

Product Name :
Study of Rotary Bearings

Product Code :
NLAB-TECHNICALAB30026



Description :

Study of Rotary Bearings

Technical Specification :

Axial studies with the basic system.

Measurement of the axial deflection of a bearing.

Determination of the laws governing axial bearing performance.

Experimental determination of the axial rigidity using two bearings.

Evaluation of the effect of preloading on axial rigidity.

The effect of bearing play on the accuracy of rotation.

Multi-axial studies with the optional shaft instrumentation.

Allowance for and measurement of shaft deformation.

Characterisation of roller bearings, measurement of the entrainment couple and comparison with ball bearings of different types.

Review of the methods of calculation.

Technical specifications

The test bench consists of a shaft and pair of bearings mounted within a rigid bed plate. A preload can be applied to the shaft by a hydraulic jack mounted on its axis. Measurement of the hydraulic pressure in the jack gives the value of the force applied. Another jack applies a radial load to the shaft and the displacement is measured with a micrometer. Both jacks are powered by a manual pump.

The optional shaft fitted with strain gauges allows measurement of the loading of the assembly and the deformation of the axle under axial or radial loading.

An extensometer bridge is necessary to carry out the experiments.

Composition :

Shaft diameter: 25 mm

Displacement between bearings: 85 mm

Maximum loading: 10 kN

Maximum preloading: 5 kN

Bearings supplied:

1: ball bearing 6305

2: ball bearing oblique contact 7305

3: tapered roller 30305 ((x = 11,180)

4: tapered roller 31305 ((x = 28,480)

Shaft loading at 00 (axial), 45° and 90°

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