



ENGINEERING SOLUTIONS FOR

# PROBLEM MACHINES.

SOLVING THE TOUGHEST MECHANICAL EQUIPMENT ISSUES WITH UNMATCHED ANALYTICAL CAPABILITIES



WE TEST, DIAGNOSE, AND DESIGN  
SOLUTIONS FOR MACHINES AND  
SYSTEMS EXPERIENCING:

- RECURRING FAILURES
- HIGH VIBRATION
- EXCESSIVE NOISE
- RESONANCE
- FLOW ISSUES



Since 1981, we have served as the premiere diagnostic testing service of the Mid Atlantic. We pride ourselves with unsurpassed experience in the industry, state-of-the-art instrumentation, and cutting edge data analysis techniques. By combining our testing abilities with the latest and greatest in simulation and modeling tools, we are able to offer a truly comprehensive mechanical system and machinery problem solving service.

**CONTACT US TODAY.**

PROBLEM.MACHINES@MIDATLANTICINFRARED.COM | (301) 320-2870 | WWW.MIDATLANTICINFRARED.COM

**MID  
ATLANTIC  
INFRARED**  
SERVICES, INC.



# VIBRATION ANALYSIS

## Why is your machine failing?

Vibration Analysis is the powerful diagnostic toolset that allows us to identify the sources of your machine trouble. From imbalance to resonance to inadequate foundations, Vibration Analysis lets us find the root cause for your mechanical failures in motors, fans, pumps, compressors, chillers, machine tools, and more.

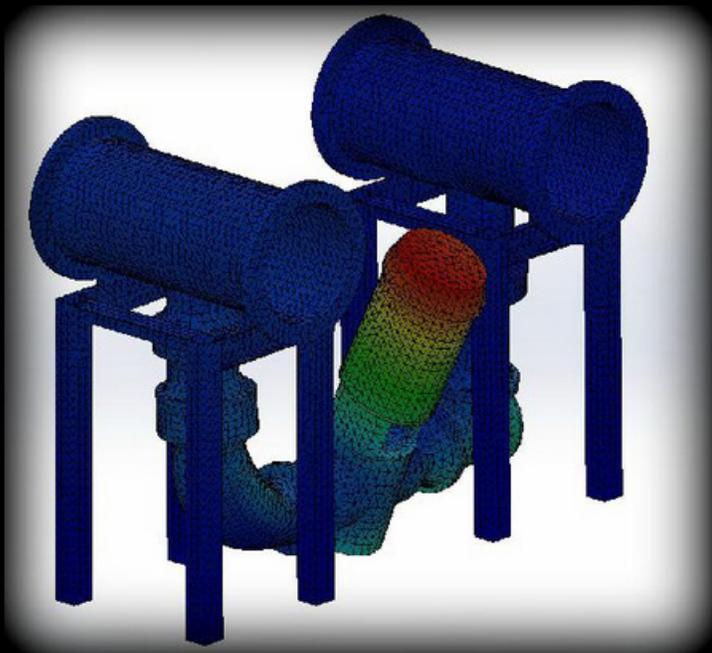
We can solve your toughest problems using **Advanced Analytical Capabilities:**

- Modal Analysis
- Phase Analysis
- Cascade Analysis
- Multichannel Analysis
- Operational Deflection Shape
- FEA Verification

# STRUCTURAL SIMULATION

## When changes are needed...

**Structural Simulation provides a solution, not a guess.** We use Finite Element Analysis (FEA) to model engineering or installation modifications to rotating equipment support structures. This method cuts the guesswork out of the design process since we can simulate response to real-world conditions, such as vibration, thermal loading, static loading, dynamic loading, and more. FEA complements our Vibration Analysis services since they can be used together to gain a comprehensive understanding of a mechanical problem. Further, they can be used together to achieve an optimized, cost effective solution in a timely manner.



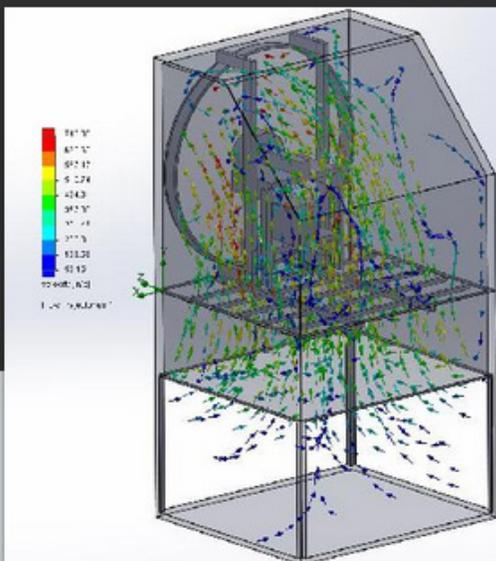
# SYSTEM FLOW ANALYSIS

Unbalanced, poorly controlled, or inadequate flow rates can wreak havoc on your system's energy costs. Flow problems can inhibit your ability to run a process properly. They can also reduce your heating or cooling capacity.

Ultrasonic flow measurement capabilities for liquids and gasses coupled with an array of engineering software allows us to provide you with answers.

**When system performance takes a turn for the worse...**

**We have the tools, knowledge, and experience to determine why. Solving fluid flow problems is a specialty of ours, be it water, steam, air, glycol, gas, or you name it. We provide you with the data necessary to restore or maximize efficiency and reliability.**



# SYSTEM FLOW MODELING

We will know why your system is not performing well. We will know how to fix it.

We use Computational Fluid Dynamics (CFD) and Pipe Flow modeling software packages to simulate fluid passing through or around objects and investigate the ways to improve performance. We can analyze complex piping or ducting system components, airflow in an office or data center, airflow through server components, and infinitely many other possibilities.

