

Discipline Function		CPT Required Instrumentation (Effective January 1, 2025)																	
		RANGE						ACCURACY						RESOLUTION					
Air	Air Pressure	0	in wg	to	10	in wg	±	2%	of reading	±	0.001	in wg	0.001	in wg	<	1	in wg		12 Months
		0	Pa	to	2500	Pa	±	2%	of reading	±	0.25	Pa	0.10	Pa	<	250	Pa		
	Air Velocity Instrument for Pitot Traverse	100	fpm	to	3500	fpm	±	5%	of reading	±	7	fpm	1	fpm					12 Months
		0.50	m/s	to	20	m/s	±	5%	of reading	±	0.04	m/s	0.01	m/s					
	Digital Direct Reading Hood	100	cfm	to	2000	cfm	±	5%	of reading	±	7	cfm	1	cfm					12 Months
		50	l/s	to	944	l/s	±	5%	of reading	±	4	l/s	1	l/s					
CPT Instruments	Particle Counter	A light scattering instrument with display or recording means to count and size discrete particles in air, as defined by ASTM F50-07. Instruments of this type shall provide for a minimum sampling flow rate of 28.3 L/min (1.0 cfm) and a threshold size discrimination of a minimum of 0.3 micrometer in size.														*7	12 Months		
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).														*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.														*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														*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.														*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.														*1	12 Months	
	Aerosol Generator		A device that can aerosolize oil or microsphere medium to serve as an artificial challenge for filter integrity testing.														*1	Not Required	

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 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.
- *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.

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		RANGE	ACCURACY	RESOLUTION	Notes	Calibration Requirements
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.						