

# Appendix C

## Fixative Filter Holder (FF1)

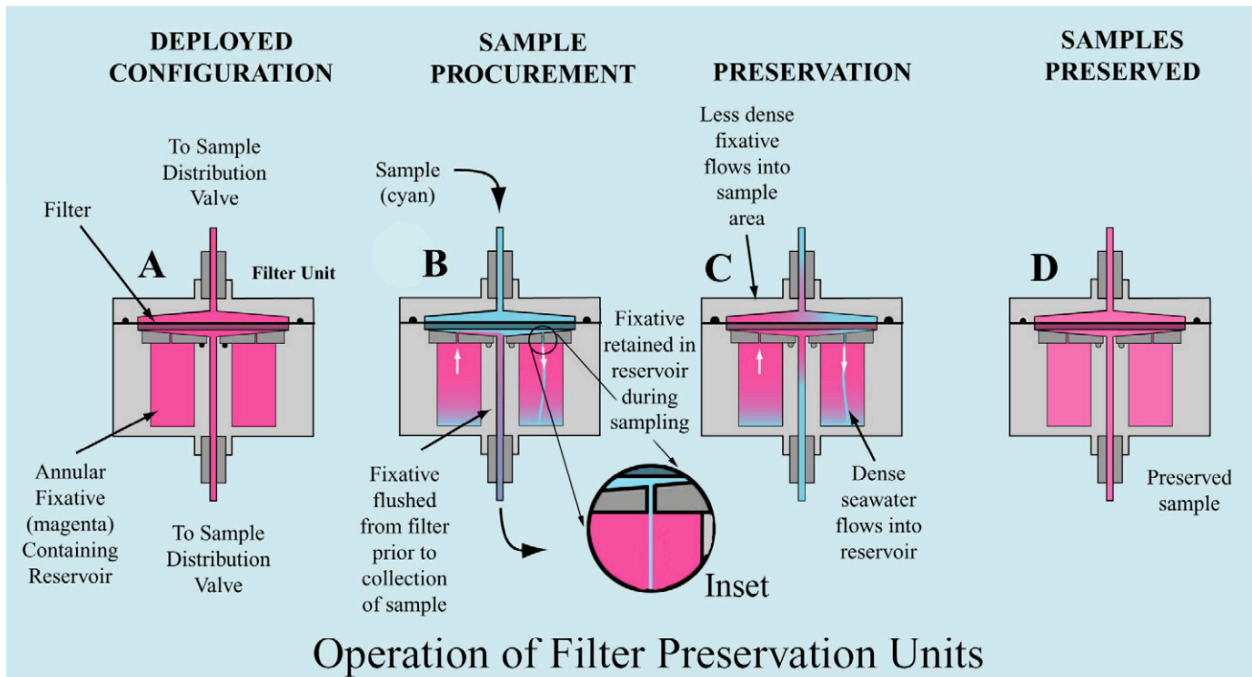
The McLane FF1 is available on the PPS as an optional fixative holder on each sample. The FF1 uses a passive method of sample fixation, relying on the density difference between the ambient sample water and the fixative solution. For the FF1, the density of the fixative must be *less* than the density of the sample water.

### Priming

The FF1 is primed with the fixative solution prior to deployment. As the sample is pumped, the fixative above the filter is pumped away. At the end of the pumping event, the sample is closed and the more dense seawater will exchange with the less dense fixative.

### Fixation Time

The time for complete fixation depends greatly upon the density differential of the seawater and fixative solution. This must be experimentally measured.



## Recommended Application

The FF1 is recommended for small volume samples only. The time for complete fixation depends greatly upon the density differential of the seawater and fixative solution. This must be experimentally measured. Use in the field has shown that a significant amount of fixative can be lost in the pumping cycle.

For a density difference of 3%, 2L samples can result in as much as 80% fixative loss. Reducing the density difference to 1% results in increased sample size, up to 20L, for the same fixative loss. A reduction in the density difference increases the time necessary for full filter fixation.

Experimentally measured fixate loss is required for the user to determine the appropriate fixative solution density.