The Thick Cylinder Apparatus is a precision-engineered teaching and research instrument designed for investigating the stresses and strains in a thick-walled cylinder subjected to internal pressure. With strain gauges applied at key radial points, the system provides accurate measurement and analysis of stress distribution under varying loads.

Technical Specifications

Function

- Investigation of stresses and strains in a thick-walled cylinder under internal pressure

Cylinder Construction

- Two-part aluminum cylinder with flat groove
- **Length**: 300 mm
- **Outer Diameter**: 140 mm
- **Wall Thickness**: 50 mm
- **Maximum Internal Pressure**: 7 N/mm² (70 bar)

Strain Gauge Application

- 11 strain gauges (half-bridges, 350 Ω)
- Gauge factor: 2.00 ±1%
- Supply voltage: 10 V
- Mounted at various radial points in the groove and on the cylinder surface for stress analysis

Hydraulic System

- Hermetically sealed, maintenance-free hydraulic system
- Hydraulic pump and precision manometer included
- Pressure Gauge: 0–100 bar, Accuracy: Class 1.0

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

Measuring & Data Acquisition

- Multi-channel measuring amplifier
- PC software for data acquisition and analysis of measured values

Features

- High-precision experimental setup for stress-strain analysis
- Durable aluminum construction
- Reliable and maintenance-free hydraulic operation
- Comprehensive strain gauge application for accurate readings
- Integrated software for advanced measurement evaluation

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

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