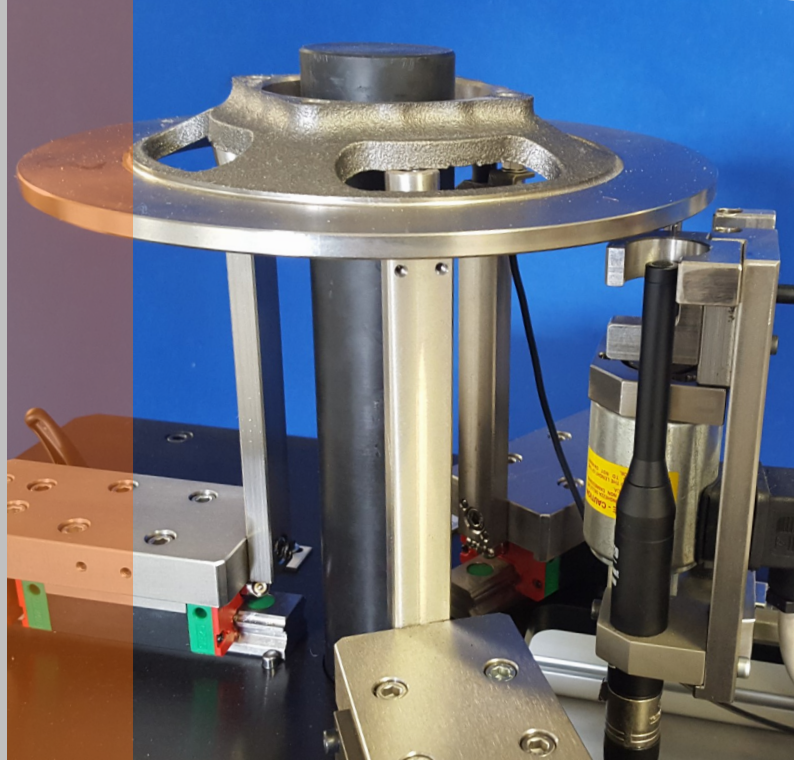


MaGyc

Sound Test ***Disk Brake Tester***



ABOUT SOUND TEST:

Vibration Analysis: a quick and relatively inexpensive way to detect the presence of defects (flaws). The analysis based on the vibrational characteristics of the product concerned is used to detect flaws like cracks, porosities, incorrect heat treatment, machining errors in many different types of products and components.

THE THEORETICAL FOUNDATIONS:

Each piece, when excited, vibrates according to frequencies that uniquely characterize it.

The presence of flaws partially alters the properties of the piece and generates differences in some of these frequencies.

Comparing the “frequency signature” of each product with that of a reference product, it is possible to detect any deviations.

THE MOST EVIDENT ADVANTAGES OF THE APPLICATION OF THIS TECHNIQUE:

- The cost is significantly lower compared to other control techniques;
- The test time may be as short as 0,5 sec.;
- It can be applied at the end of the production line..

HOW DOES THE SOUND TEST WORK?

- The piece is excited to vibrate by dropping or impact;
- A microphone captures the sound;
- Learning with an adequate number of good pieces, a unique signature is generated;
- A piece not good reveals deviations from the signature of the good one.

NDT CONTROL TECHNIQUES BASED ON THE SOUND TEST HAVE BEEN SUCCESSFULLY APPLIED TO:

- Flaw detection in sintered parts even at the green state;
- Control of brake pads and brake disks integrity;
- Checking integrity of cast parts;
- Control of welds integrity;
- Checking integrity of refractory products and ceramics.

APPLICATIONS

- analysis for squeal reduction;
- detection of voids, cracks, debonding;
- geometry or density variations;
- different material characteristics;
- manufacturing process deviations.

DESCRIPTION

The **MG-ST-100 Disk Brake Tester** is designed to provide a quick, simple and cost-effective NDT analysis of brake disks.

Based on the principle of acoustic signature, **MG-ST-100 Disk Brake Tester** is the right solution for quality inspection and for dynamic measurement of parts 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 (eigen-frequencies) are almost exactly the same from good part to part; however they will change when internal or external changes occur. The resonant frequencies (eigen-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. The testing procedure consists of acquiring the sound response of the excited part and analyse a predefined set of selected frequencies. The test takes less than 1 second, allowing cost-effective and efficient quality-control.

HARDWARE

Analog Input: Measurement Cardioid Micro phone (XLR)

Digital Input : Test Trigger

Digital Output : Ready/Not Ready, Ok, Not Ok

Panel Indicator : Hardware Status / Test Result

Power Supply : 110-220 Vac

Automatic Hammer: 3 - 120 N according to the application

Global mass: 70 Kg

SOFTWARE

LEARNING TOOLS FOR MASTERPIECE ACQUISITION.

Acquisition and processing of the masterpiece products (golden samples), allowing the definition of reference signature. An unlimited number of different masterpiece products can be stored. Every set of limits 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.

TESTING TOOLS FOR MANUAL AND ON-LINE PRODUCT ASSESSMENT Acquisition and processing product signals. The quality result is shown directly on screen and through the digital I/O interface. Manual and automatic start can be set.

DATABASE AND LOG ARCHIVE TOOL

All acquired data, testing results and defined set of limits are stored in a database. A 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 password protected.

