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

AC Inspection as Found

ARKEMA, INC.
2571 Fite Road
Memphis, TN 38127

FolderID: 152591
FormID: 20141800

AC Inspection - Rev. 2

Completed by: Brandon Woodard on 04/19/2024

Location: A Hydro

Serial Number:

Description:50 HP

Hi-Speed Job Number:	152591
Manufacturer:	Baldor
Product Number:	ECP4114T
Spec/ID #:	12G14Y291G2
Serial Number:	C2307250062
HP/kW:	50 (HP)
RPM:	3540 (RPM)
Frame:	326TS
Voltage:	230 / 460
Current:	112/56 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	04/18/2024
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:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

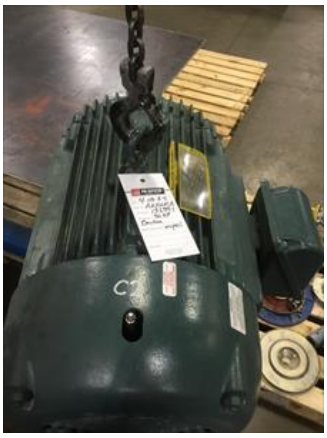
Priorities Found: **1 - High** **10 - Good**

Overall Condition

1.	Report Date	**04/19/2024**

2. Nameplate Picture P2

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



	4.	Describe the Overall Condition of the Equipment as Received ***Great Condition! Requires new bearings to recondition. Passed all electrical tests***		
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	**0.0015 Inches**	
	9.	Assembled Shaft End Play	**0.001 inches**	
	10.	Air Gap Variation <10%	**No Provisions for measurement**	
●	11.	Lead Condition	**(P) Pass**	P11

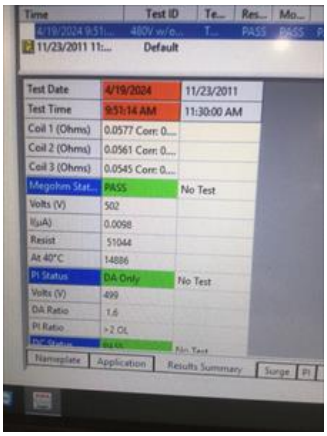
	12.	Lead Length	**12 Inches**	
●	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14.	Lead Numbers	**1-9**	
	15.	Frame Condition	**Pass**	

16. Fan Condition **(P) Pass** P16

17. Broken or Missing Components **None**

Initial Electrical Inspection

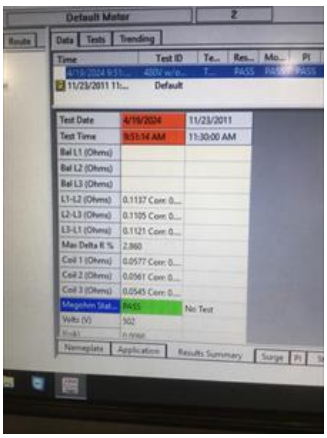
18. Insulation Resistance/Megger **51044 Megohms** P18



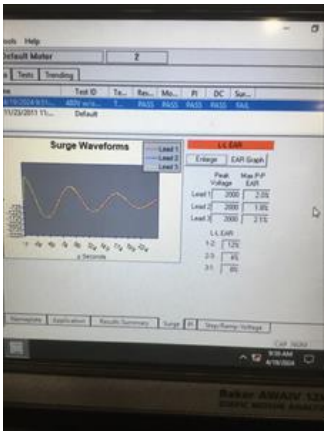
19. Winding Resistance P19

1-2	1-3	2-3
.1137	**.1121**	**.1105**

2.8% failed



20.	Perform Surge Test	**(P) Pass**	P20



21.	Number of Stator Slots	**36**	
22.	Stator Condition	**Passed**	P22

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

Mechanical Inspection

25.	Drive End Bearing Brand	**FAG**	P25

26.	Drive End Bearing Number-	**6312 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	**Normal wear**	P32

33.	Opposite Drive End Bearing Brand	**FAG**	P33

34.	Opposite Drive End Bearing Number-	**6312 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**	
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy Washer**	P39

40.	Opposite Drive End Bearing Condition	**Excessive wear**	P40

41.	Drive End Seal	**VA-55**	P41

42.	Opposite Drive End Seal	**None**	

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
44.	Growler Test	**(Pass) Pass**	
45.	Number of Rotor Bars	**28**	
46.	Rotor Condition	**Pass**	P46

47. List the Parts needed for the Repair Below

Rewind
6312 C3 x2

48. Signature of Technician that Disassembled Motor **Brandon Woodard**

Mechanical Fits- Rotor

49. Shaft Runout **0.001 inches**

50. Rotor Runout

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

51. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees
1.8745	**1.8745**	**1.8745**

52. Coupling Fit Closest to the end of the Shaft P52

0 Degrees	60 Degrees	120 Degrees
1.8745	**1.8745**	**1.8745**

53. Drive End Bearing Shaft Fit P53

0 Degrees	60 Degrees	120 Degrees
2.3625	**2.3625**	**2.3625**

Tolerance is 2.3623-2.3628

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

55. Opposite Drive End Bearing Shaft Fit P55

0 Degrees	60 Degrees	120 Degrees
2.3625	**2.3625**	**2.3625**

Tolerance is 2.3623-2.3628

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 P58

0 Degrees	60 Degrees	120 Degrees
5.1187	**5.1187**	**5.1187**

Tolerance is 5.1181-5.1191

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

60. Opposite Drive End - Endbell Bearing Fit P60

0 Degrees	60 Degrees	120 Degrees
5.1183	**5.1183**	**5.1183**

Tolerance is 5.1181-5.1191

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

62. Bearing Cap Condition P62

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

None

65. Technician **Brandon Woodard**

Root Cause of Failure

66. Failure locations

Opposite drive end bearing

67. Root cause of failure

Old grease and heat caused bearing to wear out.