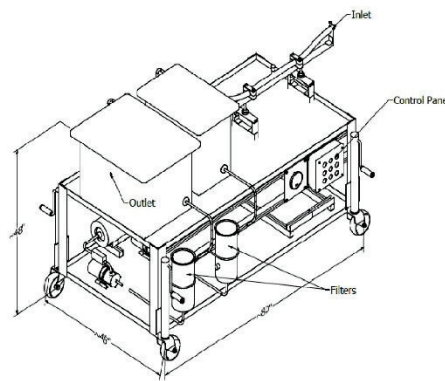
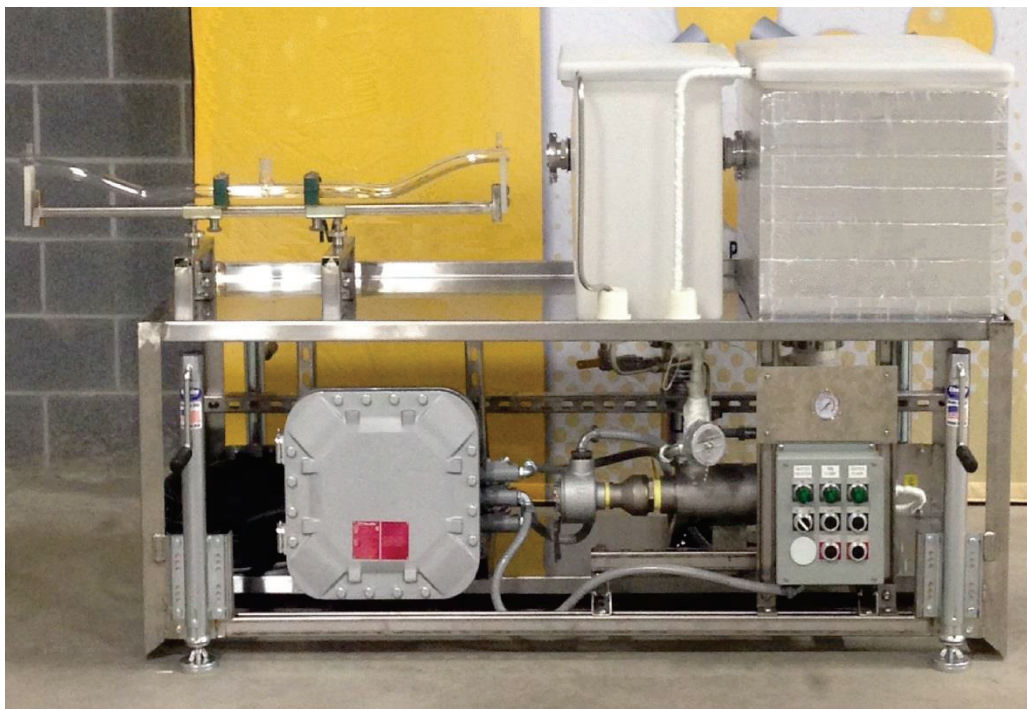




Creative Engineers Inc.

Flexible Tubing Etch Cart

Customer Solution



The Challenge

A world leader in fluoroplastic tubing products needed an extruder-to-reel solution to provide continuous, high quality fluoropolymer etching of many products in their portfolio. Newly extruded tubing must pass through the Etch Cart and be properly etched to allow for any number of additional downstream processes to occur. The solution needed to be simple and easy to use and maintain, and be compact to economize on floor space. Operations required that the design minimize the use of etchant, and generate minimal waste. An optimum design would consist of an etching chamber, an alcohol wash, and a heated water wash, with an additional feature that the etching chamber be adaptable to a variety of large and small tubing diameters.

The Solution

Creative Engineers, Inc. responded with the Tubing Etch Cart product shown above. It features a proprietary-designed glass tube etching section, quickly and easily removable to change sizes or for cleaning and maintenance. The design ensures even contact with the etchant while exerting minimal resistance on the tubing travelling through the system. Operating costs are minimized with a tube geometry that uses only a small amount of etchant, with minor carry-over to other parts of the process. Waste is greatly reduced by using carbon filters for the alcohol and water baths with flow proving switches to protect the pumps if there is a filter becoming clogged. The hot water rinse portion is automatically temperature controlled with a redundant over-temperature safety feature. The cart is optimized to work with Creative Engineers' line of Fluoropolymer Etchants such as C Etch-A or C Etch-B. Options for the product include polished stainless steel tanks, air knives, upgraded filter housings, rinse tank level indicators, and more.