



Oil Cooling & Filtration Unit Saves a Critical Asset in a Pharmaceutical Plant

Customer of IJssel Predictive Maintenance | Pharmaceutical & Antibiotics Manufacturing | The Netherlands



The Challenge

After pushing its machinery to capacity for several years, a leading pharmaceutical manufacturer determined that excessively high temperatures in a critical “separator” centrifuge were continuously causing rapid oil deterioration that led to damaged bearings and excessive maintenance. Failure was imminent, but the company wanted a permanent solution, not an emergency standby unit.

The Solution

The customer was already using IJssel Predictive Maintenance for regular oil analysis, so now the management board requested a thorough redesign of the current system—a solution that would necessitate mechanical and electrical changes. By combining vibration and thermal sensor data with the used oil reports (showing cleanliness levels as bad as ISO 27/25/19), IJssel concluded that the wet sump could use a bypass oil cooling and filtration system. IJssel’s ICML-certified engineers designed a custom, rig-mounted unit to fit the limited space next to the separator, and they installed it during a planned maintenance outage. Among other features, the unit has an on-off temperature controller with high alarm output, a clogging switch to warn of filter status, a flow switch, and a buffer tank to ensure a consistent feed.

The Results

The results have been promising. Current cleanliness levels have been reaching 19/17/14 (ISO 4406-15) and below, while the gear oil temperature is controlled from approximately 90°C to a preferable range of 40 to 60°C. Downtime and overhaul costs have been reduced to a minimum; for example, following installation of the bypass, the separator ran with no problems for at least its first six months on the same oil. Today, the separator is also monitored with vibration sensors by IJssel’s own UpTimeWorks condition monitoring system. Vibration is significantly reduced with the cleaner and cooler oil while temperature remains monitored online.

“Analyses showed that oil was deteriorating at an increasingly high level. Oil changes alone were not enough to prevent the eventual failure of this asset.” -- See case study at <https://info.lubecouncil.org/success-stories/>