Product Introduction

A laboratory shaker is a general equipment used for shaking and mixing procedures in the laboratory. Shakers ensure uniform sample agitation and even distribution of nutrients within flasks or tubes. It consists of a housing that contains the motor, control panel, and agitation platform. It comes in different types: ambient, incubated, and refrigerated.

Application


General Mixing


Bacterial Suspension

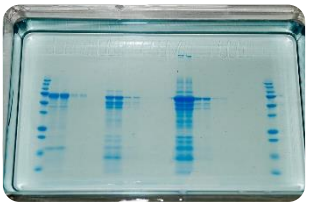

Microbial Culture


Solubility Testing


Diagnostic Tests


Cell Culture


Extraction Procedures


Staining and Destaining


Hybridization


Washing Procedures

Maintenance and Cleaning Procedure

Proper and timely maintenance is crucial for the trouble-free functioning of any device. It is strongly recommended to follow the scheduled maintenance suggested hereunder to obtain an optimal performance for laboratory shakers.

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Table 1. Scheduled Maintenance

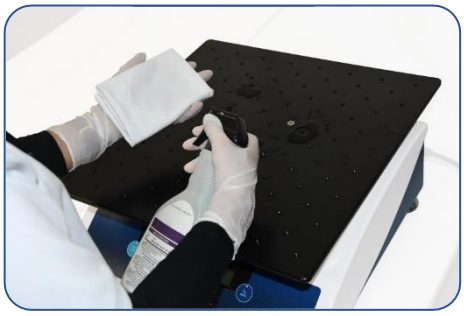
No	Description of Task to Perform	Maintenance to be carried out every		
		Weekly	Yearly	As Needed
1	Cleaning of external and internal surfaces	✓		
2	General inspection		✓	
3	Calibration of speed		✓	
4	Calibration of temperature sensor*		✓	
5	Decontamination			✓

** Applicable to Incubator Benchtop Shaker models only.*

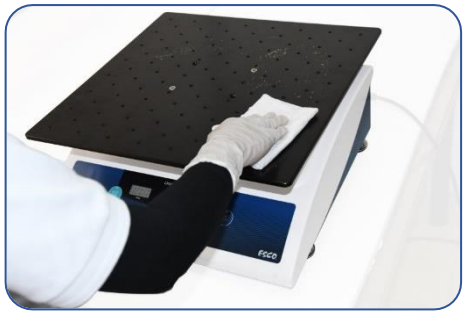
Note: Always turn off the shaker and disconnect the power cord from the power supply before performing any maintenance.

Personnel involved in the cleanup of any spill should wear applicable safety equipment such as gloves, safety glasses, respirator masks, and a laboratory coat during the cleanup process.

Cleaning External and Internal Surfaces



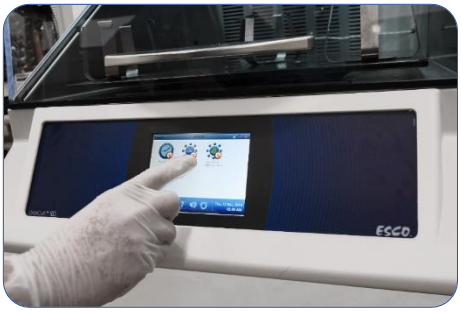
- Use a cloth dampened with water or any standard, household, or laboratory cleaner to wipe down the shaker's outer surfaces.



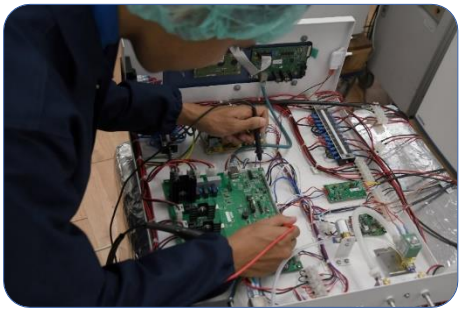
- Never use abrasive or corrosive compounds to clean this equipment, as they may damage the shaker and void the warranty.

General Inspection

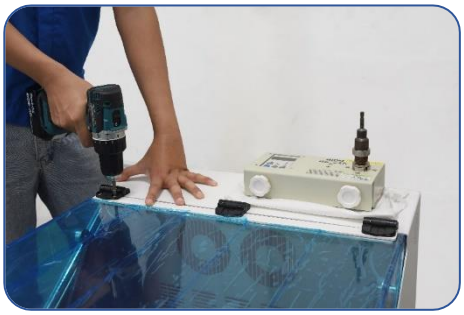
Check the following regularly—at least annually:



- Functional check of the touch screen and device control.



- Electrical safety checks in accordance with the relevant regulations.



- Check the tightness of hinge screws on the hood's moving parts.

Calibration of Speed and Temperature

- The speed and temperature can be calibrated to reference instruments.
- It is recommended to calibrate at least once a year to ensure continuous and optimal performance of the laboratory shaker.

Speed Calibration

Temperature Sensor Calibration*

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Decontamination

- Commercially available bleach solutions diluted at 1:10 ratio are effective in routine decontamination of the shaker.
- The decontamination method for spills depend on the type of spill.
- Spills involving fresh cultures or samples known to have low concentrations of biomass should be soaked with decontamination solution for 5 minutes before cleanup.
- Spills involving samples with high concentrations of biomass, or involving organic matter, or occurring in areas warmer than room ambient temperature, should be exposed to decontamination solution for at least 1 hour before cleanup.

Working Safely with Laboratory Shakers

- Do not attempt to lift the shaker by yourself.
- Ensure the recommended clearance around the unit.
- Do not overfill the flasks. Excessive fill volume can cause damage to the shaker drive assembly. The maximum fill volume for the Erlenmeyer flask is 20%.
- Do not operate the shaker at maximum speed without a load.
- Do not overload the system's weight limits.
- When using multiple vessels, ensure that they are evenly distributed on the platform.
- Do not use flammable substances or grow organisms that produce flammable by-products, as the equipment is not explosion-proof.
- Ensure hair, loose clothing, etc. cannot come into contact with any rotating parts.
- Do not put your hand into an operating unit – avoid risk of injury due to high rotational forces.
- Do not apply excessive pressure when handling any glass components in case of breakage and consequent sharp edges.
- Operators should wear appropriate safety clothing, gloves, safety goggles, and a face mask as appropriate to the degree of microbiological risk.