



World Class Cleaning Solutions

CASE STUDY

Manufacturer of high-vacuum process vessels used in semiconductor production equipment.

Vessels are used for thin film deposition, precision surface processing (PSP), ion beam sputtering (IBS) and many other vacuum surface coating/PVD treatments.

Customer Details:

Product: AquaVantage® 815 GD

Parts Cleaned: Large parts of the process vessels, stainless steel.

Removing What Soil(s): Particulate and low-level ionic contamination, very minimal oil.

Why are parts degreased:

- Reducing ionic contamination on the part surface.
- Satisfying testing of the vessel parts for outgassing performance (test performed by a 3rd party lab). The testing determines quantity and identity of organic material embedded in the metal surface outgasses under vacuum. Too large a quantity in the test means the final processing equipment will have difficulty in pulling a vacuum to very near full vacuum. 815 GD has performed very well in all these tests, suggesting both good removal of contaminants, and absence of detergent residue itself detected in the test).

Customer Process: In place for 10 years

BHC Implemented Process:

Chemistry: AquaVantage® 815 GD

Concentration: 10%

Temperature: 131°F (55°C)

Equipment: 2 separate wash processes, 200L ultrasonic, 4000L immersion.

Rinse: 3 stages: City water, DI water and final DI water. All rinses at approximately ambient 22 – 25°C. Final rinse is controlled at minimum 4 megaohm resistivity achieved by a closed-loop DI water system (continuous circulation of water through DI beds).

Results: Good consistent cleaning.

Reason BHC Won: Excellent outgassing performance and cleaning of parts. Recommendations by their customers, US base manufacturers of semiconductor application equipment.