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

AC Inspection as Found

KTG USA MOTOR
400 Mahannah
Memphis, TN 38107

FolderID: 154281
FormID: 22480330

AC Inspection - Rev. 2

Location:	Ktg
Serial Number:	D12T0060NPI 001

Description:20 HP

Hi-Speed Job Number:	154281
Manufacturer:	Siemens
Product Number:	1LE24212CC212AA3
Serial Number:	D12T0060NPI 001
HP/kW:	20 (HP)
RPM:	1180 (RPM)
Frame:	286 T
Voltage:	460
Current:	27 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	12/04/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **2 - High** **8 - Good**

Overall Condition

1. Report Date **12/04/2024**
2. Nameplate Picture P2

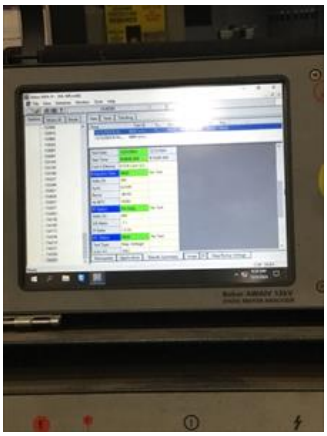
3. Photos of all six sides of the machine. P3

	4.	Describe the Overall Condition of the Equipment as Received ***Over greased bearing***	
Initial Mechanical/Electrical			
●	5.	Does Shaft Turn Freely?	**(Y) Yes**
●	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	**0.001 Inches**
	9.	Assembled Shaft End Play	**0.001 inches**
	10.	Air Gap Variation <10%	**no provisions for measuring**
●	11.	Lead Condition	**(P) Pass**
	12.	Lead Length	**18 Inches**

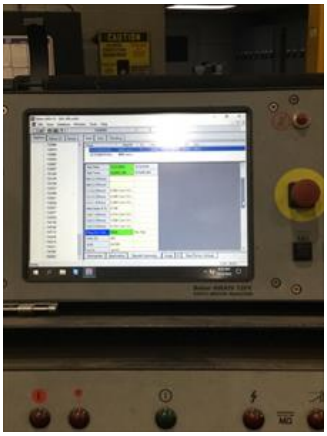
13.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	
	.25"		
14.	Lead Numbers	**1-3**	
15.	Frame Condition	**acceptable**	
16.	Fan Condition	**(P) Pass**	
17.	Broken or Missing Components	**yes**	P21
	Grease inserts and tube		

Initial Electrical Inspection

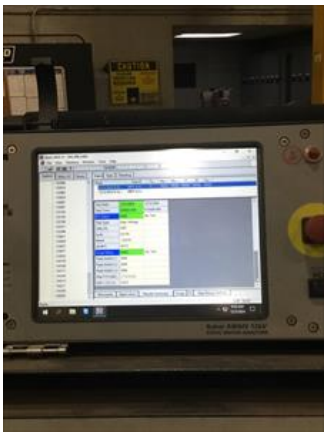
18.	Insulation Resistance/Megger	**10282 Megohms**	P22



19.	Winding Resistance			P23
	1-2	1-3	2-3	
	.383	**.386**	**.384**	



20.	Perform Surge Test	**(P) Pass**	P24



21.	Number of Stator Slots	**54**
22.	Stator Condition	**acceptable**
23.	Stator Thermistors/Ohms	**none**
24.	Stator Overloads/Ohms	**none**

Mechanical Inspection

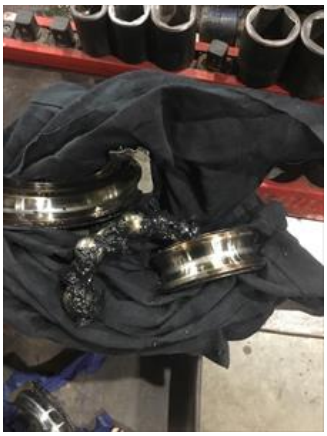
25.	Drive End Bearing Brand	**ORS**	P29

26.	Drive End Bearing Number-	**6310 ZZ C3**

27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**none**	
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
32.	Drive End Bearing Condition	**over greased mixed grease**	P36

33.	Opposite Drive End Bearing Brand	**ORS**	
34.	Opposite Drive End Bearing Number-	**6310 zz c3**	
35.	Opposite Drive End Bearing Qty.	**1**	
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**none present**	
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P43

40. Opposite Drive End Bearing Condition **over greased** P44



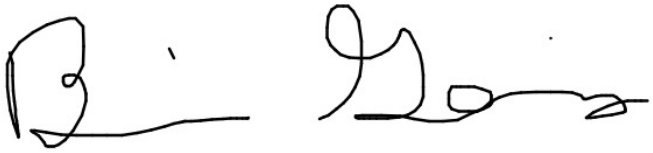
41. Drive End Seal **yes**

Labyrinth seal

42.	Opposite Drive End Seal	**yes**

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**36**
46.	Rotor Condition	**acceptable**
47.	List the Parts needed for the Repair Below ***(2)6310ZZ C3 bearing***	
48.	Signature of Technician that Disassembled Motor	**Brian Goines**



Mechanical Fits- Rotor

49.	Shaft Runout		
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
51.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
	1.875	**1.875**	**1.875**
52.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
	1.875	**1.875**	**1.875**

53.	Drive End Bearing Shaft Fit			P65
	0 Degrees	60 Degrees	120 Degrees	
	1.9689	**1.9689**	**1.9689**	
	Tolerance is 1.9686-1.9890			

54.	Drive End Bearing Shaft Fit Condition		**(P) Pass**
55.	Opposite Drive End Bearing Shaft Fit		P67
	0 Degrees	60 Degrees	120 Degrees
	1.9686	**1.9686**	**1.9686**
	Tolerance is 1.9686-1.9890		

56.	Opposite Drive End Bearing Shaft Fit Condition		**(P) Pass**
57.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	

Mechanical Fits- Bearing Housings

58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	4.3317	**4.3317**	**4.3317**	
	Tolerance is 4.3307-4.3316			
59.	Drive End - Endbell Bearing Fit Condition			**(P) Pass**

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
4.4325	**4.3328**	**4.3327**

Tolerance is 4.3307-4.3316

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

62. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
Pass	**Pass**

63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

64. List Machine Work Needed Below

Bore and bush ODE

65. Technician **Brandon Woodard**

Root Cause of Failure

66. Failure locations

67. Root cause of failure