

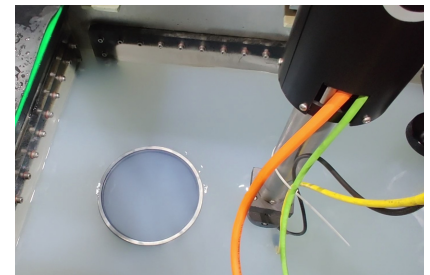


Automatic Immersion Ultrasonic Testing System for Bearing Inspection

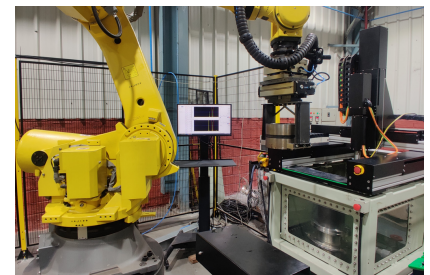
The need for 100% ultrasonic inspection of the machined components is becoming a mandatory requirement in the bearing industry. This will demand scanning machines which can handle the inspections at high speeds with reliability. Scanning High Resolution Testing and Imaging (**SHRUTI**) systems from Dhvani provides an affordable solution in this regard.

System Features

- Resolution up to 100µm
- Conventional or Phased Array.
- Advanced data analysis software
- Fast scanning with high throughput
- Live C-scan
- Integrated material handling using an industrial robot
- Go/No-Go operation mode
- Automatic report generation



Sample testing under SHRUTI



Automated Bearing Inspector

System details

Machine	<i>Fully automated 6 Axis immersion system with integrated pick and place and sorting</i>
Axis Details	<i>6 Axes (Automated X, Y, Z, A, B, T)</i>
Motion Control System	<i>Schneider Servo motion control system</i>
Supported UT	<i>JSR DPR 300 (50MHz bandwidth variant) Pulser receiver + OKOS 1 GHz high speed digitizer</i>
Maximum Weight supported	<i>75 Kgs</i>
Software	<i>acqUT data collection software customized data format for TIMKEN</i>
Features	<i>2 channel UT data collection for higher throughput (90s per double cup) Integrated to 6 axis industrial robot Infeed, accept and reject conveyors, prewash tanks Integration and synchronization with existing c-scan machine</i>
Tank Size	<i>0.7m X 0.5m X 0.7m</i>
Application	<i>Bearing inspection</i>
Domain	<i>Manufacturing</i>

Axis Specifications

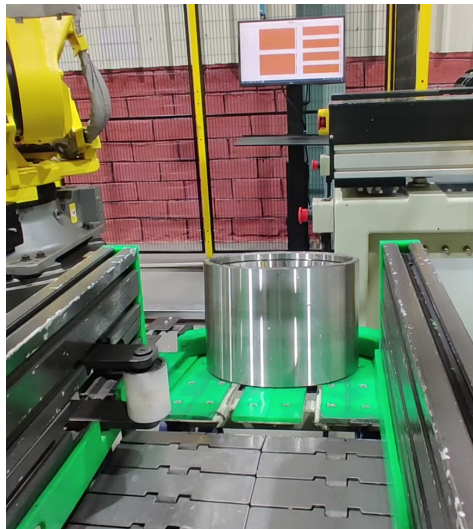
	X-Axis	Y-Axis	Z-Axis	A-Axis	B-Axis	Rotary
Motor	<i>AC Servo</i>	<i>AC Servo</i>	<i>AC Servo</i>	<i>AC Servo</i>	<i>AC Servo</i>	<i>AC Servo</i>
Mechanism	<i>Ball screw with LM guide and block</i>	<i>Ball screw with LM guide and block</i>	<i>Ball screw with LM guide and block</i>	<i>Bevel gear mechanism</i>	<i>Bevel gear mechanism</i>	<i>Planetary servo gear box</i>

Stroke	500 mm	300 mm	400 mm	±90 deg	±90 deg	Continuous rotation
Maximum Speed	300 mm/s	150 mm/s	150 mm/s	45 deg/s	45 deg/s	360 deg/s
Maximum Acceleration	150 mm/s ²	75 mm/s ²	75 mm/s ²	15 deg/s ²	15 deg/s ²	180 deg/s ²
Accuracy (per m)	±0.05 mm	±0.05 mm	±0.05 mm	±0.1 deg	±0.1 deg	±0.1 deg
Repeatability	±0.025 mm	±0.025 mm	±0.025 mm	±0.05 deg	±0.05 deg	±0.05 deg

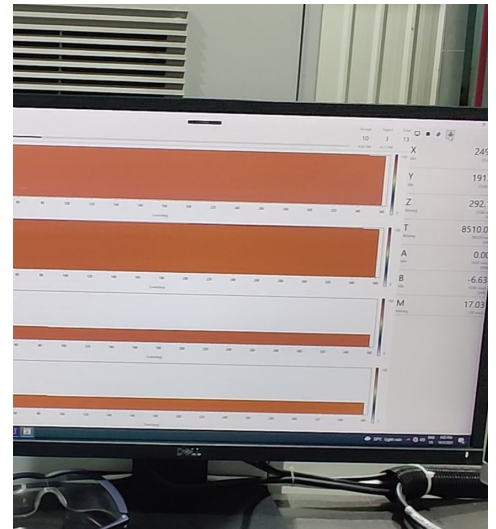
System Gallery



Sample Prewashed before Inspection



Inspected Sample on Acceptable Conveyors



User Friendly and Customizable Software

Dhvani Research Systems can be customized based on the client's requirements. To avail, Contact us