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

AC Inspection as Found

NUCOR Memphis (003974-1)
3601 Paul R Lowry Road
Memphis, TN 38109

FolderID: 153710
FormID: 21670402

AC Inspection - Rev. 2

Completed by: JAMES VALENTINE on 09/20/2024

Location: 603

Serial Number:

Description: 125 Hp

Hi-Speed Job Number:	153710
Manufacturer:	Eltrin
Serial Number:	W99489
HP/kW:	125 (HP)
RPM:	1785 (RPM)
Frame:	444T
Voltage:	460
Current:	136 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	Half
Coupling/Sheave:	Sheave
Date Received:	09/19/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **58 - Good**

Overall Condition

1.	Report Date	**09/19/2024**

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2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3

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4.	Describe the Overall Condition of the Equipment as Received			
	Good			
5.	Distance from the end of the shaft to the Coupling/Sheave		**inches**	
6.	Report Date [COPY]			

Initial Mechanical/Electrical

7.	Does Shaft Turn Freely?		**(Y) Yes**	
8.	Does the shaft require T.I.R in Lathe to identify additional repairs?		**(No) No**	
9.	Does Shaft Have Visible Damage?		**(No) No**	
10.	Assembled Shaft Runout		**0.002 Inches**	
11.	Assembled Shaft End Play		**0.02 inches**	
12.	Air Gap Variation <10%			
13.	Lead Condition		**(P) Pass**	
14.	Lead Length		**20 Inches**	
15.	Does it have Lugs?, If so what is the Stud Size?		**(Yes) Yes**	
	1/2			
16.	Lead Numbers		**1-12**	
17.	Frame Condition		**good**	
18.	Fan Condition		**(P) Pass**	P18

19.	Heater Quantity, Ratings			

Quantity	Volts/Watts	Pass/Fail
1		

20.	Broken or Missing Components		**none**	

Initial Electrical Inspection

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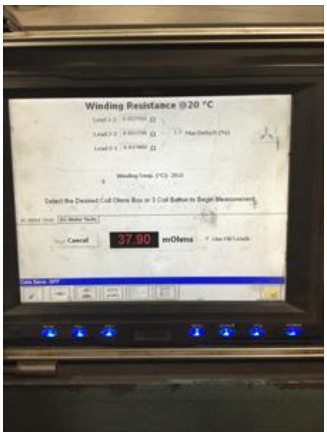
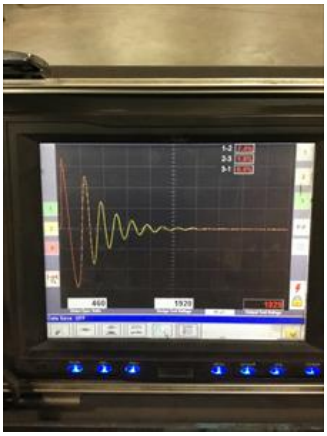
21.	Insulation Resistance/Megger	**Megohms**	P20

22.	Winding Resistance		P21

1-2	1-3	2-3



23.	Perform Surge Test	**(P) Pass**	P22



24.	Number of Stator Slots	**62**
25.	Stator Condition	**good**
26.	Stator Thermistors/Ohms	
27.	Stator Overloads/Ohms	

Mechanical Inspection

28.	Drive End Bearing Brand	**Nachi**

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29.	Drive End Bearing Number-	**318 nu roller**	
30.	Drive End Bearing Qty.	**1**	
31.	Drive End Bearing Type	**(Roller) Roller Bearing**	
32.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
33.	Drive End Bearing Insulation or Grounding Device?	**none**	
34.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
35.	Drive End Bearing Condition	**good**	P34

36.	Opposite Drive End Bearing Brand	**Roland**	
37.	Opposite Drive End Bearing Number-	**6318p63e1**	
38.	Opposite Drive End Bearing Qty.	**1**	
39.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
40.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
41.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
42.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
43.	Opposite Drive End Bearing Condition	**good**	P42

44.	Drive End Seal		
45.	Opposite Drive End Seal		

Rotor Inspection

46.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
47.	Growler Test	**(Pass) Pass**	
48.	Number of Rotor Bars	**50**	
49.	Rotor Condition	**good**	

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50. List the Parts needed for the Repair Below

1- sheave
1- 318 NU Roller
1- 6318p63e1

51. Signature of Technician that Disassembled Motor **James Valentine**

Mechanical Fits- Rotor

52. Shaft Runout

53. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

54. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees
3.3768	**3.3768**	**3.3768**

55. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
3.375	**3.375**	**3.375**

56. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.5448	**3.5448**	**3.5448**

3.5451/3.5442

57. Drive End Bearing Shaft Fit Condition **(P) Pass**

58. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.5436	**3.5436**	**3.5436**

3.5440/3.5434

59. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass**

60. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

61. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4805	**7.4805**	**7.4805**

7.4803/7.4814

62. Drive End - Endbell Bearing Fit Condition **(P) Pass**

63. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4805	**7.4805**	**7.4805**

7.4803/7.4814

64. Opposite Drive End - Endbell Bearing Fit Condition **(P) Pass**

65. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
good	**good**

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66. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

67. List Machine Work Needed Below

None

68. Technician **James Valentine**

Root Cause of Failure

69. Failure locations

Recondition

70. Root cause of failure

Recondition

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