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Gas Pipe Leakage Inspection Robot with Real Time Monitoring System

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Abstract: *In this Review paper the study focusses on Pipe inspection robots,robots are advanced devices engineered to traverse the interiors of pipelines, assessing conditions and identifying issues like leaks, corrosion, or blockages in industries such as oil and gas, water supply, and sewage. Equipped with high-resolution cameras, sensors, and diagnostic tools, these robots offer detailed, real-time data to support preventive maintenance and reduce manual inspection challenges. Recent developments focus on improving robot agility, compactness, and durability, enabling them to handle varied pipe diameters and complex pathways. Enhanced with wireless connectivity and artificial intelligence, some models can now perform autonomous navigation and defect detection, significantly boosting efficiency and safety. This review examines current innovations, operational hurdles, and future advancements in pipe inspection robotics, with a particular emphasis on smarter navigation systems and sensor technology to enhance inspection accuracy and dependability.*

Keywords: Pipelines, Leaks, Corrosion, Blockages, Cameras, Sensors & Auto Adjustable