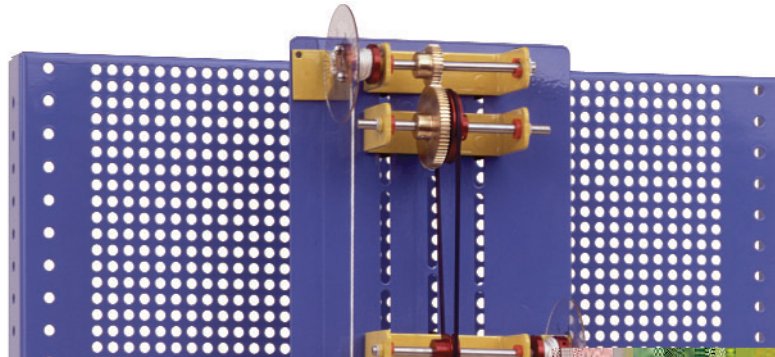


Uses a pulley belt system and simple and compound gear trains to show velocity ratio and mechanical advantage



Shown fitted to a TASK frame

- Ideal for classroom demonstrations and for use by small groups of students
- Fits onto one of the optional TASK Frames and shows velocity ratio and mechanical advantage in pulley and gear systems
- Includes different size gears and pulley wheels for different ratios
- Colour-coded parts to help students understand what each part does
- Supports all teaching levels up to and including first year university courses
- Hands-on equipment - easy-to-assemble parts allow students to build the experiments for improved understanding

- **TecEquipment** products are designed and manufactured by TQ Education and Training Ltd
- TQ Education and Training Ltd, Bonsall Street, Long Eaton, Nottingham NG10 2AN, UK
- **T** +44 115 972 2611 • **F** +44 115 973 1520 • **E** info@tq.com • **W** www.tq.com
- TQ is an ISO 9001 certified company

Description

Students build a simple pulley system, a simple and compound gear system, or any combination of both. The parts in the kit reflect real-life engineering practice.

Students assemble the equipment on a mesh frame (frames available separately). They use axles, gears, pulleys and drive belts to build a transmission system on a backboard. Students compare readings from built-in protractors to the number of gear teeth, pulley diameters, or both. They use these readings to find the velocity ratio of the system they have built. They then add loads to the input and output of their system, using weights on pulleys, to find the mechanical advantage.

Students work individually or in groups of up to three. The colour of parts indicates their function. For example, yellow parts are mainly stationary or passive, and white parts are instrumentation. Red parts may move or contain energy.

The kit comes with Assembly Instructions. A Teacher Guide provides experiment methods, information, references and tips. A Student Workbook guides students through experiments.

Standard Features

- Supplied with comprehensive User Guides (Assembly Instructions, Student Workbook and Teacher Guide)
- Two-year warranty
- Manufactured in accordance with the latest European Union directives

Essential Ancillaries

- Upright Frame (UF)
- Weight Set (WT)

Experiments

- Velocity ratios
- Mechanical advantage
- Input and output ratios for both systems
- System efficiencies
- System comparisons
- Appreciation of backlash (hysteresis), belt drive tension, correct gear meshing

Operating Conditions

Operating environment:
Laboratory environment

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

Specifications

Packed Dimensions and Weight: 0.011 m³ and 2.5 kg
Pulleys: anodised aluminium – one 20 mm, one 30 mm, one 40 mm diameter

Gears: high-quality brass – two 32-teeth, one 48-teeth, one 64-teeth

Main Parts:

- Back plate, bearing cradles, protractor set, load pulleys
- Pointers, axles, drive belt, Allen keys#
- Cords and pulleys
- Magnetic strips, component storage box
- All necessary nuts, bolts, washers, spacers and fixings

- **TecQuipment** products are designed and manufactured by TQ Education and Training Ltd
- TQ Education and Training Ltd, Bonsall Street, Long Eaton, Nottingham NG10 2AN, UK
- **T** +44 115 972 2611 • **F** +44 115 973 1520 • **E** info@tq.com • **W** www.tq.com
- TQ is an ISO 9001 certified company