Product Introduction

PCR cabinets provide an ideal environment free from room and personnel contaminants for PCR reagents and samples. Products and processes in the work zone are protected through the continuous supply of clean laminar air.

Application

Polymerase Chain Reaction (PCR) cabinet is typically used in reagent, PCR master mix preparation, and UV decontamination of PCR supplies and materials.

- Diagnostic Testing
- Molecular Biology Research
- Immunological Assays
- Forensics
- GMO Testing
- Oncology Research

PCR master mix and reagent preparation for diagnostic testing

Maintenance

Proper and timely maintenance is crucial to obtain optimal working performance of your cabinet. Taking care of your equipment is a must. Services such as preventive maintenance and annual certification should be done by a trained professional.

A. Preventive Maintenance

It aims to prevent unexpected downtimes and failures through routine maintenance and early detection of problems, for the cabinets to stay at optimal performance. The following are the procedures done when performing a preventive maintenance:

- Cleaning the work surfaces and walls with an appropriate disinfectant.
- Removing stubborn stains or spots on the worktop.
- Checking the cabinet's mechanical and electrical functionality for any defect.

B. Certification

Certification of cabinets must be done annually to lessen the risk of unanticipated failure and prevent the user from any danger. It is comprised of a series of tests in accordance with the manufacturer's specifications and relevant international standards.

- **Airflow Velocity**

Airflow velocity test measures the movement of air out of the cabinet and determines the performance of the blower.

- **Filter Integrity Test**

Filter integrity test verifies the continued efficiency of the filter by introducing particulates and measuring the output.

- **Particle Count Test**

Particle count test determines air quality by counting and sizing the number of particles in the air and classifies the cleanliness level in a controlled environment.

- **UV Intensity Test**

UV intensity test determines the light intensity from UV lamp in front to back centerline work surface level of the cabinet.

- **Noise Level Test (optional for field testing)**

Noise level test determines the noise level of the cabinet during normal operation in front of the work surface area lower edge and above the recessed work surface area.

- **Light Intensity Test (optional for field testing)**

Light intensity test determines light intensity from fluorescent/LED lamp in front to back center line work surface level of the cabinet.

Cleaning Procedure

False-positive results arise from carryover contamination of products from previous PCR runs. A periodic and thorough cleaning routine, including disinfection of all removable parts and surfaces, is recommended by the manufacturer to provide the utmost safety for personnel, samples, and the environment.

All these cleaning practices should be done on a regular basis. It is recommended to surface decontaminate the work zone daily before and after using the cabinet with 70% isopropyl alcohol (IPA). Moreover, the following are the recommended general cleaning procedures for various parts of the cabinet:

Item	Description
Inner work tray	Wipe off the inner work tray using IPA/suitable cleaning agent/disinfectant.
Inner walls	Wipe off the inner rear and side walls using IPA/suitable cleaning agent/disinfectant.
Drain pan	Clean and dispose unwanted material (if any) from the drain pan under the work tray. Material is to be treated as hazardous waste and is to be properly disposed of.
Paper catch	Remove for any retained or unwanted material (if any) at the paper catch. Material is to be treated as hazardous waste and is to be properly disposed of.
Air diffuser	Wipe off the aluminum air diffuser using IPA/suitable cleaning agent/disinfectant.
Stainless steel arm rest	Wipe off the stainless arm rest using IPA/suitable cleaning agent/disinfectant.
Window	Lower the glass window and clean both sides of the glass window with IPA/suitable cleaning agent/disinfectant.
Exterior	Use a damp cloth to clean the exterior surface, particularly at the front and the top to remove any accumulated dirt and dust.
UV lamp	Wipe off accumulated dirt and dust with dry cloth only.

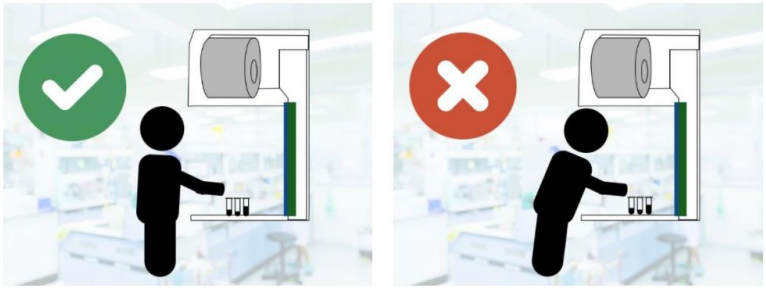
For removing stubborn stains or spots on the stainless-steel surface, use MEK (Methyl-Ethyl Ketone). In such cases, make sure that you wash the steel surface immediately afterwards with sterile water and appropriate liquid detergent. Use a polyurethane cloth or sponge for washing. Regular cleaning of the stainless-steel surface helps to retain the attractive factory-finished appearance.

Working Safely with PCR Cabinet

- **Do not use PCR cabinets to process biohazard samples.** PCR cabinets only protect samples inside the work zone from external airborne contamination. They do not protect the operator.

- **Allow the purge cycles.** Leave the blower on for 3 minutes before & after use to purge the work zone of any contaminants.

- **Only arms and hands are allowed inside the work-zone.** Operator must always bear in mind that head and shoulders should not be inside the work-zone, and doing so might potentially contaminate the samples.



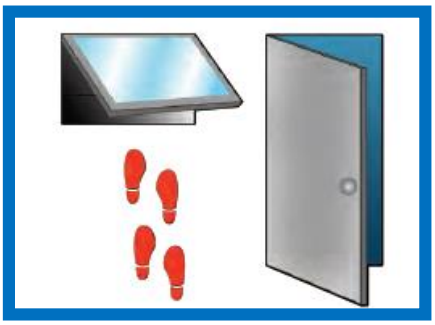
- **Do not spray anything to the back wall.** This can damage the HEPA filter and cause leakage.

- **Do not place your body parts directly above sensitive samples.** This may be a possible cause of product contamination.

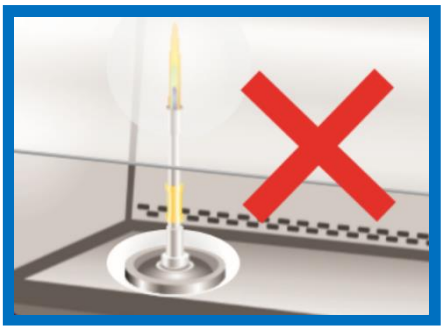
- **Do not store your stuff inside the cabinet.** Overloading the cabinet with unnecessary items can affect cabinet airflow and containment.

- **Only sterile materials should be placed inside the clean work-area.** Make sure that all your items are disinfected properly to avoid possible contamination of the work bench.

- **Identify the proper location for the cabinet.** External airflow disturbances (doors, excessive human traffic, windows, diffusers, air conditioner outlets) can compromise containment. Minimize disturbances to the airflow barrier.



- **Do not use Bunsen burner inside the cabinet.** The resulting buoyancy effect will affect cabinet airflow and containment. When absolutely necessary, low pilot light type electric burners may be used.



- **Wear Personal Protective Equipment (PPE) properly.** Wearing a back-fastened lab coat (to protect the operator from splashes) as well as double gloving (over the cuffs) should be practiced.

Safety starts with you.