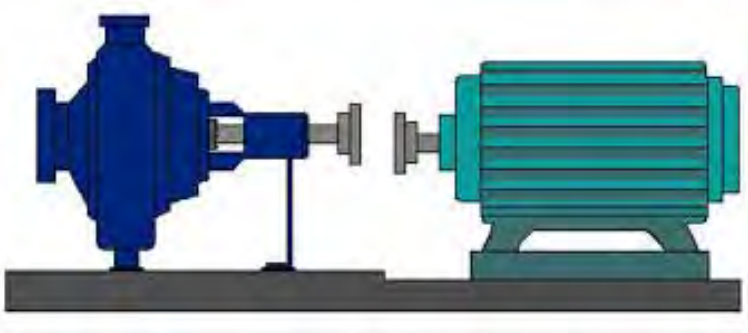
VIBRATION ANALYSIS

TOMTEC NDT MARINE SERVICES PTE LTD

VIBRATION ANALYSIS utilizes the science of monitoring vibration patterns of motors, pumps, any operating equipment or environment to detect healthy and unhealthy vibrational patterns. All mechanical equipment has an inherent natural resonance and vibrational pattern; identifying, analyzing, and correcting any vibrational variation is Vibration Analysis's expertise.

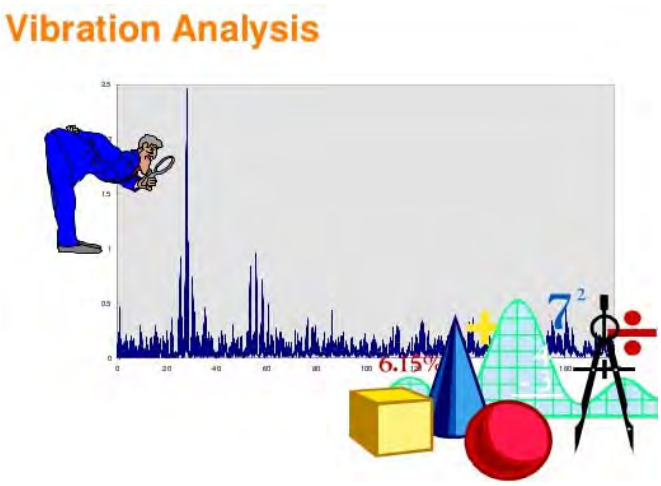
Vibration Analysis, properly done, allows the user to evaluate the condition of equipment and avoid failures. Maintenance personnel can minimize unplanned downtime by scheduling needed repairs during normal maintenance shutdowns.



Unscheduled downtime may cost tens of thousands of dollars per hour. Fortunately, modern vibration analysis equipment and software predict developing problems so that repair happens before disaster strikes. While these sophisticated tools offer many automated features and capabilities, it still takes a basic understanding of vibration analysis to use them effectively.

Vibration Analysis provides condition monitoring information on both rotating and static equipment. TOMTEC provides highly cost-effective vibration analysis and monitoring services, based on the principles within **ISO 13373, ISO 10816, ISO 22096, etc.**

Vibration Analysis is mainly used in the detection of the rotating equipment problems like imbalance, bent shaft, misalignment, soft foot, looseness through the study of the vibration coming from the equipment due to the problems. It is used to study Bearing problems, Gear Box Problems, etc.



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Flaws that are found by vibration analysis include:

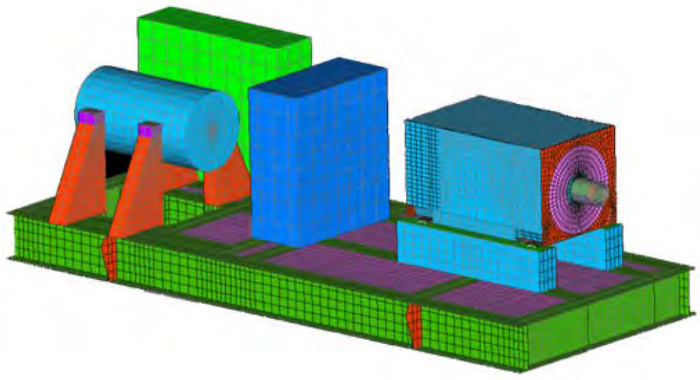
- ✓ Rotating Equipment Bearing Defects including cracking, spalling, race and cage defects.
- ✓ Gearing defects including cracking, spalling and damage
- ✓ Lubrication problems
- ✓ Misalignment of assembled rotating equipment, including gear and shaft misalignment
- ✓ Unbalanced equipment, including gears, couplings and shafts
- ✓ Motor defects

Advantages

- ✓ Advantages of early vibration testing include:
- ✓ Predictability: Give maintenance staff time to schedule required repairs and acquire needed parts.
- ✓ Safety: Take faulty equipment offline before a hazardous condition occurs.
- ✓ Revenue: Incur fewer unexpected and serious failures, helping to prevent production stoppages that cut into the bottom line.
- ✓ Increased maintenance intervals: Extend life of equipment and schedule maintenance by need.
- ✓ Reliability: Incur fewer unexpected or catastrophic failures because problem areas can be anticipated before failure.
- ✓ Peace of mind: Build confidence in maintenance schedules, budgeting, and productivity estimates.

Interpretation of vibration data by skilled TOMTEC technicians accurately interprets many things about the condition of an asset.

TOMTEC can perform regular vibration analysis of plant equipment as part of a preventive maintenance programme, or as part of a Root Cause Analysis service to determine the cause of a machine problem.



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