



VIBRATION ANALYSIS SERVICES





Over the past 135 years, we have been manufacturing innovative abrasive products and providing cutting-edge solutions for rough and precision grinding industries. This experience of over a century has shaped our offerings to be more holistic. Apart from the comprehensive line of abrasive products, we now provide Abrasive Services, crucial for machine maintenance and seamless production.

VIBRATION ANALYSIS SERVICES

We support customers in understanding machine vibrations specific to the machine tool, grinding machines and other rotating equipment. Essential elements of machine tool and grinding machines is accuracy and the quality of parts produced. Though machine vibrations and chatter might appear as a common problem in a grinding shop floor, it can manifest into multiple other concerns such as problems in surface finish, size inconsistencies, thermal damage and tool life. Hence, measuring and monitoring machine tool conditions is crucial for agile production processes and improving product accuracy.

Our certified ISO vibration analysts and application engineers detect & prevent equipment failure & downtime thereby, saving costs, valuable production time and help to achieve a consistent and defect-free part.



- ▶ SURFACE FINISH
- ▶ CHATTER
- ▶ TOOL LIFE
- ▶ SIZE VARIATIONS



OFFERINGS

1. PERIODIC OFFLINE MONITORING

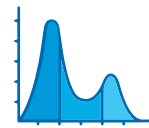
Norton Vibration Analysts perform offline vibration monitoring of spindles, motors, gears and associated assets of a machine using wireless sensors and an iPad-based system which enables the following.

- i. Real-time spectrum & TWF analysis
- ii. Route trending of data over a period of time
- iii. Validating vibration levels through ISO standards
- iv. Understanding and validation of faults in the machine

ADVANTAGES

- a. Reliable periodic vibration monitoring
- b. Advanced understanding of grinding machines, rotating equipment, spindles, bearing conditions, etc.
- c. Holistic solution from abrasives & tools + machine point of view
- d. Single point of contact for vibration related issues, services and recommendations
- e. Safe & secure data storage & maintenance for reference and benchmark

SINGLE MEASUREMENTS



FULL SPECTRUM



EMAIL & PRINTER-FRIENDLY REPORTS

ROUTE MEASUREMENTS



CREATE, EDIT & MANAGE ROUTES



OPTIONS FOR MEASURING POINTS



QUICKLY CAPTURE ROUTE VIBRATION DATA

POST-PROCESSING, TRENDING & MAINTENANCE RECORDS



VIEW PLANT STATUS



REVIEW PAST READINGS



VIEW TRENDING DATA

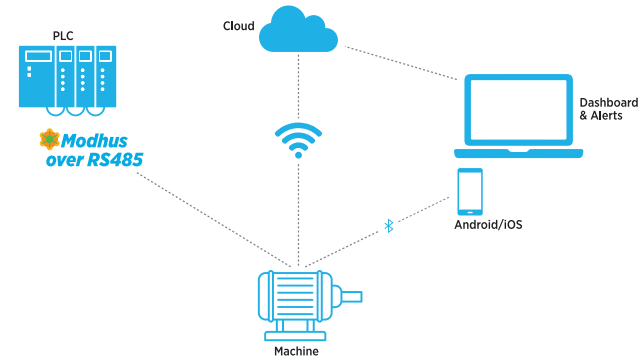


VIEW AND CREATE MAINTENANCE EVENTS

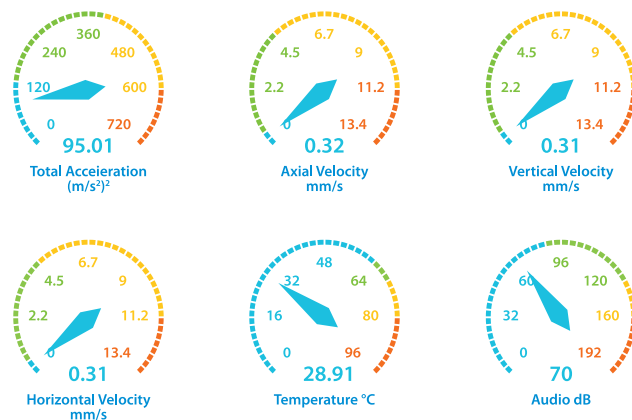
2. 24x7 ONLINE MONITORING

We provide 24x7 online vibration monitoring services through an IoT based vibration sensor with Wi-Fi and Bluetooth connectivity. It includes the following.

- a. **Monitors any rotating equipment to provide real-time diagnostic insights**
- b. **Visual feedback through LED's and color codes**
- c. **Data analysis done remotely by certified Vibration Analysts from Norton**
- d. **Real time alerts sent on mobile phones and email**



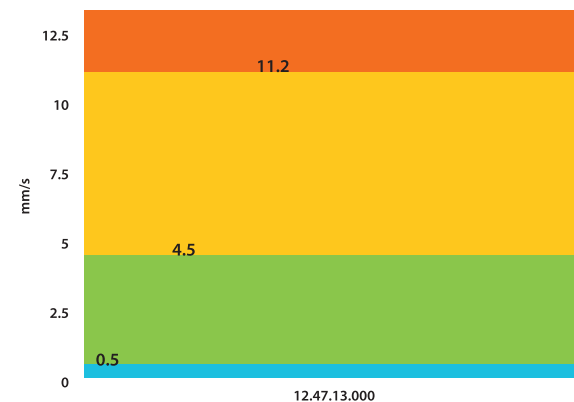
Instantaneous Parameters



Feature

Horizontal Velocity

GET



CASE STUDIES

1. FUEL INJECTOR PARTS MANUFACTURER

Application:
Creepfeed Grinding

Objective:
Drop in tool life and inconsistency in quality output

Activity:
Norton identified a stage three inner race fault in spindle bearing through vibration spectrum analysis

Result:
Post maintenance activity based on Norton recommendation, tool life improved by 30% all the produced parts were well within quality control limits

2. BEARING MANUFATURER

Application:
Internal Grinding

Objective:
Random and unpredictable chatter on part

Activity:
Norton identified natural frequencies of the system, identified resonance condition & correlated with grinding parameters

Result:
Post changes based on Norton recommendation, random chatter was corrected and reduced

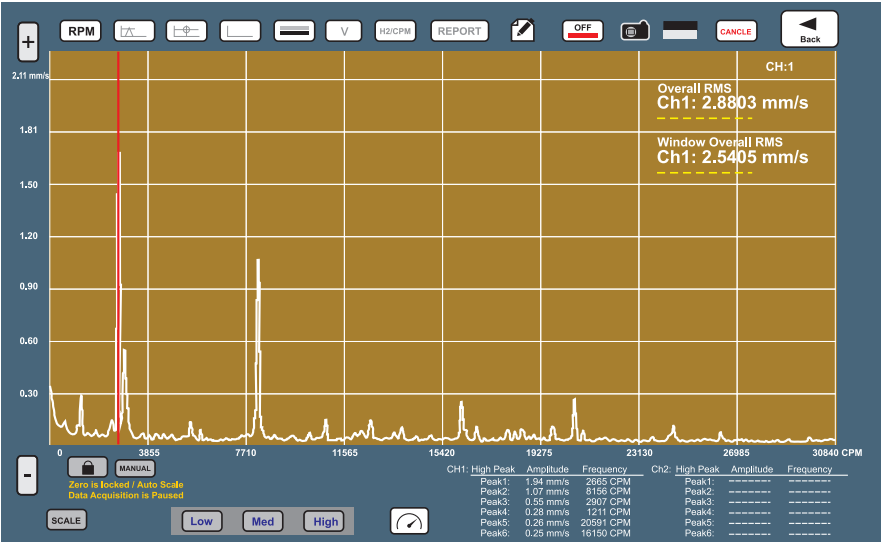
3. DI PIPE MANUFACTURER

Application:
Pipe Cutting

Objective:
Inconsistent tool life & performance

Activity:
Norton identified a stage three outer race fault in spindle bearing

Result:
Post maintenance activity based on Norton recommendation, tool life improved by 40% with expected consistency & better tool spares planning





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