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Section 7.
Test Results

AGI-30 impinger samples and pre-test Collison nebulizer viral stock aliquots were analyzed as described above for the in-triplicate control tests, and in triplicate Test Device efficacy tests. Collected impinger samples were poured into labeled 50 ml sterile conical tubes following each test and transported to a dedicated Class II biological safety cabinet for assay and viable viral analysis. The initial stock suspension viral titer results, baseline control characterization testing, and Test Device Log reduction results with percent viral removal efficacy are shown in Table 2.

Table 2. Test Results for Purifier Viral Removal Efficacy

Sample Name	Test Description	Test Replicate #	TCID50/mL	Log10 TCID50/mL	Average TCID50/mL	Average Log10 TCID50/mL	Test Device Log10 Reduction	Test Device Percent (%) Log Reduction
T1	Device Test	1	2.98E+00	0.47	3.55E+00	0.55	3.13	99.925%
T2		2	4.14E+00	0.62				
T3		3	3.51E+00	0.55				
C1	Control	1	5.71E+03	3.76	4.79E+03	3.67	NA	NA
C2		2	3.51E+03	3.55				
C3		3	5.16E+03	3.71				
Pre - Test Virus Stock Titer	Stock TCID50	NA	2.37E+06	6.38	NA	NA	NA	NA
Pre - Test Virus Stock Titer			3.16E+06	6.50				
Pre - Test Virus Stock Titer			3.16E+06	6.50				

Particle size and aerosol count analysis was conducted for each of the in-triplicate control baseline and Test Device aerosol tests with the APS programmed for sequential ten (10) second sampling. As shown in Table 1, a series of ten (10) second aerosol particle size samples were initiated following the aerosol nebulization process from t = 0 to t = 36 minutes for a total of two hundred and sixteen (216) samples per test. These APS samples were taken to establish an actual aerosol concentration and particle size profile during control tests for comparative measurements of the Test Device effect on aerosol particle size and concentration characteristics during operation.

Following the initial operational Test Device APS samples at time = 0 following aerosol generation out to 36 minutes, it was observed that the aerosol concentration in the chamber showed a reduction in mass concentration and in median diameter when compared to relative control tests over the testing time. This was evident for all three of the tests conducted with the Test Device operational, which also coincides with the Impinger samples showing a greater than 3 log reduction in viral viability when compared to control test $TCID_{50}$ assay results shown in

Table 2. The APS sample concentration results at time points at T = 0, T=14, and T = 36 minutes following aerosol generation for Test Device and control tests is shown in Table 3 below.

Table 3. APS Aerosol Count and Mass Test Results

APS Data									
	Test 1			Test 2			Test 3		
Test ID-(min)	T1-0	T1-14	T1-36	T2-0	T2-14	T2-36	T3-0	T3-14	T3-36
Particle counts	388652	586439	410082	478092	596798	160326	446347	598774	161931
Conc. (mg/m^3)	8.30	9.97	3.35	10.8	10.2	1.09	11.7	11.8	1.29
Diameter (um)	3.39	4.26	3.37	3.92	3.82	2.48	3.64	3.71	2.26
	Control 1			Control 2			Control 3		
Test ID-(min)	C1-0	C1-14	C1-36	C2-0	C2-14	C2-36	C3-0	C3-14	C3-36
Particle counts	370091	433384	514816	369911	391042	517204	440862	533529	609284
Conc. (mg/m^3)	8.76	9.58	10.4	8.12	7.11	8.79	9.25	12.0	11.0
Diameter (um)	3.67	3.92	4.02	3.26	3.4	4.03	3.41	3.73	3.70

Table 3 shows the chamber particle counts relative to ten second APS aerosol samples taken at the zero (0) timepoint, at the fourteen (14) minute and the thirty-six (36) minute sample times for each test. The table shows the Test Device performance in eliminating airborne particulates at the same sample timepoints relative to Control Baseline data (no Test Device operation). Listed are the aerosol particle counts, mass concentrations, and mass median aerosol particle sizes for comparison.

The APS samples at a controlled and consistent one (1) L/min flow rate. For evaluation of the Test Device in aerosol count and mass elimination from the test system, aerosol samples were taken in ten (10) second intervals (0.16 liters/sample) for each conducted device and control test. The APS was programmed to take two hundred sixteen (216) sequential ten (10) second analysis samples over thirty-six (36) minutes for each control and Test Device test. A plot showing the test averaged Test Device aerosol elimination results in relation to control tests is shown in Figure 2.

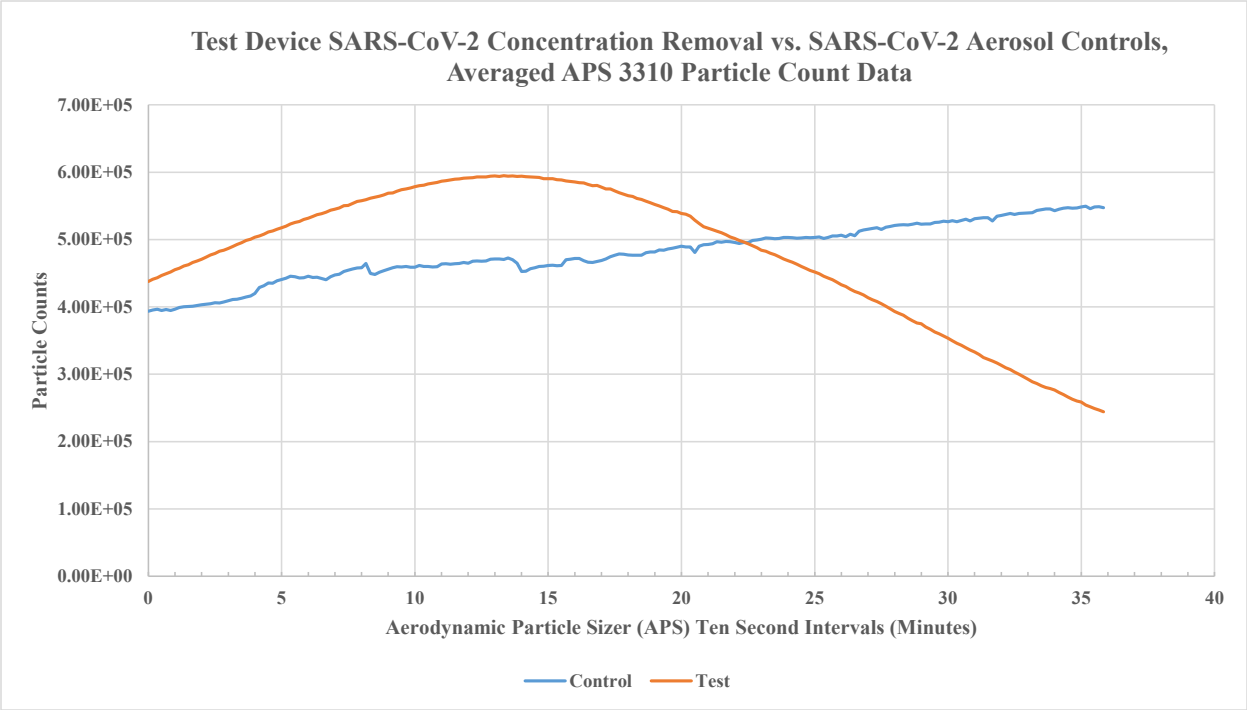

Figure 2. Aerodynamic Particle Sizer (APS) Aerosol Particle Counts vs Sample Time Plot

Particle size distributions were also measured with the APS. A plot showing a representative SARS-CoV-2 aerosol particle size distribution is shown in Figure 3. The plot shows the percentage mass of the particle size distribution in relation to particle size. The Mass Median Aerodynamic Diameter (MMAD) shown in the graph reflects a median diameter of approximately 3.19µm, with 50% of the aerosol particle mass below and 50% above the median diameter.

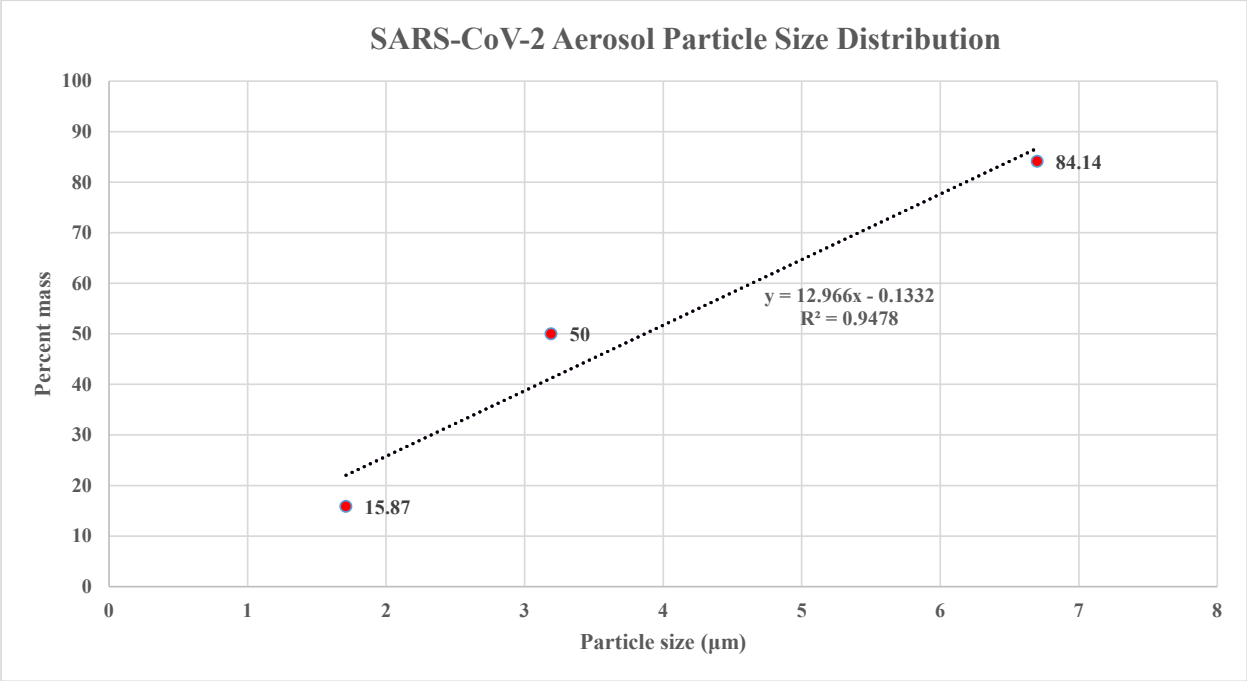

Figure 3. Aerodynamic Particle Sizer (APS) Aerosol Particle Size Distribution Plot