

# SmartNotes

# QA

## When cleaning and disinfecting an orbital shaker, what factors are important?

To protect your work from contamination, it's important to periodically clean and disinfect your orbital shakers. However, most orbital shakers have many small screws, clamps, and crevices that make them difficult to clean properly. Look for a well designed shaker with minimal screws, an easily removable platform and sealed systems which enables regular cleaning and disinfection.

Vessel clamps and springs, the screws that secure them, the platform recesses which receive the screws, and the area under the platform are all places which can harbor dust, dirt, spilled liquids and contaminants, presenting a risk to your cultures.

Due to the design of most shakers, cleaning can be more challenging than a simple wipe with a disinfectant cloth. Shakers may be difficult and laborious to disassemble, including clamps with multiple screws and with platforms that are not designed for removal, discouraging reasonable attempts at real cleaning. Trying to disengage a non-removable platform or opening a unit to clean internal components after a leak can cause damage. So shakers with easily removable platforms and clamps make cleaning easy to help protect your samples from contamination. Periodic cleaning will also extend the life of your shaker, while saving time and money spent repeating experiments that were contaminated.



Thermo Scientific™ Solaris™ 4000 Series Orbital Shakers

What should I consider when cleaning my shaker?

## Preparing your unit for cleaning

An orbital shaker should be cleaned and disinfected once each month, to prevent microbial growth and remove residual dirt, spills, or chemicals, all of which could contaminate your samples. First, power off the unit and unplug it to prevent electrical shock to you or damage to the machine. Next, remove the shaker clamps and the platform. Depending on the construction of these parts, they may be sterilized in an autoclave.

## Proper cleaning solutions

For cleaning your shaker, use only mild dish soap and water. To disinfect, we recommend only 70% ethanol or a quaternary ammonium-based disinfectant. Use only a damp microfiber cloth (see Figure 1) and avoid wetting any areas with exposed electronics; if your shaker has sealed systems, this prevents liquids from entering. When removing clamps and screws, avoid scratching the surfaces, because scratches can damage the protective finish and provide places for microorganisms to hide. A touchscreen user interface is designed to allow easy cleaning.

## Sealed systems

Shakers with exposed electronics are at risk to contamination and damage when cultures are splashed or spilled, so look for a shaker with a removable platform and sealed systems which will ease cleaning and prevent spills from entering the drive system. It is virtually impossible to eliminate bacterial growth inside the unit when liquid cultures enter. Opening up the electronics may void the



**Figure 1:** Rounded corners, clamps with one screw or less, removable platforms, sealed electronics systems and a touchscreen user interface all facilitate easy, frequent cleaning to prevent contamination.

warranty. If your shaker is an enclosed unit with temperature control, look for one with rounded corners and single piece interiors, since these design features eliminate seams and crevices where microorganisms could hide.

## Summary

To protect your work, choose an orbital shaker that is designed for easy cleaning.

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