

MODEL NDT-DTF

NDT-RAM DROP TEST FIXTURE

- Maximum throughput up to one part/s
- Tests many different part numbers on a single system
- No part preparation or elaborate fixturing required
- Easy-to-learn application software
- Automatic sorting of Pass and Fail parts
- Generates production reports for statistical analysis
- Easy integration with up/down stream automation components

TYPICAL APPLICATIONS

- 100% Inspection
- Production - End-of-Line Inspection + Process Monitoring
- Quarantines - Troubleshooting
- Quality Control - Spot Checking
- Engineering - New Product Development

100% QUALITY INSPECTION FOR SMALL PARTS

The Drop Test Fixture, Model NDT-DTF Resonant Inspection System, is an ideal choice for testing small powdered metal (PM), additively manufactured (AM) or other metal parts. The innovative Drop Test Fixture makes automation for 100% quality testing easy and efficient. With cycle times approximately 3 seconds per part, typical*, the NDT-DTF provides a means for objective sorting, requiring no human interpretation. A simple pass/fail result is returned by the NDT-RAM system and parts are automatically sorted via a servo-controlled motor.

Successful Applications:

- Powdered Metal
- Additive Manufacturing
- Metal Injection Molding
- Composites/Ceramics
- Small Metal Components
- And more

Typical Defects Detected:

- Cracks
- Braze Quality
- Missing Features
- Missed Processes
- Mixed Material
- Heat Treat

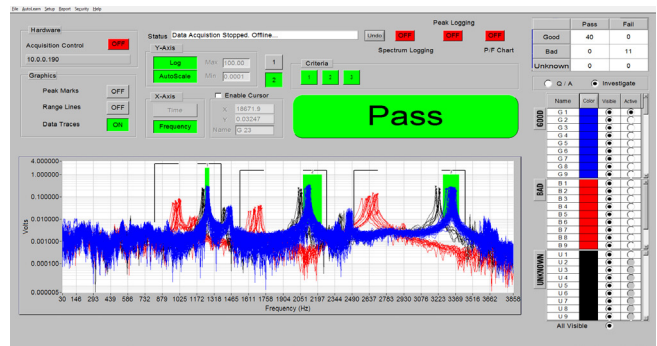
The NDT-DTF automates easily with small part automation components like bowl feeders or vibratory tables and is instrumented with a laboratory grade force sensor, microphone and digital signal analyzer all designed to withstand a tough manufacturing environment. An industrial PC, mounted on a convenient swivel arm, provides software interface control.

This easy-to-use Non-destructive-testing system quickly becomes a critical quality assurance tool in your inspection process. The NDT-DTF can detect imperfections or flaws such as variations in overall geometry, cracks, and missing features. It can also detect if processes have been missed, such as machining or heat treating operations.

NDT-RAM SOFTWARE

NDT-RAM application software compares each part's resonant signature against reference criteria limits and accepts or rejects the part accordingly. The system report generation feature allows for full part signature archival and statistical analysis of your parts and manufacturing processes. The software offers:

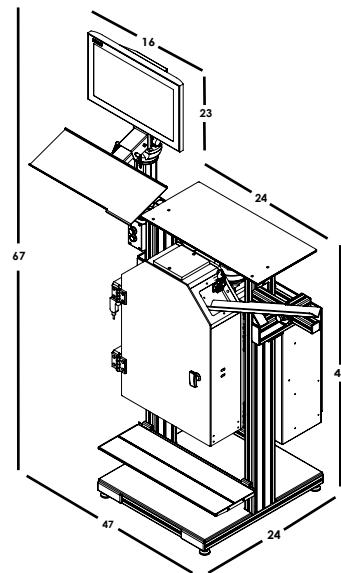
- Graphical features provide visual data evaluation
- Color coded spectra to show good and bad parts against preset acceptable criteria ranges
- An investigate Mode supports up to 1500 part spectra, labeled good, bad or unknown
- Clear indication of pass/fail as each part is tested



NDT-RAM Software Interface

SPECIFICATIONS	
Performance	
Part Throughput	
Cycle Time (Typical)	Approximately 3 seconds per part, typical* (Max Throughput 1 part/s)
Maximum Part Size	5 inches (10.16 cm), < 200 g
Pass/Fail Mechanism	
User Defined Criteria Ranges	Up to 20 frequency bands
Rejection/Approval Mechanics	Servo-Controlled motor
Acoustic Measurement	
Response Sensing	Prepolarized microphone - PCB 130 series
Frequency Range	Up to 50 kHz
System Control	
PLC Servo Controller	16 inputs/16 outputs modular expandable
Computer	Siemens Industrial PC

*Part throughput rate dependent upon part size, data acquisition set-up parameters, and other part handling considerations.



NDT-RAM Drop Test Fixture
Dimensions in inches



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The Modal Shop, Inc. offers structural vibration and acoustic sensing systems and services for various applications in design and test laboratories as well as manufacturing plants. An extensive sound and vibration rental program, precision calibration systems, and both modal and vibration shakers are designed to simplify test phases. Non Destructive Testing Systems help manufacturers provide 100% quality inspection of metal components. The Modal Shop, Inc. is a subsidiary of PCB Piezotronics, Inc., and PCB® is a wholly owned subsidiary of MTS Systems Corporation.

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DS-0114 revD



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