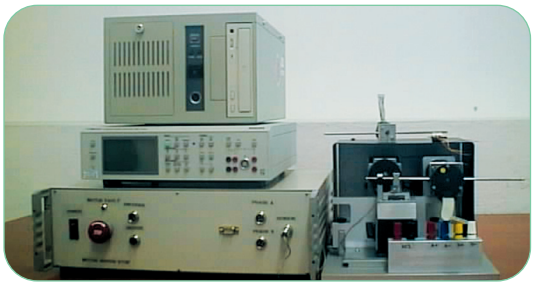
SysEng (S) Pte Ltd

Tester for Motors and Electro-Mechanical Devices

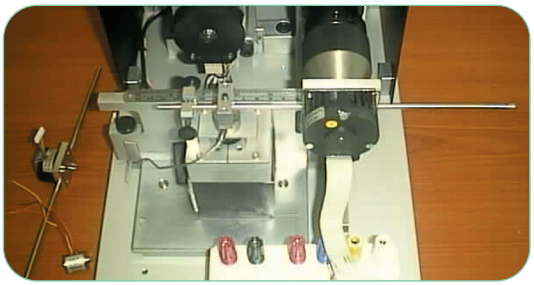
SysEng (S) Pte Ltd designs and commissions Motor and Electro-Mechanical Testers for factories. These test system includes Fixture, Measurement sensors, Software and System for both off-line table top as well as In-line applications. The test systems have proven records to measure torque levels from Nm down to mNm.

Stepper Motor Tester

As printers and scanners produce higher resolution images, the demand for higher resolution stepper motors also increase. For higher speed of the printing and scanning, the stepper motors also require accurate higher transient step angle performances. The system measures Stepper Motor Dynamic performances of transient step angles, step responses, transient currents as well as stepping speeds, Inductances and Resistances.



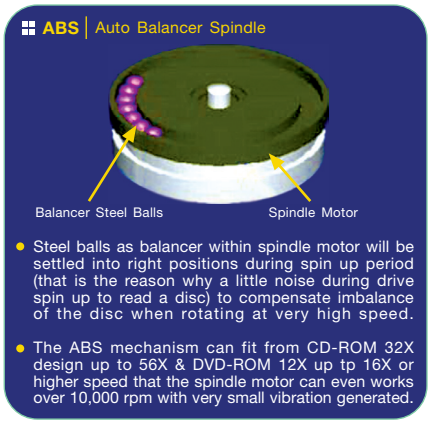
Automated Test System for Stepper Motor



Flexible Motor Jig for miniature stepper motor measurements

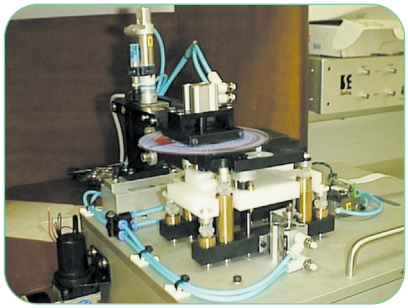
Auto-Balancer Tester

When CDs and DVDs increase their capacities and speeds, the unbalance forces of the spinning discs and spindle motors can caused these devices to have high wobbling caused by manufacturing tolerances. These effects cause laser pen data reading errors and reduces the life of the devices due to wear and tear. The test system measures the vibration signatures on the X-Y axes, speed and currents. The vibration signals are analyzed using digital signal processing techniques and the user have a simple GO/NO GO judgment information.

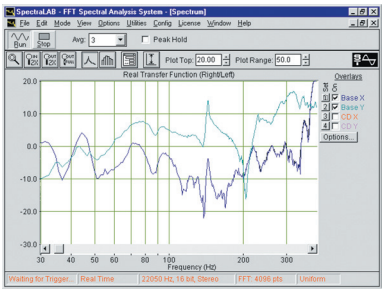


Drive Vibration Isolation Quality Test

For measuring vibrations of the CD drives and Motors, when the vibration levels are low, any external vibration from the conveyor motors, equipment, fans can cause measurement errors. The test system measures the vibration signatures on the X-Y-Z axes on the jig base and also on the drives. The vibration signals are analyzed using Transfer Function and Coherence coefficients.



Automated Test System with Vibration isolators



The improvements in vibration suppression using specially designed rubber mountings of -10dB at the frequencies of interest

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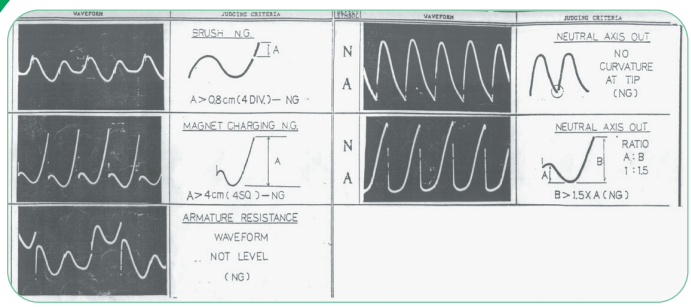
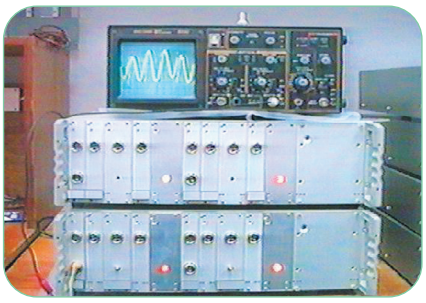
Miniature DC motor Test

In a production of DC motors, the current waveforms can be measured and then analyzed for different production process faults. The waveforms are captured and analyzed in real time using Digital Signal Processing Techniques. The fault diagnostic system uses a Fuzzy Logic Inference Engine to learn from the measurement parameters and then converted into Production Process Faults



Actual production process Fault chart from the motor manufacturer giving different manufacturing faults



Motor Fault Diagnostic Test System

Reliability Test Facilities

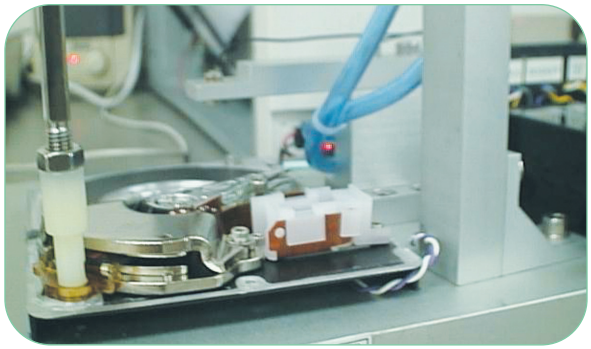
To check that the motors produced are reliable, motors are tested in a burn-in facility where the motors are powered under different load conditions and varying temperature conditions. The system controls the electronic loads and cyclic temperatures at various time intervals as well as the temperature of the burn-in chamber. Upon detection of faults, the system shuts down the particular test cell and informs the operator. Throughout the entire test , which can take months, the performance of the motors are captured and analyzed automatically. The entire system is a Supervisory Control And Data Acquisition (SCADA) system.

SCADA system for Motor Tester

Walk-in Burn-in facility

Magnetic Force Motor Actuator Tester

The magnets used in a actuator voice coil are tested using externally excitation of constant current drive to ramp up until when the actuator releases the unit. The system measures the holding force and the response time of the unit.



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