

The STOVALL Convertible Flow Cell

For On-line Study of Biofilms



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Another Innovative Product From

STOVALL
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Continuous Culture Flow Cell: THE CONVERTIBLE

The Convertible continuous culture flow cell extends in several ways Stovall's offering for real time, nondestructive, microscopic study of biofilms:

Detachable Reattachable Top

This single chamber flow cell with a detachable/reattachable top allows an investigator to subject test samples—polymers, metal, or other—to cells injected into the chamber through the self-sealing injection port.

Large Chamber 7.7cm³

The relatively large chamber, 24mm x 40mm x 8mm deep, accommodates harvesting of significant volumes of biofilms for RNA array and protein analysis. The easy access to matured biofilm facilitates this purpose.

Two Attachment Surfaces

Two glass cover slips, one on the top of the cell and one on the bottom, provide attachment surfaces for regular or inverted microscope observation.



Glass or TCT Coated Plastic Option

Alternative TCT treated APET plastic cover slips provide better attachment surfaces for some biofilms and for cell growth and yield.

SEE PRICE LIST FOR THE APET AND OTHER PRODUCTS.

Coating the Attachment Surfaces

The detachable top allows investigators to coat the glass or plastic attachment surfaces with a variety of materials—seeded cells, proteins, polymer films, ECM—for experiments testing the response of biofilms or cells to such materials.

Bubble Trap

The triple cylinder bubble trap with air release cocks captures air bubbles released from the flowing culture medium. Inside the cylinder a "fountain" spout directs the flow of liquid upward for better release of air bubbles. The air release cocks allow the investigator to control the amount of air captured & govern the pressure on the passing liquid to help mitigate peristaltic pulsation.



Self Sealing Injection Port

The self sealing injection port facilitates initial inoculation of the flow cell chamber and any additional injections an investigator wishes to add to the growth chamber in the course of an experiment.

Transmission Light and Confocal Microscopy

As with other Stovall flow cell products, The Convertible Flow Cell can be used with traditional transmission light microscopes to follow biofilm development. However, as the biofilm thickness increases, it becomes more difficult to obtain good images due to the contribution from the unfocused part of the viewing field. The scanning confocal laser microscope solves this problem by scanning several planes interspersed by short distances, thus reconstructing virtual three-dimensional images of the biofilm.

TWO CONFIGURATIONS, FOUR PRODUCTS, GAMMA IRRADIATED

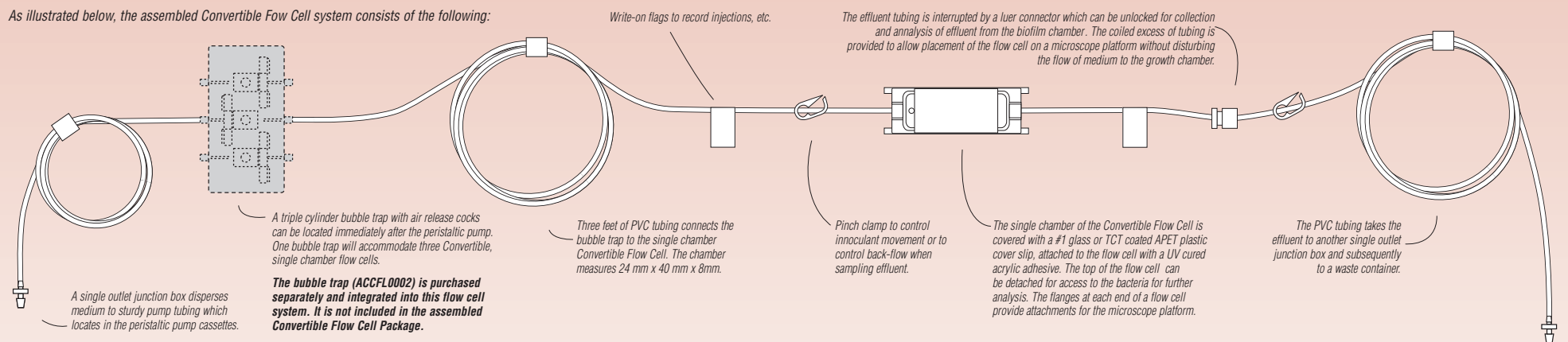
The Convertible Flow Cell is offered in two different configurations:

- 1 The Convertible Flow Cell by itself (CFCAS0003, CFCAS0004)
- 2 An assembled apparatus (CFCAS0001, CFCAS0002) consisting of the Convertible Flow Cell, connective tubing, pinch clamps to control inoculant movement, write-on flags to record injections, and a luer connector which can be unlocked to collect effluent for analysis. Each configuration is packaged in a sealed polybag and sterilized by gamma irradiation.

Both Configurations are gamma irradiated and designed for a single use which eliminates the possibility of carryover from one experiment to the next, and eliminates time consuming sterilization methods which either require equipment not easily accessible to most researchers (ethylene oxide chambers), or are, in fact, disinfection methods (hypochlorite).

ELEMENTS OF THE CONTINUOUS FLOW CELL SYSTEM

As illustrated below, the assembled Convertible Flow Cell system consists of the following:



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