



Frequently Asked Questions

FAQs

How do I remove bubbles? Do I need to remove all of the bubbles?

A few small bubbles are unlikely to affect the conditions in the spinpod. The guide on loading spinpods contains suggestions for dealing with bubbles.

How large of a needle can I insert in the silastic port?

18-gauge or smaller is recommended, but 16-gauge needles can be used with special precautions. See the document on loading for suggestions

How do I pick the best speed to rotate the Spinpods?

At the optimum rate, the particles in the spinpod will cluster towards the center of the chamber or form an annulus (donut or toroid). The ideal rate will depend on the size and density of the particles in the fluid, and the density of the fluid. The goal is to rotate the spinpod fast enough to keep the cells from falling to the floor of the chamber, but not so fast that centrifugal forces push the cells against the outer wall of the spinpod. Typical applications rotate the spinpod at 20-40 rpm.

Shining a penlight behind the spinpod as it rotates may allow you to see the particles and ensure that they are staying in suspension.

When using Cell Spinpod's mini rotator display, the rpm displayed on the equipment is the rotation rate of the spinpods themselves.

When using a bottle roller, the rpm displayed on the equipment is the rotation rate of the rollers, not of the spinpods themselves. You can calculate the actual rpm of the Spinpod by marking a dot on the edge of the spinpod and counting the number of rotations in 60 seconds. Divide the observed rpm of the spinpod by the rpm displayed on the equipment to calculate the correction factor. This same correction factor can be applied to other settings on the roller. Alternatively, when the diameter of both the roller and the Spinpod are known, the rotation rate of the spinpod is easily calculated from the rotation rate of the roller (roller spin rate time Roller diameter/Cell Spinpod diameter). The diameter of the spinpod is 4.4cm.

See the guide on rotating spinpods for more information

Can I change the level of fluid shear stress in a Spinpod by increasing the rotation speed?

Increasing the speed of rotation will increase the size of the annulus of rotation that the cell aggregates move through. The shear only increases close to the outer wall of the spinpod (Sci Rep. 2021 Oct 29;11(1):21296).

How do I keep Spinpods from 'hopping' off the bottle roller?

Use Carriers to hold the Spinpods. A series of Extender Carrier units can be linked to gather to use the full length of the rollers (please see our product page).

Are Spinpods re-usable?

No. The Spinpods are intended for single use. They have been radiation-sterilized. The breathable membranes melt if autoclaved.

How do I clean the loading dock and microscope stage?

The loading dock and microscope stage can be washed with soap and water and they can be wiped down with alcohol. However, they will melt if autoclaved.

The carrier parts will not snap together

Be sure that the Spinpod is seated in the carrier and the 'feet' extending from the Spinpod are sitting in the notches on the inside rim of the carrier. You may need to rotate the Spinpod slightly to get the 'feet' to engage.

How should I disposed of used Spinpods?

Used Spinpods should be disposed in the manner dictated by the sample , i.e. biohazard waste, radioactive waste etc.

What is the maximum volume that can be injected into the Spinpod?

The pod can hold as much as 4.5 mL but the walls will begin to bulge. 3.5 mL is recommended.

Can I change the level of fluid shear stress in a Spinpod by increasing the rotation speed?

Increasing the speed of rotation will increase the size of the annulus of rotation that the cell aggregates move through without changing the shear unless the cells are close to the outer wall. Shear increases as the outer wall is approached (Sci Rep. 2021 Oct 29;11(1):21296).

Can I use Spinpods to generate fluid shear stress with anchorage-dependent cells?

Yes. Cells can be grown on the surface of carrier beads and added to the Spinpod. The cells on the surface of the carrier beads will be exposed to the laminar fluid shear stress inside the Spinpod. As needed, the contents of the Spinpod can be harvested, the beads recovered, and the cells gently removed for further analysis.