

September 3, 2021

**Blues City Brewery** 

## Subject: August vibration service

Most of the machines surveyed were found to be in good condition with the exception of the following:

QualiTest® uses a four step rating system for defects.

<u>Class I:</u> Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

**<u>Class II:</u>** Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

**<u>Class III</u>**: Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

<u>Class IV;</u> Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

*Hi-Speed* Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance 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.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

David W Shook

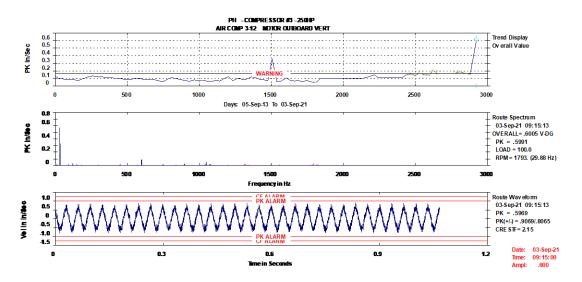
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7030 Ryburn Drive Millington, TN 38053 P. 901-873-5300 F. 901-873-5301

# Reportable equipment

## Powerhouse #3 Air Compressor

Large jump in unit vibration at motor speed indicated a possible coupling issue. Inspection revealed a damaged coupling inspection cover. We suggested an immediate inspection of the unit to ascertain the root cause of the large vibration increase. Maintenance personnel shut it down and found one half of the coupling flexible element had delaminated from the steel shell and was lying below. Supporting data follows:



# Boiler Fan 2

Motor vibrations are still high for the motor. Velocity overall is still over 1"/second peak for both radial and axial measurements. Ensure all foot bolts on the motor and all fan bearing bolts are torqued and there is no soft foot. This is more than likely a fan imbalance that is transferring through the motor. Still recommend having fan pulled and shop balanced on a balance stand. **Rated as a Class III Defect.** 

# Yellow Box Filtered Water Pump

Shaft speed vibration is still evident in the inboard pump horizontal. Inspect the coupling first for signs of wear that could cause imbalance. Check the alignment if the coupling looks good. The pump could be in distress if the coupling and alignment are good. **Rated a Class II Defect.** 

# **Service Water Pump 8**

The shaft speed vibrations in the motor radial and axial are still reportable. There are still signs of loose fasteners, structural looseness, possible misalignment, bent shaft, or coupling defects. **Rated a Class II Defect.** 

## RO Water Pump 2

This unit still has a vibration at what appears to be vane pass, (5x RPM, 122 HZ). The vibrations are still almost 0.5"/sec velocity peak in the time waveform now. There could be wear in the pump, or there could be a flow issue. We recommend further inspection and adjustments of flow related controls, filters, screens, or piping. **Rated a Class II Defect.** 

## Sugar Tank Viking Pump #3

The pump data still shows non-synchronous harmonic peaks in the data. This could indicate distress in the unit bearings. We will watch for changes. **Rated a Class I Defect.** 

## Filter Cellar Chill Water Circulator Pump 1

Vibrations are still at 2x line frequency. Unbalanced electrical phases or poor connections can cause the vibration since it changes in amplitude over time. Perform a motor phase and voltage analysis up to and including PDMA if necessary. **Rated a Class II Defect.** 

## Gov Cellar Packaging Cold Glycol Pump #2

Motor vibration data indicates possible early distress in the bearings. Ensure the bearings are lubricated properly. No other action is suggested. **Rated a Class I Defect.** 

## Administration HVAC Hot Water Pump

Motor and pump vibration is near ½"/second velocity peak overall. There could still be an alignment or coupling issue. Inspect the coupling and check the shaft alignment. **Rated a Class II Defect.** 

#### Units previously reported but not running this survey

#### **Boiler 3 Fan, Motor Bearings**

Bearing defect frequencies are present in the motor vibration data. The acceleration trend has increased this survey. The overalls are above 3 g's RMS. Expect to change out the bearings in the future. **Rated a Class II Defect.** 

#### **Boiler 3 Fan, Fan Bearings**

The inboard fan bearing shows strong peaks in the acceleration spectrum up around 2500 Hz with peaks around 114 Hz apart. Vibrations are over 4 g's RMS. Expect to change out the bearings in the future. **Rated a Class II Defect.** 

#### Service Water Pump 5

The unit still has signs of possible misalignment or coupling defects. Check in the near future. The pump also has multiple non-synchronous vibration peaks in the upper frequencies, which we believe to be bearing defects. **Rated a Class II Defect.** 

## G Cellar Cold Glycol Pump #2

Motor has a dominant shaft speed vibration. Check the motor cooling fan as well as the coupling and alignment. Ensure all fasteners are tight. **Rated a Class II Defect.** 

### G Cellar Cold Glycol Pump #5

Motor still has a dominant vibration at 4X shaft speed with sidebands or shaft speed harmonics. Inspect for loose fasteners, coupling, and alignment issues. Could be a pump issue too if it has 4 flutes in the impeller. **Rated a Class II Defect.** 

## G Cellar 128 NANO Pump

Vibrations at shaft speed are still excessive. Ensure all fasteners are tight and support structure is sound. Check for pipe strain. Make sure coupling is in good shape and shaft alignment is precise. **Rated a Class II Defect.** 

## G Cellar 129 NANO Pump

Motor bearings have signs of early defects. No action required at this time other than ensuring the bearings have lubrication. **Rated a Class I Defect.** 

## 2nd Floor South Hot Water Pump

Shaft speed vibration still dominates the motor vibration data at near 0.4" per second velocity peak. A 2x RPM vibration is also present. Inspect the unit base, structure, coupling and fasteners for issues. Have the shaft alignment checked too. **Rated a Class I Defect.** 

#### Gallery DA Vacuum Pump Skid 1

We see a large shaft speed vibration at near 1/2"/second velocity peak in the pump. Inspect the unit fasteners and structure for issues. Check the coupling for defects and have the alignment checked. The unit rotor could also be out of balance due to wear. **Rated a Class II Defect.** 

		Measurement Summar ******	
	Database: Blues_city.rb Station: POWER HOUSE	m	
	Report Date: 03-Sep-21	13:59	
MEASUREMENT PO	OINT OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
AIR COMP 3 - (	COMPRESSOR #3 - 250HP	(03-Sep-21)	
	OVERALL LEVEL	1-20 КНХ	
11	.565 In/Sec	1.275 G-s	1792.0 RPM
12	.600 In/Sec	1.486 G-s	
13	.110 In/Sec	.859 G-s	
21	.504 In/Sec	2.824 G-s	

22	.457 In/Sec	1.581 G-s	
23	.365 In/Sec	4.282 G-s	
71	.547 In/Sec	1.266 G-s	3655.7 RPM
72	.579 In/Sec	2.351 G-s	
73	.171 In/Sec	2.398 G-s	
81	.660 In/Sec	1.535 G-s	
82	.593 In/Sec	1.305 G-s	
83	.175 In/Sec	2.098 G-s	
AIR COMP 5 - COMPRE	880P #5	(03-Sep-21)	
AIR COMP 5 - COMPRES	OVERALL LEVEL	(05-3ep-21) 1-20 KHZ	
11	.192 In/Sec	.776 G-s	1788.0 RPM
12	.089 In/Sec	.561 G-s	1/00.0 RPM
13	.111 In/Sec	.388 G-s	
21	.170 In/Sec	.552 G-s	
22	.090 In/Sec	.663 G-s	
23	.115 In/Sec	.490 G-s	
71	.150 In/Sec	.602 G-s	1785.0 RPM
72	.124 In/Sec	.468 G-s	
73	.169 In/Sec	.687 G-s	
81	.131 In/Sec	.655 G-s	
82	.042 In/Sec	.762 G-s	
83	.091 In/Sec	.247 G-s	
AIR COMP 6 - COMPRE	SSOR #6	(03-Sep-21)	
	OVERALL LEVEL	-	
11	.162 In/Sec	.820 G-s	1788.0 RPM
12	.083 In/Sec	.756 G-s	1,0010 1411
13	.122 In/Sec	.064 G-s	
21	.162 In/Sec	.347 G-s	
22	.082 In/Sec	.784 G-s	
	.082 IN/Sec		
23	•	.441 G-s	1705 0 554
71	.098 In/Sec	.869 G-s	1785.0 RPM
72	.107 In/Sec	.403 G-s	
73	.152 In/Sec	.799 G-s	
81	.101 In/Sec	.732 G-s	
82	.058 In/Sec	.767 G-s	
83	.120 In/Sec	.490 G-s	
BFWPMIDLE2 - BOILER		• •	
	OVERALL LEVEL	1-20 KHZ	
11	.127 In/Sec	.514 G-s	3540.0 RPM
12	.133 In/Sec	.354 G-s	
21	.191 In/Sec	.474 G-s	
22	.066 In/Sec	.466 G-s	
23	.098 In/Sec	.290 G-s	
71	.333 In/Sec	1.232 G-s	
72	.179 In/Sec	1.318 G-s	
73	.075 In/Sec	.909 G-s	
81	.144 In/Sec	.913 G-s	
82	.124 In/Sec	.490 G-s	
BFWPSOUTH1 - BOILER	FEED WATER DIMD 9 1	(03-Sep-21)	
ZIMI DOULLER	OVERALL LEVEL	1-20 KHZ	
11	.184 In/Sec	.244 G-s	3540.0 RPM
11	.098 In/Sec	.244 G-S .621 G-S	JJ40.0 KFM
	.135 In/Sec		
21	.135 IN/Sec	.527 G-s	

22	.073 In/Sec	.326 G-s	
23	.107 In/Sec	.058 G-s	
71	.122 In/Sec	1.130 G-s	
72	.139 In/Sec	1.136 G-s	
73	.083 In/Sec	.974 G-s	
81	.319 In/Sec	1.221 G-s	
82	.122 In/Sec	.541 G-s	
BOILERFAN1 - BOILER	FAN #1	(03-Sep-21)	
	OVERALL LEVEL		
11	.104 In/Sec	.125 G-s	1750.0 RPM
12	.211 In/Sec	.047 G-s	
21	.088 In/Sec	.549 G-s	
22	.091 In/Sec	.338 G-s	
23	.161 In/Sec	.103 G-s	
71	.141 In/Sec	.084 G-s	
BOILERFAN2 - BOILER	FAN #2	(03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.432 In/Sec	.241 G-s	1780.0 RPM
12	.543 In/Sec	.316 G-s	
21	1.185 In/Sec	.243 G-s	
22	1.554 In/Sec	.230 G-s	
23	1.306 In/Sec	.169 G-s	
CR PUMP 1 - CARBON	RECIRC PUMP	(03-Sep-21)	
	OVERALL LEVEL		
11	.042 In/Sec	.136 G-s	3545.0 RPM
12	.059 In/Sec	.144 G-s	
21	.045 In/Sec	.162 G-s	
22	.061 In/Sec	.156 G-s	
23	.036 In/Sec	.089 G-s	
71	.029 In/Sec	.228 G-s	
72	.038 In/Sec	.178 G-s	
73	.029 In/Sec	.016 G-s	
81	.024 In/Sec	.070 G-s	
82	.026 In/Sec	.058 G-s	
YB PUMP 1 - YELLOW	BOX FILTERED WATER	(03-Sep-21)	
	OVERALL LEVEL		
11	.157 In/Sec	.202 G-s	3545.0 RPM
12	.155 In/Sec	.998 G-s	
21	.234 In/Sec	.897 G-s	
22	.179 In/Sec	.395 G-s	
23	.227 In/Sec	.395 G-s	
71	.747 In/Sec	.394 G-s	
72	.257 In/Sec	.523 G-s	
73	.132 In/Sec	.427 G-s	
81	.331 In/Sec	.356 G-s	
82	.195 In/Sec	.209 G-s	
SW PUMP 8 - SERVIC	E WATER PUMP 8	(03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.170 In/Sec	.284 G-s	3545.0 RPM
12	.508 In/Sec .158 In/Sec	.402 G-s	
21	158 Tn/Sec		
22	.406 In/Sec	.726 G-s .440 G-s	

		0.7.6	
23		.376 G-s	
71	.302 In/Sec		
72	.272 In/Sec	.776 G-s	
73	.156 In/Sec	.562 G-s	
81	.174 In/Sec	1.120 G-s	
82	.179 In/Sec	.979 G-s	
RO 2 -	- RO WATER PUMP 2	(03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.076 In/Sec	.409 G-s	3545.0 RPM
12	.062 In/Sec		
21	.073 In/Sec		
22	.074 In/Sec		
23	.058 In/Sec		
71	.396 In/Sec		
71		.235 G-S	
	.089 In/Sec		
73	.154 In/Sec		
81	.191 In/Sec		
82	.087 In/Sec	.523 G-s	
AMMCOMP 2 -	- AMMONIA COMP - #2	(03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.051 In/Sec	.207 G-s	3592.0 RPM
12	.070 In/Sec	.031 G-s	
13	.041 In/Sec	.175 G-s	
21	.069 In/Sec	.102 G-s	
22	.076 In/Sec		
23	.084 In/Sec		
71	.110 In/Sec		
72	.097 In/Sec		
73	.087 In/Sec		
81	.063 In/Sec		
82	.144 In/Sec		
83	.098 In/Sec		
71F	.114 In/Sec		
72F	.088 In/Sec		
73F	.080 In/Sec		
81F	.057 In/Sec		
82F	.064 In/Sec		
83F	.077 In/Sec	.719 G-s	
Clarificat	ion Of Vibration Units:		
Acc	> G-s PK		
Vel	> In/Sec PK	Abb	reviated Last Measurement
Summary			
	********	******	**
	Database: Blues_city.	rbm	
	Station: UPPER FLOOR		
	Report Date: 03-Sep-2		
MEASUREMENT	POINT OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
2NHWP -	- 2ND FLOOR N. HOT WATER	PIIMP  (03-Sen-21)	
	OVERALL LEVEL	-	
	CARVER TEAFT	1 20 MIZ	

.346 G-s 11 .160 In/Sec 3545.0 RPM 

 .130
 In/Sec
 .340
 G-s

 .131
 In/Sec
 .224
 G-s

 .108
 In/Sec
 .624
 G-s

 .174
 In/Sec
 1.009
 G-s

 .181
 In/Sec
 .197
 G-s

 .141
 In/Sec
 1.477
 G-s

12 21 22 23 .141 In/Sec 1.477 G-s 71 1.336 G-s .194 In/Sec 72 .270 In/Sec 1.185 G-s 73 .111 In/Sec .107 In/Sec 81 1.657 G-s 82 .440 G-s \_\_\_\_\_ Clarification Of Vibration Units: Acc --> G-s PK Vel --> In/Sec PK Abbreviated Last Measurement Summary \* Database: Blues\_city.rbm Station: BREWING 1ST FLOOR Report Date: 03-Sep-21 13:59 OVERALL LEVEL HFD / VHFD MACHINE SPEED MEASUREMENT POINT \_\_\_\_\_ \*\*\* NO DATA Was Found That Meets the Report Specification \*\*\* Abbreviated Last Measurement Summary Database: Blues\_city.rbm Station: BREWING BASEMENT Report Date: 03-Sep-21 13:59 OVERALL LEVEL HFD / VHFD MACHINE SPEED MEASUREMENT POINT -----\_\_\_\_\_ \*\*\* NO DATA Was Found That Meets the Report Specification \*\*\* Abbreviated Last Measurement Summary \*\*\*\*\*\* Database: Blues\_city.rbm Station: GRAIN TRANSFER Report Date: 03-Sep-21 13:59 MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ -----\*\*\* NO DATA Was Found That Meets the Report Specification \*\*\* Abbreviated Last Measurement Summary \*\*\*\*\*\*\*\*\*\*\* Database: Blues city.rbm Station: SUGAR PUMPS Report Date: 03-Sep-21 13:59 MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED \_\_\_\_\_ -----\_\_\_\_\_ -----

22 23 31		.100 In/Sec .051 In/Sec .105 In/Sec	.292 G-s .347 G-s 1.465 G-s	
32		.105 In/Sec	.906 G-s	
33		.080 In/Sec	1.190 G-s	
61		.087 In/Sec	1.686 G-s	
62		.083 In/Sec	.869 G-s	
63 71		.072 In/Sec .076 In/Sec	.524 G-s .109 G-s	
72		.061 In/Sec	.218 G-s	
V4	- SUGAR	TANK VIKING PUMP #4	(03-Sep-21	L)
		OVERALL LEVEL	1-20 KHZ	
11		.080 In/Sec	.161 G-s	1750.0 RPM
12		.086 In/Sec	.233 G-s	
21		.062 In/Sec	1.519 G-s	
22		.057 In/Sec	.878 G-s	
23 31		.083 In/Sec	.645 G-s	
32		.142 In/Sec .076 In/Sec	.207 G-s .185 G-s	
33		.078 In/Sec	.307 G-s	
61		.046 In/Sec	.440 G-s	
62		.093 In/Sec	.227 G-s	
63		.063 In/Sec	.295 G-s	
71		.073 In/Sec	.191 G-s	
72		.163 In/Sec	.505 G-s	
73		.294 In/Sec	.969 G-s	
81		.093 In/Sec	.205 G-s	
<b>v</b> 5	- SUGAR	TANK VIKING PUMP #5	(03-Sep-21	L)
11		OVERALL LEVEL .136 In/Sec	1-20 KHZ .384 G-s	1175.0 RPM
12		.026 In/Sec	.293 G-s	1175.0 KPM
21		.117 In/Sec	.322 G-s	
22		.033 In/Sec	.224 G-s	
23		.026 In/Sec	.217 G-s	
71		.078 In/Sec	.448 G-s	
72		.076 In/Sec	.659 G-s	
73		.052 In/Sec	.076 G-s	
81		.065 In/Sec	.203 G-s	
82		.066 In/Sec	.336 G-s	
		 Vibration Units:		
Acc	>			
Vel		In/Sec PK	1	Abbreviated Last Measurement
-	-		-	
Summary				

	Repor	t Date: 03-Sep-21	13:59	
MEASUREMENT		OVERALL LEVEL	HFD / VHFD	
		ound That Meets the Re surement Summary	eport Specifica	tion ***
		***************************************	*****	***
	Datab	ase: Blues city.rbm		
		on: ADMINISTRATIVE		
	Repor	t Date: 03-Sep-21	13:59	
	POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
HVAC COLD	- HVAC C	OLD GLYCOL CIRC PUMP		
		OVERALL LEVEL	1-20 KHZ	
11 12		.069 In/Sec .071 In/Sec	.390 G-s	3600.0 RPM
21		.122 In/Sec		
21		040 Tp/Sec	.367 G-s	
23		.040 In/Sec .088 In/Sec	.188 G-s	
71		.197 In/Sec	.176 G-s	
72		.139 In/Sec		
73		.063 In/Sec	.223 G-s .160 G-s	
81		.255 In/Sec		
82		.137 In/Sec	.214 G-s	
HVAC HOT	- HVAC H	OT WATER CIRC PUMP	(03-Sep-21)	
		OVERALL LEVEL	1-20 KHZ	
11		.232 In/Sec .200 In/Sec	.310 G-s .314 G-s	3600.0 RPM
12				
21		.185 In/Sec		
22 23		.292 In/Sec .279 In/Sec	.444 G-s .301 G-s	
23 71		.299 In/Sec		
72			.556 G-s	
73		.149 In/Sec	.208 G-s	
81		.195 In/Sec		
82		.199 In/Sec	.225 G-s	
		Vibration Units:		
Acc	>			
Vel		In/Sec PK	Ab	breviated Last Measurement
Summary				
		****************	*******	***
		ase: Blues_city.rbm on: FILTER CELLAR		
		t Date: 03-Sep-21	13:59	
MEASUREMENT	POINT	OVERALL LEVEL	hfd / Vhfd	MACHINE SPEED
CHILL 1	- CHILL	WATER CIRC PUMP #1	(03-Sep-21)	

	OVERALL LEVEL	1-20 849	
11	.271 In/Sec	.576 G-s	3600.0 RPM
12	.153 In/Sec	.373 G-s	5000.0 NFM
21	.273 In/Sec	.709 G-s	
22	.173 In/Sec	.536 G-s	
22	.237 In/Sec	.990 G-s	
71	.121 In/Sec	.727 G-s	
71	.155 In/Sec	.531 G-s	
72	.197 In/Sec		
81	.082 In/Sec	.585 G-s	
81	.059 In/Sec	.385 G-S .477 G-S	
02	.059 11/ Sec	.4// 6-5	
WARM GLY 1 -	WARM GLYCOL PUMP #1	(03-Sep-21)	
	OVERALL LEVEL	-	
11	.029 In/Sec	.125 G-s	3600.0 RPM
12	.027 In/Sec	.204 G-s	
21	.072 In/Sec	379 C-8	
22	.093 In/Sec	.264 G-s	
23	.118 In/Sec	.082 G-s	
71	.300 In/Sec	.293 G-s	
72	.162 In/Sec	.114 G-s	
72	.114 In/Sec	.120 G-s	
81	.133 In/Sec	.324 G-s	
82	.100 In/Sec	.312 G-s	
02	.100 111, 560	.512 0 5	
WARM GLY 2 -	WARM GLYCOL PUMP #2	(03-Sep-21)	
-	OVERALL LEVEL		
11	.020 In/Sec	.188 G-s	3600.0 RPM
12	.020 In/Sec	.189 G-s	
21	.038 In/Sec	.255 G-s	
22	.022 In/Sec	.243 G-s	
23	.025 In/Sec	.176 G-s	
71	.028 In/Sec	.082 G-s	
72	.048 In/Sec	.058 G-s	
73	.028 In/Sec	.035 G-s	
81	.035 In/Sec		
82	.038 In/Sec	.046 G-s	
	on Of Vibration Units:		
Acc	> G-s PK		
Vel	> In/Sec PK	Abbr	eviated Last Measurement
Summary			
	**************	******	*
	Database: Blues city.rb	n	
	Station: GOVERNMENT CEI		
	Report Date: 03-Sep-21		
	Neport Date. 05-5ep-21		
MEASUREMENT P	OINT OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
COLD GLY 3 -	COLD GLYCOL PUMP #3	(03-Sep-21)	
	OVERALL LEVEL		
11	.048 In/Sec	.160 G-s	3600.0 RPM
12	.032 In/Sec		
21	.057 In/Sec	.380 G-s	

22	.068 In/Sec	.264 G-s	
23	.082 In/Sec	.089 G-s	
71	.091 In/Sec	.153 G-s	
72	.042 In/Sec	.170 G-s	
73	.066 In/Sec	.042 G-s	
81	.123 In/Sec	.187 G-s	
82	.034 In/Sec	.213 G-s	
COLD GLY 4 - CO	OLD GLYCOL PUMP #4	(03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.106 In/Sec	.372 G-s	3600.0 RPM
12	.036 In/Sec	.460 G-s	
21	.131 In/Sec	.682 G-s	
22	.078 In/Sec	.746 G-s	
23	.093 In/Sec	.100 G-s	
71	.055 In/Sec	.819 G-s	
72	.037 In/Sec	.696 G-s	
73	.029 In/Sec	.308 G-s	
81	.031 In/Sec	.403 G-s	
PACK GLY 2 - PA	ACKAGING COLD GLYCOL PUN	MP 2 (03-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.034 In/Sec	1.432 G-s	3600.0 RPM
<b>T T</b>		1.152 0 5	
12	.019 In/Sec	1.568 G-s	
==	-		
12	.019 In/Sec	1.568 G-s	
12 21	.019 In/Sec .040 In/Sec	1.568 G-s 1.125 G-s	
12 21 22	.019 In/Sec .040 In/Sec .038 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s	
12 21 22 23	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s	
12 21 22 23 71	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec .041 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s .317 G-s	
12 21 22 23 71 72	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec .041 In/Sec .017 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s .317 G-s .264 G-s .299 G-s	
12 21 22 23 71 72 73	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec .041 In/Sec .017 In/Sec .038 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s .317 G-s .264 G-s .299 G-s .472 G-s	
12 21 22 23 71 72 73 81 82	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec .041 In/Sec .017 In/Sec .038 In/Sec .023 In/Sec .016 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s .317 G-s .264 G-s .299 G-s .472 G-s	
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12 21 22 23 71 72 73 81 82 Clarification Acc -	.019 In/Sec .040 In/Sec .038 In/Sec .034 In/Sec .041 In/Sec .017 In/Sec .038 In/Sec .023 In/Sec .016 In/Sec	1.568 G-s 1.125 G-s 2.113 G-s .928 G-s .317 G-s .264 G-s .299 G-s .472 G-s	