



The Electropolisher Series

Electropolishing Series

E782-EPWB

Integrated Electropolishing System

**Single Console—Multi Tank
Electropolishing System**



**Electropolishing “wet bench”
system with electropolishing cell
and post processing ultrasonic
tanks**



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Features & Specs



Electropolishing Procedure

Pre-cleaning

1. *Prepare Metal (Pre-cleaning). Ultrasonic cleaning is an excellent way to remove oils, debris and other impediments that will distort the polishing results*

E782-EPWB Unit

2. *Electropolishing Process*
3. *Post Cleaning (Rinsing and drying). Important to remove the residual electrolyte and clean and rinse the part. Ultrasonic cleaning can again be used for this step, as well as warm air drying*



E782-EPWB Multi-Tank Electropolish System

Stainless Steel Console Cabinet:
24" x 83" x 36" high (42" with casters)

EP Tank:

- 18" x 12" (customizable depth)
- DC Power: 50, 100 & 200 amps
- Rectifier with selectable constant voltage or constant current (amp) control.

Post EP Cleaning Tanks

- 12" x 12" x 12"H
- 600 watts ultrasonic
- Digital timers
- Digital temperature controllers
- Rinse tanks are overflow cascading ultrasonic rinses

Esma brand chemistries which can be used in system

- E972 SS Electropolish — Extremely mild stainless steel solution for 300 series alloys
- E6040 SS Electropolish — Aggressive stainless steel solution for all SS alloys
- E272 Esma Brite — Extremely mild solution for cobalt chrome alloys
- Esma DeOx 964—Citric Acid Solution for removal of sulfates and phosphates after EP process

Electropolishing, sometimes called reverse electroplating, is an electrochemical process which polishes a metal surface by removing microscopic amounts of material from the work piece.

The process is of interest because of its ability to enhance the material properties of metal parts in addition to changing their physical dimensions.

Electropolishing offers a number of benefits to metal surfaces such as:

- Removal of impurities and improvement of corrosion resistance of a metal surface. (PASSIVATES)
- Improvement of the appearance of a metal surface (HIGH LUSTER)
- Improvement of the surface resistance to stain and bacteria.
- The microstructure of the surface can be more accurately inspected.
- Removal of surface defects improving the strength of certain metals.

ESMA has developed electropolishing solutions for stainless steel, chrome-cobalt, and high nickel alloys and has experience with electropolishing of small parts in the many Industries—including medical device, aerospace and dental/orthodontic. Anode holders and cathodes are made of inert materials and are utilized to prevent contamination of the electrolyte bath.

Model E782-EPWB houses an electropolishing tank, dip tank, ultrasonic acid (citric) tank and 2 ultrasonic rinse tanks in a self-contained console unit, for a complete polishing system.



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