

The Engineering Fundamentals range is designed to enable students to gain an understanding of the fundamentals of engineering by the process of learning via hands-on experimentation.

The modular hands-on tray based system is supplied in conjunction with a multifunctional Base Unit enabling the student to conduct their own experiments in subjects such as Statics, Dynamics, Mechanisms and Kinematics.

Each kit is supplied with a highly visual user friendly operational guide, enabling the student to understand the theory of the subject by the application of practical experimentation.

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

Description

The EF-2.2 Simple Harmonic Motion (SHM) experiments kit enables students to understand the effect of mass and length of a pendulum on SHM and the period of oscillation. The relationship between SHM and gravity is evaluated using the Kater's pendulum, as well as understanding SHM in a mass spring system.

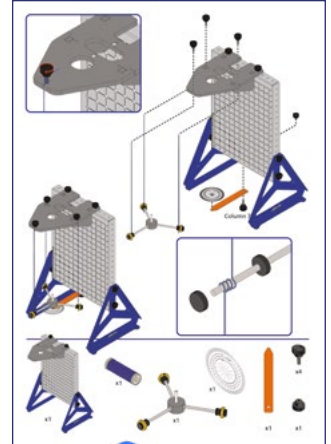


Trifilar Pendulum Apparatus



Stopwatch supplied

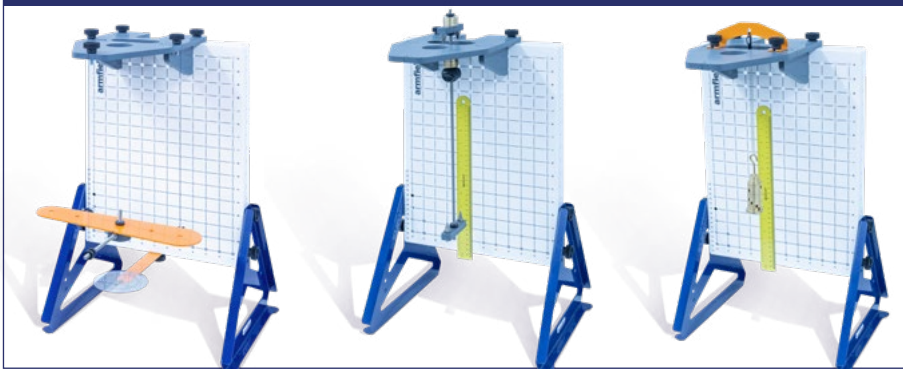
Easy to follow instructions



2 trays supplied with EF-2.2



Suspended Compound pendulum, Kater's Pendulum and Mass on a Spring shown, full experiments list on reverse



High quality materials



UK office - email: sales@armfield.co.uk tel: +44 (0) 1425 478781 (for ROW)
USA office - email: info@armfield.inc tel: +1 (609) 208-2800 (USA only)

Issue: 3

URL: <http://www.armfield.co.uk/ef>

Applications

ME ChE CE IP

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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

- ▶ Effect of length and mass on period of oscillation of a simple pendulum
- ▶ Effect of length and mass on period of oscillation bifilar pendulum
- ▶ Effect of length and mass on period of oscillation trifilar pendulum
- ▶ Effect of length and mass on period of oscillation compound pendulum
- ▶ Measuring gravity using Kater's pendulum
- ▶ SHM of a spring-mass system



Overall dimensions

Tray

Length	0.430m per tray
Width	0.312m per tray
Height	0.080m per tray

Packed and crated shipping specifications

Volume	0.02m ³ per tray
Gross weight	5Kg per tray

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

- ▶ 2 x 250g Weights set on hanger
- ▶ Grey PVC pendulum bracket
- ▶ 2 x Pendulum spike block
- ▶ Protractor bracket
- ▶ Magnetic protractor
- ▶ Trifilar pendulum
- ▶ 296mm x 3mm Compound pendulum
- ▶ Bifilar pendulum
- ▶ 3 x PVC grey trifilar & bifilar hanger
- ▶ 304 Stainless steel trifilar pendulum bar
- ▶ 304 Stainless steel bifilar pendulum rod
- ▶ 1 x Magnetic ruler 300mm / 12"
- ▶ Stopwatch

Ordering codes

- ▶ EF-2.2 - Simple Harmonic Motion
- ▶ 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.

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Aftercare

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Training
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