



**QualiTest® Diagnostics**

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

[www.gohispeed.com](http://www.gohispeed.com)

September 22, 2022

Milwaukee Tools  
Greenwood, MS

The following is a summary of findings from the September 2022 monthly vibration survey of the Heat Treat Quench Motors. Please let us know if there are any questions or comments.

**QualiTest®** uses a four step rating system for defects.

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

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

**Class III:** 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.

**Class IV:** 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.

## Heat Treat Motors

### Heat Treat Motor 1

Vibration appeared to be within acceptable limits this survey. No actions necessary at this time.

### Heat Treat Motor 2

Vibration appeared to be within acceptable limits this survey. No actions necessary at this time.

#### Abbreviated Last Measurement Summary \*\*\*\*\*

Database: Milwaukee Tools.rbm  
Area: HEAT TREAT SYSTEMS

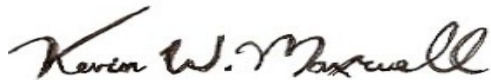
| MEASUREMENT POINT              | OVERALL LEVEL | HFD / VHFD |
|--------------------------------|---------------|------------|
| -----                          | -----         | -----      |
| MOTOR #1 - HEAT TREAT MOTOR #1 | (13-Sep-22)   |            |
|                                | OVERALL LEVEL | 1K-20KHz   |
| MOH                            | .068 In/Sec   | .072 G-s   |
| MOV                            | .058 In/Sec   | .049 G-s   |
| MIH                            | .013 In/Sec   | .115 G-s   |
| MIV                            | .0079 In/Sec  | .099 G-s   |
| MIA                            | .011 In/Sec   | .102 G-s   |
| MOTOR #2 - HEAT TREAT MOTOR #2 | (13-Sep-22)   |            |
|                                | OVERALL LEVEL | 1K-20KHz   |
| MOH                            | .134 In/Sec   | .112 G-s   |
| MOV                            | .095 In/Sec   | .096 G-s   |
| MIH                            | .017 In/Sec   | .277 G-s   |
| MIV                            | .012 In/Sec   | .073 G-s   |
| MIA                            | .019 In/Sec   | .152 G-s   |

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Clarification Of Vibration Units:

Acc --> G-s RMS  
Vel --> In/Sec PK

As always, it has been a pleasure to serve Milwaukee Tools Greenwood, MS. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III



**QualiTest® Diagnostics**

Cell: 901-486-4565

Email: [kwilliam@gohispeed.com](mailto:kwilliam@gohispeed.com)