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Ohio Electric Motor Service, Inc

Providing Service Since 1970

Predictive Maintenance and Motor Diagnostics

PDMA Online\Offline Motor Analysis

Vibration Analysis

Infrared Thermal Imaging

Motor Shaft Laser Alignment

Belt Laser Alignment

Oil Analysis

Recognizing motor and bearing faults early means the difference between a simple repair and a catastrophic failure.



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**Ohio Electric Motor
Service, Inc.**

www.sickmotors.net

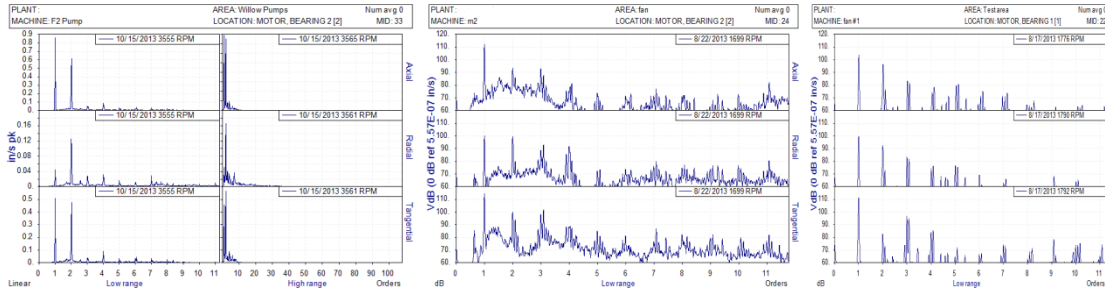
Mark Carruthers
Predictive Maintenance Consultant
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1854 South High Street
Columbus, Ohio 43207

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Vibration Analysis

Vibration Analysis is a great tool in preventative maintenance when it comes to diagnosing bearing defects, misalignment, looseness, resonance, gearbox defects and belt problems.



Misalignment

Bearing Defect

Looseness

Ohio Electric Motor Service Vibration Analysis can:

- Establish baselines on newly installed machines to detect problems over time
- Diagnose Faults before they become critical so you can repair during scheduled downtime
- Provide reports that give recommendations on corrective actions
- Check for structural resonance
- Install bronze contact pads for guaranteed repeatability



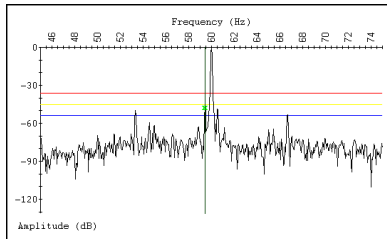
MCE Max Online\Offline Testing

MCEmax provides Dynamic and Static Testing capabilities allowing you to test motors even when they are not running. Testing is made easy from the motor control box. The MCEmax can perform these tests:

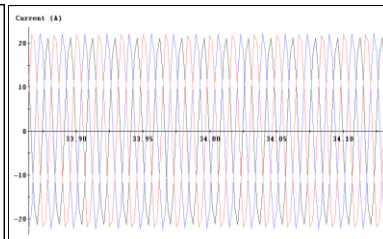
Power	Eccentricity
In-Rush Start up	Polarization Index
Hi-Lo Resolution	Dielectric Absorption
Rotor Influence Check	Standard AC Motor Test

VOLTAGE					POWER				
	Fund RMS	Tot RMS	C.F.	THD		KW	KVAR	KVA	Pf
Voltage 1-2	479.00	479.49	1.41	0.73	Phase 1	3.75	2.08	4.29	0.88
Voltage 2-3	479.30	479.80	1.41	0.78	Phase 2	3.68	2.28	4.33	0.85
Voltage 1-3	475.34	475.83	1.41	0.81	Phase 3	3.87	2.25	4.48	0.87
Average	477.88	478.37			Total	11.31	6.62	13.10	0.86
% Imbalance	0.53	0.53	HVF	0.00	Power Sequence	11.31	6.56	13.07	0.87
% NEMA Derating	99.97	% NEMA	Derating	100.00					
					EFFICIENCY				
Voltage 1	275.60	275.88	1.42	0.75	Efficiency	0.00			
Voltage 2	276.02	276.30	1.43	0.76	HP Output	0.00			
Voltage 3	276.12	276.40	1.43	0.81	KW Output	0.00			
Average	275.91	276.19			Torque Output	0			
% Imbalance	0.11	0.11			SEQUENCE				
						Positive	Negative	Zero	
					Volt Phase-Phase	2.55	477.88	0.00	
					Volt Phase-Neutral	1.47	275.90	1.37	
					Current	0.40	15.79	0.36	
						Self	Angle	Mutual	Angle
					Zero	17.47	30.10	17.47	150.12
					Positive	0.05	281.95	0.14	192.89
					Negative	0.46	336.82	0.52	234.61
					IMPEDANCE				
						Real	Magnitude	Angle	
Phase 1	15.55	17.74	28.74		Phase Configuration	Line to Neutral 120 Degree			
Phase 2	15.01	17.62	31.62		Phase Rotation	Clockwise			
Phase 3	14.78	17.06	29.96						
% Imbalance	2.89								

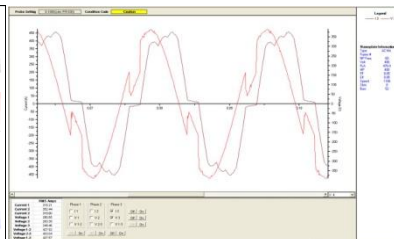
MCEmax Online Testing



Harmonics

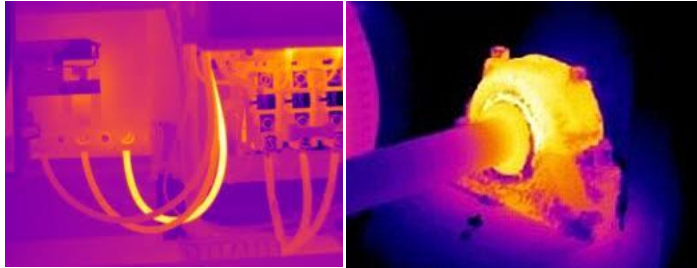


Hi-Resolution

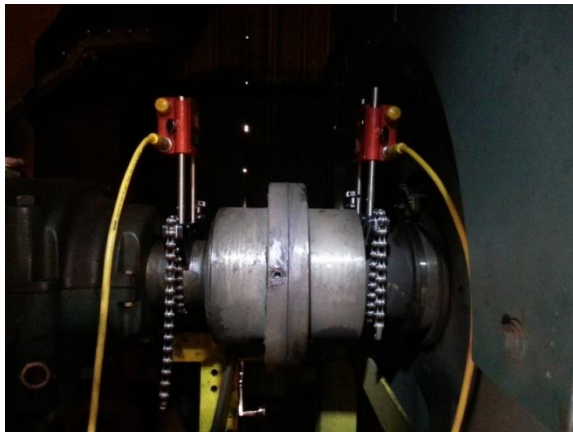


Voltage Harmonic Distortion

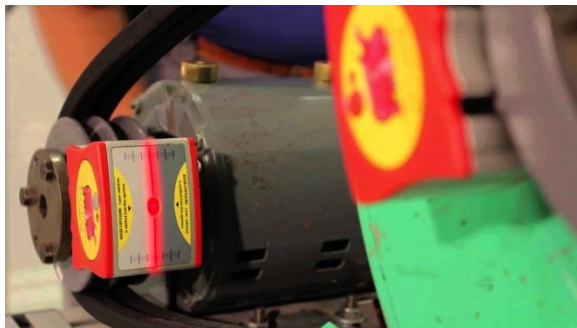
Thermal Imaging\ Laser Alignment



Thermal Imaging is a fast and easy way to detect motor and electrical problems. It also is helpful in detecting leaks in sealed vessels and spotting overheated windings in stators.



Misaligned shafts can not only shorten the life of the bearings but can also cause major damages to the motor and driven components. A simple alignment check can save you money in costly repairs due to a misalignment.



Aligning pulleys has never been easier with the use of laser alignment. This process can extend the life of the belts and the driven components. No more using a yard stick! Be %100 sure that your pulleys are lined up.