广州市微生物研究所

GUANG ZHOU INSTITUTE OF MICROBIOLOGY

检测报告

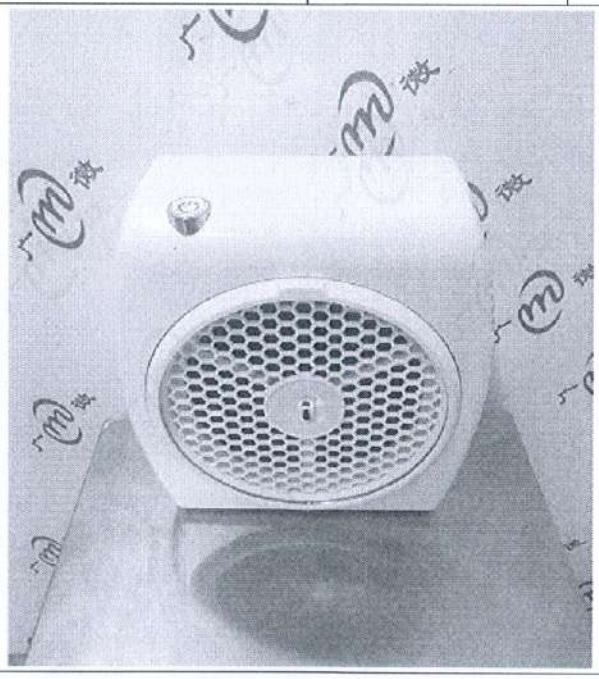
TEST REPORT

Report Number	KJ20192216
Name of Sample	Air Purifier
Applicant	LightAir Holding AB

GUANG ZHOU INSTITUTE OF MICROBIOLOGY

TEST REPORT

Date Received: Oct. 11, 2019
Date Analyzed: Oct. 16, 2019

Name of Sample	Air Purifier	Source of Sample	Delivery
Applicant	LightAir Holding AB	Client	Wilson Lam
Manufacturer	Sino Vantage Industrial Ltd.	Brand	LightAir
Type and Specification	Mini 100	Quantity of Sample	1PC
Date of Production	——	State of Sample	Machine
Batch Number	——	Packing of Sample	In box
Sample Picture			
Standard and Methods	Refer to APIAC/LM 01-2015 Indoor purifier's purification performance evaluation requirements		
Items of Analysis	CADR ($PM_{0.1}$)		
Remarks	——		

To be continued

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Method for Measuring Clean Air Delivery Rate of Particulate ($PM_{0.1}$):

1. Test Object
   Particulate (<0.1 μm)
2. Test Conditions
   1) Environment temperature: (25±2) ℃
   2) Environment humidity: (50±10)% RH
3. Test Equipments
   The volume of the test chamber: 30 m^3, Aerosol Spectrometer (TSI 3340), Aerosol Diluter (TSI 3302 A)
4. Operation Conditions of the Machine
   Set the switch to position "The highest gear".
5. Test Procedures
   1) Place the air cleaner to be tested in the test chamber in accordance with standard request and set the air cleaner controls to the conditions for test. Test for proper operation, then turn off the air cleaner.
   2) Using the test chamber HEPA filter, allow the test chamber air to clean until the background concentration in the size below 0.1 μm reaches a concentration of less than 2×10^4 particles/L. Simultaneously operate the environmental control devices until the test chamber conditions.
   3) When an acceptable test chamber background concentration is achieved record the background concentration, turn off the test chamber environmental control system.
   4) Connect the cigarette burner to light the cigarette and cover the burner, blow the cigarette smoke into the test compartment with low pressure air. After the smoke has occurred, the fan continues to stir for 2 min, so that the bulk particles are mixed evenly after closing the mixing fan
   5) Turn off ceiling mixing fan, begin to acquire the cigarette smoke particulate concentration. This test point is the initial concentration (T_0).
   6) Open the air cleaner and start the test as soon as the initial concentration of particulate and denoted as T1 after 2min.The particulate matter concentration should reach $(2.4 \sim 3.5) \times 10^7$/L ,The concentration of the particles in the cabin was measured at intervals of 1 min at the time of T1, and 240 consecutive times were measured. Ten consecutive test values were recorded and recorded as T2 ~ T11.
   7) Test the natural decay according to the steps 1) ~ 6) , except that the air cleaner is unoperated. The concentration of particulate matter in the nacelle was measured at intervals of 1 min from t_0, and 240 consecutive times were measured. Ten consecutive test values were recorded and recorded as $t_1 \sim t_{10}$.
6. Computational Formula

   CADR Q (m^3/h) $= 60\times(k_e - k_n)\times V$

   Where: k_e = total decay constant; k_n = Natural decay constant; V = volume of the test chamber, m^3

Test Results

Number of Sample	Pollutant	Natural Decay Constant k_n (min^{-1})	Total Decay Constant k_e (min^{-1})	CADR Q (m^3/h)	240 min Removal Rate (%)
KJ20192216-1	$PM_{0.1}$	0.0025	0.0342	57	99.95

To be continued

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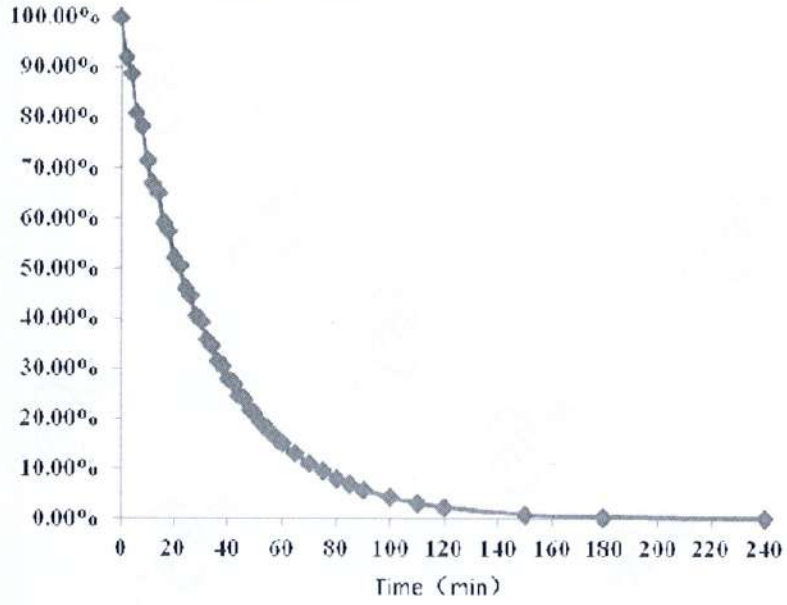
$PM_{0.1}$ Removal Rate Change Curve within 240 min



*** End of report***

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广州市微生物研究所 检验检测专用章

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