

## THE VESSEL

Good dissolution vessels are critical in obtaining correct and reproducible results and are sometimes overlooked as a key element in the dissolution test.

All vessels meet the physical dimensions of the USP and have a hemispherical bottom which means that they should be perfectly rounded with no obvious defects of the glass on the inside. Wall thicknesses should be even and reproducible.

Although the USP states the dimensions for vessels, the tolerances are actually quite wide, meaning vessels associated with various dissolution baths are not dimensionally the same. Replacing a vessel with one not specifically designed for the instrument could impair vessel centering and paddle height. Also larger or smaller inside diameters can affect vessel hydrodynamics.

Note: RIGGTEK vessels are acid etched, or laser marked on plastic rim, with a unique serial number and come with a Certificate of Conformance (COC), where applicable. On an additional fee also Certificates of Analysis (COA) are available.

## IMPROVE YOUR DISSOLUTION RESULTS WITH QLA ULTRACENTER™ PRECISION VESSELS



UltraCenter™ Precision Vessels are available in clear and amber, Glass Rim, Plastic Rim and PEAK versions. QLA's molded PEAK vessels are Patent Pending.

Small variations in vessel dimensions have been shown by the USP and others to contribute to excessive changes in dissolution rates. UltraCenter™ Precision Vessels are produced using a unique molded process which provides a precise and consistent inside diameter and spherical radius resulting in a more reproducible dissolution profile. They are compatible with RIGGTEK dissolution baths and have been adopted as a standard by many major pharmaceutical companies.

## RIGGTEK Certificates

### COC

All serialized RIGGTEK parts — like baskets, paddles and vessels — come with a Certificate of Conformance (COC) at no extra charge.

### COA

Certificate of Analysis (COA) is available for all RIGGTEK serialized parts — like baskets, paddles and vessels — for an additional fee.

## Arten von Vesseln

Glass Vessel benefit from good thermal conductivity (it is often necessary to have the temperature of the water bath as much as 2°C higher than the analysis temperature when using plastic vessels). Another advantage of using glass vessels is their high resistance to scratching, which means they have to be replaced less frequently.



Amber Vessel can be used if light sensitive compounds are being tested. They are available in glass and plastic.



Plastic Vessel are very reproducible because they are made from a mold rather than hand formed. They also have feet which allows them to stand upright independently. The biggest disadvantage is that plastic is very prone to scratching and cracking, requiring frequent replacement. Plastic vessels have the advantage over glass in that they are very reproducible. The vessel is made from a mold rather than hand-formed. This reduces possible errors in setting the paddle height and centering and can give very reproducible results. Another advantage of plastic vessels is that they have feet so they can stand upright independently.



Plastic Rim Vessels were developed to help minimize glass rim breakage that can occur during normal laboratory use. They are produced by a unique proprietary bonding method using high impact plastic which eliminates rim breakage and safety concerns. All RIGGTEK Plastic Rim Vessels are dishwasher safe. Plastic Rim Vessels come in both Standard and UltraCenter™ Precision versions. Serial numbers are laser marked on the plastic rim only.



Peak Vessels are designed to prevent cone formation at the base of the vessel. An undesirable poorly stirred cone shaped region can develop under the paddle during USP Apparatus 2 dissolution tests. Peak vessels have a cone shape molded into the bottom of the vessel that improves the hydrodynamics around the dosage form and leads to more reproducible dissolution rates. The peak effectively displaces the unstirred cone, forcing the material tested into the region of appropriate hydrodynamics, where all surfaces of the dosage are constantly and uniformly exposed to the moving medium. Peak vessels do not comply with USP specifications and cannot be substituted in existing applications.

