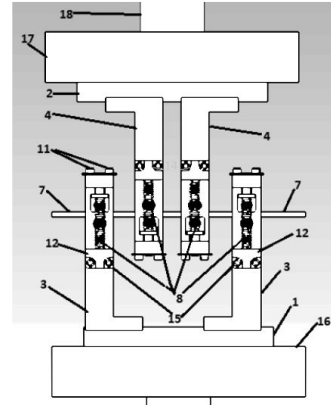


GRANTED**(IN508025)**

A device for conducting three-point or four-point flexural fatigue strength testing of a specimen



NEED

Over 70% of mechanical failures in automotive, aerospace, and structural components stem from fatigue stress, often undetected in tensile or compression testing. Conventional fixtures lack precision in applying alternating cyclic loads. But what if this failure rate could be reduced to nearly zero?

TECHNOLOGY OVERVIEW

This patented device conducts precise three- and four-point flexural fatigue testing by applying alternating and reversal bending stresses. Its modular roller system adjusts to different specimen sizes and maintains fixed rotational axes, ensuring uniform stress application for accurate fatigue life assessment.

TECHNOLOGY KEY FEATURES

Identical modular supports, vertical-adjustable roller shafts, and fixed rotational axes enable easy sample setup and uniform stress delivery. Simulates cyclic fatigue without disrupting conventional test rigs.

[Read more here](#)

MARKET ANALYSIS

Global fatigue testing market to grow at 8.2% CAGR, reaching USD 622.9M by 2033, driven by lightweighting in automotive, stringent aerospace compliance, and materials R&D. India's testing equipment sector sees rising demand via Make in India and infrastructure safety initiatives. (Future Market Insights, 2024)

Target Industries

Automotive Component Test Labs and/or Aerospace Structural Integrity R&D Platforms and/or Construction Material Testing Facilities for fatigue validation in compliance-critical sectors

AT A GLANCE

- SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action)

Technology is available for licensing/ co-development.

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