Application Case Study

Application:	Cleaning and Part Marking System for Manufacturing Cell	**Date:**	11/19/20
Serial number:	970-0220, 971-0220	**Machine model:**	Aquamaster CB-800E (both machines)
Machine type:	Conveyorized Belt	**Industry:**	Automotive

Customer summary:	Manufacturer of bearings and constant velocity joints
Item to clean:	Steel constant velocity (CV) joints, varying sizes
Contamination:	Cutting oils, soluble coolant, chips
Cleanliness requirement:	Visually clean
Dryness requirement:	(1) dry; (2) residual moisture acceptable
Production rate:	1 part every 20-30 seconds
Process parameters:	(1) Wash, heated blow-off; (2) Wash, ambient blow-off

Customer background:

The customer is a large worldwide manufacturer of precision industrial and automotive equipment, including bearings, constant velocity joints, and other components.

Challenge:

The customer needed a washing system for their manufacturing cell which would clean, dry, and mark individual parts for production.

Solution:

Alliance provided two Aquamaster CB-800E machines for the customer's manufacturing cell, to be used both before and after parts go through a heat induction system. The parts first are manually placed onto a rotary accumulating conveyor on the load end of machine #1 and are released at timed intervals into the wash zone. Machine #1 utilizes a heated blow-off so that the parts are completely dry before exiting. At the end of the conveyor on machine #1, a pneumatic transfer device pushes the part onto a small table where it is rotated and scanned for verification. Parts are then picked and placed by a robot onto the customer-supplied heat induction system within the manufacturing cell. Upon completion, a robot again picks the parts and places them onto the conveyor of machine #2. Before entering the wash zone, parts are stopped by a pneumatic device and marked for identification. Parts then go through a wash and ambient blow-off. Finally, parts are again pushed onto a rotary table to be scanned for verification at the end of washer #2.

Machine #1

Accumulating table – Machine #1

Machine #2

Part marking device – Machine #2