

Diesel Fuel Stripping Systems for Enhanced Fuel Quality and Performance

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Abstract: Diesel fuel quality is essential for efficient engine performance, but stored diesel can accumulate contaminants over time, impacting engine efficiency and increasing maintenance costs. Diesel stripping systems, such as diesel strippers or diesel fuel polishing systems, play a crucial role in addressing these issues by effectively removing impurities and ensuring fuel purity. This paper examines the design, engineering, and operational aspects of diesel stripping systems, focusing on their ability to enhance fuel quality and optimize engine performance. Components like filters, pumps, separators, and steam stripping units work together, with steam stripping being a key method for removing light ends and hydrogen sulfide (H₂S) from diesel. Design considerations, including system integration, material selection, and safety features, are critical for system effectiveness and reliability. Performance testing and maintenance practices ensure compliance with contaminant removal standards and sustain system efficiency. This research contributes to advancing diesel fuel management practices and identifies future trends for improved efficiency and environmental sustainability in diesel fuel purification technologies.

Keywords: Diesel stripping systems, diesel strippers, fuel quality, engine performance, contaminants, steam stripping, design considerations, performance testing, and maintenance practices, regulatory compliance, sustainability, fuel purification technologies