SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Equilibrium of a Beam | FortiTestX - 52

Category: Strength of Materials · **Country of Origin:** India

Product Overview

Equilibrium of a Beam - FortiTestX - 52 is a magnetic attachment kit that demonstrates forces, moments and reactions in rigid beam structures. Compatible with the Work Panel (FortiTestX - 53), this apparatus allows students to measure reaction forces in simply-supported and balanced beam configurations. Using adjustable masses and spring balances, students compare measured values against theoretical predictions from equilibrium equations. Ideal for hands-on statics education with full user guide and five-year warranty included.

View this product online: https://scienticoindia.com/product/equilibrium-of-a-beam-fortitestx-52/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Equilibrium of a Beam - FortiTestX - 52 — Technical Specifications

Parameter	Specification
Product Name	Equilibrium of a Beam - FortiTestX - 52
Beam Type	Rigid beam with hook points
Support Configurations	Simply-supported and balanced beam setups
Force Application Method	Masses, magnetic mounts, spring balances
Force Measurement	Reaction forces via spring balances
Base Unit Required	Work Panel (FortiTestX - 53)
Attachment System	Magnetic components and hook points
Net Weight	3.7 kg + 1 kg storage tray
Packed Volume	Approximately 0.015 m3
Packed Weight	Approximately 6 kg
Warranty	Five years
Certification	ISO 9001, EU directives compliant

Technical Data

Operating Conditions

Parameter	Value
Operating Environment	Well lit classroom or laboratory
Storage Temperature Range	–25°C to +55°C (when packed for transport)
Operating Temperature Range	+5°C to +40°C
Operating Relative Humidity	80% at temperatures < 31°C, decreasing linearly to 50% at 40°C

Essential Services

Requirement	Specification
Bench/Desktop Dimensions	Minimum 1100 mm wide x 540 mm front to back

Key Features

Key Features

- Beam Configuration: Rigid beam with multiple hook points for flexible setup options
- Support Types: Simply-supported and balanced beam configurations for varied experiments
- Force Measurement: Spring balances for accurate reaction force measurement demonstrating equilibrium of a beam
- Magnetic Attachment: Magnetic bases and hook points for precise, stable positioning on Work Panel
- Load Application: Weight hangers with adjustable mass placement for moment and force studies
- Experimental Approach: Hands-on method with visual setup for improved student understanding
- Storage: Hard-wearing storage tray included for safe component organization
- Documentation: Fully illustrated user guide with theory, experiments and typical results
- Warranty: Five-year manufacturer warranty included

Experiments

- Using moments and equilibrium theory to find beam reaction forces and unknown forces
- Simply-supported beam analysis and force distribution
- Balanced beam equilibrium and moment calculations
- Reaction force measurement and comparison with theoretical values

Construction and Design

Equilibrium of a Beam - FortiTestX - 52 comprises a rigid beam with integrated hook points and magnetic attachment components designed for compatibility with the Work Panel (FortiTestX - 53). The apparatus demonstrates equilibrium of a beam through multiple support configurations and adjustable load positioning. Magnetic hook points, spring balances, weight hangers, and lightweight hooks enable rapid reconfiguration for different experimental setups. The robust construction ensures stability during measurements while allowing students to visually observe force distribution and moment effects around the beam.

Scope of Delivery

- Rigid beam with hook points
- Spring balances
- Magnetic hook points
- Lightweight hooks
- Weight hangers and weights
- Comprehensive user guide with theory and experiments
- Storage tray

Required for Operation

- Work Panel (FortiTestX - 53)
- Well lit classroom or laboratory environment
- Level bench or desktop minimum 1100 mm wide x 540 mm front to back

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: What is equilibrium of a beam?
A: Equilibrium of a beam occurs when all vertical forces and moments acting on the beam are balanced, resulting in zero net force and zero net moment. This kit demonstrates these principles through practical measurement and comparison with theory.

Q: What support configurations can be tested?
A: The apparatus supports both simply-supported beam configurations and balanced beam setups, allowing students to explore different structural scenarios and their effects on reaction forces.

Q: How are forces applied and measured?
A: Forces are applied using adjustable masses and magnetic mounts. Spring balances measure the resulting reaction forces, which students then compare against theoretical values calculated from equilibrium equations.

Q: Can the load position be adjusted?
A: Yes, weight hangers can be positioned at various points along the beam, allowing exploration of how moment and equilibrium of a beam change with load placement.

Q: What warranty is provided?
A: This apparatus includes a five-year warranty and is manufactured in accordance with latest EU directives with ISO 9001 certification.

SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India
#71, Industrial Area, Ambala Cantt, Haryana, India

+91 7015865225 · info@scienticoindia.com
scienticoindia.com