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**Product Name :**  
Torsion of Rods and Tubes

**Product Code :**  
LBNY-0005-13900038



#### **Description :**

The Torsion of Rods and Tubes is mounted onto a bearing shaft, which is rotated using a thumb wheel and fine worm/wheel gearing mechanism integral to the torsion head. The Torsion of Rods and Tubes comprises of a torsion head at one end and a fixed tailstock at the other, between which are held a variety of torsion specimens in three (3) jaw chucks.

The thumb wheel and gearing applies known torque to the torsion specimen, whilst an integral load cell records the torque force being applied. The signals from the load cell and angular position sensor is fed directly into the Interface. Fine rotational movement, in each direction, of each chuck allows accurate alignment of the Torsion of Rods and Tubes specimens. An angular position sensor is also mounted at the torsion head end to monitor the angular twist of the torsion specimens. Each torsion specimen has profiled ends to match the clamping pattern of the chucks.

#### **Experimental Capabilities:**

Comparison of the extended theory of torsion for a hollow square section member with experimental values  
Verification of the classical theory of torsion in circular section rods and tubes  
Comparison of a tube and a similar tube with a 1mm slit along the length  
Shear modulus  
Polar moment of inertia  
Modulus of Rigidity, G.

#### **Technical Specification :**

Torsion specimens held within a fixed and movable chuck  
5 torsion specimens including round aluminium rod, round aluminium tube, round aluminium tube with 1mm

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(approx.) side slit, square aluminium tube, round solid acrylic rod  
To allow the study of torsional behaviour for rods and tubes  
To have torque applied to specimen using worm and wheel arrangement  
To have torque force output using load cell  
To have angular rotation output via angular position sensor  
Comprehensive instruction manual provided  
Must be used with universal Frame and Stand  
Must be used with Interface.



**Laboratory Instrument India**