

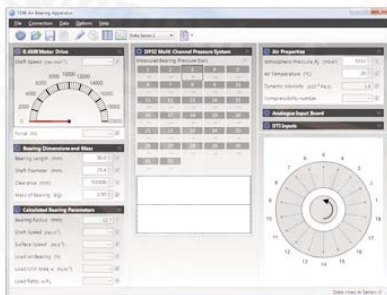
Theory of Machines

TE96

Air Bearing Apparatus

Shows the performance of and pressure distribution around a gas (air) lubricated bearing

Works with
VDAS®



Screenshot of the optional VDAS® software

- Shows the performance of a self-acting, gas (air) lubricated journal bearing
- Self-contained and bench-mounting - includes all instrumentation needed for tests
- Fully guarded for safety
- Connects to TecEquipment's optional Versatile Data Acquisition System (VDAS®) for automatic data acquisition
- Variable bearing load and speed, for a range of tests
- Includes a multichannel digital pressure display
- Shows the onset of bearing 'whirl'

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- An ISO 9001 certified company
- VDAS is a registered trademark of TecEquipment Ltd

TE96

Air Bearing Apparatus

Description

A self-contained product that shows how a self-acting gas lubricated journal bearing works. It also shows the onset of 'whirl'.

The main part has a variable speed motor that turns a belt drive. The belt drive turns a precision bearing shaft. The shaft has a high-quality surface finish and spins inside a vertically loaded bush. A hand-operated load control and load cell allow the user to apply and measure the load on the bearing bush. The bush has pressure tapings equally spaced around its circumference. The tapings connect to a multichannel digital pressure display unit.

A Motor Drive Module allows the user to vary the bearing speed. A speed sensor and the bearing bush load cell connect to the Motor Drive Module. This module displays the bearing speed and the load measured at the load cell.

Both the Motor Drive Module and the Pressure Display Module fit into an Instrument Frame that has extra space for the optional frame-mounted VDAS-F. Both modules include sockets to connect to the optional VDAS-F.

For quick and reliable tests, TecEquipment can supply the optional VDAS® (Versatile Data Acquisition System). VDAS gives accurate real-time data capture, monitoring and display, calculation and charting of all important readings on a computer. The computer is not supplied.

Note: TecEquipment's VDAS software includes a Bar Chart display of pressures. This display works with this product to see the pressure distribution around the bearing as a real-time image - ideal for classroom demonstrations.

Standard Features

- Supplied with comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives

Recommended Ancillaries

- VDAS-F – frame-mounted version of the Versatile Data Acquisition System

Experiments

- Demonstrate how a vertical load affects the pressure distribution around an air-lubricated journal bearing.
- Demonstrate how bearing speed and therefore compressibility number affects the pressure distribution in the bearing, and how this compares with theory.
- Demonstrate the onset of 'whirl'.

Essential Services

Electrical supply:

Single or two phase, 220/240 VAC, 50 to 60 Hz, at 10 A (specify on order)

Bench space needed:

Solid, level bench top of 1100 mm x 700 mm.

Allow extra space for a computer if you are to use TecEquipment's VDAS.

Operating Conditions

Operating environment:

Laboratory

Storage temperature range:

-25°C to +55°C (when packed for transport)

Operating temperature range:

+5°C to +40°C

Operating relative humidity range:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

Sound Levels

Greater than 85dB(A) at certain speeds. **You must wear ear defenders when you work near to this equipment.**

Specifications

Nett dimensions and weight:

Total size when assembled: 1100 mm long x 700 mm front to back x 600 mm high.

Total nett weight: 52.5 kg

Packed dimensions and weight:

Approximately 0.5 m³ and 60 kg

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infoWERK is a leading expert in the development of eLearning courseware, learning system solutions, teaching and AV equipment.

Furthermore infoWERK is the representative and system integrator of "TecQuipment".

TecQuipment is one of the global leaders in technical teaching equipment for engineering. If you are interested in one of TecQuipment's products feel free to contact us at:



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