SIMPLE MECHANISMS KIT

ES14

Demonstrates how the Scotch yoke, crank and slider and quick return mechanisms convert motion.

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 three popular mechanisms that show how they can usefully convert motion from one form or direction to another

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TECQUIPMENT

SIMPLE MECHANISMS KIT

ES14

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 three popular mechanisms for experiments in conversion of motion from linear to rotary, or rotary to linear. These include the Scotch yoke (sometimes called 'donkey crosshead' or 'slotted link'), the crank and slider, and the quick return mechanism.

Students test each mechanism to see how it works and note the differences in the way that each mechanism converts the motion.

The three mechanisms are the same as those used in real applications, such as combustion engines, power assisted valves or fluid pumping systems. Each has a unique way of converting motion, shown by the experiments.

The kit introduces students to key engineering terms such as reciprocating motion, rotary to linear motion and linear to rotary motion.

TecQuipment supply 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

- Conversion of motion using the 'Scotch yoke' (or 'slotted link')
- Conversion of motion using the quick return mechanism
- Conversion of motion using the crank and slider

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

TecQuipment 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:

3.5 kg

PACKED VOLUME AND WEIGHT:

Approximately 0.015 m^3 and 4 kg

MAIN PARTS:

- Scotch yoke
- Crank and slider
- Quick return mechanism

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