



Coronavirus Testing

Test Results Summary

March 2021



Coronavirus Testing Summary

- Fellowes partnered with an independent and accredited laboratory to analyze the airborne reduction of coronavirus 229E when using Fellowes AeraMax Pro Air Purifiers
- 5 tests were done using a combination of AeraMax Pro AM2, AM3 and AM4 models
- Testing was conducted using a surrogate coronavirus (Human Coronavirus 229E)
- This was aerosolized in a 20m³ test chamber (similar to our H1N1 testing)
- Samples were collected and analyzed after a 1 hour period
- The full test methodology is available along with test reports from the lab

Test Results

HCoV 229E Killing Rate Test					
NO#	Model	Filters	Antiviral Activity Rate (%)	Report file	Test Reference Specification
1	AM2	Hybrid Filter	99.99%/1H	WP-20116865-JC-01En	Technical specification for disinfection(2002)
2	AM3/S PC	Pre-filter+Carbon filter+HEPA filter	99.99%/1H	WP-20116865-JC-02En	
3	AM3/S PC	Pre-filter+Hybrid Filter	99.99%/1H	WP-20116865-JC-03En	
4	AM4/S PC	Pre-filter+Carbon filter+HEPA filter	99.99%/1H	WP-20116865-JC-04En	
5	AM4/S PC	Pre-filter+Hybrid Filter	99.99%/1H	WP-20116865-JC-05En	

The above is a summary of all 5 test reports. Where we are asked to provide evidence, the PDF reports are available.

Claim Statement

Fellowes AeraMax Pro Purifiers have demonstrated to be effective in reducing an aerosolized airborne concentration of a surrogate coronavirus in a test chamber reaching 99.99% airborne reduction within one hour of operation base on independent laboratory testing.

Separate Machine Claims:

The Fellowes AeraMax Pro AM 2 Air Purifier was demonstrated to be effective in reducing an aerosolized airborne concentration of a surrogate coronavirus in a test chamber reaching 99.99% airborne reduction within one hour of operation base on independent laboratory testing.

The Fellowes AeraMax Pro AM 3 Air Purifier was demonstrated to be effective in reducing an aerosolized airborne concentration of a surrogate coronavirus in a test chamber reaching 99.99% airborne reduction within one hour of operation base on independent laboratory testing.

The Fellowes AeraMax Pro AM 4 Air Purifier was demonstrated to be effective in reducing an aerosolized airborne concentration of a surrogate coronavirus in a test chamber reaching 99.99% airborne reduction within one hour of operation base on independent laboratory testing.

Testing FAQs

What is 229E and why did we use it?

- It causes the common cold, but it has similar characteristics. Enveloped, positive-sense single-stranded RNA virus which is how Sars-CoV-2 is described. ([CDC LINK](#))
- About the size comparison, “Under the electron microscope, coronavirus virions are spherical or pleomorphic. Coronavirus particles are enveloped, about 80–120 nm in diameter” (source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7204879/>)

Why did we not use Sars-CoV-2?

- It is not yet possible for labs to aerosolize Sars-CoV-2 for airborne testing. Some manufacturers are using a surface approach to test against Sars-CoV-2 such as ionization companies, but we have not seen anyone yet make this airborne. Labs are still telling us this is not ethical or possible in the current climate.

Can we claim we capture COVID-19?

- No. Without specific testing using the actual virus strain, we cannot make a direct COVID-19 claim.

Where was the testing conducted?

- The testing was done in an independent and certified facility in Shanghai (WEIPU).
- The lab has multiple accreditations and certifications including CNAS and CMA.
- CNAS demonstrates that the lab is accredited in accordance with ISO/IEC 17025. “ISO/IEC 17025 enables laboratories to demonstrate that they operate competently and generate valid results, thereby promoting confidence in their work both nationally and around the world.” (Source: [ISO.org](#))
- The lab works with multiple international clients such as Bayer, BASF, Unilever and 3M.

Why is the claim after 1 hour?

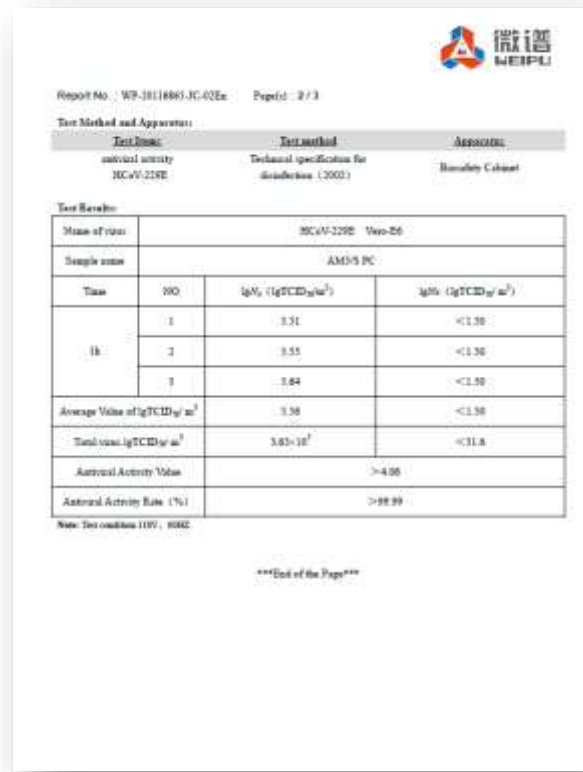
- The reason the claim is after 1 hour is because this was the pre-agreed period of time left between baseline measurement and removal measurement. This doesn't mean it took the full hour, but within the 1 hour period the airborne level was reduced by 99.99%

Test Methodology

1. Take the test virus suspension, filter it with sterile absorbent cotton, and dilute it with nutrient broth medium to the required concentration.
2. Simultaneously adjust the temperature and relative humidity of the two aerosol chambers to the temperature and relative humidity required by the test.
3. Put the air purifier into the aerosol chamber and close the door. After this stage, all operations and the control of instruments and equipment are performed outside the chamber through a window with a sealed sleeve or a remote control. Until the end of the test, the door will not be opened.
4. Spray the 'contaminant' according to the set pressure, gas flow and spray time. While spraying the contaminant, stir with a fan. After spraying the virus, continue to stir for 5 minutes, and then stand for 5 minutes.
5. At the same time, the control group and test group aerosol chamber were sampled before disinfection, as a positive control before the start of the control group experiment and the disinfection treatment of the experimental group.
6. The number of positive control virus in the air in the aerosol cabinet (or room) should reach 5×10^4 cfu/m³ ~ 5×10^6 cfu/m³.

Our Test Reports

5 Single Machine Test Reports



1-page Testing Summary

Test Summary

The following products have been tested by Shanghai WEIPU Chemical Technology Service Co., Ltd as outlined in report(s): WP-20116865-JC-01En; WP-20116865-JC-02En; WP-20116865-JC-03En; WP-20116865-JC-04En; WP-20116865-JC-05En

Product Description	AeraMax Pro
Manufacturer	Fellowes
Test specification	Technical specification for disinfection (2002) 2.1.3
Test Method	Determination of removal efficiency of HCoV 229E following aerosolization of the virus into a 20m ³ environmental test chamber. The device operated at max speed and ionizer ON during test.
Additional SKUs	AeraMax Pro

DATA

The below table shown are the test summary based on the tested products with the different installed filters.

Report NO.	Product	With the Filters	Antiviral Activity Rate (%)
WP-20116865-JC-01En	AeraMax Pro AM2	Hybrid Filter	>99.99%
WP-20116865-JC-02En	AeraMax Pro AM3/S PC	Pre-filter+Carbonfilter+HEPA filter	>99.99%
WP-20116865-JC-03En	AeraMax Pro AM3/S PC	Pre-filter+Hybrid Filter	>99.99%
WP-20116865-JC-04En	AeraMax Pro AM4/S PC	Pre-filter+Carbonfilter+HEPA filter	>99.99%
WP-20116865-JC-05En	AeraMax Pro AM4/S PC	Pre-filter+Hybrid Filter	>99.99%

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