

MaGyc

Innovation Engineering

MODEL MG-ST-100

ACOUSTIC SIGNATURE
RESONANT TEST



FEATURES

- **Based on NDT Resonant Signature Technology**
- **Immediate identification of voids, cracks, debonding and density variation.**
- **Suitable for detecting changes of geometry, weight, material properties and manufacturing process.**
- **Tested on Iron Castings, Forgings, Powder Metals, Metal Stampings, Aluminum Foundries, Ceramics, Composites, Clay and others.**
- **Simple-to-use interface for Learning and Testing.**
- **Ideal for 100% on-line production quality inspection.**

DESCRIPTION

The Model MG-ST-100 Resonant Test is designed to provide a rapid, simple and cost-effective NDT analysis.

Based on the principle of resonant signature, MG-ST-100 is the right solution for 100% quality inspection and for on-going dynamic measurement of whole part integrity.

HOW IT WORKS

Every part, product or component has its unique acoustic resonant signature that reflects its composition, dimensions and stiffness. The resonant frequencies are almost exactly the same from good part to part, however they will change when internal or external changes occur.

Any deviation from the expected signature indicates a variation of the part characteristics or in the manufacturing process.

APPLICATIONS

The testing procedure consists of acquiring the sound response of the excited part, transform it in the frequency domain and analyze the characteristics of the main frequencies.

The test takes few seconds per part, allowing cost-effective and efficient quality-control testing of 100% parts in the process line.

The simple-to-use interface allows the user to create acceptance limits for different product types and easily manage the digital I/O interface with external automation.

Voids, cracks, debondings, geometry or density variations, different material proper-ties or manufacturing process deviations can be detected immediately.

Excellent results have been obtained on Iron Castings, Forgings, Powder Metals, Metal Stampings, Aluminum Foundry, Ceramics, Composites, Clay and others.

SOFTWARE PACKAGE

The Model MG-ST-100 Resonant Test is provided with a Software Package including:

- Learning tools for masterpiece acquisition.
- Testing tools for manual and on-line product assessment (Digital I/O Interface included).

The Basic Package is upgradeable with Additional Software Modules:

- Multiple Products Learning and Testing tool.
- Database and Log Archive.
- Multiple User Management Tool

HARDWARE

Analog Input	High Quality Cardioids Microphone (XLR)
Digital Input	1 Ch (Test Trigger)
Digital Output	Hammer control / Status / Test Results
Panel Indicator	Hardware Status / Test Result
PC Connection	USB-2 Standard Connection
Power Supply	110-220 Vac
Automatic Hammer	3 - 120 N according to the application

SOFTWARE Standard Package

Learning tools for masterpiece acquisition

MG-ST-100 acquires and elaborates the signals of masterpiece products allowing the definition of reference signals. One single set of limits is fully programmable.

Testing tools for manual and on-line product assessment (Digital I/O Interface)

Fully operative tool for acquiring and elaborating single product signals. The quality result is shown directly on screen. Both manual and automatic start can be set. The digital I/O interface is fully operative. Automatic settings Backup and Restore is available

SOFTWARE Additional Modules

Multiple Products Learning and Testing Tool

Comprehensive evaluation facilities for quality assessment of unlimited number of different products. Every set of limits definition is linked to each product type and can be stored, modified and recalled as needed even with different versions of the same set of limits.

Database and Log Archive Tool

All acquired data, testing results and defined set of limits are stored in a database. The Log of machine events and operations is maintained for post-processing analysis and activity management.

Multiple User Management Tool

The User Management Tool enables to manage two levels of users' access to the System. Every operation can be set to be password protected. If Database and Log Archive Tool is installed, every operation will be stored to verify all activity carried on the machine.

ORDERING INFORMATION

MG - ST - 100 - AAA - BBB

AAA =	Electromagnetic max Force (N) - Please consult Supplier for definition
BBB =	000 Standard Package Software
	xx1 Multiple Products Learning and Testing Software Tool
	x1x Database and Log Archive Software Tool
	1xx Multiple User Management Software Tool