

Platelet Agitator Operation Manual

i.Series® - Pro Models

Countertop

PF15-Pro, PF48-Pro,
PF96-Pro



Document History

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The screenshots and component images appearing in this guide are provided for illustrative purposes only, and may vary slightly from the actual software screens and/or product components.

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1 About this Manual

1.1 Intended Audience

This manual provides information on how to use the Pro Series platelet agitator. It is intended for use by end users of the platelet agitator and authorized service technicians.

1.2 Model Reference

This manual covers all Pro Series platelet agitators which may be identified by their size or model number.

1.3 Intended Use

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

1.4 Safety Precautions and Symbols

Symbols found in this document

The following symbols are used in this manual to emphasize certain details for the user.



Task Indicates procedures which need to be followed.



Note Provides useful information regarding a procedure or operating technique when using Helmer Scientific products.

NOTICE Advises the user against initiating an action or creating a situation which could result in damage to equipment; personal injury is unlikely.

CAUTION Advises the user against initiating an action or creating a situation which could result in damage to equipment or impair the quality of the products or cause minor injury.

WARNING Advises the user against initiating an action or creating a situation which could result in damage to equipment and serious personal injury to a patient or the user.



Authorized representative in the European Community

Symbols found on the units

The following symbols may be found on the agitator or agitator packaging:



CE Mark (European units only)



Earth / ground terminal



Caution: Risk of damage to equipment or danger to operator



Protective earth / ground terminal



Caution: Hot surface



Product falls under the scope of the WEEE (Waste Electrical and Electronic Equipment) directive.



Caution: Shock / electrical hazard

1.5 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 DC 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 products from the platelet agitator.
- ◆ Use only manufacturer supplied power supply/cord when operating stand-alone or within incubator.
- ◆ Using the equipment in a manner not specified by Helmer Scientific may impair the protection provided by the equipment.
- ◆ The platelet agitator is not considered to be a storage cabinet for flammable or hazardous materials.

CAUTION

Decontaminate parts prior to sending for service or repair. Contact Helmer Scientific or your distributor for decontamination instructions and a Return Authorization Number.

1.6 General Recommendations

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.

During initial startup for stand alone operation, device selection of "X" is required for motion to occur.

Initial Loading

After platelet agitator reaches room temperature, begin storing product.

2 Installation

2.1 Location Requirements

Stand Alone

- ◆ To ensure continuous operation of linearly shifting loads, the location surface must be level and adequately accommodate the full weight of the agitator when loaded with product.
- ◆ 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) behind.
- ◆ Minimum 0.75" (20 mm) on left and right sides.
- ◆ Meets limits specified for ambient temperature (15°C to 35°C) and relative humidity.

Note

Add 1.5" (38 mm) to the width to accommodate the trolley frame when agitation motion is enabled with standard throw (default).

Installed in Incubator

- ◆ To ensure continuous operation of linearly shifting loads, the location surface must be level and adequately accommodate the full weight of the incubator with installed agitator when loaded with product.

Note

- Only Helmer Pro series platelet agitator may be used with Pro series platelet incubator.
- When placing an agitator in the PC900-Pro or PC1200-Pro, ensure agitator placement allows the roll-top door to open

2.2 Power and Communication Connection

Note

- Use only the DC power cord supplied with the incubator when configuring the agitator within the incubator.
- Use only the optional Helmer AC/DC power supply for stand-alone configuration.

Stand Alone

The platelet agitator may be used in a stand-alone configuration. A power supply with adaptable plugs is available for stand-alone use. Select and install the desired plug prior to attaching the power supply to the agitator. The power supply is not used when configured inside a Helmer Pro Series Platelet Incubator.



Configure and Attach Power Supply

1. Remove the cover plate by using the thumb to push and hold the spring loaded locking key downward while sliding the plate forward. Retain the cover plate in secure location for future use.
2. Select the desired plug and slide in place until it locks (a clicking sound will occur). Make sure the plug is firmly attached.
3. Attach the power supply to the platelet agitator, and ensure the rotating lock is finger tight prior to plugging power supply into facility AC.

Installed in Incubator

Helmer Pro Series Platelet Agitator may be installed in a Helmer Pro Series Platelet Incubator.

Connect the data cable and DC power cable supplied with the incubator prior to placing the agitator inside the incubator.

Notes

- Only Helmer Pro Series Platelet Agitator models may be used with Pro Series Platelet Incubator models.
- Ensure AC power and backup battery power are turned **OFF** prior to connecting an agitator.



Power Cable



Communication Cable

Attach Power and Communication cables

1. Attach the coiled DC power cable to the platelet agitator, and ensure the rotating lock at each end is finger tight.
2. Insert the communication cable in the data cable port.

2.3 Mounting Brackets

Mounting brackets are included and may be installed for use inside the incubator or in stand-alone configuration.

Install Mounting Brackets

1. Carefully place the agitator on its back on a solid surface allowing access to the bottom of the unit.
2. Locate the two nutserts in the right or left side toward the front of the unit and align with the two holes in the mounting bracket.
3. Hand thread the screws through each hole, and secure using a #2 Phillips screwdriver.
4. Repeat steps 2 and 3 for the opposite side.
5. Return the agitator to the upright position.
6. Carefully place the agitator in the desired location aligning the hole in each bracket with the holes in the mounting surface. (If mounting inside an incubator, remove screws in the floor of the incubator prior to installing the agitator).
7. Hand thread the screws through the bracket and into the mounting surface. Secure using a #2 Phillips screwdriver.

2.4 Placement, Leveling and Setup

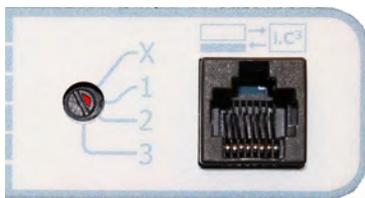
CAUTION

- To prevent damage, do not use the storage frame, trolley or trolley drawer to lift agitator.
- The communication switch is fragile, do not use excessive force when changing the setting.

NOTICE

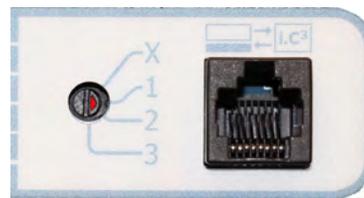
- When lifting platelet agitator, lift using the ends of the base.
- If the base is not accessible, lift using the ends of the storage frame.

Stand Alone



1. Place platelet agitator on sturdy surface.
2. Ensure platelet agitator is level.
3. Using a small flathead screwdriver, turn the communication switch to the X position. Ensure the arrow (shown in red for visibility in the picture above) is pointing to the X.

Installed in Incubator



1. Using a small flathead screwdriver, turn the communication switch to the 1 position. Ensure the arrow (shown in red for visibility in the picture above) is pointing to the 1.
2. Place platelet agitator inside platelet incubator.
3. Ensure platelet agitator is level.

2.5 Storage Configuration

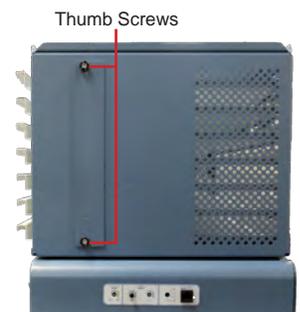
Drawers can be removed or moved to create additional storage space. Label holders are available and may be installed on drawers.

CAUTION

To avoid injury, ensure both left and right side drawer stop panels are fully installed prior to operating the agitator.

Remove and Replace Drawers

1. Remove the thumb screws securing the drawer stop panels to the left and right sides of the agitator. (Note the orientation of each panel)
2. Carefully pull each panel from the agitator and set panels and thumb screws aside.
3. Slide the drawer(s) out and remove.
4. Reinstall drawer in desired location by aligning the outer edges of the drawer with the slots in the drawer guides and push inward.
5. Reinstall the drawer stop panels in the same orientation as removed, and secure with thumb screws ensuring they are finger tight.





Install Label Holders (optional)

1. Insert the tabs on the label holder into the slots on the drawer.
2. Pivot the holder around the drawer handle and align the hole on the label holder with the corresponding hole on the drawer.
3. Push thumb screw through the hole in the label holder and through the hole in the drawer to secure.

2.6 Load the Agitator



Table 1

Model	Capacity	
	WBD/Random Bags	SDP/Apheresis Bags
PF15-Pro	15 (2 per drawer; 3 per shelf)	7 (1 per drawer/shelf)
PF48-Pro	48 (6 per drawer/shelf)	16 (2 per drawer/shelf)
PF96-Pro	96 (12 per drawer/shelf)	32 (4 per drawer/shelf)

PF48-Pro agitator with platelet bags (shown in a Helmer PC900-Pro incubator).

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. The top of the storage frame may also be used for bag storage. Avoid stacking bags. Maintain enough space around each bag for air circulation. For thicker bags, remove drawers. Place the bag tubing under or around the bag.

3 Operation

3.1 Initial Start Up

Stand Alone

Notes

- Use only rechargeable 9V NiMH batteries (1 included) for backup power to the motion alarm.
- Backup battery may need charging prior to use.
- Turning the alarm ON/OFF switch ON turns the motion alarm ON and further allows the backup battery to recharge. When in the OFF position, the Alarm is not activated and the battery will not recharge.

1. Plug the power supply cord into a grounded outlet that meets the electrical requirements on the product specification label.
2. Switch the alarm ON/OFF switch **ON**.
3. Select alarm volume and alarm delay settings.
4. Switch power ON/OFF switch **ON**.

Installed in Incubator

When installed in an Pro Series Incubator, motion information is transmitted from the platelet agitator to the platelet incubator through a data cable. Power is supplied to the agitator through a dedicated DC power cord.

1. Switch the alarm ON/OFF switch **ON**.
2. Select alarm volume and alarm delay settings.
3. Switch power ON/OFF switch **ON**.

Notes

- Refer to the platelet incubator operation manual for more information regarding the installation of a platelet agitator in a platelet incubator.
- Only Helmer Pro Series platelet agitator models may be used with Pro Series platelet incubator models.
- Ensure data cable is carefully positioned to the right of the agitator to prevent damage caused by agitation motion.
- Stand-alone power supply should not be used when configuring a platelet agitator in a platelet incubator.
- Use only manufacturer supplied DC power cord when configuring a platelet agitator in a platelet incubator.
- Ensure power switch and alarm switch are switched **OFF** prior to connecting the agitator power cord to the incubator.

3.2 Motion Alarm

Stand Alone

- ◆ 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.
- ◆ Set the communication switch to "X" when in stand-alone configuration using a small flathead screwdriver.

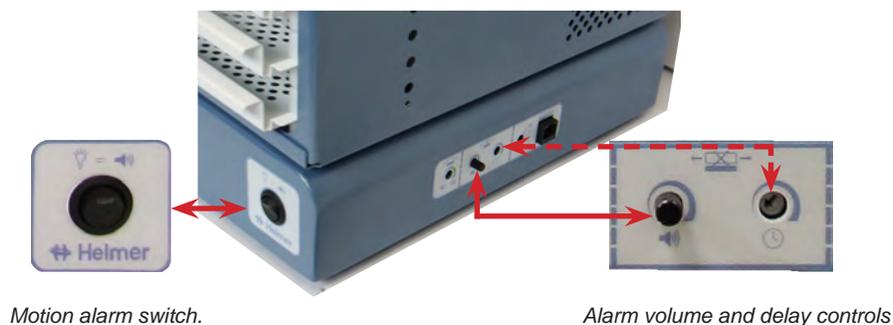
Installed in Incubator

When installing the Pro Series platelet agitator in a Pro Series platelet incubator, the motion alarm on the agitator will be suppressed when the agitator is in communication with the incubator. With the agitator motion alarm enabled, the agitator alarm will sound if motion stops and communication is lost.

Notes

- Helmer recommends the motion alarm ON/OFF switch remain in the ON position.
- 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.
- Once the agitator has been connected to the incubator, communication will be interrupted, and the incubator will alarm, if the power switch is turned OFF.

3.3 Motion Alarm Controls



Motion alarm switch.

Alarm volume and delay controls

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

- ◆ Red alarm LED on motion alarm switch flashes.
- ◆ Audible alarm buzzer sounds when in stand-alone mode, the motion alarm switch is turned on, adjustable alarm delay time has been exceeded, and volume has been turned up.
- ◆ 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 Pro Series Platelet incubator (if Pro Series platelet agitator is installed in a Pro Series platelet incubator).

Enable and Disable Motion Alarm

1. Switch the motion alarm ON/OFF switch **ON**.
2. Set volume to desired level.
3. 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.

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.

Notes

- The minimum alarm delay that can be set is approximately 10 seconds.
- Maximum alarm delay is approximately 10 minutes.
- The default motion alarm delay is set at the halfway point (approximately 4 to 5 minutes).

Set Alarm Delay

1. Using a small flat-head screwdriver, rotate the control to the left (counterclockwise) to shorten the motion alarm delay.
2. Using a small flat-head screwdriver, rotate the control to the right (clockwise) to extend the motion alarm delay.

Alarm Volume

The motion alarm volume has a variable setting.

Note

- Rotating the volume control fully counter-clockwise will silence the audible alarm. If the motion alarm switch is turned ON, the LED will blink providing a visual alarm when the agitator is in an alarm condition.
- Alarm volume is applicable only when the agitator alarm switch is in the ON position and the platelet agitator is in stand-alone mode, or when communication is lost when configured in a platelet incubator.

Set Alarm Volume

Rotate the motion alarm dial to the appropriate position for the desired volume level.

3.4 Enable or Disable Motion



Agitation switch.

Agitator Speed Control

i Notes

- The agitator speed is factory set to 72 CPM (as displayed in green) and is applicable when used in stand-alone operation.
- For a setpoint of 72 CPM, rotate the arrow into the center of the green zone. This is an expanded 72 CPM setpoint area.
- For a platelet agitator in stand-alone configuration, switching the agitation ON/OFF switch **ON** will start the agitation motion.
- For a platelet agitator in stand-alone configuration or installed in a platelet incubator, switching the agitation ON/OFF switch **OFF** will stop the agitation motion.
- For a platelet agitator installed in a platelet incubator, the communication switch must be switched to 1 or greater. If the communication switch is set to X, the agitator will not start/stop based on the platelet incubator door position.

Stand Alone

i Start / Stop Agitation

1. Select the desired speed from 40 to 80 CPM.
2. Load items into the platelet agitator.
3. Switch the agitation ON/OFF switch **ON** to begin movement.
4. Switch the motion alarm switch ON/OFF switch **ON**.
5. Switch the motion alarm switch ON/OFF switch **OFF**.
6. Switch the agitation ON/OFF switch **OFF** to stop movement.
7. Remove items from the platelet agitator.

Installed in Incubator

The door switch on Helmer platelet incubators controls whether the installed platelet agitator is turned on or off. When the incubator door is opened, agitation motion is paused. When the incubator door is closed, agitation motion is resumed.

i Start / Stop Agitation

1. Open the platelet incubator door. Agitation motion stops.
2. Load items into the platelet agitator.
3. Close the platelet incubator door. Agitation motion resumes.
4. Open the platelet incubator door. The platelet agitator motion stops.
5. Remove items from the platelet agitator.
6. Close the platelet incubator door.

4 Specifications

4.1 Operating Standards

These units are designed to operate under the following environmental conditions:

- ◆ Indoor use only
- ◆ Altitude (maximum): 2000 m
- ◆ Ambient temperature range: 15 °C to 35 °C
- ◆ Relative humidity (maximum for ambient temperature): 80% for temperatures up to 31 °C, decreasing linearly to 45% at 35 °C
- ◆ Overvoltage category: I
- ◆ Pollution degree: 2
- ◆ Sound level is less than 60 dB(A).
- ◆ Mains supply voltage: ±10% of nominal voltage
- ◆ RF Emissions: Group 1 - Class A
- ◆ EMC Environment: Basic

Note

Power draw is measured in full-load Amperes during stand-alone operation and includes power supply.

Table 2. Electrical Specifications

	PF15-Pro	PF48-Pro	PF96-Pro
Input Voltage and Frequency	Stand-alone (power supply): 100-240 VAC, 50/60 Hz Agitator Unit: 24VDC		
Voltage Tolerance	±10% (AC input to power supply)		
Power Draw	≤ 16 Watts nominal		
Power Source	24VDC AC/DC power supply (stand-alone) 24VDC umbilical cable (configured with incubator)		
Agitation Speed (cycles / minute)	40-80 CPM		
Remote Alarm Capacity	1 A at 33 V (AC) RMS or 70 V (DC)		

Table 3. Agitator Specifications

	PF15-Pro	PF48-Pro	PF96-Pro
Height	13.5" (343 mm)	14.9" (379 mm)	14.9" (379 mm)
Width	16.0" (407 mm)	17.8" (453 mm)	32.8" (834 mm)
Depth	9.1" (232 mm)	14.9" (379 mm)	14.9" (379 mm)
Weight	33 lbs (15 kg)	50 lbs (23 kg)	80 lbs (37 kg)

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 70 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 Safety Compliance



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

This product is certified to applicable UL and CSA standards by a NRTL.

This product is IECEE CB Scheme certified and complies with national differences for safety certification beyond IEC 61010-1-12 3rd edition.

5.2 Environmental Compliance



This device complies with the 2011/65/EU Directive for the Restriction of Hazardous Substances (RoHS).



This device falls under the scope of Directive 2102/19/EU Waste Electrical and Electronic Equipment (WEEE) .

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.

5.3 Electromagnetic Compliance

Helmer Scientific Agitators meet the applicable requirements of IEC61326 and EN55011 and are intended for use in the electromagnetic environment specified in 4.1 Operating Standards. The customer or the user of these devices should assure they are used in such environment.



This device complies with FCC Radiated and Conducted Emissions Approval to CFR47, Part 15; Class A levels



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6 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.

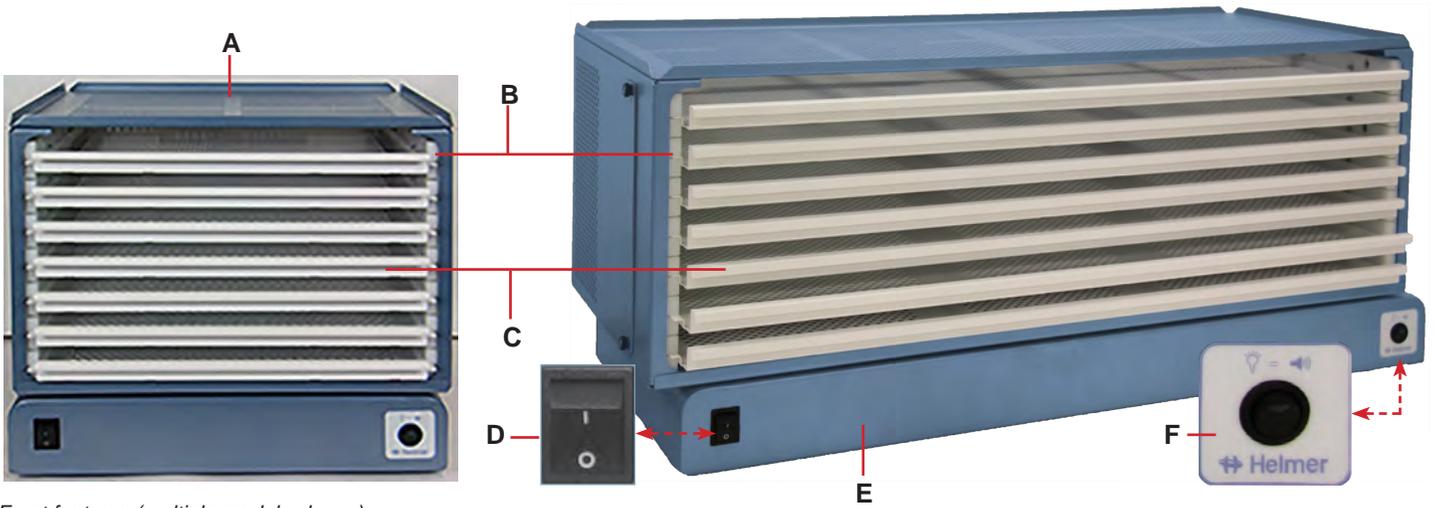
Table 4. Preventive Maintenance Schedule

Task	Frequency		
	Quarterly	Annually	As Needed
Test the motion alarm.	✓		
Check the 9V NiMH 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.		✓	
Check moving parts for wear. Clean moving parts.		✓	
Replace moving parts if worn.			✓
Clean the exterior of the platelet agitator.			✓

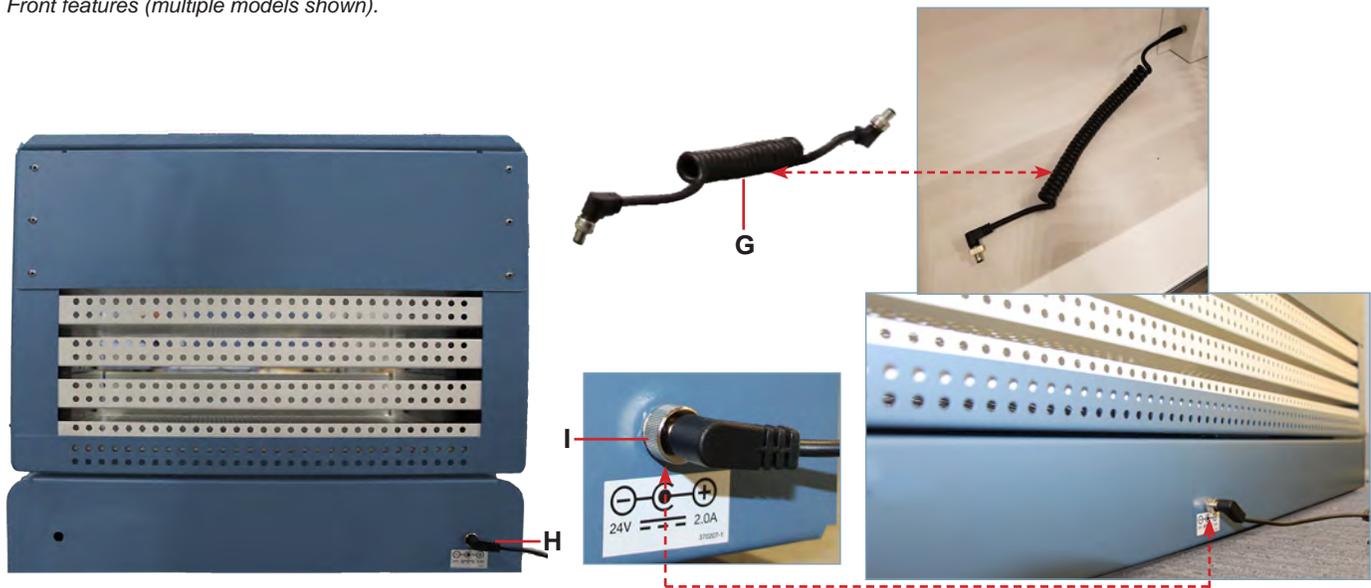
Notes

- 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.
- If battery has been in service for one year, replace battery.
- Use only manufacturer specified rechargeable battery for replacement (9V NiMH battery with a capacity of ≥ 175 mAh).

Appendix A: Parts



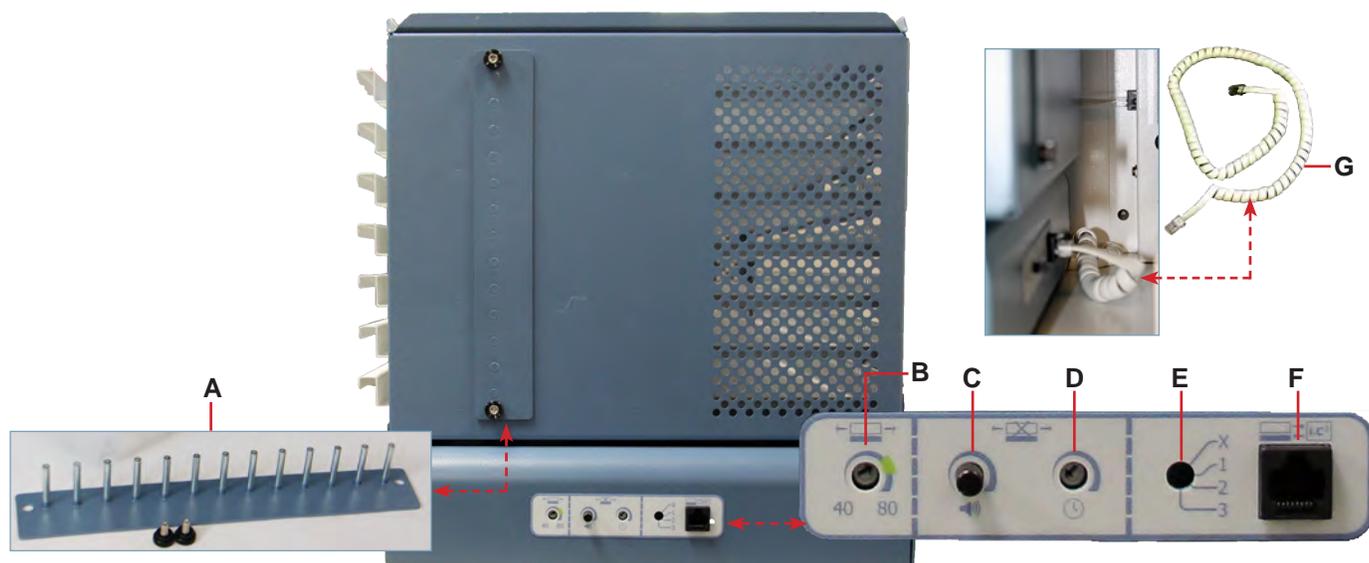
Front features (multiple models shown).



Rear features (multiple models shown).

Label	Description	Label	Description
A	Shelf	F	Motion alarm switch
B	Drawer guides/trolley	G	Power cord (installed in incubator)
C	Drawer	H	Power cord (stand alone)
D	Power switch	I	Power connector with rotating lock nut
E	Base		

Right Side



Right side features (multiple models shown).

Label	Description	Label	Description
A	Drawer stop panel	E	Agitator communication setting
B	Agitator speed control (stand-alone configuration only)	F	Data cable port
C	Alarm volume control	G	Communication cable (for use with Pro Series Incubator)
D	Alarm delay control		

