

Engine Manufacturer Implements Automatic, In-line Magnetic Separator to Improve Quality



Metalworking / Machining



Internal View of Maggie prior to purge to remove contaminants.



Maggie MG2600, 4-Station, 1,000 gpm, in-line magnetic separator with Smart Drum Plus fluid recovery system

Customer Challenge:

A manufacturer of heavy-duty diesel engines was experiencing quality issues due to chips/fines depositing on the face of the head. During testing, these chips/fines would leave indentations or “dings” on the face of the head. These “dings” were not acceptable to the customer and required rework and/or were scrapped. The “ding” rate exceeded 20%.

Our Solution:

ZGF worked with the chemical manager and plant personnel to implement a solution. ZGF and the chemical manager determined that improving filtration would eliminate the fines that were the source of the problem. ZGF provided a Maggie MG2600, 4-Station magnetic separator with a Smart Drum PLUS fluid recovery system. The ZGF Maggie has the capability to remove most magnetic particles 5 micron and larger, as well as small as 1 micron. The ZGF Maggie system was designed to provide side stream filtration of up to 1,000 gpm.

Results:

After installation of the ZGF Maggie and a few other process changes, **the “dings” were virtually eliminated**, and the coolant was visibly cleaner.

Even with only a portion of the machining coolant passing through Maggie, the 8-micron dirt count is maintained at approximately 100 ppm.

Cleaner coolant is consistently delivered to the machining process resulting in better part quality and lower operating costs