

POLYPROPYLENE CYANOACRYLATE FUMING CHAMBER

USER GUIDE



TOPAIR
CLEAN AIR SOLUTIONS



2015

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Getting Started

Symbols

The following symbols appear on equipment labels or in this guide.



Disregarding this information could endanger the personal safety of the user and may result in serious injury.



The Cyanoacrylate Fuming Chamber meets all requirements of relevant European Union directives.

General Warnings

- This guide must be read thoroughly and carefully, and the operator must be familiar with its contents, especially the safety requirements, before the system is operated.
- After the unit is unpacked, it must be checked to verify that no damage occurred during shipment. If damage is detected, contact Statitech Ltd.; see the Warranty and Service page of this guide for contact information.
- Electrical installation must comply with applicable IEC, CEC, and NEC requirements.
- When fuses are inspected, the unit must be disconnected from the electrical outlet.
- Repairs or adjustments to the unit may be performed only by a qualified technician authorized by TopAir.
- The warranty is void if any of the warnings or cautions contained in this guide are disregarded.

Description

The Cyanoacrylate Fuming Chamber is used to develop latent prints from non-porous surfaces in a safe, controlled environment.

Cyanoacrylate is placed inside the chamber while evidence is easily positioned using the adjustable hanging rods. Starting the cycle triggers the automated system to control the hotplate, humidity, door lock, internal circulation fan, and purge cycle.

The Cyanoacrylate vapors are filtered using a carbon filter. This ensures that no dangerous substances are exhausted in to the atmosphere surrounding the laboratory.

The unit's recirculatory design enables the system to operate and setup with no ducting required.

Its ductless construction also allows the unit to be easily moved and transported.

- Easy to use control displays all parameters of the processing cycle. Adjustments to the presets can be quickly performed.
- Automatic heating control is determined according to the amount of cyanoacrylate placed in the chamber.
- Automatic temperature control
- Humidity control ensures $\pm 3\%$ humidity
- Carbon filter
- Eco-friendly, cost-saving LED lighting.



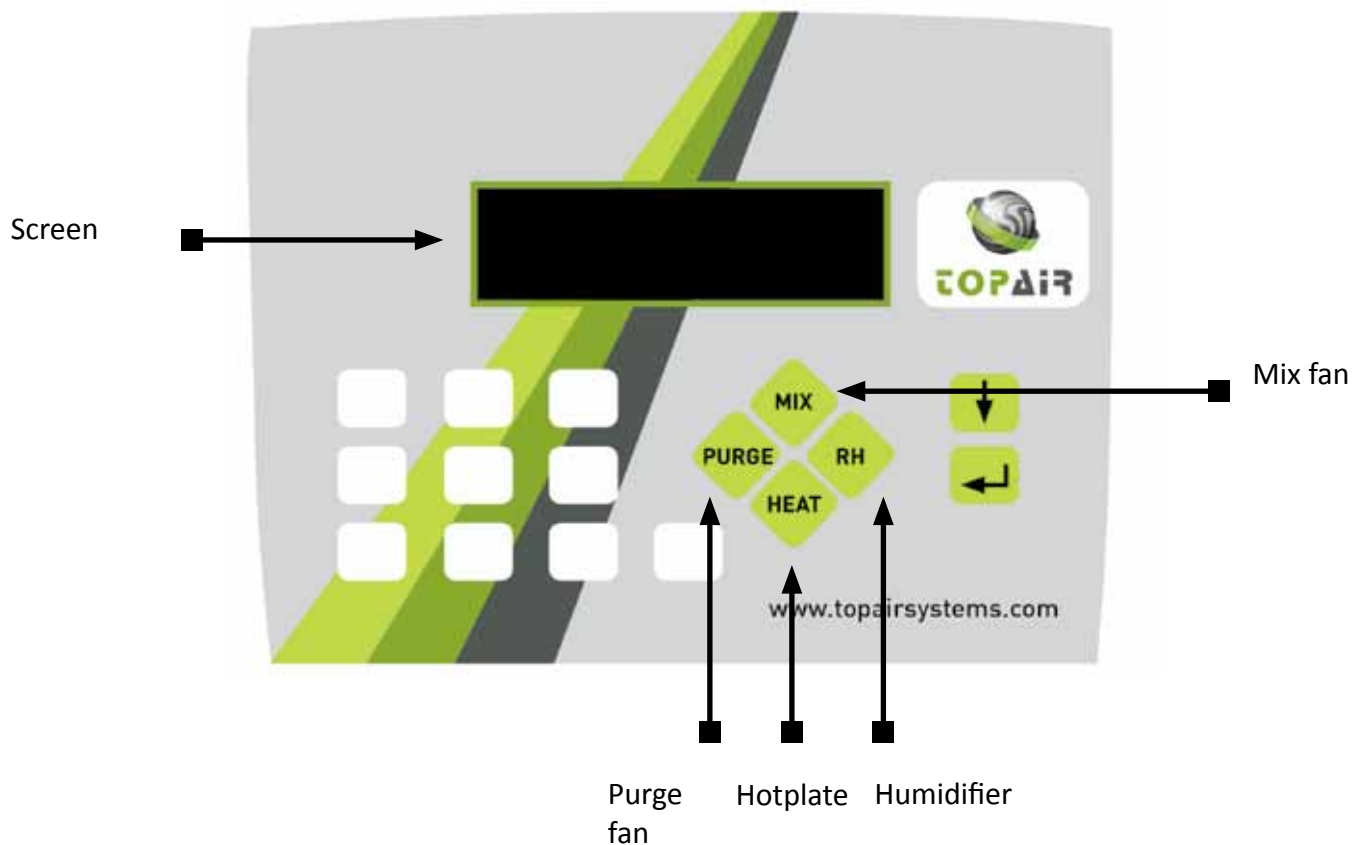
System Operation

The control panel is located on the top left side of the front of the chamber.

1. Program the purge cycle time.
2. Set the desired heating time.
3. Calibrate the RH sensor.
4. Set the desired RH level.
5. Open the door of the chamber, hang the item on the hooks and adjust the hooks.
6. Place Cyanoacrylate on the hotplate.
7. Close the door.
 - The door locks automatically.
 - The humidifier is activated, releasing fumes and vapors with 60–80% humidity.
8. Press the Start button.
9. Wait approximately 30 minutes until the cycle is completed.
10. When fingerprints become visible, stop the process and remove and examine the item.

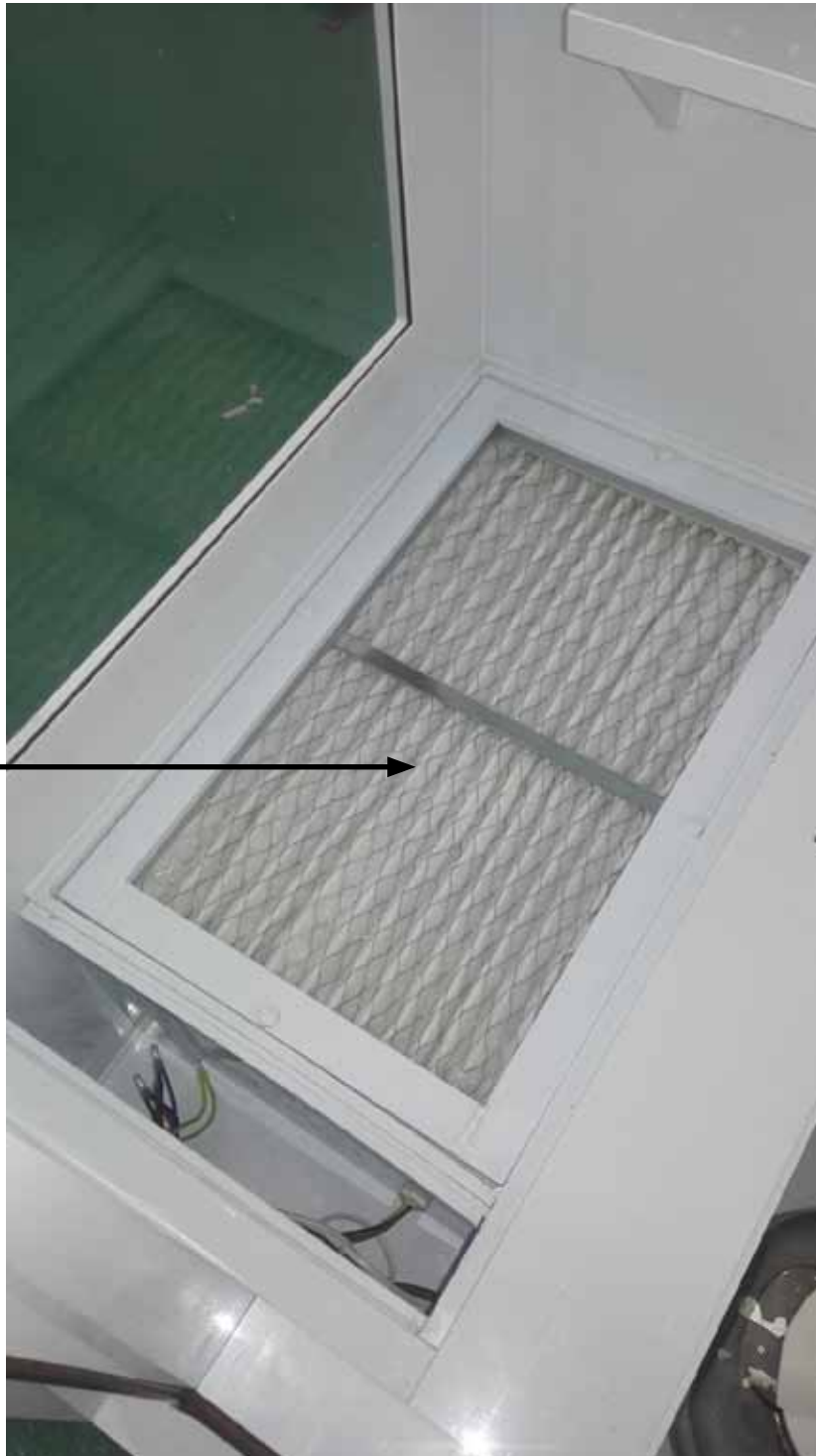
NOTE: To prevent overdevelopment of latent fingerprints, monitor the chemical reaction and stop the process when fingerprints become clearly visible.

Control Panel

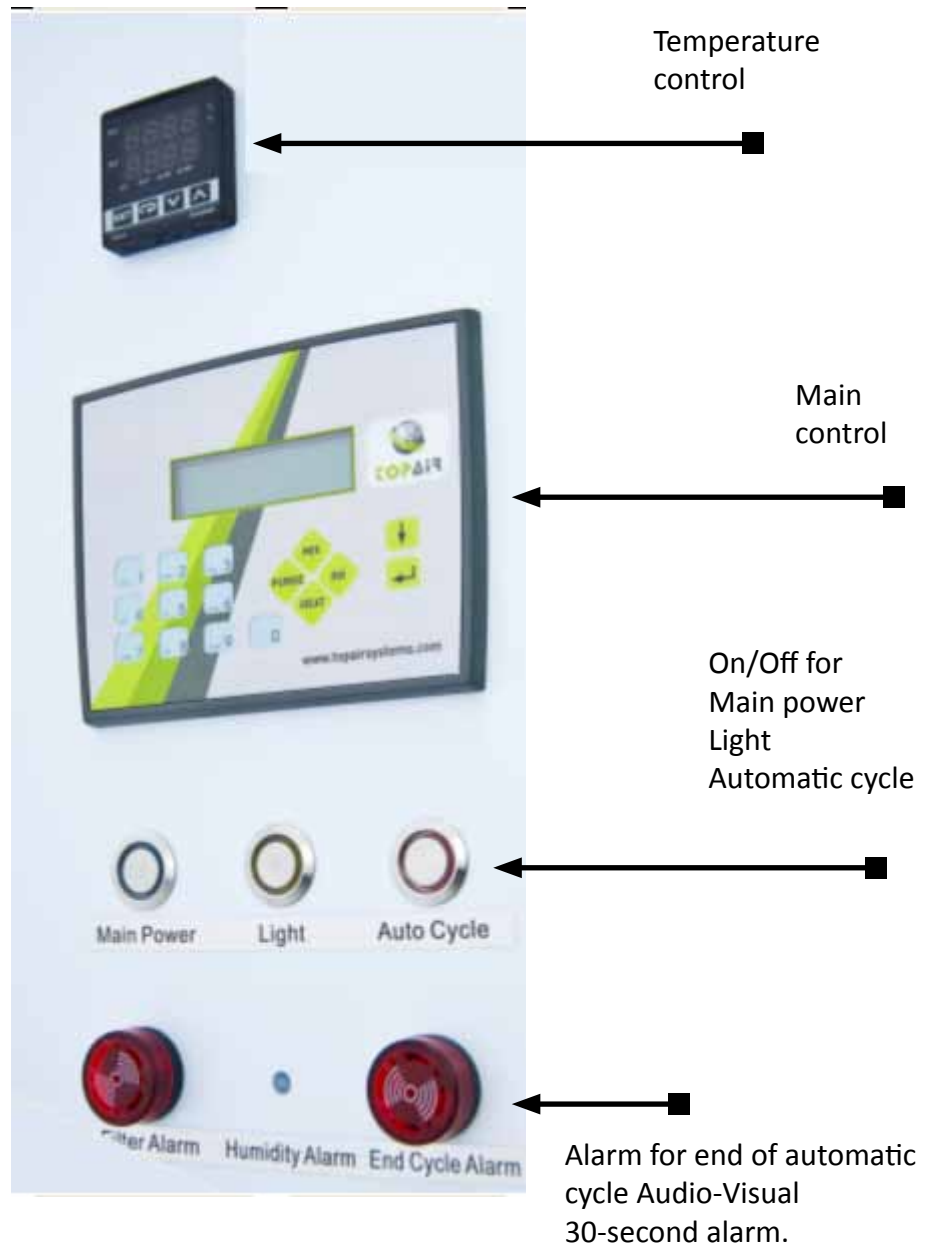




Filter



Programming the System



Calibrating the RH

The following screen shows when no element is activated in the unit.



1 Press the Down arrow key (↓) on the control panel until the display reads 'RH Calibration'. Press the Enter arrow.

The following screen shows a code for humidity calibration.

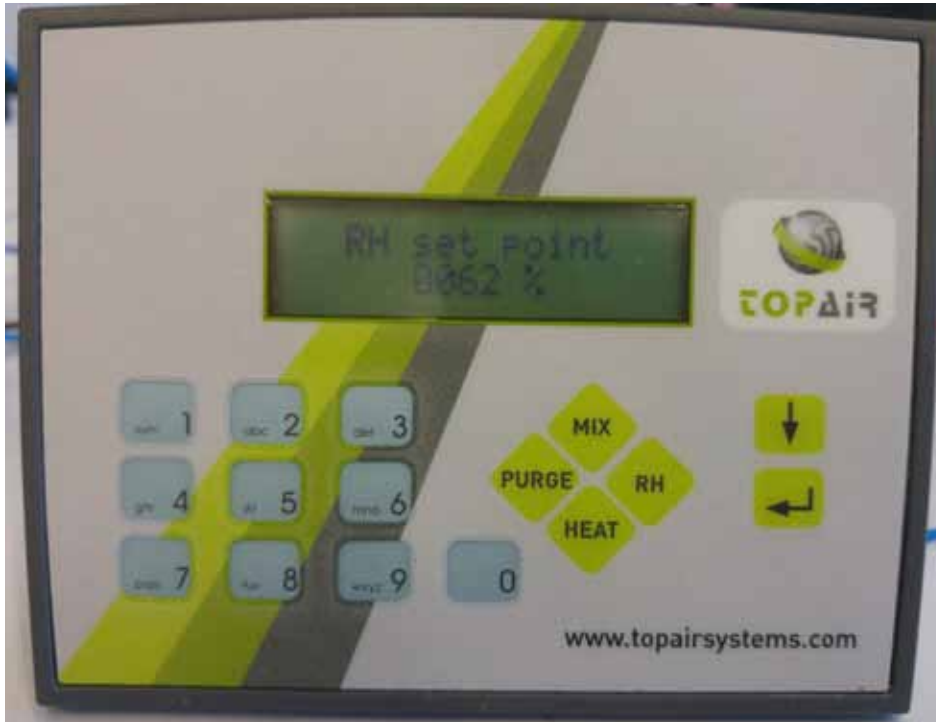


2. Press the calibration code '1' on the keypad and press the Enter arrow key.

3. Measure the humidity using the external calibrated RH meter, then press the measured value on the control panel keypad and press the Enter arrow key.

Setting the RH Point

- 1 Press the Down arrow on the control panel (see fig. 4) until the display reads 'RH Set point'. Press the Enter arrow.
2. Press the desired RH set point on the keypad and press the Enter arrow key.



Setting the Heating and Purging Times

Press the arrows until you reach time settings. Press Enter.



Select Heating. Press Enter and choose the required number of minutes. Press Enter. For purging calibration, press the arrows until you reach the purging time. Press enter, select the number of minutes and press enter.





- * If there need to stop the automatic cycle (not recommended), press autocycle button on the panel continuously for 4 seconds.
- * After an automatic cycle an audio visual alarm will be activated for 30 seconds.

Temperature Control

To set the temperature, select the requested temperature with the arrows and press set.

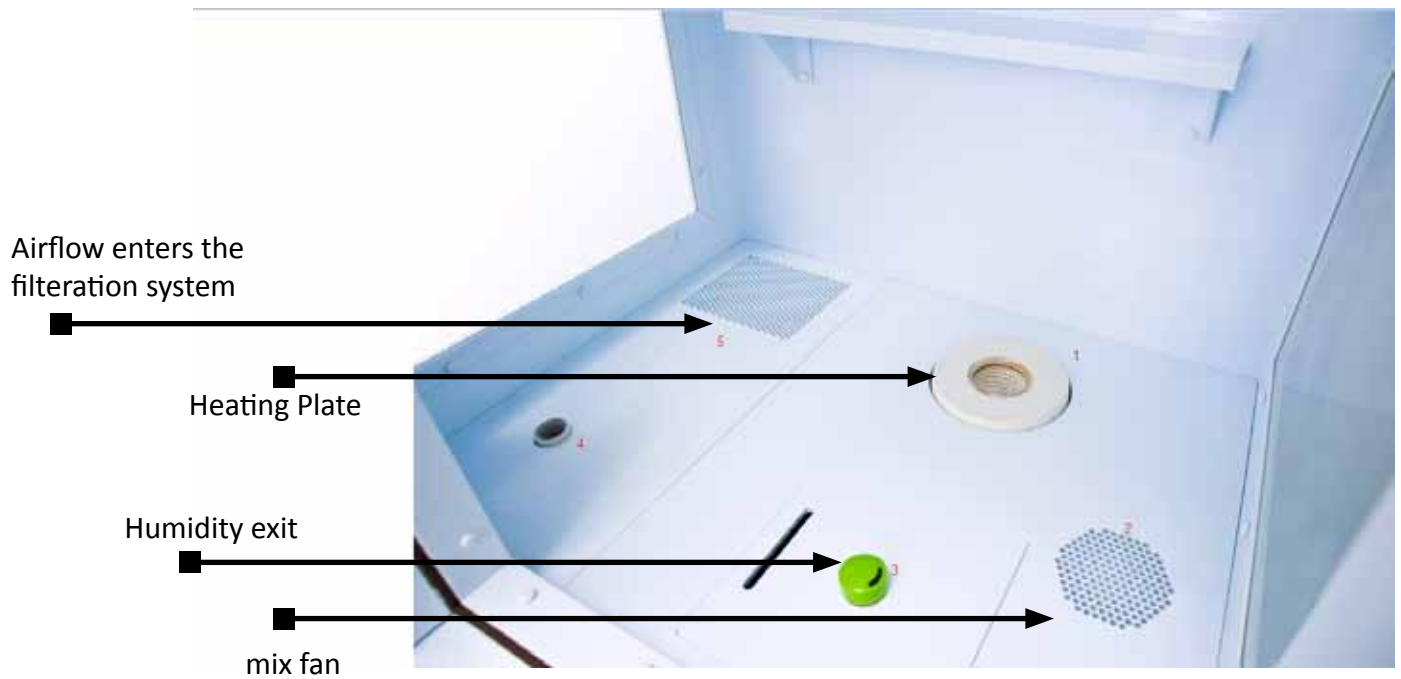


Refilling the Water

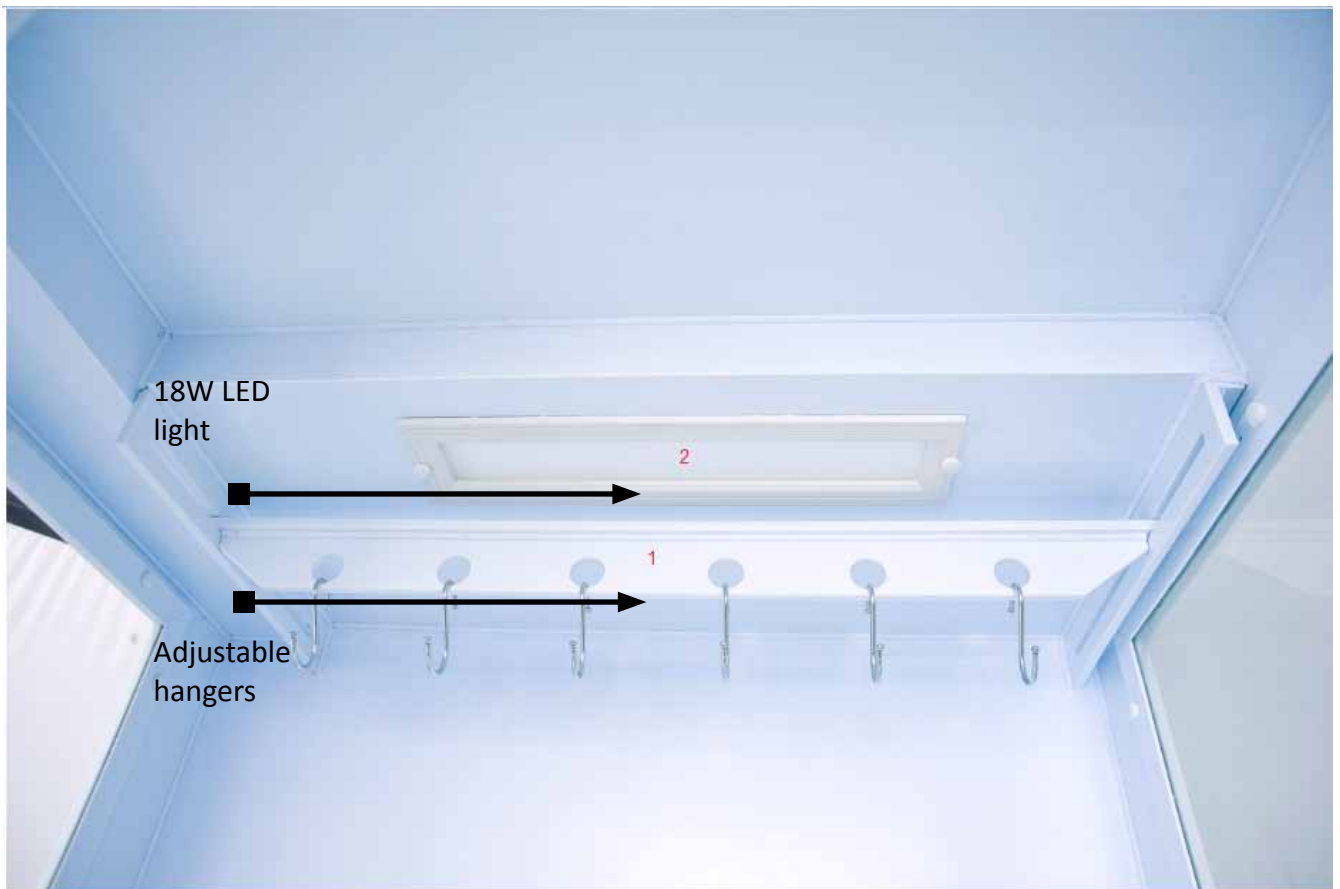
1. Open the service door.
2. Grip the handle of the water tank and lift the tank out of the opening underneath the service door.
3. Remove the tank from the chamber. Turn it over and open the cork on the bottom. Fill the tank with purified water and close the cork.
4. Return the water tank to its proper place in the chamber and close the service door.



Unit Bottom



Unit Top



Technical Specifications

| Feature | Specification |
|--------------------------|-----------------------------------------------|
| Airflow (m3/hr) | 250 |
| Noise | <42 dBA |
| Lighting | LED 18 W |
| Main Filter (Qty.) | Carbon |
| Temp & Humidity Accuracy | ± 3% |
| Temperature | ± 2°C |
| Electrical Supply | Single Phase, 230v, 50Hz |
| Switches | Main ON/OFF |
| Monitoring | Electronic Display |
| Fan | Low Noise Centrifugal |
| Construction | Polypropylene Structure, Safety Triplex Glass |
| International Standard | CE |

Troubleshooting

| Issue | Solution |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RH does not reach the desired level. | <ul style="list-style-type: none">• Verify that the humidity airways are clean and open.• Verify that the ultrasonic plate is clean. |
| The Cyanoacrylate is not defusing well. | Verify that the heating plate is calibrated to the correct temperature. |
| The chamber is not purged properly by the end of the cycle. | <ul style="list-style-type: none">• Verify that the filter is positioned correctly on its rack.• Check whether the purge fan is operating correctly and if necessary, replace the filter. |
| Fingerprints haven't developed well. | Verify that all cycle timers have been set to suit the correct evidence type. |

Component List

| | |
|---------------------|------------|
| Led Light | SG-LED18 |
| Flourescent light | SG-WPL-110 |
| Electric lock | SG-24LOCK |
| Purge fan | SG-PRFan |
| Mix fan | SG-MIXFan |
| Humidifier | SG-USH |
| Heater | SG-HP |
| Special Components: | |
| Controlled Heater | SG-SHP |
| Gas sensor system | SG-GSA |

Cleaning and Maintenance

WARNINGS



Shut down the system and disconnect the power cable before performing any maintenance procedures, to avoid electric shock.

Replace burnt fuses with fuses of the same type and rating, to avoid risk of fire.

- Topairsystems recommends calibrating the RH and the heating system every three month. Refer to the following part numbers to order replacement filters:
- After completion of any procedure, or if the worktop becomes soiled, remove all items from the worktop and wipe it with a dedicated lint-free polyester or polyester cellulose cloth, available at clean room suppliers. Dampen the cloth with 70% isopropyl or ethanol alcohol or any solvent recommended by the suppliers for this purpose. The panels and base of the unit may also be wiped with the cloth.
- Once a year, the airstream speed should be tested by a certified clean room technician, and the filter should be replced.
- Before transporting or storing the unit, unplug the electric cord and fasten it so it does not bounce against any surfaces and remove the unit from the base. Keep the unit in an upright position and wrap it securely in protective covering to prevent damage.

Service

A full 12-month warranty is provided with all units in the SG series. There is an option for extending the warranty up to 60 months.

For information about servicing and purchasing spare parts, please contact:

Email: sales@topairsystems.com

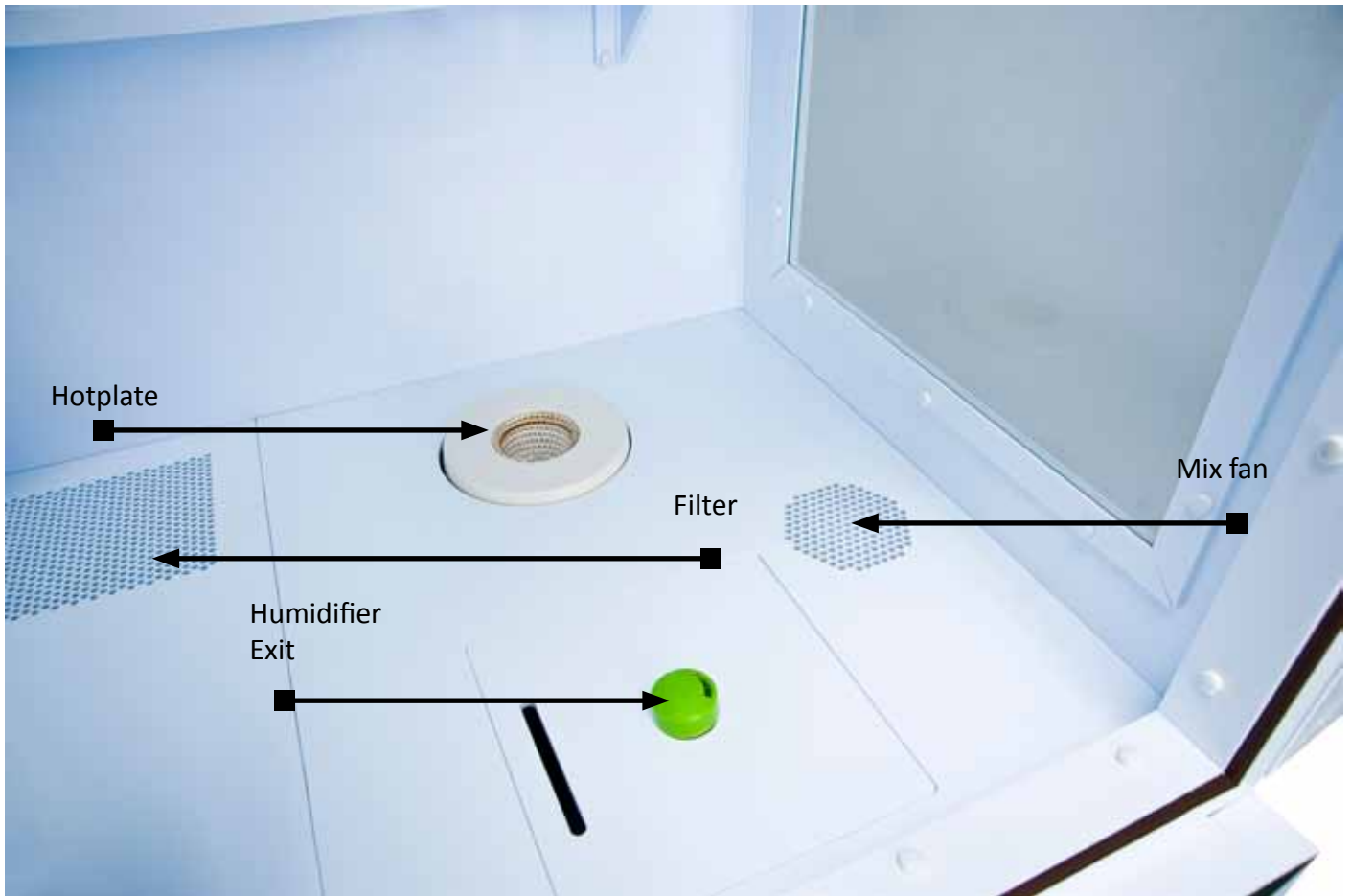
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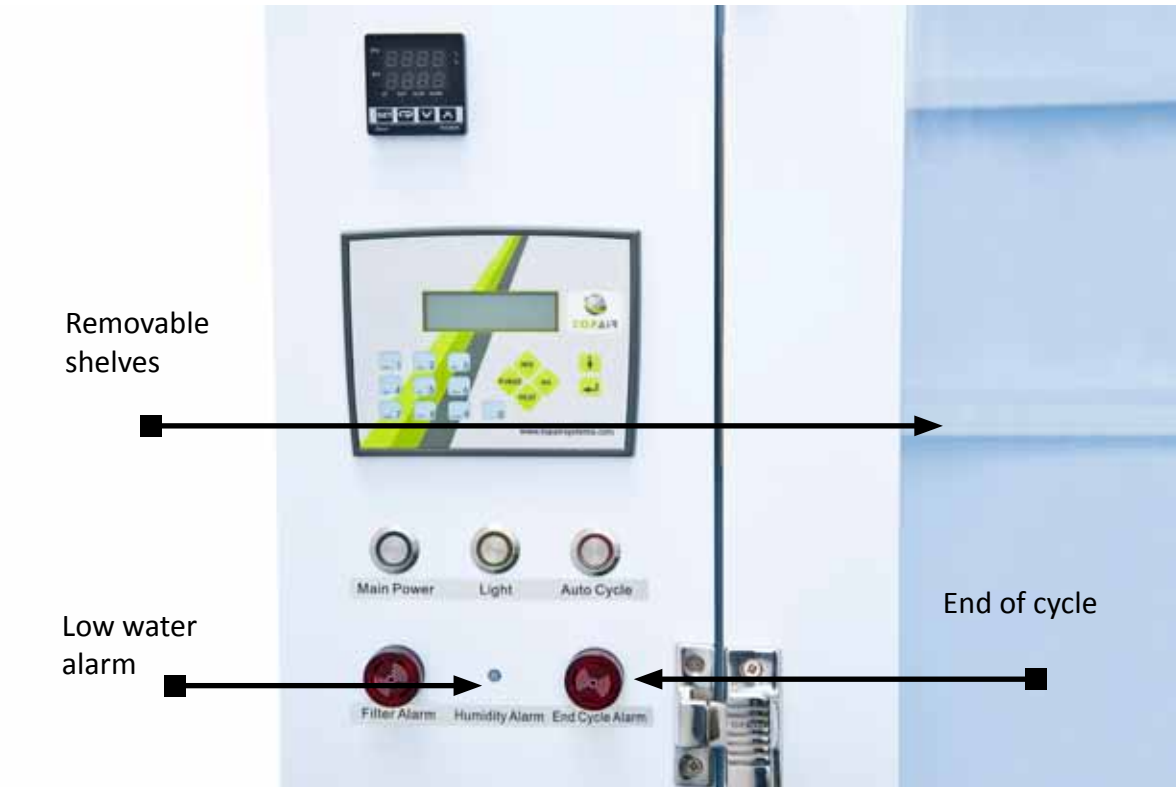








Humidity sensor



Removable shelves



Low water alarm



End of cycle



Appendix A

Chemical resistance characteristics table for polypropylene board

| Chemical Name | temperature (°C) | | | Chemical Name | temperature (°C) | | |
|------------------------------|------------------|----|-----|-------------------------|------------------|----|-----|
| | 20 | 60 | 100 | | 20 | 60 | 100 |
| Ethylal industry use | ○ | | | chloroform | ○ | Δ | |
| acetic acid 100% | ◎ | ○× | Δ | chromic acid**50% | ○× | ○× | |
| acetone | ◎ | ◎ | | chromic anhydride** | ○× | ○× | |
| Water content of adipic acid | ◎ | ◎ | ◎ | anone | ◎ | ◎ | |
| ammonia | ◎ | ◎ | | dichlorobenzene | ○ | | |
| Ammonium chloride | ◎ | ◎ | ◎ | dichloroacetic acid | ◎ | | |
| Ammonium nitrate | ◎ | ◎ | ◎ | dichloroethane | ◎ | | |
| Ammonium sulfate | ◎ | ◎ | ◎ | aether | ○ | | |
| Ammonium sulfide | ◎ | ◎ | ◎ | emulsifier | ◎ | ◎ | |
| amyl alcohol | ◎ | ◎ | ◎ | alcohol 96% | ◎ | ◎ | ◎ |
| Aniline | ◎ | ◎ | | aliphatic acid | ◎ | ◎ | |
| cyclohexanone | ◎ | ○ | | formic acid10% | ◎ | ◎ | |
| aqua regia | Δ | Δ | | hydrocyanic acid | ◎ | ◎ | |
| Bichromate sulfuric acid | Δ | | | hydrofluoric acid40-85% | ◎ | | |
| benzene | ○ | Δ | | perhydrol10% | ◎ | ◎ | |
| boric acid | ◎ | ◎ | ◎ | perhydrol30% | ◎ | ○ | |
| bromine water | ○ | | | isopropyl alcohol | ◎ | ◎ | ◎ |
| butanol | ◎ | | | cis-butenedioic acid | ◎ | ◎ | ◎ |
| butanone | ◎ | | | mercury | ◎ | ◎ | |
| cis-butenediol | ◎ | | | carbinol | ◎ | ◎ | |
| butyl acetate | ○ | Δ | | hydrogen nitrate 25% | ◎ | Δ | |
| Butylphenol | ◎ | | | hydrogen nitrate 50% | ○ | Δ | |
| Butyl benzyl ketone | Δ | | | chlorinated lime | ◎ | ◎ | |
| lime nitrate50% | ◎ | ◎ | | citric acid | ◎ | ◎ | ◎ |
| chloric acid 10% | ◎ | ○ | Δ | phenylsulfonic acid | ◎ | ◎ | |
| dodecylbenzene sulfonic acid | ◎ | | | | | | |

□: With resistance to tensile, expansion in the 3% or 0.5% weight loss, yield point elongation rate unchanged

□: Resistance to tensile limited expansion in weight loss between 3-8% or between 0.5-5%, yield point elongation rate of 50% or less

□: Non-resistance, tensile strength, expansion rate above 8% or weight loss of more than 0.5%, yield point elongation rate of over 50%

× : May fade

** : Variable bending combination of NA in combination with heat welding

Appendix B

شهادة – Certificat – 증명서 – Сертификат – Certificate – 證明書 – Entecertma

Verification of Compliance



No. EC.1282.0D140110.TS0147
Technical Construction File no. TP-14000160-1, TP-14000160-2

Certificate's Holder: **TOPAIR SYSTEMS, INC.**
3182 Monterey Dr. Merrick, NY 11566 USA

Product: Cyanoacrylate Fuming Chamber
Model(s): SG-060, SG-075, SG-080, SG-090, SG-100,
SG-120, SG-150, SG-180, SG-260, SG-060-P,
SG-075-P, SG-080-P, SG-090-P, SG-100-P,
SG-120-P, SG-150-P, SG-180-P, SG-260-P

Directives: 2006/95/EC Low Voltage
2004/108/EC Electromagnetic Compatibility

Standards: EN 60335-1:2012, EN 55014-1:2006+A2:2011,
EN 55014-2:1997+A2:2008,
EN 61000-3-2:2006+A2:2009, EN 61000-3-3:2008

Remark: This Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s). Other relevant Directives have to be observed in case they are applicable. This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s). This certificate can be checked for validity at www.entecerma.org

Date of issue JANUARY 2014

Certification Chief Manager
Tim Mahan



Expiry date JANUARY 2019

Certification Deputy Manager
Vipia Miles

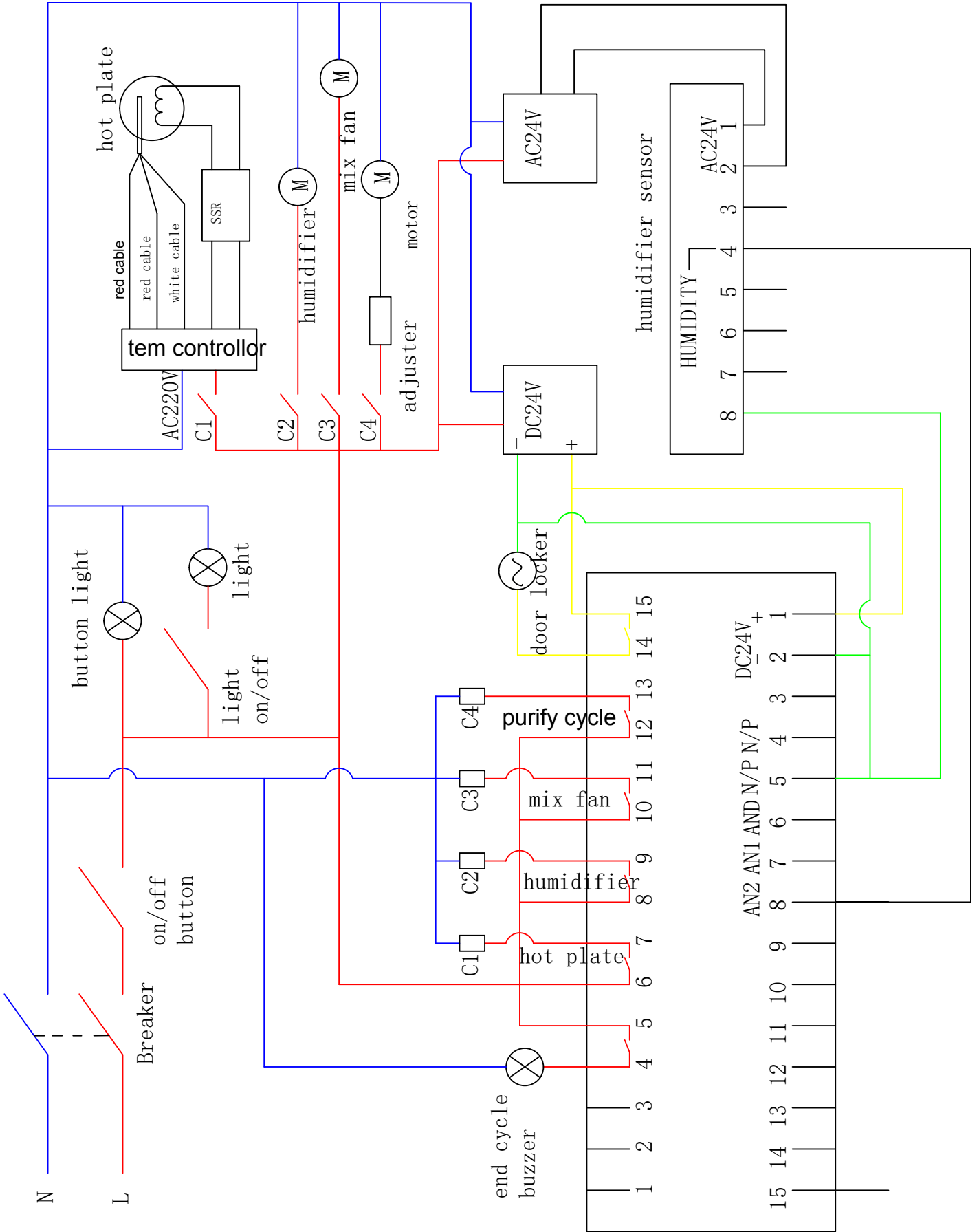


Ente Certificazione Macchine Srl

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Appendix C



TOPAIR USER GUIDE



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