
TECHNICAL INFORMATION

Cyanoacrylate Fuming Chamber

Catalog No. FR600, FR600220

INTRODUCTION

The FR600 Cyanoacrylate Fuming Chamber was specifically designed for processing large volumes of non-porous physical evidence with cyanoacrylate fumes. Latent prints developed are the result of the fumes from the compound combining with the moisture content of the latent print—a process known as polymerization. This results in a hard, white residue conforming to the ridges of the latent print. Multiple heating elements are incorporated to accelerate sublimation for the cyanoacrylate. The chamber is equipped with an access port for accessories such as the Cyanowand™, connection to the FR300 DeFumigator™ for the extraction of fumes, or the PUM100A Portable Humidifier for adding humidification.

***Note:** Do not use ninhydrin, iodine fuming, DFO, silver nitrate or any solvent-based processing methods in this chamber.*



Application	Fuming large volumes of physical evidence that are non-porous in nature with cyanoacrylate.
Hazards/Safety Info	<p>Warnings:</p> <ul style="list-style-type: none">• Do not wear contact lenses when fuming with cyanoacrylate. Wear safety glasses. It causes the skin to bond strongly and may cause skin burns. Wear protective clothing and chemical resistant gloves.• Heater and metal components inside the unit can reach temperatures high enough to cause burns, use caution.• Do not use CNA108/CNA109 cleaner with the heater on as flash fire will result. <p>Cautions:</p> <ul style="list-style-type: none">• Cyanoacrylate may be harmful if inhaled, ingested or contacted by the skin. It is irritating to the respiratory tract, eyes and skin. Use a ducted recirculating fuming hood when releasing cyanoacrylate fumes from the chamber.• Do not place cyanoacrylate packets or dispersal pads in contact with heater element as they may ignite.• Cyano-Bloc™ is flammable! Do not use near open flame, sparks, etc.• Prior to using the products associated with this unit, refer to the appropriate MSDS. <i>Go to www.sirchie.com/support.</i>

Supplied Parts	<ul style="list-style-type: none"> 1- FR600 Cyanoacrylate Fuming Chamber 1. CNA106 Omega-Print™ Disposable Fuming Trays, 25 ea. 1- CNA104 Omega-Print™ Dispersal Pads, 100 ea. 2- CNA20001 FINDER™ Cyanoacrylate Packets 1- CNA110 Cyano-Bloc™ pre- and post-treatment pads, 5 ea. 1- FR201 Fuming Control Cards, pad of 50 1- FR1002 Fuming Platform, wire mesh 6- Evidence Support Rods 24- FR1006 Evidence Clips
Specifications	<ul style="list-style-type: none"> • Cabinet: Brushed aluminum, clear acrylic • Dimensions: 30"L x 12"W x 34"H (76.2cm x 30.5cm x 86.4cm) • Weight: 48 lbs. (21.82kg)
Control Panel	 <p>The image shows the control panel of the FR600 fuming chamber. It features three red rocker switches labeled 'Left Heater ON/OFF', 'Center Heater ON/OFF', and 'Right Heater ON/OFF'. The central switch is labeled 'FR600 Laboratory Testing Chamber' and 'Temperature Control System'. Red arrows point to each of the three switches.</p>
Preparation	<ol style="list-style-type: none"> 1. Connect the AC power cord to the receptacle on rear of unit and plug other end into a convenient AC outlet. 2. Open chamber's acrylic door and apply Cyano-Bloc™ compound according to supplied instructions. <i>Note: This pre-treatment prevents cyanoacrylate build-up.</i>

Operating Instructions

Place evidence to be processed for examination inside the unit. Three tiers of support rods with hangers are supplied for hanging items of evidence. Items may also be placed on the floor of the unit, but away from heating elements. A built-in control print hanger is provided to take the guesswork out of development time. Two cyanoacrylate fuming systems are supplied with the unit: OMEGA-PRINT™ Liquid Cyanoacrylate and The FINDER™ Packets. Optional systems such as the Cyanowand™ and CYANO-SHOT™ may also be used.

Special Note: When fuming with OMEGA-PRINT™, FINDER™ Packets or CYANO-SHOT™, be certain to cap both inlet and outlet ports to prevent fumes from escaping.

Fuming with OMEGA-PRINT™

1. Place a few latent prints onto one of the Fuming Control Cards (supplied). Put a slight bend in the card so that it will not be too close to the acrylic door. Slide the card onto the stud in the upper right corner of the chamber.
2. Place a disposable fuming tray on the middle heating element of the chamber and then fill it about 1/4 full of warm water.
3. Place disposable fuming trays on the remaining heating elements.
4. Add 10-12 drops of OMEGA-PRINT™ fuming compound into each of these empty trays.
5. Close and secure ALL of the twist locks on the acrylic door.



Firearm is suspended from an evidence clip with a twist-tie.



Disposable fuming trays containing OMEGA-PRINT™ are placed on the heating elements.

6. Turn on all three heating elements.
7. Developing times may vary. Under most conditions prints will be fully developed after approximately 45 minutes. Check the fuming control card frequently. Avoid overdeveloping the prints.
8. Liquid cyanoacrylate may also be used in another manner. A small, square metal fuming platform is supplied with the unit for fuming with OMEGA-PRINT™ Dispersal Pads. Position this platform on the floor of the chamber and place one of the Dispersal Pads on top of it. Cover the top surface of the pad with liquid cyanoacrylate using a back and forth motion. This pad is untreated cotton and serves as an accelerator in place of using heat. This method is considerably slower than the heat method and may take several hours for prints to develop. Use this method when evidence is to be left for several hours while attending to other tasks. Over-development seldom occurs using this method.

Fuming with The FINDER™ Cyanoacrylate Packets

1. FINDER™ packets contain a special formulation of cyanoacrylate materials in a paste form. After evidence is in place, separate the two sides of the packet as shown below. Fasten the packet to one of the metal clips in the chamber on the top tier of rods.
2. Close and seal the chamber. Development time with one packet in use is approximately 45 minutes to one hour. Using two packets will shorten development times. Be certain to use a control card to monitor development.

Fuming with The Cyanowand™

The Cyanowand™ is a self-igniting, butane-powered heat tool that uses disposable cyanoacrylate cartridges. In most cases, using one of the standard cartridges provides sufficient fuming output.



The FINDER™ packet is suspended using an evidence clip.

Special Note: When fuming using the Cyanowand™, be certain than the lower outlet port is capped to prevent fumes from escaping the chamber.

1. After placing the evidence in the chamber and sealing it, place a standard cyanoacrylate cartridge onto the end of the wand. Begin the heat process per the instructions that accompany the wand.
2. Remove the plastic cap from the upper inlet port of the chamber and insert the wand. It takes approximately 3-4 minutes for the fuming material in the cartridge to be expended. A slight fog should be seen in the chamber. If no fumes are visible, discharge a second cartridge on the Cyanowand™. After fume generation is complete, remove the wand from the port and replace the plastic cap. Fuming takes approximately 1/2 hour or less.

Extracting Cyanoacrylate Fumes

The lower outlet port of the FR600 permits the safe and easy extraction of cyanoacrylate fumes after latent print development is complete by permitting the connection of the FR300 DeFumigator™. It is a self-contained cyanoacrylate filtration system that connects directly to the FR600—simply remove the cap of the lower outlet port and attach the DeFumigator™ to the unit using the hose supplied with the FR300. The noxious odors and fumes inside the chamber are drawn through an efficient filtering system. Removable thumbscrews permit quick and easy access to the filter compartment. For more information on the FR300, contact SIRCHIE Sales at (800) 356-7311 or visit our website: www.sirchie.com.



The upper inlet port on the unit is provided for fuming with the CYANOWAND™. It also supports the PUM100 Portable Humidifier should additional moisture be required.



The lower outlet port of the FR600 is provided for the extraction of cyanoacrylate fumes using the FR300 DeFumigator™.

Special Note: When extracting fumes, be certain that the upper inlet port of the FR600 is uncapped to facilitate the proper extraction of cyanoacrylate fumes.

Troubleshooting		
Problem	Possible Causes	Solution
Indicator lamps for heating elements do not illuminate; heater does not heat	Unit isn't plugged in	Check both ends of power cable and plug in unit
	Power failure	Check circuit breaker
	Power switch isn't turned on	Push switch to ON
	Blown fuse	Check fuse on rear of cabinet and replace with a 2 amp/250V fuse
SPECIAL NOTE	<i>No field repairs are recommended for this unit. If the troubleshooting solutions above do not rectify the issues with your unit, please contact Customer Service at 800-356-7311 or 919-554-2244.</i>	

Maintenance

After each use, wipe down the exterior and interior with a mild soap solution. Do not use commercial cleaning solvents on the acrylic door. Regular post-treatment of the inside of the acrylic door with Cyano-Bloc™ is recommended to prevent cyanoacrylate build-up. No other maintenance required.

References

1. Chesapeake Bay Division, IAI "**Cyanoacrylate**", < <http://www.cbdia.org/Reagents/cyano.html> > April 23, 2009
2. German, Edward, CLPE, FFS, "**Cyanoacrylate (Superglue) Fuming Tips**", <www.onin.com>: January 14, 2009
3. Saferstein, Richard, Ph.D., **Criminalistics**, Sixth Edition, page 453, 1998, New Jersey: Prentice Hall