Theory of Machines



Screw Jack Apparatus (EDC-TM-112)

EXPERIMENTAL DATA:

- Determination of velocity ratio
- Determination of variation with load or effort
- Determination of screw thread efficiency
- Comparison of lubricated and un-lubricated screw threads.
- Thread testing



DESCRIPTION:

This experiment unit demonstrates the working of a simple screw jack. The complete unit is based on a sturdy bench-mounted base incorporating a turntable that is fitted with a metric square pitch screw jack thread. The apparatus is stood on a firm bench and a cord is wound around the circumference of the turntable. The free end of the cord is threaded over a pulley and then hangs vertically to accept the load hanger supplied.

A set of calibrated weights (supplied) when suspended from the load hanger produce a calculated torque on the system. To adjust the experimental parameters further the calibrated weights can also be applied to the top surface of the turntable.

TECHNICAL SPECIFICATIONS:

- Turntable diameter: Ø150mm
- Thread diameter: Ø20mm
- Thread Pitch: 5mm

RELATED LAWS:

- Mechanical Advantage
- Effort
- Thread Pitch and Lead
- Efficiency
- Simple Machines

SCOPE OF DELIVERY:

- 1 x EDC-TM-112 Assembly
- 2 x Load Hangers
- 2 x Weight sets
- 2 x 500g Weights
- 2 x 1000g Weights
- Spare Cord
- Instruction manual

WEIGHT AND DIMENSIONS:

- L x W x H (mm): 250 x 250 x 300
- Weight (approx): 15 kg

