

Pipeline Inspection Robot

Anish Pagare, Krish Ahire, Mahima Gadhawe, Tushar Kasbe

Loknate Gopinathji Munde Institute of Engineering and Research Center, Nashik, India

Abstract: *This paper presents the design and development of an in-pipe inspection robot (IPIR) version 2, which is composed of two driving leg systems, two supporting leg systems, and a connecting body. The novelty of version 2 is its stability and diameter adaptability, which are enhanced by adding two supporting leg systems in version 1 and optimizing its spring design. All major components of version 2 are designed safely, and the robot is suitable for offline visual checking of various pipe components like horizontal pipes, vertical pipes, and couplings in water pipelines, gas pipelines, and drain pipes*

Keywords: *in-pipe inspection robot*

REFERENCES

- [1] Design and Development of In-pipe Inspection Robot for Various Pipe
<https://iopscience.iop.org/article/10.1088/1757-899X/1012/1/012001>
- [2] An Underwater Pipeline Inspection Robot Based on Raspberry Pi
<https://dl.acm.org/doi/abs/10.1145/3544109.3544200>
- [3] Development of a Pipeline Inspection Robot for the Standard Oil ... - MDPI
<https://www.mdpi.com/2076-3417/10/8/2853>
- [4] Design and Development of Pipe Inspection Robot ResearchGate
https://www.researchgate.net/publication/305985593_Design_and_Development_of_Pipe_Inspection_Robot
- [5] (PDF) Pipe inspection robots: a review - ResearchGate
https://www.researchgate.net/publication/366654589_Pipe_inspection_robots_a_review
- [6] Autonomous Self-driven In-line Robot for Versatile Pipeline Inspection
<https://www.sciencedirect.com/science/article/pii/S2405896318307158>
- [7] Design of a New In-Pipe Inspection Robot - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S1877705814035218>
- [8] The application of fully unmanned robotic systems for inspection of ...
<https://www.sciencedirect.com/science/article/pii/S0029801821006442>
- [9] (PDF) A Review on Pipeline Inspection Robot - ResearchGate
https://www.researchgate.net/publication/346718233_A_Review_on_Pipeline_Inspection_Robot
- [10] (PDF) Design and Development of a Pipeline Inspection Robot for Visual
https://www.researchgate.net/publication/352286916_Design_and_Development_of_a_Pipeline_Inspection_Robot_for_Visual_Inspection_and_Fault_Detection
- [11] (PDF) An underwater robot for pipe inspection - ResearchGate
https://www.researchgate.net/publication/3714407_An_underwater_robot_for_pipe_inspection
- [12] Pipe inspection robots: a review - IOP science
<https://iopscience.iop.org/article/10.1088/1757-899X/1272/1/012016/pdf>
- [13] Design and Development of Pipeline Inspection Robot for Crack and
<https://ieeexplore.ieee.org/document/8704127>
- [14] underwater inspection robot: Topics by Science.gov
<https://www.science.gov/topicpages/u/underwater%2Binspection%2Brobot>
- [15] Design and Development of Pipeline Inspection ... - Semantic Scholar
<https://www.semanticscholar.org/paper/Design-and-Development-of-Pipeline-Inspection-Robot-Mohammed-Nadarajah/f4939e7c5d8e1d373602a4d1607971e327d9968c>
- [16] Inspection Robot for Submarine Pipeline Based on Machine Vision
<https://iopscience.iop.org/article/10.1088/1742-6596/1952/2/022034/pdf>

- [17] An In-Pipe Inspection Robot with Permanent Magnets and ... - MDPI
<https://www.mdpi.com/2076-3417/12/3/1226>
- [18] Autonomous Robot for Subsea Oil and Gas Pipeline Inspection Being ...
<https://uh.edu/news-events/stories/2023/august-2023/08312023-pipeline-robot.php>
- [19] Design and Development of Pipe-inspection robot with vision 360°
<https://iopscience.iop.org/article/10.1088/1742-6596/2062/1/012015/pdf>
- [20] Multi-robot system for inspection of underwater pipelines in shallow ...
<https://experts.illinois.edu/en/publications/multi-robot-system-for-inspection-of-underwater-pipelines-in-shal>