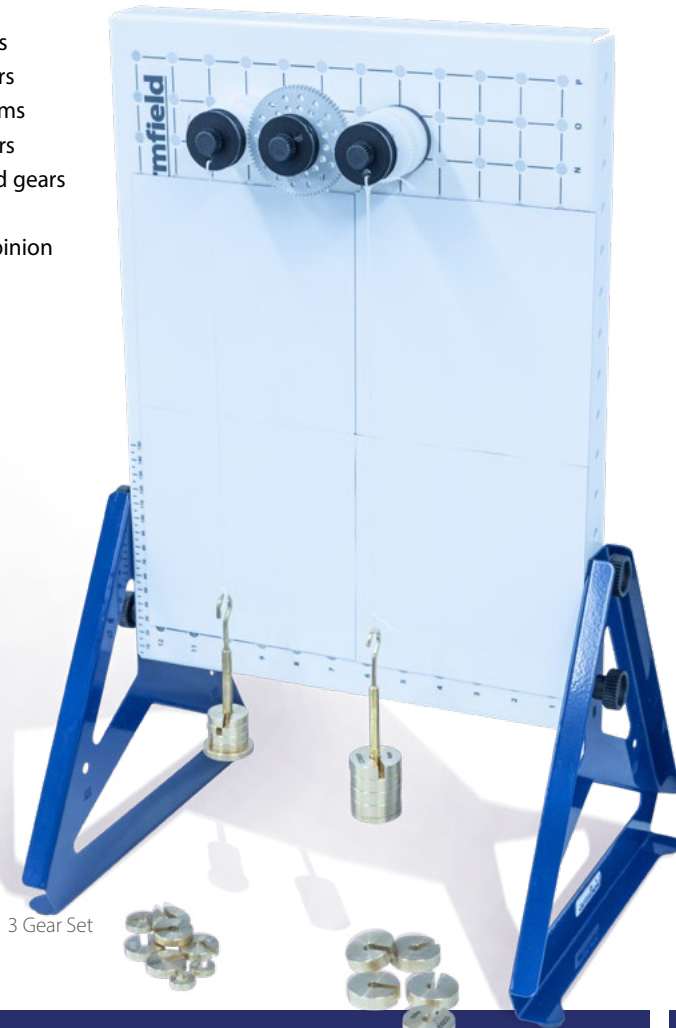


The Engineering Fundamentals range enables students to gain an understanding of the principles of engineering by the process of learning via experimentation.

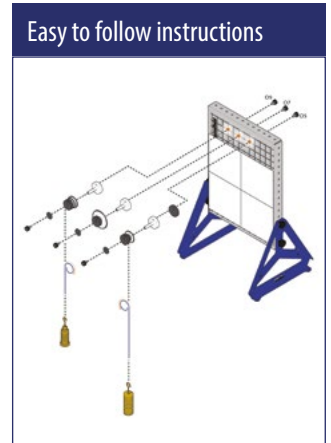
The engineering fundamentals EF-4.2 Gears kit includes a selection of gears to enable students to understand their unique advantages and characteristics. This kit includes the following gears to allow students to test each set of gears and visualise their different characteristics:-

- Spur gears
- Bevel gears
- Worm gears
- Gear systems
- Single gears
- Compound gears
- Idler gear
- Rack and pinion

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



3 Gear Set

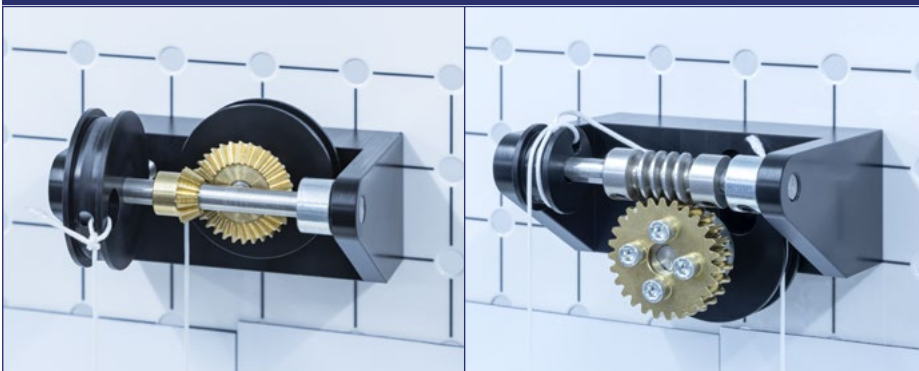


Easy to follow instructions



1 tray supplied with EF-4.2

Experiments shown below: bevel gears, worm screw meshing with worm wheel



High quality materials



Engineering fundamentals system

The modular 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, allowing the student to understand the theory of the subject by the application of practical experimentation.

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.

Essential accessories / equipment

- ▶ EF-BU Base Unit

Experimental content

- ▶ Introduction to gear ratio, velocity ratio, efficiency of gears and mechanical advantage
- ▶ The advantages and disadvantages of different gears
- ▶ Transmission of motion between shafts
- ▶ Gear Types: Spur gear – parallel shafts
Bevel gear – perpendicular shafts
Worm gear – perpendicular overlapping shafts
Rack and pinion – convert circular motion to linear motion
- ▶ Characteristics of spur gears, including single and compound gear trains and the 'idler' gear
- ▶ Gear terminology such as pitch diameter, number of teeth and centre distance



Overall dimensions

Tray

Length	0.430m
Width	0.312m
Height	0.160m

Packed and crated shipping specifications

Volume	0.02m ³
Gross weight	5.0Kg

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

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

- ▶ Spur gears
- ▶ Bevel gears
- ▶ Worm gears
- ▶ Pack and pinion
- ▶ Gear systems

Ordering codes

- ▶ EF-4.2 - Gears
- ▶ 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

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com