Critical Point Drier(CPD)

The technique of critical point drying is not new; it has been around for some number of years and certainly has been a part of the light and electron microscopy and microanalysis field since around 1970 when it became clear that the air drying of many types of samples, primarily biological, but not solely, would produce intolerable drying artifacts.

For many years, the conventional wisdom of the field was that the exchange of liquids should be done without agitation, and without turbulence, and that laminar flow of the exchange liquids while in the chamber was the most desirable.

And because a critical point dryer, in essence, is a “pressure bomb”, there is, and correctly so, a great concern about safety and many have felt more comfortable with a system that was not electrically heated (and had the potential for overheating) and was heated only with warm water, thereby limiting the kind of situation that could exist to an over pressurization of the pressure chamber.

And with the passage of time, there has emerged a new body of end users who believe that sometimes agitation is “good” for the samples and there has emerged designs of chambers that permit gentle agitation during the exchanging of the fluids. However, we still are “old fashioned” when it comes to the agitation of fragile samples; there is just too much possibility for the disappearance of fine structures when the exchange of liquids is not done under laminar flow conditions.

참고

- http://www.2spi.com/catalog/instruments/dryers.html