

Utilizing Jerome® Mercury Analyzer for Offshore Safety

Mercury contamination presents a significant challenge in offshore oil and gas operations. Recognizing the importance of quick and accurate mercury detection, one of the biggest energy companies in the world has implemented the use of the Jerome Mercury Vapor Analyzer across its offshore platforms. This initiative is part of their commitment to ensuring the safety of personnel and protecting the environment from the hazards associated with mercury exposure.

Challenges of Mercury in Offshore Environments

Mercury, with the chemical symbol Hg and atomic number 80, is a naturally occurring element that can be found in crude oil and natural gas deposits. During extraction and processing, mercury vapor can be released into the working environment. In offshore drilling operations, this poses a critical risk to both the health of workers and the integrity of equipment. Prolonged exposure to mercury vapor can cause severe health issues, including neurological and respiratory damage, as well as corrosion of vital equipment, leading to costly maintenance and downtime.



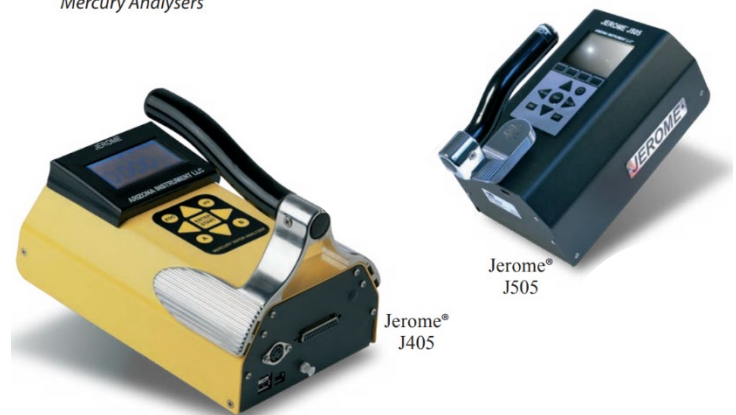
Clipper Gas Platform

Innovative Solution with AMETEK Brookfield's Technology

To address these challenges, the Jerome Mercury Vapor Analyzers into the company's offshore operations. This portable analyzer is renowned for its reliability and precision in detecting mercury vapor at very low levels, ensuring compliance with stringent health and safety regulations. By utilizing the Jerome Analyzer, the company can now conduct on-site mercury monitoring with immediate results, allowing for proactive measures to be taken in real-time.

The range of Jerome® Mercury Analyzers

The Jerome J405 Analyzer utilizes advanced gold film sensor technology, offering highly stable and specific mercury vapor detection. This technology is capable of measuring concentrations as low as $0.5 \mu\text{g}/\text{m}^3$, which is well within industry safety standards. The analyzer's one-button operation simplifies the monitoring process, making it easy to use in the demanding conditions of offshore environments. This system has proven to be essential for both spot-checking and continuous monitoring, reducing the risk of mercury exposure to personnel.



Although the Jerome J505 isn't the analyzer being used offshore, we offer it as well. The J505 uses Atomic Fluorescence Spectroscopy, providing a detection range of 0.05 to $500 \mu\text{g}/\text{m}^3$. It is portable and lightweight, with a battery life of approximately 10+ hours per charge, and can store up to 10,000 test results.

Key Benefits for Offshore Operations

Prior to implementing the Jerome Analyzer, verifying mercury levels on offshore rigs required sending samples to onshore laboratories, a process that could take several hours or even days. This delay posed a significant challenge in managing potential mercury hazards promptly. With the deployment of AMETEK Brookfield's portable analyzer, teams can now conduct accurate measurements on-site, significantly reducing response times.

The analyzer's dual modes – survey mode for identifying the source of mercury and analytical mode for precise quantification – allows the company to efficiently locate and mitigate contamination sources. This capability is particularly crucial in confined offshore environments where mercury vapor can accumulate rapidly, posing immediate health risks to workers.

Health and Environmental Impacts of Mercury Exposure

Mercury exposure is known to cause a range of health problems, including damage to the nervous system, kidneys, and lungs. Symptoms of mercury poisoning may include sensory impairments, tremors, memory issues, and other neurological symptoms. For offshore workers who are continuously exposed to potential mercury vapor, effective monitoring is essential to prevent chronic health issues.

Additionally, mercury can corrode metal components within processing equipment, leading to increased maintenance costs and potential operational failures. By using the Jerome Analyzer, the company can prevent the corrosive damage that mercury can cause, thus extending the life of its equipment and reducing the frequency of costly repairs.

Conclusion

The adoption of the Jerome Mercury Vapor Analyzer reflects a proactive approach to safety and environmental stewardship in the offshore oil and gas industry. This technology not only enhances the protection of the company's workforce but also ensures compliance with environmental regulations, reducing the potential for mercury-related incidents.

AMETEK Brookfield's Commitment to Safety:

AMETEK Brookfield is dedicated to improving safety standards within the oil and gas industry by developing and providing advanced monitoring and detection solutions for both Hydrogen Sulfide and Mercury. Through innovative technology and a commitment to best practices, AMETEK Brookfield supports a safer operational environment, protecting both workers and the environment from the hidden dangers of toxic substances.

By prioritizing robust detection systems, preventive maintenance, and comprehensive safety protocols, oil and gas companies can protect their workforce and mitigate the risks posed by these invisible hazards, fostering a safer and more sustainable industry.