

## Wash Process, Part Cleanliness KPI Monitoring Service

**Industry:** Hydraulic Valve Manufacture    **Location:** North Carolina    **Date:** March 2018

### Problem:

- Process Capability:** Our client had been struggling to maintain their customer defined part cleanliness specification (particles must be smaller than 500 microns) for parts being washed in Washer 1 and 2. This resulted in multiple customer complaints, rejections and formal corrective action plan requests (~1 per month). As our client lacked the internal resources, systems or expertise to conduct a proper root cause evaluation Zimmark was asked to assist and then implement the sustainable corrective actions necessary to minimize risk of re-occurrence.

### Objective:

- Zimmark to determine the specific washer KPI's that impact part cleanliness and develop the controls/methods required to improve process capability to meet their max. 500 micron particle requirement.
- Initial KPI's identified over and above the existing control plan requirements:
  - RI Concentration vs. Titration Concentration of the sump (Soluble's = %)
  - Total Dissolved Solids levels in the sump (TDS = ppm)
  - Total Suspended Solids (TSS = ppm)
  - Millipore Test of the part (Millipore = mm)
  - # Parts Washed / Day (Parts = pcs)
  - Filter Change (Filter = each)
  - Clean Out (Clean Out = each)
- Once correlating KPI impact to part cleanliness, Zimmark was to then implement a cost effective ongoing management service to sustainably maintain process capability over time.

### Results:

- Using the data collected during the evaluation process from the months of December through February, Zimmark was able to identify the specific KPI's that impacted process cleanliness and capability. Using this data we were able to enhance washer specific control plans designed to monitor those KPI's at appropriate test frequencies while making the necessary corrective actions to keep the process capable. Since implementing the new control plans in mid-January, both Washers 1 and 2 have demonstrated improved process capability, without exceeding their max allowance even once.
- In an effort to minimize cost, KPI's that did not impact the desired outcome were either eliminated altogether, or their test frequency was extended to reduce overall program costs.
- As a result our client was able to present the new operating control plan and KPI's as well as the validation data to their customer allowing them to close out their corrective action.
- Zimmark's daily compliance score card ensures that the new standards are managed and maintained over time and can be fully auditable by their client on-line 24/7.

