.
  - ▶ The timer duration is changed, and the new time is displayed.

11.7 Defrost Status

While the freezer is defrosting the defrost lamp illuminates on the independent temperature controller.



Independent temperature controller (defrost lamp circled).

## 12 Horizon Series Screen Reference

### HOME screen

**MAIN** button

**MAIN** screen

**MUTE** button (changes mute timer)

### MAIN screen

**Edit Configuration** option

(Enter the password)

**CONFIGURATION** screen

**View Configuration** option

**VIEW CONFIGURATION** screen

**Product/Company Information** option

**INFORMATION** screen

### CONFIGURATION screen

**Set Date & Time** option

**SET DATE & TIME** screen

**System Options** option

**SYSTEM OPTIONS** screen

**Alarm Setpoints** option

**SET ALARM SETPOINT** screen

**Temperature Calibration** option

**TEMPERATURE CALIBRATION** screen

**Factory Default Settings** option

**FACTORY DEFAULT SETTINGS** screen

**Change Password** option

(Enter a new password)

### SYSTEM OPTIONS screen

**Language** option

**Date Format** option

**Alarm Volume** option

**Alarm Pulse** option

**Temperature Units** option

**Chart Paper Timer** option

### SET ALARM SETPOINT screen

**High Alarm Setpoint** option

**Door Ajar Timeout** option

**Power Failure Timeout** option

### TEMPERATURE CALIBRATION screen

**Upper Temperature Probe** display

**Temperature** option

**VIEW CONFIGURATION** screen**Clock Mode** display**Date Format** display**Door Ajar Timeout** display**Pwr Failure Timeout** display**High Alarm Setpoint** display**Alarm Volume** display**Alarm Pulse** display**Chart Paper Days Left** or **Chart Paper Timer** display



**13 Components**

**13.1 Front and Chamber**

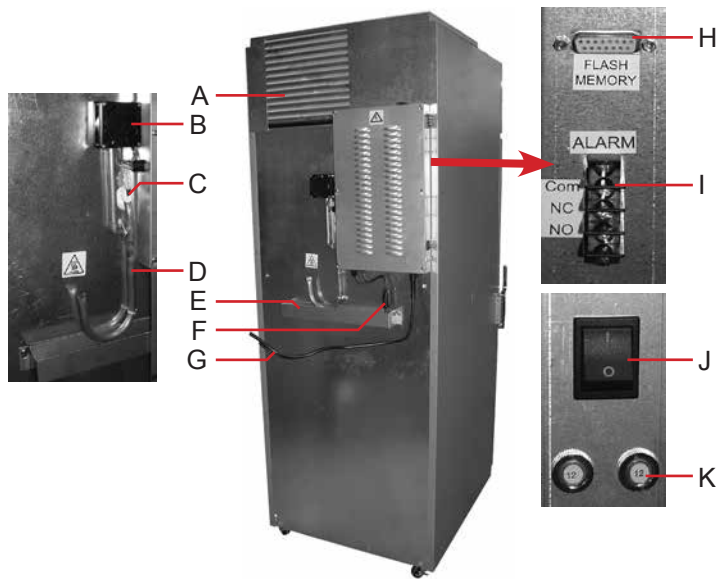


Chamber and front features (HPF120-4 model shown).  
 Right: Cold-Shield™ door (HPF120-8 model shown).

Label	Description
A	Chart recorder (standard on plasma storage models)
B	Horizon Series monitoring system
C	Unit cooler with fan guard
D	Probe bottle
E	Shelf
F	Drawer
G	Caster
H	Cold-Shield™ system (8-drawer plasma storage models)
Not shown	Door lock
	Standard for adjusting storage components
	Drawer slide

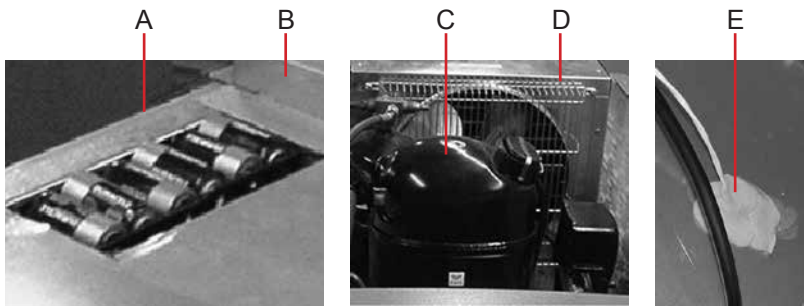
**NOTE**

- ▶ Plasma storage models (HPF) with the “-4” designation feature four drawers and four shelves as the standard storage configuration.
- ▶ Plasma storage models (HPF) with the “-8” designation feature eight drawers as the standard storage configuration.



Rear features (HPF120-4 model shown).

Label	Description
A	Condenser grill
B	External drain fan
C	Drain line heater
D	Drain line
E	Water evaporation tray
F	Condensate evaporator
G	Power cord
H	Flash port
I	Remote alarm interface
J	AC ON/OFF power switch
K	Circuit breakers
Not shown	Product specification label



Top features (HPF120-4 model shown).

Label	Description
A	Monitoring system backup batteries
B	Service cover
C	Compressor
D	Condenser
E	Access port

## Section IV: Horizon Series™ - Laboratory and International Plasma Storage Models

**NOTE** This section applies to HLF and HHPF models.

### 14 Operation

#### 14.1 Initial Start Up

- 1 Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
- 2 Remove the 9 V battery from the accessory package and install it.

**NOTE** If an alarm condition other than High Temperature occurs, refer to the service manual for troubleshooting.

- 3 Press **Down Arrow** (Mute) if high temperature alarm sounds.



#### 14.2 Temperature Setpoints



*Horizon Series monitoring and control interface.*

---

**14.2.1 Change Setpoint**

---

**NOTE** Default setpoint is -30.0 °C

---

- 1 On the monitoring system, press and release **SEL** to change to Control mode. CONTROL lamp will illuminate.
  - 2 Press and hold **SET** to display the reference temperature.
  - 3 Hold **SET** and press **Up Arrow** and **Down Arrow** as necessary to set the value.
  - 4 Release all buttons; the setpoint is changed.
  - 5 Press and release **SEL** to return to Monitor mode. MONITOR lamp will illuminate.
- 

**EXAMPLE**

- ▶ Current setpoint is -30.0 °C
- ▶ Target temperature is -28.0 °C
- ▶ Setpoint adjustment value is +2.0 °C.

---

**14.2.2 Monitor Offset**

- ▶ Adjust if temperature displayed on the monitor does not match measured chamber temperature.
  - ▶ Value is factory-set to match an independent thermometer.
  - ▶ Value can be changed from -10.0 °C to +10.0 °C.
  - ▶ Refer to the service manual for instructions in changing the Monitor Offset.
- 

**NOTE** If the variance is within acceptable limits, changing the offset value is optional.

---

**14.2.3 Control Sensor Offset**

- ▶ Controls chamber temperature.
  - ▶ Factory-set to match an independent thermometer.
  - ▶ Varies for each freezer.
- 



**NOTICE** Control Sensor Offset is factory-preset and should not be changed unless directed by Helmer Technical Service.

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**14.2.4 Hysteresis**

- ▶ Allowable temperature variance on each side of the freezer setpoint.
- 



**NOTICE** Hysteresis is factory-preset and should not be changed.

---

**14.2.5 Change a Temperature Alarm Setpoint**



Flashing Lamp	Selected Setting
HIGH TEMP and MONITOR	High Temp alarm setpoint
LOW TEMP and MONITOR	Low Temp alarm setpoint
MONITOR only	Monitor Offset
CONTROL only	Control Sensor Offset
CONTROL only	Control Hysteresis

- 1** Hold **Up Arrow** and **Down Arrow** for three seconds. MONITOR lamp will flash to indicate entry into program mode.
- 2** Press **SEL** until desired setting appears.

**NOTE** The control lamp flashes when the Control Sensor Offset setting is selected. Press and release the **SEL** button again to select Control Hysteresis. The control lamp will continue to flash.

- 3** Hold **SET**, then press **Up Arrow** or **Down Arrow** to change the setpoint.
- 4** Release **SET** button.
- 5** To change another setting, repeat steps 2-4.
- 6** Hold **Up Arrow** and **Down Arrow** for three seconds. MONITOR lamp stops flashing to indicate exit from program mode. New settings are saved.

**14.3 Active Alarms**

The controller displays temperature and alarm information.



DOOR ALARM lamp lights	Door is open (less than 3 minutes)
DOOR ALARM lamp flashes	Door has been open 3 minutes or longer *
HIGH TEMP lamp flashes	Temperature reaches high temperature set point
LOW TEMP lamp flashes	Temperature reaches low temperature set point
“PoFF” appears on display	AC power failure
“Prob” appears on display	Probe circuit is open

\* Audible alarm will sound after door is open for 3 minutes.

**14.4 Mute and Disable Audible Alarms**

Muting audible alarms does not disable alarm lamps or signals sent through the remote alarm interface.



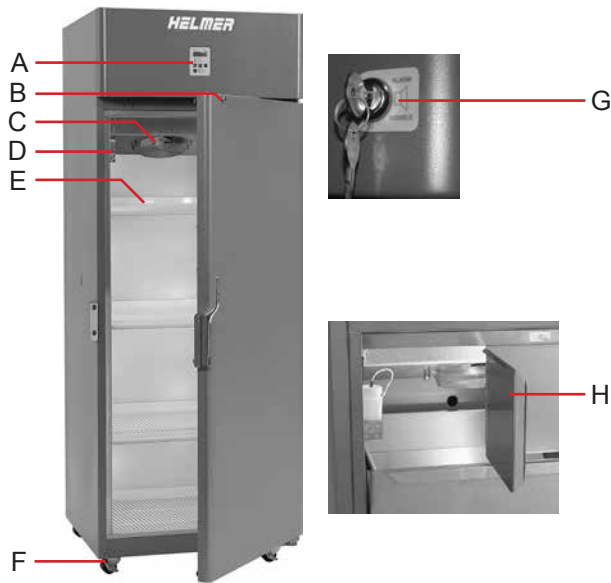
Press **Down Arrow** (Mute) to mute audible alarms.



To disable all audible alarms, insert the key in the Alarm Disable switch and turn.

**15 Components**

**15.1 Front and Chamber**

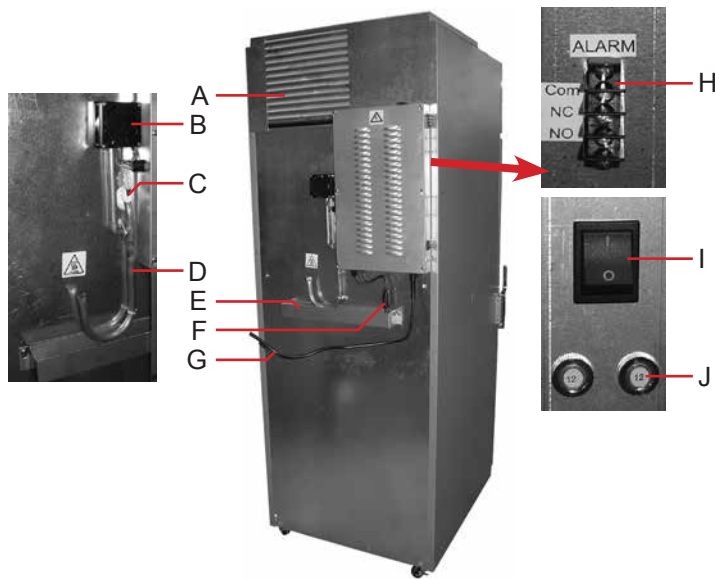


Chamber and front features (HLF120 model shown).  
 Right: Cold-Shield™ door (HHPF120-8 model shown).

Label	Description
A	Laboratory display
B	Door lock
C	Unit cooler with fan guard
D	Probe bottle
E	Shelf
F	Caster
G	Alarm key switch
H	Cold-Shield™ system (8-drawer plasma storage models)
Not shown	Standard for adjusting storage components

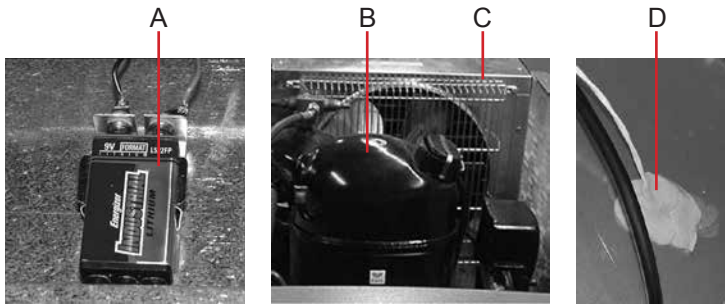
- NOTE**
- ▶ Plasma storage models (HHPF) with the “-4” designation feature four drawers and four shelves as the standard storage configuration.
  - ▶ Plasma storage models (HHPF) with the “-8” designation feature eight drawers as the standard storage configuration.
  - ▶ Laboratory models (HLF) feature four shelves as the standard storage configuration.





Rear features (HLF120 model shown).

Label	Description
A	Condenser grill
B	External drain fan
C	Drain line heater
D	Drain line
E	Water evaporation tray
F	Condensate evaporator
G	Power cord
H	Remote alarm interface
I	AC ON/OFF power switch
J	Circuit breakers
Not shown	Product specification label



Top features (HLF120 model shown).

Label	Description
A	Monitoring system backup battery
B	Compressor
C	Condenser
D	Access port

**END OF MANUAL**



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