

Case study

Mixer



SAFETY

The Ca-Zoom HD & Mentor Visual iQ eliminated the need for confined space entry and decontamination of both the asset and the inspector



DATA QUALITY

High-definition imaging and precise 3D measurements allows inspectors to find defects and provide accurate information



SAVINGS

Combination of both systems reduced administrative efforts for entry permits and safety protocols, ultimately minimizing downtime and process costs

Client Expectations

The customer sought a safer, cost-efficient alternative for inspecting chemical mix tanks. With standardized tank sizes across plants, they needed a scalable solution that ensured full asset coverage with precise, reliable data—especially for measuring the gap between the agitator column and support bearing.

Previous inspections required human entry into the tank, where an inspector manually measured the gap in a non-ergonomic position. This process was not only physically demanding but also posed significant safety risks.

Additionally, decontamination of both the asset and the inspector was required, resulting in high costs and downtime.

To address these challenges, the customer engaged the Waygate Team for a Proof of Concept on one mixer, aiming to establish a new, safer inspection standard that eliminated confined space entry while improving data accuracy and overall efficiency.

Our Solution

The Ca-Zoom HD system integrated advanced technologies to enable safe, efficient inspections of confined assets. Its full HD camera, featuring 30x optical zoom, was mounted on extendable fiber poles and deployed through the manway using an adjustable tripod. Combined with the camera's Pan-Tilt functionality, this setup allowed inspectors to access all critical areas within the tank, including behind the agitator column blades.

At the client's request, the team inspected beneath the agitator blades for corrosion or defects and measured the gap between the agitator column and support ring. By combining the Ca-Zoom and Mentor Visual IQ systems, inspectors captured clear visuals of the tank bottom, welds and the underside of the blades and obtained precise measurements of the gap. This dual-system configuration provided critical vantage points that were previously difficult to achieve with traditional inspection methods.

The Outcome

The primary goal of the mixer inspection was to assess overall asset integrity, measure the air gap and identify potential corrosion or defects that could pose immediate risks. Additionally, the customer wanted to determine whether data from the Ca-Zoom and Mentor systems would be sufficient for routine preventative maintenance.

Waygate successfully delivered these results. The combination of extended fiber poles and an adjustable tripod allowed for a comprehensive inspection using a single configuration. The entire process, including system setup, was completed in under an hour, with all necessary perspectives and areas easily accessed.

The client confirmed that Waygate's systems provide a viable alternative to traditional confined space entry. By utilizing the Ca-Zoom, inspectors remained safely outside hazardous chemical tanks, reducing risk while also saving time and costs. This solution not only improves efficiency but also enhances workplace safety, reinforcing the value of remote inspection technology.

