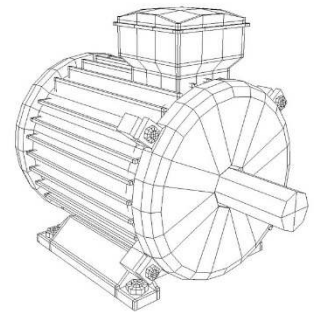


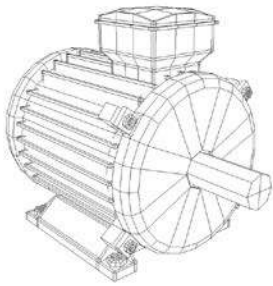
# Winding Analysis Report

---

Prepared for: John Smith, XYZ Company  
Prepared by: Nick Engelhardt, Renown Monitoring Services  
September 6, 2013  
Work Order # 500005

---





September 6, 2013

XYZ Company.  
1908 John St.  
Oshawa, ON.  
L1H 8P7

Re: Winding Analysis Report

Dear John Smith,

On September 6<sup>th</sup> 2013 we were onsite to perform Winding Analysis of your hydraulic pump motors. Upon completion of this inspection, we were able to detect and identify **0** anomalies. The results of our inspection contained in this report include a description and rating of all areas and equipment analyzed during our site visit.

All test results are documented and include measurement readings with a displayed waveform. We include in this report recommendations for corrective actions on equipment found to have excessive leakage or damaged windings.

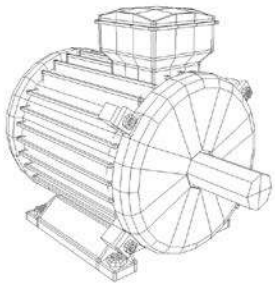
Further to Winding Analysis, we also provide other predictive maintenance services including:

- Vibration Analysis on motors, bearings and other rotating equipment.
- Infrared Thermal Inspections of electrical systems, buildings and rooftops.
- Oil Analysis.
- Complete motor repair and rewind facilities.
- Onsite Laser Alignments.

Renown Electric Motors & Repairs Inc. would like to thank you for the opportunity to provide these services. If you have any questions regarding the inspection results, or any of the other services we provide, please contact myself or our customer service representatives at (416) 742-3665.

Sincerely,

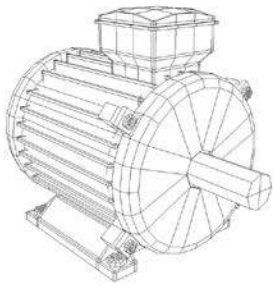
Nick Engelhardt  
Manager, Renown Monitoring Services  
Vibration Analyst Cat II ISO 18436-2



# Winding Analysis Report

## Table of Contents

<b>Equipment location list and severity chart</b>	<b>4</b>
<b>Winding Analysis test results</b>	<b>5-7</b>
<b>About Renown   contact info</b>	<b>8</b>



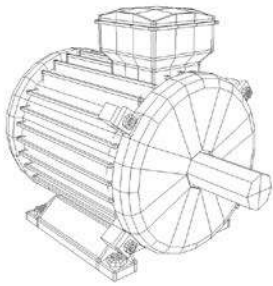
# Winding Analysis Report

## SEVERITY CHART

EQUIPMENT	DESCRIPTION	MOTOR	BRUSH	COMMENTS
Machine # 38 Motor # 1	Reliance 50hp 460v 1185rpm s/n P40C0318A-C2	4	AC	High meg-ohm results indicate insulation is in good condition. Continue trending of this equipment.
Machine # 39 Motor # 1	Tatung 60hp 460v 1150rpm s/n 1-7234	4	AC	High meg-ohm results indicate insulation is in good condition. Continue trending of this equipment.
Machine # 21 Motor # 1	Reliance 75hp 575v 1780rpm s/n 01MAN48677C001WZ	4	AC	High meg-ohm results indicate insulation is in good condition. Continue trending of this equipment.

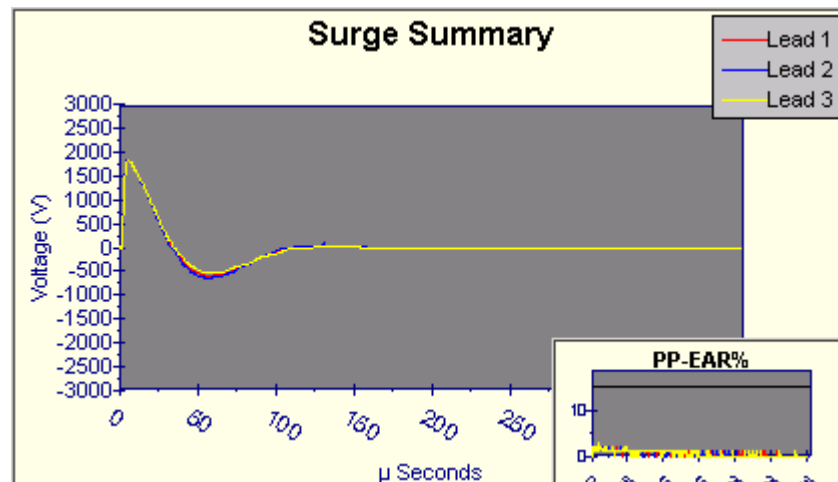
### REPAIR PRIORITY CODES:

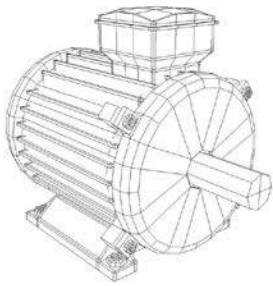
Requires Immediate Attention	<b>1</b>
Requires Corrective Action	<b>2</b>
Developing Problem Monitor Closely	<b>3</b>
OK - Continue to Monitor	<b>4</b>
Machine Not Running/Unable to test	<b>NT</b>



Nameplate Information		Motor ID Machine #38 Motor #1	
Location	<b>Machine #38</b>	Location	
Model	<b>P40C0318A-C2</b>	Manufacturer	<b>Reliance</b>
Serial Number		HP/KW	<b>75</b>
Volts-Rating	<b>460</b>	Volts-Operating	<b>460</b>
Amps-Rating	<b>95</b>	Amps-Operating	<b>0</b>
Insulation		Enclosure	<b>DP</b>
RPM	<b>1185</b>	Service Factor	<b>0</b>
Frame	<b>405TSC</b>	Freq-Hz	<b>0</b>
LR Code		LR Amps	<b>0</b>
NEMA Design		Max Amb °C	<b>0</b>
NEMA nom eff	<b>0</b>	Duty Cycle	
Manuf's Type		Manuf Dt Cd	

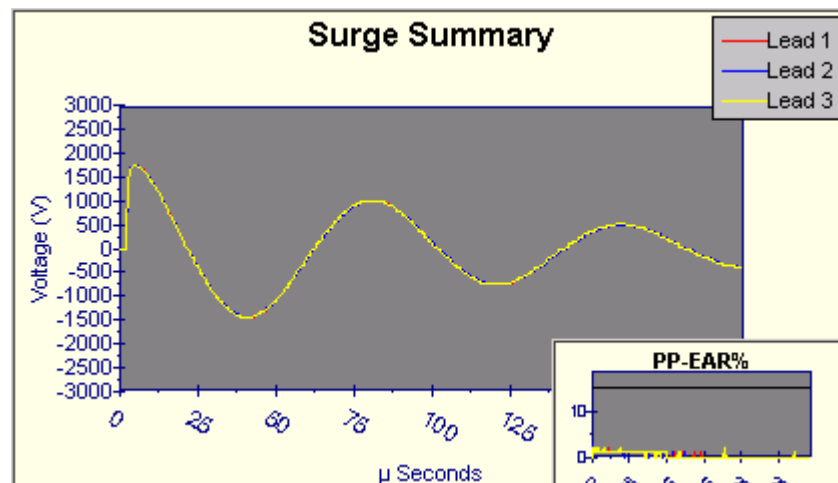
Results Summary		Test Date/Time 9/6/2013 10:56:34 AM	
Test ID:	<b>Shop Test motors</b>	Repair/Job #	
Tested By	<b>Nick Engelhardt</b>	Tested For	MCC
Room #		Location	
Location	<b>Machine #38</b>		
<b>Temp Status</b>	<b>No Test Performed</b>	<b>PI Status</b>	<b>No Test Performed</b>
Temp		Volts (V)	<b>0</b>
<b>Resist Status</b>	<b>PASS</b>	DA Ratio	<b>0.0</b>
L1-L2 (Ohms)	<b>0.173</b>	PI Ratio	<b>0.0</b>
L2-L3 (Ohms)	<b>0.173</b>	<b>HiPot</b>	<b>PASS</b>
L3-L1 (Ohms)	<b>0.174</b>	Volts (V)	<b>1490</b>
Max Delta R %	<b>0.369%</b>	Current(µA)	<b>0.13</b>
Coil 1 (Ohms)	<b>0.087</b>	Resist (Mohm)	<b>11054</b>
Coil 2 (Ohms)	<b>0.086</b>	<b>Surge Status</b>	<b>PASS</b>
Coil 3 (Ohms)	<b>0.087</b>	Peak Volt(V) L1	<b>2000</b>
<b>Megohm Status</b>	<b>PASS</b>	Peak Volt(V) L2	<b>2000</b>
Volts (V)	<b>1000</b>	Peak Volt(V) L3	<b>2000</b>
Current(µA)	<b>0.09</b>	Max P-P EAR%	<b>3%,3%,3%</b>
Resist (Mohm)	<b>10611</b>	EAR 1-2,2-3,3-1	<b>3%,8%,5%</b>

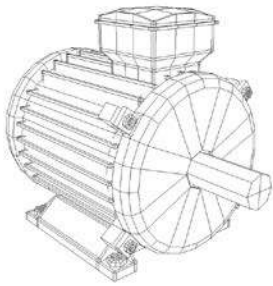




Nameplate Information		Motor ID Machine #39 Motor #1	
Location	<b>Machine #39</b>	Location	
Model		Manufacturer	<b>Reliance</b>
Serial Number	<b>1-7234</b>	HP/KW	<b>60</b>
Volts-Rating	<b>460</b>	Volts-Operating	<b>460</b>
Amps-Rating	<b>73.7</b>	Amps-Operating	<b>0</b>
Insulation		Enclosure	<b>DP</b>
RPM	<b>1150</b>	Service Factor	<b>0</b>
Frame	<b>200m</b>	Freq-Hz	<b>0</b>
LR Code		LR Amps	<b>0</b>
NEMA Design		Max Amb °C	<b>0</b>
NEMA nom eff	<b>0</b>	Duty Cycle	
Manuf's Type		Manuf Dt Cd	

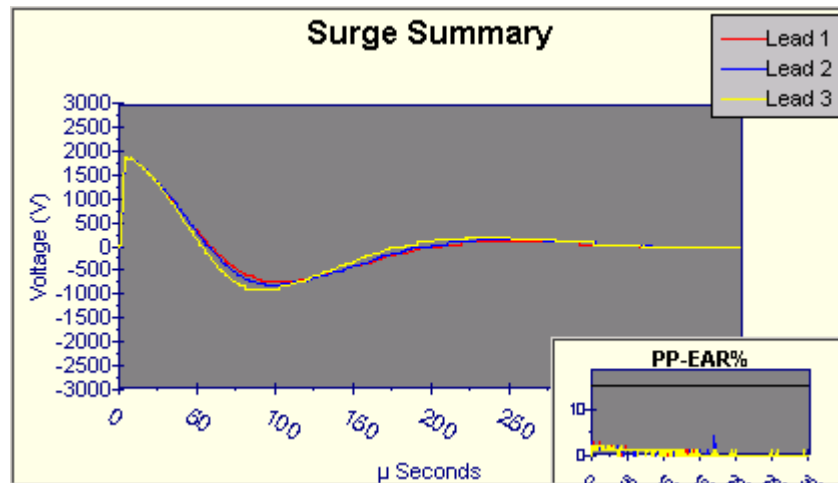
Results Summary		Test Date/Time 9/6/2013 9:52:09 AM	
Test ID:		Repair/Job #	
Tested By	<b>Nick Engelhardt</b>	Tested For	
Room #		MCC	
Location	<b>Machine #39</b>	Location	
<b>Temp Status</b>	<b>No Test Performed</b>	<b>PI Status</b>	<b>No Test Performed</b>
Temp		Volts (V)	<b>0</b>
<b>Resist Status</b>	<b>PASS</b>	DA Ratio	<b>0.0</b>
L1-L2 (Ohms)	<b>0.183</b>	PI Ratio	<b>0.0</b>
L2-L3 (Ohms)	<b>0.184</b>	<b>HiPot</b>	<b>PASS</b>
L3-L1 (Ohms)	<b>0.184</b>	Volts (V)	<b>1490</b>
Max Delta R %	<b>0.692%</b>	Current(µA)	<b>0.25</b>
Coil 1 (Ohms)	<b>0.273</b>	Resist (Mohm)	<b>5963</b>
Coil 2 (Ohms)	<b>0.276</b>	<b>Surge Status</b>	<b>PASS</b>
Coil 3 (Ohms)	<b>0.277</b>	Peak Volt(V) L1	<b>1910</b>
<b>Megohm Status</b>	<b>PASS</b>	Peak Volt(V) L2	<b>1870</b>
Volts (V)	<b>1000</b>	Peak Volt(V) L3	<b>1910</b>
Current(µA)	<b>0.16</b>	Max P-P EAR%	<b>3%,3%,2%</b>
Resist (Mohm)	<b>6142</b>	EAR 1-2,2-3,3-1	<b>3%,1%,1%</b>

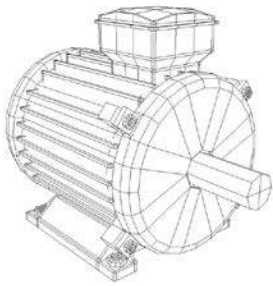




Nameplate Information		Motor ID Machine 21 Motor #1	
Location	<b>Machine 21</b>	Location	
Model	<b>01MAN48677C001WZ</b>	Manufacturer	<b>Reliance</b>
Serial Number		HP/KW	<b>75</b>
Volts-Rating	<b>575</b>	Volts-Operating	<b>575</b>
Amps-Rating	<b>66.9</b>	Amps-Operating	<b>0</b>
Insulation		Enclosure	<b>DP</b>
RPM	<b>1780</b>	Service Factor	<b>0</b>
Frame	<b>365TSC</b>	Freq-Hz	<b>0</b>
LR Code		LR Amps	<b>0</b>
NEMA Design		Max Amb °C	<b>0</b>
NEMA nom eff	<b>0</b>	Duty Cycle	
Manuf's Type		Manuf Dt Cd	

Results Summary		Test Date/Time 9/6/2013 12:54:27 PM	
Test ID:	<b>Shop Test motors</b>	Repair/Job #	
Tested By	<b>Nick Engelhardt</b>	Tested For	
Room #		MCC	
Location	<b>Machine #21</b>	Location	
<b>Temp Status</b>	<b>No Test Performed</b>	<b>PI Status</b>	<b>No Test Performed</b>
Temp		Volts (V)	<b>0</b>
<b>Resist Status</b>	<b>PASS</b>	DA Ratio	<b>0.0</b>
L1-L2 (Ohms)	<b>0.175</b>	PI Ratio	<b>0.0</b>
L2-L3 (Ohms)	<b>0.175</b>	<b>HiPot</b>	<b>PASS</b>
L3-L1 (Ohms)	<b>0.175</b>	Volts (V)	<b>1500</b>
Max Delta R %	<b>0.185%</b>	Current(μA)	<b>0.14</b>
Coil 1 (Ohms)	<b>0.088</b>	Resist (Mohm)	<b>10639</b>
Coil 2 (Ohms)	<b>0.088</b>	<b>Surge Status</b>	<b>PASS</b>
Coil 3 (Ohms)	<b>0.087</b>	Peak Volt(V) L1	<b>2000</b>
<b>Megohm Status</b>	<b>PASS</b>	Peak Volt(V) L2	<b>2020</b>
Volts (V)	<b>1000</b>	Peak Volt(V) L3	<b>2020</b>
Current(μA)	<b>0.10</b>	Max P-P EAR%	<b>3%,4%,2%</b>
Resist (Mohm)	<b>9716</b>	EAR 1-2,2-3,3-1	<b>3%,13%,18%</b>





# Renown Monitoring Services

## About

We are committed to providing the highest quality, results-driven services and products. With over 25 years of experience, Renown proudly offers 24/7/365 service to a wide range of industries, varying in size from start-up companies to Fortune's 500. Our goal is to meet or exceed our customer's needs in the electric motor repair and service industry.

Our modern facilities, located within minutes of the Toronto Airport, has an area of over 25,000 sq. feet (2,322 sq. meters). Available for 24-hour service we have a variety of vehicles for pick-up and delivery; of which three are equipped with booms to handle large motors.

## On-Site Services and Repairs

AC & DC Motors of up to 5000 hp

Rewinding & Repairs

Vibration Analysis

Dynamic Balancing

Laser Alignment

Infrared Thermography

New Motor Sales

24 Hour Service

Servo Motor Repairs

NDE | NDT

Winding Analysis

Oil Analysis

## Our Location

