

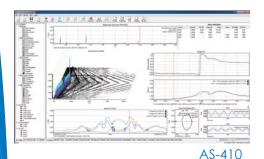
Metals / Refining







Cutting Edge Technology at Work for You CONNECTING YOUR BUSINESS TO THE INFORMATION YOU NEED



ALTA ADVANTAGES

- INTEGRATION WITH EXISTING
 PLANT INFRASTRUCTURE
- SYNCHRONIZE PROCESS DATA
 WITH MACHINE DYNAMIC DATA
- OFF-LINE ANALYSIS WITHOUT
 HAVING TO RE-CAPTURE DATA
- REAL-TIME DATA COLLECTION
- ADVANCED VIBRATION AND
 TRANSIENT ANALYSIS
- INTELLIGENT ALARMING
- CYBERSECURE



Alta Solutions was incorporated in 1996 and has extensive experience in vibration monitoring, analysis, and protection. Currently monitoring over 1,000 large frame turbines and essential machines worldwide.

We are a primary data acquisition supplier for turbomachinery OEMs and service groups chosen for our easily integrated, semi-custom, modular hardware and software approaches.

In addition, we are the original developers and designers of all the hardware and software used in the products:

- Hardware (PCB layout, circuit design, part selection)
- Firmware (DSP and FPGA programming)
- Software (Windows application and drivers)

Our modular hardware and software allow the products to be tailored to customer applications.

modular solutions for your business needs

ROTATING MACHINERY DIAGNOSTICS

Rotating machinery diagnostic is a specialized troubleshooting method that determines a machine's health by analyzing the rotor dynamics.

Paired with the AS-1250 front end with up to 40 channels, Alta Solutions has its **AS-410 Vibration Analyzer**, which is a powerful rotating machinery analyzer used for transient analysis (startup and shutdown) and advanced troubleshooting (resonance testing, bearing and gearbox, shaft cracks). Unlike other systems that create data islands, the AS-410 imports and integrates plant process data for better and faster analysis.



MACHINERY PROTECTION

Machinery protection systems are a fundamental part in protecting your machinery assets. The AS-7000 will quickly detect abnormal machinery conditions and shutdown your machinery to avoid catastrophic failures and further damage. It is API 670 compliant and integrates powerful machine analysis.



ALTA SOLUTIONS PROVIDES A TOTAL SOLUTION



APPLICATIONS

Plant-wide Monitoring

Fleet-wide Monitoring

Machinery Protection

Machinery Monitoring

Rotating Machinery Diagnostics

MACHINERY MONITORING

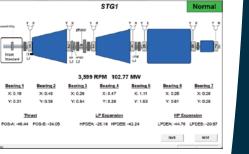
It is important to have a successful machinery monitoring program to ensure that a plant's vital machinery will be available for operation.

The AS-6000 system and AS-250 monitoring software use vibration related sensors (accelerometers, velocity pickups, and displacement probes) and others to characterize the movement and performance of a machine.

Alarm limits are used to assess the machinery health and provide an indication to an operator when a machinery failure may occur.

MACHINERY

- Mill
- Roll Grinders
- Motors
- Fans



AS-250

- Gearboxes
 - Motors
 - Cooling Towers
 - Pumps

DON'T BE STRANDED ON A DATA ISLAND SOFTWARE



AS-410 Vibration Analyzer Software - Merging the best features of a machinery analyzer, a dynamic signal analyzer, a transient capture device, and a digital recorder.

AS-250 SpectralMon[™] Advanced Monitoring Software - The advanced real-time monitoring and analysis with a powerful set of alarming criteria to detect changes in the dynamic signature of your critical machinery or process.

AS-380 AltaView Fleet-wide Monitoring Software - An open architecture web-based turbomachinery condition monitoring system that provides live machine status, dynamic waveforms (time and spectrum) and historical data trending.

HARDWARE



AS-7000 Machinery Protection System - A high performance, efficient and flexible machinery protection system which not only meets, but exceeds API 670 5th edition guidelines. Up to 64 channels.

*Available as all-in-one advanced protection & condition monitoring system with analysis capability

AS-6000 Advanced Machinery Condition Monitoring System - Advanced condition monitoring system that is specifically designed for today's strict NERC/FERC CIP v6 security requirements.

AS-320 Compact Machinery Protection System - All of the capabilities of a full rack-based protection system are available in a modular, cost effective package. Stand-alone system with enclosure and HMI available. Up to 20 channels.

AS-1250FE Portable Dynamic Signal Acquisition Front-End - High performance, compact flexible data acquisition hardware platform that uses Alta Solutions' powerful machinery monitoring and analysis software with up to 40 channels.

AS-3000 Series Smart Proximity System (SPS) - The performance of a fully API 670-compliant eddy-current proximity measurement system with flexibility of digital configurability.



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Monitor

Analyze

Protect