



JOURNAL FRICTION APPARATUS HFN5



Year 3
study

Features

- Floor standing apparatus with levelling feet
- Three different Journal Bearings supplied
- Speed control and digitally displayed
- All parameters visible and controllable
- Ground Journal shaft
- Temperature measured
- Weights set supplied

Description

This apparatus is designed to determine the friction torque in a plain journal bearing under varying conditions of load, speed and lubrication. The ground steel shaft is driven by a variable speed electric motor. The journal housing has a thermometer pocket, a sight feed lubricator and a removable end cover. Oil cannot be thrown out. Friction due to end face contact is very much reduced by the use of a "floating" sleeve. Friction torque is measured by adding weights to a Load hanger suspended from the damped torque arm. Weights added to the lower hanger apply a steady load to the bearing of up to 650N. Phosphor Bronze, sintered bronze and impregnated PTFE sleeves are supplied as standard journal housings. An electronic tachometer is provided for measurement of the shaft speed, which can be controlled using the control potentiometer on the front control box. An oil drip tray is provided to ensure all oil passing through the journal bearing is captured. A full set of weights, hangers and tools is provided along with a comprehensive Instruction manual for student and lecturer.

Related Laws/Applications

- Automotive
- Friction
- Machines
- Clutches
- Brakes
- Bearing
- Wear
- Torque
- Slip
- Lubrication

Learning capabilities

- Determination of coefficient of friction between two bearing surfaces under the following conditions:
 - Dry, no lubrication
 - Lightly lubricated
 - Fully lubricated
- To investigate the effect of lubrication on:
 - Journal load
 - Shaft speed
 - Operating temperature
 - Type of lubricant
- To establish the relationship between the friction torque and:
 - Journal load
 - Operating temperature
 - Type of Lubricant

Technical Specification

- Shaft speed: 1500rpm
- Motor speed control potentiometer
- Drip feed lubricator for journal bearing lubrication
- Torque arm lever 4 : 1 ratio
- Journal shaft: Steel, Ø40mm nominal
- Journal bearings; Outside diameter = Ø50mm, inside diameter = Ø40mm

What's in the Box?

- 1 x HFN5
- 3 x Journal Bearing
- 2 x Load hanger
- 1 x Cleaning pad
- 1 x Power lead
- 1 x Thermometer
- 1 x Spirit level
- 1 x Hex wrench set
- 1 x Tin of light oil
- 10 x 0.1N; 10 x 0.2N; 1 x 1N; 2 x 2N; 1 x 5N; 1 x 10N; 2 x 20N; 2 x 50N
- Instruction manual
- Packing list
- Test sheet

Weights & Dimensions

- Weight: 32kg
- Length: 560mm
- Width: 480mm
- Height: 1000mm

Essential Services

- 110/120V, 60Hz or 220/240V, 50Hz, single phase, live neutral and earth

Ordering information

To order this product, please call PA Hilton quoting the following code: HFN5 - Journal Friction Apparatus

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS