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检测
TESTING
CNAS L0095

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No.: WTS2021-0764

TEST REPORT

NAME OF SAMPLE 720 Air Purifiering Disinfector

CLIENT Qierling (Beijing) Health Technology Co., Ltd.


CLASSIFICATION OF TEST Commission Test

Vkan Certification & Testing Co., Ltd.

TEST REPORT

No: WTS2021-0764

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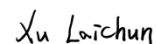
Name of product: 720 Air Purifiering Disinfector	Trade mark: 
Type/Model: DS-S800	Sample status: —
Commissioned by: Qierling (Beijing) Health Technology Co., Ltd.	Manufacturer: Qierling (Beijing) Health Technology Co., Ltd.
Commissioner address: No 101-42/101-43 (Dongsheng district) , 9th Floor, No 1 Building, No 8th , Heiquan Road, Haidian District, Beijing City.	Manufacturer Address: No 101-42/101-43 (Dongsheng district) , 9th Floor, No 1 Building, No 8th , Heiquan Road, Haidian District, Beijing City.
Production Unit: Healthlead Corproation Limited	Sampling base: —
Production Unit Address: Building A, Digital Silicone Valley Industry Park, No.89, Hengping Road, Henggang Street, LonggangDistrict, Shenzhen, P.R. China	Sampled by: —
Quantity of sample: 4	Sampling at(place): —
Sample identification:4-1~ 4-4	Means of sampling: —
Means of receiving:Submitted by the client	Sampling date: —
Classification of test:Commission Test	Test Item: —
Receiving date: 2021-01-15	Completing date: 2021-01-18
Tested according to: GB/T 18801-2015 《Air cleaner》 GB 21551.3-2010 《Antibacterial and cleaning function for household and similar electrical appliances-Particular requirements of air cleaner》	
Test conclusion: According to the requirements of the client ,according to standard GB/T 18801-2015 the Standby power、Solid particulate clean air delivery rate(CADR)、Formaldehyde clean air delivery rate(CADR)、Toluene clean air delivery rate(CADR)、TVOC clean air delivery rate(CADR)、Solid particulate cumulate clean mass(CCM)、Formaldehyde cumulate clean mass(CCM)、Solid particulate cleaning energy efficiency、Formaldehyde cleaning energy efficiency 、Toluene cleaning energy efficiency、TVOC cleaning energy efficiency 、Noise is tested on the sample; according to standard GB 21551.3-2010 the Release of harmful matter rate is tested on the sample. Please refer the test data to the table below. <div style="text-align: right;"> Seal of CVC Date of issue:2021.1.18 </div>	

Approved by: Yang Xianfei

Reviewed by: Xie Jianfei

Tested by: Xu Laichun





Description and illustration of the sample:

—

Description of the sampling procedure:

—

Description of the deviation from the standard, if any:

—

Remarks:

Because the measured Solid particulate clean air delivery rate is more than $800\text{m}^3/\text{h}$ and Formaldehyde clean air delivery rate is more than $400\text{m}^3/\text{h}$, Solid particulate clean air delivery rate(CADR) and Formaldehyde clean air delivery rate(CADR) is tested referring to GB / T 18801-2015.

Sample photo



GB/T 18801-2015			
Clause	Test items and test requirements	Test results	Verdict
5	Technical Requirements		
5.1	The Release of harmful matter should comply with the clause 32 of standard GB 4706.45-2008 and clause 4 of standard GB 21551.3-2010's requirements	See attached table	P
5.2	The standby power should not larger than 2.0W	See attached table	P
5.3	The experimental CADR of the solid particulate and gas contaminant should not less than the 90% times the nominal value of the air cleaner	See attached table	—
5.4	The experimental CCM of particular contaminant should lie within the rated scope	See attached table	—
5.5	Cleaning energy efficiency		
5.5.1	The experimental Cleaning energy efficiency of the solid particulate and gas contaminant should not less than the 90% times the nominal value of the air cleaner	See attached table	—
5.5.2	The Cleaning energy efficiency of the target contaminant should at least be the certified grade according to table 1 and table 2.	See attached table	P
5.6	Noise		
5.6.1	The noise value corresponding to the measured value of the CADR when the cleaner is working shall be in accordance with the provisions of Table 3	See attached table	P
5.6.2	The permissible difference between the measured value and the nominal value of the noise generated by the cleaner shall be less than +3dB	See attached table	—

Table 1 Test results table

Clause	Test items		Unit	experimental	Nominal value	limited value	Verdict
5.1	Release of harmful matter	Ozone concentration (5cm from Air outlet)	mg/m ³	0.02	—	≤0.10	P
		ultraviolet intensity (30cm from the appliance)	μW/cm ²	Not detected	—	≤5	P
		TVOC concentration (20cm from Air outlet)	mg/m ³	0.036	—	≤0.15	P
		PM10 concentration (20cm from Air outlet)	mg/m ³	0.018	—	≤0.07	P
5.2	Standby Power		W	0.7	—	≤2.0	P
5.3	Clean air delivery rate (CADR)	solid particulate	m ³ /h	831.8	—	≥90% times nominal value	—
		formaldehyde		518.5	—		—
		Toluene		356.7	—		—
		TVOC		374.8	—		—
5.4	Cumulate Clean Mass (CCM)	solid particulate	Interval division	P4	—	comply with nominal range	—
		formaldehyde		F4	—		—
5.5	Cleaning energy efficiency η	solid particulate	m ³ / (h.W)	11.08	—	≥90% times nominal value	—
		formaldehyde		6.90	—	≥90% times nominal value	—
		Toluene		4.75	—	≥90% times nominal value	—
		TVOC		4.99	—	≥90% times nominal value	—

Clause	Test items	Unit	experimental	Nominal value	limited value		Verdict
5.6	Noise	dB(A)	69.3 (Max gear)	—	CADR max ≤150	≤55	/
					150< CADR max ≤300	≤61	/
					300< CADR max ≤450	≤66	/
					CADR max >450	≤70	P
					allowance should not greater than +3dB(A)		—

Table 2-1 Solid particulate clean air delivery rate(CADR)

Serial number	Natural attenuation		Total attenuation		curve
	Point of time/min	concentration/($\mu\text{g}/\text{L}$)	Point of time/min	concentration/($\mu\text{g}/\text{L}$)	
1	0	10224549	0	4966731	<p>Natural attenuation curve</p>
2	2	10154691	1	2357138	
3	4	10088255	2	1531484	
4	6	10028400	3	1010088	
5	8	9952113	4	646519	
6	10	9894930	5	399806	
7	12	9846836	6	258640	
8	14	9823826	7	161678	
9	16	9767721	8	99558	
10	18	9674228	9	64364	
11	20	9656529	10	41166	
Attenuation coefficient/ min^{-1}	0.002856		0.464976		<p>Total attenuation curve</p>
R^2	0.991		0.998		
	Nominal value		Measured value		
CADR/(m^3/h)	—		831.8		
input power/W	—		75.1		
Energy efficiency of purification/ $\text{m}^3/(\text{W}\cdot\text{h})$	--/--		11.08/ High efficiency class		
Test description:					
1. Test gear: Max gear					
2. Test chamber: 30m^3					
3. Energy efficiency of purification:					
Purification efficiency level			Energy efficiency of purification η 颗粒物 /($\text{m}^3/(\text{W}\cdot\text{h})$)		
High efficiency class			$\eta \geq 5.00$		
Qualified grade			$2.00 \leq \eta \leq 5.00$		

Table 2-2 Formaldehyde clean air delivery rate(CADR)

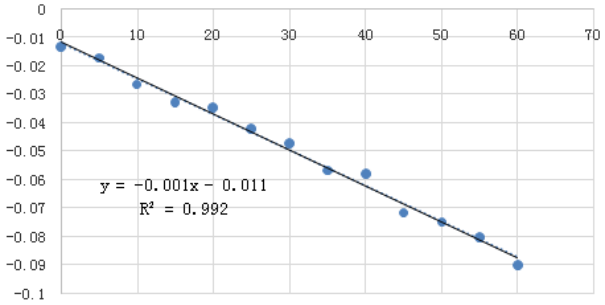
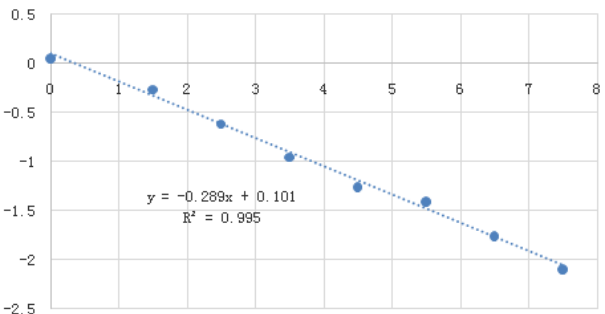
Serial number	Natural attenuation		Total attenuation		curve
	Point of time/min	concentration/(mg/m ³)	Point of time/min	concentration/(mg/m ³)	
1	0	0.987	0	1.062	<p>Natural attenuation curve</p>  <p>Total attenuation curve</p> 
2	5	0.983	1.5	0.77	
3	10	0.974	2.5	0.542	
4	15	0.968	3.5	0.385	
5	20	0.966	4.5	0.284	
6	25	0.959	5.5	0.245	
7	30	0.954	6.5	0.171	
8	35	0.945	7.5	0.122	
9	40	0.944	—	—	
10	45	0.931	—	—	
11	50	0.928	—	—	
12	55	0.923	—	—	
13	60	0.914	—	—	
Attenuation coefficient/min ⁻¹	0.001261		0.289326		
R ²	0.992		0.995		
	Nominal value	Measured value			
CADR/(m ³ /h)	—	518.5			
input power/W	—	75.1			
Energy efficiency of purification/(m ³ /(W·h))	--/--	6.90 / High efficiency class			
Test description:					
1. Test gear: Max gear					
2. Test chamber: 30m ³					
3. Energy efficiency of purification :					
Purification efficiency level			Energy efficiency of purification $\eta_{\text{甲醛}}$ /(m ³ /(W·h))		
High efficiency class			$\eta \geq 1.00$		
Qualified grade			$0.50 \leq \eta < 1.00$		

Table 2-3 Toluene clean air delivery rate(CADR)

Serial number	Natural attenuation		Total attenuation		curve
	Point of time/min	concentration/(mg/m ³)	Point of time/min	concentration/(mg/m ³)	
1	0	1.924	0	2.312	<p>Natural attenuation curve</p>
2	5	1.887	2	1.522	
3	10	1.866	4	1.090	
4	15	1.846	6	0.732	
5	20	1.824	8	0.433	
6	25	1.823	10	0.323	
7	30	1.813	12	0.211	
8	35	1.792	—	—	
9	40	1.779	—	—	
10	45	1.768	—	—	
11	50	1.715	—	—	
12	55	1.725	—	—	
13	60	1.691	—	—	
Attenuation coefficient/min ⁻¹	0.001931		0.200098		<p>Total attenuation curve</p>
R ²	0.970		0.997		
	Nominal value	Measured value			
CADR/(m ³ /h)	—	356.7			
input power/W	—	75.1			
Energy efficiency of purification/(m ³ /(W·h))	--/--	4.75 / High efficiency class			
<p>Test description:</p> <ol style="list-style-type: none"> 1. Test gear: Max gear 2. Test chamber: 30m³ 3. Energy efficiency of purification: 					
Purification efficiency level			Energy efficiency of purification $\eta_{\text{甲苯}}$ /(m ³ /(W·h))		
High efficiency class			$\eta \geq 1.00$		
Qualified grade			$0.50 \leq \eta < 1.00$		

Table 2-4 TVOC clean air delivery rate(CADR)

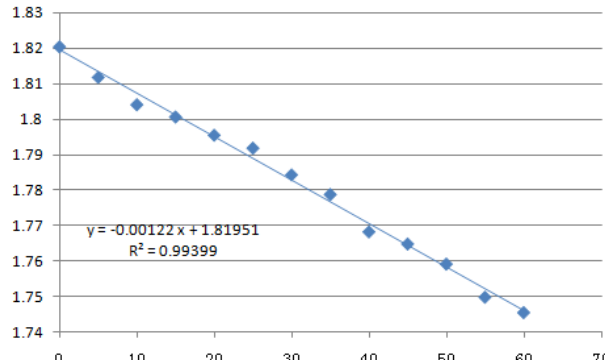
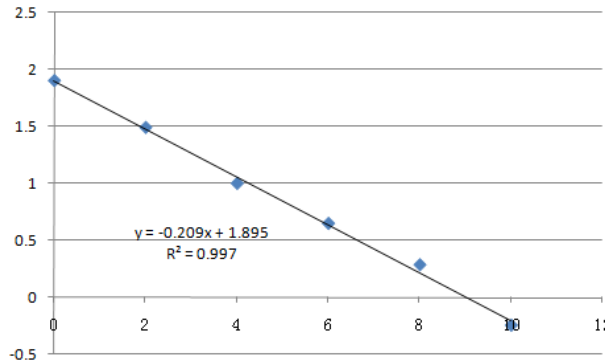
Serial number	Natural attenuation		Total attenuation		curve
	Point of time/min	concentration/(mg/m ³)	Point of time/min	concentration/(mg/m ³)	
1	0	6.175	0	6.688	<p>Natural attenuation curve</p>  <p>Total attenuation curve</p> 
2	5	6.122	2	4.438	
3	10	6.075	4	2.721	
4	15	6.054	6	1.916	
5	20	6.023	8	1.335	
6	25	6.001	10	0.786	
7	30	5.956	—	—	
8	35	5.923	—	—	
9	40	5.861	—	—	
10	45	5.841	—	—	
11	50	5.808	—	—	
12	55	5.754	—	—	
13	60	5.729	—	—	
Attenuation coefficient/min ⁻¹	0.001225		0.209431		
R ²	0.994		0.997		
	Nominal value	Measured value			
CADR/(m ³ /h)	—	374.8			
input power/W	—	75.1			
Energy efficiency of purification/(m ³ /(W·h))	--/--	4.99 / High efficiency class			
Test description:					
1. Test gear: Max gear					
2. Test chamber: 30m ³					
3. Energy efficiency of purification:					
Purification efficiency level			Energy efficiency of purification η _{TVOC} /(m ³ /(W·h))		
High efficiency class			η ≥ 1.00		
Qualified grade			0.50 ≤ η < 1.00		

Table 3-1 Solid particulate cumulate clean mass(CCM)

number	Total cumulative consumption of cigarette smoke (mg)	Solid particulate clean air delivery rate(CADR) (m ³ /h)	Percentage of initial CADR value
0	0	831.8	100%
1	12040	742.8	89.3%
2	25060	605.6	72.8%
3	35000	429.2	51.6%
4	—	—	—
5	—	—	—
6	—	—	—
7	—	—	—
curve	—		
CCM/mg	Because the particle CADR is still more than 50% of the initial value when loading to 3500mg. Therefore, M>12000mg		
Interval grading	P4		

试验说明:

1. Test gear: Max gear
2. Test chamber: 3m³
3. Interval grading:

Interval grading	CCM ,mg
P1	3000≤CCM<5000
P2	5000≤CCM<8000
P3	8000≤CCM<12000
P4	12000≤CCM

Table 3-2 Formaldehyde cumulate clean mass(CCM)

number	3m ³ Amount of formaldehyde actually consumed in loading test	CADR test for formaldehyde loading (mg)	Cumulative formaldehyde consumption (mg)	Formaldehyde clean air delivery rate(CADR) (m ³ /h)	Percentage of initial CADR value
1	0	60	60	518.5	100%
2	210	30	300	507.1	97.8%
3	270	30	600	491.5	94.8%
4	390	30	1020	467.6	90.2%
5	480	30	1530	430.6	83.0%
6	1440	30	3000	326.5	63.0%
7	—	—	—	—	—
CCM /mg		Because the CADR of formaldehyde is still more than 50% of the initial value when loading to 3000mg Therefore, M>1500mg			
Interval grading		F4			

试验说明:

1. Test gear: Max gear
2. Test chamber: 3m³
- 3.Interval grading:

Interval grading	CCM /mg
F1	300≤CCM<600
F2	600≤CCM<1000
F3	1000≤CCM<1500
F4	1500≤CCM

Table 4 Noise Test

Point method	Type of Utensil		Envelope surface	Number of points	This use (√)
	Floor Standing / table standing	The length of each side shall not exceed 0.7m	Hemispherical surface	Ten	√
		Either side grows larger than the other 0.7m	Rectangular hexahedron	Nine	
	Wall mounted type		Rectangular hexahedron	Six	
Test description	Test voltage: 220 V	Test frequency: 50 Hz			
	Ambient temperature: 59.8 %	Atmospheric pressure: 101.35 kPa			
	Ambient humidity: 26.1 °C	Background noise level: 16.6 dB(A)			
	Working condition: Third gear	Check run time: 30min			
Test results	<p>$L_p = 55.6 \text{ dB(A)}$</p> <p>$L_w = L_p + 10 \lg\left(\frac{S}{S_0}\right) = 69.3 \text{ dB(A)}$</p>				

Important

- 1.The test report is invalid without the official stamp of CVC;
- 2.Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;
- 3.The test report is invalid without the signatures of Approval and Reviewer;
- 4.The test report is invalid if altered;
- 5.Objections to the test report must be submitted to CVC within 15 days;
- 6.Generally, commission test is responsible for the tested samples only;
7. “P” means “pass” , “F” means “fail”, “N” or “—” means “not applicable” and “ / ”means “not test”.

报告中未加 CMA 标志时, 检测数据和结果仅供科研、教学或内部质量控制之用。

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