

Product Name :
SLIP AND CREEP MEASUREMENT APPARATUS IN
BELT DRIVE

Product Code :
Theory of Machine0005



Description :

SLIP AND CREEP MEASUREMENT APPARATUS IN BELT DRIVE

Technical Specification :

The apparatus consists of a variable speed D.C. Motor. Driving Pulley and Driven Pulley of equal diameters. The pulleys are mounted on input shaft (motor shaft) and output shaft. The Driven pulley can slide on the base only with bearing block to change the initial tension in belt. Brake Drum is mounted on the output shaft, which helps to measure power output. The motor speed is varied by Dimmerstat. Driving and Driven pulley speeds are indicated by a two channel digital Speed Indicator. With the help of Stroboscope it is possible to demonstrate the slip of belt on Driving and Driven Pulley.

SPECIFICATIONS

- D.C. Motor- 1 HP, 1500 RPM, 230V variable Speed
- Driving and Driven Pulleys of equal diameters (flat pulleys)
- Brake Drum along with spring balance and rope arrangement is provided to load the system.
- Flat belts of fixed length of following belt material.
 - Fabric Belt
 - Canvas Belt
- Rubber Belt
- Belt tightening arrangement - Bearing block is sliding and dead weight can be applied to set the initial tension in belt.
- Speed Indicator: Two channel digital speed indicator with switch to change the channel.

EXPERIMENTATIONS

- To measure co-efficient of friction between pulley material and different belt materials
- To measure power transmitted with varied belt tension and plotting a graph of $(T_1 - T_2) / S$ (T1+T2) i.e. "Tension Characteristics".
- To measure percentage slip at fixed belt tension by varying load on the Brake Drum and plot the graph of $(T_1 - T_2) / S$ percentage slip i.e. 'Slip Characteristics'. Finding a Creep Zone from graph.
- To measure belt slip speed and observe the limiting value of load at constant speed when the slip just starts.

SERVICE REQUIRED-

- Single Phase 15amp Electrical Connection

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