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

AC Inspection as Found

Bryce Corporation (10053-BRC)
450 S. Benton
Searcy, AR 72143

FolderID: 103740
FormID: 22229656

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	068392601
Description:	55KW SIEMENS 3570RPM W/ FANTASTIC

Hi-Speed Job Number:	103740
Manufacturer:	Siemens
Product Number:	M: 1LGA253-2AB60-Z
Serial Number:	068392601
HP/kW:	55 (kW)
RPM:	3570 (RPM)
Frame:	250M
Voltage:	460
Current:	95 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.1
Enclosure:	TEFC
J-box Included:	Complete
Coupling/Sheave:	Fan
Date Received:	11/11/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Winding Type :	Random Wound

Priorities Found: **11 - Good**

Overall Condition

1. Report Date **11/11/2024**
2. Nameplate Picture P37

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

4. Describe the Overall Condition of the Equipment as Received

Serviceable

5. Distance from the end of the shaft to the Coupling/Sheave **inches**

Fan assembly was removed by customer.

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** P16

Removed by customer

	8.	Does Shaft Have Visible Damage?	**(No) No**	
●	9.	Assembled Shaft Runout	**0.001 Inches**	
	10.	Assembled Shaft End Play	**0 inches**	
	11.	Air Gap Variation <10%	**yes**	P60

●	12.	Lead Condition	**(P) Pass**	
	13.	Lead Length	**Inches**	
●	14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	
	15.	Lead Numbers	**U1-V1-W1. U2-V2-W2**	
	16.	Frame Condition	**pass**	
●	17.	Fan Condition	**(P) Pass**	P115

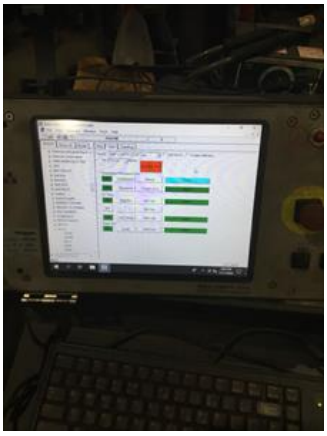
18. Heater Quantity, Ratings

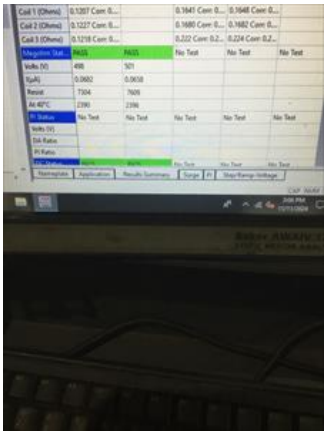
Quantity	Volts/Watts	Pass/Fail

19. Broken or Missing Components

Initial Electrical Inspection

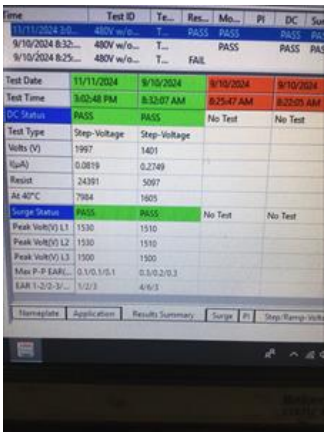
20.	Insulation Resistance/Megger	**Megohms**	P8



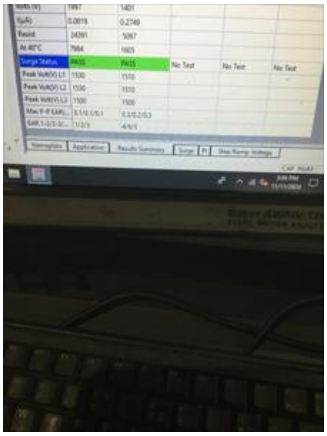


21.	Winding Resistance		P20

1-2	1-3	2-3



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



23.	Number of Stator Slots	**36**	
24.	Stator Condition	**pass**	
25.	Stator Thermistors/Ohms	**252.9**	P90

26.	Stator Overloads/Ohms	

Mechanical Inspection

27.	Drive End Bearing Brand	**ORS Turkey**	
28.	Drive End Bearing Number-	**6215 SO C3**	P32

29.	Drive End Bearing Qty.	**1**
30.	Drive End Bearing Type	**(Ball) Ball Bearing**
31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
32.	Drive End Bearing Insulation or Grounding Device?	**none**

33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P77

34.	Drive End Bearing Condition	**replace**	
35.	Opposite Drive End Bearing Brand	**ORS Turkey**	P92

36.	Opposite Drive End Bearing Number-	**6215 SO C3**	P99

37.	Opposite Drive End Bearing Qty.	**1**	
38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
39.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	P109

40.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?		
	2) snap rings.		
42.	Opposite Drive End Bearing Condition	**replace**	
43.	Drive End Seal	**dust seal**	P120

44.	Opposite Drive End Seal		
45.	DE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
46.	DE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
48.	DE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees
49.	ODE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees

50.	ODE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
51.	ODE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
52.	ODE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees

Rotor Inspection

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

54.	Growler Test	**(Pass) Pass**
55.	Number of Rotor Bars	**28**
56.	Rotor Condition	**pass**
57.	List the Parts needed for the Repair Below	
58.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

59.	Shaft Runout		**0.001 inches**
60.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
61.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
62.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees

63. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.9534	**2.9534**	**2.9534**

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

65. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.9535	**2.9536**	**2.9536**

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

67. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

68. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.1189	**5.1189**	**5.1191**

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

70. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.1181	**5.1182**	**5.1181**

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

72. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

73. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

74. List Machine Work Needed Below

None

75. Technician **Terrence Holland**

Root Cause of Failure

76. Failure locations

Both bearings show signs of excessive wear and fluting.

77. Root cause of failure

Contaminated bearing grease and fluting.

Dynamic Balance Report

78. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

79. Initial Balance Readings

Drive End	Opposite Drive End

80.	Final Balance Readings		
	Drive End	Opposite Drive End	
81.	Technician		

Rewind

82.	Core Test Results - Watts loss per Pound		
	Pre-Burnout	Post Burnout	
83.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
84.	Post Rewind Electrical Test- Insulation Resistance		
85.	Post Rewind Polarization Index		
86.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
87.	Post Rewind Surge Test		
88.	Post Rewind Hi-Pot		
89.	Technician		

Mechanical Fits- Rotor - Post Repair

90.	Shaft Runout Post Repair		
91.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
92.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
93.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
94.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
95.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
96.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
97.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

98.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
99.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees

100.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
101.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
102.	DE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
103.	DE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
104.	DE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
105.	DE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3
106.	End Bell Repair Sign-off		
107.	ODE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
108.	ODE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
109.	ODE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
110.	ODE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3

Assembly

111.	QC Check All Parts for Cleanliness Prior to Assembly		
112.	Photograph All Major Components prior to assembly		
113.	Final Insulation Resistance Test		
114.	Assembled Shaft Endplay		
115.	Assembled Shaft Runout		
116.	Test Run Voltage		
	Volts	Volts	Volts
117.	Test Run Amperage		
	Amps	Amps	Amps
118.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial

119.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
120.	Ambient Temperature - Fahrenheit		
121.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
122.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
123.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
124.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
125.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
126.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
127.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
128.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
129.	Document Final Condition with Pictures after paint		
130.	Final Pics and QC Review		