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

AC Inspection as Found

Riceland Foods (11100-RLF)
Hwy 79 & N. Park Ave.
Stuttgart, AR 72160

FolderID: 103534
FormID: 21696147

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	M09T007375MV2D
Description:	50HP SIEMENS 1770RPM

Hi-Speed Job Number:	103534
Manufacturer:	Siemens
Product Number:	PART: 1MB29213AB242QGB
Serial Number:	M09T007375MV2D
HP/kW:	50 (HP)
RPM:	1775 (RPM)
Frame:	326T
Voltage:	460
Current:	58 (Amps)
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	09/23/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
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: **2 - High** **12 - Good**

Overall Condition

1.	Report Date	**09/23/2024**

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Dirty but serviceable***	
	5.	Report Date [COPY]	

Initial Mechanical/Electrical

●	6.	Does Shaft Turn Freely?	**(Y) Yes**	
●	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**	
	8.	Does Shaft Have Visible Damage?	**(No) No**	P26

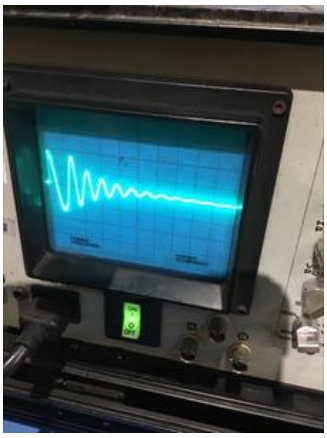
●	9.	Assembled Shaft Runout	**0.001 Inches**	
	10.	Assembled Shaft End Play	**0 inches**	
●	11.	Air Gap Variation <10%		
●	12.	Lead Condition	**(P) Pass**	
	13.	Lead Length	**15 Inches**	
●	14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	15.	Lead Numbers	**1-3**	
●	16.	Frame Condition	**pass**	
●	17.	Fan Condition	**(F) Fail**	
		Destroyed		
	18.	Broken or Missing Components	**fan assembly destroyed.**	

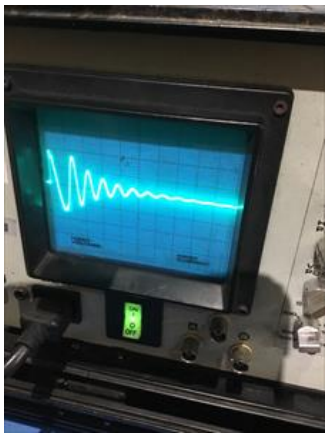
Initial Electrical Inspection

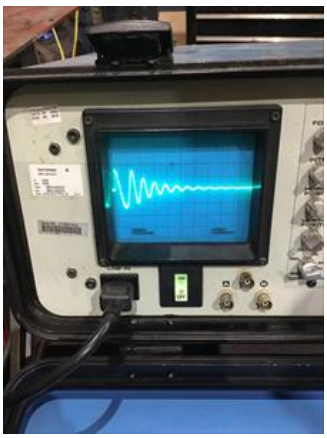
19.	Insulation Resistance/Megger	**126.1 Gigohms**	P8

20.	Winding Resistance			
	1-2	1-3	2-3	

21.	Perform Surge Test	**(P) Pass**	P57







22.	Number of Stator Slots	**48**	
23.	Stator Condition	**pass**	
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms	**0.2**	P97

Mechanical Inspection

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

27.	Drive End Bearing Number-	**6312**	
28.	Drive End Bearing Qty.	**1**	
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	**contaminated**	
34.	Opposite Drive End Bearing Brand	**ORS**	
35.	Opposite Drive End Bearing Number-	**6312 C3**	P100

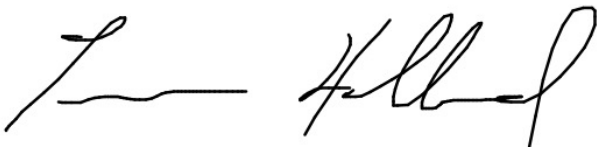
36.	Opposite Drive End Bearing Qty.	**1**	P104

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**
41.	Opposite Drive End Bearing Condition	**contaminated grease**
42.	Drive End Seal	**dust seal**
43.	Opposite Drive End Seal	**none**

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	**41**
47.	Rotor Condition	**pass**
48.	List the Parts needed for the Repair Below ***New fan assembly***	
49.	Signature of Technician that Disassembled Motor	**Terrence Holland**



Mechanical Fits- Rotor

	50.	Shaft Runout		**0.001 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	
		2.3629	**2.3629**	**2.3631**	
●	55.	Drive End Bearing Shaft Fit Condition		**(P) Pass**	
	56.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.363	**2.363**	**2.363**	
●	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	
		5.1192	**5.119**	**5.1191**	
●	60.	Drive End - Endbell Bearing Fit Condition		**(P) Pass**	
	61.	Opposite Drive End - Endbell Bearing Fit			P30
		0 Degrees	60 Degrees	120 Degrees	

Excessive pitting

●	62.	Opposite Drive End - Endbell Bearing Fit Condition	**(F) Fail**	

63. Bearing Cap Condition P52

Drive End Bearing Cap	Opposite Drive End Bearing Cap

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

65. List Machine Work Needed Below P67

ODE housing pitted and out of tolerance.

66. Technician **Terrence Holland**

Witness:

Root Cause of Failure

67. Failure locations

ODE housing fit.

68. Root cause of failure

Contaminated grease in both housings led to premature bearing failure. Also found moisture inside stator housing. Additionally there was excessive amounts of debris inside the fan cover which led to total fan destruction.






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		

Mechanical Fits- Bearing Housings - Post Repair

73.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
74.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
75.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
76.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
77.	End Bell Repair Sign-off		

Assembly

78.	QC Check All Parts for Cleanliness Prior to Assembly		
79.	Photograph All Major Components prior to assembly		
80.	Final Insulation Resistance Test		
81.	Assembled Shaft Endplay		
82.	Assembled Shaft Runout		
83.	Test Run Voltage		
	Volts	Volts	Volts
84.	Test Run Amperage		
	Amps	Amps	Amps
85.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
86.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
87.	Ambient Temperature - Fahrenheit		
88.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
89.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
90.	Document Final Condition with Pictures after paint		
91.	Final Pics and QC Review		