



The Automatic Passivation Series

## Automated Passivation Equipment



**Completely closed, modular system  
incorporating integrated heated  
storage containment tanks with a  
self-contained, automatic ultrasonic  
washer**



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# Features & Specs



## Passivation Process: (50—60 minutes)

1. Ultrasonic clean (alkaline)
2. Ultrasonic Rinse from Storage
3. Ultrasonic Passivation
4. Ultrasonic Rinse from Storage
5. Final Ultrasonic Rinse from Rinse Water Source
6. Dry

\*\* User defined programming available

## Esma brand chemistries which can be used in system

- Esma Metal Wash—Mildly alkaline cleaning detergent
- Esma General Purpose Cleaner—Alkaline cleaning detergent
- Esma DeOx 964—Citric Acid Passivation Solution (meets ASTM 967-01 Standard)



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ESMA's automatic ultrasonic passivation systems provide a unique and closed process of cleaning-rinsing-passivating-rinsing and drying all at the push of a button. Easily described as a one-of-a-kind process, these systems are designed and built to provide medical device manufacturing operations an alternative to outsourcing their parts passivation by incorporating this modular equipment into the manufacturing process. These systems do not require much floor space and provide great cost savings when compared to other automated robotic passivation systems.

*\*AUTOMATED PROCESS MOVING FLUIDS NOT PARTS\**

The process will easily integrate into virtually any manufacturing line. By moving fluids in and out of a single high-powered ultrasonic cleaning tank, the system eliminates the need of an operator moving parts through a series of baths, and reduces interaction with dangerous chemicals. Modular, covered, heated storage tanks are integrated with the system to allow re-use of chemicals and rinse water. PLC controlled monitoring systems integrate with company servers through standard ethernet connectivity to provide data collection for process steps and are an important upstream factor for ensuring a validated state. Durable stainless steel construction, an unconditional 1-year warranty, and industry-recognized customer service make ESMA automated ultrasonic systems a cost saving step for cleaning and passivation in medical device production. chambers and operators are not exposed to hazardous materials.

The passivation system is sold in two system capacities. The different system components listed below would have the following ratings and dimensions:

### E992 - 18 Gallons System

- Washer: 35" x 25" x 45"H Cabinet  
Tank: 24" x 14" x 12"D
- Ultrasonic wattage: 1,800  
Dryer: 3,000 watts

### 30 Gallon Integrated Storage Tanks

- Storage Tanks: 16" x 30" x 30"H  
1,400 watts, temperature controlled heat

### E700 - 9 Gallons System

- Washer: 35" x 25" x 45"H Cabinet  
Tank: 18" x 12" x 10" D
- Ultrasonic wattage: 900  
Dryer: 3,000 watts

### 15 Gallon Integrated Storage Tanks

- Storage Tanks: 16" x 20" x 30"H  
900 watts, temperature controlled heat

## System Flow Diagram

