

THERMOJET A WIN FOR ETHYLENE PLANT

KEEPS PRODUCTION GOING FOR MONTHS DURING COMPRESSOR SEAL FAILURE

PROBLEM

A centrifugal compressor in an ethylene plant in Spain was having an issue with its mechanical seals working properly, causing oil leakage of roughly 250 gallons per day. This oil then became contaminated with process gas, which then contaminated the remainder of the oil reservoir and lowered the flash point and viscosity of the oil to unacceptable operating levels. To overcome the contamination, the plant had started removing the contaminated oil and replacing it with fresh oil every day leading to significant oil consumption and cost. They needed a better solution and looked to the expertise of Colfax Fluid Handling Reliability Services to help.



SOLUTION

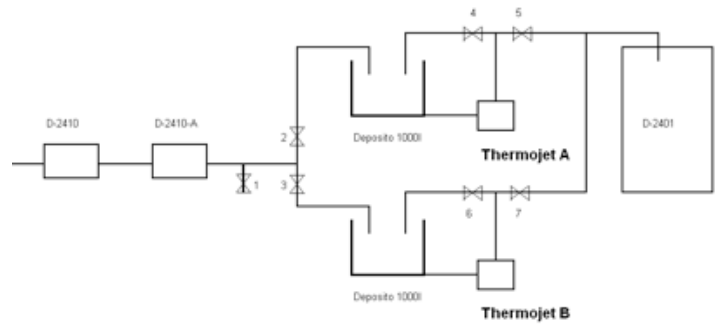
The compressor OEM had recommended a non-scheduled turnaround to resolve the problem, which would lead to significant losses in production at a time when all ethylene plants in Spain were working at 100 percent capacity. This was unacceptable to the plant. Once presented with the issue, CFH Reliability Services felt confident in the ability to degas and purify the oil being lost and make it available for reuse, all while keeping the plant online.

First, a ThermoJet® H4500 was attached to the main tank with another unit working in the auxiliary tanks. Another smaller model, ThermoJet H2500, was also utilized and was directly connected to a degasser to assist the purification process further.

As part of the process, a procedure was established where the first auxiliary tank was minimally filled with oil before the ThermoJet unit was started. Once that tank was full, the other auxiliary tank followed the same process to keep the ThermoJets running continuously to stabilize the flash point and recover virtually all the leaking oil.

RESULTS

The expertise of the CFH Reliability Services team and the ThermoJet Oil Purifiers allowed for the reuse of the lubricant, saving the plant nearly 24,000 gallons of oil, equal to roughly \$150,000 per month, until the sealing issue could be addressed. This solution provided the plant the opportunity to continue to operate for 7 additional months until the next planned turnaround without any costly downtime.



Distribution diagram of auxiliary tanks and ThermoJet oil purifiers

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