Automotive Manufacturer Reduces Total Operating Cost of Engine Block Honing Operation

The Most Advanced, Automatic, Non-Disposable Liquid Filtration System

ZERO GRAVITY FILTERS

Metalworking / Honing

Internal view of Maggie prior to purge to remove contaminants

ZFG Maggie MG1200, 2-Station with Smart Drum PLUS

Customer Challenge:

A Japanese automotive manufacturer was incurring high operating costs in their engine plant in trying to maintain the honing oil within the cleanliness specification. These specifications are set forth in the company's production and quality instructions. The problems were due to small fines that were passing through the existing media bed filtration system and accumulating in the oil. The overall cost of replacing the oil including labor plus the time to dump and recharge the system were resulting in operational inefficiencies. The frequent dumping of the oil was resulting in excessive waste and CO2 contribution which do not comply with the company's environmental stewardship guiding principles.

Our Solution:

ZGF worked with plant engineering to implement a solution. It was determined that improving the filtration would eliminate the fines that were the source of the problem. ZGF provided a Maggie MG1200, 2-Station automatic magnetic separator with a Smart Drum PLUS fluid recovery system. The Maggie automatic magnetic separation system was installed in-line to ensure the cleanest oil was delivered to the honing operation. Maggie has the capability to remove most magnetic particles 5 micron and larger, as well as particles as small as 1 micron. The ZGF Maggie system was designed to provide full, uninterrupted flow of oil to the hone.

Results:

- Satisfied process requirements by maintaining 8 µ particle count below 50 ppm
- Eliminated interruption in oil flow to the honing operation
- Eliminated the periodic flow of partially contaminated oil to the honing operation.
- System payback – Less than 3 months
- Reduced dump/recharge frequency and annual cost for oil & cleaning services by up to 70%
- Reduced waste disposal & CO2 contribution by up to 70%