

Application: Cleaning stainless steel and aluminum aircraft parts	Date: June 22, 2021
Serial number: 1036-1121	Machine model: Aquamaster CB-1600E
Machine type: Conveyorized Belt	Industry: Defense and Military

Customer summary:	Aerospace manufacturer requiring consistent, high-quality parts cleaning and drying.
Item to clean:	Aircraft aluminum, stainless steel, composite, titanium, and inconel. Largest part 24" long x 14" wide x 14" high, smallest part 1" x 1", and baskets.
Contamination:	Cutting oils, soluble coolant, vibratory residue, grease, lapping compound, chips
Cleanliness requirement:	Visually clean and oil break free. Spot free was also requested, for spot free a final rinse with high quality water like DI will be required.
Dryness requirement:	100% dry is requested.
Production rate:	As need...Conveyor speed 4-5 feet per minute.
Process parameters:	Wash, rinse and heated blow-off.

Customer background:

The customer is a global aerospace and defense company producing advanced aircraft, missile systems, electronics, and space technologies. Its manufacturing operations demand highly controlled, repeatable processes to meet regulatory, performance, and quality standards across aluminum, stainless steel, titanium, inconel, and composite components.

Challenge:

The customer needed to remove cutting oils, coolants, grease, chips, and vibratory residues from complex aerospace parts of varying sizes while achieving visually clean, oil-break-free, and fully dry results. The process also required consistent throughput, reliable filtration, and the ability to support potential spot-free finishing for sensitive components.

Solution:

Alliance Manufacturing provided an Aquamaster CB-1600E conveyorized aqueous cleaning system featuring heated wash, heated rinse, and heated blow-off drying stages. The stainless-steel construction, micro-filtration, programmable PLC controls, and high-velocity heated drying ensured consistent cleanliness, complete drying, and production flexibility aligned with the customer's aerospace quality requirements.

Cleaning Method:

A conveyorized aqueous process with heated wash, rinse, and blow-off drying removes oils and contaminants while ensuring fully dry parts.

