

Automotive OEM Reduces Paint Shop Labor and Bag Filter Usage While Improving Overall Process Reliability and Quality



ZGF Maggie MG2600, 4-Station with Smart Drum PLUS (SD+)



Weld Balls and Metal Fines Captured by Maggie and Removed by SD+

Customer Challenge

The quality of the paint finish is one of the most critical aspects of the automotive manufacturing process. Finish quality and long-term corrosion protection impact JD Power ratings, warranty claims, and ultimately vehicle sales.

An automotive manufacturer determined it must keep the paint treatment system cleaner to produce higher quality vehicles.

Tramp metal contamination (steel fines, weld balls, etc.) is introduced into the paint shop from the body shop. The current filtration equipment could not effectively remove the metal fines and weld balls.

If not effectively removed, these metal contaminants can result as surface finish defect.

ZGF Solution

ZGF worked with paint shop personnel to implement a solution. Two ZGF 1,000 gpm Maggie automatic, in-line magnetic separation systems were installed in Pretreatment Stage #1. The ZGF Maggie systems were installed in existing circulation loops. No additional pumps were required.

Results

- The Maggie system removed 22 pounds of steel fines and weld balls per day.
- Implemented finer filtration in every stage
 - ✓ Stage 1: 100 μ reduced to 25 μ
 - ✓ Stage 2 & 3: 100 μ reduced to 25 μ
 - ✓ Stage 4, 8 & 9: 50 μ reduced to 5 μ
- Reduce Bag Filter Change Frequency
 - ✓ Stage 1: 3 times Daily to 3 times Weekly
 - ✓ Stage 2, 3, 4, 8 & 9: 2 times Daily to 1 time Weekly
- Reduced Sanding Deck Labor
- 6% Improvement – 1st time through Finesse
- ❖ Improved Pre-treatment System Cleanliness
- ❖ Reduced Labor and Maintenance
- ❖ Reduced Total Operating Costs
- ❖ Improved Process Reliability & Quality