



## Pivot Friction Apparatus (SMT-MM-30)

The apparatus consists of a rotating circular turntable attached onto the end of a vertical shaft. The shaft is held vertical within a sturdy wall bracket that must be attached to a rigid vertical surface, i.e. a wall. At the lower tip of the shaft a special fixing has been created to accept a variety of end pivots. Mating seatings have been manufactured for the end pivots. The seatings positively locate at the bottom of the wall bracket so that they mate with their respective seatings but do not rotate under testing. The seatings are made from different materials and with different internal cone angles. Pure torsion is applied to the table through a pair of diametrically opposite loaded cords and pulleys. A set of calibrated weights and the hangers are supplied.

To vary the thrust on the end pivot, the calibrated weights are added incrementally to the turntable surface. Weights are then added to the load hangers to calculate the necessary parameters.

### TECHNICAL SPECIFICATIONS

#### Specification:

- Demonstrates the relationship between friction torque and axial thrust; determines the influence of bearing cone angle.
- The wall mounted apparatus consists of a rotating circular table on a vertical shaft, with a variety of interchangeable end pivots and seatings.

#### Technical Data:

- End pivots in brass and steel seatings have inclusive core angles of 60, 90, 120 and 180 (flat) degrees; additionally a ball thrust bearing may be installed.
- Thrust loads applied directly onto the rotating table.
- Pure torque applied by loading cords and weight hangers acting over pulleys onto the rotating table.
- Pivots brass, and the seating mild steel.
- An Instruction manual for student and lecturer supplied.
- Set of weights.



#### Experiments:

- To investigate the relationship between frictional torque and axial thrust.
- To determine the influence of the bearing cone angle.
- To obtain the coefficient of friction for different bearings.