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Product Name :
Rotating Fatigue Machine Digital Apparatus

Product Code :
LBNY-0005-17600021



Description :

The applied force is captured on the digital display along with the revolution count of the specimen. Both values can be reset and zeroed (tared) prior to the testing commencing. When failure occurs, a microswitch stops the motor and the cycles to failure are registered on the digital display. A 2800rpm motor rotates a specimen through a gear and pulley arrangement between 5600 or 1425 rpm. The specimens are held within chucks and loaded using a cantilever arrangement, with the load being applied through a screw jack mechanism with integral cantilever load cell. This Rotating Fatigue Machine Digital Apparatus has been designed to introduce students to the effects of material fatigue using a sinusoidal variation of bending stress. The count remains when the motor is not running and the ability to reset the counter has been designed in. Through an appropriate spreadsheet software printing and manipulation of data can be completed. Specially machined necked test specimens are provided in steel. A safety guard shields all rotating parts. The digital display incorporates a usb socket, which allows a host computer to be connected to the. The software supplied with the allows the capture and reviewing of data. These have a 4mm nominal neck diameter and are held in the unit using collect chucks. All tooling is provided to allow the removal and fitting of these specimens.

Experimental Capabilities:

Introducing students to s-n curves
Material specification on fatigue limits

Specimen geometry on fatigue limit

To make an introductory study of fatigue using a wohler rotating fatigue apparatus, including the time to failure caused by various stress levels and materials

The accessory affords bending fatigue of a cantilevered strip of metal or plastic in modes varying from alternating to fluctuating stresses

Technical Specification :

To demonstrate the effects of fatigue
To be data acquisitioned for capturing applied force, specimen revolutions
Data acquisition software supplied
Specimen loading via screw jack mechanism with integral cantilever load cell
Rotational speeds variable through gear ratios
To be self contained bench top unit on sturdy, heavy base plate
To be fully guarded in order to restrain fractured specimen
Rotate a loaded cantilever until failure occurs in rupture
To test necked specimens of different materials
Reset and tare function for digital display
To be supplied with mild steel test specimens
To have digital display of specimen revolutions, applied force on specimen
Motor to stop automatically on specimen failure
Comprehensive technical manual.



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