

Highlighting innovative design features  
and useful application information for  
**Thermo Scientific Centrifuges and Rotors**

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# smart notes

design and innovation ► swinging bucket benchtop rotors



Q  
A

**How can I help improve safety in my laboratory when spinning pathogens or patient samples in swing-out rotors?**

Thermo Scientific™ ClickSeal™ rotor lids for Thermo Scientific™ TX series benchtop rotors are designed to provide a secure and quick solution for biocontainment of rotors. Local safety rules will regulate the processing of pathogens, or potential pathogens, and the protective measures that should be undertaken to help reduce the risk of Laboratory Acquired Infections (LAIs). These regulations may require the use of biocontainment lids on centrifuge rotors.

Centrifugation is a key part in many clinical and scientific workflows in which pathogens or potential pathogens are processed. Certified by the Public Health England Laboratories (Porton Down, UK), TX series swinging bucket rotors feature our ClickSeal lids that are tested to ensure that when used correctly, pathogens are safely contained in the event of a tube breakage, tube leakage, external tube contamination or over-fill contamination within tube and cap threads. This containment helps minimize the risk of pathogens being aerosolized into the lab environment, where they could be inhaled or spread, contaminating surrounding surfaces and equipment and posing a risk to lab personnel.



# Improve safety during sample processing with certified<sup>1</sup> biocontainment

**Sample containment is a key consideration for lab safety**, in part due to the pressures that are exerted on sample tubes during centrifugation which can cause tube breakage or leakage. The high speed air movements within a centrifuge bowl can increase the risk of pathogens being aerosolized. Implementing correct levels of containment, as well as providing regular training and maintenance, help to minimize risk associated with high-risk sample processing.

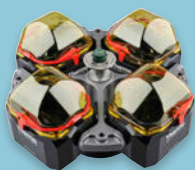
## Containment Levels

### PRIMARY



High quality tubes should be used to minimize the risk of tube failure and leakage and should always be spun within their rated force (RCF) and within their cycle limits. Correct size adapters should also be used to minimize tube movement and provide proper support during acceleration and deceleration.

### SECONDARY



Seal the full rotor or bucket with a cover, ideally with transparent covers, allowing the tubes to be inspected and breakage or leakage identified prior to opening. Biocontainment systems should be independently certified by a testing agency such as Public Health England (Porton Down, UK).

Glove-friendly ClickSeal lids are designed for both left- and right-handed users with an audible “click” to confirm sample containment and transparent lids provide easy visualization of the containment status. Available on our TX series of benchtop rotors, these lids are designed to provide safety, while maintaining quick access to samples.

### TERTIARY



For samples with the highest risk, an additional level of containment around the tube helps prevent cross contamination between tubes and can remove the need for sealing tapes or cling films. Also this level of containment provides easier, safer handling when transporting samples throughout the lab.

For example, the sealed vessel adapters for use with Thermo Scientific TX-1000 or TX-750 rotors provide individual sealing of conical or bloodtubes. When combined with ClickSeal lids, samples have double containment.

## Training and Safety Checks

All personnel using a centrifuge should be trained on the safe operation, including correct loading of rotors, buckets and adapters to prevent accidents. Additionally, it is important to understand the use of biocontainment lids and local procedures if an accident or leakage occurs. O-rings on these biocontainment lids are an integral part of the sealing and should be regularly checked to ensure they are in place, there is no damage or degradation and that they are cleaned and lightly lubricated regularly with grease. Centrifuges should also be regularly cleaned and maintained ensuring continued safe operation.

## Summary

Sample protection with Thermo Scientific ClickSeal biocontainment rotor lids on our TX series of benchtop rotors, as well as regular training and maintenance, help minimize risk of LAIs associated with sample processing and contribute to the safety of lab personnel.

Learn more at [www.thermoscientific.com/centrifuges](http://www.thermoscientific.com/centrifuges)

See your sales representative for centrifuge and rotor solutions available with biocontainment.

<sup>1</sup> Certified biocontainment by Public Health England, Porton Down, UK.

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