



## ROTATIONAL FRICTION KIT

ES17

Demonstrates how rotational friction affects the efficiency of popular machine elements, including a screw jack, a wedge and different bearings.



### KEY FEATURES

- One of a series of 18 kits for experiments in fundamental engineering science topics
- For use on any engineering course from foundation to postgraduate
- Flexible and modular, each kit fits onto the work panel (ES1) for experiments and classroom demonstrations
- Supplied in a hard-wearing storage tray with moulded insert to hold parts securely and a graphical list to help check the kit contents
- Rugged and durable parts for safe 'hands-on' experiments, allowing better understanding
- Contains all parts needed for experiments in rotational friction



# ROTATIONAL FRICTION KIT

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## DESCRIPTION

This versatile kit is part of a series that allows many experiments using different arrangements of their parts. Students, teachers or lecturers fit the parts of the kit to the work panel (ES1) (supplied separately) to study or show an engineering science topic.

This kit includes a screw jack (or 'jackscrew'), a wedge and different bearings. It helps students understand how rotational friction affects the efficiency of popular machine elements and bearing materials. It shows why engineers choose some materials and devices above others for any given application.



Students fit the parts to the work panel and apply effort and load weights to find their relative mechanical advantage and efficiency.

The kit introduces students to key engineering terms such as:

- Mechanical advantage
- Velocity ratio
- Efficiency
- 'Overhaul'

TecEquipment supplies a memory stick with the work panel (ES1). It includes all the worksheets, guidance notes and lecturer notes (with answers) needed for typical experiments with each kit. The selection of parts in the kits and the choice of fixing points on the work panel means that teachers or lecturers may extend the experiments to an even greater range.

**NOTE:** The kit is for use with the ES1 work panel (supplied separately).

## STANDARD FEATURES

- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

## LEARNING OUTCOMES

- Efficiency of a screw jack
- Efficiency of a wedge
- Efficiency of different bearings

## OPERATING CONDITIONS

### FOR USE IN:

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 RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

## ESSENTIAL SERVICES

A level bench or desktop of at least 500 mm wide x 500 mm front to back.

## ESSENTIAL BASE UNIT

Work Panel (ES1)

## SPECIFICATIONS

TecEquipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

### STORAGE TRAY (WITH CLIP-ON LID):

450 mm x 320 mm x 85 mm

### NETT WEIGHT:

4 kg

### PACKED VOLUME AND WEIGHT:

Approximately 0.015 m<sup>3</sup> and 4.5 kg

### MAIN PARTS:

- A screw jack
- Four different bearings
- Two wedges of different angle
- Weight hanger and masses