

Discipline		NEBB Instrument Master List (Effective January 1, 2027)										BET RSC CPT FHT RCM Sound TAB Vibration										Notes	Calibration Requirements				
		Function		RANGE		ACCURACY		RESOLUTION																			
CPT Option 1	Aerosol Photometer	CHOOSE ONLY 1 OF THE 2 OPTIONS	The instrument shall have a threshold sensitivity of 0.01%-100% of the challenge aerosol particles and be capable of measuring concentrations with a minimum range from 10 to 90 micrograms/liter. Sample flow rate shall be 28.3 L/min (1 cfm). Readout shall be linear with an accuracy of 1% of full scale of the selected range. ± 2% of reading with a flow rate of 28.3 L/min (1 cfm).										X													*1 & *7	12 Months or 400 operating hours
	Pneumatic Aerosol Generator		A device that can aerosolize oil medium to serve as an artificial challenge for filter integrity testing of systems under 3,000 cfm, typically Laskin nozzle(s) type, atomizer, etc.										X													*1	Not Required
	Thermal Aerosol Generator		A device that can aerosolize oil medium to serve as an artificial challenge for filter integrity testing of systems of 3,000 to 60,000 cfm										X													*1	Not Required
CPT Option 2	Optical Particle Counter for Scan Test		A particle counter should have at least a 1.0 cfm flow rate with a threshold sensitivity of at least 0.3µm. The counter must have an audible alarm for every particle that is counted. The particle counter shall have a continuous counting mode or a sample time that exceeds the time required to completely scan the area of the filter under test. This counter may also be used for Cleanliness Classification above.										X													*1 & *7	12 Months
	Diluter		A device used with the scanning particle counter to sample the aerosol challenge upstream of a filter under test. The dilution ratio should be between 300 – 1,000:1. The resulting counts after dilution should not exceed 100,000 particles.										X													*1	12 Months
	Aerosol Generator		A device that can aerosolize oil or microsphere medium to serve as an artificial challenge for filter integrity testing.										X													*1	Not Required
FHT Instruments	Tracer Gas Detector	Minimum detection range: 0.01 PPM. Minimum response time: 1 second. The units shall be configured to measure sulfur hexafluoride (SF6), or other approved tracer gas, and display in concentration measurement units. (PPM)		±	10%	of reading	or	0.025	ppm	0.01	ppm																12 Months
	Detection Calibrator	Device used to calibrate the detection instrument in accordance with the manufacturer's specifications.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	12 Months When Required
	Local Challenge Source	Device that can generate a small relatively neutrally buoyant smoke, discharging with minimal velocity.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	Not Required
	Large Challenge Source	Device that can generate a large relatively neutrally buoyant smoke, discharging with minimal velocity.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	Not Required
	Ejector w/critical orifice	Shall conform to the requirements as indicated in the current edition of NEBB FHT PS. See appendix D for instrument specifications.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	Not Required
	Ejector System Calibrator	Rotameter (Bubble Gauge)	0	l/m	to	10	l/m	±	3%			0.1	l/m														Initial / One Time
		Digital Mass Flow Meter	0	l/m	to	15	l/m	±	0.1	l/m		0.1	l/m														12 Months
	Tracer Gas	Sulfur Hexafluoride Commercial grade (Minimum purity of 99%) or approved replacement gas.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	SDS Required
Mannequin	A three dimensional mannequin (torso) with arms and shall be of reasonable human proportions and be clothed with a lab coat. The height must be adjustable to meet the height requirements of the various hood configurations; i.e. standard bench hood, ADA height, floor mounted, etc. Probe shall be placed in the normal breathing zone based on the various heights.		Not Applicable		Not Applicable		Not Applicable		Not Applicable																	Not Required	
BET Instruments	Digital pressure flow measurement system	Not Applicable		±	4%	of reading			0.1 Pa (0.0004 inwc, 0.002 psf)		X														Per Manufacturer's Requirements		

Discipline		NEBB Instrument Master List (Effective January 1, 2027)						BET	RSC	CPT	EHT	RCx	Sound	TAB	Vibration	Notes	Calibration Requirements		
		Function	RANGE		ACCURACY	RESOLUTION													
Sound Instruments	Sound Level Meter & Octave Band Analyzer	Sound Level Meters (SLM's) with time averaging and full octave band filters (optional third octave band filters)	As listed in Table 3-1.2.1, 3-1.2.2 and 3-1.2.3 which conforms to Type 1 or Type 2 requirements specified in ANSI S1.4		which conforms Appendix A of the NEBB Instrument List														
		Full Octave Filters	As listed in table 3-1.2.2 and 3-1.2.3 (which conforms with ANSI S1.11 Specification for Octave-Band and Fractional-Octave-Band Analog & Digital Filters		which conforms Appendix A of the NEBB Instrument List							x				*3	12 Months		
	Acoustic Calibrator	As listed in Table 3-1.1 (which conforms to ANSI S1.40 Specification for Acoustical Calibrators												x			*3	12 Months	
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 – at least 1 to 1000 Hz (60 to 60,000 RPM) Frequency Resolution – 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													x		*4	12 Months	
	Accelerometers / Transducer	Shall have the following minimum specifications:																	
		Sensitivity (± 20%) ≥ 100 mV/G typical Measurement Range = ± 20 G peak or greater Frequency Range = 2 to 3000 Hz at ± 3dB														x		*4	12 Months
NOTES																			
*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	The Rotameter (bubble gauge) requires a NIST-traceable calibration performed either with the approved tracer gas, or calibrated with AIR and then used with the manufacturer's correction factor. This calibration does not expire and is not required to be renewed annually.																		
*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.																		
*7	Calibrated per Industry/Manufacturer standards.																		
*8	Firms may own or rent Temp Documentation Thermal Camera for RCx. BET Temp Documentation Thermal Camera must be owned.																		
*9	Sound level meters with vibration integrators are NOT acceptable for NEBB approved instrumentation for making vibration measurements. That is, 1/3 octave or full octave vibration readings are not sufficient for NEBB Sound and Vibration work.																		
*10	Vibration meters, which ONLY acquire and display the overall vibration level, displacement, velocity, and/or acceleration DO NOT meet NEBB minimum requirements for Vibration instrumentation.																		
	These types of meters may only be used if the contract documents specifically allow for their usage.																		
General Note:	Some local jurisdictions require qualified electrician for any electrical readings																		
Calibration Requirement:	Instruments require a 3-point calibration, traceable to National Institute of Standards and Technology (NIST) or National Metrology Institute (NMI) unless otherwise noted.																		