German GIP Industrial Park 昆山德国工业园

VALENIAN®

Machinery Fault Simulator

Mechanical vibration fault diagnosis and testing platform

Motors, bearings, gears, motors, valves, pumps and customization of rotating machinery simulation test system.

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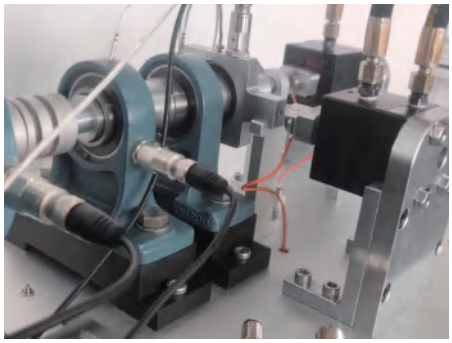
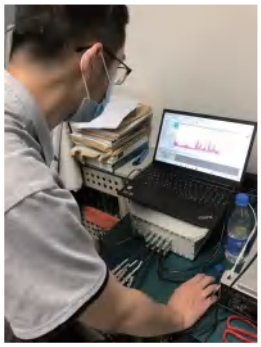
valenian (Suzhou) Teaching Equipment Co. , Ltd.

BTS100 Bearing Prognostic Simulator

Introduction:

The rolling bearing is a key component of rotating machinery, working in high speed, high temperature and high load under variable working conditions, very easy to failure, therefore, the rolling bearing fault diagnosis and fatigue life prediction to realize the failure of single-phase early warning and accurate maintenance decision, to avoid accidents caused by the gap BTS100 Bearing Life Prediction Test Bench, can be carried out to accelerate the life of bearings experiments, the principle of the experiment is that in the bearing failure mechanism, without adding new failure mode under the premise of increasing the test bearing stress level to accelerate its failure process, and then estimate the normal stress under the test data using mathematical and statistical theory to accelerate the failure process. The principle of the experiment is that without changing the failure mechanism of the bearing, without increasing the new failure mode under the premise of increasing the stress level of the test bearing to accelerate the failure process, and then according to the test data using mathematical and statistical theories to estimate the life data of the bearing under normal stress.





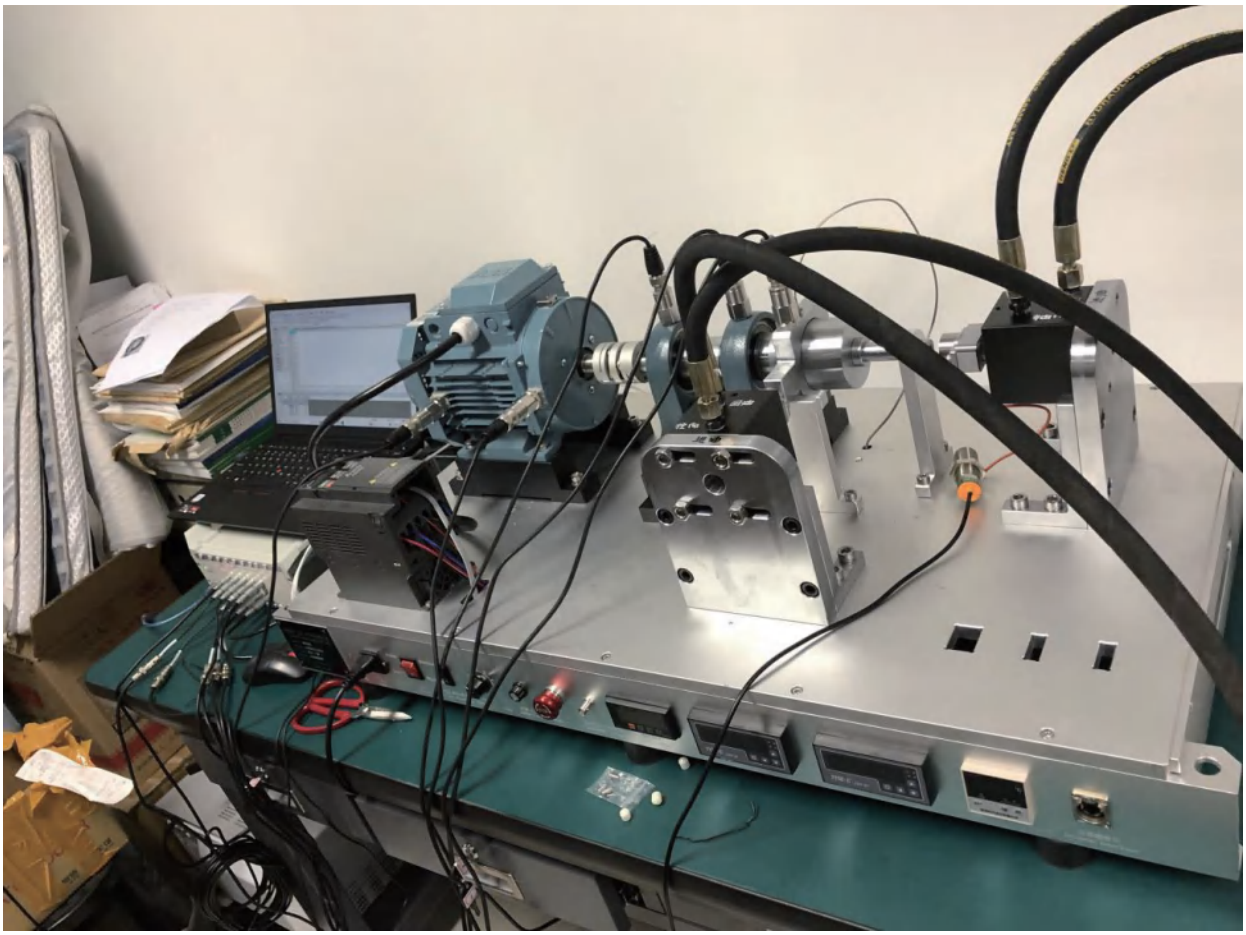
Configuration:

BTS100 Bearing Prognostic Simulator, mainly consists of three-phase asynchronous motor, coupling, double-supported bearing housing unit, test bearings, temperature monitoring module, rotational speed regulation and rotational speed display module, radial and axial hydraulic oil station loading system, load display module, rotational speed pulse output module, and other modules.

Function:

- Detecting faulty roller bearings.
- Familiar with envelope analysis and signal processing techniques.
- The effect of damage to the outer ring, inner ring or rolling element, cages on the frequency spectrum.
- Influence of the lubricant on the vibration spectrum.
- Conduct basic research on the development of bearing wear.•Understand bearing defect mechanisms as a
- function of bearing load and speed.
- Development of a predictive model for estimating roller bearing life based on damage development, operating speed, load type and bearing size.
- orrelation between vibration, motor current, load, friction and noise with frequency spectrum.
- Demonstration of basic diagnostic/predictive algorithms for the model.

BTS100 Bearing Prognostic Simulator



Basic technical parameters:

Motor	2H/P Three-phase asynchronous motor 1.5 kW, 220V
Inverter	3-Phase Variable Speed AC Inverter
Load sensor	Vertical: 50kgf~3000kgf, Sensitivity: 2mV/V, Termination Resistance: 350 Ohm Axial: 50kgf~3000kgf, Sensitivity: 2mV/V, Termination Resistance: 350 Ohm
Display	Rotation speed: 7-segment LED display, up to 20 times/second Temperature: 7-segment LED display, max. 10 times/sec
Shaft	Diameters 24,50,55mm, stepped construction
Support bearings	Support bearings Inside: UCPH208, Outer: UCPH208
Test Bearings	Rolling bearings Diameter 20,30,45mm
Load unit	Vertical: manually adjustable to 3000kg from hydraulic station. Axial: manually adjustable to 3000kg from hydraulic station
Size	1050mm x540mm x450mm