

INTRODUCTION

Cold storage equipment plays a very important role in a researcher's life work. Protection of your essential and irreplaceable biologics is a critical factor for ensuring valid results. There are hundreds of different types of samples and they all must be stored using appropriate techniques and storage temperatures to properly serve the needs of the research community. Once proper storage requirements are not met, these precious samples may be put at risk and eventually lead to sample spoilage and wastage. Hence, it is important to carefully choose the cold storage that can assure optimal product protection. Preventive maintenance is a schedule of planned service measures aimed to prevent unexpected downtimes and failures through routine maintenance and early detection of problems. It is a regular check-up for your Cold Storage equipment to stay at optimal performance and carry out its primary purpose such as protection and preservation of valuable samples for life science research, diagnostics and various industries.

Esco provides world-class customer support and services in compliance with international standards to keep your equipment working in excellent condition.

Applications



Biological Samples



Reagents



Culture Media



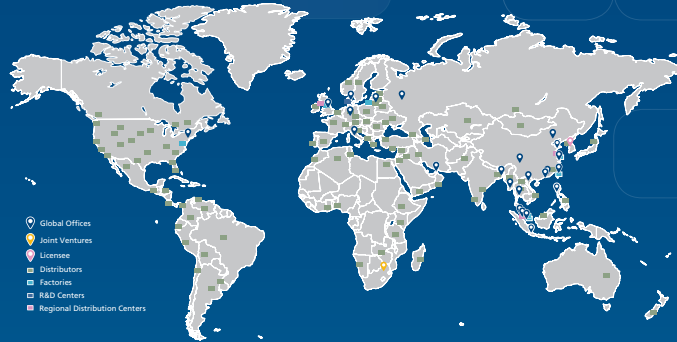
DNA/RNA



Pharmaceuticals



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PREVENTIVE MAINTENANCE SERVICES

SCHEDULED MAINTENANCE

HP SERIES LABORATORY REFRIGERATOR AND FREEZER				
No.	Description of Task to Perform	Maintenance to be carried out		
		Month	6 Months	Year
1	Condenser cleaning	✓		
2	Cleaning of exterior and interior surfaces		✓	
3	Alarm checks			✓
4	Actual internal temperature check			✓
5	Power supply check			✓
6	Door seal check			✓
7	Battery replacement			✓
8	Re-certification			✓

LEXICON® II ULTRA-LOW TEMPERATURE FREEZER							
No.	Description of Task to Perform	Maintenance to be carried out					
		As Needed	Week	Month	Quarter	Semi-annually	Year
1	General cleaning	✓					
2	Defrost and cleaning	✓					
3	Battery replacement	✓					
4	Vacuum relief port cleaning		✓				
5	Back-up battery checking			✓			
6	Air filter cleaning				✓		
7	Door gasket cleaning					✓	
8	Condenser cleaning					✓	
9	Re-certification						✓

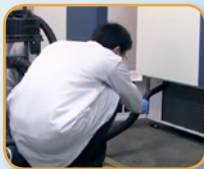
• General Cleaning

Routine cleaning of the equipment should be carried out. The appliance is thoroughly cleaned in our factory before delivery. We recommend, however, that you clean the interior of the appliance before use. Before any cleaning operation, make sure that the appliance power cord is disconnected. The surfaces can be cleaned by wiping down with clean water and a mild detergent using a sponge.



• Condenser Cleaning

Cleaning the condenser is one of the most important tasks to ensure the unit operates properly and efficiently. A clogged condenser often results in poor performance and raise in power consumption.



To clean the condenser, use a household type of vacuum cleaner to vacuum the fins or a dry brush. Make sure you can clearly see through the fins after the vacuum operation is completed. The condenser should be cleaned once every 6 months – or less if the area is dusty.

• Air filter Cleaning*

The air filters are the first line of defense against dust and dirt that might be pulled into the condenser. To clean the air filter, open the front condenser doors located at the bottom, there are two air filters installed.



Remove the condenser air filter and wash it in water. Dry it out and place it back in the air filter holders. It should be inspected and washed once in every 3 months. Replace the filter if it is too dirty or worn out.

• Door Gasket Cleaning

The door gasket is an important part to maintain and seal the unit to achieve a proper temperature. Over time, the gasket can get deformed or damaged if not properly kept clean from ice.



To clean off the ice and frost accumulating on the gasket, use a dull plastic scrapper to wipe off ice and frost accumulation that sticks to the ice surface. Wipe off the water from the gasket before closing the door. Door gasket should be cleaned at least monthly. More frequent cleaning may be required if dirt or excessive frost build-up prevents the door from closing properly.



• Vacuum Relief Port Cleaning*

Use a soft cloth; remove any frost build-up from the vacuum relief port, located at the back of the main door. Cleaning of vacuum relief port should be done regularly, depending on how often and how long the door is opened.



• Defrosting the Chamber

To clean up the frost, move all products to another unit that operates at the same temperature as the Esco unit temporarily. Turn off the power on the Esco unit, open the doors to let the unit warm up.



Place some towels around the floor of the unit to absorb any melted frost that might run out. Once the unit is thawed, wipe off the water with a towel. Use a mixture of warm water and light detergent to clean the interior and exterior of the unit carefully; do not let water drip into the refrigeration and electrical compartments.



• Battery Checking (if applicable)

Locate the battery and check its voltage output using a digital voltmeter. If the voltage goes below 12 volts, replace the battery.



• Internal Temperature Checking

It is recommended to check every two years if the temperature inside the compartment is consistent with that shown on the display. To this end, you will need a calibrated tool (RTD or thermocouple). This is applicable only to HP series units.

• Maintenance/Service Log

It is good practice (and in some cases regulatory requirement) to maintain a log of all maintenance work carried out on your freezer.

Note: In order to guarantee optimal performance of the unit, follow indications given by the manufacturer and arrange the preventive maintenance through a qualified technician.

**Applicable only to ULT Freezer*

VALIDATION AND CERTIFICATION



Checking of the Alarm Function (if applicable)



Checking the Electrical Panel



Calibration



Temperature Mapping

TRAINING AND WORKSHOPS

Esco offers training for users of Laboratory Refrigerator and Freezer on the procedures in its User and Service Manuals.

SERVICES TO OTHER BRANDS

Esco does not only provide services to its own product line but also for other brands. Esco assures that your Laboratory Refrigerator and Freezer will be properly checked according to your needs.