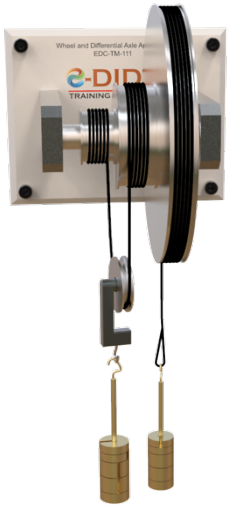
Wheel and Differential Axle Apparatus (EDC-TM-111)

EXPERIMENTAL DATA:

- Experimental determination of velocity ratio and comparison with calculated value
- Determination of variation with load of effort
- Determination of variation with load of efficiency
- Equilibrium of moments on a differential pulley block



DESCRIPTION:

This wall-mounted apparatus comprises of Ø250mm wheel that is attached to a differential axle assembly of Ø100mm (major axle) and Ø50mm (minor axle). The whole axle assembly is locked to a shaft that is mounted on bearing with the wall mounting plate.
A compound pulley is formed by fixing these three pulleys together. A single cord is wound around the wheel a number of times before hanging vertically and ending in a loop for the load hanger.
A second cord is wound on both the major and minor axles. The cord is wound in opposing directions onto each axle, and this direction can be changed for different parts of the experiments. A special hanger for effort is mounted to the cord of the axles that allows vertical suspension whilst the axles rotate.

TECHNICAL SPECIFICATIONS:

- Wheel diameter: Ø250mm
- Major Axle diameter: Ø100mm
- Minor Axle diameter: Ø50mm
- Loose roller diameter: Ø75mm
- Recommended Max Load: 100N

RELATED LAWS:

- Velocity Ratio
- Mechanical Advantage
- Effort
- Effort of Friction
- Efficiency
- Simple Machines

SCOPE OF DELIVERY:

- 1 x EDC-TM-111 Assembly
- 2 x Load Hangers
- 2 x Weight sets
- Spare Cord
- Instruction manual

WEIGHT AND DIMENSIONS:

- L x W x H (mm): 250 x 200 x 300
- Weight (approx): 15 kg