Hi-Speed Industrial Service
7030 Ryburn Dr
Millington, Tn 38053
901-873-5300

AC Inspection as Found

APPLIED INDUSTRIAL TECHNOLOGY
P.O. BOX 93018
CLEVELAND, OH 44101

FolderID: 104351
FormID: 23853032

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	CZ412111
Description:	60 HP BALDOR

Hi-Speed Job Number:	104351
Manufacturer:	Baldor
Product Number:	12H618Y875G1
Spec/ID #:	ECR9504T
Serial Number:	CZ412111
HP/kW:	60 (HP)
RPM:	1775 (RPM)
Frame:	326T
Voltage:	230 / 460
Current:	122 / 61 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.25
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	03/24/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

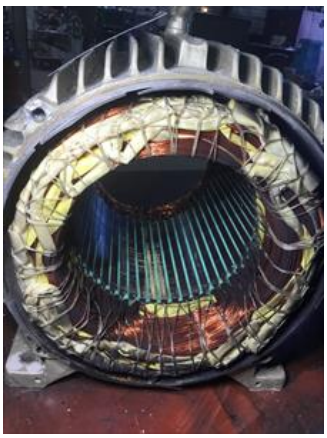
Priorities Found: **3 - High** **8 - Good**

Overall Condition

1.	Report Date	**03/27/2025**

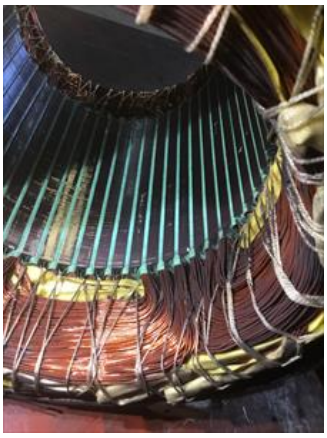
2. Nameplate Picture P37

3. Photos of all six sides of the machine. P45



Drive end

Drive end



Opposite drive end

Opposite drive end

Rust on opposite drive end.

	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
Initial Mechanical/Electrical			
	5.	Does Shaft Turn Freely?	**(N) No**
	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	7.	Does Shaft Have Visible Damage?	**(No) No**
	8.	Assembled Shaft Runout	**Inches**
		Unable to perform due to locked up shaft.	
	9.	Assembled Shaft End Play	**0 inches**
	10.	Air Gap Variation <10%	

11.	Lead Condition	**(P) Pass**	P69

12.	Lead Length	**16 Inches**	
13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
14.	Lead Numbers	**1-9**	
15.	Frame Condition	**pass**	
16.	Fan Condition	**(P) Pass**	P115

17.	Does motor have internal fan?	**(No) No**	
18.	Broken or Missing Components	**none**	

Initial Electrical Inspection

19.	Insulation Resistance/Megger	**Megohms**	

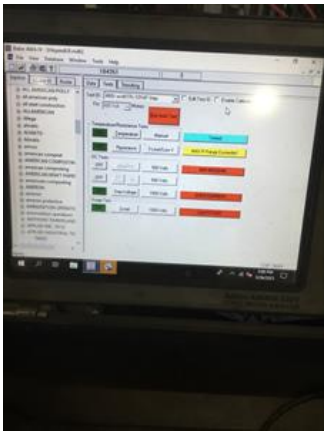
See item 22.

20. Winding Resistance

1-2	1-3	2-3

See item 22

21.	Perform Surge Test	**(F) Fail**	P57



22.	Number of Stator Slots	**48**	
23.	Stator Condition	**rewind**	
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**Nachi**	P12

27.	Drive End Bearing Number-		P32

28.	Drive End Bearing Qty.	**1**	P34

29.	Drive End Bearing Type	**(Ball) Ball Bearing**	
30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
31.	Drive End Bearing Insulation or Grounding Device?	**none**	
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
33.	Drive End Bearing Condition	**replace**	
34.	Opposite Drive End Bearing Brand	**FAG**	P92

35.	Opposite Drive End Bearing Number-	**6312-B-C3**	P99

36.	Opposite Drive End Bearing Qty.	**1**
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
39.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer** P114

41.	Opposite Drive End Bearing Condition	**replace**
42.	Drive End Seal	
43.	Opposite Drive End Seal	

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	**40**
47.	Rotor Condition	**pass**
48.	List the Parts needed for the Repair Below ***(1) 6313 ZE C3*** ***(1) 6312-B-C3***	
49.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

50.	Shaft Runout			**0.002 inches**
51.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
52.	Coupling Fit Closest to Bearing Housing			
	0 Degrees	90 Degrees	120 Degrees	
53.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
54.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.5595	**2.5594**	**2.5595**	
55.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
56.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.3624	**2.3623**	**2.3623**	
57.	Opposite Drive End Bearing Shaft Fit Condition			**(P) Pass**
58.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

59.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	5.5123	**5.5122**	**5.5123**	
60.	Drive End - Endbell Bearing Fit Condition			**(P) Pass**
61.	Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	5.1172	**5.1173**	**5.1175**	
	Minimum allowed is 5.1181			
62.	Opposite Drive End - Endbell Bearing Fit Condition			**(F) Fail**

63. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	**pass**

Good

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

65. List Machine Work Needed Below

ODE housing fit measures too small. .008 difference

66. Technician **Terrence Holland**

Co sign :

Root Cause of Failure

67. Failure locations

ODE windings shorted to ground. ODE housing measures too tight.

68. Root cause of failure P18

Water seeped inside the stator windings on the ODE side causing them to short to ground. See pics below.

Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

70. Initial Balance Readings

Drive End	Opposite Drive End

71. Final Balance Readings

Drive End	Opposite Drive End

72. Technician

Rewind

73.	Core Test Results - Watts loss per Pound		
	Pre-Burnout	Post Burnout	
74.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
75.	Post Rewind Electrical Test- Insulation Resistance		
76.	Post Rewind Polarization Index		
77.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
78.	Post Rewind Surge Test		
79.	Post Rewind Hi-Pot		
80.	Technician		
Mechanical Fits- Bearing Housings - Post Repair			
81.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
82.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
84.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
85.	End Bell Repair Sign-off		
Assembly			
86.	QC Check All Parts for Cleanliness Prior to Assembly		
87.	Photograph All Major Components prior to assembly		
88.	Final Insulation Resistance Test		
89.	Assembled Shaft Endplay		
90.	Assembled Shaft Runout		
91.	Test Run Voltage		
	Volts	Volts	Volts
92.	Test Run Amperage		
	Amps	Amps	Amps
93.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
94.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
95.	Ambient Temperature - Fahrenheit		

96.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
97.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
98.	Document Final Condition with Pictures after paint		
99.	Final Pics and QC Review		