Pivot Friction Apparatus – SV902

A VERTICALLY MOUNTED EXPERIMENT TO INVESTIGATE THE RELATIONSHIP BETWEEN FRICTIONAL TORQUE AND AXIAL THRUST

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 or the SV100 Bench Mounted Frame.

At the lower tip of the shaft a special fixing has been created to accept a variety of end pivots. Mating seating's have been manufactured for the end pivots. The seating's positively locate at the bottom of the wall bracket so that they mate with their respective seating's but do not rotate under testing.

The seating's 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 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.

Experimental content

- 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

Related laws

- Automotive
- Friction
- Machines
- Clutches
- Brakes
- Plate pressure
- Wear
- Torque
- Slip

Essential accessories / equipment

- **SV100** Bench Mounted Frame

Features / benefits

- Wall mounted apparatus
- Can be mounted to the SV100 Bench Mounted Frame
- Pure torsion applied to the table
- Apparatus supplied with four sets of pivots
- The seating is in mild steel and the pivot is in brass
- Ball thrust bearing is included
- All load hangers and calibrated weights are supplied

Overall dimensions

Length	0.330m
Width	0.270m
Height	0.200m
Packed and crated shipping specifications	
Volume	0.02m^3
Gross weight	19kg

Requirements

SV 100

- Rigid vertical support

Scale

Technical specification

- Four pivot sets at angles of 60°, 90°, 120°, 180° (flat)
- **Turntable mass:** Approximately 1kg
- **Turntable effective diameter:** Ø200mm
- Thrust bearing seating supplied

Ordering specification

- **SV902** Pivot Friction Apparatus
- 4 x Pivot set
- 2 x Load hanger
- 1 x Thrust bearing set
- 1 x 10m Spare cord
- 10 x 0.1N; 10 x 0.2N; 2 x 1N; 8 x 2N; 2 x 50N; 1 x 100N
- Instruction manual

Ordering codes

- **SV902** Pivot Friction Apparatus
- **SV100** Bench Mounted Frame

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