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

AC Inspection as Found

MOTOR - KTG USA
400 Mahannah
Memphis, TN 38107

FolderID: 154704
FormID: 23298402

AC Inspection - Rev. 2

Location:	MLMR
Serial Number:	Q2 G14T0326NPI
Description:	100HP AC

Hi-Speed Job Number:	154704
Manufacturer:	Siemens
Serial Number:	Q2 G14T0326NPI
HP/kW:	100 (HP)
RPM:	3570 (RPM)
Frame:	405TS
Voltage:	460
Current:	108 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	None
Date Received:	01/29/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
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: **4 - High** **8 - Good**

Overall Condition

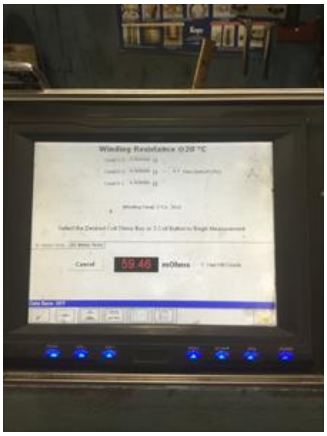
1.	Report Date	**02/05/2025**

2. Nameplate Picture P2

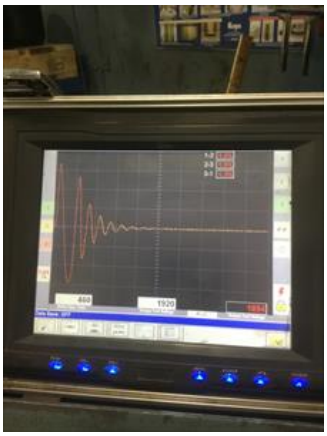
3. Photos of all six sides of the machine. P3

	4.	Describe the Overall Condition of the Equipment as Received ***Passed all electrical tests. Requires bore and bushing installed in both end bells.***	
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	**0.003 Inches**
	9.	Assembled Shaft End Play	**0.001 inches**
	10.	Air Gap Variation <10%	**No Provisions for measurement**
🟢	11.	Lead Condition	**(P) Pass**
	12.	Lead Length	**18 Inches**
🔴	13.	Does it have Lugs?, If so what is the Stud Size? ***5/16 2A eggs***	**(Yes) Yes**
	14.	Lead Numbers	**1-3**
	15.	Frame Condition	**Pass**
🟢	16.	Fan Condition	**(P) Pass**
🟢	17.	Does motor have internal fan?	**(No) No**
	18.	Broken or Missing Components	**None**
Initial Electrical Inspection			
	19.	Insulation Resistance/Megger	**92000 Megohms** P19

20.	Winding Resistance			P20
	1-2	1-3	2-3	
	.05948	**.05956**	**.05946**	



21.	Perform Surge Test	**(P) Pass**	P21



22.	Number of Stator Slots	**36**	
23.	Stator Condition		P23

24.	Stator Thermistors/Ohms	**N/A**	
25.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

26.	Drive End Bearing Brand	**ORS**	P26

27.	Drive End Bearing Number-	**6316 C3**
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	**Destroyed from old grease and heat**
34.	Opposite Drive End Bearing Brand	**ORS** P34

35.	Opposite Drive End Bearing Number-	**6316 C3**
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**
41.	Opposite Drive End Bearing Condition	**Destroyed from old grease and heat**
42.	Drive End Seal	**VA75**
43.	Opposite Drive End Seal	**VA75**

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
45.	Growler Test	**(Pass) Pass**

46.	Number of Rotor Bars	**28**
47.	Rotor Condition	**Pass**
48.	List the Parts needed for the Repair Below ***Va75 x2*** ***2-6316***	
49.	Signature of Technician that Disassembled Motor	**Brandon Woodard**

Mechanical Fits- Rotor

50.	Shaft Runout	**0.001 inches**

51. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.001	**0.001**	**0.001**

52. Coupling Fit Closest to Bearing Housing P52

0 Degrees	90 Degrees	120 Degrees
2.125	**2.125**	**2.125**

53. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
2.125	**2.125**	**2.125**

54.	Drive End Bearing Shaft Fit			P54
	0 Degrees	60 Degrees	120 Degrees	
	3.1501	**3.1501**	**3.1501**	
	Tolerance is 3.1497-3.1502			

55.	Drive End Bearing Shaft Fit Condition		**(P) Pass**
56.	Opposite Drive End Bearing Shaft Fit		P56
	0 Degrees	60 Degrees	120 Degrees
	3.15	**3.15**	**3.15**
	Tolerance is 3.1497-3.1502		

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

Mechanical Fits- Bearing Housings

59.	Drive End - Endbell Bearing Fit			P59
	0 Degrees	60 Degrees	120 Degrees	
	6.6948	**6.6947**	**6.6948**	
	Tolerance is 6.6929-6.6939			

60.	Drive End - Endbell Bearing Fit Condition		**(F) Fail**
61.	Opposite Drive End - Endbell Bearing Fit		P61
	0 Degrees	60 Degrees	120 Degrees
	6.6947	**6.6948**	**6.6947**
	Tolerance is 6.6929-6.6939		

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**	
64.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	
65.	List Machine Work Needed Below		
	Bore and bush both end bells.		
66.	Technician		**Brandon Woodard**

Root Cause of Failure

67. Failure locations

Bearings

68. Root cause of failure

Old grease and heat