



The Automatic Passivation Series

Automated Ultrasonic Series

Automated Passivation Equipment

**Single
Process
Unit**



**Dual
Process
Units**



**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 Rinse Storage#1
5. Ultrasonic Rinse from Rinse Storage#2
6. Final Ultrasonic Rinse from Bldg. Water Source
7. 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)

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 can be configured as a single E992 process unit or a dual E992 process system—each using a single set of storage tanks.

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: 22" x 30" x 30"H
- 2,000 watts, temperature controlled heat

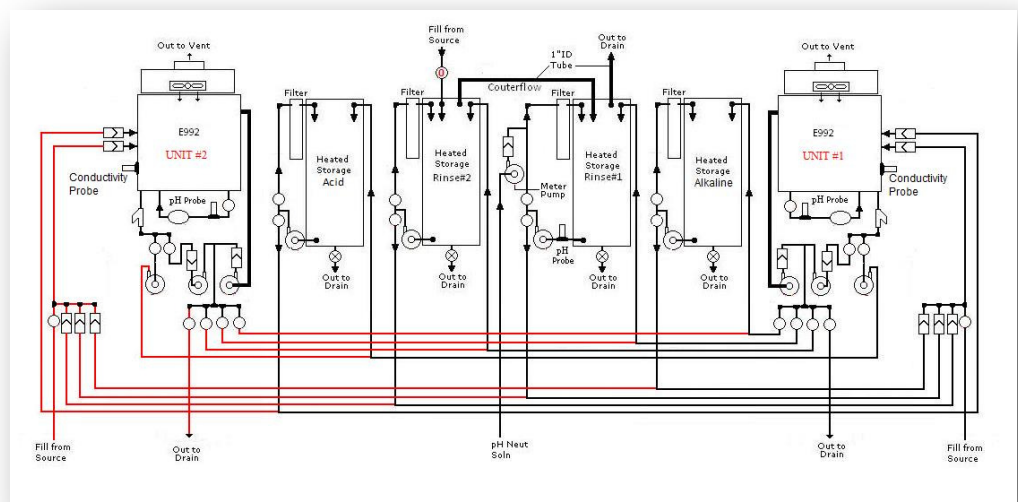
Dual E992 - 18 Gallons Systems (2 units)

- Washer: 35" x 25" x 45"H Cabinet/each
 - Tank: 18" x 12" x 10" D
- Ultrasonic wattage: 1,800
Dryer: 3,000 watts

60 Gallon Integrated Storage Tanks

- Storage Tanks: 28" x 38" x 30"H
- 3,000 watts, temperature controlled heat

System Flow Diagram (Dual)



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