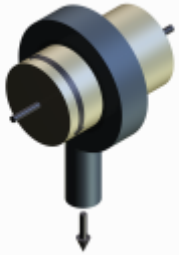
DN 22 OSCILLATING MOTION JOURNAL BEARING FRICTION & WEAR TEST RIG



Description

The DN 22 is a bearing test rig for either plain or spherical journal bearings under high load and oscillating motion. A servo hydraulic ram provides quasi static (low cycle) controlled loading and oscillatory motion is provided by a semi-rotary servo hydraulic actuator. Displacement is controlled automatically, providing either continuous motion over a given stroke or movement to a selected position, followed by a pause, followed by either continuing motion in the same direction or movement in the opposite direction. The torque is measured by means of in-line torque transducers and wear is measured by LVDT.

Control and Data Acquisition

Control and data acquisition are implemented via host PC running COMPEND 2020 Windows compatible software, in conjunction with a Phoenix Tribology USB micro-controller interface. Automatic control is implemented via user programmable test sequences. Manual control is implemented using on screen toggles. Data is stored to hard disc in either .csv or .tsv file formats.

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Technical Specifications

Maximum load:	120 kN
Maximum Oscillating Frequency:	1 Hz
Maximum Amplitude:	+/-90 degrees
Maximum Static Torque:	1,600 Nm
Maximum Dynamic Torque:	1,000 Nm
Loading:	Servo hydraulic ram
Load Profile:	Quasi static (low cycle) control
Load Feedback:	Force transducer
Motion:	Semi-rotary hydraulic actuator with in-line torque transducer
Motion Profile:	Continuous oscillating motion or intermittent motion under positional control
Wear measurement:	LVDT
Specimens:	Plain bearings bore from 16 mm I/D to 80 mm I/D
Interface:	Serial Link Interface Module
Software:	COMPEND 2000

Controlled Parameters

Speed
Position
Load
Test Duration

Measured Parameters

Speed

Load
Specimen Temperature
Friction Torque
Wear
Test Duration

Services

Electricity:

220/240V, single phase, 50 Hz, 7.5 kW
110/120 V, single phase, 60 Hz, 7.5 kW