

*high efficiency ~ simple package ~ proven reliability*

# APU®

## Acid Purification Unit

Eco-Tec's APU® system has become a standard in several metal processing industries including aluminum anodizing and stainless steel pickling. Hundreds of Eco-Tec APU® systems are installed in over forty different countries around the world. Today, almost every new factory built for these operations incorporates an APU® due to its highly efficient and fully automated method to purify and recover inorganic acids.

### Why Use an APU®?

Large amounts of mineral acids - including sulfuric, hydrochloric, nitric, phosphoric and hydrofluoric - are used in both the primary extraction of metals as well as their subsequent finishing and treatment processes. Industries such as steel pickling, aluminum anodizing, and etching use such processes. Eventually these acid baths become spent due to high metal content and need to be replaced even though there is still an appreciable quantity of free acid that can be used.

The APU® addresses this issue by continuously purifying these acid solutions of the metal contaminants. The result is a reduction in acid purchases, neutralization costs, bath dumping and reformulation. The benefit is a consistent and predictable bath operation at all times.



### How Does the APU® Work?

The APU® employs an ion exchange technique known as Recoflo® (reciprocating flow ion exchange) that incorporates specific resins that have the ability to sorb acids from solutions, while excluding metallic salts of those acids (Figure 1). The process is reversible in that the acid can be readily desorbed from the resin with water.

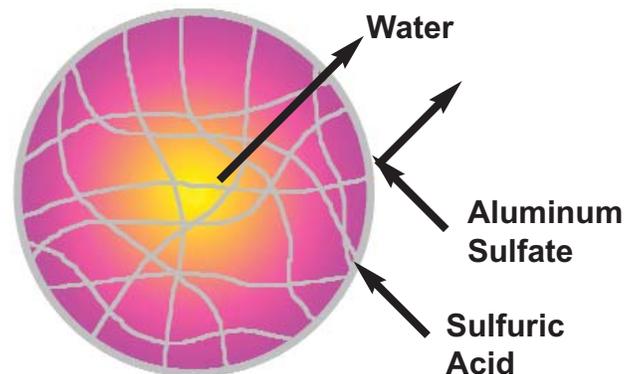


Figure 1: Eco-Tec APU® Resin

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Features	Benefits
Continuous recovery and recycling of spent acids	Pollution abatement
90% of a spent acid solution can be recovered and reused	Resource recovery
Minimal energy consumption for operation	Energy conservation
Reduced pickling times and improved surface finish consistency	Increased productivity and quality
Minimal space requirement due to small footprint equipment	Reduced line size

## Models

<b>APU®</b>	Designed for most acid recovery and separation process needs	
<b>AnoPur™</b>	An APU® specifically designed for aluminum anodizing operations	
<b>MicroPur™</b>	An APU® specifically designed for smaller operations with the same efficiency	

**Contact Eco-Tec For More Details.**

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