



The Electropolisher Series

Electropolishing Series

E399-EPC Integrated Electropolishing System

**Single Console—Electropolishing
System**



**200 amp Electropolishing console
with adjacent rinse water tanks**



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Features & Specs



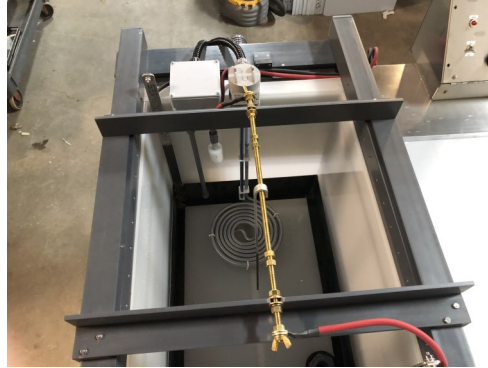
Electropolishing Procedure

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

E399-EPC Unit

2. Electropolishing Process
3. Dragout rinse
4. Ultrasonic Rinse.



Esma Model E399-EPC:

200 amp electropolishing tank console
Console Cabinet: 48" x 34" x 36" high
Power requirements: 120/208 3PH (Y)

EP Tank:

- 18" x 12" x 18" (16 gallon)
- DC Power: 200 amps DC
- Rectifier with selectable constant voltage or constant current (amp) control.

Dragout Rinse Tank 1

- 12" x 10" x 12"H
- Dragout tank with inlet solenoid and overflow

Ultrasonic Rinse Tank 2

- 12" x 10" x 12"H
- 300 watts ultrasonic
- Digital timers
- Digital temperature controllers
- Ultrasonic rinse tank has overflow cascading rinse

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
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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 E399-EPC houses an electropolishing tank, dip tank and ultrasonic rinse tank in a self-contained console unit, for a complete polishing system.



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