中国认可
国际互认
检测
TESTING
CNAS L0823

201719001121

广州市微生物研究所

GUANG ZHOU INSTITUTE OF MICROBIOLOGY

广州工业微生物检测中心

GUANG ZHOU TESTING CENTER OF INDUSTRIAL MICROBIOLOGY

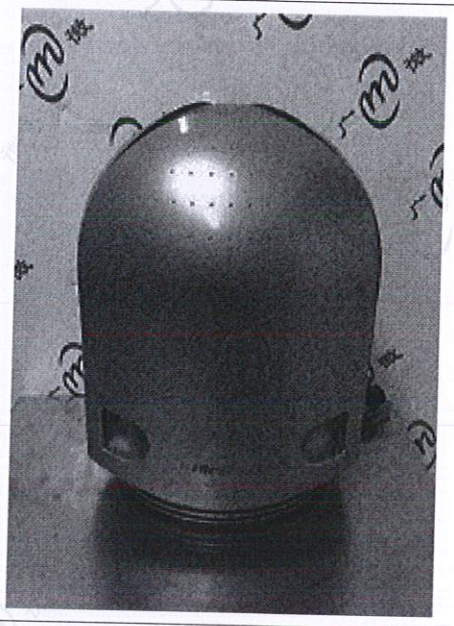
检 测 报 告

TEST REPORT

Report Number	KJ20181787(A)
Name of Sample	Airfree Air Sterilizer
Applicant	Jebsen Consumer Products (China) Company Limited

GUANG ZHOU INSTITUTE OF MICROBIOLOGY
GUANGZHOU TESTING CENTER OF INDUSTRIAL MICROBIOLOGY
TEST REPORT

Date Received: Oct. 15, 2018
Date Analyzed: Oct. 16, 2018

Name of Sample	Airfree Air Sterilizer	Source of Sample	Delivery
Applicant	Jebsen Consumer Products (China) Company Limited	Client	Lao Yanyi
Manufacturer	Airfree Produtos Electronicos, S.A.,	Brand	AirFree
Type and Specification	P125	Quantity of Sample	1Set (4 Pcs)
Date of Production	——	State of Sample	Machine
Batch Number	——	Packing of Sample	In box
Sample Picture			
Standard and Methods	1. GB/T 18801-2015 Air cleaner 2. GB 21551.3-2010 Antibacterial and cleaning function for household and similar electrical appliances-Particular requirements of air cleaner 3. Referring to <Technical Standard For Disinfection> 2002-2.1.3 Air disinfection effect evaluation test		
Items of Analysis	1. Eliminating Bacterial Rate (*Aspergillus niger* ATCC16404) 2. *Purification Effect of Airborne Virus Aerosol (*Influenza A virus* A/PR8/34 H1N1, *Human enterovirus 71*)		
Remarks	This report replaces the report KJ20181787 issued on December 04, 2018, and the original report is invalid.		

To be continued

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Air Disinfection Test Method:

1. Test Equipment
   1) Strain: *Aspergillus niger*
   2) Microbial aerosol generator: PLG200
   3) Culture media: PDA
   4) Sampling equipment: six-stage sieve sampler
2. Test Conditions
   1) The volume of the test chamber: 3 m^3
   2) Environment temperature: (20~25) ℃
   3) Environment humidity: (50~70) %RH
3. Operational Conditions of the Machine
   The test process was electrified.
4. Test Procedure
   1) To the 4th to 7th generation of *Aspergillus niger* roxell culture, add 5.0 ml to 10.0 ml of 0.05% (v / v) Tween 80 aqueous PBS solution, scrap the *Aspergillus niger* conidia in solution and transfer the spore suspension with glass beads in the flask, lightly shaking 1 min and filter removed hypha. Centrifuge 20min in the range of 5000r / min ~ 6000r / min . Then observe under the microscope (400 times) , if there are still hypha in the suspension, to be centrifuged. Diluted with physiological saline solution to the appropriate concentration before use.
   2) The equipments are placed in the test chambers respectively, close the door, and open the HEPA filter. Simultaneously operate the environmental control devices until the experimental cabin temperature to be 20 ℃~25 ℃, relative humidity to be 50%～70%, Turn off the chamber environmental control system.
   3) Release microbial aerosol: turn on the microbial aerosol generator, release the microbial aerosol 15 min ~20 min at 0.2 MPa, operate the ceiling mixing fan, then turn off the fan after 10 min, and let stand for 15 min.
   4) Original Bacteria aerosols collected by six-stage sieve sampler.
   5) Turn on the fan during the test. The air purifier are adjusted to the highest air cleaning mode setting for test (test group). Bacteria aerosols (control group and test group) are collected at 60 min.
   6) Choose 2 PDA plates (the same batch) as the negative control, and culture them on the same condition with the samples.
   7) Run the test three times and take the mean as the final result.
5. Computational Formula

Natural decay rate $N_t(\%)=\frac{V_0-V_t}{V_0}\times 100$

Where: V_0 = original bacteria count of control group; V_t = bacteria count after treatment of control group.

Killing Rate $K_t(\%)=\frac{V_1\times(1-N_t)-V_2}{V_1\times(1-N_t)}\times 100$

Where: V_1 = original bacteria count of test group; V_2 = bacteria count after treatment of test group.

To be continued

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Test Results

Number of Sample	Test Time (min)	Test Strain	Test Number	Control Group: Original Bacteria Count V_0 (cfu/m^3)	Control Group: Bacteria Count after Treatment V_t (cfu/m^3)	Control Group: Natural Decay Rate N_t (%)	Test Group: Original Bacteria Count V_1 (cfu/m^3)	Test Group: Bacteria Count after Treatment V_2 (cfu/m^3)	Killing Rate K_t (%)
KJ20181787(A)-1	60	*Aspergillus niger*	1	6.20×10^4	4.17×10^4	32.74	5.85×10^4	1.08×10^4	72.55
			2	5.35×10^4	3.56×10^4	33.46	5.25×10^4	9.12×10^3	73.89
			3	6.54×10^4	4.56×10^4	30.28	6.32×10^4	1.28×10^4	70.95
			Mean						72.46

To be continued

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Test Method for Purification Effect of Airborne Virus Aerosols

1. Test Equipment
   1) Strain: *Influenza A virus* A/PR8/34 H1N1, *Human enterovirus 71*
   2) Cells: MDCK, Vero
2. Test Conditions
   1) Environment temperature: (23~25) ℃
   2) Environment relative humidity: (50~60) %
   3) Test time: 60min
   4) The volume of the test chamber: 10 m^3
   5) Machine setting: power on (Three machines are used together).

Test Results

Number of Sample	Virus	Test Number	Control Group: 0 min ($TCID_{50}$/m³)	Control Group: 60 min ($TCID_{50}$/m³)	Control Group: Natural Decay Rate (%)	Test Group: 0 min ($TCID_{50}$/m³)	Test Group: 60 min ($TCID_{50}$/m³)	Purification Rate (%)
KJ20181787(A)-1	A/PR8/34 (H1N1)	1	5.06×10^5	7.47×10^4	85.24	2.72×10^6	1.08×10^5	73.10
		2	3.42×10^6	5.06×10^5	85.20	1.60×10^6	5.06×10^4	78.63
		3	7.48×10^5	1.60×10^5	78.61	1.60×10^6	7.47×10^4	78.17
	EV71	1	5.06×10^4	1.60×10^4	68.38	5.06×10^4	3.36×10^3	79.00
		2	3.41×10^4	7.52×10^3	77.95	5.06×10^4	2.72×10^3	75.62
		3	5.06×10^4	1.60×10^4	68.38	3.41×10^4	2.72×10^3	74.77

End of report

Editor Checker Issuer Date Reported 2018.12.13

广州市微生物研究所 检验检测专用章

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