

Discipline Function		VM Required Instrumentation (Effective January 1, 2021)					
			RANGE	ACCURACY	RESOLUTION	Notes	Calibration Requirements
Vibration Instruments	Vibration Analyzer / Meter, Real Time Analyzer & Spectrum Analyzer		Shall meet the minimum requirements as specified below: Displacement – 0.1 to 100 mils (0.0001 to 0.1 inches) Velocity – 0.0005 to 10 in/sec Acceleration – 0.0001 to 30 G's Frequency Range – 1 to 1000 Hz (60 to 60,000 RPM) Frequency Resolution (bandwidth) – at least 1.25 Hz (1 / 75 RPM) Minimum Lines of resolution ≥ 800 Detection - Peak, Peak-to-Peak, RMS FFT Windowing- Hanning at least Averaging – exponential or time and selectable to at least four averages			*4	12 Months
	Accelerometers / Transducer		Shall have the following minimum specifications: Sensitivity (± 10%) ≥ 100 mV/G typical Measurement Range = ± 20 G peak Frequency Range = 2 to 3000 Hz at ± 5%				12 Months
<b>NOTES</b> *1 CPT Option - choose only Option 1 OR Option 2 - along with required instrument for CPT certification (All instruments in any of the chosen is required) *2 FHT Orifice Calibrator - Choose only one *3 Refer to Appendix A for complete instrumentation requirements for Sound Measurement (SM) *4 Firms may own or rent vibration equipment instrumentation for vibration certification *5 Calibration Requirement: Data logger calibration may be verified from a calibrated instrument with an associated calibration form showing calibration readings from both the calibrated instrument and the data logger. If a data logger is out of calibration and cannot be adjusted, the logger must be sent back to the factory for re-calibration or be replaced *6 Accuracy of an instrument is either stated as a percentage of full scale or as a percentage of the reading. NEBB has chosen percentage of reading due to it being a more accurate reading. Since a % of reading error becomes smaller as you read near the lowest part of the scale the instrument resolution and accuracy must be very small to maintain the accuracy of the reading. To overcome this the manufactures add a standard offset to the % of reading to maintain a reasonable accuracy at all locations on the scale. Normally for TAB readings we are never operating at the extreme ends of the scale so this has no impact on our work. <b>General Note:</b> Some local jurisdictions require qualified electrician for any electrical readings <b>Calibration Requirement:</b> Instruments require NIST Traceable calibration or National Metrology Institutes (NMI) which exist in many countries maintaining primary measurements of standards; such as NPL in the UK, PTB in Germany and many others which are approved for those regions.							