



Platelet Agitator Operation Manual

i.Series® and Horizon Series™



Model Group	i.Series	Horizon Series
Countertop	PF15i, PF48i, PF96i (Version A)	PF15h, PF48h, PF96h (Version A)
Floor	PF396i (Version A)	-

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Document History

Revision	Date	CO	Supersession	Revision Description
M	28 JUN 2013*	8414	Supersedes A, B, C, D, E, F, G, H, I, J, K, L	Revised layout for ease of navigation and locating information.
N	23 DEC 2013*	8965	N supersedes M	<ul style="list-style-type: none">▶ Added 100 V information.▶ Added caution note for remote alarm interface.▶ Revised clearance statement.▶ Revised section I for consistency with existing manuals.
O	31 JAN 2014*	9113	O supersedes N	Changed voltage for remote alarm contacts.
P	22 MAY 2014*	9497	P supersedes O	<ul style="list-style-type: none">▶ Added information to environmental/application specifications from technical audit.▶ Revised specifications for remote alarm contacts.

* 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 platelet agitator and authorized service technicians.

1.2 Model References

Generic references are used throughout this manual to group models that contain similar features. For example, “PF48 models” refers to all models of that size (PF48i, PF48h). This manual covers all platelet agitators, which may be identified singly, by their size, or by their respective “Series.”

1.3 Copyright and Trademark

Helmer®, i.Series®, 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

The following general safety and information alerts appear on the product to identify potential hazards to the operator or service technician.



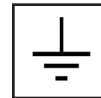
Caution: Risk of damage to equipment or danger to operator



Caution: Unlock all casters



Caution: Hot surface



Earth / ground terminal



Caution: Shock/electrical hazard



Protective earth / ground terminal

2.3 Avoiding Injury

- ▶ Review safety instructions before installing, using, or maintaining the equipment.
- ▶ Before moving unit, remove contents from the drawers.
- ▶ Do not open multiple drawers at the same time.
- ▶ Before moving unit, disconnect the AC power cord and secure the cord.
- ▶ When moving unit, use assistance from a second person.
- ▶ Never physically restrict any moving component.
- ▶ Avoid removing electrical service panels and access panels unless so instructed.
- ▶ Keep hands away from pinch points when agitation motion is enabled.
- ▶ Avoid sharp edges when working inside the electrical 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 platelet agitator.
- ▶ 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 platelet agitator is not considered to be a storage cabinet for flammable or hazardous materials.

3 General Recommendations

3.1 Intended Use

Helmer platelet agitators are intended to provide the continuous gentle agitation conditions required for the storage of platelet products.

The devices are intended to be operated by personnel who have procedures in place for meeting FDA, AABB, EU or any other applicable regulations for the processing and storage of platelet products.

3.2 General Use

Allow platelet agitator to come to room temperature before switching power on.

During initial startup, motion alarm may sound if the motion is disabled.

3.3 Initial Loading

After platelet agitator reaches room temperature, begin storing product.

4 Specifications

	PF15	PF48	PF96	PF396i
Physical				
Height	12.50" (318 mm)	15.25" (387 mm)	15.25" (387 mm)	62" (1575 mm)
Width ^(1,2)	13.00" (330 mm)	17.50" (445 mm)	33.00" (838 mm)	37" (940 mm)
Depth	9.25" (235 mm)	14.50" (368 mm)	14.50" (368 mm)	27" (686 mm)
Weight	26.5 lbs (12 kg)	51.0 lbs (23 kg)	82.0 lbs (37 kg)	250.0 lbs (114 kg)
Electrical				
Input Voltage and Frequency	100 V, 50/60 Hz / 115 V, 60 Hz 230 V, 50 Hz / 230 V, 60 Hz			115 V, 60 Hz 230 V, 50 Hz 230 V, 60 Hz
Voltage Tolerance	±10%			
Fuses ⁽³⁾	0.5 A (100 V, 115 V, quantity 1) 0.3 A (230 V, quantity 2)			6.3 A (115 V, quantity 1) 5.0 A (230 V, quantity 2)
Power Consumption ⁽⁴⁾	0.4 A (100 V, 115 V) 0.25 A (230 V)			3.0 A (115 V) 2.0 A (230 V)
Power Source ⁽⁵⁾	Varies (refer to product specification label)			
Agitation Speed (cycles / minute)	72 (100 V / 115 V) 60 (230 V, 50 Hz) 72 (230 V, 60 Hz)			60 (115 V) 60 (230 V, 50 Hz) 72 (230 V, 60 Hz)
Remote Alarm Capacity	i.Series: 0.5 A at 30 V (RMS); 1.0 A at 24 V (DC) Horizon Series: 0.25 A at 30 V (RMS); 0.25 A at 60 V (DC)			
Control and Monitoring				
Alarms	Motion			

	PF15	PF48	PF96	PF396i
Environmental				
Application	<ul style="list-style-type: none"> ▶ Indoor use only ▶ Altitude (maximum): 2000 m ▶ Ambient temperature range: 5 °C to 35 °C ▶ Relative humidity (maximum for ambient temperature): 80% for temperatures up to 31 °C, decreasing linearly to 50% at 40 °C ▶ Overvoltage category: II ▶ Pollution degree: 2 ▶ Mains supply voltage: ±10% of nominal voltage 			

- (1) Add 0.5" (13 mm) to the width for PF15i, PF48i, and PF96i platelet agitators to accommodate the alarm buzzer.
- (2) Add 1.5" (38 mm) to the width for PF15i, PF48i, and PF96i platelet agitators to accommodate the storage frame when agitation motion is enabled.
- (3) Fuses are 5 mm x 20 mm, time lag (Type T).
- (4) Power consumption is measured in full-load Amperes.
- (5) Product specification label is located on the bottom of the platelet agitator (PF15) or the rear of the platelet agitator (PF48, PF96, PF396i).


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.

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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The Hague, Netherlands

NOTE PF396i platelet agitator is not CE compliant.

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 sturdy, level surface.
- ▶ Has a grounded outlet meeting the electrical requirements listed on the product specification label.
- ▶ Is clear of direct sunlight, high temperature sources, and heating and air conditioning vents.
- ▶ Minimum 0.5” (13 mm) in front and behind.
- ▶ Minimum 1” (25 mm) on left and right sides (when installed in a corresponding Helmer platelet incubator).
- ▶ Minimum 2” (50 mm) on left and right sides (when installed in a stand-alone configuration).
- ▶ Meets limits specified for ambient temperature and relative humidity.

NOTE A power cord is supplied to configure the platelet agitator for stand-alone use.

6.1.1 Placement



WARNING To prevent tipping, ensure the casters are unlocked (PF396i).

- 1 Ensure all casters are unlocked (PF396i).
- 2 Place platelet agitator on study surface or roll platelet agitator into place and lock casters (PF396i).
- 3 Ensure platelet agitator is level.



NOTICE **Countertop models:**

- ▶ When lifting platelet agitator, lift using the ends of the base.
- ▶ If the base is not accessible, lift using the ends of the storage frame.

PF396i:

- ▶ When moving the platelet agitator, push using the sides of the base, not the front or back.

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 motion alarm.	✓ (i.Series)		
Clean the fan (except PF396i).	✓		
Clean the vents in the base (PF396i).			✓
Check the backup battery for the motion alarm system after an extended power failure and change it if necessary, or change the battery if it has been in service for one year.		✓ (i.Series)	
Check moving parts for wear. Clean and lubricate moving parts.		✓	
Replace moving parts if worn.			✓
Clean the exterior of the platelet agitator.			✓

NOTE Clean the fan on a quarterly basis.

NOTE

- ▶ During a power failure (when the motion alarm is enabled), the backup battery provides power to the motion alarm. If the backup battery is not functioning, the motion alarm will not be activated.
- ▶ If the backup battery does not provide power to the alarm system during the motion alarm test, replace the battery.
- ▶ i.Series: If battery has been in service for one year, replace battery.

Section II: i.Series® Models

8 Operation

8.1 Initial Start Up

- 1 Switch the agitation ON/OFF switch **OFF**.
- 2 Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
- 3 Connect the backup battery for the motion alarm.
- 4 Switch AC ON/OFF switch **ON**.

8.2 Configure the Platelet Agitator for Use in an i.Series Incubator (Optional)

Helmer i.Series platelet agitators may be installed in a stand-alone configuration, or in a Helmer i.Series platelet incubator. When installed in a Helmer platelet incubator, motion information is transmitted from the platelet agitator to the platelet incubator through a data cable.

NOTE Refer to the platelet agitator service manual for information regarding the installation of a platelet agitator in a platelet incubator.

8.3 Motion Alarm

When platelet agitator motion stops the motion alarm is activated. The alarm condition is communicated as follows:

- ▶ Red alarm LED illuminates.
- ▶ Audible alarm buzzer sounds.
- ▶ Through a dry (no voltage) connection to an external monitoring device (if connected).
- ▶ Through a 9 V connection to an external monitoring device (if connected).
- ▶ Through a data cable to the i.Series countertop platelet incubator (if platelet agitator is installed in an i.Series platelet incubator).

8.3.1 Enable and Disable Motion Alarm



Motion alarm switch (circled).

- ▶ Switch the motion alarm ON/OFF switch **ON**.
- ▶ Switch the motion alarm ON/OFF switch **OFF**.



NOTICE If motion stops while the motion alarm is switched off, communication of the alarm (visual, audible, and signals to external devices) is suppressed.

Stand-Alone Platelet Agitators

- ▶ Enable the motion alarm when using the platelet agitator.
- ▶ Disable the motion alarm when not using the platelet agitator. Lack of motion triggers the alarm.

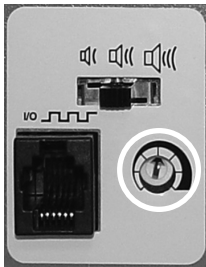
Platelet Agitators Installed in i.Series Platelet Incubators

- ▶ Disable the motion alarm when installing the platelet agitator in a Helmer i.Series platelet incubator.

- NOTE**
- ▶ Motion information is transmitted through the data cable to the platelet incubator, even when the motion alarm is disabled.
 - ▶ The platelet incubator interprets the motion information and generates its own motion alarm, based on its own alarm delay period.
 - ▶ If the motion alarm is not disabled on the platelet agitator, the motion alarms on both devices will sound.

8.3.2 Set Alarm Delay

The duration of time between when agitation stops and when the alarm sounds is the alarm delay. The alarm delay is set using the alarm delay control.



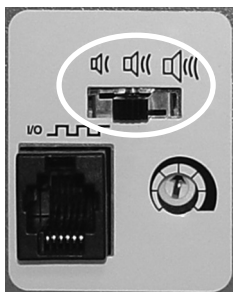
Alarm delay control (circled).

The default motion alarm delay is set at the halfway point (approximately 4 to 5 minutes). To change the motion alarm delay, use a small flat-head screwdriver.

- ▶ Rotate the control to the left (counterclockwise) to shorten the motion alarm delay.
- ▶ Rotate the control to the right (clockwise) to extend the motion alarm delay.

- NOTE**
- ▶ Do not set the alarm delay to 0 minutes.
 - ▶ Default alarm delay is set at the halfway point (approximately 4 to 5 minutes).
 - ▶ Maximum alarm delay is 8 minutes.

8.3.3 Set Alarm Volume



Alarm volume control (circled).

- ▶ The motion alarm has three settings (low, medium, high).
- ▶ Default setting is medium (switch is in the middle position).
- ▶ Slide the motion alarm switch to the appropriate position for the desired volume level.

8.4 **Enable or Disable Motion**



Agitation switch.

8.4.1 **Stand-Alone Platelet Agitators**

Start Agitation:

- 1 Switch the agitation ON/OFF switch **ON**.
- 2 Switch the motion alarm switch ON/OFF switch **ON**.

Stop Agitation:

- 1 Switch the motion alarm switch ON/OFF switch **OFF**.
- 2 Switch the agitation ON/OFF switch **OFF**.

8.4.2 **Platelet Agitators Installed in i.Series Platelet Incubators**

- ▶ The door switch on Helmer platelet incubators controls power to the installed platelet agitator(s).
- ▶ When the platelet incubator doors(s) is opened, power to the installed platelet agitator(s) is interrupted and agitation motion is paused.
- ▶ When the platelet incubator door(s) is closed, agitation motion is resumed.

NOTE Ensure the platelet agitator motion alarm switch ON/OFF is switched **OFF**.

Start Agitation:

- 1 Open the platelet incubator door(s). Agitation motion stops.
- 2 Load items into the platelet agitator.
- 3 Close the platelet incubator door(s). Agitation motion resumes.

NOTE For a platelet agitator installed in a stand-alone configuration, switching the agitation ON/OFF switch ON will start the agitation motion.

Stop Agitation:

- 1 Open the platelet incubator door(s). The platelet agitator motion stops.
- 2 Remove items from the platelet agitator.
- 3 Close the platelet incubator door(s).

NOTE

- ▶ Agitation motion will resume if the agitation ON/OFF switch is not switched OFF.
- ▶ For a platelet agitator installed in a stand-alone configuration, switching the agitation ON/OFF switch OFF will stop the agitation motion.

9 **Load the Agitator**



PF48i agitator with platelet bags (shown in a Helmer PC900i incubator).

Model	Capacity	
	Random Bags	Apheresis Bags
PF15i	15	5-10
PF48i	48	16
PF96i	96	32
PF396i	396	132



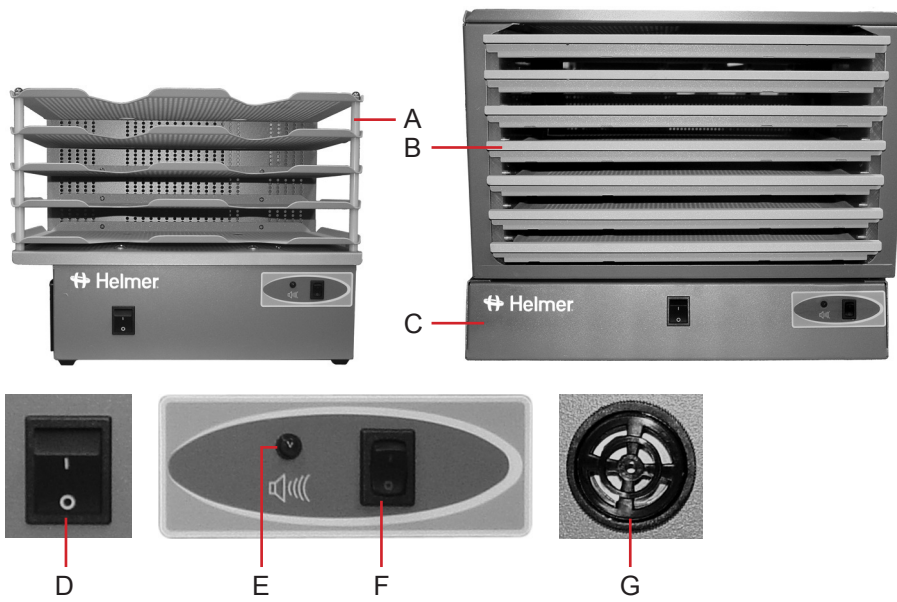
CAUTION When opening drawer, grasp handle (not label holder). Open one drawer at a time.

Open the drawer to be loaded and lay the platelet bags flat.

- ▶ Avoid stacking bags.
- ▶ Maintain enough space around each bag for air circulation. For thicker bags, remove drawers.
- ▶ Place the tubing under or around the bag.

10 Components

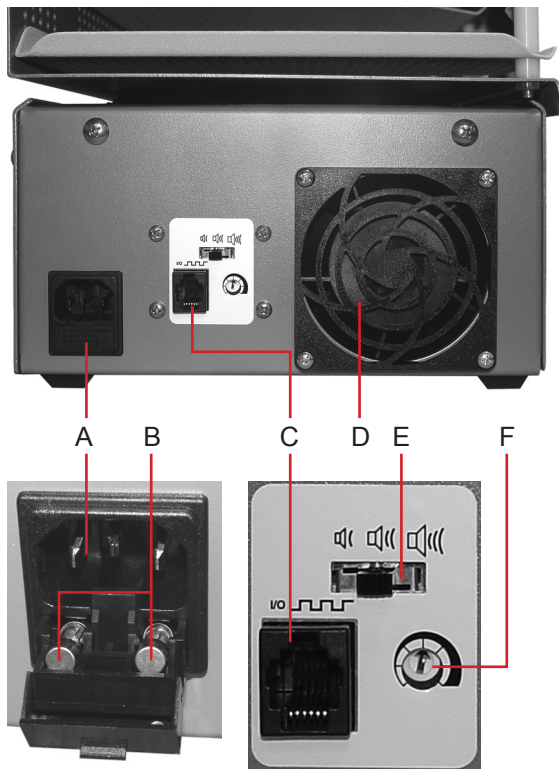
10.1 Front



Front features (multiple models shown).

Label	Description
A	Storage frame
B	Drawer (not included on PF15i)
C	Base
D	Agitation switch
E	Motion alarm lamp
F	Motion alarm switch
G	Alarm buzzer

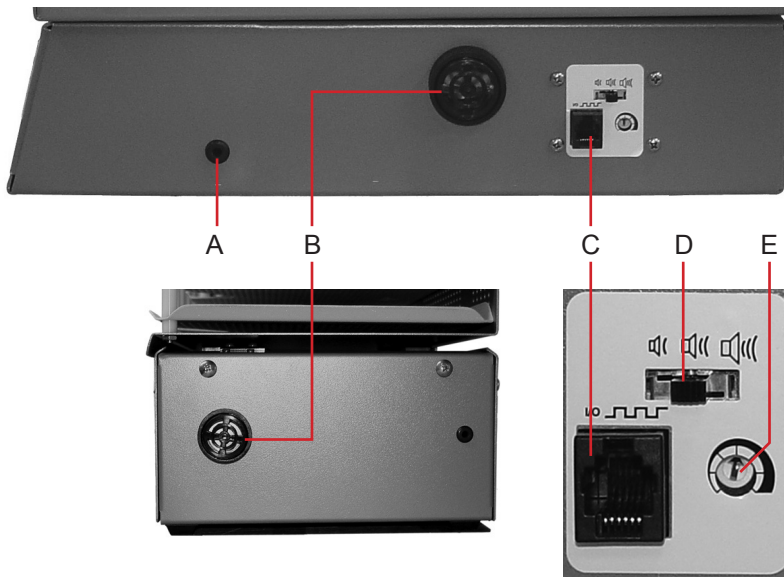
10.2 Left Side



Left side features (PF15i shown).

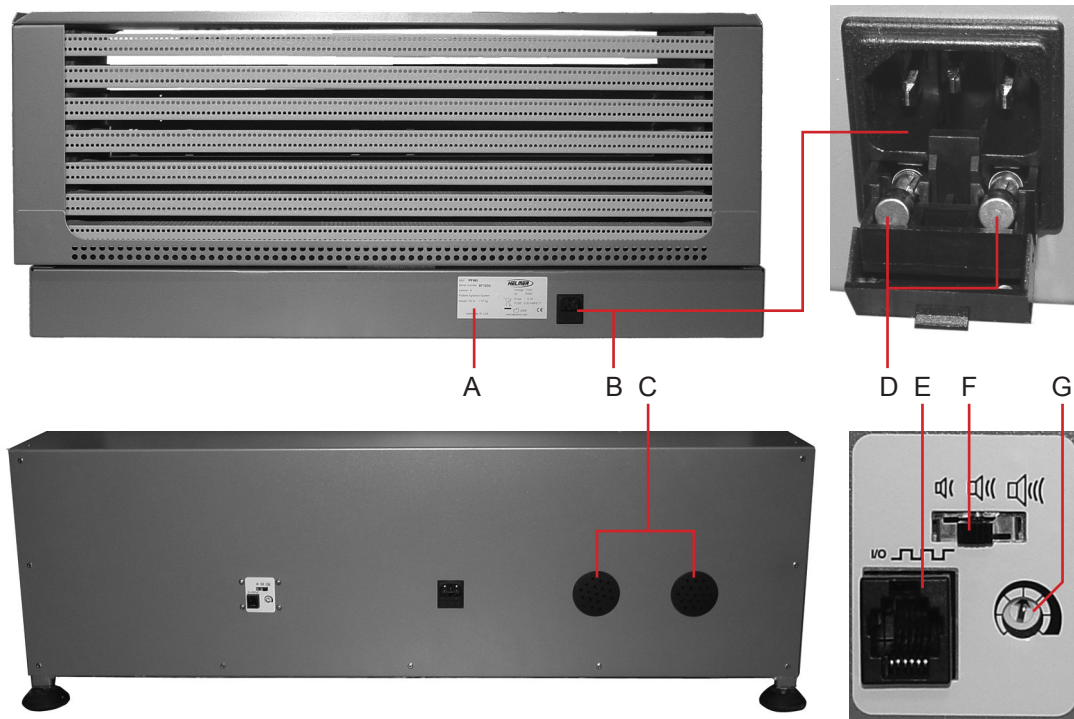
Label	Description
A	Power connector
B	Fuse
C	Data cable port
D	Fan
E	Alarm volume control
F	Alarm delay control

10.3 Right Side



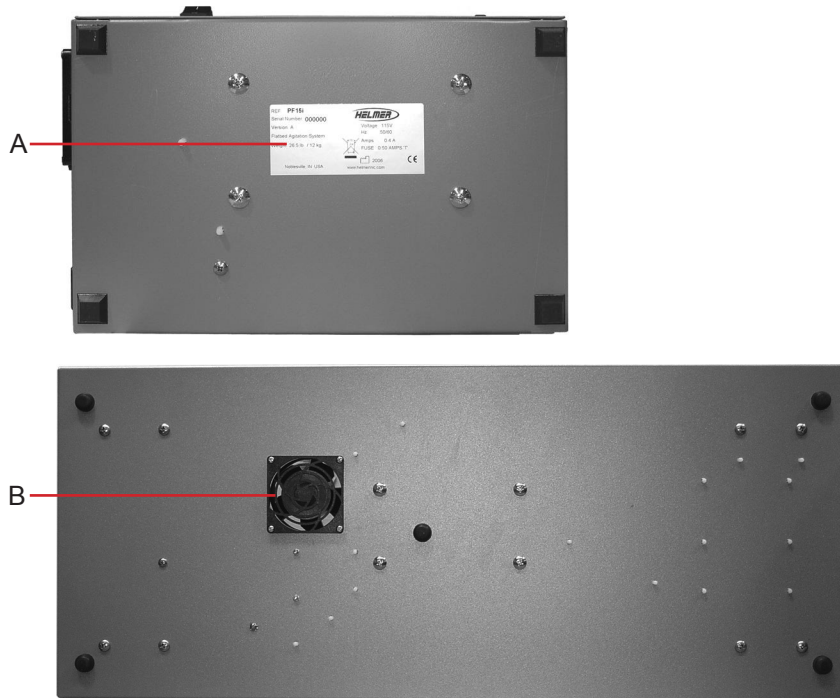
Right side features (multiple models shown).

Label	Description
A	Access hole
B	Alarm buzzer
C	Data cable port
D	Alarm volume control
E	Alarm delay control



Rear features (multiple models shown).

Label	Description
A	Product specification label
B	Power connector
C	Vent
D	Fuse
E	Data cable port
F	Alarm volume control
G	Alarm delay control



Bottom features (multiple models shown).

Label	Description
A	Product specification label
B	Fan

Section III: Horizon Series™ Models

11 Operation

11.1 Initial Start Up

- 1 Switch the agitation ON/OFF switch **OFF**.
- 2 Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
- 3 Switch AC ON/OFF switch **ON**.

11.2 Enable and Disable Motion



Agitation switch.

11.2.1 Stand-Alone Platelet Agitators

Start Agitation:

- 1 Switch the agitation ON/OFF switch **ON**.
- 2 Switch the motion alarm switch ON/OFF switch **ON**.

Stop Agitation:

- 1 Switch the motion alarm switch ON/OFF switch **OFF**.
- 2 Switch the agitation ON/OFF switch **OFF**.

11.2.2 Platelet Agitators Installed in Horizon Series Platelet Incubators

Start Agitation:

- 1 Open the platelet incubator door(s).
- 2 Switch the agitation ON/OFF switch **ON**.
- 3 Close the platelet incubator door(s). Agitation motion starts.

NOTE For a platelet agitator installed in a platelet incubator, if the agitation ON/OFF switch is switched ON, closing the platelet incubator door(s) will start the agitation.

Stop Agitation:

- 1 Open the platelet incubator door(s).
- 2 Switch the agitation ON/OFF switch **OFF**.
- 3 Close the platelet incubator door(s). Agitation motion stops.

NOTE For a platelet agitator installed in a platelet incubator, if the agitation ON/OFF switch is switched ON, opening the platelet incubator door(s) will stop the agitation motion.

12 Load the Agitator



PF48h agitator with platelet bags (shown in a Helmer PC900h incubator).

Model	Capacity	
	Random Bags	Apheresis Bags
PF15h	15	5-10
PF48h	48	16
PF96h	96	32



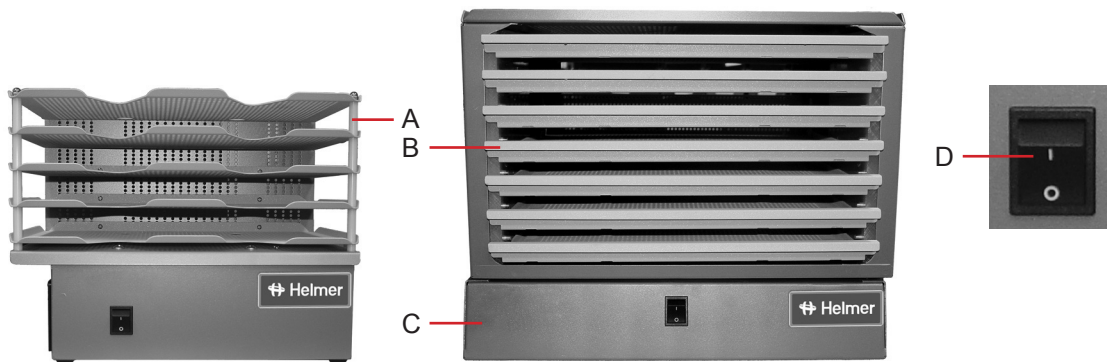
CAUTION When opening drawer, grasp handle (not label holder). Open one drawer at a time.

Open the drawer to be loaded and lay the platelet bags flat.

- ▶ Avoid stacking bags.
- ▶ Maintain enough space around each bag for air circulation. For thicker bags, remove drawers.
- ▶ Place the tubing under or around the bag.

13 Components

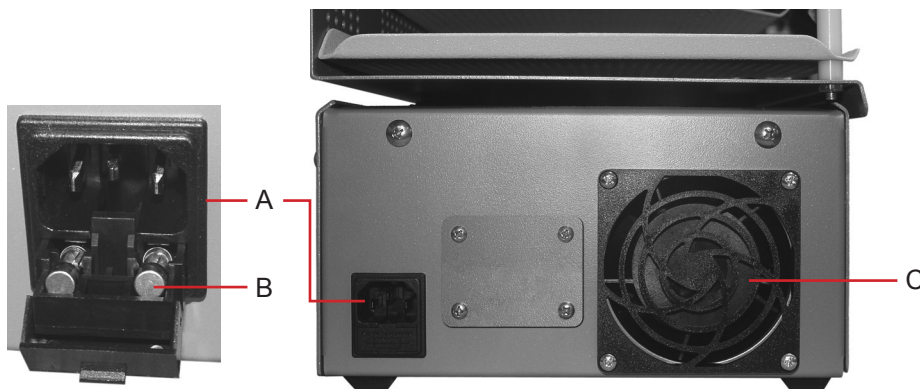
13.1 Front



Front features (multiple models shown).

Label	Description
A	Storage frame
B	Drawer (not included on PF15h)
C	Base
D	Agitation switch

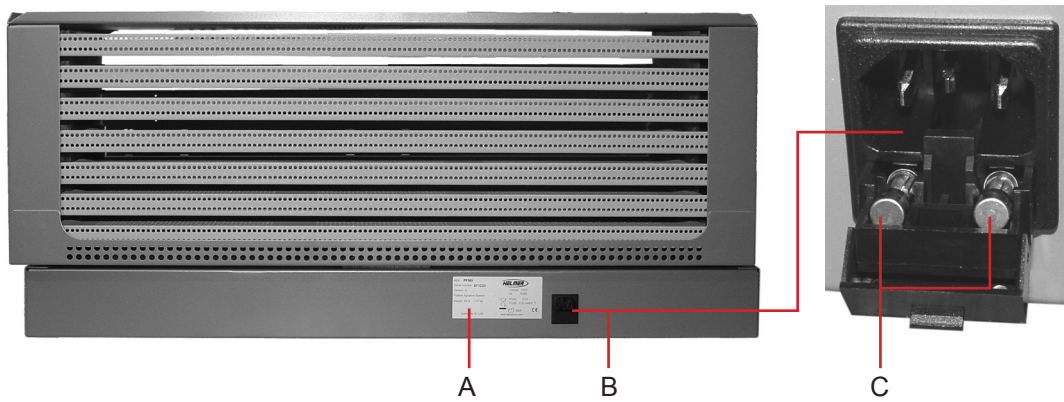
13.2 Left Side



Left side features (PF15h shown).

Label	Description
A	Power connector
B	Fuse
C	Fan

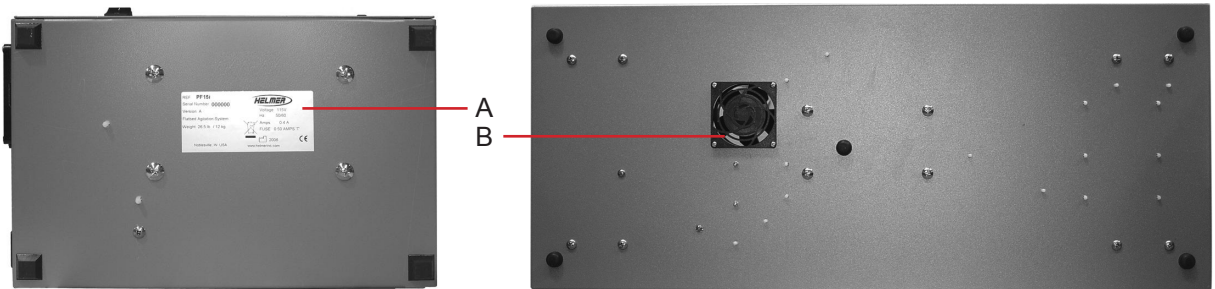
13.3 Rear



Rear features (multiple models shown).

Label	Description
A	Product Specification label
B	Power connector
C	Fuse

13.4 Bottom



Bottom features (multiple models shown).

Label	Description
A	Product Specification label
B	Fan

END OF MANUAL

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