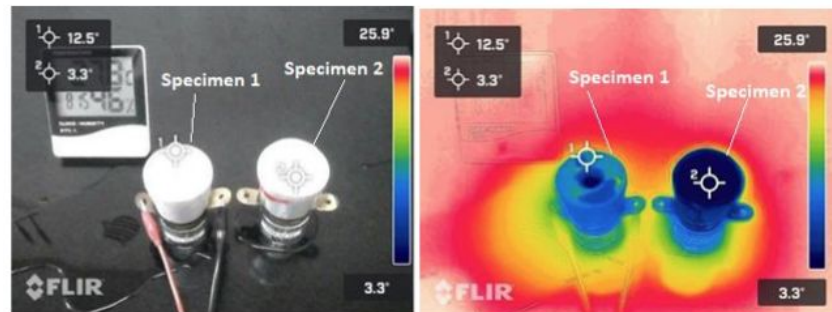


PENDING**(IN202111051701)**

Defreezing device and method for defreezing a solidified liquid in a pipeline using the device



NEED

In freezing environments, fuel lines, radiator liquids, and pipelines often face blockages due to solidified liquids. This leads to operational inefficiencies, increased downtime, and higher maintenance costs. A novel solution is needed to address this issue without causing damage to existing systems.

TECHNOLOGY OVERVIEW

This invention introduces a piezoelectric-based defreezing device, designed to remove solidified liquids from pipelines efficiently. By using controlled power supplies and a non-conducting layer, the device generates vibrations that break the solidified liquid, enabling smooth operation of fuel, radiator, and water pipelines.

TECHNOLOGY KEY FEATURES

Piezoelectric element; non-conducting layer for separation; vibrations to break solidified liquids; microcontroller for control; PZT materials; stackable elements; adaptable for different pipeline applications.

[Read more here](#)

MARKET ANALYSIS

The global pipeline monitoring market is expected to grow at a CAGR of 6.5% from 2023 to 2033, driven by demand for infrastructure reliability, fuel pipeline management, and safety regulations.

Target Industries

Target industries include automotive (fuel systems), energy (oil & gas pipelines), and utilities (water distribution systems). Go-to-market opportunities exist for companies focusing on pipeline maintenance, smart systems, and vibration-based technologies.

AT A GLANCE

- SDG 9 (Industry, Innovation & Infrastructure), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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