

Confined Space Entry in Oil & Gas

Application Note

Summary

Verification of vessel integrity is paramount in ensuring the safety and regulations are met in oil and gas facilities. Visual inspection can help ensure the safety of the people inspecting while enabling a quicker and more accurate inspection. Most confined space entries for pressure vessels today are for Visual Inspection to confirm the absence of any potential defects, anomalies, or corrosion.

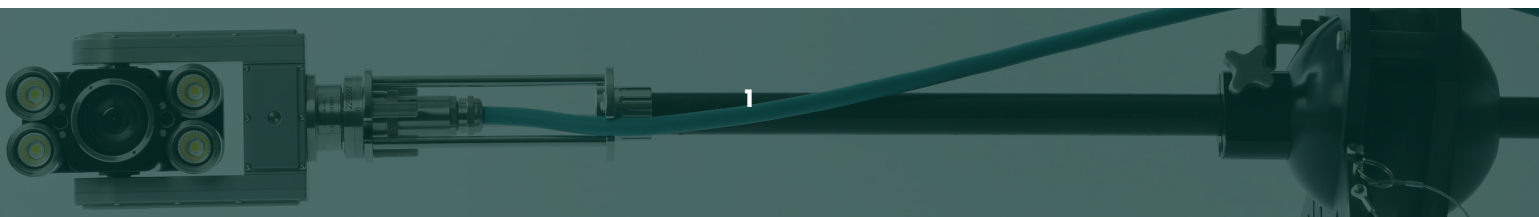
Challenge

Pressure vessels in the oil, gas, and petrochemical industries are numerous. Due to the nature of their industries, pressure vessels typically contain various materials that can be toxic, flammable, or corrosive and their safety needs to be ensured. The safety of vessels also affects the facility, personnel, and regulatory environments. It is imperative that we find ways to ensure that vessels are safe for operations.

To ensure vessel safety, it usually requires manned entry of assets to verify the integrity; This is often called a Confined Space Entry or CSE for short. Because CSE is inside pressure vessels which often contain hazardous materials, the hazards need to be eliminated, substituted, or controlled. Controlling the inter-vessel environment is complex and can require months of planning for a single entry.

Even when we get the controls correct, manned vessel entry is still extremely dangerous. Any minor change in the environment including leaks, gas changes, sparks, can have catastrophic consequences. CSE has quickly become one of the industry's top safety concerns because of the inherent danger. It is why many companies are adopting a no confined space entry policy for all their sites.

So how can we inspect without requiring confined space entry? What tools can we use to ensure we are getting accurate results that rival those of a person inside a vessel? How can we meet the regulations and safety needs for our vessels?



Solution

The Everest Ca-Zoom HD is built to see critical defects in confined spaces. With its best-in-class lighting and image processing software, the Everest Ca-Zoom HD eliminates the need for confined space entry. The camera makes it easier and safer for inspectors allowing them to see more details than other visual inspection methods including physical inspection.



Lighting

When inspectors enter pressure vessels, they have a hard time seeing defects. Vessels are dark, large, and sometimes covered with material that makes it hard to visually inspect. Thus, it is important to have lighting that is able to see every surface in the vessel. The Everest Ca-Zoom HD has 2980 lumen lights which are more powerful than any standard PTZ on the market. This allows users to see more, obtain a higher probability of detection, and leads them to make informed decisions about their asset and its maintenance strategy.

Image Processing

Many PTZ cameras are currently available in the market, aside from lighting, what sets the Everest Ca-Zoom HD apart? The Everest Ca-Zoom HD image processing software enables users to inspect without having to spend time adjusting settings. It automatically sets the focus, white balance, and even accounts for surface light refraction. Simply, connect, turn on, inspect, and capture.

Conclusion

To meet the safety needs of the facility, personnel, regulatory environment, inspectors and engineers should use the Everest Ca-Zoom HD for their pressure vessel inspections. The Everest Ca-Zoom HD's combination of lighting and image processing enables users to see more indications in confined environments leading to quality inspection data and outcomes while reducing the need for human confined space entry. Everest Ca-Zoom HD customers can expect easier, safer, and more cost-efficient inspections with its enhanced optical innovations.

Visit our website to learn more about Everest Ca-Zoom HD.