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TEST REPORT



中国认可
国际互认
检测
TESTING
CNAS L7673

Applicant : Qierling (Beijing) Health Technology Co., Ltd.
Address : No. 101-42/101-43 (Dongsheng district), 9th Floor, No 1 Building, No 8th , Heiquan Road, Haidian District, Beijing City.

The following merchandise was (were) submitted and identified by the client as:

Name of Sample : 720 DS-X400N Air Purifiering Disinfector

Test Type : Commission

Sample Quantity : 1

Model : DS-X400N

Batch No. : /

Brand : 720

Manufacturer: Healthlead Corproation Limited

Sample Received : 2020/07/07

Test Period : 2020/07/07-2020/08/05

Test Items : Please refer to next page(s).

Test Method : Please refer to next page(s).

Test Result : Please refer to next page(s).

Sample Description : Machine

Note: The appearance,color pattern, and network connection of model DS-X400W, DS-P400 are different from the main test model DS-X400N, but the rest of the electrical structure and filter materials are exactly the same as the main test model.

Edited by: 黄婉盈

Approved by: [Signature]

Checked by: 叶智坚

Official Seal: [Red Seal: 检验检测专用章]

TEST RESULTS (1):

Test Conclusions:

1. Cyclic wind volume:

The cyclic wind volume of the 720 DS-X400N Air Purifying Disinfector was 365.5 m³/h under the condition of "Maximum Wind Speed".

2. Ozone leakage:

The 720 DS-X400N Air Purifying Disinfector activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed" and the average ozone concentration in the indoor air environment was 0.006 mg/m³, which was accorded with the requirements of the "Hygienic standard for ozone in indoor air" (GB/T 18202-2000).

3. Simulated field test:

The 720 DS-X400N Air Purifying Disinfector activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed" and the bactericidal rate of *Staphylococcus albus* in 3 tests were all >99.90%, which was qualified for disinfection and accorded with the requirements of the "Technical Standard for Disinfection" (2002).

4. Field test:

The 720 DS-X400N Air Purifying Disinfector activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed" and the test place is an empty room about 60 m³. The killing rate of natural bacteria in 3 tests were all >90.00%, which was qualified for disinfection and accorded with the requirements of "Technical Standard for Disinfection" (2002).

***** TO BE CONTINUED *****

TEST RESULTS (2):

1. Test item

Cyclic wind volume

2. Instrument

- (1) Test ducts, Pressure transmitter(ROSEMOUNT);
- (2) Disinfection equipment:720 DS-X400N Air Purifying Disinfector

3. Test method

- (1) Test basis: GB/T 14294-2008 Central-station air handling units
- (2) Test conditions: Environment temperature: 26.0°C; Environment humidity: 56%RH
- (3) Test method:The prototype to be tested was installed on the test ducts, and the maximum wind speed range was opened at rated voltage and rated frequency to record the pressure difference before and after the nozzle. The test was repeated for 3 times.

4. Result

After three repeated tests, the cyclic wind volume of the 720 DS-X400N Air Purifying Disinfector was 365.5 m³/h under the condition of "Maximum Wind Speed"

Table 1 Test result of cyclic wind volume

Test item	Test result			
	Unit	Test number	Wind volume L	Standard wind volume L ₀
Cyclic wind volume	m ³ /h	1	375.9	365.5
		2	376.6	
		3	376.8	
		Average	376.4	

***** TO BE CONTINUED *****

TEST RESULTS (3):

1. Test item

Ozone leakage

2. Instrument

- (1) Test chamber (30 m³), Ozone analyzer (106-L)
- (2) Disinfection equipment: 720 DS-X400N Air Purifying Disinfector.

3. Test method

- (1) Test conditions: Environment temperature: 26.3°C; Environment humidity: 59%RH
- (2) Operation conditions of the machine: "Maximum Wind Speed".
- (3) Test basis: "Hygienic standard for ozone in indoor air" (GB/T 18202-2000)
- (4) Test method: Place the 720 DS-X400N Air Purifying Disinfector in the 30 m³ test chamber according to the requirements of use. A sampling point was set at the center of the test chamber 1.5 m away from the ground, and turned on the machine at set mode. The test time was 1 h. During this time, 12 data to be read at a certain interval for averaging. The ozone concentration measured in the test was subtracted from the ozone concentration in the air before the test as the ozone leakage amount of the 720 DS-X400N Air Purifying Disinfector.

4. Result

The 720 DS-X400N Air Purifying Disinfector activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed" and the average ozone concentration in the indoor environment was 0.006 mg/m³ (Table 2).

Table 2 Experimental data of Ozone leakage

Time (min)	Ozone leakage (mg/m ³)	Average value (mg/m ³)
5	0.005	
10	0.008	
15	0.010	
20	0.005	
25	0.004	
30	0.006	
35	0.009	0.006
40	0.003	
45	0.005	
50	0.005	
55	0.007	
60	0.009	

***** TO BE CONTINUED *****

TEST RESULTS (4):

1. Test item

 Simulated field test (*Staphylococcus albus*)

2. Instrument

- (1) Test chamber: 20 m³;
- (2) Test microorganism: *Staphylococcus albus* 8032, Medium: nutrient agar medium, Sampler: six-stage sieve sampler;
- (3) Disinfection equipment: 720 DS-X400N Air Purifying Disinfectant

3. Test method

- (1) Test basis: "Technical Standard for Disinfection" (2002) 2.1.3
- (2) Test conditions: Environment temperature: (20~25) °C; Environment humidity: (50~70) %RH
- (3) Operation status of the machine: "Maximum Wind Speed".
- (4) Disinfection method: During the test, the machine to be tested was placed in the test chamber. Open the prototype to the set mode and sampling after 60 minutes. The test was repeated 3 times.
- (5) Sampling method: A sampling point was set at the center of the test chamber 1.0 m away from the ground, sampling by a six-stage sieve sampler with the sampling flow of 28.3 L/min. Sample was collected at the beginning and after 60 minutes working. The sampling time of the comparison group was 20 s and 20 s, and the sampling time of the test group was 20 s and 6 min.

4. Result

The test temperature was (20~25)°C and the relative humidity was (50~70)%RH. The 720 DS-X400N Air Purifying Disinfectant activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed", and the 3 test results for the bactericidal rate of *Staphylococcus albus* was >99.99%, >99.99%, >99.99% respectively (Table 3).

Table 3 Experimental data of air sterilization effect identification test

Test bacteria	Test time (min)	Test number	Comparison group			Test group		Killing rate (%)
			Original bacteria quantity (CFU/m ³)	Bacteria quantity after test (CFU/m ³)	Natural decay rate (%)	Original bacteria quantity (CFU/m ³)	Bacteria quantity after test (CFU/m ³)	
<i>Staphylococcus albus</i>	60	1	7.74×10 ⁴	5.97×10 ⁴	25.19	7.49×10 ⁴	<6	>99.99
		2	8.97×10 ⁴	6.64×10 ⁴	25.98	8.82×10 ⁴	<6	>99.99
		3	1.04×10 ⁵	7.86×10 ⁴	24.42	1.00×10 ⁵	<6	>99.99

***** TO BE CONTINUED *****

TEST RESULT (5):

1. Test item

Identification test for air disinfection effect (Field test)

2. Instrument

- (1) Test chamber: About 60 m³ empty airtight room;
- (2) Medium: Nutrient Agar (NA), Sampler: six-stage sieve sampler;
 Disinfection equipment: 720 DS-X400N Air Purifying Disinfector

3. Test method

- (1) Test basis: " Technical Standard for Disinfection " (2002) 2.1.3
- (2) Test conditions: Environment temperature: (24~26) °C; Environment humidity: (50~70) %RH
- (3) Operation status of the machine: "Maximum Wind Speed".
- (4) Disinfection method: During the test, the machine to be tested was placed in an empty airtight room of about 60 m³, and the sample was collected after 60 minutes working. The test was repeated 3 times.
- (5) Sampling method: A sampling point was set 1.0 m away from the ground in the middle of empty airtight room, sampling by a six-stage sieve sampler with the sampling flow of 28.3 L/min.
- (6) Sampling time: 5 minutes before disinfection, 10 minutes after disinfection.

4. Result

The test room was an empty airtight room about 60 m³. The test temperature was (24~26) °C, the relative humidity was (50~70) % RH, the 720 DS-X400N Air Purifying Disinfector activated and disinfected for 60 minutes under the condition of "Maximum Wind Speed", and the 3 test results for the bactericidal rate of natural airborne bacteria was 93.81%, 94.85%, 94.22% respectively(Table 4).

Table 4 Experimental data of air sterilization effect identification test (natural airborne bacteria)

Test bacteria	Test time (min)	Test number	Original bacteria quantity (CFU/m ³)	Bacteria quantity after test (CFU/m ³)	Killing rate (%)
Natural airborne bacteria	60	1	2.57×10 ³	1.59×10 ²	93.81
		2	2.33×10 ³	1.20×10 ²	94.85
		3	2.63×10 ³	1.52×10 ²	94.22

***** END OF REPORT *****

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