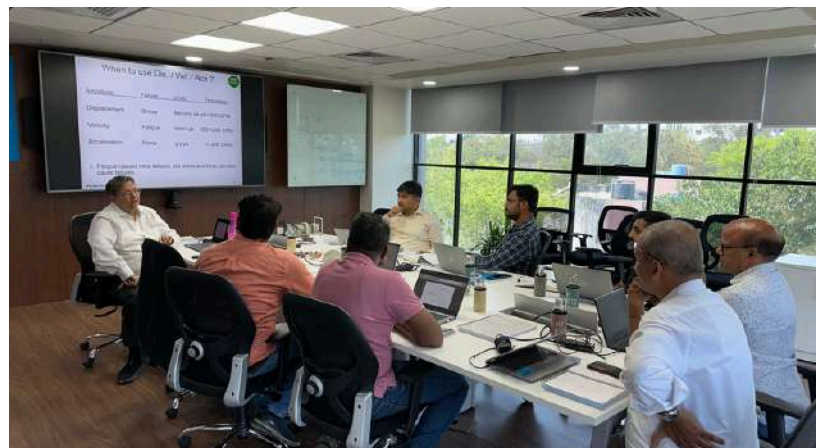




Solutions Overview



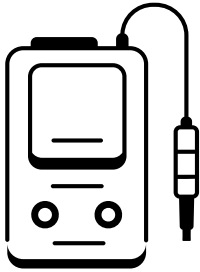
Condition Monitoring

Vibration | Air Gap | Speed | Temperature

Turbine Supervisory Instrumentation (TSI)

Table of Contents

IRD Mechanalysis Limited has been providing Condition Monitoring Solutions to the World since 1962. Known as 'The Vibration People' - Our Solutions include:



Portables



Online Systems



Services

Handheld and Easy-to-Use Vibration Meters and Analysers that help in Preventive and Predictive Maintenance. Rugged and Proven for Industrial Use

Predictive Maintenance

Online Monitoring and Protection Systems for Vibration, Temperature, Speed and other Process Parameters. Providing Early Warning and Insights

Proactive Maintenance

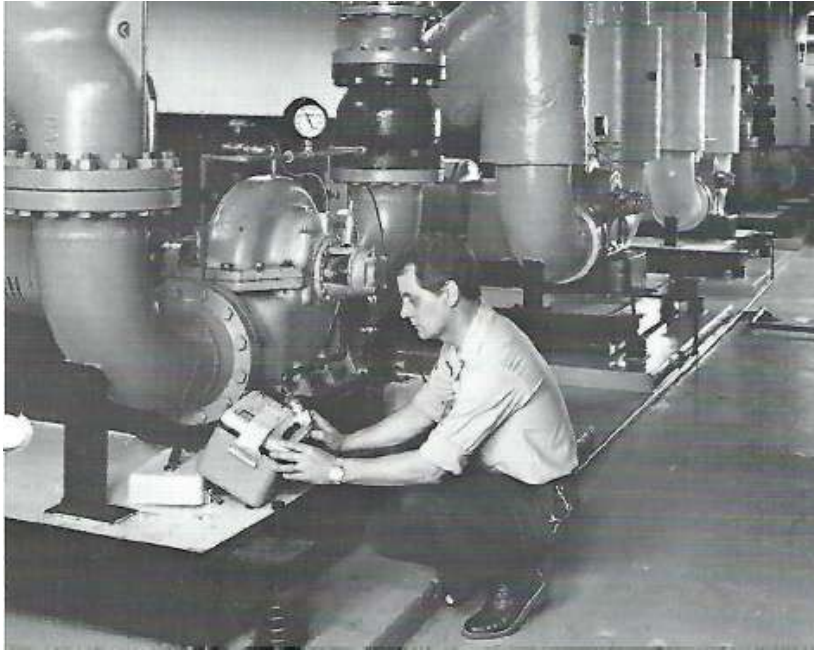
Training, Consulting, Annual Maintenance Contracts, Commissioning, Repairs and Calibration to Keep you Going.

Reliability & Availability



About Us

IRD Mechanalysis Limited - also commonly referred as 'IRD' and 'The Vibration People' - has been providing Condition Monitoring Solutions to the World since 1962



Pioneers in Condition Monitoring

We are one of the first companies in the World to bring technologies for Handheld Vibration Measurement, Bearing Condition Monitoring via Spike Energy™ and propagate concept of Predictive Maintenance



Manufacturing in India

At our Factory in Thane, Maharashtra, India - we manufacture from Scratch our Portable Instruments and Online Monitoring Systems with Strict Quality Control and Assurance measures. Our Products are Built to Last.



Team of Experts

Led by Mr. M P Srivastava who has 50+ years of Experience



Presence

Agents and Distributors all around the World



Under One Roof

Portables, Online Systems, Associated Services



Portable Instruments

Handheld and Easy-to-Use Vibration Meters and Analysers that help in carrying out Preventive and Predictive Maintenance. Rugged Design and Built-to-Last. IRD811 and IRD811D measure Spike Energy™ (gSE™) for Bearing Condition Assessment of Rolling Element Bearings



IRD301

Vibration Velocity in mm/sec RMS.
Low Battery Indication



IRD306DP

Vibration Velocity and Displacement. ISO Chart



IRD811D

Vibration Acceleration, Velocity and Displacement. Spike Energy™



IRD306

Analog. Vibration Velocity and Displacement.



IRD811

Analog. Vibration Acceleration, Velocity, Displacement. Spike Energy™



Analyser

Waveform, Spectrum, Orbit, Waterfall, Cascade and more

Maximising Portables

Portable Instruments should be handed over to the **Operations and Maintenance Team**. They should follow this simple **3 step process** to maximise the results from their Portables to do effective **Preventive and Predictive Maintenance**



1. Check Overall Level

Use the Vibration Meter to measure the overall level of vibration. If in doubt on which parameter to use - then use Vibration Velocity in mm/sec RMS which can be compared to ISO Standards like ISO 20816. If values are within limit - then continue Standard Operation of the Machine. If above limit - proceed to Step 2



2. Analyse Further

Look for Points having the Highest Vibration in a Machine Train. Use Ratios and Plots coupled with Vibration Analysis knowledge to determine most probable cause of Problem



3. Corrective Action

Schedule Maintenance and carry out Corrective Action based on Diagnosis. Repeat steps if needed

Online Monitoring Systems

Round-the-Clock Monitoring Systems designed for Decades of Monitoring, Transmission and Protection



Made in India - Made for the World

All our Online Monitoring Systems are made from Scratch at our Manufacturing plant in Thane, Maharashtra, India. Our Monitoring Systems are designed to comply to National and International Safety Standards and are type tested for Dry Heat, Damp Heat, Cold, Vibration, EMI/RFI and ESD to relevant IEC Standards



IRD7200



IRD7100



IRD8800

Din Rail mounted

Easy to Install. Supports Accelerometers. Provides 4-20 mA output, 0-5 V DC Output, Buffered Time Waveform Output

Wall Mounted

IP65 rated for Protection against Weather and Elements. Local Display, Industry Standard outputs like 4-20 mA and Relay Contacts

Rack Based

API670 Compliant. Advanced abilities - fully configurable with Password Protection. Ability to connect to Plant Wide systems



Contact Sensor

Input from Accelerometer or
Velometer - Contact type Sensor



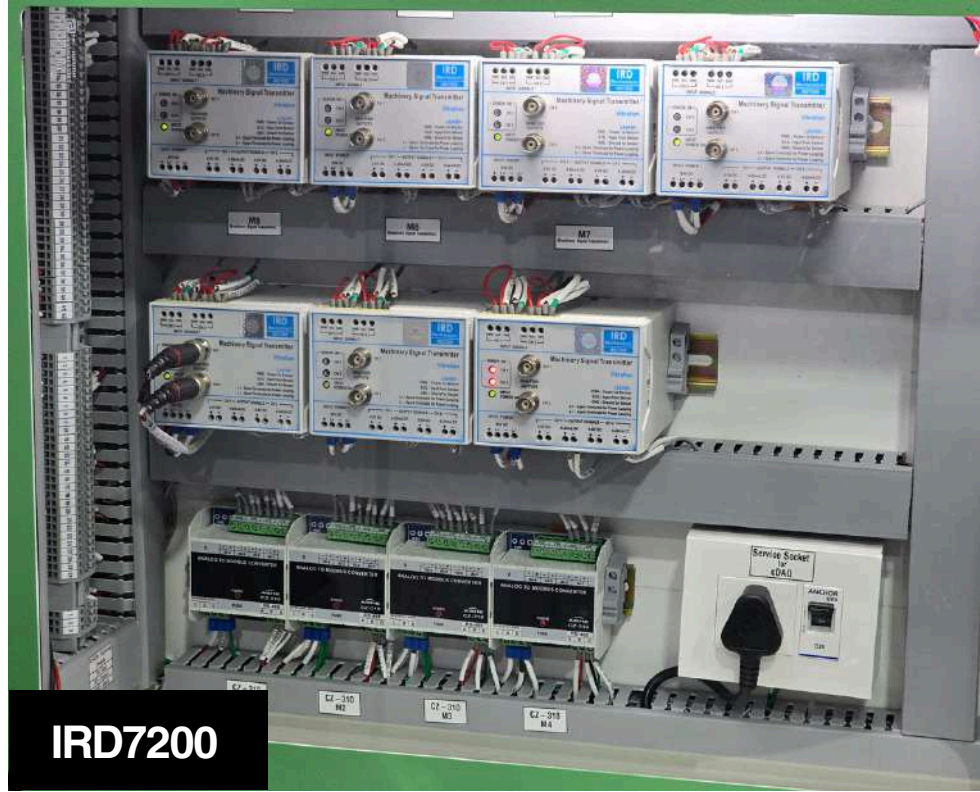
Field Mounted

Can be enclosed in IP65 JB or Panel
out in Field. Din Rail Mounted



4-20 mA

For connection to
DCS/PLC/SCADA for Trending



IRD7200

IRD7200 Machinery Signal Transmitter (MST)

IRD7200 is a Made in India Vibration Transmitter. It is Din Rail Mountable and a 2 Channel Unit. It can be powered by AC or DC Power Input (as pre-ordered) and can provide 4-20 mA, 0-5 V DC and Buffered Output per Channel. Because of its compact size - it can be easily mounted in a JB or Panel with units adjacent to each other. It is economical and scaleable. It has Inbuilt LED indication lamps for Power and Channel Healthiness



0-5 V DC

For connection to External Display if
needed



Buffered Output

For connection to Portable Vibration
Analyser or Online Data Acquisition

IRD7100 Machinery Protection Transmitter (MPT)



Field Mountable with In-Built Display

IRD7100 is enclosed within a Polycarbonate or Al Die Cast IP65 enclosure and has an In-Built Display. It can be mounted in Harsh environments and provides Operator ease of Viewing Vibration



Sensor Inputs

IRD7100 can be factory set to measure Casing Vibration, Shaft Vibration, Bearing Temperature, Rotational Speed, Air Gap/Axial Gap and other Turbine Supervisory Parameters and is thus a flexible monitoring and protection system designed for Round-the-clock usage with reliability



4-20 mA

For connection to DCS/PLC/SCADA for trending and monitoring



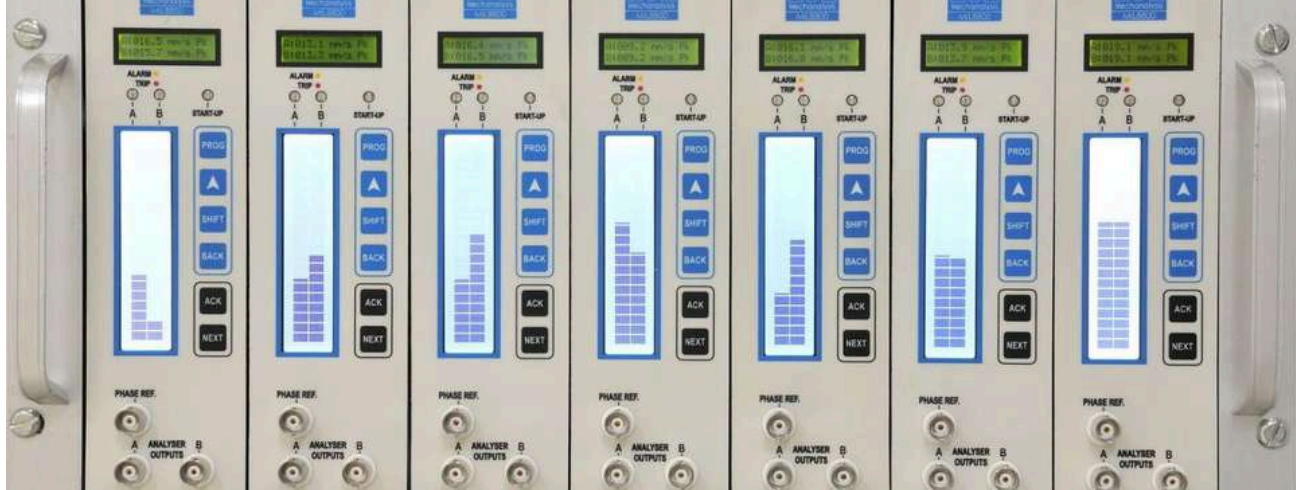
Buffered Output

For connection to Portable Analyzers or Online Data Acquisition systems



Relay Contacts

2 Sets per channel that can be used for Annunciation and/or Tripping



IRD8800 Machinery Protection System (MPS)

IRD8800 is a Rack Based Machinery Protection System that is Made in India and is API670 compliant and is thus designed for Round-the-Clock Vibration, Temperature, Speed and other Turbine Supervisory Parameters monitoring and Protection



Variety of Inputs

Modules available for different applications and Sensor inputs



Centralised & Secure

Enables ease of Maintenance and is Password Protected



4-20 mA, MODBUS

Industry Standard Outputs that connect to Any Device or Control



Relay Contacts

Relay Contacts per channel that can be used for Annunciation and/or Tripping



Self Diagnosis

Detects Sensor and Cable failure, power failure and takes actions to prevent false alarm and tripping



API670 Compliant

Hot Swappable, Redundancy in Power Supply and compliance to latest API670 Std

Cloud Based Monitoring

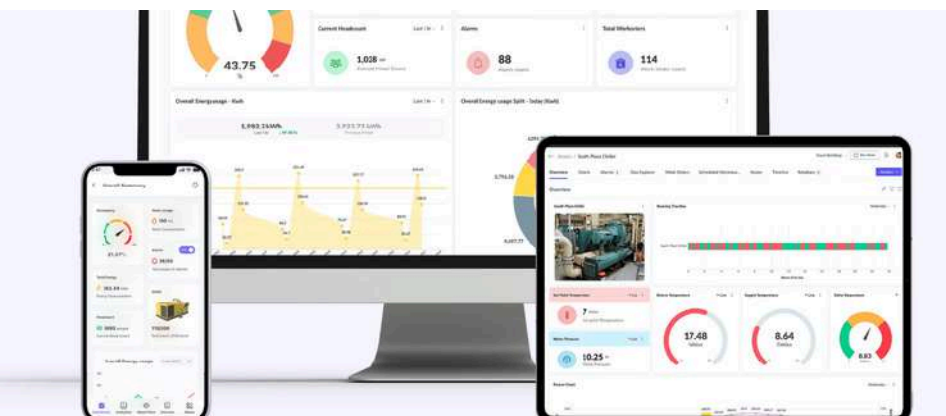


IRD Mechanalysis Limited provides Sensors, Gateways and Platform for Cloud Based Vibration Monitoring - enabling user to access multiple data points on their preferred device - Mobile, Tablet, Laptop or Workstation and from any location



Loop Powered Sensors - IRD591 and IRD5420

Sensors used for Cloud Based Vibration Monitoring are Loop Powered and provide 4-20 mA output proportional to a set full scale range. The IOT Junction Box provides the necessary power to the sensor and Gateway. The IOT Junction Box only needs Uninterrupted Power Supply from the Customer. The Gateway streams data via MQTT to Cloud via 2G/4G/Wifi/Ethernet in a secured communication



Powered by Zoho IOT

Zoho is a big name in Cloud Services and has Millions of Customers. We use their dedicated Zoho IOT platform which has a guaranteed SLA and Uptime



IOT Junction Box

Contains Terminals, Converter, Gateway and Power Supply for upto 8 Vibration Sensors



Quality Assurance

100 Hours Burn-In

Each Order and each produced Online Monitoring System of ours goes through mandatory 100 hours burn-in prior to pre-dispatch inspection - thereby assuring Quality



5 Point Calibration Check

Each Sensor and Monitoring System undergoes 5 Point Calibration Check prior to dispatch - 5 different amplitudes and 5 different frequencies ensure proper Calibration. Usually 0, 25, 50, 75 and 100% of Full Scale



Raw Material Inspection



In-Process Inspection



Pre-Dispatch Inspection

End-to-End Solutions

We make and provide End-to-End Solutions - which include Mounting Accessories, Sensors, Cables, Junction Boxes, Control Cabinets and More - thereby ensuring you get everything under one roof



Suite of Sensors

We provide Sensors for Vibration, Temperature, Speed, Eccentricity, Differential Expansion, Shell Expansion and more. Sensors are chosen based on the requirements of the Project.



Junction Boxes

Al Die Cast, FRP, CRCA, MS, SS, ABS or Explosion Proof - as needed



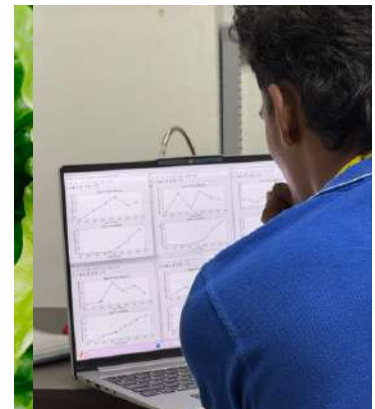
Control Cabinets

Pre-wired to requirements with all Power, Input and Output connections



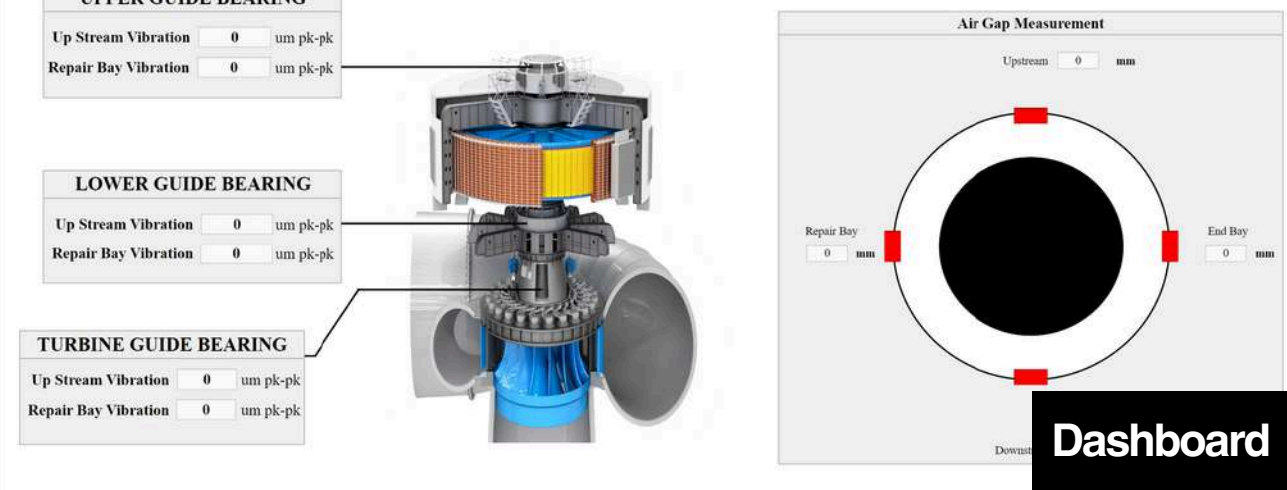
Cables

Special Low-Noise Cables in GI, SS, PVC or other conduits and with FRLS, LHLS or Teflon PTFE - with Connectors suitable to the Sensor and Terminations. Cables of varying lengths of 1 meter, 2 meters, 5 meters, 10 meters, 15 meters, 25 meters or more as per the requirement



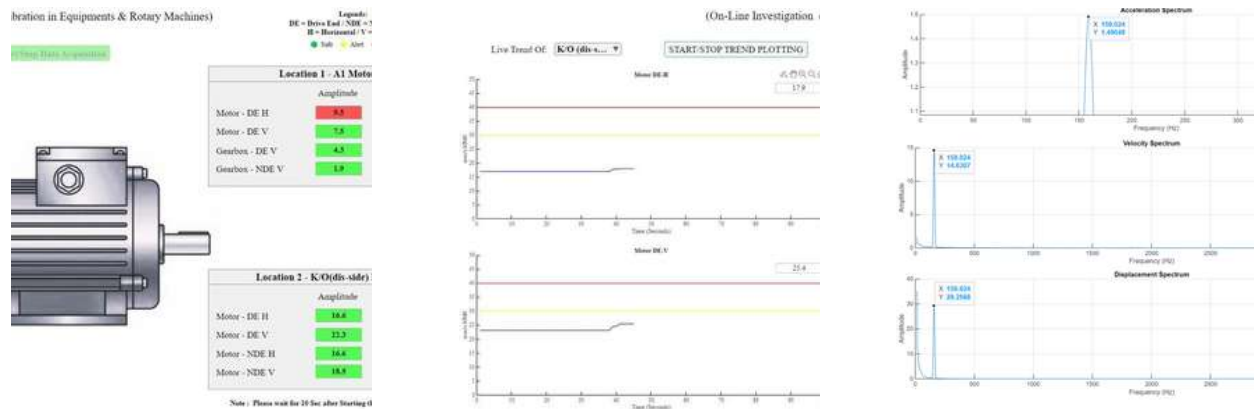
Software Solutions

OLIVER Basic, Advanced and Extreme for Data Analysis and Insights



Software Solutions - OLIVER

OLIVER stands for **On-Line Investigation of Vibration in Equipments and Rotary Machines**. It is our Homegrown Software that connects to our and Third Party Online Systems to provide valuable insights



Dashboards

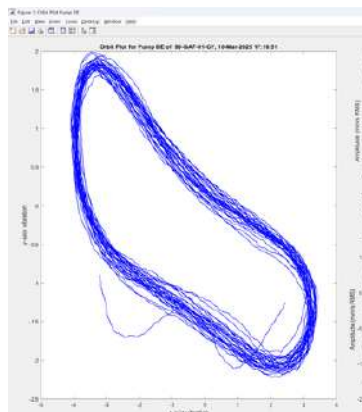
Customised to User requirements.
Helps view Data at a glance

Trends

Historical as well as Live - with the added ability of Time-to-Alarm

AVD Spectrum

Acceleration, Velocity and Displacement Spectrum



Plots

Orbit, Waterfall, Bode, Cascade and more to help in Analysis

Enter Password to Edit Parameter: Enter

Module 1

Channel A - Casing Vibration DE - H

Vibration Value	1.4
Vibration Unit	mm/s
Full Scale Level	100
Alarm Level	75
Trip Level	80

Refresh Parameter

Channel B - Casing Vibration DE - V

Vibration Value	9
Vibration Unit	mm/s
Full Scale Level	100
Alarm Level	75
Trip Level	80

Refresh Parameter

Module 2

Channel A - Casing Vibration

Vibration Value	9
Vibration Unit	mm/s
Full Scale Level	10
Alarm Level	49
Trip Level	70

Refresh Parameter

Channel B - Casing Vibration

Vibration Value	9
Vibration Unit	mm/s
Full Scale Level	100
Alarm Level	49
Trip Level	70

Refresh Parameter

Configuration

Adds ability to remotely configure Online Systems



Diagnostics

Oliver Extreme allows for Rule Based Automated Diagnostics



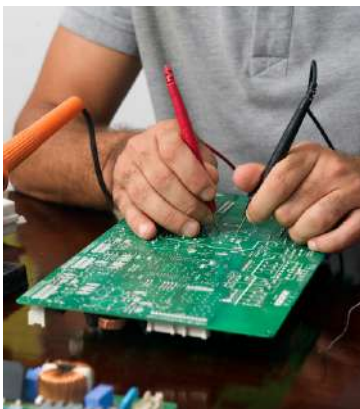
Training

Classroom based with Hands-on Practicals on Vibration Analysis



Consulting

Helping in finding out Root cause of High Vibration and help eliminate problem



Repairs

Component Level Repair to make your instrument as good as new



Calibration

5 Point Calibration of your Instruments to ensure confidence in measurement at all times



Commissioning

Assistance in installing your instruments and training users on Operation and Maintenance



Services - Keeping you Going

Good Instruments need to be backed by equally Good Service. Our team strives to provide the same with our variety of Services designed to help in keeping you going in your journey towards **Plant Uptime, Reliability and Availability**. We provide Training in the field of Vibration Analysis in accordance to ISO 18436, we offer consultancy when there is a problem of high vibration in your machine, we help repair and calibrate instruments sold by us and also help commission instruments and systems supplied by us. We work with the motto of **'Helping Maintenance turn into a Profit Center'**



Honeywell



adani
Power



ACC



All Industries & Sectors

Every Machine Vibrates when it Runs; Any increase in Vibration is a sign of Trouble; Thus our Products and Solutions find applications in all Process Industries and Sectors



Turbine Generators

Our Monitoring Systems are installed on Turbine Generators ranging from 210 MW to 800 MW capacity - thereby helping ensure uninterrupted Power



Cooling Towers

Our Systems protect Cooling Tower Fans, Motors and Gearboxes



HT & LT Motors

Our Meters and Systems are used on many HT & LT Motors



Pumps

Our Meters and Systems are used for all sorts of Pumps

IRD
Mechanalysis



Trade Marks

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