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# User's Manual

## CApture™ Portable Fuming Systems

### **Models**

3420000  
3420020  
3420022  
3420024

To receive important product updates,  
complete your product registration card  
online at [register.labconco.com](https://register.labconco.com)

Please read the User's Manual before operating the equipment.

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## **Warranty**

Labconco Corporation provides a warranty to the original buyer for the repair or replacement of parts and reasonable labor as a result of normal and proper use of the equipment with compatible chemicals. Broken glassware and maintenance items, such as filters, gaskets, light bulbs, finishes and lubrication are not warranted. Excluded from warranty are products with improper installation, erratic electrical or utility supply, unauthorized repair and products used with incompatible chemicals.

The warranty for CApture™ Portable Fuming Systems will expire one year from date of installation or two years from date of shipment from Labconco, whichever is sooner. Warranty is non-transferable and only applies to the owner (organization) of record.

Buyer is exclusively responsible for the set-up, installation, verification, decontamination or calibration of equipment. This limited warranty covers parts and labor, but not transportation and insurance charges. If the failure is determined to be covered under this warranty, the dealer or Labconco Corporation will authorize repair or replacement of all defective parts to restore the unit to operation. Repairs may be completed by 3<sup>rd</sup> party service agents approved by Labconco Corporation. Labconco Corporation reserves the rights to limit this warranty based on a service agent's travel, working hours, the site's entry restrictions and unobstructed access to serviceable components of the product.

Under no circumstances shall Labconco Corporation be liable for indirect, consequential, or special damages of any kind. This warranty is exclusive and in lieu of all other warranties whether oral, or implied.

## **Returned or Damaged Goods**

Do not return goods without the prior authorization from Labconco. Unauthorized returns will not be accepted. If your shipment was damaged in transit, you must file a claim directly with the freight carrier. Labconco Corporation and its dealers are not responsible for shipping damages.

The United States Interstate Commerce Commission rules require that claims be filed with the delivery carrier within fifteen (15) days of delivery.

## **Limitation of Liability**

The disposal and/or emission of substances used in connection with this equipment may be governed by various federal, state, or local regulations. All users of this equipment are required to become familiar with any regulations that apply in the user's area concerning the dumping of waste materials in or upon water, land, or air and to comply with such regulations. Labconco Corporation is held harmless with respect to user's compliance with such regulations.

## **Contacting Labconco Corporation**

If you have questions that are not addressed in this manual, or if you need technical assistance, contact Labconco's Customer Service Department or Labconco's Product Service Department at 1-800-821-5525 or 1-816-333-8811, between the hours of 7:30 a.m. and 5:30 p.m., Central Standard Time.

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# Chapter 1: Introduction

Congratulations on the purchase of a Labconco CApture Portable Fuming System. The CApture is unique, offering a self-contained, portable system for developing latent fingerprints using the cyanoacrylate (CA) fuming method. CApture has a solid state heater control, exhaust fan, and an internal two stage filter to remove CA fumes at the end of the development process.

The Portable Fuming System offers many unique features to enhance performance and flexibility. To take full advantage of them, please acquaint yourself with this manual and keep it handy for future reference. Because of its uniqueness, even if you are familiar using the CA fuming method, please review both *Chapter 3: Theory of Operation and Safety Precautions* and *Chapter 4: Using the System*; which describe the CApture's features so that you can use it efficiently.

**This manual and other technical information is available in PDF format at our website: [www.labconco.com](http://www.labconco.com).**

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## Chapter 2: Prerequisites

Carefully read this chapter to learn:

- Supplies required.
- Electrical power requirements.
- Exhaust requirements.

### Supplies Required

Before you use the Fuming System, you need get the following items:

- 1 bottle of CA glue (the capacity of the filter is approximately 2 ounces (57gm))

**Note:** For best results, do not use CA with thickening or gap filling formulations.

- A supply of aluminum heating pans, in addition to the 10 shipped with the unit. A bag of 250 pans is available as Labconco part number 34252002.
- A supply of Rain-X<sup>1</sup> or Rain Block<sup>2</sup> to treat the clear chamber before use.

### Exhaust Requirements

If you intend to connect the system to the optional Exhaust Connection Kit, first examine the location to ensure that the exhaust duct can be directed either out of the immediate area (through a partially opened window), or into a chemical fume hood. For further information about the CAPture's exhaust system requirements, please refer to Appendix D: Accessories.

**Note:** For best results, do not add any additional exhaust duct to that already supplied in the exhaust connection kit. Additional lengths of duct

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<sup>1</sup> Rain-X is a registered trademark of Sopus Products.

<sup>2</sup> Rain Block is a trademark of Value Smart Products, Inc.

will reduce the exhaust flow out of the chamber, possibly resulting in incomplete venting of the CA fumes.

## Electrical Requirements

The system models have the following electrical requirements:

**Table 2-1**

<b>Model #</b>	<b>Requirements</b>
3420000	115 VAC, 60 Hz, 1 Amp
34200-20, -22, -24	230 VAC, 50/60 Hz, 0.5 Amp

**Note:** An outlet with a circuit breaker rated at 10 amps for 115 volt models (5 amps for 230 volt models) should be located as close as possible to the system. Power cords supplied with the print system are 3 meters (10 feet) long.

**Note:** The system can be operated on an inverter, converting 12 Volts DC to the appropriate AC voltage. The inverter should have an output rating of at least 100 Watts, and protected against current overload for proper operation.

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# Chapter 3:

## Theory of Operation and Safety

### Precautions

The CApture operates using the following principles:

- CA polymerization.
- Generation of CA fumes through controlled heating.
- Removal of CA droplets and fumes by a two stage filter.

The major components in the system are:

- The clear chamber
- The controller and heater.
- The two stage filter.
- The blower to force air through the system.

### CA Polymerization

Cyanoacrylate is the generic name for fast-acting adhesives such as methyl 2-cyanoacrylate or ethyl-2-cyanoacrylate. CA adhesives are sometimes known as "instant glues." CA is an acrylic resin which rapidly polymerizes in the presence of water (specifically hydroxide ions), forming long, strong chains, joining the bonded surfaces together. CA is a tenacious adhesive, particularly when used to bond non-porous materials or those that contain minute traces of water. It is also very good at bonding body tissue, and this can be a bothersome (or even dangerous) side effect during everyday use.

Cyanoacrylate is used as a forensic tool to capture latent fingerprints on non-porous surfaces such as glass, plastic, etc. The cyanoacrylate fuming method (often called the super glue method) heats the CA to produce fumes which react with amino acids, fatty acids, and proteins in the latent fingerprint and the moisture in the air to produce a visible, sticky white polymer (polycyanoacrylate) on the fingerprint ridges. The ridges can then be recorded. The developed fingerprints are, on most surfaces (except on

white plastic or similar), visible to the naked eye. The reaction must be monitored to ensure that it is not allowed to continue for too long. If it runs unchecked, the latent fingerprints can overdevelop and the chemical images of the ridges will slowly grow wider until they overlap, obscuring vital detail.

## **Generation of CA Fumes Through Controlled Heating**

CA adhesives have a boiling point of approximately 120°F (50°C). With increasing heat, cyanoacrylate decomposition products begin to appear at temperatures above 250°F (121°C), and when the temperature exceeds 400°F (204°C), hydrogen cyanide can be produced. It is therefore critical to maintain a consistent, controlled heat throughout the development process.

The CAPture Print System uses a heater, controlled by a digital controller. The user-programmed controller maintains the set temperature between the minimum of 120°F (50°C) and maximum of 350°F (177°C). A redundant safety switch limits the heater temperature to a maximum of 350°F (177°C), in the event of a controller malfunction.

## **Clear Chamber**

The clear chamber is made out of durable, shatter-resistant polycarbonate. It protects the heater/filter module when the unit is being transported, and allows an unobstructed view of the evidence during the fuming process. While the clear chamber is resistant to many chemicals, it is not resistant to CA fumes, and it **MUST** be treated with either Rain-X® or Rain Block™ glass water repellent. Labconco has tested these two treatments, and found they protect the clear chamber from CA fumes for up to 20 uses, if properly applied, and the treatment is not disturbed. Always follow the treatment manufacturer's instructions when applying the treatment. Labconco has not tested any other brands of glass treatment chemicals, and cannot recommend their usage.

## **Two Stage Filter System**

CA droplets and fumes are removed from the air in the clear chamber by a two stage filtration system. The first stage of the filter cartridge is a polyester loft particulate filter, having a Minimum Efficiency Reporting Value (MERV) of 11, meaning it removes 65-79% of particles 1.0-3.0 microns in size, and more than 85% of particles 3.0-10 microns in size. The second stage of the filter is specially prepared granular activated carbon (GAC) that adsorbs any gaseous CA as the air flows through the carbon bed. See Appendix A for replacement part numbers. Using the recommended amount of CA for proper development, the filter should last for a minimum of 100 fuming cycles (about 2 oz, or 57ml) before replacement.

### **Blower**

The blower assembly pulls air out of the clear chamber, through the filter, and then exhausts it out of the system.

### **Safety Precautions**

Always wear appropriate personnel protective equipment (PPE), such as protective eyewear and gloves when handling CA, its byproducts or residue.

CA fumes irritate sensitive membranes in the eyes, nose and throat. They are immediately polymerized by the moisture in the membranes and become inert. These risks can be minimized by using CA in well ventilated areas.

About 5% of the population can become sensitized to CA fumes after repeated exposure, resulting in flu-like symptoms. It may also act as a skin irritant and may cause an allergic skin reaction. On rare occasions inhalation may trigger asthma.

Applying cyanoacrylate to materials made of cotton or wool (such as cotton swabs, cotton balls, and certain yarns or fabrics) results in a powerful, rapid exothermic reaction. The heat released may cause minor burns, and if enough cyanoacrylate is used, the reaction is capable of igniting the cotton product, as well as releasing irritating vapor in the form of white smoke. Material Safety Data Sheets for cyanoacrylate instruct users not to wear cotton or wool clothing, especially cotton gloves, when applying or handling cyanoacrylates.

Recommended solvents for removing polycyanoacrylate residue from the metallic surfaces of the Fuming System include:

- Acetone - Commonly found in nail polish remover.
- Nitromethane
- Dimethyl sulfoxide
- Gamma-butyrolactone – Effective and has low toxicity.

NEVER use these chemicals to remove CA or its residue from the eyes or sensitive mucous membranes. Seek medical attention if needed. NEVER use these chemicals to remove CA or its residue from the clear chamber, as they will damage the plastic.

Ensure that the system is connected to electrical service in accordance with local and national electrical codes. Failure to do so may create a fire or electrical hazard. Do not remove or service any electrical components without first disconnecting the unit from electrical service.

The system is only designed to heat cyanoacrylate. NEVER use this unit to heat any other chemicals.

NEVER put CA or water directly on the heater surface. ALWAYS put water or CA into heating pans, and then place these on the heater.

NEVER exceed 8 drops of CA per development cycle.

NEVER operate the system without the clear chamber attached to the stainless steel face plate. The Portable Fuming System was not designed to generate CA fumes for large areas or volumes.

NEVER attempt to override the temperature controller or the over temperature switch; Serious damage to the heating element and/or other parts of the system may result.

NEVER attempt to develop evidence containing flammable gases or solvents.

Do not operate the system without the appropriate filter in place. If an odor is detected coming out of the granular activated carbon, it needs to be replaced.

The system weighs approximately 22 lbs. (10 kg). Always follow safe-lifting guidelines when transporting the unit.

When cleaning the system:

- Always wear appropriate personnel protective equipment.
- NEVER use solvents to clean the clear chamber. Use mild soap or detergent and warm water to clean the chamber.
- NEVER spray cleaner or any liquid into the fan exhaust located on the top of the system; this may damage the blower.
- Ensure adequate room ventilation.
- DO NOT allow bleach or disinfectants with high concentrations of free chlorine to contact the stainless steel components of the system for a long period of time. Free chlorine will corrode stainless steel after extended contact.

Do **NOT** use a detachable power cord that is not adequately rated for this product.

Always disconnect the power cord from wall outlet before beginning service operations.

Do not damage internal wiring or other components while service panels are removed. If internal wiring or components are damaged, do not

restore power, contact Labconco's Product Service Department immediately.

Wear all required Personnel Protective Equipment (PPE) during service operations. At a minimum, this includes: eye protection, breathing protection, skin protection. Do not wear loose fitting clothes that can catch on internal surfaces.

**After service, verify safe state of use before using the product. Contact Labconco's Product Service Department for questions on determining safe state of this product.**

Verify protective earth ground continuity before using equipment.

No special ventilation requirements.

No hazards exist for: explosion, implosion, or release of toxic or flammable gases arising from the materials being heated.

No Heat Transfer Media is required for the normal operation of this equipment.

Cleaning solutions that do not contain chlorine-based disinfectants (such as Bleach or hypochlorites) may be safely used on this equipment.  
**If there is any doubt about the compatibility of decontamination or cleaning agents, contact Labconco's Product Service Department.**

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## Chapter 4: Using the System

This chapter covers how to:

- Unpack and transport the system.
- Hints for handling CA.
- Connecting the electrical supply source.

Except a box knife to open the carton, no tools are required for preparation of the system.

**Note:** The system weighs approximately 22 lbs. (10 kg). Always follow safe-lifting guidelines when transporting the unit.

### Unpacking the System

Carefully open the carton and inspect the system for damage that may have occurred in transit. If the system is damaged, notify the delivery carrier immediately and retain the entire shipment intact for inspection by the carrier.

**Note:** United States Interstate Commerce Commission rules require that claims be filed with the delivery carrier within fifteen (15) days of delivery.

Do not return goods without the prior authorization of Labconco. Unauthorized returns will not be accepted.

If the unit was damaged in transit, you must file a claim directly with the freight carrier. Labconco Corporation and its dealers are not responsible for shipping damages.

Do not discard the carton or packing material for the system until all of the components have been checked, installed and tested.

**Note:** The following are located in the carton:

- **User's Manual**
- **Product Registration Card**
- **Filter Service Reminder Card**

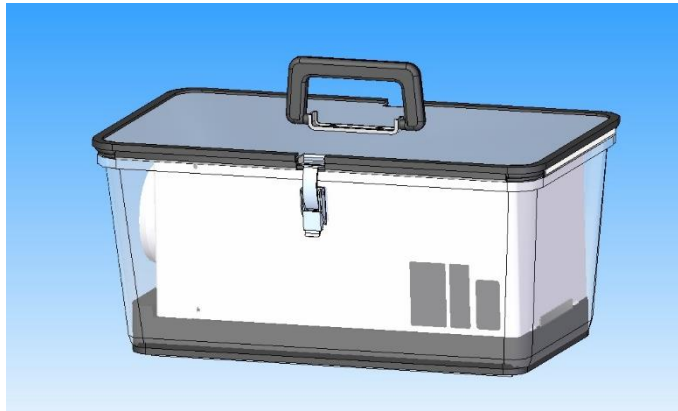
**Located in the clear chamber:**

- **Foam Storage Insert (DO NOT DISCARD), containing:**
  - **Power Cord**
  - **10 Heating Pans**
  - **1 Hook**
  - **1 Shelf**
  - **1 Pair of Pliers**

**If you did not receive one or more of the components listed for the system contact Labconco Corporation immediately for further instructions.**

The system is shipped in the transport mode, as shown in Figure 4-1

**Figure 4-1**



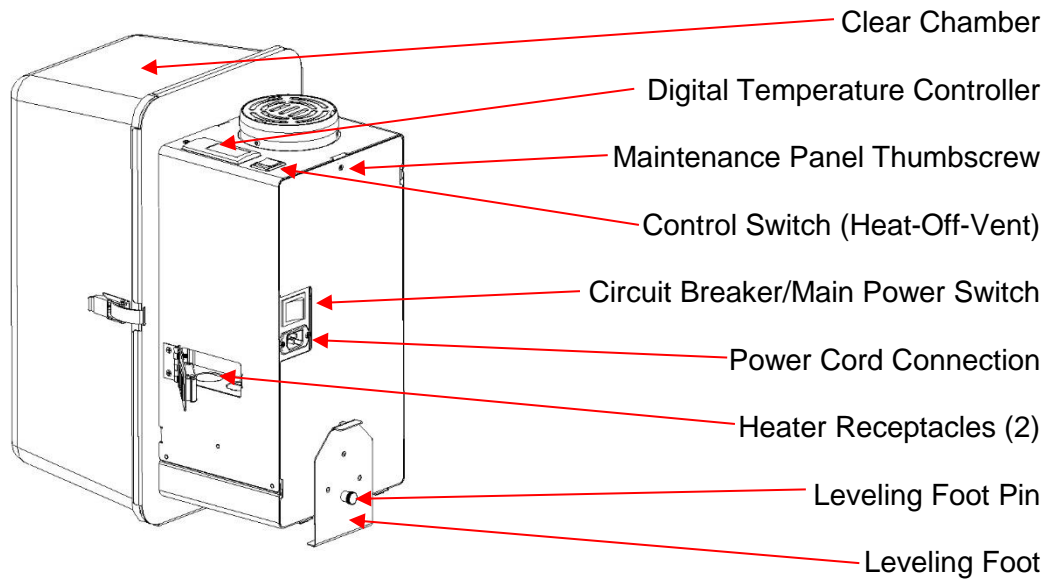
## **Transporting the System**

When transporting the system, the unit should be in transport mode, with the heater/filter module nested in the clear chamber and the transport lid locked on top.

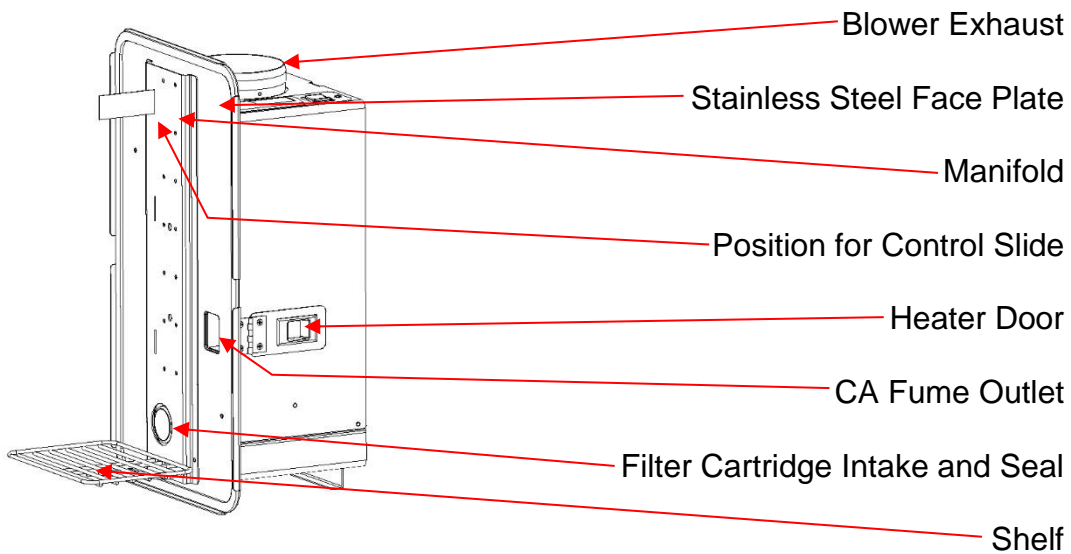
**Note:** NEVER transport the system in the operating mode (Figure 4-2a). The heater/filter module can be damaged by rough handling when not protected by the clear chamber.

## Component Identification

**Figure 4-2a**



**Figure 4-2b**



## Hints for Handling CA

NEVER use the system without first protecting the inside surfaces of the clear chamber with Rain-X® or Rain Block™ glass water repellent. Labconco has tested these two treatments, and found they protect the clear chamber from CA fumes for up to 20 uses, if the treatment is not disturbed. Always follow the treatment manufacturer's instructions when applying the treatment. Labconco has not tested any other brands of glass treatment chemicals, and cannot recommend their usage.

CA will react and polymerize on any surface or material that is wet or damp. NEVER use the system on wet or damp evidence.

If you are trying to reuse CA heating pans, discard them after the second use. If reused more than a single time, buildup of residue on the bottom of the pan will affect the transfer of heat to the glue.

Don't use any heating pan with a dented or warped bottom; it will not heat the CA as efficiently.

Because the presence of moisture causes the glue to set, exposure to moisture in the air can cause a tube or bottle of glue to become unusable over time. To prevent an opened container of glue from setting during long term storage, store it in a freezer, or in an airtight jar or bottle with a package of silica gel.

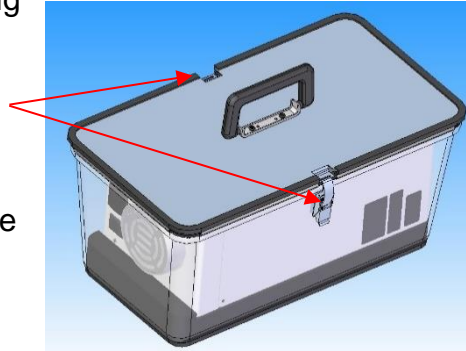
## Preparing the System for Operation

### Set Up

After the Portable Fuming System has been removed from its carton and positioned in a suitable location, you must:

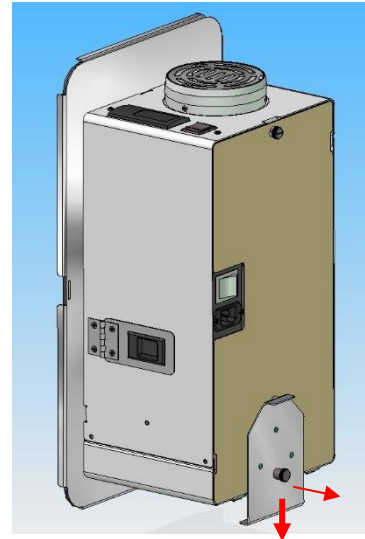
**Figure 4-3**

1. Release the two clamps securing the transport cover to the clear chamber, as shown in Figure 4-3. Set the transport cover aside. Lift the heater/filter module out of the chamber. Remove the accessories and the foam storage insert from the bottom of the clear chamber.



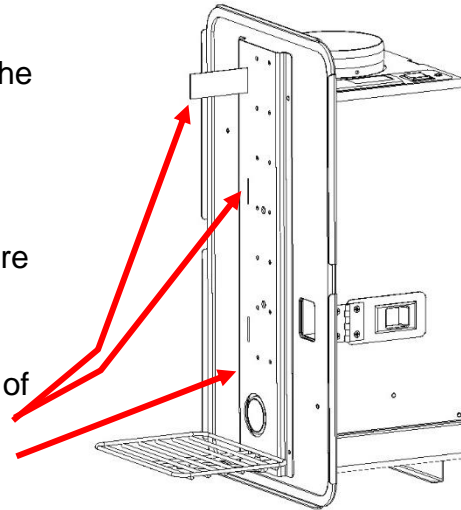
**Figure 4-4**

2. Put the leveling foot in the down position by pulling the pin out and sliding the foot down until the pin sets, as shown in Figure 4-4.
3. Before using the system, protect the inside surface of the clear chamber with Rain-X® or Rain Block™ glass water repellent. Labconco has tested these two treatments, and found they protect the clear chamber from CA fumes for up to 20 uses, if the treatment is not disturbed. Always follow the treatment manufacturer's instructions when applying the treatment.



**Figure 4-5**

4. Select the hooks or shelves needed to hang or support the evidence to be developed. Engage the hooks and/or shelves into the appropriate holes on the stainless steel face plate, as shown in Figure 4-5.

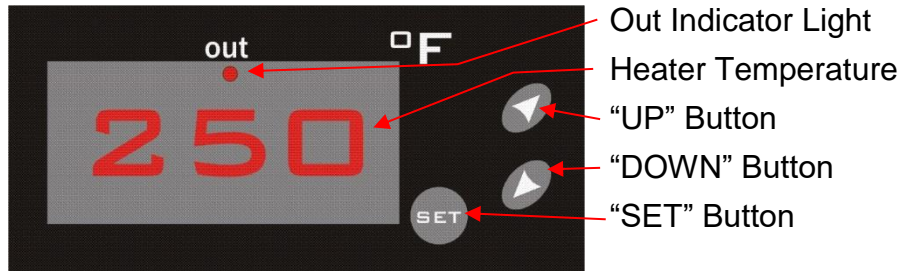


5. Place the evidence so that fumes can contact as much of its surface as possible. If desired, place a control fingerprint on a glass slide, and set the slide into one of the slide slots in the face plate.
6. Seal the clear chamber to the stainless face plate, using the clamps on either side of the chamber. The unit is now in operating mode, as shown in Figure 4-2a and 4-2b.
7. Plug the unit in, and make sure the main power switch is in the "ON" position.

## Heater Adjustment

1. Push the control switch to the “Heat” position. The temperature of the heater will be displayed on the controller, as shown in Figure 4-6. When the heater is on, the “out” indicator will be lit.

Figure 4-6



2. To check or change the temperature setting:
  - a. Press SET. “SP” will appear on the display.
  - b. Press SET again. The current temperature setting is displayed.
  - c. The setting can be changed by pressing the UP or DOWN buttons. The heater temperature must range between 120° and 350°F (50°-177°C).
  - d. Press the SET button to enter the new setting.
  - e. Press SET and DOWN at the same time to exit the programming mode.
3. Within 3-5 minutes, the temperature of the heater will stabilize at the setpoint (+/- 15 degrees).

## Fuming Procedure

NOTE: The quality and durability of fingerprints developed by the CApture can be affected by many variables, among them are:

- ✓ The initial quality of the latent print
- ✓ The surface the print is on
- ✓ The air temperature during fuming
- ✓ The relative humidity during fuming
- ✓ The quantity, quality, and formulation of the CA used
- ✓ The temperature of the CA during fuming
- ✓ The length of time the CA fumes are released

Because of all of these variables, it is impractical to try to develop a single methodology that will produce optimal results under all conditions. **If you are unsure of the operating parameters you should use in a particular circumstance, you should try one or more “trial runs” of control prints before fuming the evidence.**

## Adjusting Humidity Levels in the CApture Portable Fuming System

The humidity level when CA fuming is critical to the quality of print development. Recent scientific tests have determined that the optimum range of relative humidity for the development of fingerprints is 70%-90% with the most high quality marks developing when relative humidity is approximately 80%.<sup>3</sup>

It has been determined by calculation and proven by in-house testing that one drop of water will raise relative humidity level within the CApture Fuming Chamber by approximately 2%.<sup>4</sup>

When using the CApture, determine the current humidity level and the amount of humidity that needs to be added in order to reach an 80% humidity level. If humidity levels need to be increased determine the number of water drops to add according to the following chart.

**NOTE: Never use the CApture if condensation is present on the clear chamber or on the evidence. The CA fumes will polymerize on the condensate, reducing the clarity of the chamber, and obscuring any fingerprints on materials being fumed. When using the CApture repeatedly, allow adequate ventilation after each run to prevent the buildup of humidity in the chamber.**

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<sup>3</sup> Paine M, Bandey, HL, Bleay SM, Wilson H., The effect of relative humidity on the effectiveness of the cyanoacrylate fuming process for fingermark development and on the microstructure of the developed marks. Forensic Science International 2011 Jun 29.

<sup>4</sup> The humidity testing was done at 75°F and an elevation of 885 ft.

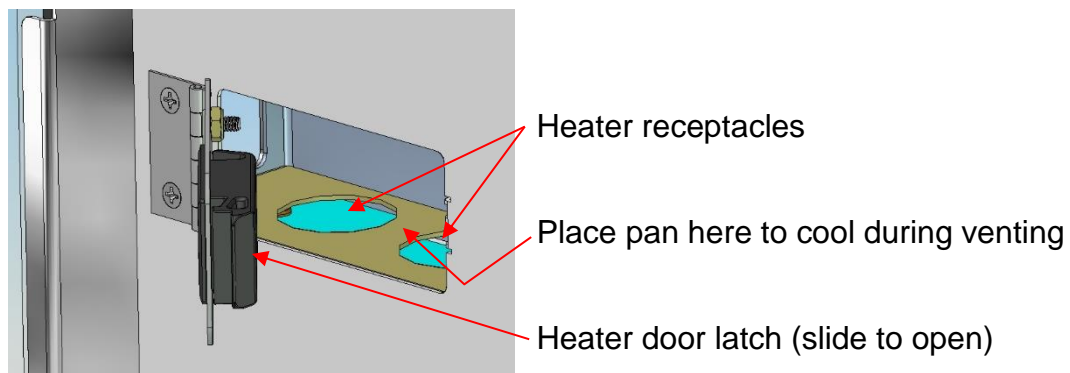
<u>To raise humidity level</u>	<u>Add this number of water drops</u>
10%	5
20%	10
30%	15
40%	20
50%	25

For example, if the current humidity level is 50%, add 15 drops of water to raise the humidity level an additional 30% to reach the optimal 80% operating humidity level within the chamber.

If you have further questions, please contact Labconco at 1-800-821-5525 or [www.labconco.com](http://www.labconco.com).

1. Ensure that the inside of the chamber and the evidence being fumed is dry, and has no condensation on it.

Figure 4-7



2. Open the heater door. Place approximately 4 to 6 drops of CA glue in a heating pan, and place it in one of the heater receptacles as shown in Figure 4-7, and immediately close the door.

**Note:** Do not use more than 8 drops of CA per development cycle.

3. Carefully observe the control evidence for the development of prints. Print development times may vary, depending on the amount of CA used, relative humidity, heater temperature, etc. Typical development times run 3-5 minutes with 4 drops of CA, at 350° F (177°C).
4. When the prints are developed as desired, switch the control switch from "Heat" to "Vent." Open the heater door, and place the heating pan containing the remaining CA residue on the space between the heater receptacles. This will allow the CA heating pan to cool, and stop generating fumes.

5. Let the chamber vent for at least 3-5 minutes before opening the chamber and retrieving the evidence.
6. If more evidence needs to be developed, turn the control switch to "Heat" and go back to step #1 and repeat.
7. If no more evidence needs to be developed, push the control switch to the center "OFF" position.
8. Remove any heating pans from the heater receptacles.
9. Remove any evidence hooks or shelves from the stainless steel face plate.
10. Wipe up any residue from the stainless steel face plate and the clear chamber.
11. Unplug the unit. Stow the foam storage insert and the accessories in the bottom of the clear chamber.
12. Raise the leveling foot to the up position by pulling the pin out, and sliding the foot up until the pin sets, as shown in Figure 4-4.
13. Place the heater/filter module into the clear chamber, ensuring that it fits into the chamber completely.
14. Place the transport lid back on top of the stainless steel face plate, and reengage the two clamps securing the transport cover to the clear chamber. The unit is now ready for transport or storage.

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## Chapter 5: Maintaining the System

The common service operations necessary to maintain the CApture Portable Fuming System's peak performance are listed below.

### **Routine Maintenance Schedule**

#### **Weekly**

- Using an appropriate soap or detergent solution, or LabSolutions Glass & Surface Wipes, Labconco part # 1570000; clean the stainless steel face plate.
- If the inside surface of the clear chamber is cleaned, reapply either Rain-X® or Rain Block treatment™.

#### **Monthly (or more often as required)**

- Using a damp cloth, or LabSolutions Glass & Surface Wipes, Labconco part # 1570000; clean the exterior surfaces of the system, to remove any accumulated dust.
- All weekly activities.

#### **After every 20 development cycles**

- Carefully clean the clear chamber with mild detergent or glass cleaner. When thoroughly clean and dry, treat the inside of the chamber with Rain-X® or Rain Block treatment™.

#### **After every 100 development cycles**

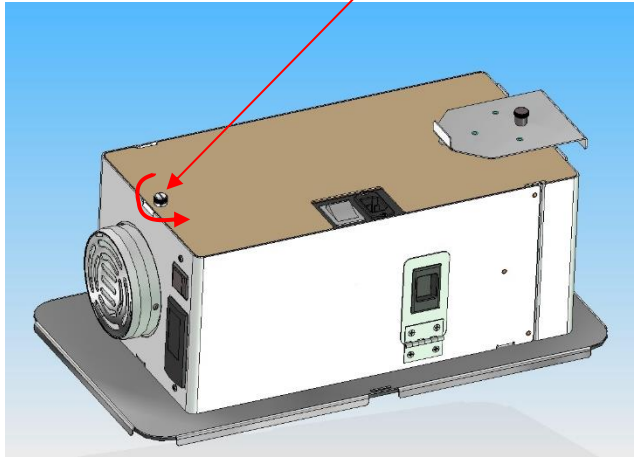
- Replace the filter cartridge.

## Service Operations

### Filter Replacement:

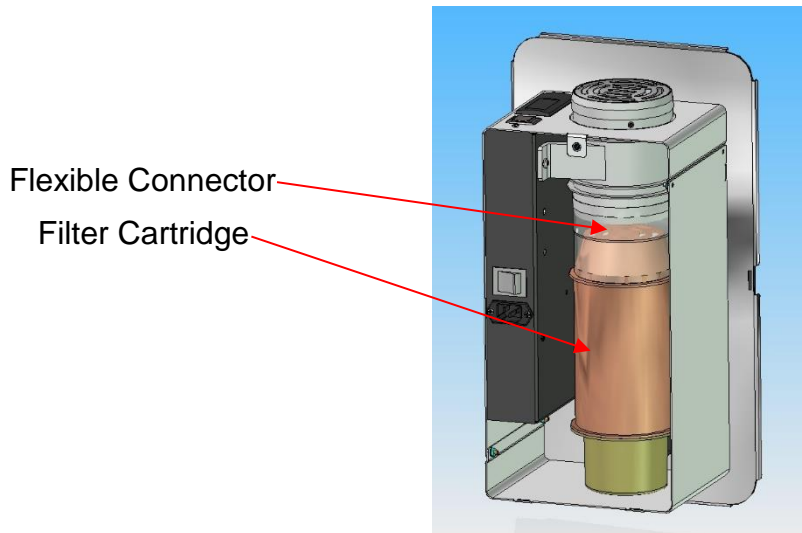
1. Unplug the system. Separate the heater/filter module from the clear chamber. Place the module with the stainless steel face plate down on a stable, level surface, as shown in Figure 5-1.
2. Loosen the maintenance panel thumbscrew. It is a captive screw, and will be retained by the panel.

**Figure 5-1**



3. Remove the panel from the module, and locate the filter cartridge, as shown in Figure 5-2.

**Figure 5-2**



4. Grasp the filter cartridge and pull the bottom of the cartridge until the filter cartridge inlet pulls out of the filter cartridge seal. Keep pulling the bottom of the cartridge out until it clears the back edge of the heater/filter module, then pull it out of the flexible connector.
5. Discard the used cartridge, and install a replacement, by reversing the removal steps.
6. Ensure that the filter cartridge seal has not been deformed during installation of the new filter cartridge.

**Resetting the Circuit Breaker:**

To reset the circuit breaker located on the rear of steel system module, press the switch to the “on” (I) position.

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## Chapter 6: Troubleshooting

Refer to the following table if the system fails to operate properly. If the suggested corrective actions do not solve the problem, contact Labconco for additional assistance.

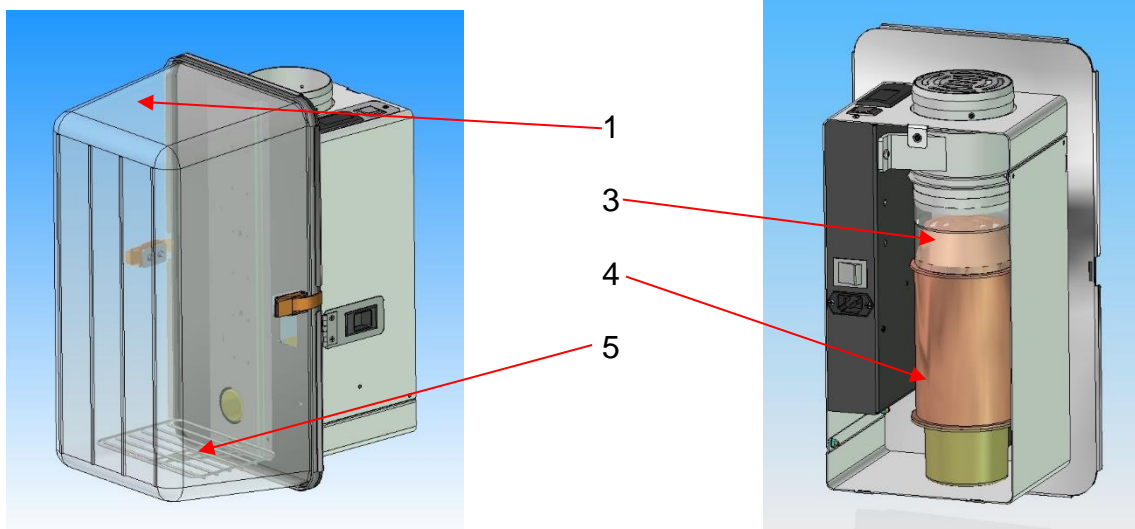
<b>PROBLEM</b>	<b>CAUSE</b>	<b>CORRECTIVE ACTION</b>
<b>Blower and controller won't turn on</b>	Unit not plugged into outlet	Plug the cabinet into appropriate electrical service.
	Circuit breaker tripped	Reset circuit breaker.
<b>Prints are not developing properly</b>	Insufficient humidity in the clear chamber	Place 1-2 drops of water in a heating pan, and place on the heater.
<b>Little or no fumes are being produced</b>	Heater temperature is too low.	Increase heater temperature
	Bottom of heater pan is dented/bent	Discard damaged pan, and use one with flat bottom.
<b>Heater temperature not changing on controller ("out" indicator is on)</b>	Heater /Over temperature switch failure	Contact Labconco Product Service Department.
<b>Heater temperature not changing on controller (out indicator is off)</b>	Controller is defective	Contact Labconco Product Service Department.
<b>Fan does not run</b>	Fan or 12 volt power supply failure	Contact Labconco Product Service Department.
<b>Controller displays "Er" or "oo" or "-"</b>	Controller error	Contact Labconco Product Service Department.

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# Appendix A: Components

## CApture Portable Fuming System Parts

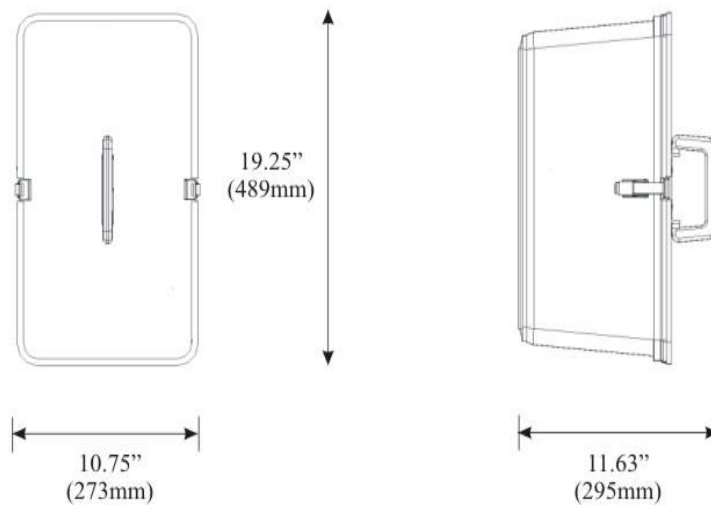
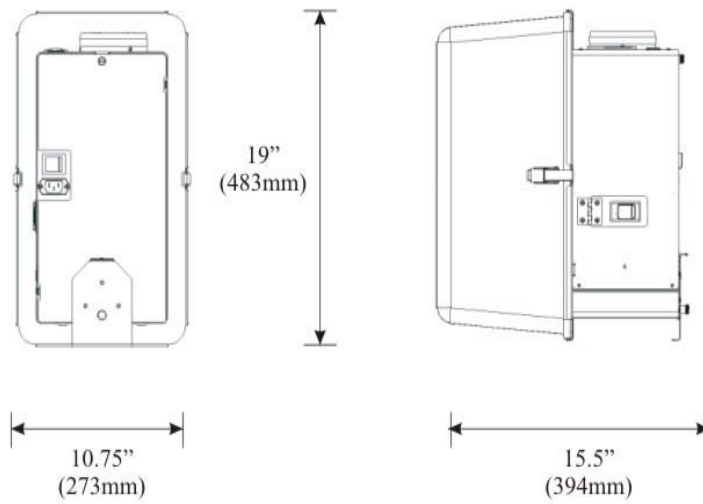
Item	Quantity	Part No.	Description
1	1	3421901	Clear chamber
2	1	3425202	Heating pans, package of 250 (not shown)
3	1	3424500	Flexible Connector
4	1	3421801	Filter Cartridge
5	1	3422203	Shelf
6	1	3422202	Hook (not shown)
7	1	3425500	Foam Storage Insert (not shown)



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# Appendix B: Dimensions

**B-1**



Clear Chamber Interior Dimensions:  
16" (406mm)H x 8"(203mm)W x 8" (203mm)D

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# Appendix C: Specifications

## Electrical Data

Model #	Requirements	Energy Use
3420000	115 VAC, 60 Hz, 1 Amp	75 Watts
34200-20, -22, -24	230 VAC, 50/60 Hz, 0.5 Amp	75 Watts

## Environmental Conditions

- Indoor use only.
- Maximum altitude: 6562 feet (2000 meters).
- Ambient temperature range: 41° to 104°F (5° to 40°C).
- Maximum relative humidity: 80% for temperatures up to 88°F (31°C), decreasing linearly to 50% relative humidity at 104°F (40°C).
- Main supply voltage fluctuations not to exceed  $\pm 10\%$  of the nominal voltage.
- Transient overvoltages according to Installation Categories II (Overvoltage Categories per IEC 1010). Temporary voltage spikes on the AC input line that may be as high as 1500V for 115V models and 2500V for 230V models are allowed.
- Used in an environment of Pollution degrees 2 (i.e., where normally only non-conductive atmospheres are present). Occasionally, however, a temporary conductivity caused by condensation must be expected, in accordance with IEC 664.

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## **Appendix D: Accessories**

### **Clear Chamber (#3421901)**

Replacement clear chamber, with latches installed. 2 lb. (0.9kg).

### **Heating Pans (#3425202)**

Package of 250 aluminum disposable heating pans. 1 lb. (0.5kg).

### **Filter Cartridge (#3421801)**

Replacement particulate/granular activated carbon filter cartridge. Lasts for 100 development cycles. 5 lbs. (2.3kg).

### **Exhaust Connection Kit (#3425400)**

Allows the system to exhaust to a remote location, or a nearby chemical fume hood. Includes 10' (1.2m) long (extended full length), 4" (100 mm) diameter collapsible duct. 1 lb. (0.5kg).

### **Replacement Hook (#3422202)**

Allows for evidence to be hung in the clear chamber during development. 1 lb. (0.5kg).

### **Replacement Shelf (#3422203)**

Allows for small evidence to be supported in the clear chamber during development. 1 lb. (0.5kg).

### **Perforated Shelf Cover (#3426101)**

Stainless Steel perforated cover fits over Shelf #3426103. The Cover allows for small evidence to sit on the shelf during development. 1 lb. (0.5kg).