

Vibrac

The World's Most Trusted Name in Precision Test Systems

Bearing Inspector II

Torque Testing of Anti-Friction Bearings and Bearing Assemblies



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A bench-top system designed to measure the torque characteristics of anti-friction bearings and bearing assemblies



As the industry leader in the precision torque test equipment market, Vibrac's commitment to supplying state of the art products has resulted in the 3000 series of bearing test systems. These unique systems combine the latest in sensors, transducers and computers to satisfy the requirements of both engineering and quality control.

The **Bearing Inspector II** is a cost-effective bench-top system for measuring the torque characteristics of anti-friction bearings and bearing assemblies. Both Starting Torque and Running Torque can be measured with the same system, the same tooling and in the same test cycle. From this testing, a variety of common bearing problems can be identified including bearing contamination, retainer hang-up, brinelled or pitted raceways, poor internal geometry, and other structural defects.

Test Head Design

A "Mini Series" torque transducer is used in the test head. The measuring capability of the test head can be changed simply by changing the transducer in the software. An optical encoder is used to provide accurate position data during a test (9000 line count with +/- 0.02 degree accuracy).



The System

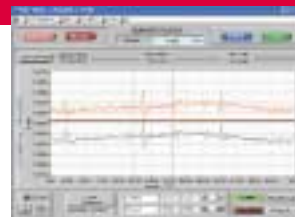
The state-of-the-art computer and bearing test head makes performing tests as easy as 1, 2, 3.

The **Bearing Inspector II System** consists of a state-of-the-art computer and a Standard, or High Load, Bearing Test Head. The test head contains a Vibrac Torque Transducer, an Optical Encoder and a Variable Speed Drive. This design enables the system to rotate the bearing at a constant speed (0.5 to 10 rpm) while measuring both torque and position.



The **Bearing Inspector II Computer System** is a customized product from a major commercial supplier and will meet the following minimum specifications:

- Intel Pentium Dual Core Processor
- Windows Software
- 100 GB Hard Drive (minimum)
- Flat Panel Monitor (17")
- 101A Keyboard & Optical Mouse
- 1GB RAM (minimum)
- 4 USB Ports
- 1 Serial Port
- 1 Data Acquisition Card
- 1 Motion Control Card



Testing Made Easy

A user-friendly front panel, consistent with other Windows based programs, is provided for communicating with the National Instrument Labview based software.



Programming Features

The system software offers drop down menus for rapid programming of tests and recalling of past test results. End-of-test reports can be custom designed to meet the user's needs. Data can also be easily exported to MS Excel, or output to both conventional printers and strip printers.

Transducers

Our patented Optical Torque Transducers provide a precise method for accurate torque measurement.

With over 50 years of successful field application, Vibrac Transducers have consistently proven their extreme durability and reliability.

The Transducers operate by shuttering light proportionally to the angular displacement of a torsion bar. This technique results in clean, noise-free electrical output. The levels of these outputs are orders of magnitude greater than those of conventional transducers.

By using precise encoder type discs instead of brushes and slip rings, the Transducers are well-known to have a very long life and very low inertia.

Vibrac Transducers can be used for both dynamic and static torque measurement over a wide range of torque and speed. A 100% overload capability prevents permanent damage in accidental high-torque situations.

The Transducers used in conjunction with any of Vibrac's instrument packages are calibrated for zero and span with a single adjustment.



MINI SERIES

Transducer Rating
0.05, 0.1, 0.2, 0.5, 2.0,
3.2, 5.0, 10.0 (oz-in)



Mini Series – Static	TQ Mini 0.05	TQ Mini 0.1	TQ Mini 0.2	TQ Mini 0.5	TQ Mini 2.0	TQ Mini 3.2	TQ Mini 5.0	TQ Mini 10
Full Scale Torque (oz-in)	0.05	0.1	0.2	0.5	2	3.2	5	10
Torsional Stiffness K (l/rad)	0.79	1.63	7.52	4.54	14.4	18.6	31	66.8
Angular Deflection of Full-Scale Torque	0.23°	0.22°	0.23°	0.40°	0.250°	0.62°	0.58°	0.254°
Accuracy (Linear, Hysteresis and Calibration)	0.5% of Full Scale							
Overload Capacity (Min)	100%							

Vibrac Warranty

Vibrac warrants all instruments of its manufacture to be free from defects in material and workmanship for a period of one year and will correct any defect at no charge. The warranty shall not apply to equipment which has been altered, subjected to misuse or used otherwise than in accordance with the instructions provided. No other warranty is expressed or implied.

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PRECISION TEST SYSTEMS

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