

The Engineering Fundamentals range enables students to gain an understanding of the principles of engineering by the process of learning via experimentation.

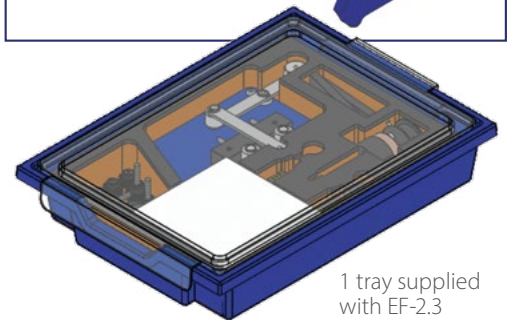
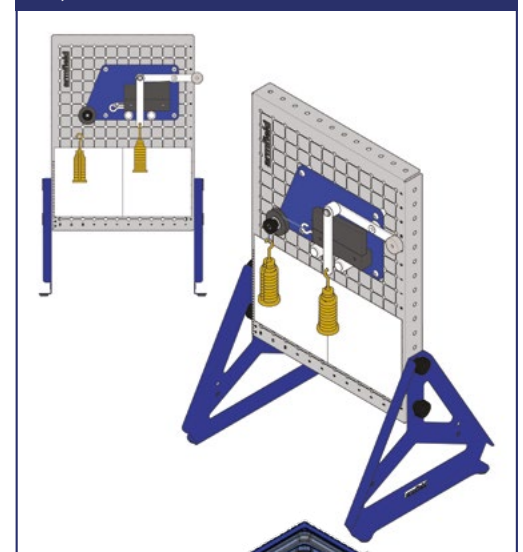
The EF-2.3 Rotational Friction experiments kit enables students to understand how rotational friction affects the efficiency of a screw jack, a wedge and different bearing materials.

AN INNOVATIVE HANDS ON MODULAR SYSTEM DESIGNED TO ENABLE INVESTIGATION AND THE UNDERSTANDING OF ENGINEERING PRINCIPLES

The kit includes experiments that measure the effort required to raise various loads using a simple form of screw jack.

These include determining how the mechanical advantage and efficiency varies with load, the mechanical advantage and efficiency obtained by using two different wedges, including investigating the effect of the angle on overhauling and to compare the resistance to rotation due to friction in four cantilevered bearings of different materials.

Easy to follow instructions



1 tray supplied with EF-2.3

Bearing materials: Oilite, Wood, Ball, Nylon



Efficiency of a wedge



Experiments shown below, different bearing materials, efficiency of a screw jack and efficiency of a wedge



Features / benefits

Features

- ▶ Neatly presented in an easily identifiable and durable storage tray
- ▶ Trays have clear lids making it easy to see their contents
- ▶ Pictorial tray contents list to identify missing components easily
- ▶ Accompanied by a detailed manual with various practical exercises
- ▶ Clear and concise assembly instructions for each experiment
- ▶ Multiple experiments per kit
- ▶ Toolless assembly

Benefits

- ▶ Hands-on understanding from lessons
- ▶ Improve the student's dexterity by self-assembly with the instructions provided

Requirements

Scale

EF-BU

Experiment tray scale



EF-BU scale



EF-WS scale



- ▶ EF-BU on which to build the experiment from the tray components
- ▶ Level and stable work surface to mount the EF-BU upon. The optional EF-WS is ideal for this if no suitable desk or bench is available.

Experimental content

- ▶ Efficiency of a screw jack
- ▶ Efficiency of a wedge
- ▶ Efficiency of different bearings
- ▶ Mechanical advantage
- ▶ Velocity ratio
- ▶ Efficiency
- ▶ Overhaul



Overall dimensions

Tray

Length	0.430m
Width	0.312m
Height	0.080m

Packed and crated shipping specifications

Volume	0.02m ³
Gross weight	5.0Kg

Essential accessories / equipment

- ▶ EF-BU Base Unit

Related products

- ▶ EF-BU Base Unit

Statics Experiments

- ▶ EF-1.1 Forces
- ▶ EF-1.2 Moments
- ▶ EF-1.3a Beams
- ▶ EF-1.3b Trusses
- ▶ EF-1.4 Springs
- ▶ EF-1.5 Torsion

Dynamics Experiments

- ▶ EF-2.1 Friction
- ▶ EF-2.2 Simple Harmonic Motion
- ▶ EF-2.3 Rotational Friction
- ▶ EF-2.4 Potential and Kinetic Energy
- ▶ EF-2.5 Centrifugal and Centripetal Force

Mechanisms Experiments

- ▶ EF-3.1 Cam, Crank and Toggle
- ▶ EF-3.2 Simple Mechanisms
- ▶ EF-3.3 Additional Mechanisms
- ▶ EF-3.4 Bar Linkages

Kinematics

- ▶ EF-4.1 Pulleys
- ▶ EF-4.2 Gears
- ▶ EF-4.3 Drive Systems

Strength of Materials

- ▶ EF-5.1 Tensile Tester

Options

- ▶ EF-WS Workstation

Ordering specification

- ▶ Wedge angles
 - 18.5°
 - 4.75°
- ▶ Bearing materials
 - Oilite
 - Wood
 - Nylon
 - Ball



Ordering codes

- ▶ EF-2.3 - Rotational Friction
- ▶ EF-BU - Base Unit
- ▶ EF-WS - Workstation (optional)

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



armfield.co.uk

Aftercare

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