



Demand a Higher Standard



Tel: (713) 926-2623
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*Petroleum Testing Equipment
Suppliers Worldwide Since 1930*

Best Practices – Use of Tubes in Benchmark Centrifuge Models

L-K Industries centrifuge tubes are calibrated volumetrically in our manufacturing facility or gravimetrically in our ISO/IEC 17025 accredited laboratory (in compliance with API/ASTM standards). Innovations such as 2-mm wall thickness, wide-neck threads and customization make L-K Industries a market front-runner in glassware. For optimal results, use ONLY L-K Industries sample tubes and tube accessories (shields, cushions and collars). The use of non-L-K products increases the risk of tube breakage and centrifuge damage. Use the following guidelines while operating a Benchmark Series Centrifuge.

- **Before Loading Samples**
 - Visually inspect all tubes, collars, cushions and shields for damage.
 - Remove oil residue on cushions and ensure that cushions rest flat inside the bottom of each shield.
 - Inspect the inner bowl for foreign objects.
NOTE: “B” style tubes DO NOT require cushions or collars. Damaged parts must not be centrifuged, as they may break and cause further damage.
- **Loading Samples**
 - Open the sliding door and place filled sample tubes into shields with collars resting at the top of the shields.
 - Ensure that the tip of each tube rests firmly in the cushion.
Keep the sliding door closed as often as possible to minimize heat loss from tube samples.
NOTE: Take extra precaution while loading and unloading samples by engaging the “EMERGENCY MOTOR OFF SWITCH” while working inside the bowl.
- **Tube Breakage**
 - If a tube breaks during operation, press the “EMERGENCY MOTOR OFF SWITCH.”
 - Once troubleshooting is complete and it is safe to resume operation, twist and pull out the emergency switch.
NOTE: DO NOT open the sliding door immediately after the emergency switch has been engaged. The motor is still in free fall and any dislodged objects may be launched out of the centrifuge.
- **Maintenance and Troubleshooting**
 - Periodically check the tube cushions for excess wear and tubes for hairline cracks or chips.
 - If a cushion is stuck inside a shield, gently tap the side of the shield until the cushion is dislodged and inspect for damage.
NOTE: If a tube has broken, the cushion MUST be replaced. Glass particles (not visible to the naked eye) can become embedded in the cushions and cause future breakages.



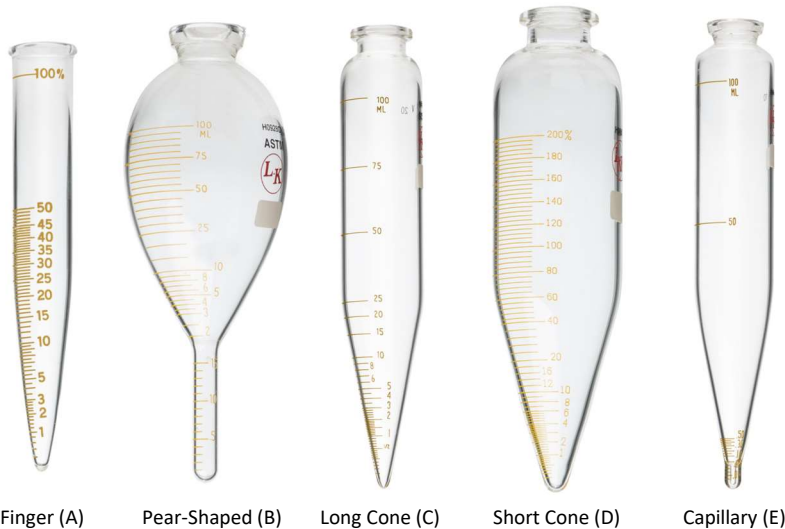
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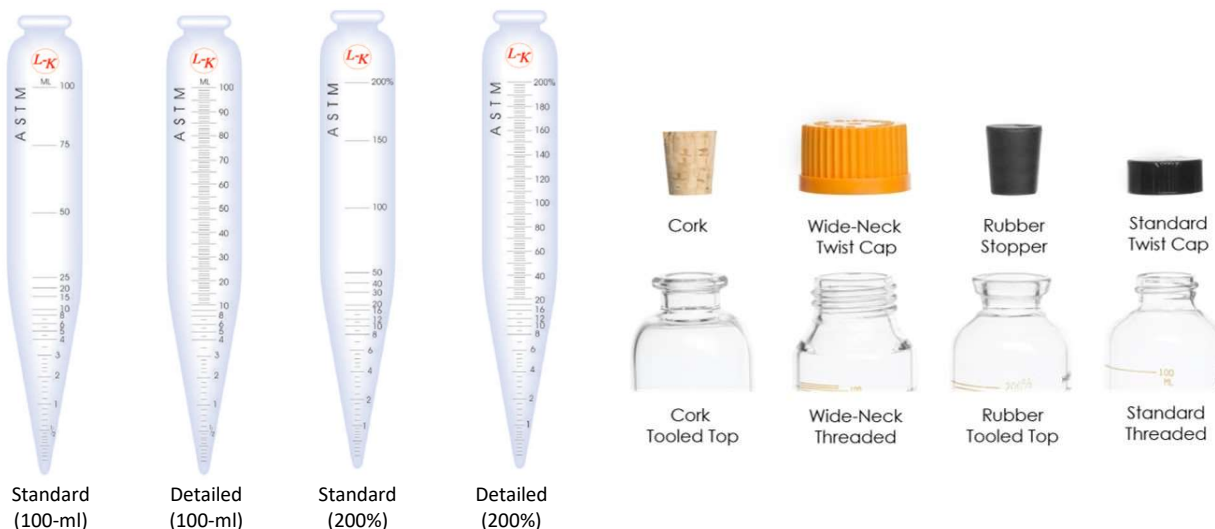
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Centrifuge Tube Types:



Available Markings, Tops & Threads:



Tips & Definitions:

- Standard tubes have detailed markings up to the 10-ml (20%) mark; detailed tubes have detailed markings up to the 100-ml (200%) mark.
- When using 100-ml tubes, ADD the BS&W volume of two separate samples to account for dilution.
- When using 200% tubes, take the AVERAGE of two sample tubes.
- Certified – marked tubes are gravimetrically calibrated by ISO/IEC 17025 accredited laboratory.
- Verified – marked tubes are volumetrically checked in manufacturing facility.
- Non-verified – marked tubes sold directly to the customer off the production line without verification.