# Application Case Study

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| **Application:** | Cleaning Multiple Steel Tank Heads | **Date:** | 3/13/24 |
| **Serial number:** | 1112-0125 | **Machine model:** | Aquamaster CB-5614F |
| **Machine type:** | Conveyorized Belt | **Industry:** | HVAC/Plumbing |

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| **Customer summary:** | Innovative coatings and technology solutions provider |
| **Item to clean:** | Tank Heads |
| **Contamination:** | Drawing lubricants and tapping oils |
| **Cleanliness requirement:** | Washed Off |
| **Dryness requirement:** | Blown Off |
| **Production rate:** | 220 per hour each |
| **Process parameters:** | Wash, Blowoff |

**Customer background:** A company specializing in innovative coatings, film laminations, and functional technologies. Their manufacturing process leaves behind drawing lubricants and tapping oils that must be removed prior to the next production stage.

**Challenge:** The customer needed a cleaning system capable of handling multiple tank head sizes at high throughput while consistently removing heavy oils and lubricants. In addition to cleanliness, the parts needed to exit the system dry enough for downstream handling, packaging, or additional manufacturing processes. The system also needed to support reliable operation with easy maintenance access and consistent conveyorized processing.

**Solution:** Following initial testing at Alliance and customer discussions, we proposed an Aquamaster CB-5614F conveyorized cleaning system with wash and ambient blowoff zones. The system features a 56" wide stainless-steel conveyor with dual lanes, adjustable speeds from 1–12 feet per minute, a 36" wash zone, and an 18" blowoff zone. Standard features such as pull-out spray headers, hinged clean-out doors, removable lift-off canopies, solution level controls, and height-adjustable air knives help maximize uptime and simplify maintenance. Optional features such as chemical injection, oil skimming, oil coalescing, and micro-filtration can further improve bath life and cleaning consistency.

**Cleaning Method:** The cleaning process uses a heated aqueous spray wash followed by ambient air blowoff. Tank heads travel through the wash chamber on a stainless-steel flat wire conveyor where spray nozzles positioned above and below the belt remove drawing lubricants and tapping oils. The wash stage uses a 500-gallon solution tank, electric heat up to 140°F, and a 5 HP pump delivering approximately 98 GPM at 30 PSI. After washing, the parts move through an ambient blowoff zone with upper and lower stainless steel air knives to remove residual solution from the surfaces.

Alliance Manufacturing, Inc.

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