

EARLY DETECTION PREVENTS DOWNTIME ON CRITICAL TANK FARM PUMP



AVT Reliability® supports this global life sciences manufacturer in creating a more reliable and predictable plant operation through monthly condition-based maintenance inspections. Services are supported by the Machine Sentry® platform, combining on-site data collection with remote diagnostic expertise.



THE CHALLENGE

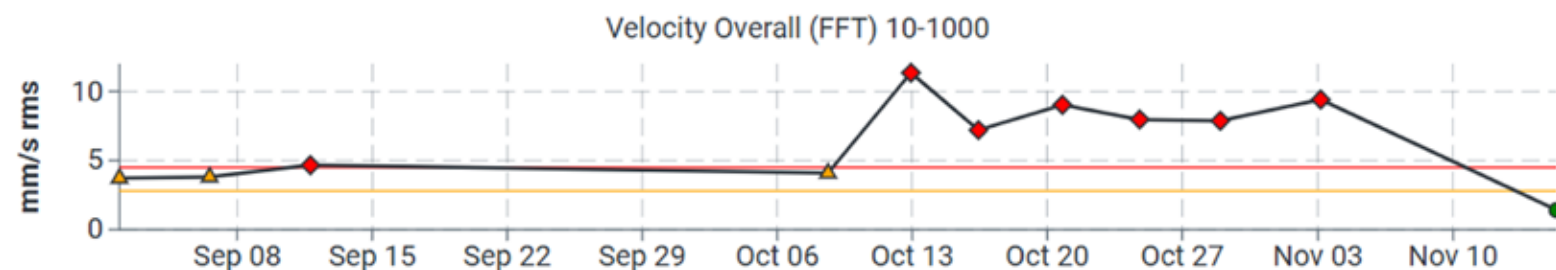
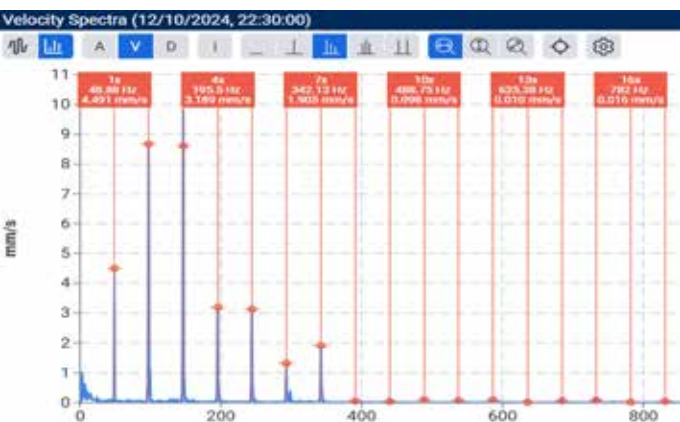
The monitored asset was a pump located in the tank farm area, responsible for transferring chemicals from storage to the production facility.

Failure of this unit would result in halted production, high financial loss, and costly delays. Additional risk included limited spares availability and unplanned maintenance labour, further increasing the potential for disruption.

OUR APPROACH

AVT Reliability® has delivered condition monitoring services at this site since early 2022. Monthly visits are supported by Machine Sentry® mobile sensors and a network of fixed sensors linked to six gateways, enabling 24/7 data capture across critical assets.

Data is analysed both on-site and remotely by AVT's diagnostics team, with findings logged and tracked in Machine Sentry®. This approach ensures early identification of developing faults, allowing corrective actions to be planned and executed without impacting production.



“ This was a textbook example of vibration analysis preventing unnecessary downtime. Early diagnosis meant the site could schedule maintenance without disrupting production. ”

OUR FINDINGS

During routine monitoring in October 2024, AVT engineers observed elevated vibration levels across the pump. Velocity readings exceeded 11 mm/s, breaching alarm thresholds.

Spectral analysis identified strong synchronous peaks at running speed, indicative of rotating looseness, with additional signs of possible misalignment.

AVT raised an Action Note via the Machine Sentry® platform and advised the site contact to carry out a laser alignment inspection and investigate coupling condition.

THE SOLUTION

Following AVT's recommendation, the client carried out a laser alignment check, which confirmed that the alignment was outside of acceptable tolerances.

The coupling inserts were also found to be worn. Site technicians replaced the coupling inserts and completed a precision laser alignment to bring the asset back within specification.

Corrective works were completed during planned downtime, avoiding any disruption to operations. The early intervention enabled by vibration monitoring meant that the fault was fully addressed before escalating into a failure event.

FOLLOW UP

During the November 2024 site visit, AVT confirmed a significant drop in vibration levels. Velocity readings had returned to <1.5 mm/s, confirming the success of the corrective action.

Had this issue gone undetected, the asset would have continued to degrade, leading to increased running costs, accelerated component wear, and ultimately an unplanned outage. The client avoided significant maintenance and production costs by taking early action.

AT A GLANCE

INDUSTRY: Medical Manufacturing
 PROCESS: Chemical transfer – tank farm operations
 EQUIPMENT: Pump unit
 PRODUCTS: Machine Sentry® sensors
 SERVICES: Condition-based vibration monitoring and diagnostics

Need help?

Contact our experts

AVT Reliability Ltd Head Office
 Unit 2, Easter Court, Europa Boulevard
 Warrington, Cheshire, WA5 7ZB

W: avtreliability.com

T: +44 (0)161 486 3737

E: enquiries@avtreliability.com