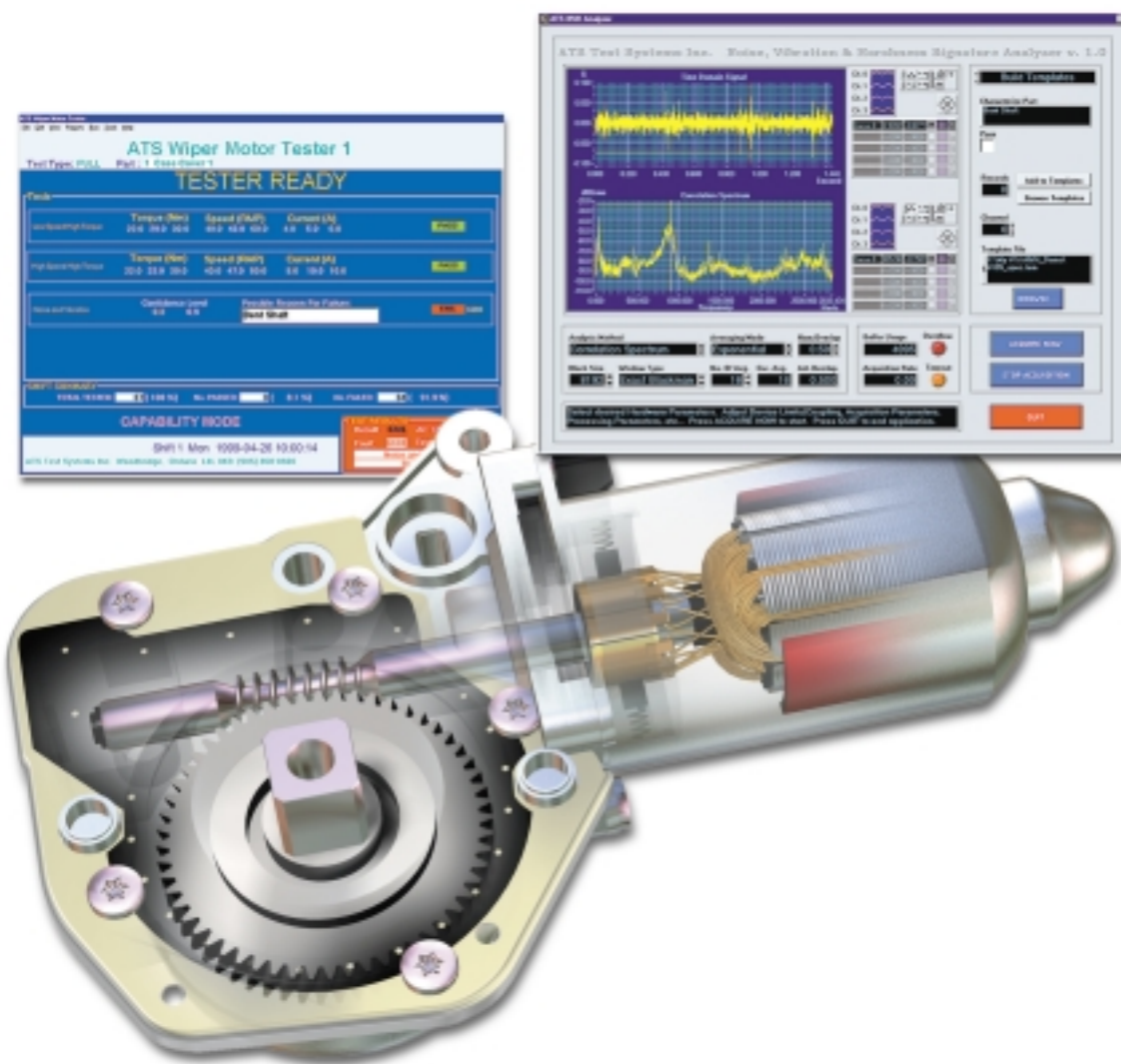


Automated Noise, Vibration and Harshness Test System



Automated Noise, Vibration and Harshness Test System

NVH 2000

Description

This proven industrial factory floor solution uses statistical correlation techniques, combined with multiple test & measurement analysis methods to determine the Noise, Vibration and Harshness signature of typical rotating products. These products are then classified as good or bad based on the associated significant confidence level. Failures are further classified as to probable root cause. Only products with marginal correlations are segregated for a second human-based evaluation, reducing significant cost, without sacrificing product quality.

Specifications

Product Name:	Automated Noise, Vibration and Harshness (NVH) Test System
Models:	NVH 2000
Style:	PC-based Windows NT® computer with PLC interface
Analysis Methods:	Time Signal/History/Signature Auto Power Spectrum Auto Correlation Auto Correlation Spectrum Third Octave Analysis Joint-Time Frequency Analysis (future option)
Window Functions:	Rectangular/Uniform Hann Flat-Top Blackman Exact Blackman Blackman-Harris 4-Term Blackman-Harris 7-Term Blackman-Harris
Overlap Analysis:	0-100%
Averaging:	None Exponential Linear, Block Process Linear, Moving Window
No. of Channels:	4 (single-ended or differential)
Resolution:	16-bit
Dynamic Range:	90 dB
Sampling Rate:	5,000 - 204,800 Hz
Frequency Range:	DC to 95 kHz, +/- 0.1 dB
Coupling:	DC or AC (-3 dB cut-off frequency: 3.4 Hz)
Input Ranges:	-40 dBV to +40 dBV in 10 dB intervals
Max. Input Level:	42.4V
ICP Signal-Conditioning:	Built-In

Features

- Classification system based on statistical correlation analysis determines root cause of part failures
- Statistical confidence level indicates probability that part classification is valid
- User-defined confidence limit segregates marginal parts for additional testing/analysis by operator
- Analysis can be based on acoustical noise, mechanical vibration and/or electrical signals (e.g. current ripple) by selection of appropriate transducers
- Standard Windows® GUI for system setup, debug and off-line viewing/analysis of test results
- Saving of signatures to disk for later playback/analysis
- Easy-to-use system for building/browsing/editing template files and defining part classes (failure modes)
- Simple color-coded user interface for immediate operator feedback of test results and test system status during on-line automated testing
- Fast cycle times
- Support for multiple test fixtures
- Full host automation PLC interface: includes automatic part type changeover, failure mode, rework mode and tester ready status
- Enhanced test system diagnostics
- Gauge repeatability and reproducibility (GR & R) studies
- Informative and descriptive messages; multilingual operator interface
- Color-coded display screens for immediate operator reporting of test results and test system status
- Fully-integrated management reporting by hour, shift, day and week
- User-definable shift times, lunch hours, coffee breaks, etc.
- Complete test result data archiving, capable of local or remote LAN echo
- Process event logging: black box style; capable of local or remote LAN echo
- Integrated statistical process control (SPC) by fixture and by total population; by shift and moving sample; automatic alarming
- Optional CE conformity
- Optional on-site set-up, commissioning and training

Contact ATS directly for custom applications or for product specific applications outside this document.



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