







All electrical panels were scanned using a **FLIR T865** infrared camera. The following report only contains defects that were found during the survey. Below is our classification system for each defect included in this report. If there are any questions or comments, please feel free to contact us at any time.



employs a three-tier defect rating system:

**CLASS I**: A defect or defects are present that are likely to cause a problem in the long term (2-6 months). Should be addressed in the normal course of maintenance scheduling.

**CLASS II**: A defect or defects are present that are likely to cause a failure in the short term (less than 2 months). Should be addressed as soon as practical, on a high maintenance priority. Consideration should be given to increase monitoring frequency.

**CLASS III**: A defect or defects are present that make continued component reliability unpredictable and likelihood of secondary damage is high. Consideration should be given to an unscheduled shutdown to correct.

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and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.



(RECHECK) FB1512

#### Equipment/Bucket ID

FB1512 VFD11XX Fiberglass



Measurer	ients	
Sp2	167.3 °F	
Li1		
Max	189.0 °F	
Avg	119.0 °F	
Min	102.3 °F	
Sp1	189.3 °F	
эрт	105.5 F	







#### **Recommendations**

Recheck image for FB1512 shows to be good after repairs. Hot spot in IR image is on the next page.



#### (RECHECK) FB518

#### Equipment/Bucket ID

FB518 VFD11XX Fiberglass



Measurer	nents	
Sp2	213.7 °F	
Li1		
Max	215.7 °F	
Avg	135.0 °F	
Min	110.8 °F	
Sp1	232.2 °F	



 Fault

 Faulty Connection

 Defect Rating

 CLASS II



# Recommendations

IR Image shows an issue with the lead connection and or fuse internal connection for fuse above FB518 label. Fuse may need to be replaced if lead connection is found tight.



Control relay connection

# **Equipment/Bucket ID**

FB1530 VFD11XX Fiberglass



Measuren	ients	
Sp2	183.4 °F	
Li1		
Max	184.8 °F	
Avg	125.3 °F	
Min	107.3 °F	
Sp1	180.8 °F	



 Fault

 Faulty connection
 Defect Rating

 CLASS I



# Recommendations

There appears to be an issue with the lead connection on the control relay FB1530. Ensure that the connection is clean and tight.



(RECHECK) SCR3030

#### **Equipment/Bucket ID**

SCR3030 VFD26XX Fiberglass



Measurements		
Li1		
Max	161.2 °F	
Avg	131.2 °F	
Min	96.1 °F	
Sp1	156.3 °F	



Fault None

**Defect Rating** None



**Recommendations** 



(RECHECK) FB3018

# Equipment/Bucket ID

FB3018 VFD26XX Fiberglass



Measurements		
Li1		
Max	143.4 °F	
Avg	115.6 °F	
Min	104.0 °F	
Sp1	110.6 °F	







# Recommendations



(RECHECK) Fuse Disconnect

# Equipment/Bucket ID

Fiberglass Dust Collector Old Line Control Panel



Measure	nents	
Sp2	74.1 °F	
Sp3	73.1 °F	
Li1		
Max	74.6 °F	
Avg	68.4 °F	
Min	62.2 °F	
Sp1	73.4 °F	
- 4-		



 Fault

 None

 Defect Rating

 None



# Recommendations



(RECHECK) Motor contactor

#### **Equipment/Bucket ID**

MCCFG2 M5378



Measurements		
Li1		
Max	132.6 °F	
Avg	98.1 °F	
Min	73.7 °F	
Sp1	130.6 °F	





Profile

Fault
Internal contactor issue
Defect Rating
CLASS I

# Recommendations

°F

134.3

This is a recheck scan. Issue still exists. It appears that the heat is being reflected by the mounting bracket. Contactor may have an internal issue and should be replaced as time allows.



(RECHECK) C Phase Breaker lead connection

## **Equipment/Bucket ID**

Fibergalss VFD Panel D



Measurements		
Sp2	132.4 °F	
Li1		
Max	154.0 °F	
Avg	93.2 °F	
Min	74.8 °F	
Sp1	155.9 °F	







#### Recommendations

Recheck scan still shows the same issue. Internal breaker issue may exist if C phase connection is found to be tight.



(RECHECK) Control relay connections FB512

# Equipment/Bucket ID

VFD12XXfg FB512



Measurements		
Li1		
Max	141.4 °F	
Avg	114.9 °F	
Min	104.0 °F	
Sp1	143.4 °F	



 Fault

 None

 Defect Rating

 None



# Recommendations



(RECHECK) CR1530

# Equipment/Bucket ID

VFD11XX CR1530



Measurements	
128.5 °F	
102.8 °F	
91.6 °F	
123.4 °F	
111.2 °F	
100.0 °F	
112.3 °F	
96.3 °F	
88.2 °F	
111.8 °F	



°F Profile 128.4 125.3 116.3 Li1 Li2 107.3 Li3 98.3 89.3 89.4 0 30 60 90 1 **рх** 

**Fault** None

Defect Rating None

# Recommendations



(RECHECK) CR1500

#### **Equipment/Bucket ID**

CR1500 VFD11XX Fiberglasss



Measurements		
Li1		
Max	149.8 °F	
Avg	124.1 °F	
Min	82.7 °F	
Sp1	150.1 °F	



134.3 116.3 98.3 0 50 100 150 200 2 px

Profile

 Fault

 Faulty connection

 Defect Rating

 CLASS I

#### **Recommendations**

°F

152.3

Recheck of CR1500 shows an issue still exists with the B phase line connection. Ensure connection is clean and tight. If connection is found tight, then an internal issue may exist with the control relay.



#### Lead connection

#### **Equipment/Bucket ID**

FB1506 VFD11XX Fiberglass



Measurements		
211.7 °F		
116.4 °F		
102.7 °F		
202.8 °F		
	ents 211.7 °F 116.4 °F 102.7 °F 202.8 °F	







# Recommendations

IR recheck image shows an issue with the fuse connection on the fuse with the black dot just under the screw. Check connection ensuring a clean and tight connection. If connection is found tight, then the fuse may have internal issue.



(RECHECK) CR3000

# Equipment/Bucket ID

CR3000 VFD26XX Fiberglass



Li1		
Max	170.6 °F	
Avg	145.8 °F	
Min	122.6 °F	
Sp1	163.4 °F	







# Recommendations

Recheck of CR3000 shows an issue still exists with the C phase line connection. Ensure connection is clean and tight. If connection is found tight, then an internal issue may exist with the control relay.



(RECHECK) CR3018

# Equipment/Bucket ID

CR3018 2nd Pass Heater Panel



Measurements				
Li1				
Max	177.1 °F			
Avg	137.8 °F			
Min	100.5 °F			
Sp1	169.7 °F			







# Recommendations

Recheck of CR3000 shows an issue still exists with the A phase line connection. Ensure connection is clean and tight. If connection is found tight, then an internal issue may exist with the control relay.



(RECHECK) FB3006

# Equipment/Bucket ID

FB3006 2nd Pass Heater Panel Fiberglasss



Measurements			
Li1			
Max	150.1 °F		
Avg	111.2 °F		
Min	101.5 °F		
Li2			
Max	147.7 °F		
Avg	114.2 °F		
Min	105.9 °F		
Sp1	144.1 °F		







# Recommendations

Recheck scan shows no issues after repairs to FB3006.



(RECHECK) CR3012

## **Equipment/Bucket ID**

CR3012 2nd Pass Heater Panel Fiberglass



Measurements			
Li1			
Max	143.6 °F		
Avg	126.7 °F		
Min	104.3 °F		
Li2			
Max	136.6 °F		
Avg	113.4 °F		
Min	97.7 °F		
Sp1	142.5 °F		





# Fault None Defect Rating None

#### Recommendations

Recheck scan shows no issues after repairs to CR3012.



(RECHECK) FB3000

#### **Equipment/Bucket ID**

FB3000 2nd Pass Heater Panel Fiberglass



Recheck image for an issue found back in 2021 shows no issues after repairs to FB3000. WO from 8/21 showed component to be labeled 3030, but this was an error on our report from 2021. Issue was on FB3000 and new image shows no issues.



# Summary

File name	Created	Maximum temp.	Page number
FLIR0533.jpg	1/7/2000 6:19:43 PM	231.2 °F	3
FLIR0535.jpg	1/7/2000 6:21:22 PM	236.3 °F	4
FLIR0537.jpg	1/7/2000 6:23:41 PM	194.1 °F	5
FLIR0539.jpg	1/7/2000 6:26:46 PM	184.9 °F	6
FLIR0541.jpg	1/7/2000 6:32:38 PM	184.4 °F	7
FLIR0543.jpg	1/7/2000 6:38:38 PM	88.6 °F	8
FLIR0545.jpg	1/7/2000 6:44:08 PM	134.2 °F	9
FLIR0547.jpg	1/7/2000 6:48:06 PM	173.0 °F	10
FLIR0551.jpg	1/7/2000 6:59:26 PM	170.5 °F	11
FLIR0553.jpg	1/7/2000 7:01:54 PM	177.0 °F	12
FLIR0555.jpg	1/7/2000 7:05:16 PM	153.6 °F	13
FLIR0557.jpg	1/7/2000 7:08:08 PM	237.6 °F	14
FLIR0559.jpg	1/7/2000 7:15:34 PM	172.6 °F	15
FLIR0561.jpg	1/7/2000 7:20:59 PM	179.1 °F	16
FLIR0563.jpg	1/7/2000 7:24:07 PM	176.9 °F	17
FLIR0565.jpg	1/7/2000 7:26:00 PM	187.3 °F	18
FLIR0567.jpg	1/7/2000 7:31:04 PM	155.7 °F	19



This concludes our survey report. Please feel free to contact us at any time for question or comments.

Thank you for your business,

Keren W. Marcuell



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