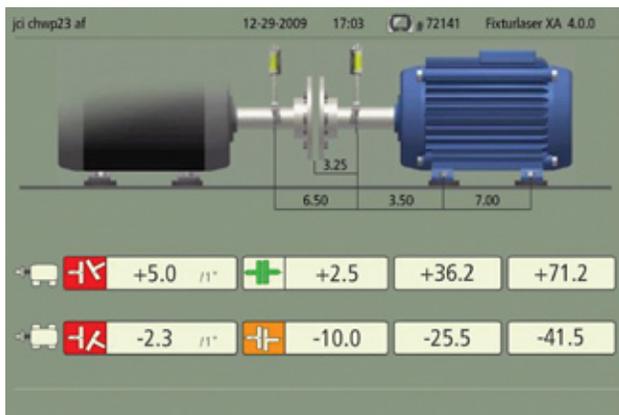


Alignment services

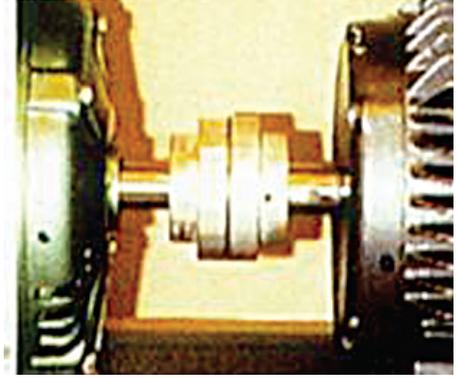


Precision laser shaft and belt alignment services

Creating common shaft centerlines of your rotating equipment is essential for asset reliability. Equipment left out of alignment tolerance will likely cause problems such as premature seal, bearing and belt failure. In some cases it can even cause complete failure of the asset.

Signs of misalignment:

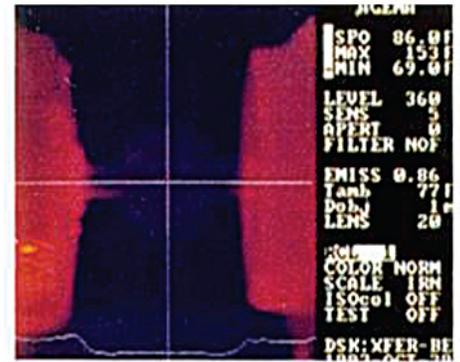
- Leaking seals
- High casing temperatures
- High vibration
- Broken or cracked shafts
- Loose foundation
- Worn/damaged couplings and bearings



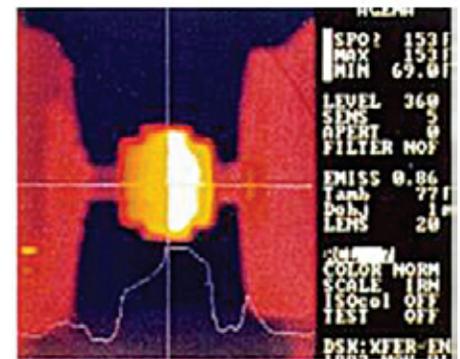
Laser alignment

Why Is precision alignment important?

High levels of misalignment in rotating equipment is a leading cause of bearing failure and will increase energy consumption. In fact, studies have shown that more than 50% of all excessive machinery vibration is caused by misalignment. Misalignment can reduce the longevity of rotating machinery. Excessive forces and vibration from misalignment cause energy loss, bearing failures and unexpected repairs. Bearing life can be reduced up to eight times when the bearing load is doubled due to misalignment. Precision alignment is proven to deliver significant savings in electricity, machine repair and downtime. For example, belt life can be significantly extended with aligned sheaves. Johnson Controls technicians use laser alignment equipment to correct alignment problems, and then use vibration analysis to assure success. The alignment readings are documented before and after to show where the equipment was found and where it was moved to achieve the alignment tolerances.



Aligned



Misaligned

Enterprise-wide service consistency

Johnson Controls has more than 150 service offices located across North America. As a result, we can deliver consistent service expertise and technologies to support your HVAC services needs, no matter where your facilities are located.