



Because Uptime Is Everything

# Technical Services

**IndustryUptime** offers products and services to help clients improve equipment reliability and efficiency. IndustryUptime's equipment experts combine state of the art diagnostic tools, industry standards, and years of process plant experience to implement cost-effective solutions and increase equipment uptime.

## Technical Services:

For a full description of these services, please see the back of this page

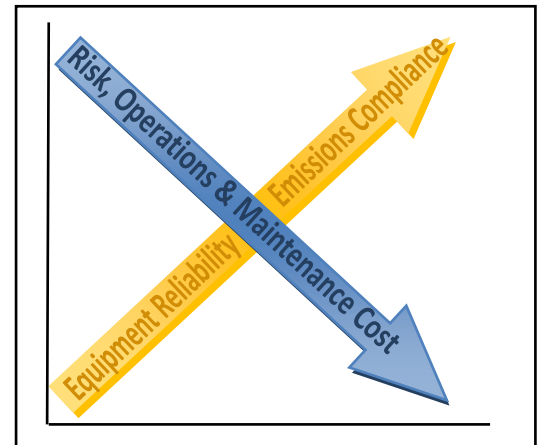
- Pump Performance Testing
- Rotating Equip. Troubleshooting
- Vibration Analysis/Monitoring
- Field Balancing Services
- Pump & System Design Review
- Reliability Program Development
- Plant Reliability Audits
- Shaft Alignment
- Geometric Measurement

## Our Track Record:

To view more customer testimonials, visit [www.industryuptime.com](http://www.industryuptime.com)

- Since 2000, IndustryUptime has improved the reliability of hundreds of pumps, increasing MTBF (Mean Time Between Failure) for this population of equipment by 40%
- For a single client, IndustryUptime's improvements resulted in over \$3 million annual savings

### Equipment Reliability Retrofit Projects



IndustryUptime founder George Dierssen tests a vertical pump (top) and takes performance measurements (left).

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## 1) Pump Performance Testing

### *Reduce Operating & Maintenance Costs*

IndustryUptime provides pump performance testing for individual pumps, pump stations, or entire pumping systems. Performance testing can help reduce energy costs by diagnosing chronic pump problems. IndustryUptime uses non-invasive, ultrasonic flow meters, along with ammeters, and pressure instruments to determine the true performance of a pumping systems. Using these tools, we help customers verify pump performance, evaluate system efficiency, and troubleshoot flow related problems. IndustryUptime services include development of operating sequences, maintenance plants, and/or pump system efficiency improvements.

## 2) Rotating Equip. Troubleshooting

IndustryUptime uses a systems approach to eliminate “bad actors” and improve MTBF (Mean Time Between Failure). Eliminating these repeat failures improves plant reliability and saves money. Many times poor pump reliability is the result of a combination of problems. To avoid these mistakes, we approach all pump problems as a function of the complete pumping system.

Our approach addresses the design, manufacture, selection, installation, operation, maintenance, and repair of the pumping system. We inspect the installation in the field, verify hydraulic performance, obtain input from operation from Operations and Maintenance personnel, and review the initial design information and repair history.

Because pump reliability is a function of many factors, we use vibration monitoring and performance testing tools to look at the symptoms, assemble evidence, and provide practical solutions to pump problems. This approach has proven effective when applied to one pump or to entire pump populations.

## 3) Vibration Analysis & Monitoring Programs

### *Reduce Downtime, Maintenance Costs*

IndustryUptime provides turn-key vibration monitoring programs. Vibration monitoring is a top-tier predictive maintenance practice, which will save money and allow you to avoid unplanned downtime and reduce maintenance costs. We identify specific problems within populations of equipment before failure occurs. Maintenance personnel are able to plan corrective action, minimize impact on plant operations, and reduce weekend callouts due to unplanned outages. IndustryUptime uses SKF equipment, and can provide support from program development and implementation to program execution and reporting. Our report format allows clients to address high priority alarms first, followed by moderate priority items.

Our vibration analysis service provides essential information regarding machine faults, helping plant personnel make informed decisions to address “troubled” equipment. Does the pump need to be pulled? Does the unit need to be shut down? In many cases, plant personnel must weigh the risk between extensive equipment damage and huge process losses, against a simple repair and a planned shutdown. Vibration analysis eliminates much of the guesswork in these situations. Managers can make decisions based upon industry-accepted vibration limits, the type of fault, and fault severity.

IndustryUptime completes the full spectral analysis of the vibration data to isolate the source and determine likely problems. Beyond the data, our experienced equipment experts review the entire system and identify and eliminate the sources of equipment problems. The information is critical when planning the urgency, scope, and timeline for corrective action.

## 4) Pump and System Design Review

### *Incorporate Reliability into New Equipment Purchases*

IndustryUptime helps process plants find the Best Bid to ensure that new pump selections are reliable and affordable. This process minimizes future reliability problems, which originate in the selection, sizing, and application of new equipment. Providing vendors with the correct guidelines, and making the proper selection will deliver savings for the entire life of the pump.

IndustryUptime helps clients develop specifications and review bids for new pump purchases with emphasis on reliability and life-cycle-cost. Selections are based on the total cost of ownership to ensure that the pump will be reliable, efficient, and cost competitive. For each pump proposed, we evaluate the hydraulic fit and design, so that the pump operates efficiently and reliably. We estimate the total installed cost of the pump to make sure the bid is competitively priced.

## 5) Centrifugal Pump Emissions Compliance

### *Meet Low Emissions Standards and Improve Reliability*

IndustryUptime offers a balanced solution between the restrictive new pump seal emissions regulations, and expensive pump retrofits with dual mechanical seals. Because “reliable equipment is compliant equipment,” IndustryUptime focuses on pump reliability and develops retrofit plans to cost-effectively comply with the new regulations. By using compliance as an opportunity to improve reliability, maintenance costs are significantly reduced often by as much as 90%.

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