

MAINTAINENCE TIP

Vibration Analysis Tip

If you use the “influence coefficient” balancing method (the most commonly used method), the balancing system will compute the effect the addition of a weight will have on your machine. If your system supports this feature, the next time you need to balance the same machine you should be able to simply perform an original run and have the system give you final corrective weights – a trial run should not be unnecessary. You may then choose to perform a trim run to improve the balance. Refer to the operating manual of your balancing system.

TPM Tip

Remember autonomous maintenance is:

- Clean to inspect
- Inspect to detect
- Detect to correct

Lubrication Tip

Most industrial hydraulic systems exist in unclean atmospheres and are frequently pushed for required production. Ensuring reliability in the equipment is critical. In preventing hydraulic system damage or equipment degradation, here are three important issues to consider:

- Use a quality lubricant with good physical and chemical stability
- Implement a good filtering process to maintain cleanliness levels
- Maintain a routine monitoring program to detect problems early.

Planning & Scheduling Tip

When developing plans for an outage or shutdown include detailed tasks, time and resources for Quality Control and Commissioning of the equipment. Once time to commission is in the plan, always insist that "commissioning never be cut" as the pay back is vertical startup.

Root Cause Analysis Tip

MYTH: Root Cause Analysis Training will make an instant expert

REALITY: Like learning anything new, it takes practice to become efficient and effective. Leaving a classroom provides you knowledge, applying the learning in the field provides you skill.

Power Quality Tip

Voltage and current are related to each other through a third parameter, called impedance. Impedance is like the word sounds; it tries to impede the flow of current. As per Ohm's Law, current is equal to the voltage divided by the impedance. Impedance is a more complex number than just simple resistance,

but rather a mathematical combination of inductance, capacitance, and resistance.

Resistance is not frequency dependent, so the value of the resistance is the same at the fundamental frequency as at the harmonic frequencies and even the higher frequencies of transients. However, the impedance of inductors and capacitors are dependent on the frequency, and not the same way.

For inductors, the impedance goes up as the frequency goes up. Therefore, it will “block” higher frequency signals and let lower frequency signals through. Capacitors are the opposite, letting higher frequencies through and blocking lower frequencies. That is why capacitors are used as DC storage devices, since they wouldn't let DC pass through, hence, store up the charge. They are also used in filter circuits to shunt high frequency noise into the grounding conductor, since they have a lower impedance at higher frequencies.