中国科学院 CHINESE ACADEMY OF SCIENCES · CAS 中科检测 CAS TESTING

广州中科检测技术服务有限公司

GuangZhou CAS Test Technical Services Co.,Ltd.

Chinese Academy of Science – March 4, 2020

Guangzhou Zhongke Testing Technology Service Co., Ltd.

AIR 160 disinfection and sterilization purifier

Inspection report number: JKK20020121

中国科学院 | CAS 中科检测 CAS TESTING

中科检测是中国科学院旗下独立的第三方检测品牌，前身是成立于1958年的中国科学院广州化学研究所分析测试中心，由中科院广州化学有限公司全资成立，总部设立在广州，是一家集检验测、技术服务、咨询、培训为一体的综合性第三方机构，旗下设有嘉兴中科检测技术服务有限公司，重庆中科检测技术服务有限公司，湛江中科技术服务有限公司，东莞中科检测技术服务有限公司四大分公司及全国省市20多个办事处和工作站。

中科检测通过了检验检测机构资质认定（CMA）、中国合格评定国家认可委员会实验室认可（CNAS）、农产品质量安全检测机构（CATL）、ISO 9001质量管理体系、IOS 14001环境管理体系及OHSAS 18001职业健康安全管理体系等认证。

中科检测拥有10000余平方米专业检测实验室，配备各领域检测专用高精端进口仪器万余台/套，检测实验区建设有危化品实验室、工业消费品实验室、生态环境实验室、可靠性试验实验室、食品安全实验室、健康产品实验室等。

基于完善的检测设施和服务网络，服务全球客户，其中世界五百强客户近百家。服务领域包括危险废弃物鉴别、生态环境监测、工业消费品检测及认证、环境可靠性试验、食品农产品检测、健康产品检测（公共卫生、消毒产品、化妆品、卫生用品、空气净化器和涉水产品）、药物一致性评价及杂质分析等领域。中科检测凭借完善的资质能力、深厚的技术能力、优质的服务保障，权威的公信力和便捷的全国化服务网络，为全球客户提供一站式整体技术解决方案。

公司资质






MA 201819000873

副本

广州中科检测技术服务有限公司

检 验 报 告

检验报告编号：JKK20020121

样 品 名 称：AIR 160 空气消毒杀菌净化器

送 检 单 位：北京奥科凯姆贸易有限公司

二零二零年三月四日

说 明

一、本检验报告仅对送检样品负责。

二、本检验报告涂改增删无效，未加盖单位公章无效，复印件无效。

三、对本检验报告有异议，可在收到报告之日起 30 日内提出复核申请，逾期不予受理。

四、本检验报告及检验单位名称不得用于产品标签、广告、评优及商品宣传等。

五、本检验报告一式三份，两份交送检单位，一份由检验机构存档。

联系地址：广州市天河区兴科路 368 号

邮政编码：510650

联系电话：020-85231325

样品名称	AIR 160 空气消毒杀菌净化器	样品数量	1
生产日期或批号	/	样品性状	机器
型号规格	AIR 160 100m³ /60Watt	商标	ALCOCHEM HYGIENE
送检单位	北京奥科凯姆贸易有限公司	接样日期	2020-02-25
生产单位	Alcochem Hygiene B.V.	检验完成日期	2020-03-02

检验依据：

GB 28235-2011《紫外线空气消毒器安全与卫生标准》9.12.1；GB/T 18202-2000《室内空气中臭氧卫生标准》；《消毒技术规范》（2002年版）2.1.3、2.1.5.4。

评价依据：

GB 28235-2011《紫外线空气消毒器安全与卫生标准》；GB/T 18202-2000《室内空气中臭氧卫生标准》；《消毒技术规范》（2002年版）。

检验结论：

1. 紫外线辐射照度：样机“AIR 160 空气消毒杀菌净化器”用紫外线灯管，其下方垂直中心 1 m 处的辐射照度值为 113 μW/cm²，符合 GB 28235-2011《紫外线空气消毒器安全与卫生标准》中标称功率对应的紫外线辐射照度不低于 93%的要求。
2. 紫外线泄漏量：样机“AIR 160 空气消毒杀菌净化器”周边对角线左、中、右垂直距离 30 cm 处辐射照度值为 1 μW/cm²，符合 GB 28235-2011《紫外线空气消毒器安全与卫生标准》紫外线泄漏量应≤5 μW/cm² 要求。
3. 臭氧泄漏量：样机“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 60 min，室内空气环境中的平均臭氧浓度为 0.005 mg/m³，臭氧泄漏量符合 GB/T 18202-2000《室内空气中臭氧卫生标准》的要求。
4. 空气模拟现场试验表明：样机“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对白色葡萄球菌的杀灭率 3 次试验结果均≥99.90%，为消毒合格，符合《消毒技术规范》（2002 年版）的要求。
5. 空气现场试验表明：样机“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对体积约 30 m³无人密闭房间空气中空气自然菌的消亡率 3 次试验结果均≥90.00%，为消毒合格，符合《消毒技术规范》（2002 年版）的要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

样品名称	AIR 160 空气消毒杀菌净化器	接样日期	2020-02-25
检验项目	紫外线辐射照度	检验完成日期	2020-03-02

一、器材

1. ST-512 型紫外线辐射照度计（灵敏度：1μW/cm²）。
2. 消毒器械：AIR 160 空气消毒杀菌净化器用紫外线灯管（型号：AIR 160 100m³ /60Watt）。

二、方法

1. 检测依据：《消毒技术规范》（2002 年版）2.1.5.4。
2. 检测环境：温度：25.1 ℃，相对湿度：54 %RH。
3. 测试方法：将待测紫外线灯管固定于测定架，调节距离使灯管距其下方垂直中心放置照度计处 1m，连接稳压器（220V），开启紫外灯 5 min 后，用照度计测量其辐射照度值，试验重复 3 次。

三、结果

经 3 次重复试验，该紫外线灯管在其中心垂直 1 m 处测得紫外线辐射照度值为 113 μW/cm²（见表 1）。

表 1 紫外线辐射照度检测数据

检测项目	单位	检测结果	
		试验编号	辐射照度值
紫外线辐射照度	μW/cm²	1	113
		2	113
		3	114
		平均值	113

四、结论

紫外线辐射照度：样机“AIR 160空气消毒杀菌净化器”用紫外线灯管，其下方垂直中心1 m处的辐射照度值为113 μW/cm²，符合GB 28235-2011《紫外线空气消毒器安全与卫生标准》中标称功率对应的紫外线辐射照度不低于93%的要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

样品名称	AIR 160 空气消毒杀菌净化器	接样日期	2020-02-25
检验项目	紫外线泄漏量	检验完成日期	2020-03-02

一、器材

1. ST-512 型紫外线辐射照度计（灵敏度：1 μW/cm²）。
2. 消毒器械：AIR 160 空气消毒杀菌净化器。

二、方法

1. 检测依据：GB 28235-2011《紫外线空气消毒器安全与卫生标准》。
2. 检测环境：温度：25.0 ℃，相对湿度：58 % RH。
3. 机器运行状态：试验过程开启“最高风速档”、“紫外”。
4. 测试方法：机器开启至额定工作状态，将辐射照度计探头放置于机器周边对角线左、中、右垂直距离 30 cm 处，用辐射照度计测定紫外线的辐射照度值，试验重复 3 次。

三、结果

经 3 次重复试验，样机“AIR 160 空气消毒杀菌净化器”周边对角线左、中、右垂直距离 30 cm 处辐射照度值为 1 μW/cm²（见表 2）。

表 2 紫外线泄漏量检测数据

检测项目	测试位置	单位	检测结果	
			试验编号	辐射照度值
紫外线泄漏量	左	μW/cm²	1	1
			2	1
			3	1
			平均值	1
	中	μW/cm²	1	<1
			2	<1
			3	<1
			平均值	<1
	右	μW/cm²	1	<1
			2	<1
			3	<1
			平均值	<1

四、结论

样机“AIR 160空气消毒杀菌净化器”周边对角线左、中、右垂直距离30 cm处辐射照度值为1 μW/cm²，符合GB 28235-2011《紫外线空气消毒器安全与卫生标准》紫外线泄漏量应≤5 μW/cm²要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

样品名称	AIR 160 空气消毒杀菌净化器	接样日期	2020-02-25
检验项目	臭氧泄漏量	检验完成日期	2020-03-02

一、器材

1. 试验舱（30 m³）、臭氧分析仪（106-MH）。
2. 消毒器械：AIR 160 空气消毒杀菌净化器。

二、方法

1. 检测环境：温度：24.8 ℃；湿度：55 %RH。
2. 机器运行状态：试验过程开启“最高风速档”、“紫外”。
3. 检测依据：GB/T 18202-2000《室内空气中臭氧卫生标准》。
4. 检测方法：将样机“AIR 160 空气消毒杀菌净化器”按使用要求安置在 30 m³试验舱内，同时将臭氧分析仪采样口固定于试验舱中央 1.5 m 高处，将样机开启到额定档位，测试时间 1 h，此间按一定间隔时间读取 12 个数据求平均，将试验中测得的臭氧浓度减去试验前空气中的臭氧浓度即为样机“AIR 160 空气消毒杀菌净化器”的臭氧泄漏量。

三、结果

样机“AIR 160 空气消毒杀菌净化器”在开启“最高风速档”、“紫外”下运行 60 min，室内环境中的平均臭氧浓度为 0.005 mg/m³（见表 3）。

表 3 臭氧泄漏量检测数据

时间（min）	臭氧泄漏量（mg/m³）	均值（mg/m³）
5	0.004	0.005
10	0.003	
15	0.006	
20	0.003	
25	0.005	
30	0.004	
35	0.004	
40	0.004	
45	0.009	
50	0.008	
55	0.003	
60	0.006	

四、结论

样机“AIR 160 空气消毒杀菌净化器”在开启“最高风速档”、“紫外”下运行 60 min，室内空气中平均臭氧浓度为 0.005 mg/m³，臭氧泄漏量符合 GB/T 18202-2000《室内空气中臭氧卫生标准》的要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

样品名称	AIR 160 空气消毒杀菌净化器	接样日期	2020-02-25
检验项目	空气现场消毒试验	检验完成日期	2020-03-02

一、器材

1. 试验场所：约 30 m³无人密闭房间。
2. 培养基：普通营养琼脂培养基，采样器：六级筛孔空气撞击式采样器。
3. 消毒器械：AIR 160 空气消毒杀菌净化器。

二、方法

1. 检测依据：《消毒技术规范》（2002 年版）2.1.3。
2. 检测环境：温度：（23~25）℃，相对湿度：（55~65）%RH。
3. 机器运行状态：试验过程开启“最高风速档”、“紫外”。
4. 消毒方法：试验时将待测样机安置于无人密闭房间内，样机开启至额定档位消毒 120 min 后采样，试验重复 3 次。
5. 采样方法：在约 30 m³无人密闭房间的对角线上设一个采样点，用六级筛孔空气撞击式采样器采样，采样流量为 28.3 L/min；采样时间：消毒前为 5 min，消毒作用后为 10 min，采样点距离地面 1.0 m。

三、结果

试验场所为约 30 m³无人密闭房间，环境温度为（23~25）℃，相对湿度为（55~65）%RH，样品“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对空气自然菌的消亡率 3 次试验结果分别是 91.99 %、92.41 %、90.23 %（见表 5）。

表 5 空气消毒效果鉴定试验（空气自然菌）实验数据

试验菌种	作用时间（min）	试验编号	试验前菌落数（cfu/m³）	试验后菌落数（cfu/m³）	消亡率（%）
空气自然菌	120	1	1.94×10^3	1.55×10^2	91.99
		2	2.28×10^3	1.73×10^2	92.41
		3	1.70×10^3	1.66×10^2	90.23

四、结论

样品“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对约 30 m³无人密闭房间中空气自然菌的消亡率 3 次试验结果均≥90.00%，为消毒合格，符合《消毒技术规范》（2002 年版）的要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

样品名称	AIR 160 空气消毒杀菌净化器	接样日期	2020-02-25
检验项目	空气模拟现场消毒试验（白色葡萄球菌）	检验完成日期	2020-02-28

一、器材

1. 试验舱：20 m³。
2. 试验菌株：白色葡萄球菌 8032，培养基：普通营养琼脂培养基，采样器：六级筛孔空气撞击式采样器。
3. 消毒器械：AIR 160 空气消毒杀菌净化器。

二、方法

1. 检测依据：《消毒技术规范》（2002 年版）2.1.3。
2. 检测环境：温度：（20~25）℃，相对湿度：（50~70）%RH。
3. 机器运行状态：试验过程开启“最高风速档”、“紫外”。
4. 消毒方法：试验时将待测样机安置于试验舱内，样机开启至额定档位消毒 120 min 后采样，试验重复 3 次。
5. 采样方法：在试验舱中央距离地面 1.0 m 设一个采样点，用六级筛孔空气撞击式采样器采样，采样流量为 28.3 L/min。在消毒作用时间为 0 min、120 min 时进行采样，对照组的采样时间分别为 20 s、20 s，试验组采样时间为 20 s、6 min。

三、结果

试验温度为（20~25）℃，相对湿度为（50~70）%RH。样品“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对白色葡萄球菌的杀灭率 3 次试验结果分别是 99.93 %、99.91 %、99.94 %（见表 4）。

表 4 空气消毒效果鉴定试验实验数据

试验菌种	作用时间（min）	试验编号	对照组		试验组		杀灭率（%）
			试验前菌落数（cfu/m³）	试验后菌落数（cfu/m³）	自然消亡率（%）	试验后菌落数（cfu/m³）	
白色葡萄球菌	120	1	1.21×10^5	9.12×10^4	24.63	1.05×10^3	99.93
		2	1.15×10^5	8.87×10^4	22.87	1.24×10^3	99.91
		3	9.48×10^4	7.37×10^4	22.26	1.01×10^3	99.94

四、结论

样品“AIR 160 空气消毒杀菌净化器”在“最高风速档”、“紫外”下开机消毒作用 120 min，对白色葡萄球菌的杀灭率 3 次试验结果均≥99.90%，为消毒合格，符合《消毒技术规范》（2002 年版）的要求。

（以下空白）

编辑：李丽燕　审核：钟瑜　批准：

Inspection Report

Viroxid®
HABITAT 3
AIR 160 - Air Purifier

Guangzhou Zhongke Testing Technology Service Co., Ltd.

Inspection report number: *JKK20020121*
Sample name: *AIR 160 disinfection and sterilization purifier*
Submission unit: *Alcochem Trading Co., Ltd. Beijing*

March 4, 2020

Description

1. This inspection report is only responsible for the samples submitted for inspection.

2. If there is any objection to this inspection report, an application for review may be submitted within 30 days from the date of receipt of the report.
   Requests for changes outside this period will not be accepted.

3. This inspection report and the name of the inspection unit shall not be used for product labeling, advertising, evaluation and product promotion.

4. This inspection report is in triplicate, two copies are submitted to the inspection unit, and one is filed by the inspection agency.

Address: *368 Xingke Road, Tianhe District, Guangzhou*
Zip Code: *510650*
Phone: *020-85231325*

Viroxid®
HABITAT 3
AIR 160 - Air Purifier

Sample acceptance number: JKK20020121 **Page 1 of 6**

Sample name	AIR 160	Disinfection sterilizer Purifier	1
Lot number	/	Sample properties	Production unit
Model Specifications	AIR 160	Trademark	ALCOCHEM HYGIENE
Inspection unit	BO Trading Co., Ltd.	Delivery date	2020-02-25
Production unit	Alcochem Hygiene B.V.	Inspection date	2020-03-02

Test based on:

GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors" 9.12.1;
GB / T 18202-2000 "Ozone Hygiene in Indoor Air Standards", "Disinfection Technical Specifications" (2002) 2.1.3, 2.1.5.4.

Evaluation basis:

GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors";
GB / T 18202-2000 "Sanitary Standard for Ozone in Indoor Air"; "Disinfection Technical Specifications" (2002).

Test results:

1. Ultraviolet radiation illuminance: The radiation of the ultraviolet lamp for the prototype "AIR 160 disinfection and sterilization purifier", 1m below the vertical center Illumination value is 113 μW/cm², corresponding to the nominal power in GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors".
   The requirement of ultraviolet radiation illumination is not less than 93%.
2. Ultraviolet light leakage: Radiation exposure of the prototype "AIR 160 disinfection and sterilization purifier" at a diagonal distance of 30 cm left, middle, and right. The degree value is 1 μW/cm², which conforms to GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Disinfectors" μW/cm² requirements.
3. Ozone leakage: The prototype "AIR 160 disinfection and sterilization purifier" was started for disinfection under the "maximum wind speed" and "ultraviolet" for 60 minutes, The average ozone concentration in the indoor air environment is 0.005 mg/m³, and the amount of ozone leakage conforms to GB/T 18202-2000 " Odor in indoor air Oxygen Hygiene Standard.
4. The air simulation field test shows that the prototype "AIR 160 disinfection and sterilization purifier" starts to consume at "highest wind speed" and "ultraviolet" The toxic effect was 120 minutes, and the killing rate of Staphylococcus aureus was 3 times. The test results were all ≥ 99.90 %. Technical Specifications (2002).
5. Field test of air shows that the prototype "AIR 160 disinfection and sterilization purifier" is started at "highest wind speed" and "ultraviolet" for disinfection. In 120 minutes, the extinction rate of natural bacteria in the air of an unoccupied room with a volume of about 30 m³ was 3 times. The results were ≥ 90.00 %. Disinfection is qualified and meets the requirements of the Disinfection Technical Specification (2002).

Digitally signed

Edit: Review: Approve:

Sample acceptance number: JKK20020121

Sample name	AIR 160 disinfection sterilizer purifier	Delivery date	2020-02-25
Inspection item	Ultraviolet radiation illumination	Inspection date	2020-03-02

Equipment

1. ST-512 UV radiance meter (sensitivity: 1μW/cm²).
2. Disinfection equipment: AIR 160 UV lamp for disinfection and sterilization purifier (model: AIR 160).

Detection method

1. Test basis: "Technical Specifications for Disinfection" (2002 edition) 2.1.5.4.
2. Test environment: temperature: 25.1 °C, relative humidity: 54% RH.
3. Test method: Fix the ultraviolet lamp to be measured on the measuring rack, adjust the distance so that the lamp is placed at the vertical center of the lamp below it 1m, connect the voltage stabilizer (220 V), and turn on the UV lamp for 5 minutes, then measure the irradiance value with an illuminance meter, and repeat the test 3 times.

Results

After 3 repeated tests, the UV lamp has an illuminance value of 113 μW/cm² measured at 1 m perpendicular to its center *(see Table 1)*.

Table 1 Ultraviolet radiation illuminance detection data

Test items	Test results		
	Unit	Test number	Radiation value
UV radiation illumination	μW/cm²	1	113
		2	113
		3	114
		Average value	113

Conclusion

Ultraviolet radiation illuminance: the irradiance of the UV lamp for the prototype "AIR 160 disinfection and sterilization purifier", 1 m below the vertical center. The value is 113 μW/cm², which meets the UV radiation corresponding to the nominal power in GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Sterilizers". The irradiance is not less than 93 %.

Digitally signed

Edit: Review: Approve:

Sample acceptance number: JKK20020121

Sample name	AIR 160 disinfection sterilizer purifier	Delivery date	2020-02-25
Inspection item	UV leakage inspection	Inspection date	2020-03-02

Equipment

1. ST-512 UV radiance meter (sensitivity: 1 μW/cm²).
2. Disinfection equipment: AIR 160 disinfection and sterilization purifier.

Detection method

1. Test basis: GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Sterilizer".
2. Test environment: temperature: 25.0 °C, relative humidity: 58% RH.
3. Machine running state: Turn on the "maximum wind speed" and "ultraviolet" during the test.
4. Test method: The machine is turned on to the rated working state, and the radiometer is placed on the diagonal of the periphery of the machine to the left, middle, and right. At a distance of 30 cm, use a radiometer to measure the irradiance of ultraviolet rays. *The test is repeated 3 times.*

Results

After 3 repeated tests, the radiation around the diagonal of the prototype "AIR 160 disinfection and sterilization purifier" left, middle, and right 30 cm vertical radiation. *The degree value is 1 μW/cm² (see Table 2).*

Table 2 UV leak detection data

Test items	Test results			
	Test location	Unit	Test number	Irradiance value
UV Leakage	Left	μW/cm²	1	1
			2	1
			3	1
			Average value	1
	Middle	μW/cm²	1	<1
			2	<1
			3	<1
			Average value	<1
	Right	μW/cm²	1	<1
			2	<1
			3	<1
			Average value	<1

Conclusion

The irradiance value of the prototype "AIR 160 disinfection and sterilization purifier" around the diagonal left, middle and right vertical distance of 30 cm is 1 μW/cm².
In accordance with GB 28235-2011 "Safety and Hygienic Standard for Ultraviolet Air Sterilizers", the amount of ultraviolet leakage should be ≤ 5 μW/cm².

Digitally signed

Edit: Review: Approve:

Sample acceptance number: JKK20020121 **Page 4 of 6**

Sample name	AIR 160 disinfection sterilizer purifier	Delivery date	2020-02-25
Inspection item	Ozone Leakage inspection	Inspection date	2020-03-02

Equipment

1. Test chamber: 30 m³, ozone analyzer (106-MH).
2. Disinfection equipment: AIR 160 disinfection and sterilization purifier.

Detection method

1. Detection environment: temperature: 24.8 °C; humidity: 55% RH.
2. Machine running status: "Highest wind speed" and "UV" are turned on during the test.
3. Test basis: GB / T 18202-2000 "Sanitary Standard for Ozone in Indoor Air".
4. Testing method: The prototype "AIR 160 disinfection and sterilization purifier" is placed in a 30 m^3 test chamber according to the requirements of use, and the ozone is separated. The sampling port of the analyzer is fixed at a height of 1.5 m in the center of the test chamber, and the prototype is opened to the rated position. The test time is 1h, and the reading is performed at a certain interval. Take 12 data to average. The ozone concentration measured in the test minus the ozone concentration in the air before the test is the prototype "AIR 160 disinfection Purifier "ozone leakage.

Results

The prototype "AIR 160 disinfection and sterilization purifier" was run for 60 minutes under the "maximum wind speed" and "ultraviolet". *The average ozone concentration is 0.005 mg/m^3 (see Table 3).*

Table 3 Ozone leak detection data

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

Conclusion

The prototype "AIR 160 disinfection and sterilization purifier" was operated for 60 min under the "maximum wind speed" and "ultraviolet", and the average indoor air. The ozone concentration is 0.005 mg/m³, and the ozone leakage amount meets the requirements of GB / T 18202-2000 "Ozone Hygienic Standard for Indoor Air".

Digitally signed

Edit: Review: Approve:

Sample acceptance number: JKK20020121

Sample name	AIR 160 disinfection sterilizer purifier	Delivery date	2020-02-25
Inspection item	Air simulation *field disinfection test (Staphylococcus albicans)*	Inspection date	2020-03-02

Equipment

1. Test chamber: 20 m³.
2. Test strain: Staphylococcus aureus 8032, culture medium: common nutrient agar medium, sampler: six-stage air sampler.
3. Disinfection equipment: AIR 160 disinfection and sterilization purifier.

Method

1. Test basis: "Technical Specifications for Disinfection" (2002 edition) 2.1.3.
2. Testing environment: temperature: (20 ~ 25) °C, relative humidity: (50 ~ 70)% RH.
3. Machine running state: Turn on the "maximum wind speed" and "ultraviolet" during the test.
4. Disinfection method: Place the sample to be tested in the test chamber during the test. Open the sample to the rated position and sterilize it for 120 minutes. Repeat 3 times.
5. Sampling method: Set a sampling point 1.0 m above the ground in the center of the test chamber, and sample with a six-stage screen air impact sampler.
   The sample flow rate was 28.3 L/min. Sampling was performed at the disinfection time of 0 min and 120 min.
   The sampling time of the control group was 20 sec and 20 sec, respectively.
   The sampling time of the test group was 20 sec and 6 min.

Results

The test temperature was (20 ~ 25) °C and the relative humidity was (50 ~ 70)% RH. The sample "AIR 160 disinfection and sterilization purifier" "Speed gear", "Ultraviolet" start-up disinfection for 120 min, the killing rate of Staphylococcus albicans three times, the results were 99.93%, 99.91%, 99.94% *(see Table 4)*.

Table 4 Experimental data of air disinfection effect identification test

Test Strain Strain	Action Time (min)	Test Number	Control group			Test group		Kill rate (%)
			The number of colonies before the test (cfu/m³)	Colony number after test (cfu/m³)	Natural Extinction Rate (%)	The number of colonies before the test (cfu/m³)	Colony number after test (cfu/m³)	
Staphylococcus albicans	120	1	1.21×10^5	9.12×10^4	24.63	1.05×10^5	59	99.93
		2	1.15×10^5	8.87×10^4	22.87	1.24×10^5	88	99.91
		3	9.48×10^4	7.37×10^4	22.26	1.01×10^5	47	99.94

Conclusion

The sample "AIR 160 disinfection and sterilization purifier" was sterilized for 120 minutes under the condition of "maximum wind speed" and "ultraviolet", and it was effective for white grapes.
The three test results of cocci were all ≥ 99.90%. They are qualified for disinfection and meet the requirements of the "Disinfection Technical Specification" (2002 edition).

Digitally signed
Edit: Review: Approve:

Viroxid®
HABITAT 3
AIR 160 - Air Purifier

Sample acceptance number: JKK20020121

Sample name	AIR 160 disinfection sterilizer purifier	Delivery date	2020-02-25
Inspection item	Air on-site disinfection test	Inspection date	2020-03-02

Equipment

1. Test site: about 30 m³ unoccupied room.
2. Culture medium: common nutrient agar medium, sampler: six-stage air sampler.
3. Disinfection equipment: AIR 160 disinfection and sterilization purifier.

Method

1. Test basis: "Technical Specifications for Disinfection" (2002 edition) 2.1.3.
2. Test environment: temperature: (23 ~ 25) °C, relative humidity: (55 ~ 65)% RH.
3. Machine running state: Turn on the "maximum wind speed" and "ultraviolet" during the test.
4. Disinfection method: During the test, place the sample to be tested in an unmanned closed room, open the sample to the rated position and sterilize it for 120 minutes, then take a sample.
   The test was repeated 3 times.
5. Sampling method: Set a sampling point on the diagonal of an unoccupied room of about 30 m³, and collect it with a six-stage screen air impact sampler.
   The sampling flow rate is 28.3 L/min; the sampling time is 5 minutes before disinfection, 10 minutes after disinfection, and the sampling point is 1.0 m from the ground.

Results

The test site is an airtight room of about 30 m3, the ambient temperature is (23 ~ 25) °C, the relative humidity is (55 ~ 65)% RH, and the sample "AIR160 disinfection and sterilization purifier" in the "maximum wind speed", "ultraviolet"start-up disinfection for 120 minutes, the death rate of natural air bacteria
The test results were 91.99%, 92.41%, and 90.23%, respectively (see Table 5).

Table 5 Experimental data of air disinfection effect identification test (natural air bacteria)

Test bacteria	Action time (min)	Test number	The number of colonies before the test (cfu/m³)	Colony number after test (cfu/m³)	Natural Extinction Rate (%)
Air Natural Bacteria	120	1	1.94×10^3	1.55×10^2	91.99
		2	2.28×10^3	1.73×10^2	92.41
		3	1.70×10^3	1.66×10^2	90.23

Conclusion

The sample "AIR 160 disinfection and sterilization purifier" was sterilized for 120 minutes under the "highest wind speed" and "ultraviolet", and the effect was about 30 m³.
The extinction rate of natural bacteria in the air in an unoccupied room was ≥ 90.00% in three tests.

Digitally signed

Edit: Review: Approve: