Please read user's manual before operating equipment

Original Instructions

LABCONCO CORPORATION
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labconco.com

User's Manual

CApture™ BT Fuming Chamber

Register this product

CApture™ BT Fuming Chamber

2020—Present

3170000	3170001	3170002
3170003	3170004	3170005

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.

CApture™ BT Fuming Chambers carry a one-year warranty 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 3rd 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.

For additional questions or support:

Labconco Customer Care +1 (816) 333-8811

Labconco Technical Support (800) 821-5525

Hours 7:30 a.m.-5:30 p.m. CST

Part #3192000 Rev. A
ECO N181

Table of Contents

1: Introduction

Congratulations on the purchase of a Labconco CApture™ BT Fuming Chamber. The chamber is designed to protect you and the room environment from Cyanoacrylate vapors produced while fuming evidence with CA glues. The CApture BT Fuming Chamber is the result of years of experience in manufacturing laboratory equipment, and users like you suggested many of its features to us.

This product offers many unique features. To take full advantage of them, please acquaint yourself with this manual and keep it handy for future reference.

About This Manual

This manual is written for the installer, end user, and servicer of this product.

This manual contains important operation and safety information. When you see a symbol, such as the INFO symbol to the left, pay close attention to the information provided. Before installing or operating this product, you must read Section 3: Safety Precautions.

Contents Included

The following items are packaged with the product.

- User's manual (USB Thumbdrive)
- Power cord
- Hygrometer
- Security Tags (3)
- Leg Levelers (4)

The location of these items and additional details are found in Section 4: Installation.

2: Before You Install

Before you install the product, the site should be prepared for installation. Examine the location where you intend to install it. You must be certain that the area is level and of solid construction. In addition, a dedicated source of electrical power must be located within 10 feet (3 m) of the installation site.

Location Requirements

The chamber is equipped with leg levelers (if not attached to the accessory stand) to ease level chamber installation. It should be located on a flat surface for proper chamber alignment and door operation. The surface must support 500 lbs. (227 kg).

Clearance Requirements

A minimum clearance of at least 6 inches (150 mm) is suggested on the top of the chamber, 12 inches (300 mm) on the right side for service, and 2 inches (50 mm) behind the chamber. There should be 36 inches (914 mm) clearance at the front of the chamber to allow the door to swing open without hitting any obstructions.

See Appendix B: Dimensions for overall product dimensions.

Electrical Requirements

Catalog Number	Typical Operating Current (Amps)	Electrical Circuit Requirements[1]	
3170000	4 A	115 V, 60 Hz, 12 A	1 Phase
3170001, -02, -03, -04, -05	2 A	230 V, 50/60 Hz, 6 A	1 Phase

1 Electrical Requirements, 'V' = VAC (Voltage with alternating current), 'A' = Amperes

An outlet with an appropriate circuit breaker should be located as close as possible to the product, but no greater than 10 feet (3 m). Consult your local electrical codes for properly rated circuit breakers. For safe operation the dedicated outlet must provide a protective earthing ground connection to the product.

Exhaust Requirements

The CApture BT Fuming Chamber does not require exhaust ducting. The unit filters the chamber air through a pre-filter and a main carbon filter to remove Cyanoacrylate vapors. Clean exhaust air from the chamber is recirculated back into the room.

3: Safety Precautions

Before unpacking, installing, operating, maintaining, or servicing this equipment, read the following safety warnings and precautions.

Avant le déballage, l'installation, le fonctionnement, l'entretien ou la maintenance de cet équipement, lire les avertissements de sécurité et les précautions d'emploi.

CAUTION – See Manual. When this symbol is on the equipment, it indicates a caution that is detailed in this manual.
MISE EN GARDE – Voir le manuel. Lorsque ce symbole est apposé sur l'équipement, il renvoie à une mise en garde détaillée dans ce manuel.

Typographical Conventions

DANGER – An imminently hazardous situation which, if not avoided, will result in death or serious injury.
DANGER – Situation dangereuse imminente qui, si elle n'est pas évitée, peut entraîner la mort ou des blessures graves.

CAUTION – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or damage to property.
MISE EN GARDE – Signale une situation potentiellement dangereuse qui, si elle n'est pas évitée, peut provoquer des blessures mineures à modérées ou des dommages matériels.

NOTE – Advice or suggestions to help the process.
REMARQUE – Conseils ou suggestions pour le déroulement du processus.

BURN RISK (HIGH TEMPERATURE) – Air or components that will be very hot. Take care not to touch these defined areas. Failure to avoid these areas may result in moderate to severe injury.
RISQUE DE BRÛLURE (TEMPÉRATURE ÉLEVÉE) – Air ambiant ou composant devenant très chaud. Veiller à ne pas toucher ces zones délimitées. L'absence de précaution pour éviter ces zones peut entraîner des blessures modérées, voire graves.

EXTREME COLD (LOW TEMPERATURE) – Air or components that will be very COLD. Take care not to touch these defined areas. Failure to avoid these areas may result in moderate to severe injury.
FROID INTENSE (TEMPÉRATURE BASSE) – Air ambiant ou composant devenant très froid. Veiller à ne pas toucher ces zones délimitées. L'absence de précaution pour éviter ces zones peut entraîner des blessures modérées voire graves.

PINCH POINT – Areas or components that can pinch or cut. Take care not to touch these defined areas.
POINT DE PINCEMENT – Zones ou composants présentant un risque de pincement ou de coupure. Veiller à ne pas toucher ces zones délimitées.

MOVING PARTS – Areas or components that contain moving parts. Take care not to touch these defined areas.
PIÈCES MOBILES – Zones ou composants contenant des pièces mobiles. Veiller à ne pas toucher ces zones délimitées.

RISK OF ELECTRICAL SHOCK – The specified procedure or area poses a risk of electrical shock. ALWAYS disconnect main power cord or electrical supply before proceeding.
RISQUE DE CHOC ÉLECTRIQUE – La procédure ou la zone spécifiée présente un risque de choc électrique. TOUJOURS débrancher le cordon d'alimentation secteur ou l'alimentation électrique avant toute intervention.

FLAMMABLE / NO SOLVENTS – Do not place flammable liquids or solvents in this product.
INFLAMMABLE / PAS DE SOLVANTS – Ne placez aucun liquid inflammable dans cette produit.

LIFTING HAZARD – Do not lift or move this equipment without assistance.
DANGER DE LEVAGE – Ne pas soulever ou déplacer cet équipement sans assistance.

MAGNETIC FIELD IN USE – Magnets or magnetic field present.
CHAMP MAGNETIQUE UTILISE – Présence d'aimants ou de champ magnétique.

DO NOT TOUCH – Components or areas indicated are sensitive and will suffer damage if touched. Take care not to touch these defined components or areas. Failure to avoid these areas will result in damage to the product.
NE PAS TOUCHER – Les composants ou les zones indiquées sont sensibles et subiront des dégâts s'ils sont touchés. Veiller à ne pas toucher ces composants ou zones délimité(e)s. L'absence de précaution pour éviter ces zones endommagera le produit.

TOOL REQUIRED – Tool required to access specified area.
OUTIL NÉCESSAIRE – Outil nécessaire pour accéder à la zone spécifiée.

General Safety Precautions

Follow all the safety precautions described in this section.

Before removing any panels which require a tool for removal, ALWAYS disconnect the main power cord or electrical supply. Failure to remove all electrical power before proceeding will result in moderate to serious injury, death, or damage to property.
Avant le retrait d'un panneau nécessitant l'utilisation d'un outil, TOUJOURS débrancher le cordon d'alimentation secteur ou l'alimentation électrique. Le non-respect de la consigne consistant à couper complètement l'alimentation électrique avant toute intervention peut entraîner des blessures graves, la mort ou des dommages matériels.

Never contact moving parts with your person. Failure to avoid moving parts will result in moderate to serious injury, death, or damage to property.
Ne jamais toucher les parties mobiles. Le non-respect de la consigne consistant à éviter les pièces mobiles peut entraîner des blessures graves, la mort ou des dommages matériels.

Never misuse this product. Never disable, override, or otherwise bypass safety guards, panels, switches, sensors or alarms. Doing so will result in moderate to serious injury, death, or damage to this product or property.
Ne jamais utiliser ce produit à mauvais escient. Ne jamais désactiver, annuler ou contourner les capots, panneaux, interrupteurs, capteurs ou alarmes de sécurité. Ceci entraînerait des blessures graves, la mort ou des dommages matériels à ce produit ou à d'autres biens.

If the unit is not operated as specified in this manual it may impair the protection provided by the unit.
Si l'unité n'est pas utilisée comme spécifié dans ce manuel il peut diminuer la protection fournie par l'unité.

Do not position the unit so that it is difficult to operate the main disconnect device.
Ne placez pas l'appareil de sorte qu'il est difficile de faire fonctionner le dispositif principal de déconnexion.

Do not lift or move this equipment without assistance.
Ne pas soulever ou déplacer cet équipement sans assistance.

Safety Precautions for this Product

Do not use any detachable power cord that is not adequately rated for the unit.
Ne pas utliser un fil électrique amovible qui n'est pas du tension nominale de l'appareil.

DO NOT load more than 50 lbs. (23 Kg) on the internal floor of the chamber. Exceeding this limit may damage the perforated floor and its supports. Excessive weight in the chamber may increase the risk of it overturning. If your application requires loading more than 50 lbs., contact Labconco's Product Service Department at 800-821-5525 or 816-333-8811 for assistance. Do not exceed the maximum weight limit for the Drawer, Accessory Shelves, Hanging Bar as shown in the table below.

Item (each)	Maximum Weight Limit
Hanging Bar	15 lbs. (6.8 kg)
Drawer	10 lbs. (4.5 kg)
Full Shelf (Accessory)	25 lbs. (11.3 kg)
Half Shelf (Accessory)	15 lbs. (6.8 kg)

Never use flammable gases or solvents in the chamber – the Hot Plate is an ignition source. Never use an open flame inside the chamber.

Avoid puncturing the Carbon Filters during installation or normal operation. If you suspect that a Carbon Filter has been damaged, DO NOT use the chamber; contact Labconco at 800-821-5525 or 816-333-8811 for further information.

Avoid direct exposure of plastic or coated materials to ultraviolet (UV) radiation. When cleaning the chamber:

- Always wear appropriate personal protective equipment (PPE).
- NEVER use high pressure water to clean the liner.
- NEVER spray cleaners/disinfectants into the blower intake at the top, right side of the interior liner; this may damage the blower.
- Avoid splashing any cleaning solution on skin or clothing.
- Ensure adequate room ventilation & use Cleaning Cycle (see Section 7:Cleaning Cycle).
- Carefully follow any cleaning solution's safety instructions.
- Ensure adequate ventilation.

- Always dispose of disinfecting solutions in accordance with local and national laws.
- DO NOT allow disinfectants with high concentrations of free chlorine to contact the stainless steel components of the chamber for a long period of time. Free chlorine will corrode stainless steel after extended contact.

Never use the chamber as a chemical storage cabinet.

When handling evidence, or working in the chamber, always wear proper personal protective equipment (PPE). Proper PPE should provide skin, eye, and breathing protection from CA fumes and contact with liquid CA. Never wear cotton gloves when working with CA.

This product only uses Carbon Filtration to remove vapors from the exhaust air. Carbon Filtration only removes vapors, biohazards may pass through the filter.

The Main Carbon Filter will gradually accumulate Cyanoacrylate (CA) from the fuming cycles run in the chamber. The rate and amount of accumulation will depend upon the amount of CA used, the frequency of Fuming Cycles, and factors described in section Carbon Filter Life on the following page. **ALWAYS replace the Main Carbon Filter when prompted to do so by the Display** with a new Filter from Labconco. NEVER reset the Carbon Filter Life Gauge without actually replacing the Filter with a new filter from Labconco.

Do not operate the chamber without all of the appropriate filters in place. If Cyanoacrylate is detected coming out of the Main Carbon Filter, it needs to be replaced, even if the Display has not yet prompted the user to change the Filter.

When handling used filters or pre-filters, always wear appropriate personal protective equipment (PPE).

Never tip the chamber after installation. Water in the humidifier could spill – damaging internal components. See Section 7: Moving the Chamber for instructions on removing the water from the Humidifier Basin before tipping or moving the chamber, or contact Labconco at 800-821-5525 or 816-333-8811 for further information.

Before removing service panels, disconnect chamber from ALL POWER. Wait at least 1 minute after disconnecting power cord before opening service panels, in order to allow any moving parts to come to a complete stop.

Use only Cyanoacrylate (CA) based glues approved for fingerprint fuming. **ALWAYS place the liquid CA glue into a disposable tin, and place the tin onto the Heat Plate. NEVER place liquid CA directly onto the Heat Plate.** Never place other chemicals, liquids, solids or items on the Hot Plate or into the Hot Plate Chamber.

Carbon Filter Life

It is **very** important to change the Main Carbon Filter in the CApture BT Fuming Chamber when prompted (see Section 7: Replace Main Carbon Filter) or sooner if Cyanoacrylate (CA) fumes are detected emitting from the chamber's exhaust. **Never** unseal the protective bag around a Carbon Filter before it is ready to be installed in the unit. Review the chart below to determine the appropriate number of Filter Life Cycles for your unit.

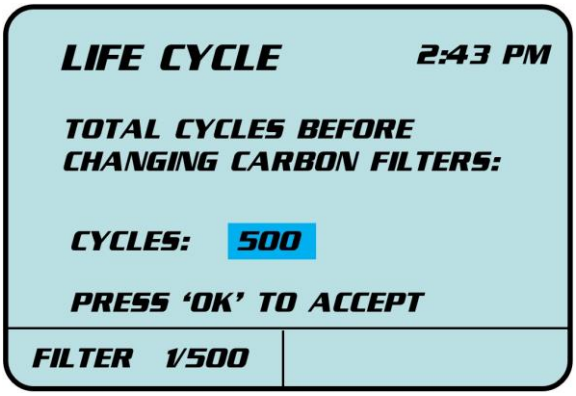
Avg. Grams CA per Cycle	Avg. Cycles per Day: 1-2	3-4	5+
<1.5	500	400	350
1.5-2.5	400	350	300
2.5+	350	300	250

Additional factors that will reduce Filter Life:

- Not regularly cleaning CA deposits on the inside of the chamber
- Not replacing the Pre-Filter regularly
- Enabling the Standby Purge feature, which helps remove CA fumes

On the Main Menu, Select *SERVICE*, press **[OK]**. The password is: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. Maintain password only with responsible party. Press buttons in proper order to gain access to the *SERVICE* menu. After entering the password, select ***LIFE CYCLE***, and press **[OK]**. The Life Cycle menu (Fig. 3-1) is displayed:

Figure 3-1



Using the UP/DOWN Buttons, adjust the Filter Life Cycle number as desired between 200 and 500 Cycles in 50 Cycle increments. Press **'OK'** to accept.

4: Installation

With the installation site properly prepared, you are ready to unpack and install the equipment. This section covers how to:

- Unpack and move the product
- Install the product
- Connect electrical service

Unpacking

The following tools are required to unpack the equipment:

- Box knife
- #2 Phillips screwdriver
- Flat blade screwdriver
- Two ½” wrenches

The following safety precautions must be followed by all personnel unpacking the equipment.

- Wear safety glasses
- Wear gloves
- No loose fitting clothes
- Wear close-toed shoes
- Follow safe-lifting practices (do NOT attempt to lift this product without specialized lifting equipment certified to lift up to 500 lbs.)

Step 1

Carefully remove the outer carton and inspect the product for damage that may have occurred in transit. If the product is damaged, take pictures of the product and the outer packaging, and notify the delivery carrier immediately. Retain the entire shipment, including outer packaging, 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 product 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 product until all of the components have been checked, installed and tested.

Carefully remove plastic wrapping around the chamber, open the chamber door and remove the white parts box. Close and latch the chamber door after retrieving the box.

Step 2 – Installation on an Existing Work Surface

The chamber is secured to the pallet by four (4) bolts (See Fig. 4-1). To remove the chamber, remove the four (4) bolts from underneath the top skid boards that are holding the chamber to the skid (use 1/2" wrench). You do not need to save these bolts and washers. In the white parts box, are four (4) leveling legs. Screw these into the holes the shipping bolts came out of by tipping the chamber slightly. The chamber can now be removed from the pallet.

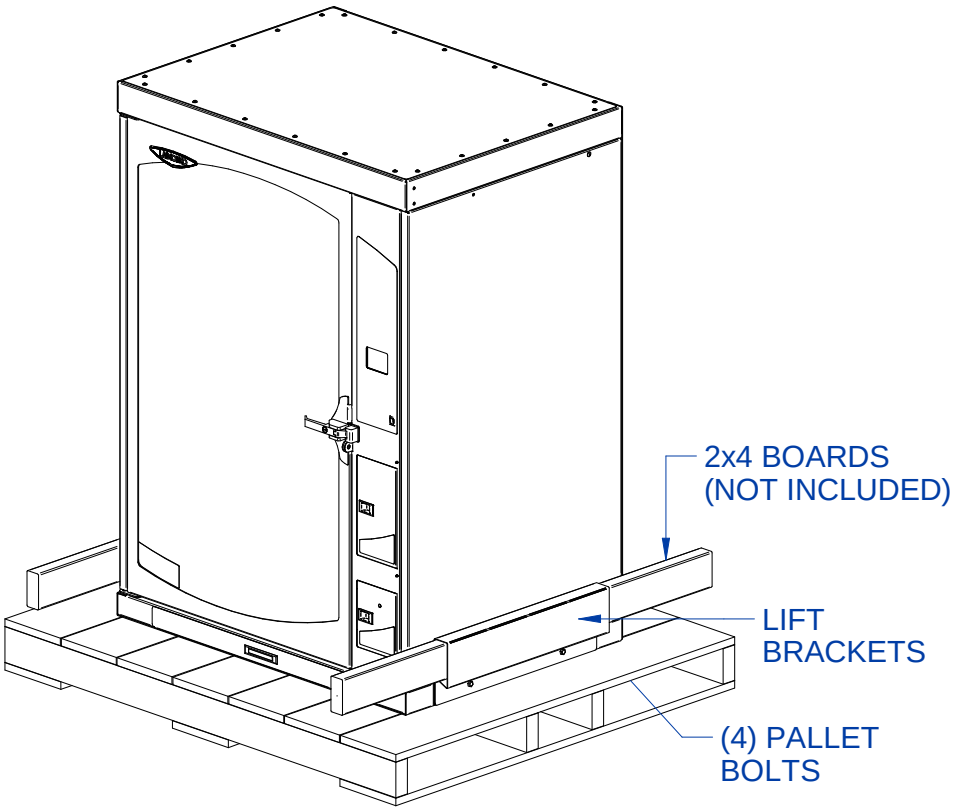
Always have at least two (2) additional persons help with tipping of the chamber, and always follow safe-lifting practices. **Note – chamber is heavier on the right side.**

The chamber comes with two lift brackets on either side. If a mechanical lifting mechanism cannot be used to raise the chamber, the lift brackets allow for lifting directly, or two 2x4 boards can be slid into the brackets for easier lifting. See Fig. 4-1.

After removing the chamber from the pallet, carefully remove any remaining packaging materials, including wrapping and shipping spacers. Leave the shipping tape on all doors and drawers in place until chamber is in its final location.

Remove the two Lift Brackets and the white protective spacer behind each bracket by removing the two (2) bolts per bracket (requires ½" wrench or socket and ratchet). Replace the bolts into the open threaded inserts and discard the Lift Brackets and protective spacers if the chamber will not be moved again.

Figure 4-1



Step 2 – Installation on the Accessory Stand

The chamber is secured to the pallet by four (4) bolts (See Fig. 4-1). To remove the chamber, remove the four (4) bolts from underneath the top skid boards that are holding the chamber to the skid (use 1/2” wrench). You do not need to save these bolts and washers.

The chamber can now be removed from the pallet and installed onto the Accessory Stand. Hardware and instructions for mounting the chamber to the Accessory Stand is located with the stand.

The chamber comes with two lift brackets on either side. If a mechanical lifting mechanism cannot be used to raise the chamber, the lift brackets allow for lifting directly, or two 4-ft long 2x4 boards can be slid into the brackets for easier lifting. See Fig. 4-1.

After removing the chamber from the pallet, carefully remove any remaining packaging materials, including wrapping and shipping spacers. Leave the shipping tape on all doors and drawers in place until chamber is in its final location.

Remove the two Lift Brackets and the white protective spacer behind each bracket by removing the two (2) bolts per bracket (requires ½" wrench or socket and ratchet). Replace the bolts into the open threaded inserts and discard the Lift Brackets and protective spacers if the chamber will not be moved again.

Chamber Installation

After the CApture BT Fuming Chamber has been removed from its pallet and positioned in its final location, you must perform the following steps.

Step 1

1. Remove any tape securing doors, drawers and other items.
2. Retrieve the power cord from the white parts box.
3. Connect the power cord into the back of the chamber, and then into an appropriately rated outlet.

Note: The following are located in the white parts box:

- User's Manual – on USB Thumbdrive (hard copy not included)
- Power Cord
- Hygrometer
- Three (3) samples of Security Tags
- Leg Levelers (4) – not used if installed onto Accessory Stand

If you did not receive one or more of the components listed, or if any of the components are damaged, contact Labconco Corporation immediately for further instructions.

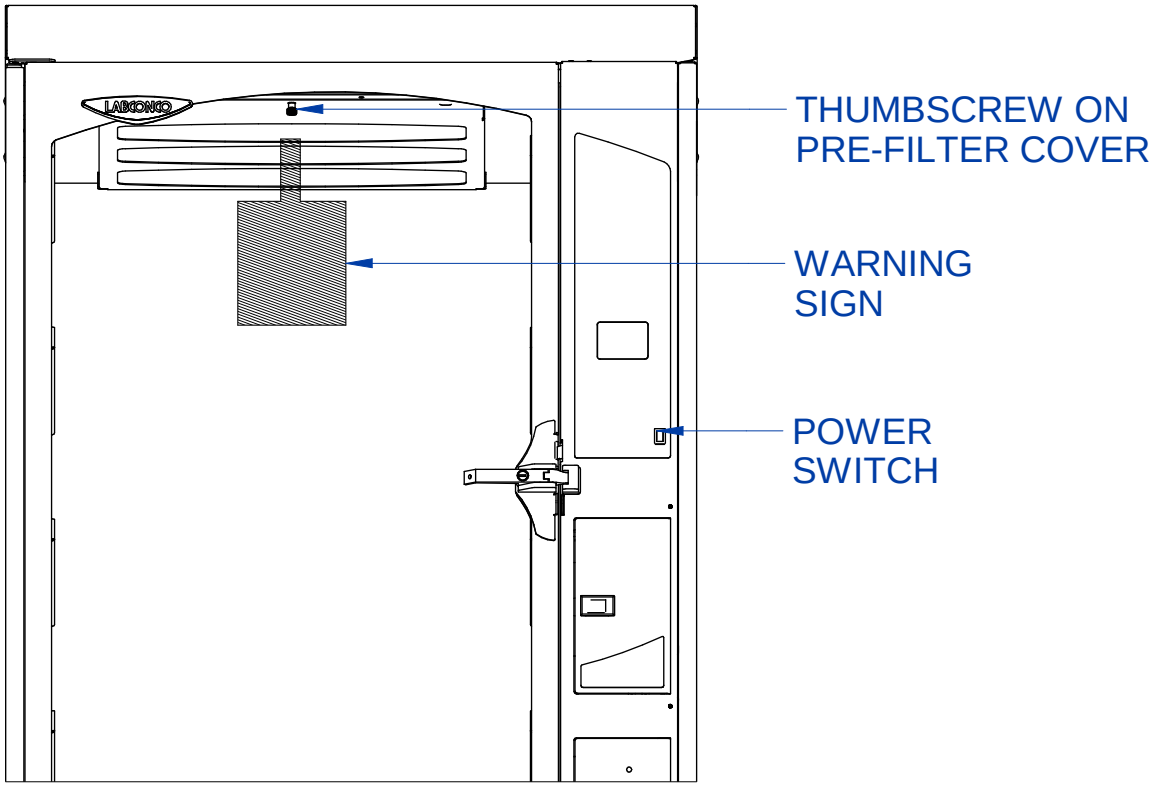
Step 2

Warning: The Main Carbon Filter is installed, but it remains sealed in a protective plastic. This filter MUST be removed and the protective plastic discarded before the chamber can be used. Failure to perform this procedure will result in CA fumes not exhausting from the chamber. Follow these steps

1. Locate the warning sign on the Pre-Filter Cover. See Fig. 4-2. Loosen the single thumbscrew on the front most flange of the Cover. Hinge the Pre-Filter Cover open.
2. Locate and remove the two Phillips head screws on the front most flange of the Main Filter Bracket. The Main Filter and Bracket will swing down about 20 degrees, but will stop on internal pins. Reference Fig. 7-5.
3. Slide the Main Carbon Filter out.
4. Remove the protective plastic cover.
5. Replace the Main Carbon Filter in its bracket (gasket on Filter goes up).

6. Close and secure the Main Filter Bracket with the two screws removed in step 2.
7. Close and secure the Pre-Filter Cover. Remove the warning sign.

Figure 4-2



Chamber Operational Checks

Prior to use with evidence, you should perform the following steps and operational tests to ensure the chamber is operating properly.

Electrical System Check

- ✓ After plugging the power cord into the top, back of the unit, and into an appropriate wall outlet, turn the power switch on (located on front of main control panel – see Fig. 4-2).
- ✓ The Display Screen should show the CApture BT logo, and then go to the Main Menu Screen. You should hear a single beep after turning the power switch on. The interior chamber light should also come on.
- ✓ If the above checks are good, the electrical systems are working, and you can turn the unit back off.

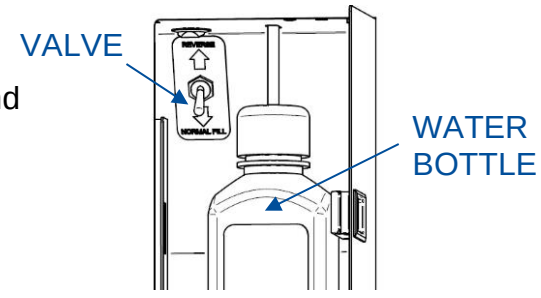
Pre-Run Steps (may be performed during Initial Chamber Set-up – see Section 6)

- ✓ Verify the power cord is plugged into the top, back of the unit, and into an appropriate wall power outlet.
- ✓ Locate the Water Bottle inside the Door labeled “H2O”. Remove the Water Bottle and fill it with water (RO Filtered or Distilled Water are recommended).
- ✓ Replace the Water Bottle in the holder and make sure the water line hose goes back through the hole in the Water Bottle Lid and the end of the hose reaches the bottom of the Water Bottle.

Turn the power switch on (see Fig. 4-2). You should hear the water pump turn on and see the water level slowly dropping in the Water Bottle. The pump should run for approximately 60-90 seconds, and will remove approximately one-third to one-half of the water from the Water Bottle.

Figure 4-3

IMPORTANT
Verify the valve behind the Water Bottle is flipped to the down position, which is NORMAL FILL, as shown in Fig. 4-3.



5: Performance Features

The CApture BT Fuming Chamber operates using the following principles:

- Directional airflow.
- Pre-filtration of Cyanoacrylate fumes before the Main Carbon Filter.
- Filtration and retention of Cyanoacrylate fumes by the Main Carbon Filter, which contains granular activated carbon.

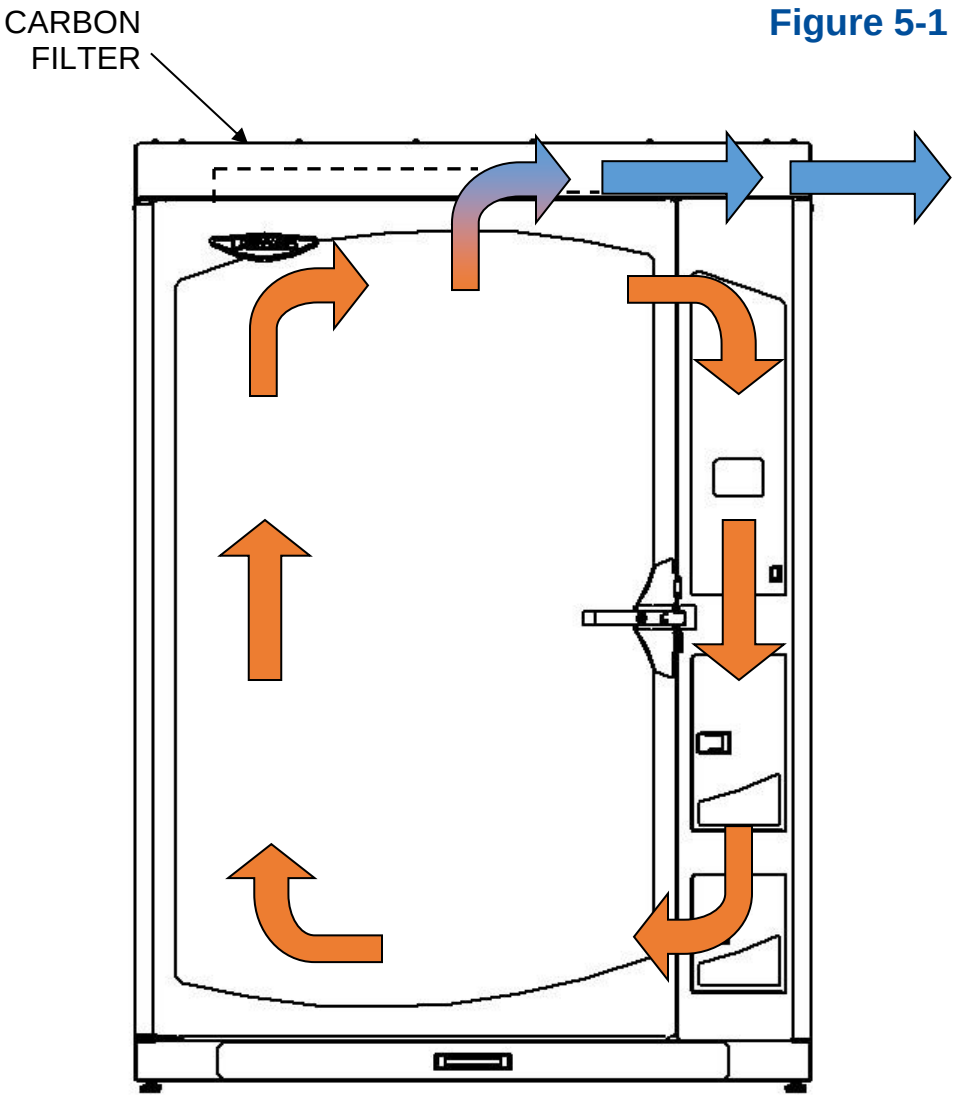
The major components in the chamber are:

- The Pre-Filter
- The granular activated Carbon Filter
- The Recirculation Blower to move air through the chamber during Humidify and Fuming Cycles
- The Exhaust Blower to remove Cyanoacrylate fumes from the chamber during the Exhaust, or Purge, Cycle
- The LED Light
- The CA Heat Plate Chamber for volatizing Cyanoacrylate (CA)
- The Humidifier Chamber for adding humidity to the chamber

Directional Airflow

Directional airflow plays a critical role in CApture BT Fuming Chamber performance. During a Humidity or Fuming Cycle, air is recirculated within the sealed chamber. The Recirculation Blower pulls air in from the top of the chamber, and returns it at the bottom of the chamber (shown in Fig. 5-1). During the Exhaust or Purge Cycle, the Exhaust Blower pulls air from inside the chamber through a Pre-Filter and Main Carbon Filter, located above the top of the chamber. The Exhaust Blower then pushes the filtered air back into the room via slot openings located in the back, right side of the chamber (shown in Fig. 5-1).

Figure 5-1



Main Carbon Pre-Filter

Located beneath the Main Carbon Filter is a Pre-Filter (see Fig. 5-2). During an Exhaust or Purge Cycle, this Pre-Filter removes CA vapor before it reaches the Main Carbon Filter. Changing this Pre-Filter regularly, depending on usage, is important. See Section 6: Maintaining Your CApture BT for instructions. See Appendix A for reorder part numbers.

Main Carbon Filter

The Main Carbon Filter uses granular activated carbon to remove Cyanoacrylate fumes from the air before exhausting (see Fig. 5-2). **Changing this Carbon Filter when prompted by the Display Screen is very important!** Section 6: Maintaining Your CApture BT for instructions. See Appendix A for reorder part numbers.

Blowers

The Recirculation Blower and Exhaust Blower operate independently, and move air through various areas of the chamber (see Fig. 5-2).

LED Light

The internal light for illuminating work in the CApture BT Fuming Chamber is an energy-efficient LED (see Fig. 5-2). This provides light for viewing developing prints, and a flashing effect when a Cycle is complete to alert that evidence is ready to be removed. The chamber's LED Light will stay on while any program is running, and while Main Door is open. The LED light will go off after 15 minutes of inactivity.

Hot Plate

The CApture BT Fuming Chamber has an integral hot plate (see Fig. 5-2) for volatizing Cyanoacrylate in a disposable tin. The hot plate is user-controllable via the Program Settings, from 100 ^{o}F (38 ^{o}C) up to a maximum temperature of 425 ^{o}F (218 ^{o}C).

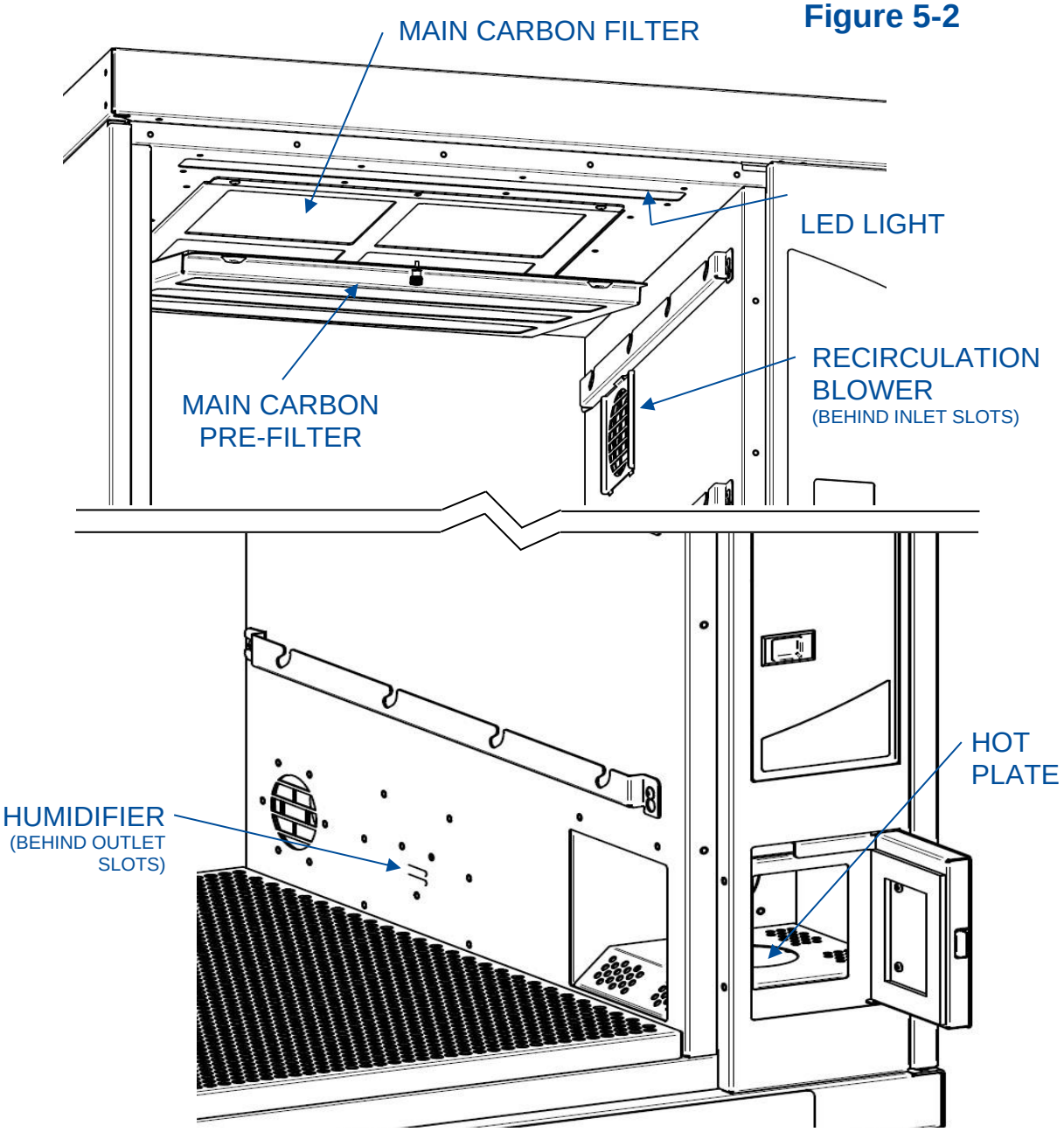
Humidifier

The CApture BT Fuming Chamber has an integral Humidifier for raising the humidity in the chamber during a Humidity Cycle or before a Fuming Cycle begins. The Humidifier is user-controllable via the Program Settings, and can raise the humidity in the chamber to a maximum Relative Humidity of 80% (displayed in 1% increments).

Note: Humidity level can only be increased from ambient. The chamber cannot reduce or decrease the relative humidity.

Identifying the components described is important. See Fig. 5-2 below. See Section 6: Maintaining Your CApture BT for detailed instructions on changing the various Filters.

Figure 5-2



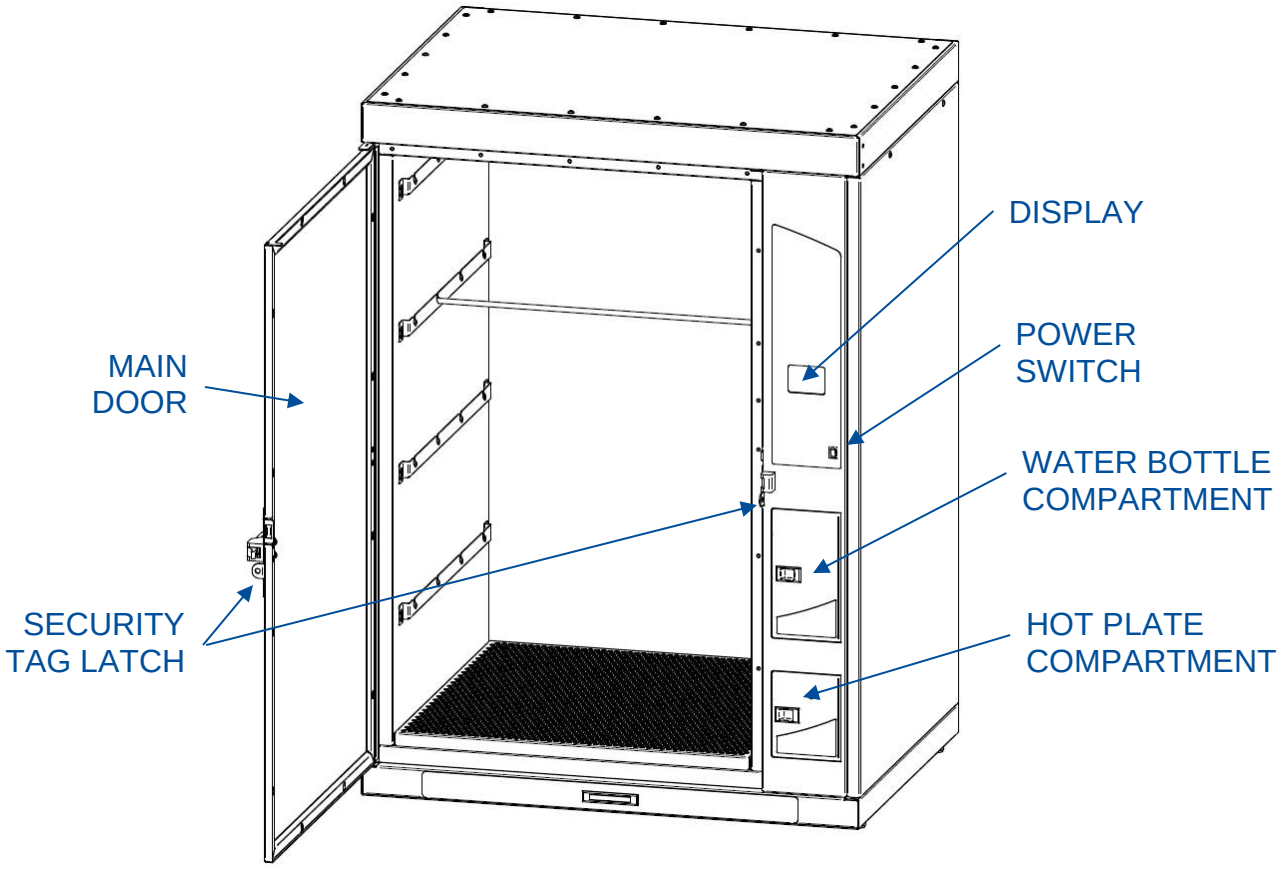
6: Using Your CApture™ BT

This section details the functional components, features and proper techniques for safely and efficiently using the CApture™ BT Fuming Chamber.

Feature Overview

Figure 6-1 illustrates key areas and components of the product.

Figure 6-1

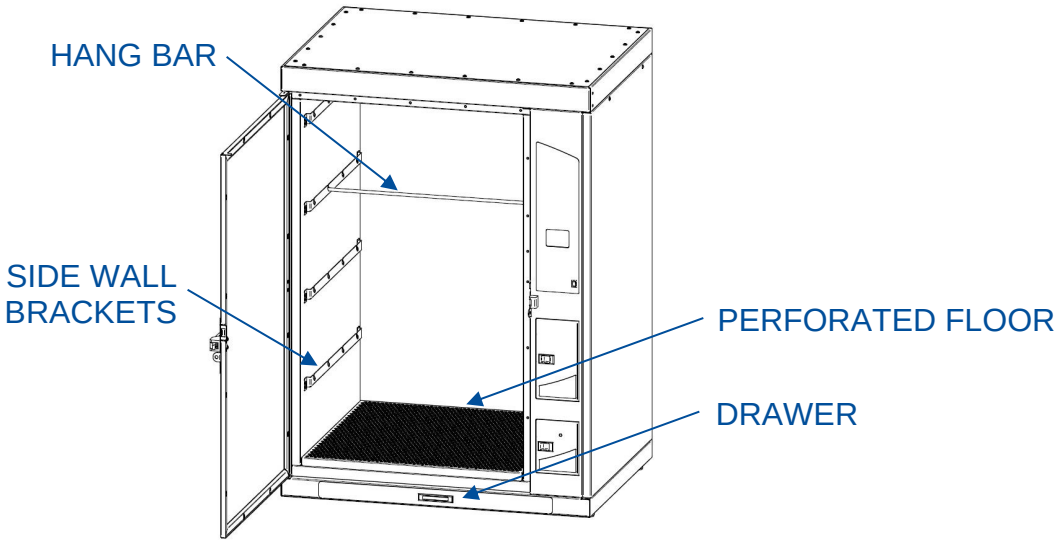


Initial Chamber Set-Up

Once the CApture BT Fuming Chamber has been installed in its final location, the following steps must be performed before running the chamber:

1. Remove tape from all doors and bottom drawer, and any remaining packaging material from around the chamber. If not already completed.
2. Verify protective plastic is removed from Main Carbon Filter.
3. Remove the Perforated Floor from inside the main chamber, remove foam sheeting from around Floor, then re-install Floor as shown in Fig. 6-2.
4. Remove the four (4) Hang Bars (shipped inside the Drawer) from their foam sheeting, and place them as desired in the Side Wall Brackets (see Fig. 6-2).

Figure 6-2



Initial Chamber Cleaning

It is recommended to wipe down the inside of the main chamber with a dry cloth before fuming evidence to ensure fingerprints from installation on the stainless steel walls or inside of the glass door do not attract CA fumes. (Do **NOT** use chlorine-based solutions to clean the unit!)

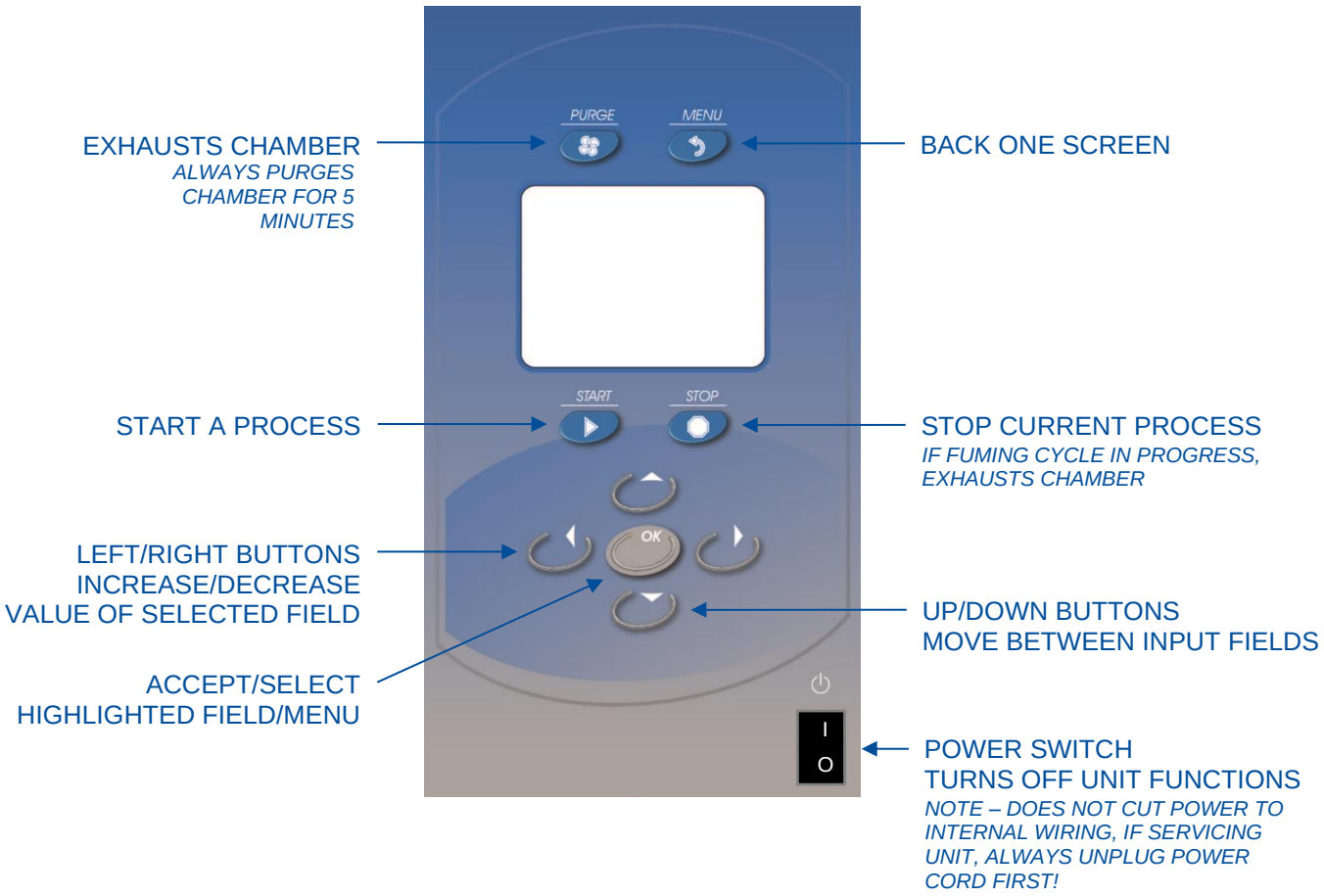
It is recommended to scrape the inside of the glass on the main door with a razor blade, and wipe it with a dry cloth afterwards.

CA residue will deposit on the main glass door. After about 10 fuming cycles have been completed, completely scrape the glass with a razor blade. This will significantly reduce future build-up of CA deposits.

Keypad & Control Buttons

Once the chamber is ready for operation, familiarize yourself with the Keypad and Control Buttons located around the Display Screen. See Fig. 6-3.

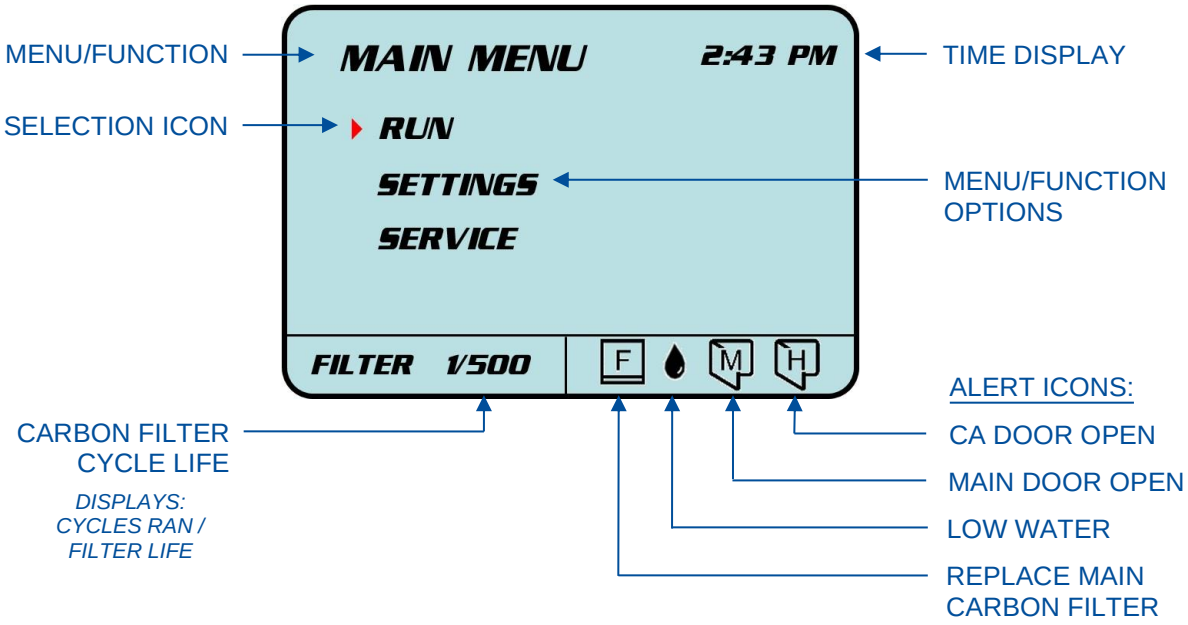
Figure 6-3



Screen Layout & Information

Once the chamber is ready for operation, familiarize yourself with the display screen layout and where key information is located. See Fig. 6-4.

Figure 6-4

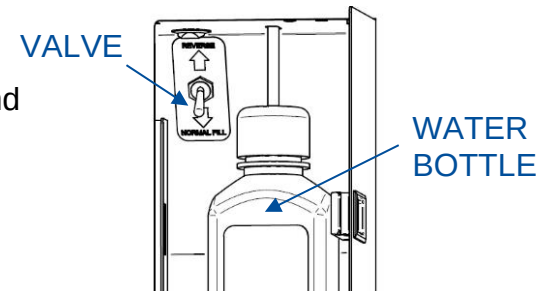


Humidifier Water Fill

If the Water Bottle that supplies the Humidifier has not already been filled from the Chamber Operational Checks in Section 4, fill the Water Bottle with approximately 500 mL of water. RO filtered or distilled water are recommended. Replace the Water Bottle in the holder and make sure the water line hose goes back through the hole in the Water Bottle Lid and the end of the hose reaches to the bottom of the Water Bottle.

When the unit's Power Switch is turned on, you will hear a pump turn on if the humidifier needs water. This pump delivers water to the Humidifier from the Water Bottle. The pump will run until the proper amount of Distilled Water is delivered to the Humidifier.

IMPORTANT
Verify the valve behind the Water Bottle is flipped to the down position, which is NORMAL FILL, as shown to the right.



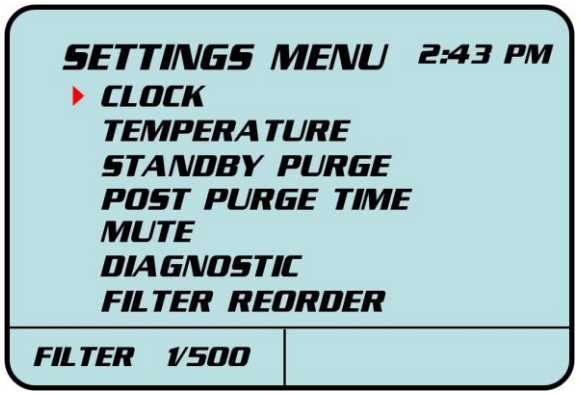
Chamber Configuration

Before using the chamber to process evidence, it is recommended that you configure the chamber's settings to your preference.

Keypad button presses are shown as **[BLUE WITH BRACKETS]**. Menu screen selections are shown as *green italics*.

On the Main Menu screen, Select *SETTINGS* by moving the red arrow down to Settings menu option, and press **[OK]**. The Settings Menu (see Fig. 6-5) displays seven sub-menus, several of which can be configured to user preference as described below:

Figure 6-5



***Clock*:** Set to 12-Hour or 24-Hour display preference. Then, set local time.

***Temperature*:** Set to Fahrenheit or Celsius, as desired.

***Standby Purge*:** When ENABLE selected, this function purges the chamber for 5 minutes every 2 hours. This occurs at regular intervals on every even hour, but only when the Power Switch (see Fig. 6-3) is on. This function will not start if a program is running. This purge reduces the build-up of CA fumes that accumulate inside the chamber as CA deposits continually outgas. Selecting NIGHT will only enable this function between 7pm and 5am.

***Post Purge Time*:** This function keeps the blowers on after the Main Door is opened, following the completion of a Fuming Cycle. This pulls lingering CA vapors away from the user while removing evidence. There are three settings: 0, 5, or 10 minutes. Selecting 0 will turn the blowers off when Main Door is opened, selecting 5 or 10 will keep blowers on for 5 or 10 minutes after Main Door is opened. Closing Main Door turns blowers off.

***Mute*:** When YES selected, the keypad buttons will not beep when pushed.

***Diagnostic*:** Allows internal component function to be tested for troubleshooting (see Section 10: Troubleshooting for more details).

***Filter Reorder*:** Filter part numbers and Labconco Service phone number.

Loading Evidence

Loading evidence into the main chamber is the first step to running a process cycle in the CApture BT Fuming Chamber. Evidence should be evenly distributed with a minimal amount of evidence surface in contact with any surface inside the chamber, for maximum surface coverage with CA fumes.

Evidence may be set on the Perforated Floor, leaned against an internal wall, hung from bars, or positioned accordingly on any accessory shelf options available. Do not exceed weight limits of the Hang Bars or Accessory Shelves (see Safety Precautions in Section 3).

If the chamber is in sleep mode (screen is black), when the Main Door is opened (or any button pressed), the chamber will automatically wake up, and the internal chamber light will illuminate. While loading evidence, the Main Door will be open, and the internal light will remain on as long as the Main Door is open.

Evidence should not touch or rest against any part of the Main Door. The Main Door should open and close freely. Evidence should be positioned as close to the center of the main chamber as possible; however, evidence will process evenly throughout the chamber.

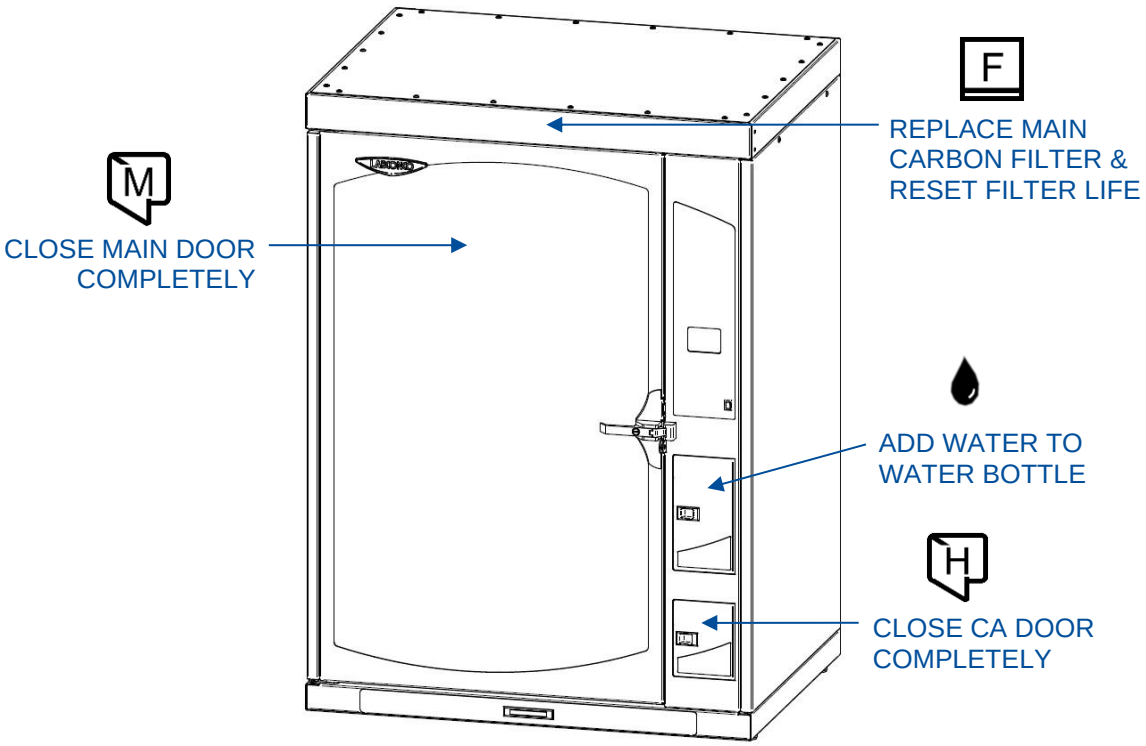
After all evidence is loaded into the chamber, close and latch the Main Door. Resolve any Alert Icons, if present (see Alerts in the following page).

To reduce the build-up of CA residue inside the main chamber, do not contact the inside of the glass on the Main Door or any other internal surfaces with your bare hands or arms.

Alerts

Before a fuming cycle can begin, any alerts must be resolved. See Fig. 6-6 to identify each possible alert and the action required to remedy each.

Figure 6-6



CA Fuming – Program Set-up

If fuming evidence with Cyanoacrylate, you are ready to select the Program, and adjust the program parameters as desired. The CApture BT Fuming Chamber can also Humidify older evidence to rehydrate prints without running the fuming cycle. See Humidify – Program Set-up later in this section.

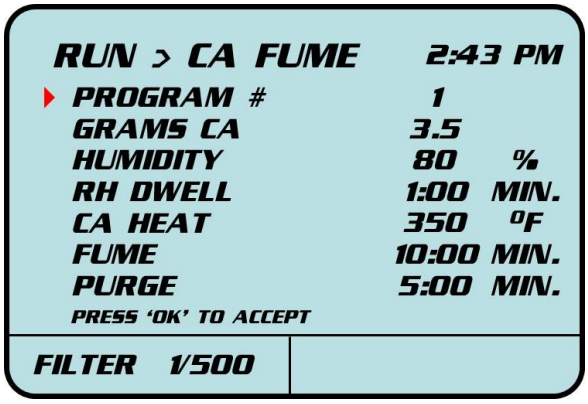
Keypad button presses are shown as **[BLUE WITH BRACKETS]**. Menu screen selections are shown as *green italics*.

On the Main Menu screen, Select ***RUN*** by moving the red arrow to Run menu option, and press **[OK]**. The Run Menu (see Fig. 6-7) displays three sub-menus, which offer three types of cycles. The Humidify and Cleaning cycles are described in other sections.

Figure 6-7

On the Run Menu screen (above), Select ***CA FUME*** by moving the red arrow to CA Fume menu option, and press **[OK]**. The Run > CA Fume Menu (see Fig. 6-8) displays all Program Parameters.

Figure 6-8



The Program Parameters (shown in Fig. 6-8) can be adjusted to desired levels within certain minimum and maximum values. Programs 1-3 are factory defaults for running common fuming cycles. The parameters can be modified in the first three programs, and a cycle ran; however, the modifications will not be saved, and will revert back to the factory default parameters. Programs 4-20 will save modifications to the program parameters. The modifications will be saved once a cycle has begun.

To browse through the programs, move the red arrow to ***PROGRAM #*** using **[UP/DOWN]**. Then, use **[RIGHT/LEFT]** to change to the desired Program #.

The CA Fume Parameters can be selected by using **[UP/DOWN]** to highlight the desired parameter, then use **[RIGHT/LEFT]** to change the selected parameter value. The parameters are described below:

Grams CA **Min – 0.0** **Max – 99.9**
This parameter is for user reference only, and will be displayed on the following screen just before the Fuming Cycle is initiated. Reminds user how much CA to place in the tin to achieve consistent development results.

Humidity **Min – 20 %** **Max – 80 %**
This parameter sets the desired level of relative humidity the chamber will achieve before entering the Fuming stage of the program. Adding humidity to a desired level rehydrates prints, which allows for better CA polymerization, which improves print development. Set in 1% increments.

RH Dwell **Min – 0:00** **Max – 99:30**
This parameter sets the desired dwell time between when the desired relative humidity level is reached in the chamber, and when the Fuming portion of the program begins. If set to 0:00 the Fuming portion will begin immediately after the desired relative humidity level is reached. Set in 30 second increments.

CA Heat **Min – 100 ^{O}F (38 ^{O}C)** **Max – 425 ^{O}F (218 ^{O}C)**
This parameter sets the temperature of the hot plate upon which the tin of CA will be placed. CA volatizes quickly around 170 ^{O}F (77 ^{O}C); however, some users prefer higher temperatures to expedite volatizing of CA fumes. Set in 1 ^{O}C (~2 ^{O}F) increments.

Fume **Min – 0:00** **Max – 99:30**
This parameter sets the duration of the Fuming stage. Time begins on this stage when the Hot Plate turns on, not when the desired temperature is reached. Set in 30 second increments.

Purge **Min – 4:00** **Max – 10:00**
This parameter sets the duration of the Purge, or Exhaust, stage of the program. Under ideal conditions with nominal CA glue in the glue tin, chamber purges completely in 4 min. Set in 30 second increments.

Programs 1 through 3 offer three factory default options for common CA fuming methods. These first three programs can be modified, and then run; however, the program changes will not be saved. You can modify and save changes to Programs 4 through 20. The default parameters for Programs 1 through 3 are listed below in Table 5-1 along with a description for their use.

Table 6-1

	Program #1	Program #2	Program #3
Grams CA	2.5	2.5	2.7
Humidity	80%	80%	75%
RH Dwell	0:00	2:00	0:00
CA Heat	350 ^{O}F (177 ^{O}C)	250 ^{O}F (121 ^{O}C)	250 ^{O}F (121 ^{O}C)
Fume	10:00	18:00	17:00
Purge	5:00	5:00	5:00
Description	New Prints, Faster Run Time	Older Prints, More Dwell Time	Dye Staining (Lumicyano™)

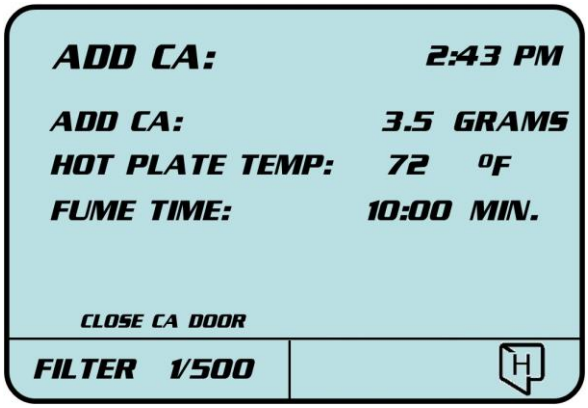
It is recommended to use a low viscosity Cyanoacrylate (very fluid like water) for best results. Default Programs 1 and 2 are developed for use with a low viscosity Cyanoacrylate. Arrowhead Forensics A-2601 CA was used to develop these first two programs. Using a different CA, particularly a higher viscosity CA, may require adjustments to the program parameters for best results.

Program 3 is developed for use with Lumicyano™, which is a CA product with a dye that fluoresces under a special laser and curved orange photography filter system. This product can provide better contrast for developed fingerprints. Using a different CA product with dye stain may require adjustments to the program parameters for best results.

There are several factors that affect the outcome of the CA fuming process. These preset Program options are just a helpful starting point for the end user. You will need to test these setting and make adjustments as needed due to the specific glue, or environment you are operating in.

Once the Program Parameters are set as desired, press **[OK]**. The screen will change to *ADD CA*, which displays the Grams of CA to place in the tin, the current Hot Plate Temperature, and the Fume Time selected by the user in the previous menu screen (see Fig. 6-9).

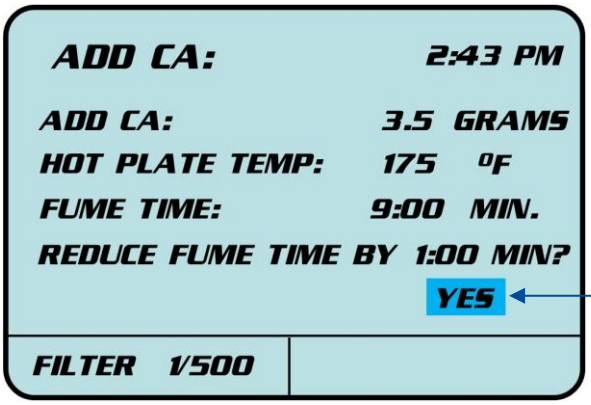
Figure 6-9



Any Alerts must be resolved before you can press **[START]** to begin the Fuming Cycle. As shown above in Fig. 6-9, the screen will prompt you to resolve the Alert (see Loading Evidence earlier in this section).

The current Hot Plate Temperature is important to know, because if running several fuming cycles in succession, the Hot Plate temperature may be elevated from the previous cycle. If the Hot Plate is above 125 ^{O}F (52 ^{O}C), a Fume Time adjustment recommendation will be displayed (see Fig. 6-10). This is a reduction of the desired fume time by a pre-determined amount based on the Hot Plate's elevated temperature. This feature reduces the Fume Time because the Hot Plate will reach volatizing temperature more quickly by starting at an elevated temperature. This feature allows the user to achieve consistent results even with a Hot Plate that starts at an elevated temperature. The suggested Fume Time reduction can be accepted or declined. If accepted, the Fume Time displayed will be the reduced time, if declined, the Fume Time displayed will remain at the original, user-selected value.

Figure 6-10

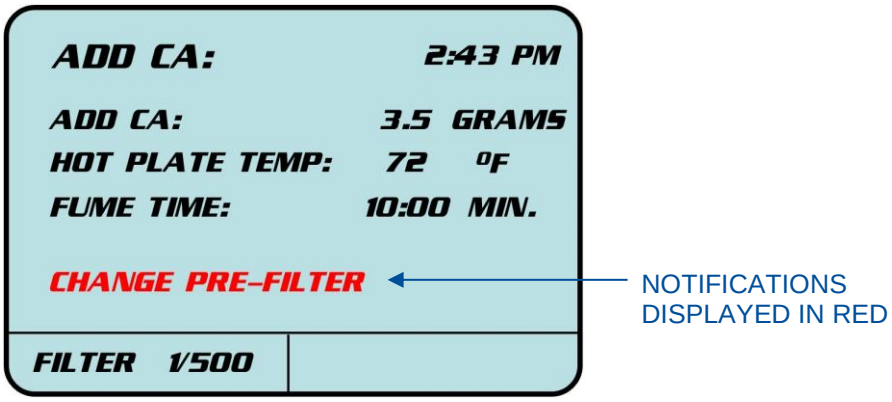


TO ACCEPT:
SELECT *YES*
TO DECLINE:
SELECT *NO*

CA Fuming – Maintenance Notifications

If maintenance is required to the CApture BT Fuming Chamber, you will receive a notification on the *ADD CA* screen before you begin a Fuming Cycle (see Fig. 6-11).

Figure 6-11



This is just a reminder notification, not an error or alert. Alerts are shown in the bottom right corner, and a Fuming Cycle cannot begin if an Alert is shown. If a notification is displayed, the Fuming Cycle will still begin when **[START]** is pressed.

The maintenance notification will be displayed in red text as shown above in Fig. 6-11. See Section 6: Maintaining Your CApture BT for instructions on performing the maintenance as notified.

The maintenance notification will be displayed based on the number of Fuming Cycles that have been run in the unit. The frequency corresponds to the Recommended Maintenance Schedule in Section 7. These maintenance operations may need to be performed more frequently than what is listed in Section 7 of this manual, or before the maintenance notification is displayed on the screen. The frequency of maintenance is based upon several factors, including, but not limited to, how much CA glue is used, and how long the Fuming Cycles last. For more information on when to perform routine maintenance, please see Section 6: Maintaining Your CApture BT.

If evidence is already loaded in the chamber when a maintenance notification is displayed on the *ADD CA* screen, it is recommended to start the current cycle, and then remove all evidence after the cycle is complete. Then, perform the maintenance after the cycle, when the chamber is empty.

CA Fuming – Program Run

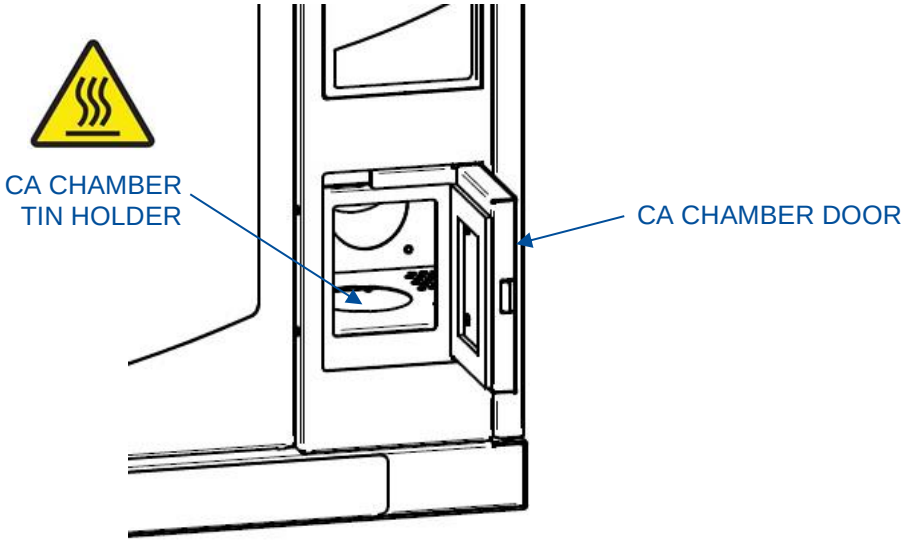
Once the CA Fuming Program Parameters have been established, and you are at the *ADD CA* menu screen, the fuming cycle is ready to begin. Any alerts must be resolved, as described in Loading Evidence earlier in this section. And, take note of any routine maintenance to be completed after the current cycle is finished and all evidence removed.

It is recommended to place a test print on a small piece of material (clean plastic or glass slides work well for this test print) inside the chamber on every Fuming Cycle to ensure proper print development.

Before starting the fuming cycle, measure the proper amount of CA into a Tin. It is recommended to use a calibrated balance to measure the amount of CA placed into the tin for consistent results. Place the tin inside the CA Chamber Tin Holder (see Fig. 6-12), close the CA Chamber Door.

NEVER PLACE CA GLUE DIRECLTY ON THE HOT PLATE!!! This can damage the unit! If CA glue is accidentally spilled on the Hot Plate, clean it off immediately!

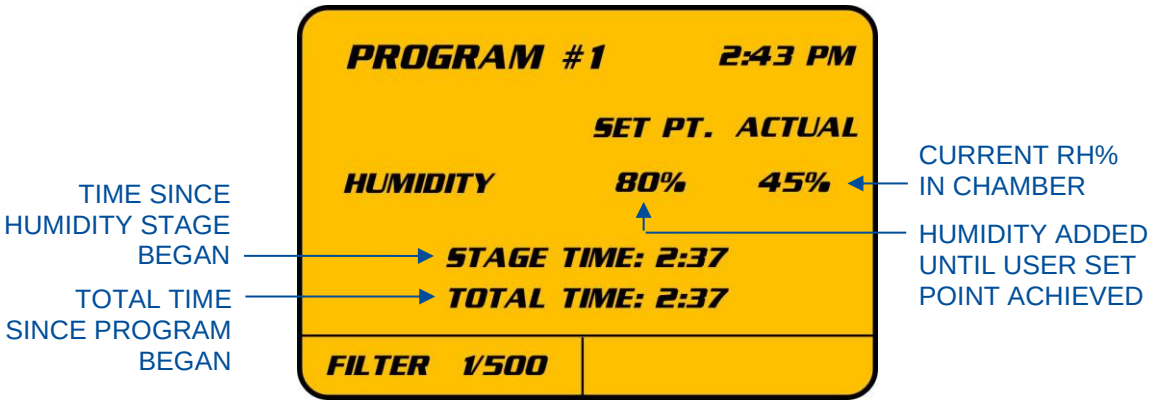
Figure 6-12



To begin the fuming cycle, press **[START]**.

Once the program begins, the first stage of the fuming cycle is **HUMIDITY**. The screen will display the following information (see Fig. 6-13) during this stage:

Figure 6-13

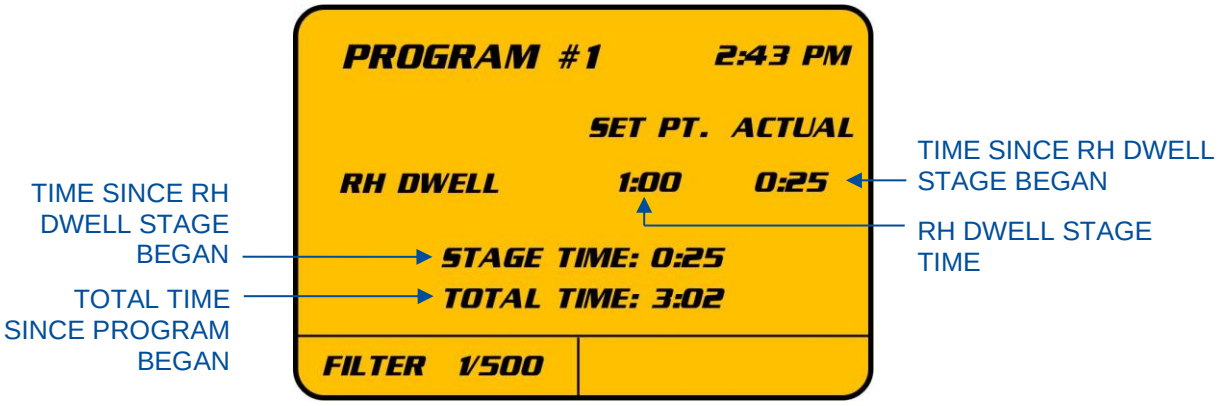


During the Humidity stage, you may see water vapor entering the chamber from the lower, right side wall. This is normal. The displayed Humidity value may drop slightly in the first minute until air is circulated thoroughly. The humidity level increases approximately 2%-3% per minute. When operating normally, the maximum relative humidity of 80% should be reached in less than 35 minutes. If the desired relative humidity level is not reached in a pre-set amount of time, the program will stop and display an error screen. See Section 10: Troubleshooting if this timeout occurs.

Note: Humidity level can only be increased from ambient. The chamber cannot reduce or decrease the relative humidity.

Once the desired relative humidity level is achieved, the program will move to the RH Dwell stage, if this stage is enabled by entering a time other than 0:00. The screen will display the following information (see Fig. 6-14) during this stage:

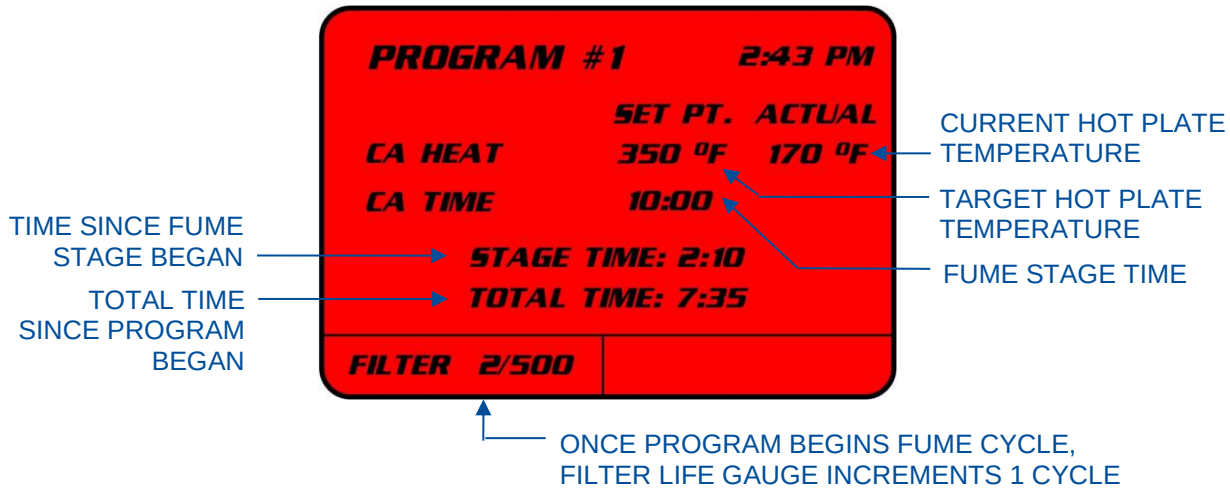
Figure 6-14



During the RH Dwell stage, the air is circulated inside the chamber. Additional humidity will not be added during this stage, so do **NOT** open the Main Door or the CA Chamber Door.

After the RH Dwell stage is complete (or after the Humidity Stage is complete, if no RH Dwell stage was selected), the program will move to the Fuming stage. The screen will display the following information (see Fig. 6-15) during this stage:

Figure 6-15



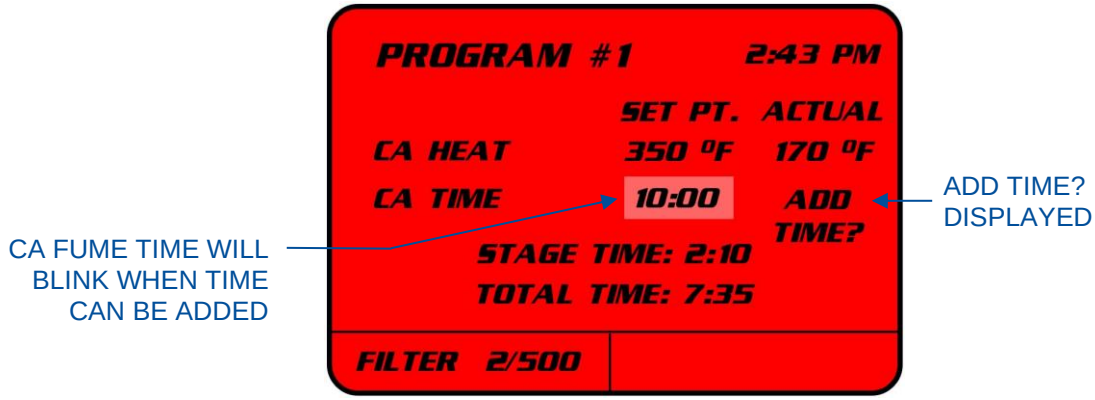
When the Fuming stage begins, both the Main Door and the CA Chamber Door will lock. They remain locked until the program is complete. This prevents opening the doors once CA fumes are present. If a power outage occurs while the doors are locked, they will remain locked. See Section 10: Troubleshooting for instructions to manually override the Main Door Lock so that evidence can be removed to protect it from over-fuming.

The Stage Time shown during the Fuming Stage is from the beginning of the stage, or when the Hot Plate begins to heat, not when the Hot Plate reaches the desired temperature. The Fuming Stage is dependent only upon the Stage Time entered in the program parameters, and will end when the Stage Time is reached. The Hot Plate temperature will increase until the program parameter set point is reached, and maintain that temperature, within 10 ^{O}F (5 ^{O}C), until the Fume Stage is complete. If evidence begins to over-process, before the Fuming stage is complete, you can press **[STOP]** or **[PURGE]**. Once the Fuming stage begins, pressing **[STOP]** will initiate a 5 minute purge (same as pressing **[PURGE]**) to remove CA fumes from the chamber. Note – if you press **[STOP]** before the Fuming stage begins, the unit will stop without purging.

If evidence is not processed enough as the end of the Fuming stage nears, you can add more time to the Fuming stage. However, you must add time before the Fuming stage ends. Once the Purge stage begins, no more time can be added.

To add time to the Fuming stage while still fuming, press **[UP]** once. The text *ADD TIME?* will be displayed on the Fuming stage screen, as shown below in Fig. 6-16:

Figure 6-16



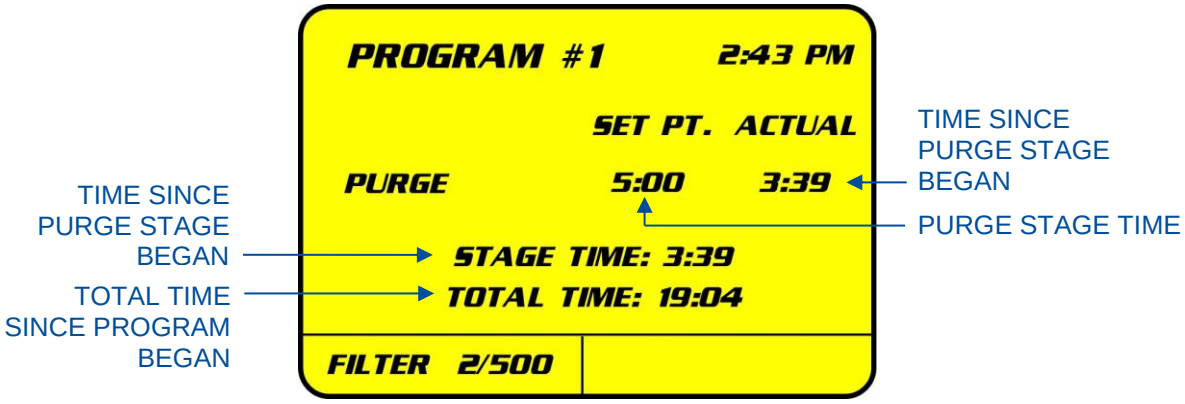
The *CA TIME* field will blink. If **[UP]** is not pressed within 5 seconds, the *ADD TIME?* text will disappear, and no change to the Fume Time will be made. Once the *ADD TIME?* text is displayed, each additional press of **[UP]** will add 30 seconds to the Fume Time.

It is recommended to only add 30 or 60 seconds of time, and then watch for print development. Additional time can be added again, if necessary; however, time cannot be removed.

If additional time is added to the Fume stage, it will not be saved to the Program Parameters. Make appropriate adjustments to the Fuming stage time in the Program Parameters if a longer Fume time is desired for future runs.

After the Fume stage is complete, the program will move to the Purge stage. The screen will display the following information (see Fig. 6-17) during this stage:

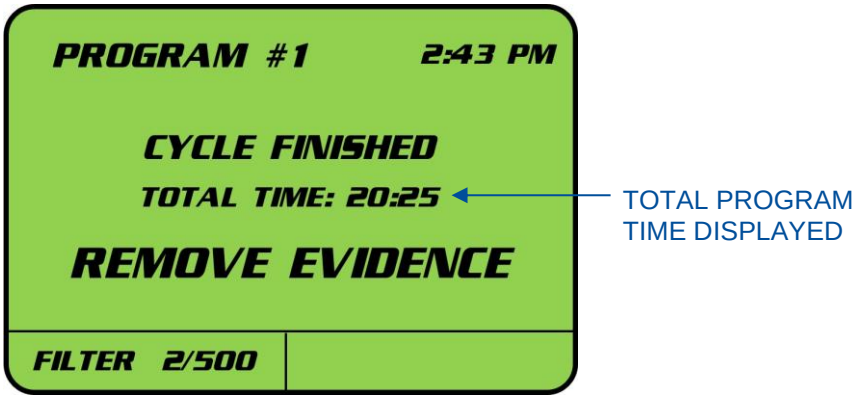
Figure 6-17



The Purge stage is the final stage in a Fuming Cycle. During this stage, you will hear the exhaust blower turn on to pull the fumes inside the chamber through the Main Carbon Filter. This stage has a minimum time of 4:00 to ensure all CA vapors are removed. Until this stage is complete, the doors will remain locked.

After the Purge stage is complete, the Fuming Cycle has finished. The screen will display the following information (see Fig. 6-18) after this stage:

Figure 6-18



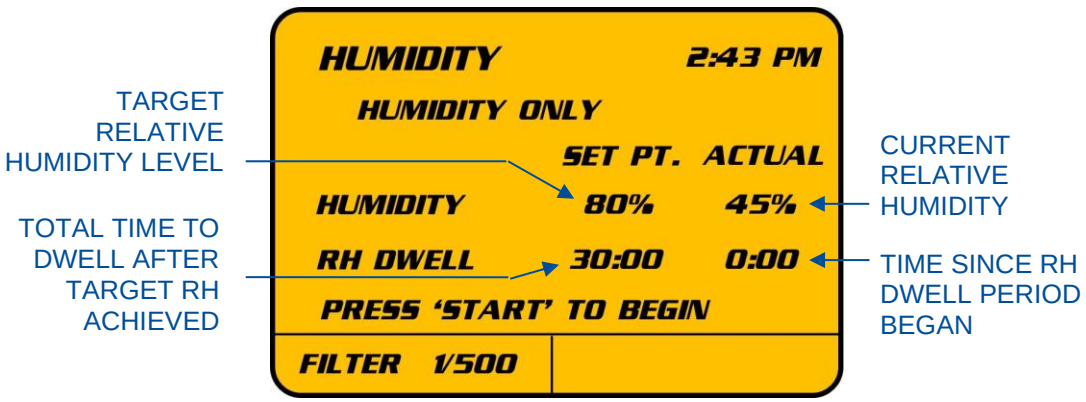
After the Fuming Cycle is complete, this screen will be displayed, along with an audible beep and flashing chamber light, for 30 minutes or until the Main Door is opened. Upon completion of the Fuming Cycle the doors will unlock automatically, so that evidence and the used CA tin can be removed.

Humidify – Program Set-up

If re-humidifying prints, you can utilize the Humidify Cycle functionality to raise the chamber's relative humidity to any user-selectable level, up to 80% maximum, and hold it at that level for a user-selectable time period.

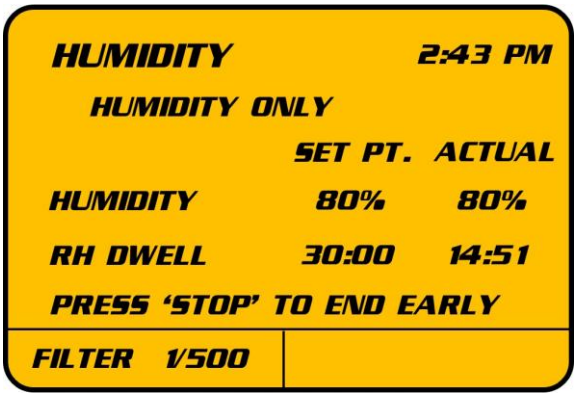
On the Main Menu screen, Select *RUN* by moving the red arrow to Run menu option, and press **[OK]**. The Run Menu (see Fig. 6-19) displays three sub-menus, which offer three types of cycles. Select *HUMIDIFY* by moving the red arrow to Humidify menu option, and press **[OK]**. The Humidity Menu (see Fig. 6-19) will be displayed:

Figure 6-19



The Set Point values for *Humidity* and *RH Dwell* can be adjusted to desired levels. The selected value will blink, and you can move between the Humidity Set Point value, and the RH Dwell Set Point value with **[UP/DOWN]**. Use **[RIGHT/LEFT]** to increase or decrease the selected value. When the values are set to user preference, press **[START]** to begin the Humidify Program. The RH Dwell time will not begin until the target RH level is achieved. While the Humidify Cycle is running, the following screen will be displayed (Fig. 6-20):

Figure 6-20



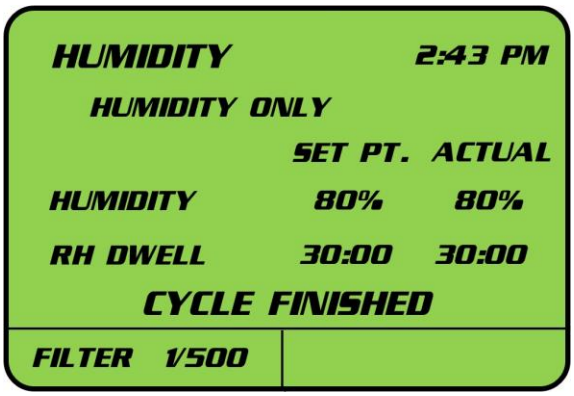
Note: Humidity level can only be increased from ambient. The chamber cannot reduce or decrease the relative humidity.

During the Humidity stage, you may see water vapor entering the chamber from the lower, right side wall. This is normal. The displayed Humidity value may drop slightly in the first minute until air is circulated thoroughly. The humidity level increases approximately 2%-3% per minute. When operating normally, the maximum relative humidity of 80% should be reached in less than 35 minutes. If the desired relative humidity level is not reached in a pre-set amount of time, the program will stop and display an error screen. See Section 10: Troubleshooting if this timeout occurs.

Once the desired relative humidity level is achieved, the program will move to the RH Dwell stage, if this stage is enabled by entering a time other than 0:00. During the RH Dwell stage, the air is circulated inside the chamber. Additional humidity will not be added during this stage, so do **NOT** open the Main Door or the CA Chamber Door.

After the Humidify Cycle is complete, this screen (Fig. 6-21) will be displayed, along with an audible beep and flashing chamber light, for 30 minutes or until the Main Door is opened.

Figure 6-21



7: Maintaining Your CApture™ BT

This section details normal maintenance required for optimal operation of the CApture BT Fuming Chamber.

Maintenance Safety Precautions

Follow the safety precautions below when performing maintenance operations.

- Wear safety glasses, and additional eye, face and breathing protection as required by your Health & Safety Department when working with chemicals/particulates.
- Wear gloves, and/or additional skin protection as required by your Health & Safety Department.
- No loose fitting or cotton clothes
- Although the service operations detailed in this section do not involve access to areas of the product with moving or electrical parts, should you remove any panels that expose moving or electrical parts, you must follow these instructions before doing so:
    - Disconnect main power cord or electrical service connection
    - Never touch moving parts such as fan blades or blower wheels.

Recommended Maintenance Schedule

Table 7-1

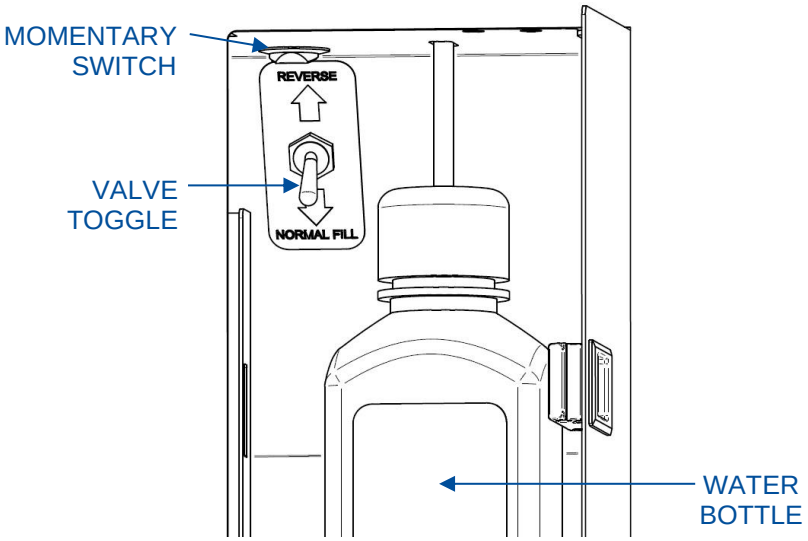
Activity	Maintenance Frequency			
	Weekly	Monthly	Annually	As Required
Approximate # of Cycles	25-50	50-100	250-500	500-1000
Drain Humidifier Tank	•	•	•	•
Check and Replace Pre-Filter		•	•	•
Scrape interior walls and glass to remove CA residue		•	•	•
Inspect Recirculation Blower Intake		•	•	•
Recalibrate Humidity Sensor		•	•	•
Replace Main Carbon Filter			•	•
Replace Humidity Sensor				•
Vacuum CA powder residue from tubing behind Hot Plate				•

Drain Humidifier Tank (Weekly)

Replace water in Humidifier Basin and Water Bottle. This is important to do weekly, especially before the chamber will sit unused for several days (typically on a Friday before sitting unused over the weekend). Follow the steps below to empty the Humidifier Basin and Water Bottle.

1. Open the Water Bottle Door, locate the Valve Toggle (see Fig. 7-1) on the back wall, just to the left of the Water Bottle. Next, flip the Valve Toggle "up" which reverses water flow back into the Water Bottle.
2. Make sure the unit is plugged in, and Main Power Switch is ON.
3. Locate the Momentary Switch (see Fig. 7-1) on the top panel inside Water Bottle Compartment. Press and hold this switch for approximately 15 seconds. When the switch is pressed, you should hear the Water Pump turn on, and see the water level in the Bottle rising. Release the Switch, Water Pump should continue to run on its own, if not, hold Switch for another 5 seconds.
4. When air bubbles are seen coming from hose inside Water Bottle, turn the Main Power Switch OFF. Empty the Water Bottle of all water. Flip the Valve Toggle back "down" to the NORMAL FILL position. Replace Water Bottle. Before using chamber again, fill Water Bottle with water.

Figure 7-1



Inspect / Replace Pre-Filter (Monthly)

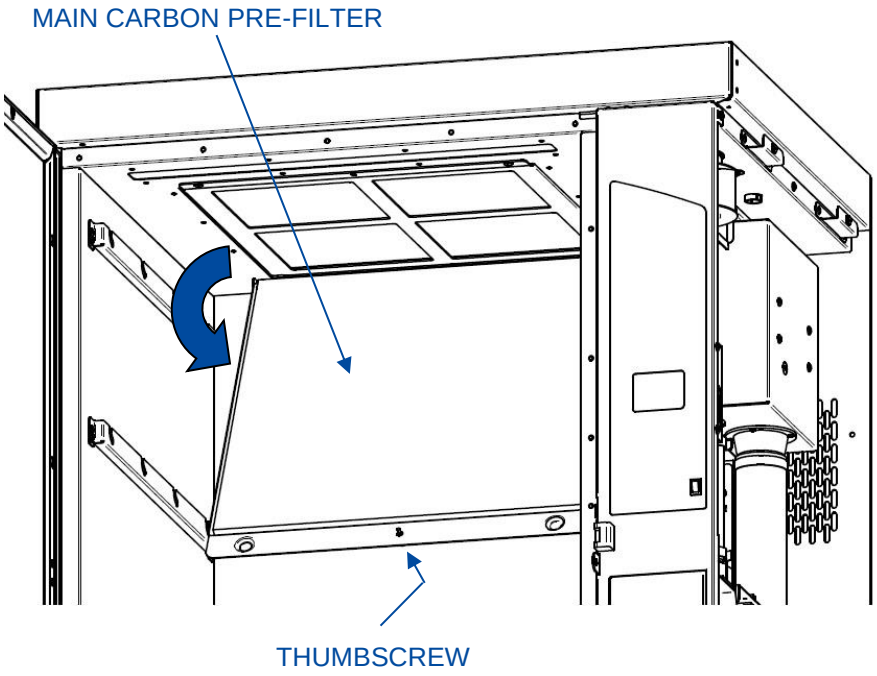
Visual inspect the Pre-Filter. Access the Pre-Filter as follows:

1. Locate the thumbscrew on the Pre-Filter Retainer (see Fig. 7-2). Loosen it until the Pre-Filter Retainer hinges open. Note – If the thumbscrew is too tight to hand turn, a Phillips screwdriver may be used to loosen it.

If it has white residue (CA dust) built up or flaking off significantly when touched/moved, replace the Pre-Filter as described:

1. With the Pre-Filter Retainer still open, roll the used Pre-Filter up, fold in half and place carefully into a small trash bag.
2. Place the new Pre-Filter (orange side down) into the Pre-Filter Retainer. Verify Pre-Filter orientation and fit within the retainer so it covers the large openings in the Pre-Filter Retainer completely.
3. Hinge Pre-Filter Retainer closed, and re-secure the thumbscrew tightly.

Figure 7-2



Clean Internal Surfaces (Monthly)

When CA residue builds up on the internal surfaces, it may be necessary to remove it. Residue on the main glass door is particularly detrimental to visual observation of developing prints. Follow the procedure below to remove CA residue:

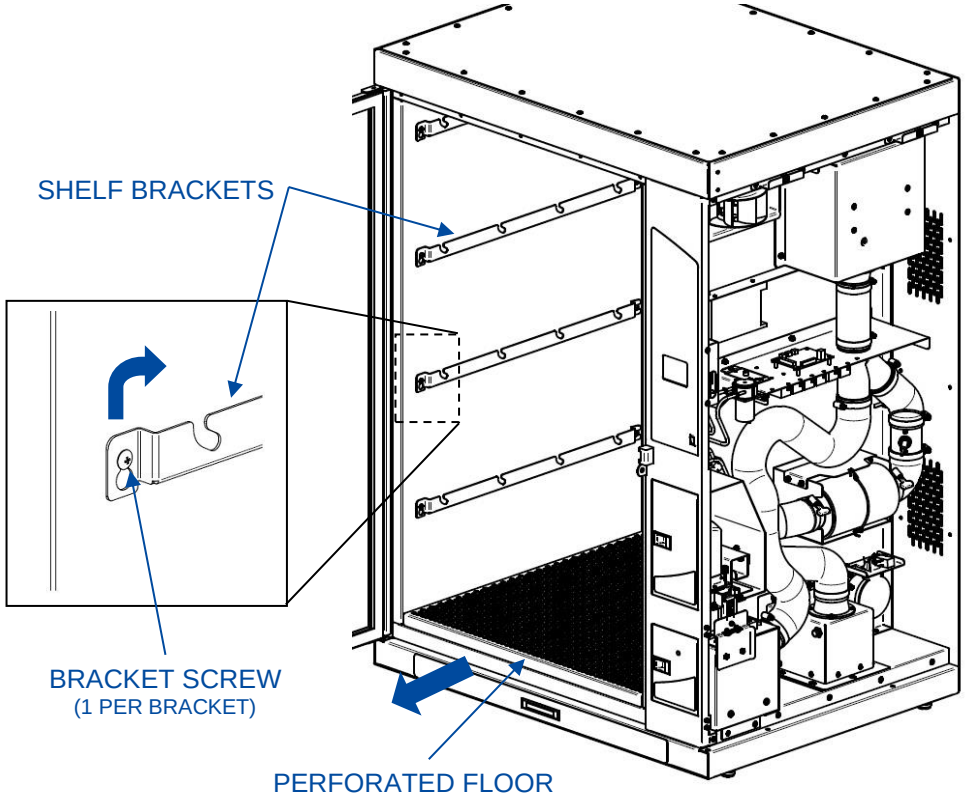
To gain better access to the stainless steel walls/floor inside the chamber, it is recommended to remove the perforated floor, hanging bars, accessory items, and shelf brackets (see Fig. 7-3). These items can be cleaned individually if desired, although their surface area is much smaller relative to the interior walls and glass door.

1. Using a razor blade or paint scrapper with razor blade, scrape the internal surfaces of the glass on the main door and interior walls.

Comparison testing on cleaning methods reveal that mechanical scraping removes CA residue more easily, and reduces future build up on cleaned surfaces. Chemical cleaners tend to leave a residue/film that attracts CA more aggressively and therefore chemical cleaners are not recommended.

2. Remove the CA residue particulate from the scraping operation with a HEPA-filtered shop-vac or similar vacuum. A dry cloth may also be used to collect/gather the residue after scraping.

Figure 7-3



3. Replace all components removed by reversing the instructions above.

Vacuum/Clean Recirculation Blower Intake (Monthly)

This step may not need to be completed monthly, but visual examination of the Recirculation Blower Intake is recommended. If the intake slots are not clogged or overgrown with CA residue, this procedure need not be completed. If the intake slots are clogged with CA residue, follow this procedure:

Unplug the main power cord before proceeding to prevent Recirculation Blower from turning on during this procedure. Wait 1 minute after removing power before proceeding.

1. If the Shelf Brackets are not already removed, remove the top, right bracket by loosening the front screw with a Phillips screwdriver 1-2 turns. Then, lift the front of the bracket up, and away from the side wall. Pull the bracket towards you to release it from the rear catch. See Fig. 7-3 for reference.
2. Locate the Fastening Screw holding the Blower Intake Cover in place (see Fig. 7-4a). Loosen the Fastening Screw 1-2 turns.
3. Slide the Blower Intake Cover up and rotate the top of the cover away from the side wall (see Fig. 7-4a).
4. After removal, the Blower Intake Cover should be cleaned by brushing/scraping off loose CA residue.
5. If the Recirculation Blower (see Fig. 7-4b) is covered heavily with CA residue, use a shop-vac with brushed attachment to clean off the blower.

Figure 7-4a

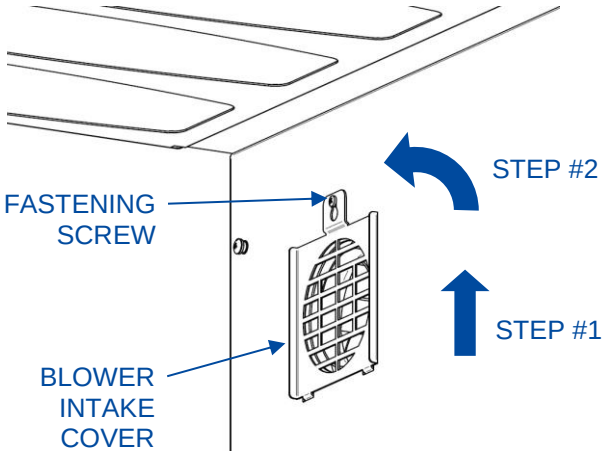
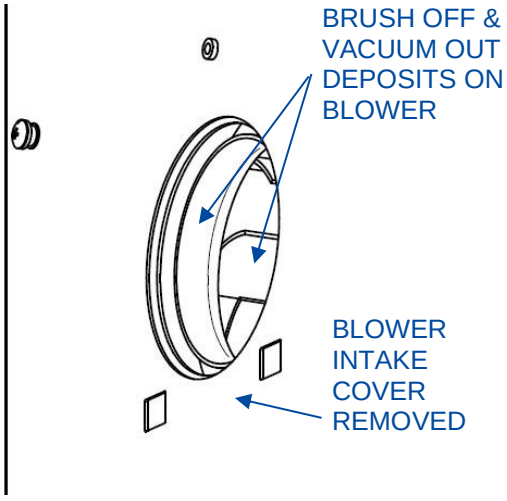


Figure 7-4b



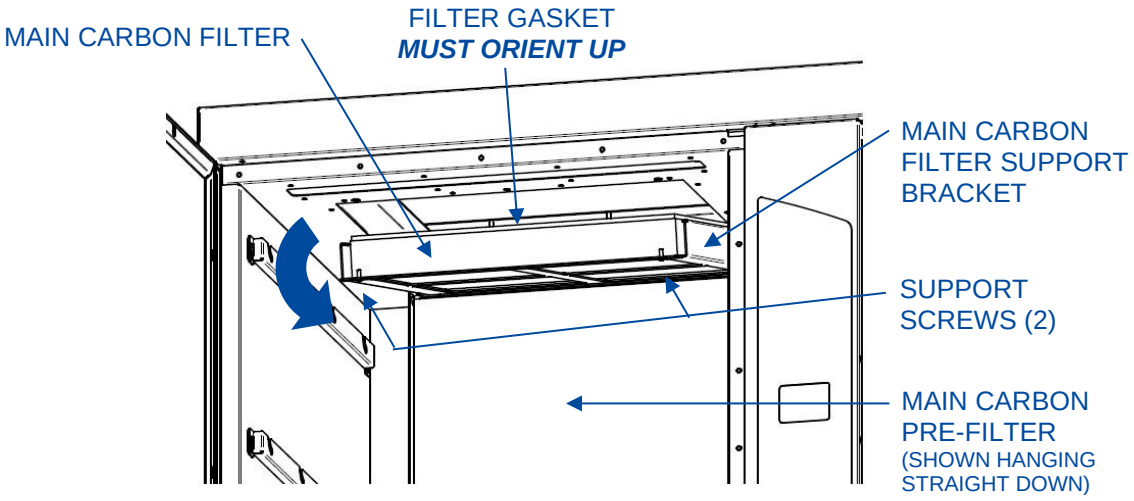
6. Replace all components removed by reversing the instructions above.

Replace Main Carbon Filter (Annually)

When the *Replace Filter Alert* activates, or if Cyanoacrylate fumes are detected emitting from the chamber's exhaust, replace the Main Carbon Filter as described below. See section *Section 3: Carbon Filter Life* to understand factors that can reduce Carbon Filter Life. To replace the Main Carbon Filter, follow these steps:

1. Open the Main Carbon Pre-Filter (reference Fig. 7-2 for additional detail) as shown in Fig. 7-5. The Main Carbon Pre-Filter and its Bracket may be removed by picking the Bracket up and pulling forward. Or, it can be left to hang in place.
2. Remove the two (2) Support Screws holding the Main Carbon Filter in place (see Fig. 7-5). The Main Carbon Filter Support Bracket will rotate down approximately 20 degrees and stop on its own by internal stop pins.
3. The Main Carbon Filter's gasket orients up, and may stick in place. If needed, gently pull the front edge of the filter frame down to release the gasket seal.
4. Slide the old filter out, replace with a new filter. Be sure to remove the protective plastic covering on the new filter.
5. Reverse the above steps to reassemble all components.

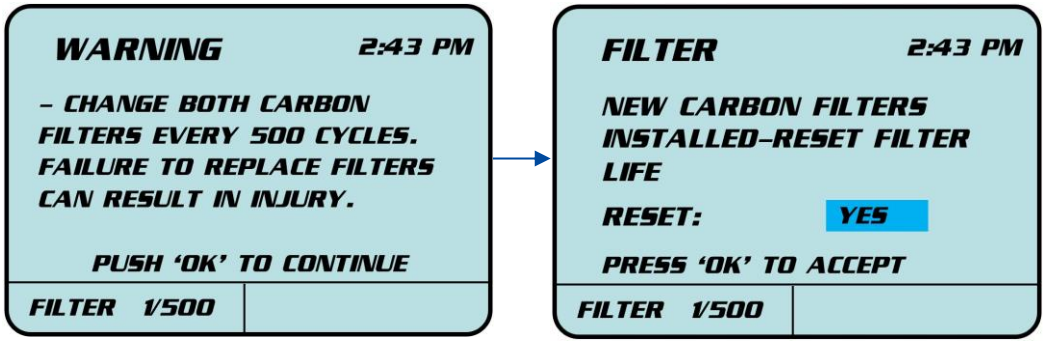
Figure 7-5



6. After new Carbon Filters are installed, the Filter Life Gauge needs to be reset to zero. On the Main Menu screen, Select *SERVICE*, and press **[OK]**. Enter Password: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. After entering the Servicer password, select *FILTER*, and press **[OK]**. Accept the Warning by pressing **[OK]**, then select *YES* on reset option, and finally press **[OK]**, to reset Filter Life (see Fig. 7-6).

Maintain password only with responsible party. Press password buttons in proper order to gain access to the *SERVICE* menu.

Figure 7-6


WARNING
2:43 PM
– CHANGE BOTH CARBON FILTERS EVERY 500 CYCLES. FAILURE TO REPLACE FILTERS CAN RESULT IN INJURY.
PUSH 'OK' TO CONTINUE
FILTER 1/500
FILTER
2:43 PM
NEW CARBON FILTERS INSTALLED–RESET FILTER LIFE
RESET:
YES
PRESS 'OK' TO ACCEPT
FILTER 1/500

Recalibrate Humidity Sensor (Quarterly)

The RH Sensor in the CApture BT Fuming Chamber is pre-calibrated at the factory to display the relative humidity inside the chamber. The relative humidity percentage displayed on the screen during a Humidify Stage is accurate within +/-5%.

At least annually, or if the accuracy of the relative humidity displayed on screen is in doubt, follow the procedure below to verify or re-calibrate the RH Sensor:

1. Obtain a calibrated hygrometer, and place it inside the CApture BT Fuming Chamber. Make sure the hygrometer is properly calibrated and displaying correct relative humidity when placed in the chamber.

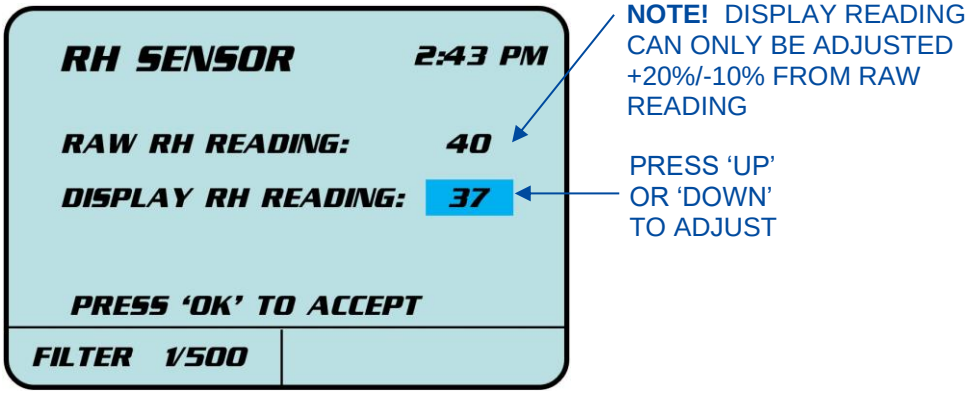
For user convenience, an inexpensive digital hygrometer (P/N 3194300) is included in the parts box of the CApture BT Fuming Chamber. This hygrometer is to be used if access to a calibrated hygrometer is not immediately available.

2. Place the calibrated hygrometer as close to the center of the chamber as possible, and turn it on. Close the Main Door.

3. At the *MAIN* menu, select *RUN* and press **[OK]**. On the *RUN* menu, select *HUMIDIFY* and press **[OK]**. Set the *Humidity Set Pt.* to *80%*. Set the *RH Dwell* to *1:00*. Press **[START]**. Note – if chamber is not reaching 80% relative humidity in a reasonable time, use a lower *Humidity Set Pt.* (70% or even 60%).

4. Once the Humidify Program completes, open main door only slightly then close it. Return to the *MAIN* Menu screen, select *SERVICE* and press **[OK]**. Enter the Service Password: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. Select *RH SENSOR* on the *SERVICE* Menu and press **[OK]**. The following screen will be displayed (Fig. 7-7).

Figure 7-7



5. **Wait for 3 minutes** to allow the RH Reading to stabilize. Compare the *Display RH Reading* to the reading from the hygrometer inside the chamber. Use **[UP]** or **[DOWN]** buttons until the Reading matches the hygrometer reading. Press **[OK]**.

Replace Humidity Sensor (As Needed)

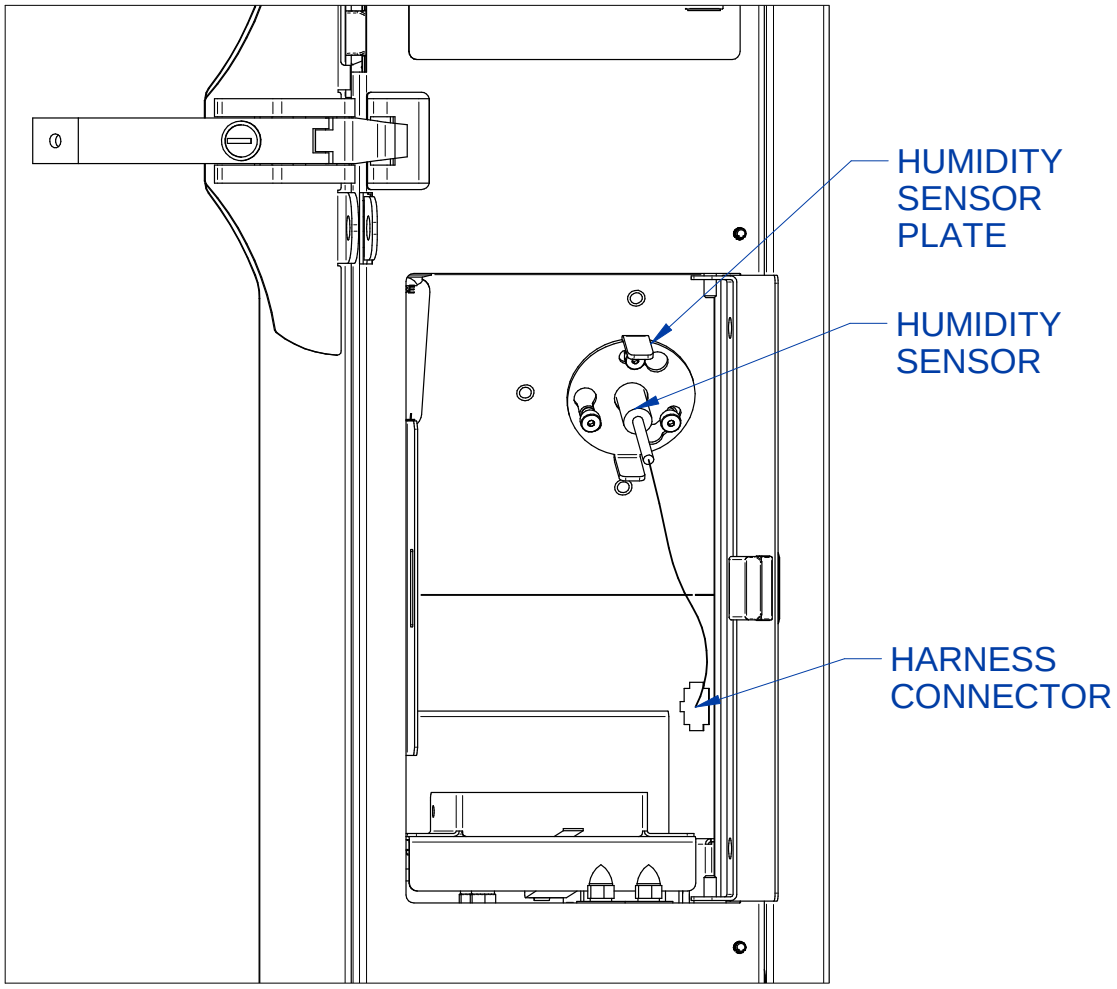
The RH Sensor in the CApture BT Fuming Chamber is a consumable. Eventually it will not provide accurate data. If the RH Sensor cannot be recalibrated during annual maintenance (see Recalibrate Humidity Sensor (Annually) previously in this section), follow these steps to replace the Humidity Sensor.

1. Open the Water Bottle Door (marked ‘H2O’ on the door label).

2. Remove the Water Bottle from its cradle and pull the Water Tube out of the bottle. Set the Water Bottle aside.

3. Locate the Humidity Sensor behind and to the right of the Water Bottle. See Fig. 7-8.

Figure 7-8



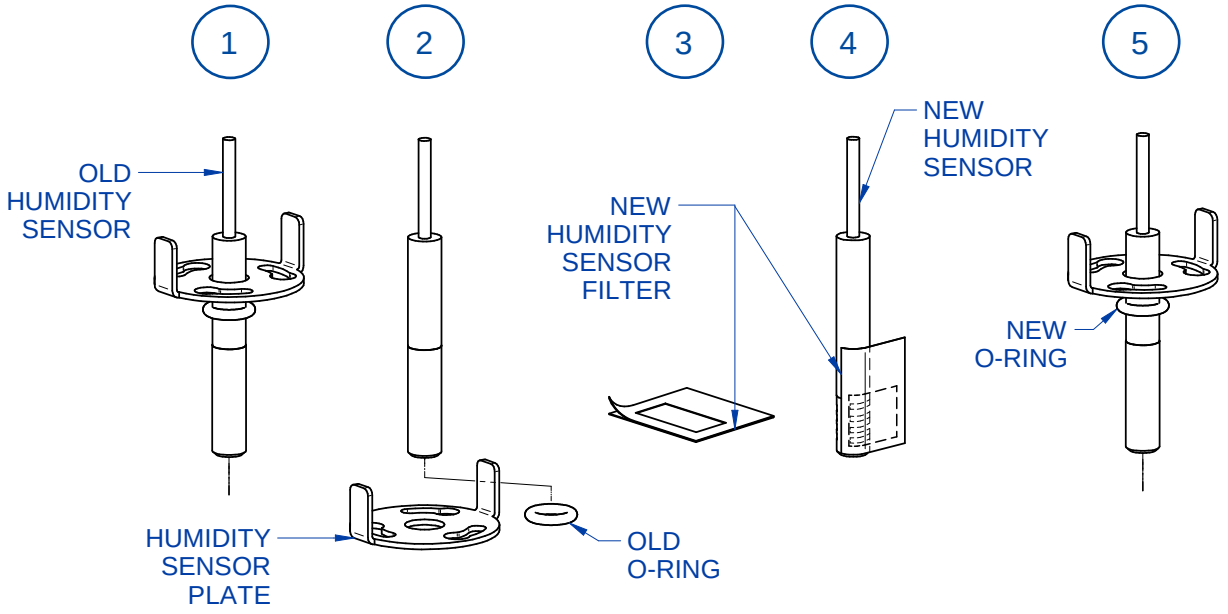
4. Disconnect the Harness Connector at the end of the Humidity Sensor from the thru-wall connector mate. To disconnect, press down on the small lever tab on the connector and pull the Harness Connector towards you.

5. Rotate the Humidity Sensor Plate counter-clockwise approximately 30 degrees until it pops free from the three retainer fasteners.

6. Slide the Humidity Sensor body straight out. There is an O-Ring on the Humidity Sensor, this will come with the Humidity Sensor.

7. Roll the O-Ring off the Humidity Sensor, and then remove the Humidity Sensor Plate. The Humidity Sensor Plate will be the only item saved when installing the new Humidity Sensor. See Fig. 7-9 below.

Figure 7-9



8. Identify the components inside the new Humidity Sensor Kit (P/N 3179230). The kit includes a new Sensor, Sensor Filter, and O-Ring.

9. Peel the protective backing off the new Humidity Sensor Filter, and apply the filter onto the sensor, taking care to position the rectangular opening in the filter's adhesive over the slots in the new Humidity Sensor. Wrap the Filter completely around the sensor and press it tight in all areas.

10. Slide the original Humidity Sensor Bracket onto the new Sensor as shown in Step 5 of Fig. 7-9. Roll the new O-Ring over the end of the sensor and position it approximately as shown in Step 5 of Fig. 7-9

11. Reinstall the Humidity Sensor in to the housing in the Water Bottle Compartment.

12. Once the Sensor is in place, the O-Ring should rest against the housing, and the Humidity Sensor Bracket will be loose. Position the three (3) large cutouts on the Bracket over the three (3) studs on the housing. Slide the Bracket toward the O-Ring and compress the O-Ring slightly by pushing the Bracket towards the housing. While compressing the O-Ring, rotate the Bracket clockwise until it locks in place.

13. Connect Harness Connector at the end of the Humidity Sensor to the thru-wall connector mate as shown in Fig. 7-8.

14. After installing a new Humidity Sensor, the software must be recalibrated to accurately display relative humidity. See Recalibrate Humidity Sensor (Annually) previously in this section to calibrate the new Humidity Sensor.

Tubing Cleanout (As Needed)

Over time the internal air paths within the tubing behind the Right Side Service Panel may accumulate CA residue/particulate. The CA typically adheres to the internal walls of the tubing that sends air from the Recirculation Blower to the CA Chamber (Hot Plate area). The CA build-up is seen as a white, fine powder. If this build up is not cleaned out, airflow may reduce and the white CA particulate can begin to circulate/deposit in the Main Chamber. To remove CA build-up in the tubing, follow these steps:

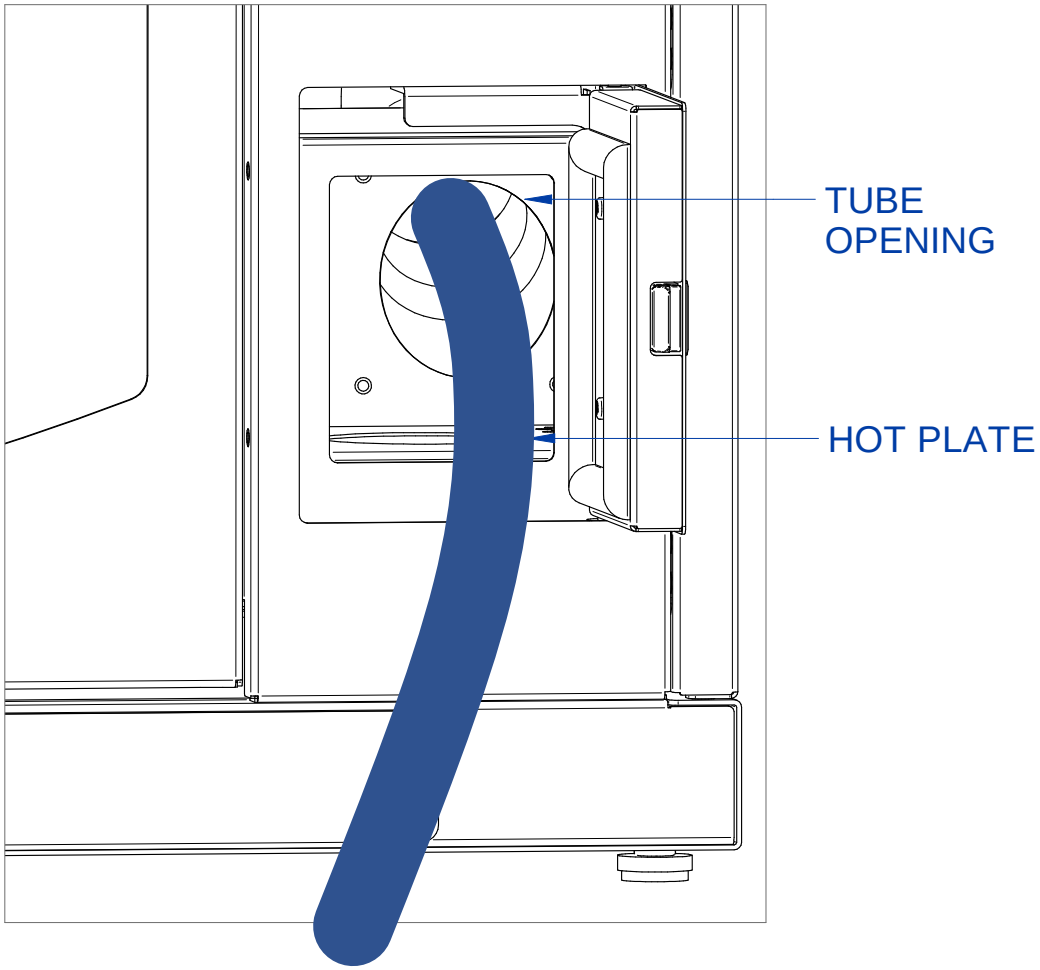
1. If any evidence is present inside the Main Chamber, remove it. If a glue tin is present on the Hot Plate, remove it.

2. Obtain a shopvac or similar vacuum with HEPA-Filter.

3. Open the CA Chamber (Hot Plate) Door.

4. Insert the end of the vacuum hose approximately 3-6 inches (7-15 cm) inside the tube opening behind the Hot Plate. See Fig. 7-10.

Figure 7-10



5. On the Main Menu screen, Select *SERVICE*, and press **[OK]**. Enter Password: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. After entering the Servicer password, select *BLOWER SPEED*, and press **[OK]**.

6. You will be prompted for an Admin Password. Enter Password: **[UP] [RIGHT] [DOWN] [START] [OK]**.

7. With the *HUMIDIFY SPEED* field highlighted, press **[RIGHT]** until the speed is *95*. Press **[OK]**.

8. Go to the Main Menu screen, Select *RUN* and press **[OK]**. Select *CLEANING* and press **[OK]**. Do **NOT** press **[START]** yet.

9. Open the Main Door slightly. Turn the shopvac or similar vacuum on.

10. Press **[START]**.

11. Allow the Fuming Chamber's blowers to run for 1 minute. Press **[STOP]**.

12. Remove the vacuum tube, and close both the Main Door and CA Chamber (Hot Plate) Doors.

13. Go to the Main Menu screen, Select *SERVICE*, and press **[OK]**. Enter Password: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. After entering the Servicer password, select *BLOWER SPEED*, and press **[OK]**.

14. You will be prompted for an Admin Password. Enter Password: **[UP] [RIGHT] [DOWN] [START] [OK]**.

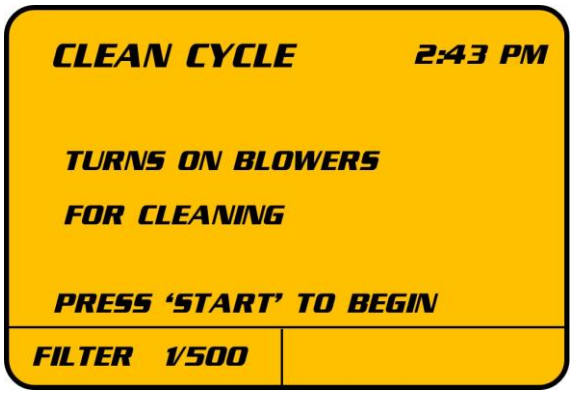
15. With the *HUMIDIFY SPEED* field highlighted, press **[LEFT]** until the speed is *20*. Press **[OK]**.

Cleaning Cycle

When cleaning the inside of the chamber, it may be desirable to pull vapors from CA built up on the internal walls of the chamber away from the user. The CApture BT Fuming Chamber has a Cleaning Cycle that can be enabled while the Main Door is open. This Cleaning Cycle turns the blowers on to pull vapors away from the user, and through the Main Carbon Filter.

To enable a Cleaning Cycle, on the Main Menu screen, Select *RUN* by moving the red arrow to Run menu option, and press **[OK]**. On the Run Menu (see Fig. 6-7) , select *CLEANING* by moving the red arrow to Cleaning menu option, and press **[OK]**. *CLEAN CYCLE* screen (see Fig. 7-11) will be displayed:

Figure 7-11



To start the Cleaning Cycle, press **[START]**. The blowers will turn on, even if the Main Door and/or CA Chamber Door are open. The blowers will stay on for 30 minutes, or until **[STOP]** is pressed.

Do NOT run more than two (2) consecutive Cleaning Cycles. This can harm internal components! If more than one hour is required to clean the inside of the chamber, stop cleaning after two (2) consecutive Cleaning Cycles, wait 15 minutes, then another Cleaning Cycle can be initiated.

Service Operations

The operations in this section provide instructions to service the CApture BT Fuming Chamber in the event a component stops working, or a power loss occurs with evidence in the chamber. This section also provides instructions for moving or storing the chamber.

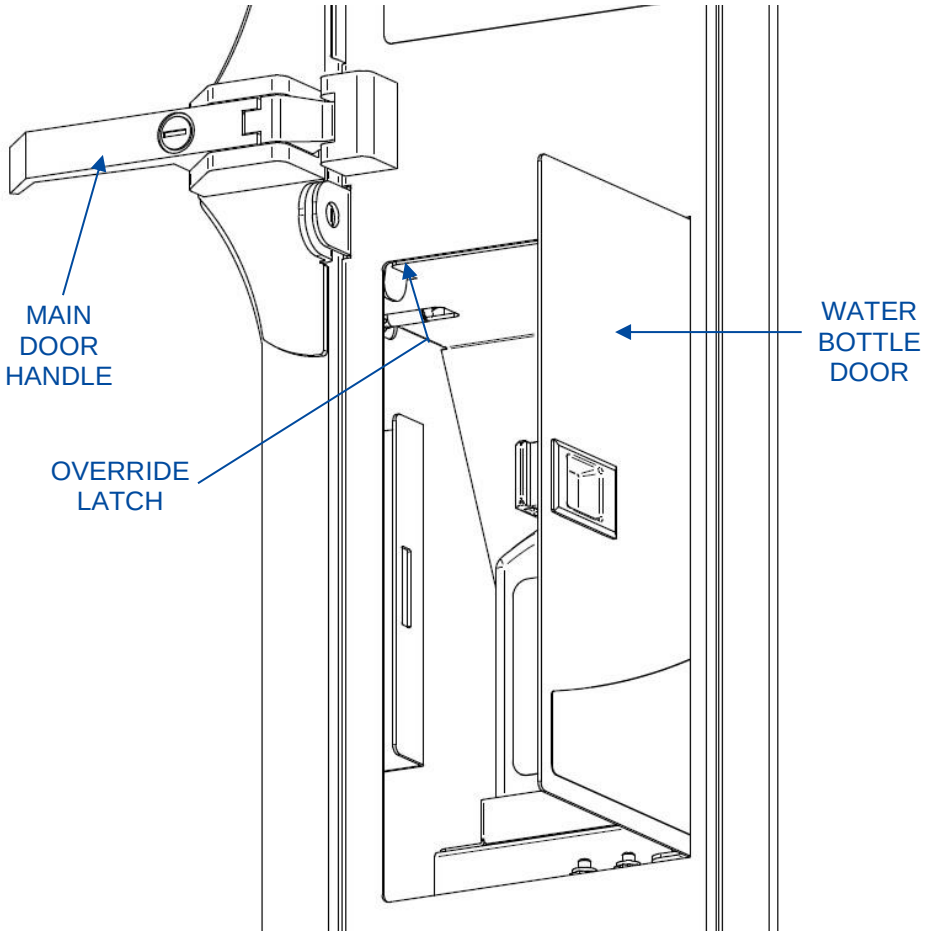
Manual Override of Main Door Lock

If power is lost while fuming, the Main Door will be locked. To manually override the Lock, and remove evidence to prevent over-fuming, perform the following procedure:

CAUTION! – CA fumes may be heavily present – Use proper PPE!

1. Open the Water Bottle Door.
2. Locate the Override Latch (see Fig. 7-12).
3. Push up on the Override Latch, and while holding the Override Latch up, open the Main Door Handle.

Figure 7-12



If the Main Door is closed before power is restored, it will lock again. Repeat procedure above to re-open Main Door.

Moving the Chamber

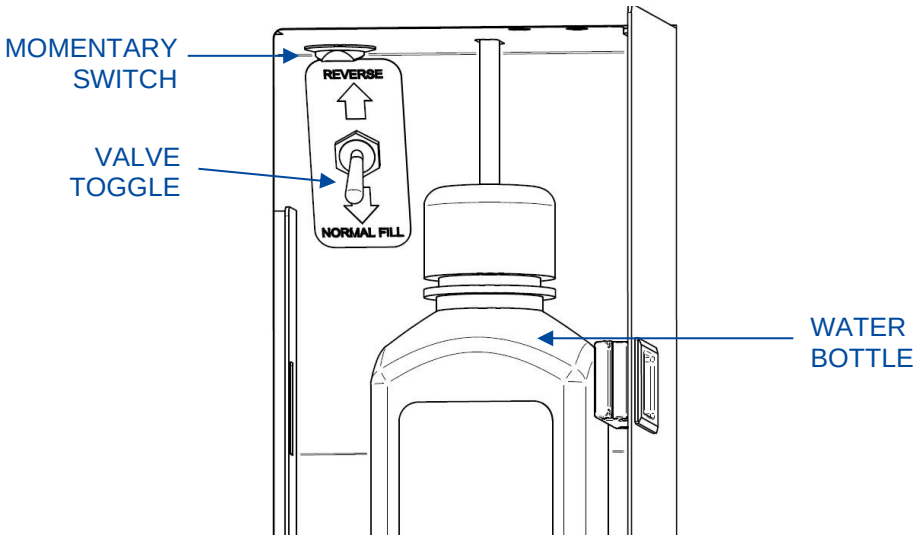
Once installed, the CApture BT Fuming Chamber should not be moved or tipped without first preparing the chamber. If the chamber is installed on the accessory stand, it can be rolled without any preparation.

Do not roll the chamber on the accessory stand over rough surfaces, door thresholds, or on uneven surfaces of more than 5 degrees of inclination. **Always remove all evidence and CA tin before moving the chamber.**

To prepare the chamber for its move, perform the following tasks:

1. Remove all Hang Bars, and any accessory shelves or other accessories installed inside the Main Chamber. Remove the Perforated Floor from inside the Main Chamber.
2. Open the Water Bottle Door, locate the Valve Toggle (see Fig. 7-13) on the back wall, just to the left of the Water Bottle. Next, flip the Valve Toggle "up" which reverses water flow back into the Water Bottle.
3. Make sure the unit is plugged in, and Main Power Switch is ON. Locate the Momentary Switch (see Fig. 7-13) on the top panel inside Water Bottle Compartment. Press and hold this switch for approximately 15 seconds. When the switch is pressed, you should hear the Water Pump turn on, and see the water level in the Bottle **rising**. Release the Switch, Water Pump should continue to run on its own, if not, hold Switch for another 5 seconds.
4. When air bubbles are seen coming from hose inside Water Bottle, turn the Main Power Switch OFF. Unplug the unit's power cord. Empty the Water Bottle of all water. Flip the Valve Toggle back "down" to the NORMAL FILL position. Replace Water Bottle.

Figure 7-13



Storage

If the chamber is to be left unused for more than one month, it should be prepared for storage. Follow the instructions below.

The chamber should not be stored in areas of excess humidity or temperature extremes.

1. Drain the water from the humidifier. Replace empty Water Bottle.
2. Disconnect the power cord.
3. Close all doors and cover with plastic sheeting.

Service Components – Upper Compartment

Serviceable parts are located in the upper compartment of the CApture BT Fuming Chamber. These components should not need to be maintained by the user, but if a failure occurs, these components can be replaced as follows:

ALWAYS UNPLUG THE POWER CORD BEFORE SERVICING THIS PRODUCT!

Figure 7-14

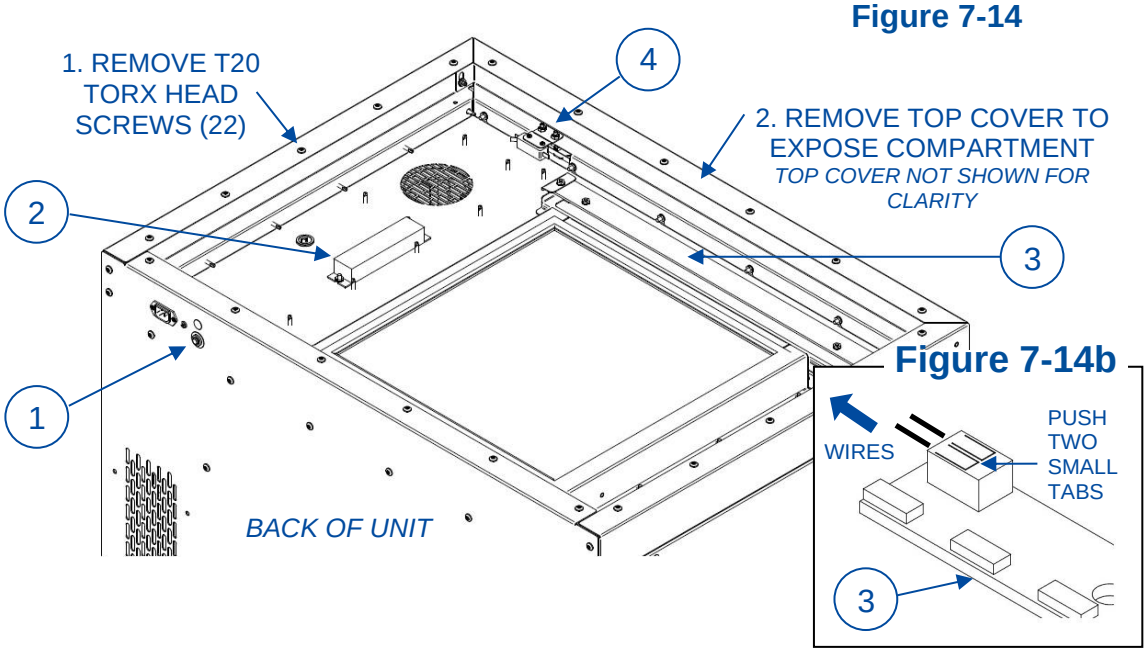


Figure 7-14b

1. **Circuit Breaker –** P/N 1327208 (115v: qty 1); P/N 1327209 (230v: qty 2)
   Unscrew knurled nut on outside of chamber, disconnect wires.

2. **LED Driver** – P/N 3181300
   Remove two (2) nuts holding driver in place, disconnect all wires.
   NOTE - push down on two small tabs on LED Light Strip to release wires from Light Strip, see Fig. 7-14b above. Butt splice connectors or wire nuts (qty 4) required.

3. **LED Light** – P/N 3181100
   Remove two (2) nuts and screws holding the Aluminum Heat Sink Strip to the Support Bracket, disconnect wires as shown in Fig. 7-14b above. Separate LED Light Strip from Heat Sink Strip by removing screws & nuts.

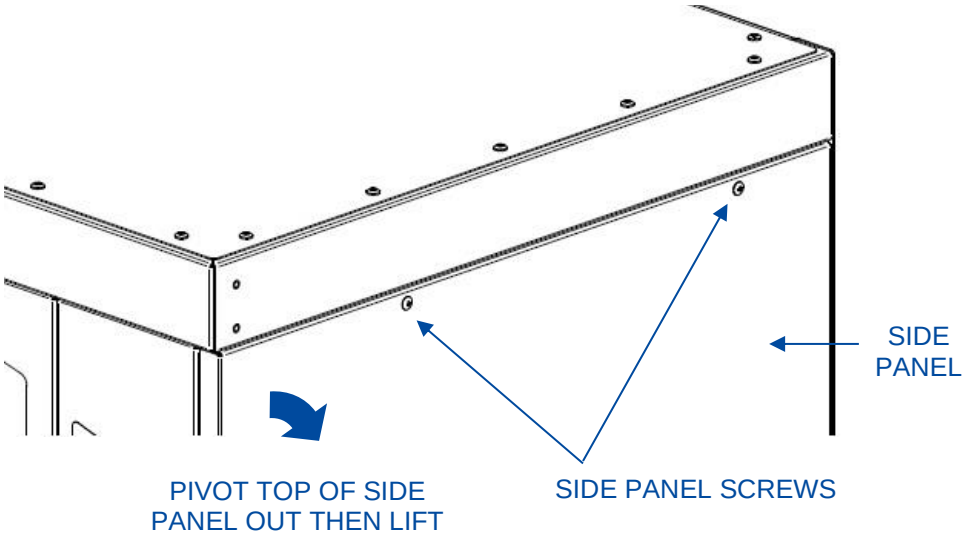
4. **Main Door Limit Switch** – P/N 3832300
   Remove two (2) Nyloc Nuts holding Switch Bracket to Frame. Note wire locations on switch for correct reassembly, then disconnect wiring. Remove two (2) screws & nuts holding Limit Switch to Switch Bracket.

Service Components – Side Compartment

Serviceable parts are located in the side compartment of the CApture BT Fuming Chamber. These components should not need to be maintained by the user, but if a failure occurs, these components can be replaced as follows:

ALWAYS UNPLUG THE POWER CORD BEFORE SERVICING THIS PRODUCT!

Figure 7-15

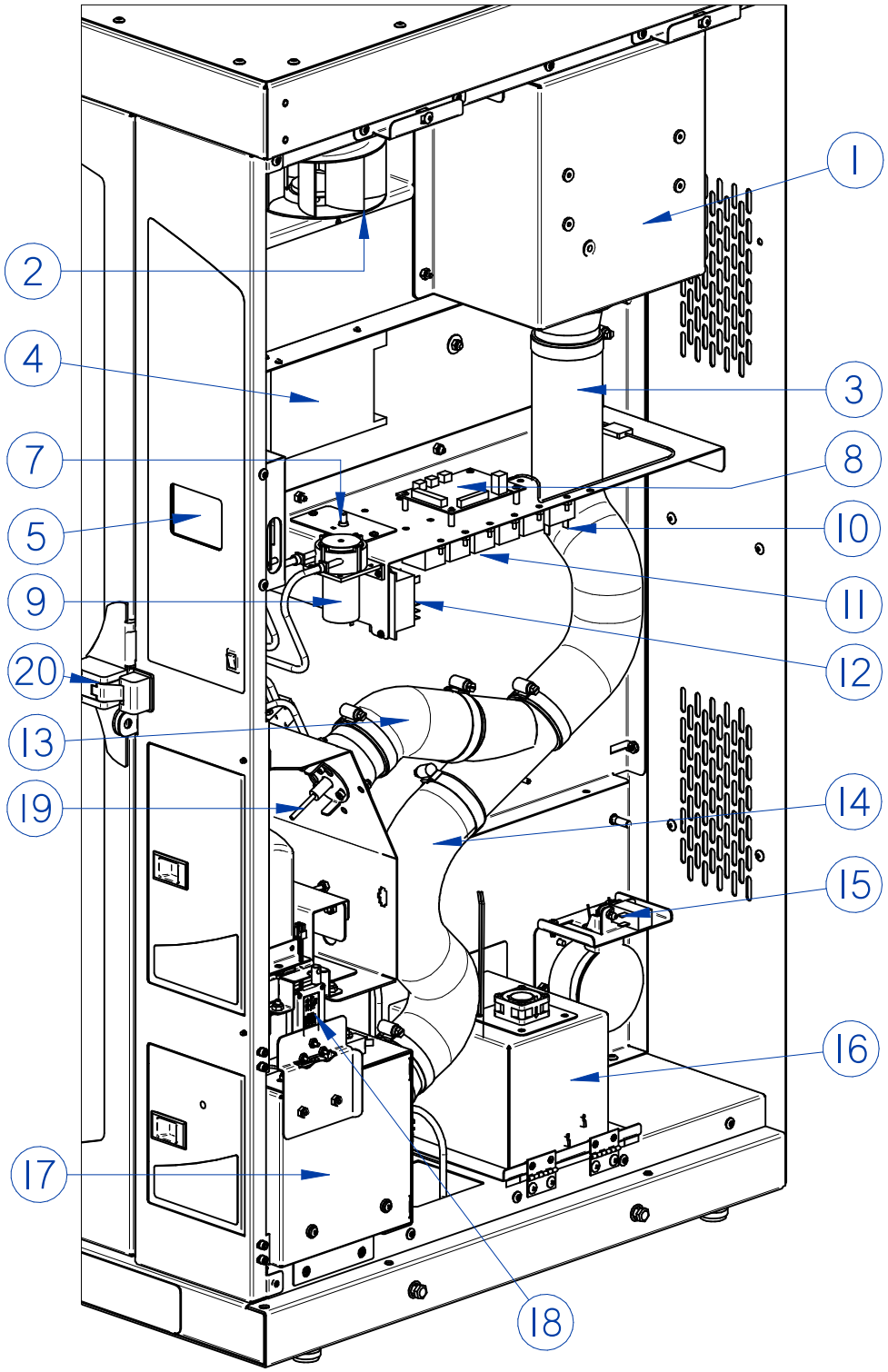


To remove the right Side Panel, locate and remove the two (2) Screws at the top of the right Side Panel. Pivot the top of the Side Panel away from the chamber. Then, lift Side Panel up to clear the pins at bottom of Side Panel from the holes in lower frame. See Fig. 7-15 above. Save the Screws and Side Panel for reassembly. **Note – Side Panel is heavy!** Lay the Side Panel flat while removed from the chamber, so it cannot fall over.

There are many service parts located behind the right Side Panel. Some of these are electrical components which can be easily damaged by rough handling and/or by static discharge. **If replacing an electrical component, always wear a Static Dissipative Wrist Band grounded to the chamber frame and handle component(s) with extreme care, failure to do so can damage components!**

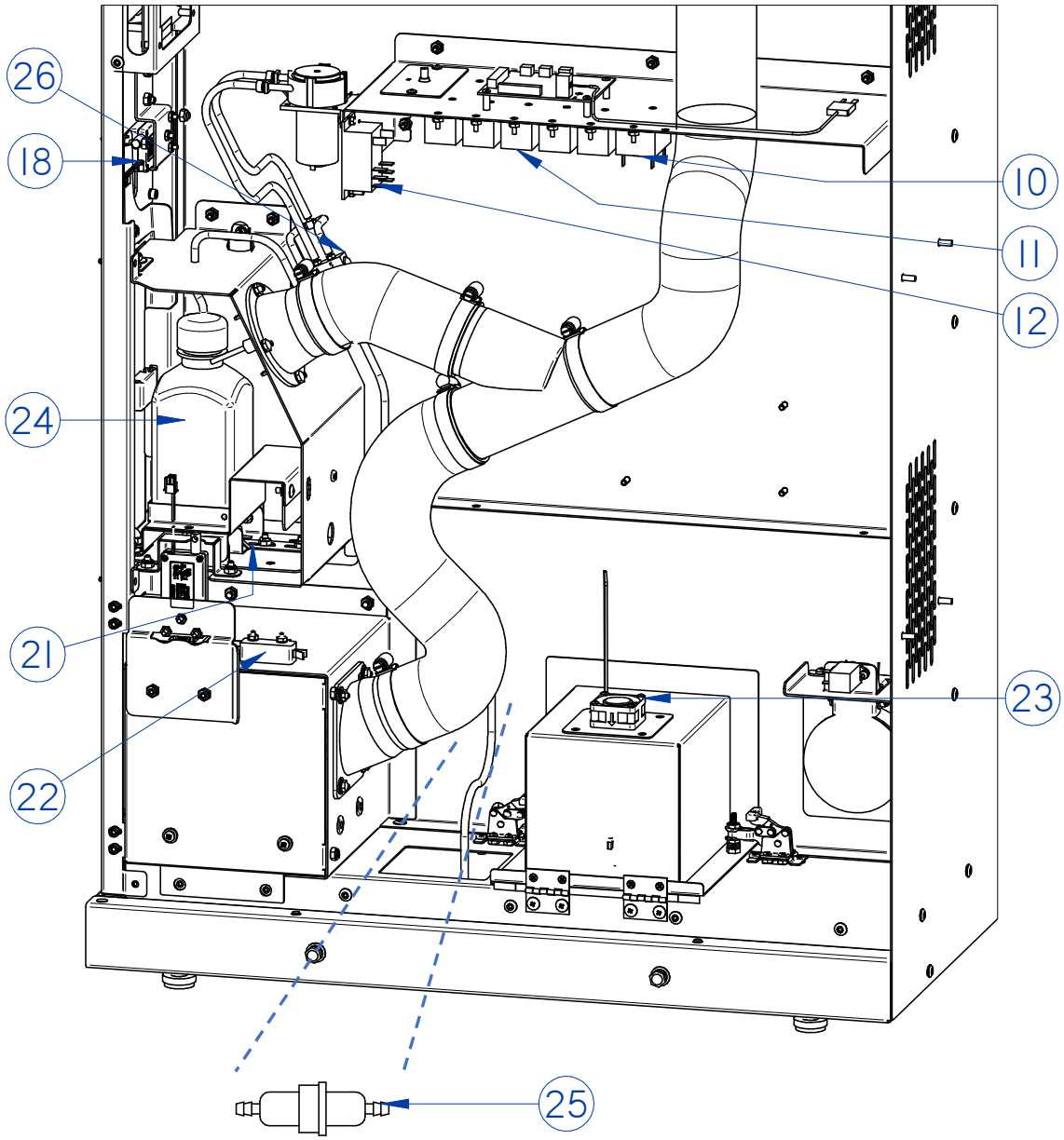
If uncertain about servicing components behind the right Side Panel, or have service or part number questions, contact Labconco Service Department at 800-821-5525 or 816-333-8811. For troubleshooting assistance, see Section 10: Troubleshooting. A detailed list of service parts located behind the right Side Panel is found on the following pages.

Figure 7-16



See following pages for additional views and detailed descriptions with part numbers.

Figure 7-17



1. **Recirculation Blower** – P/N 3172000P
   Disconnect hoses & wires, remove two (2) Blower Screws, pull up & out.

2. **Exhaust Blower** – P/N 3182700
   Disconnect wires, remove four (4) screws underneath Blower Bracket.

3. **Hose, 17.0”** – P/N 3175905
   Loosen hose clamps on either end, slide hose off fittings.

4. **Power Supply, 12VDC** – P/N 4586800
   Remove three (3) screws on top side of Power Supply. Disconnect wires.

5. **PCB Display** – P/N 3448002
   Remove cables from board (**note cable orientation!**), remove two (2) T20 Torx Screws on side and two (2) Nyloc Nuts on opposite side of PCB Bracket. Separate board from bracket by removing four (4) screws & nuts.

7. **Exhaust Blower Speed Control** – P/N 3365001
   Disconnect wires, remove two (2) screws on Speed Control Plate, pull Speed Control up and remove jam nut on Speed Control dial.

IMPORTANT! When new Speed Control installed, turn gain screw CCW to 100%

8. **Power Board** – P/N 3178400
   Disconnect all wires, remove four (4) screws holding board in place.

9. **Water Pump** – P/N 4533100
   Disconnect wires & hoses. Label hoses before removing to ensure hoses are connected correctly to new Water Pump. Remove two (2) screws & nuts.

10. **Relay, DPST** – P/N 1289100 (qty 1)
    Disconnect wires, taking careful note of location of wires to ensure correct assembly of new Relay. Remove two (2) nuts.

11. **Relay, SPST** – P/N 1289200 (qty 6)
    Disconnect wires, taking careful note of location of wires to ensure correct assembly of new Relay. Remove two (2) nuts.

12. **Relay, DPDT** – P/N 1289103 (qty 1)
    Disconnect wires, taking careful note of location of wires to ensure correct assembly of new Relay. Remove two (2) nuts.

13. **Hose, 6.0”** – P/N 3175901
    Loosen hose clamps on either end, slide hose off fittings.

14. **Hose, 14.0”** – P/N 3175904
    Loosen hose clamps on either end, slide hose off fittings.

15. **Exhaust Vent Valve** – P/N 3181000
    Disconnect wires, remove two (2) screws & nuts. Slide valve off notch in Flapper. *Ensure plunger slot on new valve slides into Flapper notch.*

16. **Humidifier Assembly** – P/N 3198000 (115v); 3198001 (230v)
    See Service Parts - Humidifier Assembly section on following pages. If servicing components inside the Humidifier Assembly, remove all water from the Humidifier Basin by following the procedure in section Moving the Chamber found earlier. After pumping the water out of the Humidifier Basin, to access Humidifier Chamber, open the two (2) Toggle Clamps with red (or yellow) handle grips, then swing Humidifier Cover open.

17. **CA Chamber Assembly** – P/N 3171500 (115v); 3171501 (230v)
    See Service Parts - CA Chamber Assembly section on following pages. The assembly part numbers for this assembly are not available for service, see component part number details of this Assembly in Service Parts - CA Chamber Assembly on the following pages.

18. **Door Lock** – P/N 3172600
    Remove hardware as required. If replacing Main Door Lock, ensure manual override bracket is reattached and operating properly.

19. **Humidity Sensor Replacement Kit** – P/N 3179230
    Disconnect wire harness, rotate Retaining Plate, slide Sensor out. RH Sensor Filter (P/N 3186400) is included with new Humidity Sensor Kit (see Replace Humidity Sensor (As Needed) found earlier). Kit 3179230 also includes a new O-Ring; it is recommended to replace the O-Ring when changing the Sensor. Ensure O-Ring is located above RH Sensor Filter on Sensor body, then reassemble Sensor and lock in place by rotating Retaining Plate (see Replace Humidity Sensor (As Needed) found earlier). Sensor should not slide out when secured.

20. **Door Latch** – P/N 3173700
    Remove hardware as required. The Latch requires removal of four (4) screws and washers, two (2) of which are located underneath the door gasket. The Catch requires removal of two (2) allen head cap screws. Be sure to reuse the spacer plate with the Catch.

21. **Water Level Limit Switch** – P/N 3832300
    Remove Water Bottle from cradle. Remove the CA Chamber Door Lock (Item 18) and the protective cover behind it. This will allow better access to this switch. Note wire locations on switch for correct reassembly, then disconnect wiring. Using a permanent marker, draw a line on floor of compartment where Limit Switch Bracket is located (front to back), so that it can be reinstalled in correct location (**this is important**). Remove

two (2) nuts on Limit Switch Bracket. Lift Limit Switch and Bracket over threaded studs. Remove two (2) screws & nuts holding Limit Switch to Bracket. **Before assembling new Limit Switch, note that the old Limit Switch did not have the silver, metal tang (tab), remove the silver, metal tang (tab) off of the new Limit Switch by twisting it with pliers.**

22. **CA Door Limit Switch** – P/N 3832300
    Note wire locations on switch for correct reassembly, then disconnect wiring. Open CA Chamber Door. Remove the two (2) nuts on top of the Limit Switch to remove the Limit Switch.

23. **Humidifier Fan** – P/N 3377901
    Disconnect two-pin wire harness connector. Remove four (4) screws and lift fan off of Humidifier Cover.

24. **Water Bottle** – P/N 3175500
    Remove Water Bottle from cradle, pull water line out of lid hole.

25. **Water Filter** – P/N 3186800
    Pull water hose off each end. Twist Filter Housing open to clean filter, or replace with new Filter.

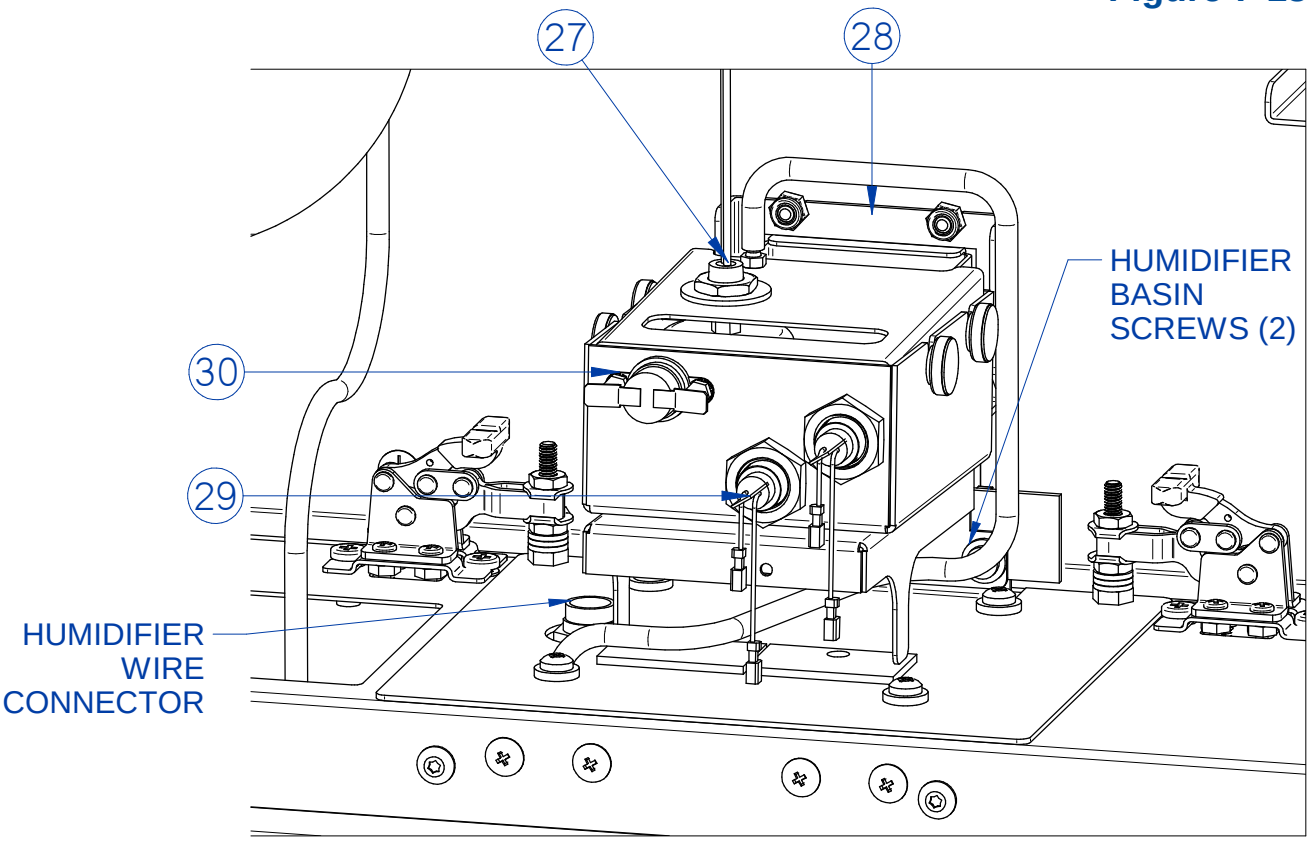
26. **Toggle Valve** – P/N 3185500
    Take careful notes of each water line tube and which port it is connected to (ports are numbered on valve body), or take several pictures. Remove water line tubing from all five (5) ports. Loosen and remove the jam nut and lockwasher located by the Toggle on the INSIDE of the Water Bottle Compartment. The threaded hose barb fittings from the old Toggle Valve will need to be reused, or new can be ordered (P/N 4595108). Use Teflon tape on hose barb threads.

Service Components – Humidifier Assembly (Item 16)

Always drain water from the Humidifier before service. Instructions for draining the Humidifier can be found in Moving the Chamber earlier in this section. Serviceable parts are located in the Humidifier Compartment, these components can be replaced as follows:

ALWAYS UNPLUG THE POWER CORD BEFORE SERVICING THIS PRODUCT!

Figure 7-18



27. Float Switch – P/N 3192601
Disconnect wires, open Humidifier Lid, and unscrew nut holding Float Switch in place.

28. Humidifier Valve Assy – P/N 3185001P
Remove Humidifier Wire Connector, then remove Humidifier by removing the two (2) Humidifier Basin Screws shown in Fig. 7-18. Disconnect 2-pin wire harness connector to Valve Assembly, then remove the three (3) nuts holding the Valve Assembly to the wall. Tilt top of Valve Assembly away from the wall and lift out.

29. **Humidifier Element** – P/N 3198400 (115v); 3198401 (230v)
    Disconnect wires, remove Humidifier Lid, and unscrew Element nut. Slide element into Humidifier Basin and remove. Remove O-Ring (P/N 1645001).

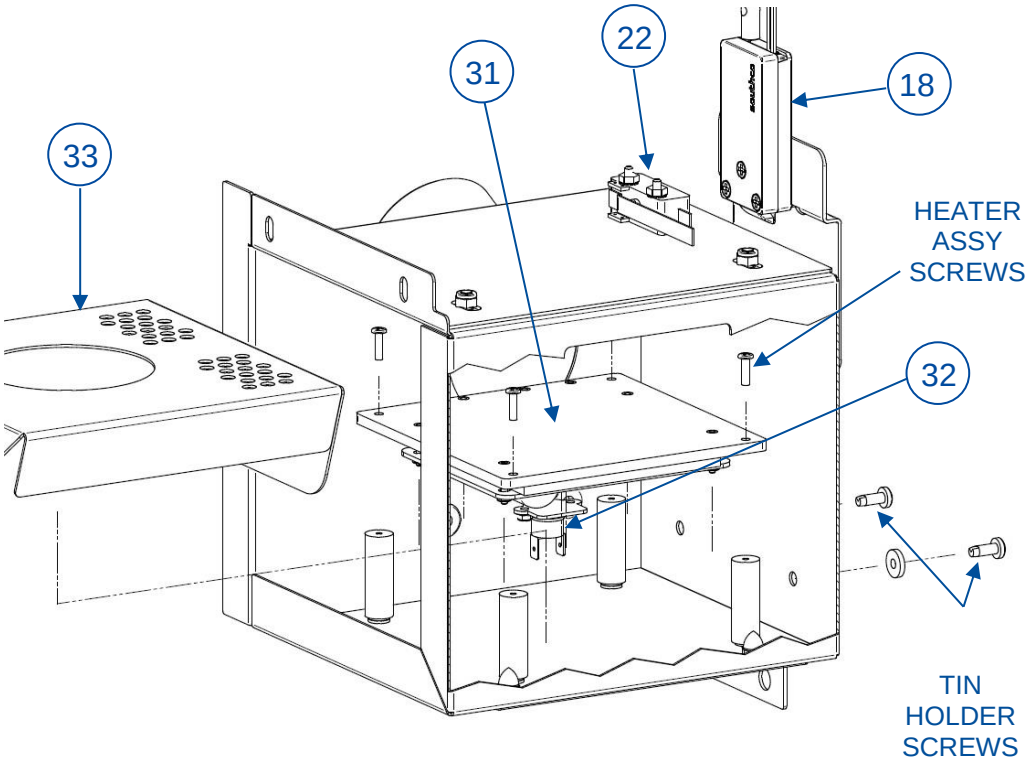
30. **Temperature Controller** – P/N 3188600
    Wiggle wire connectors carefully and disconnect. Remove two (2) screws and nuts.

Service Parts – CA Chamber Assembly (#17)

Serviceable parts are located in the CA (Hot Plate) Compartment, these components can be replaced as follows:

ALWAYS UNPLUG THE POWER CORD BEFORE SERVICING THIS PRODUCT!

Figure 7-19



CAUTION – Hot Surface.
AVERTIR – Surface Chaude

18. Door Lock – P/N 3172600

Remove hardware as required.

22. CA Door Limit Switch – P/N 3832300

Note wire locations on switch for correct reassembly, then disconnect wiring. Open CA Chamber Door. Remove the two (2) nuts on top of the Limit Switch to remove the Limit Switch.

31. Heater Assembly – P/N 3170400 (115v); 3170401 (230v)
Remove Item 33 as described below, remove four (4) screws shown. Disconnect Thermocouple Wire from Power Board (p/n 3178400), disconnect Neutral (white)

Heater Wire from Removable WAGO Wall Nut Connector behind CA Chamber, disconnect Red Angle Terminal from Item 32. Feed wires through grommets in back side wall of CA Chamber (may have to peel away RTV Silicone to push wires through grommets). Reseal wires w/ Silicone.

32. Temp Controller – P/N 1291501

Remove Items 33 & then 31 as described. Remove two (2) wires from Temp Controller. Remove two (2) nuts holding Temp Controller to Heater Plate.

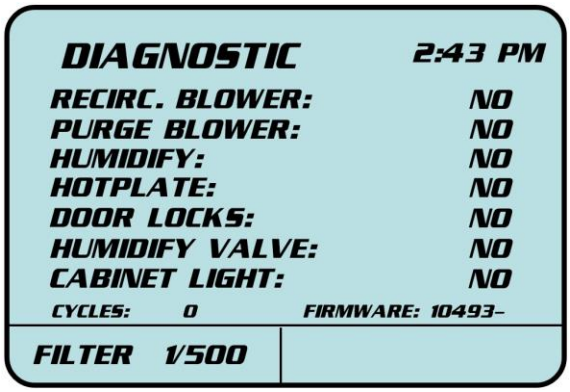
33. Tin Holder – P/N 3172100

Remove (2) Tin Holder Screws, lift up & angle to pull into Main Chamber.

Diagnostics

When troubleshooting the CApture BT Fuming Chamber, it can be helpful to test functionality of critical components individually. The Diagnostic mode allows for the testing of individual components. To access the Diagnostic menu, on the Main Menu, select *SETTINGS* by moving the red arrow to Settings Menu option, and press **[OK]**. From the Settings Menu (see Fig. 6-5), select *DIAGNOSTIC* by moving the red arrow to this sub-menu, and press **[OK]**. The Diagnostic Screen is displayed (see Fig. 7-20).

Figure 7-20



Use **[UP]** and **[DOWN]** to select a component to test, then press **[RIGHT]** to start the test. The *NO* next to that component will change to *YES* while active. Each component will activate for 30 seconds (when doors closed). The expected result for each component test is listed below:

Recric. Blower

Should hear Recirculation Blower turn on. Recirculation Blower will alternate between slower and faster speeds for 15 seconds on each speed.

Purge Blower

Should hear Exhaust Blower turn on. Exhaust Blower will run at one speed. Run this test two (2) times in succession (no more than 5 seconds between tests) to test Exhaust Vent Valve, which should open by end of second test.

Humidify

Should hear Recirculation Blower turn on, the Humidifier Fan will also turn on although it is very quiet, and the Humidifier Valve will open (moderate click sound upon actuation).

Hotplate

Hot Plate heats up. CAUTION! Do **NOT** touch hot plate!

Door Locks

Both Main & CA Chamber Door lock & stay locked while active.

Humidify Valve

Humidifier Valve will open (moderate click sound upon actuation), and then close after 30 seconds.

Chamber Light

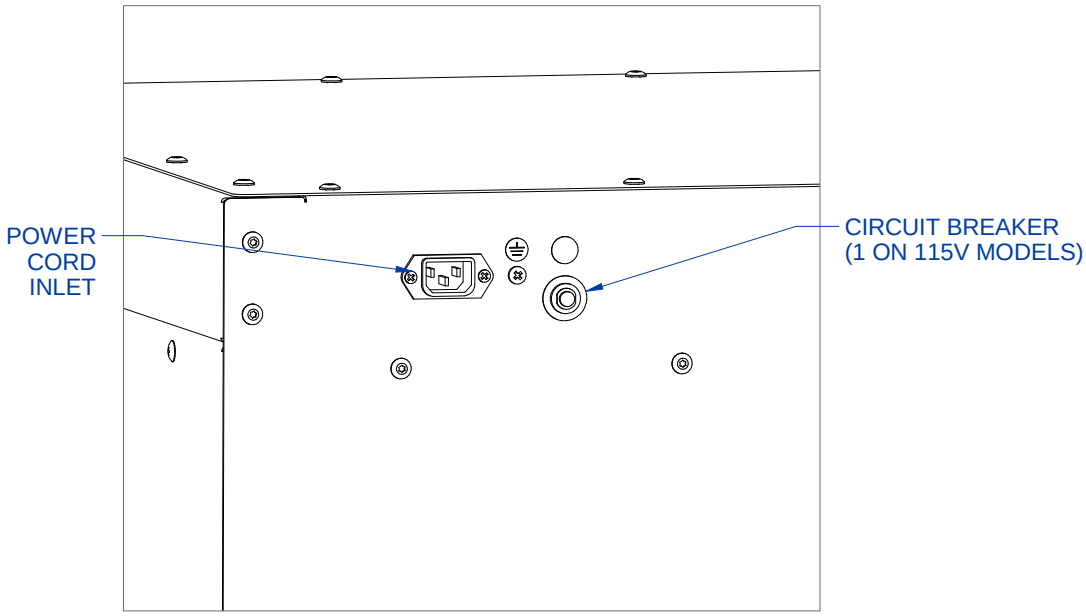
Chamber Light dims, and then returns to full brightness after 30 seconds.

Time On for each diagnostic test is with Main Door closed. To run each test indefinitely, open the Main Door before starting the test. Take care not to leave the unit running any diagnostic tests indefinitely, and do **NOT** run any diagnostic test longer than 30 minutes.

Resetting a Circuit Breaker

The CApture BT Fuming Chamber has one (115v) or two (230v) circuit breakers on the rear side. Located next to the power cord connection (see Fig. 7-21), the circuit breakers provide protection should the chamber draw an excessive amount of current. Should a circuit breaker trip, press the white barrel back in. If the barrel will not stay in, contact a servicer to investigate further.

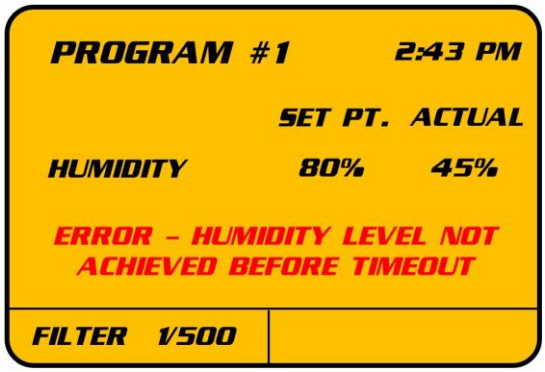
Figure 7-21



Humidify Timeout

During the Humidify stage within a Program, if the user-selected humidity is not reached within a certain time, an error occurs, and the program ends prematurely. The screen in Fig. 7-22 is displayed. This protects the unit, and alerts the user a problem may exist.

Figure 7-22

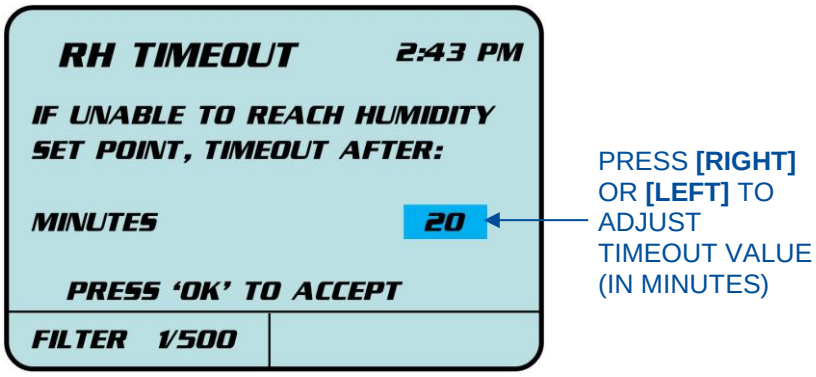


However, if the Fuming Chamber is used in an environment with very low humidity, the unit may require more time to reach the desired level of humidity. Before changing the default Humidify Timeout (35 min.), make sure no other problems exist within the unit. Contact Labconco Service Department at (800) 821-5525 or +1 (816) 333-8811 for troubleshooting assistance.

To adjust the Humidify Timeout, following the procedure below:

1. On the *MAIN* Menu screen, select *SERVICE*, press **[OK]**. Enter the Service Password: **[UP] [DOWN] [LEFT] [RIGHT] [OK]**. Select *RH TIMEOUT* on the *SERVICE* Menu and press **[OK]**. The following screen will be displayed (Fig. 7-23).

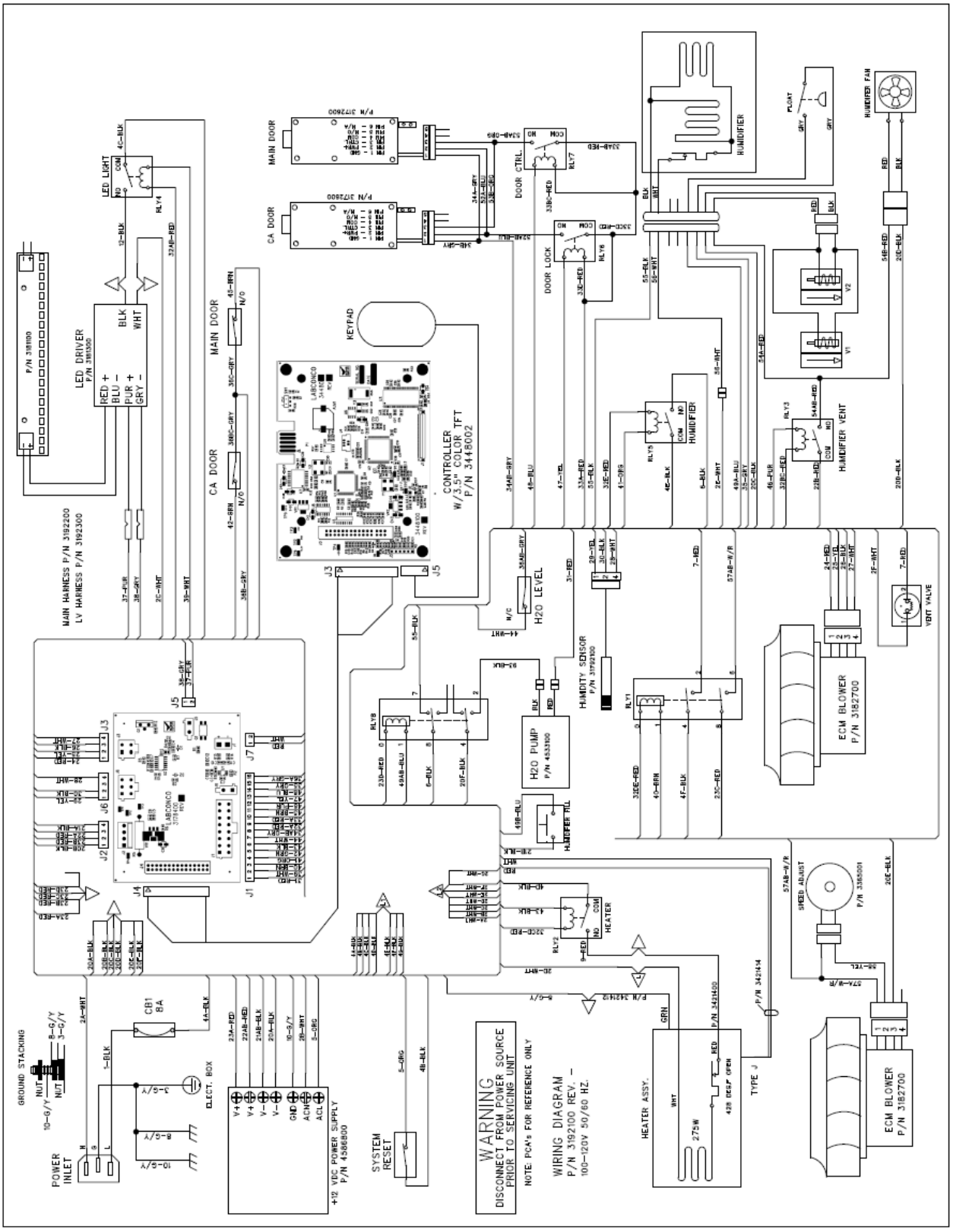
Figure 7-23



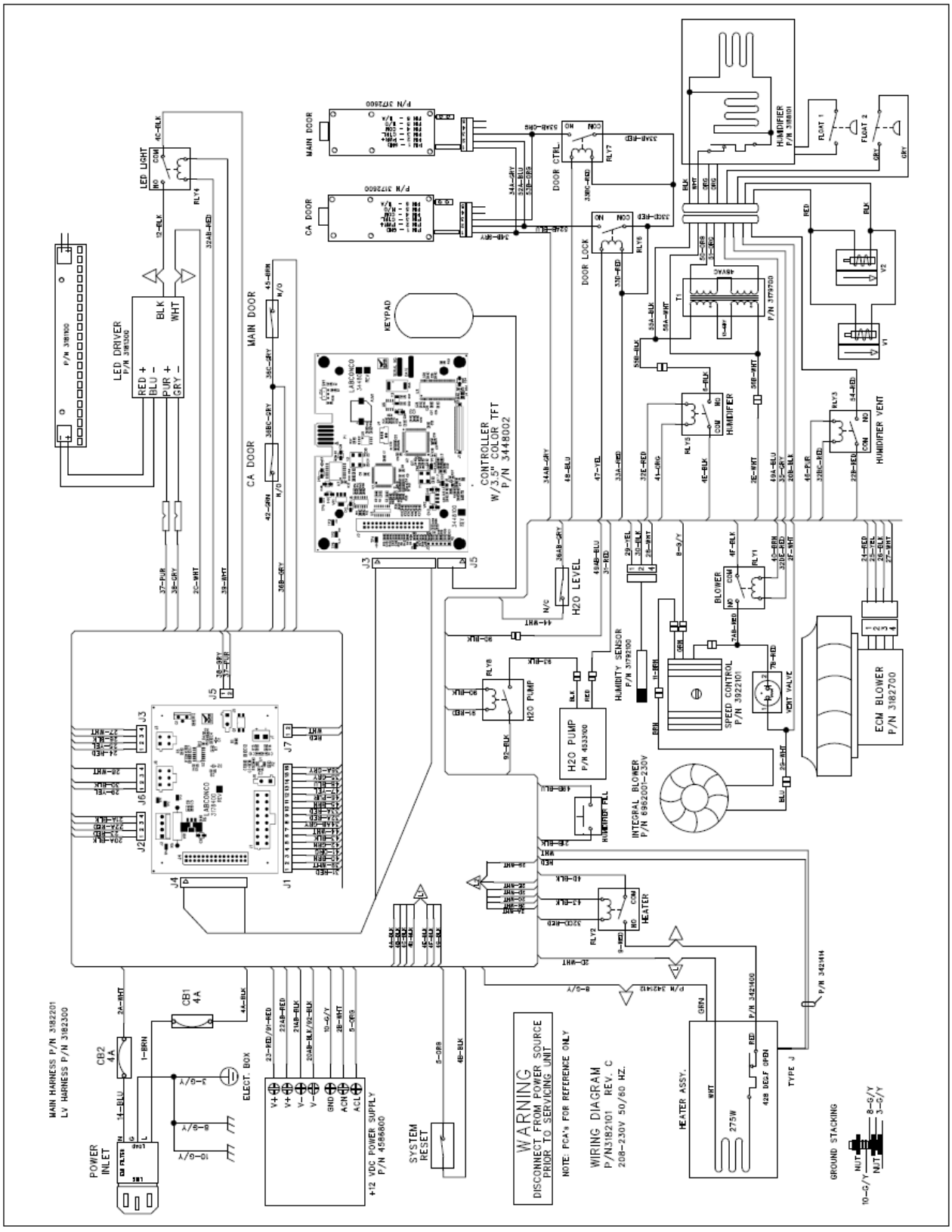
2. Press the **[RIGHT]** button to increase the timeout value in 5 minute increments, press **[OK]**.

Wiring Diagrams

100-120V



208-230V


WIRING DIAGRAM
P/N3182101 REV. C
208-230V 50/60 HZ.
WARNING
DISCONNECT FROM POWER SOURCE
PRIOR TO SERVICING UNIT
NOTE: PCA's FOR REFERENCE ONLY
MAIN HARNESS P/N 3182201
LV HARNESS P/N 3182300
CONTROLLER
W/3.5" COLOR TFT
P/N 3448002
LED DRIVER
P/N 3181300
KEYPAD
MAIN DOOR
CA DOOR
DOOR LOCK
DOOR CTRL
LED LIGHT
HUMIDIFIER
HUMIDIFIER VENT
H2O LEVEL
H2O PUMP
P/N 4933000
HUMIDITY SENSOR
P/N 3179200
BLOWER
SPEED CONTROL
P/N 3922101
INTEGRAL BLOWER
P/N 6962001-230V
ECM BLOWER
P/N 3182700
HEATER
HEATER ASSY.
275W
VENT VALVE
POWER
INLET
CB1
4A
CB2
4A
ELECT. BOX
+12 VDC POWER SUPPLY
P/N 4586800
SYSTEM
RESET
GROUND STACKING
TYPE J

9: Accessories

This section details the available field-installable accessories and approved modifications for your CApture BT Fuming Chamber.

CApture BT Stand

Stand is specially designed for use with the CApture BT Fuming Chamber. Locking casters allow stationary operation, but still provide mobility for moving the chamber. Manually adjustable height. Integral shelves hold all accessory shelves, accessory Long Gun Holder, and accessory Casing Holder. Catalog Number 3182900.

Kit, Hanging Rods

Kit provides four (4) additional stainless steel Hanging Rods. Weight limit is 15 lbs. (6.8 kg) per Hanging Rod. Catalog Number 3184000.

Kit, Perforated Shelf

Perforated Shelf fits into Fuming Chamber Side Wall brackets, Chamber can hold up to three (3) Perforated Shelves (Perforated Shelf should not be placed in top Side Wall bracket location). Allows CA fumes to reach bottom of evidence, such as cans or bottles. All stainless steel construction. Available in 1, 2 or 3 piece Kits. Weight limit is 25 lbs. (11.3 kg) per shelf.

3181611 – 1 Shelf Kit

3181612 – 2 Shelf Kit

3181613 – 3 Shelf Kit

Kit, Wire Shelf

Wire Shelf fits into Fuming Chamber Side Wall brackets, Chamber can hold up to four (4) Wire Shelves. Allows CA fumes to reach bottom of evidence, and allows hanging numerous small items, such as bags. All stainless steel construction. Available in 1, 2 or 4 piece Kits. Weight limit is 25 lbs. (11.3 kg) per shelf.

3181511 – 1 Shelf Kit

3181512 – 2 Shelf Kit

3181514 – 4 Shelf Kit

Kit, Half Wire Shelf

Half-Depth Wire Shelf fits into Fuming Chamber Side Wall brackets, Chamber can hold up to eight (8) Half-Depth Wire Shelves. Same stainless steel wire construction as the full-depth wire shelf, but at half the depth. Allows for a more customized shelf configuration within the Chamber. Kit provides two (2) Half Wire Shelves. Weight limit is 15 lbs. (6.8 kg) per shelf. Catalog Number 3181522.

Kit, Casing Holder

Casing Holder provides 45 numbered standoffs to place shell casings upside down for fuming complete outer surface. Holds all casing sizes down to .32 caliber. All Stainless Steel construction. Catalog Number 3181700.

Kit, Long Gun Holder

Long Gun Holder provides five (5) U-shaped cradles for long guns to be held securely for fuming. Holder locks into existing Side Wall brackets inside Chamber. Can place up to three (3) Long Gun Holders inside Chamber to hold up to 15 long guns total. Stainless Steel construction. Catalog Number 3184100.

Kit, Large Clips

Large Clips are 3.5” x 1.5” and approximately 0.3” thick. Allows easy hanging of larger items, such as hand guns. Stainless Steel Construction. Kit includes ten (10) Large Clips. Catalog Number 3184200.

Kit, Mini Bag Clips

Mini Bag Clips are 1.2” x 0.3” alligator-style clips with a hanging loop. Allows easy hanging of small, light-weight items, such as bags from any accessory Wire Shelf. Kit includes ten (10) Small Clips. Catalog Number 3184300.

Security Tags

Package of 100 each tamper-evident, labeled tags. Tags irreversibly indicate if the chamber door has been opened during a cycle. Catalog Number 3902400.

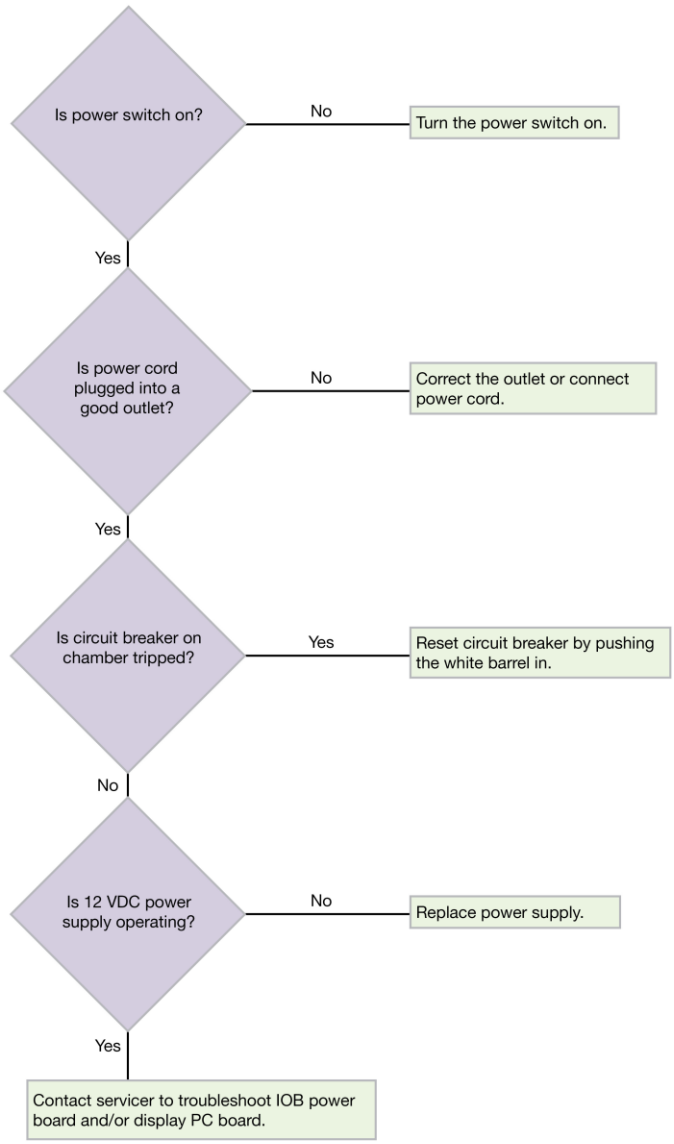
Exhaust Kit

Exhaust Kit allows chamber’s exhaust air to be removed from the room via a user-supplied remove exhaust blower and user-supplied ducting. Connection stub on kit is a 6 inch diameter. Catalog Number 3187000.

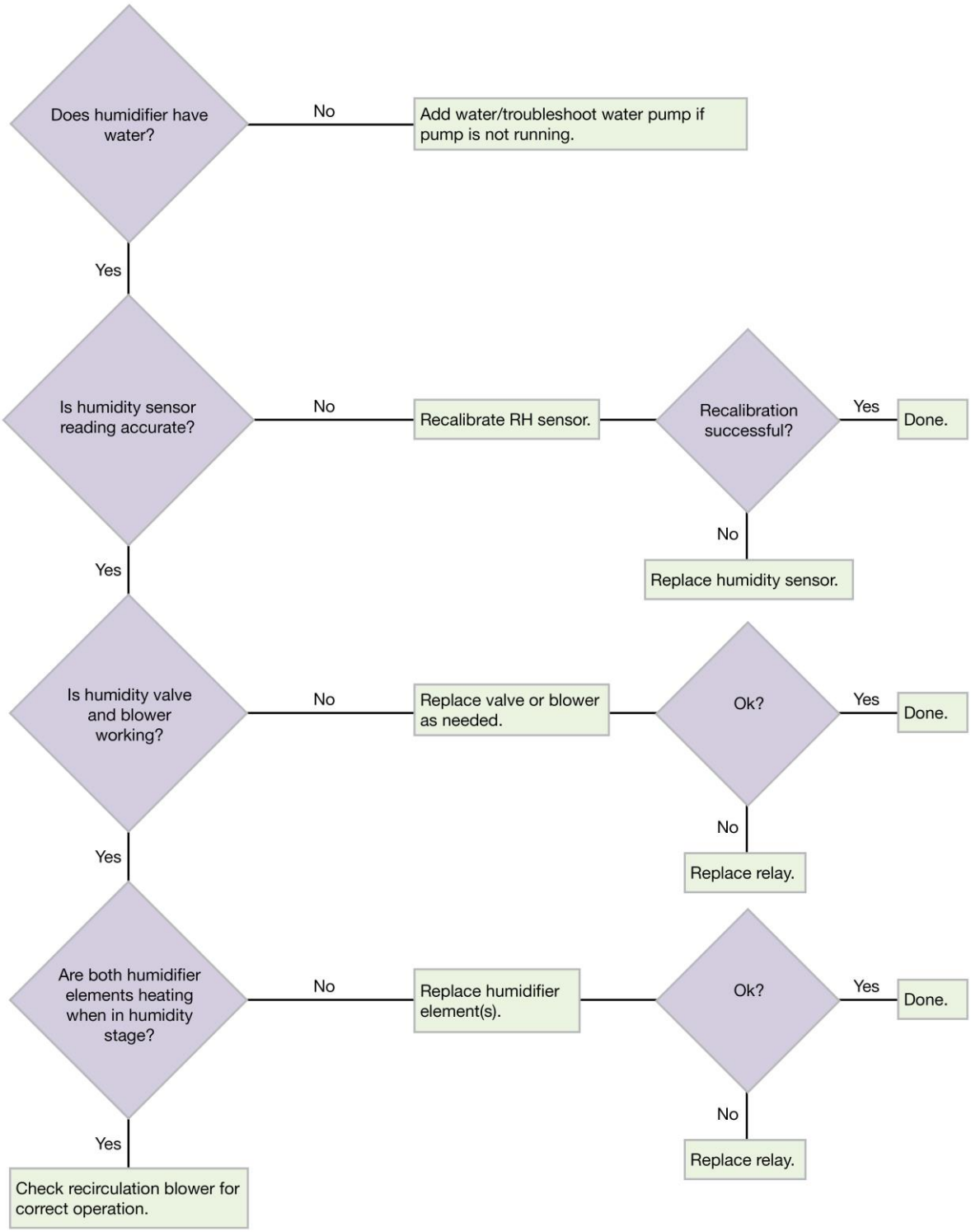
10: Troubleshooting

This section details common troubleshooting for the CApture BT fuming chamber.

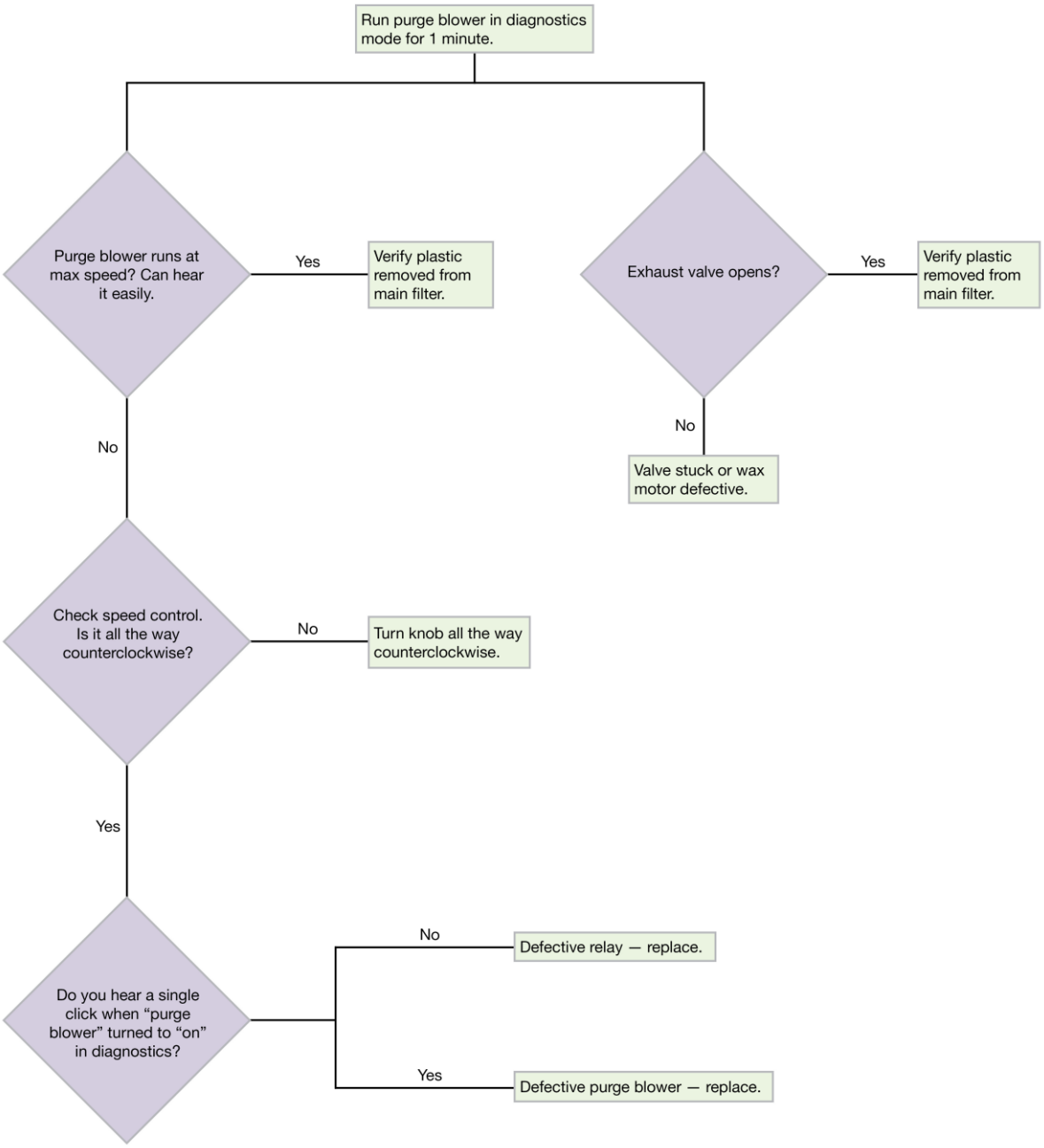
Chamber Display will not turn on



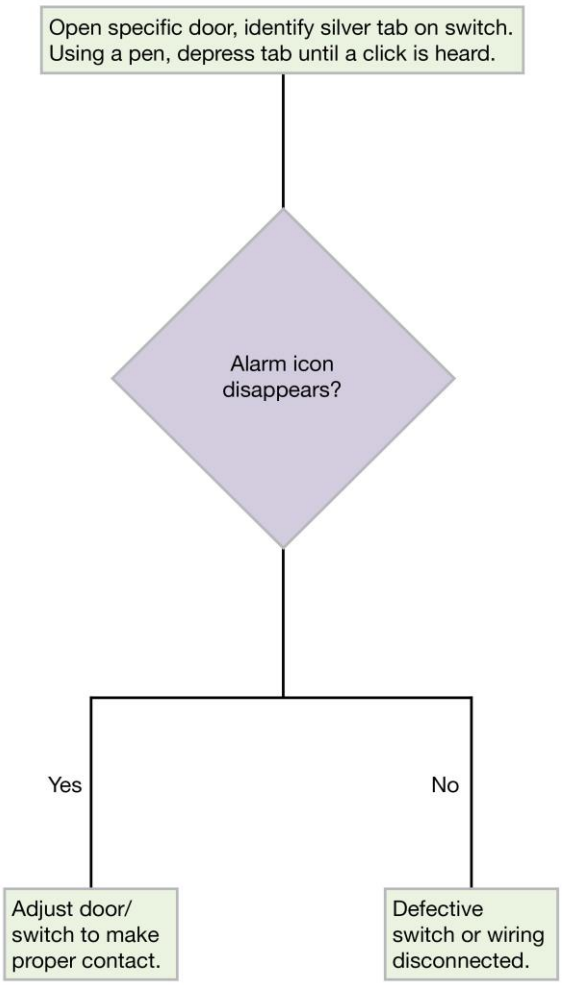
Chamber will not achieve humidity



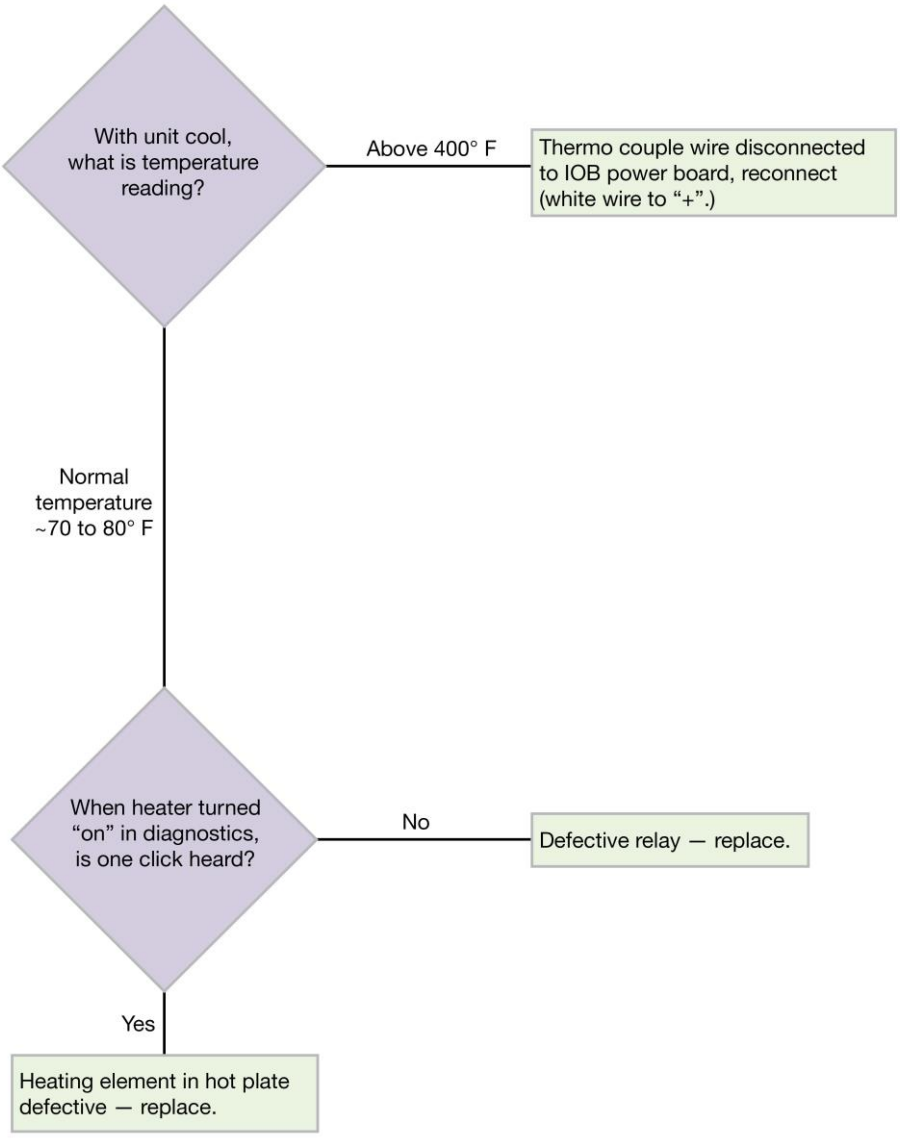
Chamber does not exhaust CA fumes



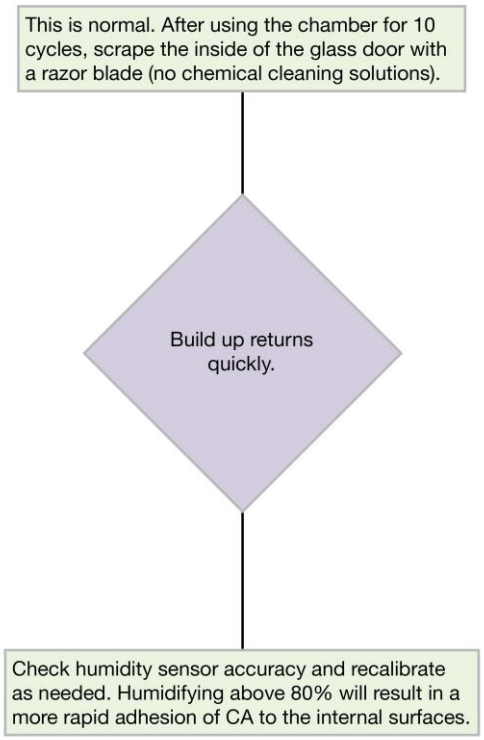
Door alarm active when door(s) closed



Hot Plate will not achieve temperature set point



White CA residue builds on inside of Chamber



Heavy Background CA on evidence

If evidence (particular metallic substrates) are found to process with a heavy white background (see Figure 10-1 as an example of this phenomenon), this is likely due to over humidification. Take these steps:

1. Check the calibration of the Humidity Sensor (see Section *Recalibrate Humidity Sensor (Quarterly)* in Section 7). If the sensor is out of calibration, perform the recalibration procedure. Note – an independent hygrometer must be available to perform this process. If the Humidity Sensor cannot be brought into calibration, replace the sensor as detailed in *Replace Humidity Sensor (As Needed)* in Section 7.

2. If the phenomenon continues after Step 1, change the humidity set point of the program from 80% to 70%, and add an RH Dwell of 1:00 or 1:30 to the program. The RH Dwell time of one to one and a half minutes will account for the “soak” time that is lost when reducing the humidity from 80% to 70%.

Figure 10-1

Appendix A: Consumables List

Table A-1 indicates the catalog numbers for the following consumable components and kits.

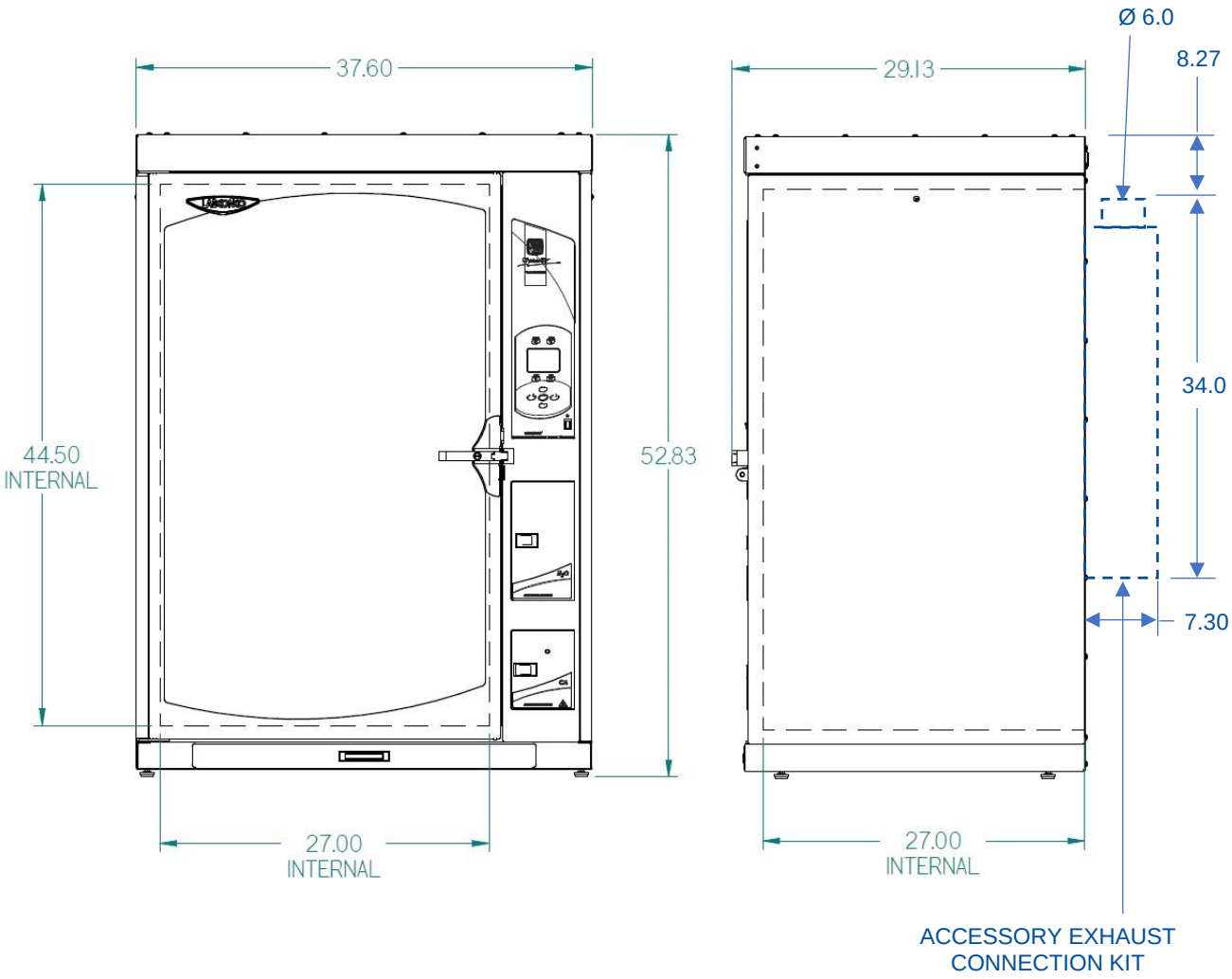
Table A-1

Item	Quantity Required	Catalog Number	Description
1	1	3186500	Main Carbon Filter
2	1	3181400	Main Pre-Filter
3	1	3179230	Humidity Sensor Replacement Kit
4	N/A	3185901	Complete Filter Kit Includes: (1) 3186500 Main Carbon Filter (10) 3181400 Main Pre-Filters

Appendix B: Dimensions

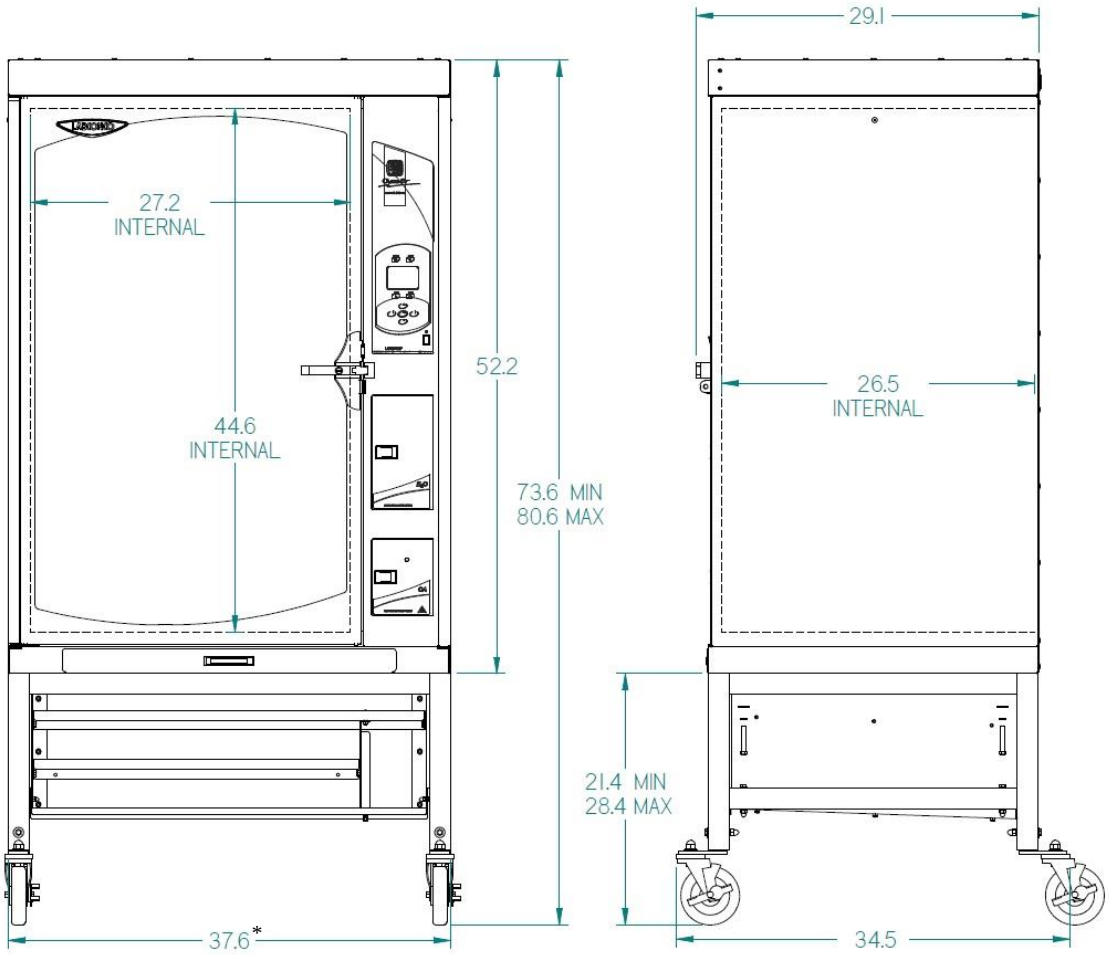
Figure B-1 indicates the product dimensions. All dimensions shown in inches.

Figure B-1



The External and Internal Dimensions of the CApture BT Fuming Chamber mounted on the Accessory Stand (P/N 3182900) are shown in Fig. B-2.

Figure B-2



*Locking Brake on Casters adds 1.0 inch to this dimensions.

Appendix C: Specifications

Power Data

Table C-1

Catalog Number	Normal Operating Power (Watts)[1]
317000x	400 W

1 Values are for new product with a clean filter (light and blowers on), and may vary +/- 10%

Environmental Conditions

- Indoor use only
- 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 ±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