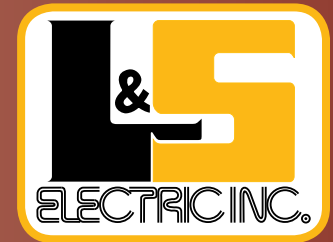


Is Your Rotating Equipment Sick?



Dedicated People, Quality
Products, and Above All, Service.

Let our Vibration Analysis Team Diagnose the
Problem Before It Takes You Down.

- Unbalance
- Eccentric rotor
- Bent shaft
- Shaft misalignment
- Misaligned bearing (cocked on shaft)
- Resonance excitation
- Mechanical looseness (caused by loose mounting bolts, cracks in the frame, etc.)
- Mechanical looseness (generated by poor fits between the shaft and bearing ring or impeller/rotor)
- Rotor rub
- Sleeve bearing wear/clearance problems
- Sleeve bearing oil whirl/instability
- Sleeve bearing oil whip
- Rolling element (Ball and Roller) bearing failures
- Blade pass and vane pass vibrations
- Flow turbulence
- Cavitation
- Gear issues (including tooth wear, gear eccentricity & backlash, gear misalignment, cracked teeth, hunting tooth problems)
- Stator eccentricity, shorted laminations and loose motor iron
- Variable air gap
- Broken rotor bars or end rings
- Loose rotor bars
- Loose or broken connectors causing motor phasing problems
- Loose stator coils on synchronous motors
- Broken field windings on DC motors
- Bad SCRs and loose connections on DC motor controllers
- Loose or blown fuses for DC motors
- Shorted control cards for DC motors
- Worn, loose, or mismatched drive belts
- Belt/sheave misalignment
- Eccentric belt sheaves
- Belt resonance
- Soft foot
- Beat vibrations (between 2 closely spaced frequencies going in & out of synch with one another)
- Electrical current passage through motor bearings (fluting)



SCHOFIELD
715.359.3155 or 800.283.8332

DULUTH
218.729.3375 or 800.943.9549

APPLETON
920.730.0203 or 800.283.5564

MENOMINEE
906.864.2500 or 800.864.2507

STURTEVANT
262.886.1875 or 800.367.7676

MINNEAPOLIS
763.780.3234 or 800.290.9320

ROTHSCHILD
715.359.4860 or 888.246.1249

HYDRO SOLUTIONS
715.359.0551 or 877.258.5128