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TEST REPORT
UL 507
STANDARD FOR SAFETY
Electric Fans

Report reference No......:	STON231027816-S
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Date of issue.....:	2023-11-01
Contents.....:	40 pages

Testing laboratory

Name.....:	Guangdong STON Testing Technology Co., Ltd.
Address.....:	Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Testing location.....:	Same as above

Client

Name.....:	Bansa rose inc
Address.....:	382 N Lemon Ave #871 Walnut, CA 91789,United States

Test specification

Standard.....:	UL 507 Tenth Edition, Dated November 09, 2017;
Non-standard test method.....:	N/A.

Test item description.....:	Fan
Trademark.....:	/
Model and/or type reference.....:	FF-J5203AC
Manufacturer.....:	Bansa rose inc
Address.....:	382 N Lemon Ave #871 Walnut, CA 91789,United States
Rating(s).....:	AC 120V, 50/60Hz, 58W

List of Attachments:
Attachment No. 1: 1 pages of photo documents.

Summary of testing:

Tests performed (name of test and test clause): UL 507 Tenth Edition, Dated November 09, 2017;	**Testing location:** Guangdong STON Testing Technology Co., Ltd. 1/F, No.42 ChangAn South Road, Henglan Town, Zhongshan City, Guangdong Province, China.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

FAN

Type: FF-J5203AC

Voltage: 120V~, 50/60Hz

Power: 58w

Bansa rose inc

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Test item particulars ..... :	Fan
Classification of installation and use ..... :	Portable appliance and used in door
Supply Connection ..... :	Plug with supply cord
..... :	
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	2023-10-08
Date (s) of performance of tests..... :	2023-10-08 to 2023-11-01

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... : Same as Manufacturer

General product information:

1. The appliance is designed for household and indoor use only.
2. The appliance is portable appliance.
3. The laboratory ambient for testing: 22.0-25.0°C, 60%-73%R.H.

All model's name: XY-A6001DC, FF-M3601AC, FF-J5202AC. have are same construction and BOM, only the shape size and power with different.

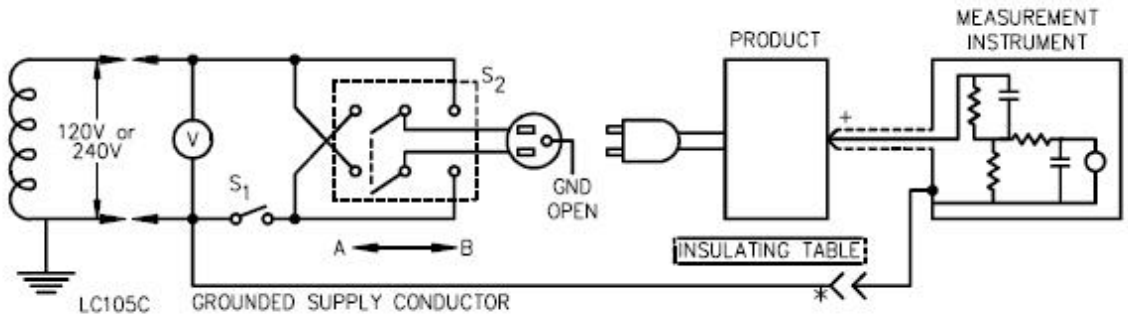
Clause	Performance Test	REQUIRED	Remarks
ALL APPLIANCES			
41	Leakage Current Test	Pass	--
42	Continuity of Grounding Circuit Test	N/A	--
40	Limited Short-Circuit Test	N/A	--
44	Starting Current Test	N/A	--
45	Input Test	Pass	--
46	Temperature Test	Pass	--
47	Dielectric Voltage-Withstand Test	Pass	--
48	Water Spray Test	N/A	--
49	Hose down Test	N/A	--
50	Locked Rotor Test	Pass	--
51	Locked Rotor Cycling	Pass	--
52	Flagging	N/A	--
53	Humidity Conditioning Test	Pass	--
54	Strain Relief Test	Pass	--
55	Interconnecting Cords and Leads	N/A	--
56	Unguarded Impeller Tests	Pass	--
57	Push Back Relief Test	Pass	--
58	Oscillating Fan Test .	Pass	--
59	Tests of Switches and Controls	Pass	--
60	Static Load Test For Mounting Means	N/A	--
61	Impact Test on Guards	Pass	--
62	Static Force Test on Guards	Pass	--
63	Impeller Test for Portable Fans	Pass	--
64	Impeller Ignition Test	N/A	--
65	Component Breakdown Test	N/A	--
66	Fuse holder Cover Test	N/A	--
67	General Purpose Transformers	N/A	--
68	Thermal Aging	Pass	--
69	Permanence of Marking Tests	Pass	--
PORTABLE APPLIANCES			
70	Drop Test	Pass	--
71	Security of Handle Test	Pass	--
72	Stability Test	Pass	--
73	Hassock Fan Load Test	N/A	--
Standard for Electric Fans (UL507, 10th Ed. Nov. 09, 2017)			

41 Leakage Current Test

Method(s):

A sample of the appliance shall be placed on an insulated surface and be connected to a 120 V, 60 Hz source of supply. Leakage currents to earth ground were measured from all exposed conductive surface of the unit by a meter having an input impedance of 1500Ω resistive shunted by a capacitance of 0.15μF. For enclosure surface other than metal, the leakage current was measured using a metal foil with an area of 10 × 20cm in contact with the surface.

Leakage current measurement circuits



The leakage current shall not exceed [0.5 / 0.75] mA.

Result(s): Pass

Condition	S1	S2	Tested position	I measured (mA)
a. - Unit ON	OFF	A	Live parts to enclosure with metal foil	0.01
	OFF	B		
b. - Unit ON	ON	A		0.01
(0 - 5 seconds)	ON	B		
c. - Unit ON	ON	A		0.01
(Thermal stabilization)	ON	B		

42 Continuity of Grounding Circuit Test

Method(s):

The resistance shall be not more than 0.1 Ω between any point required to be grounded, as specified in 28.1.2, and:

a) For an appliance intended for permanent electrical connection, the point on the enclosure at which the power-supply system is connected.

b) For a cord-connected appliance employing a grounding conductor in the cord, the point to which the grounding conductor of the power-supply cord is connected.

The resistance shall be determined by any convenient method. When unacceptable results are obtained, either a direct or alternating current equal to the current rating of the maximum-current-rated branch-circuit overcurrent-protective device that is employed with the appliance is to be passed from the equipment grounding terminal or the point of attachment of the wiring system to the dead metal part, and the resulting drop in potential is to be measured between these two points. The resistance in ohms is determined by dividing the drop in potential in volts by the current in amperes passing between the two points.

Result(s): N/A

Resistance between:	Test resistance (Ω)	Required resistance (Ω)

40 Limited Short-Circuit Test

Method(s):

Three samples of the enclosure/conduit construction are to be subjected to the test. The current is to be as specified in 40.1. The test circuit is to have a power factor of 0.9 – 1.0 and is to be limited to the current specified in Table 40.1. The open-circuit voltage of the test circuit is to be 100 – 105 percent of the rated voltage of the equipment.

The enclosure is to be connected to the circuit through appropriately sized 6 inch-length of flexible metal conduit and a ground terminal suitable for connection of 3/0 AWG copper conductors is to be installed as close as possible to the internal conduit locknut. The free ends of each 4 foot-length of 3/0 AWG copper conductor are connected to each the supply as described in 40.2 through a series connected nonrenewable fuse that does not open in less than 12 seconds when carrying twice its rated current.

Result(s): N/A

44 Starting Current Test

Method(s):

When operated as described in below, an appliance shall start and operate normally without:

a) Tripping an overload protector provided as part of the appliance; or

b) Opening the fuse, when connected to a circuit protected by a fuse.

The appliance is to be connected to a power-supply circuit protected by a non-time delay fuse or time-delay fuse. The appliance is to be at room temperature at the beginning of the test. The appliance is to be started three times without tripping an overload protector provided as part of the appliance, or opening the fuse protecting the supply circuit. Each start of the appliance is to be made under conditions representing the beginning of normal operation – the beginning of the normal operating cycle in the case of an automatic appliance. The motor of the appliance is to be allowed to come to full speed after each start, and to come to rest between successive starts.

Result(s): N/A

Test voltage:_____V,_____Hz.

1. For each start, the appliance [did / did not] open the_____A fuse.

2. For each start, the appliance [did / did not] trip an overload protector.

45 INPUT TEST

Method(s):

The current input to an appliance shall be not more than 110 percent of the rated value when the appliance is operated under conditions of intended service, when connected to a power-supply circuit of maximum rated voltage and rated frequency.

Result(s): Pass

TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	dP	Required dP	Remark
120V	58W	57.2	98.63%	110%	Pass

TABLE: Current deviation					N/A
Input deviation of/at:	I rated (A)	I measured (A)	dP	Required dP	Remark

46 TEMPERATURE TEST

Method(s):
The sample shall be connected to a V, 60 Hz supply and operated at maximum normal load. Using thermocouples and a hybrid recorder to record temperatures. The test is to be continued until temperatures have become constant.

Result(s): Pass

Input: 120 V, 60 Hz, 0.16A, 26W; Ambient Temperature: 25 °C.

temperature rise dT of part/at:	dT (°C)	required dT (°C)
Plastic enclosure	32.6	85
Internal wire	35.8	80
Motor winding	74.2	105
Motor core	71.3	105
Handles	28.7	60

47 Dielectric Voltage Withstand Test

Method(s):

An appliance shall withstand for 1 minute without breakdown the application of a 60 Hz essentially sinusoidal potential of the value indicated below between the following:

a) Uninsulated live metal parts and the enclosure. A non-conductive enclosure is to be wrapped in conductive foil.

b) Terminals of opposite polarity.

c) Uninsulated live metal parts and accessible dead metal parts.

d) Uninsulated live metal parts and grounding contacts of grounding type receptacles.

e) Primary and isolated secondary circuits.

The test potential is to be as follows:

a) One thousand volts for an appliance employing a motor rated 373 watts (1/2 horsepower output) or less and rated 250 V or less.

b) One thousand volts plus twice the rated voltage for an appliance employing a motor rated more than 373 watts (1/2 horsepower output) or more than 250 V.

c) Five hundred volts for an appliance operating at 50 V or less.

Result(s): Pass

test voltage applied between:	test voltage (V)	breakdown
input to accessible parts	1000V	No

48 Water Spray Test

Method(s):

The appliance is to be mounted in accordance with the installation instructions. For items of installation not covered by the instructions, the most severe method of test installation is to be used.

Compliance with the water spray test shall be determined by:

a) A visual inspection to determine that there is no wetting of uninsulated live parts or filmcoated wire – other than motor windings – and no accumulation of water in the wiring compartment or channel. The accumulation of water droplets shall only be acceptable when the fan complies with the tests in (b) and (c).

b) A leakage current test for 120 V cord connected appliances (see 38.4.1 – 38.4.6) or an insulation resistance test for all other appliances (see 38.5.1).

c) A dielectric voltage withstand test (see 38.6.1),

Result(s): N/A

1. There [was / was no] wetting of uninsulated live parts or filmcoated wire – other than motor windings and accumulation of water in the wiring compartment or channel.

2. Leakage current was_____mA, or resistance was_____Ω.

3. The sample [did/did not] comply with the dielectric voltage withstand requirements, immediately after each of the leakage current measurements.

49 Hose down Test

Method(s):

At the conclusion of the test described in followings, a fan shall have no standing water inside the enclosure and there shall be no water on uninsulated live parts or on film-coated wire, other than motor windings.

For a permanently installed fan that is connected to conduit during installation, a conduit is to be installed on the enclosure to equalize internal and external pressures as required, but it is not to serve as a drain. No sealing compound other than that normally provided by the manufacturer is to be used. The enclosure interior is to be dry.

The enclosure and its external mechanisms are then to be sprayed by water from a hose having a 25.4-mm (1-inch) inside diameter nozzle that delivers at least 246 L (65 gallons) of water per minute. The water stream is to be directed at the fan from a distance of 3 – 3.7 m (10 – 12 feet) and is to be moved along the enclosure or surface at a minimum rate of 1.6 cm/sec (4 inches per second).

For an enclosure having a test length – height plus width plus depth dimension – of 1.9 m (75 inches) or less, the duration of the water stream contact with the enclosure is to be 5 minutes. For an enclosure having a test length exceeding 1.9 m (75 inches), the duration of water stream contact in minutes is to be 2.6 times the test length measured in meters (the test length measured in inches divided by 15).

Result(s): N/A

1. There [was / was no] standing water inside the enclosure.

2. There [was / was no] wetting of uninsulated live parts or filmcoated wire, other than motor windings.

50 Locked Rotor Test

Method(s):

The fan is to be installed or placed in its intended position with the rotor of the fan motor locked and energized as described in the Locked-Rotor Temperature Test in UL 2111, the Standard for Overheating Protection for Motors. The temperature is to be determined after thermal equilibrium is attained.

Result(s): Pass

51 Locked Rotor Cycling

Method(s):

Three motor samples are to be provided with the coil wrap terminating on the bend of the coil and are to be subjected to the test described in 51.2 – 51.4.

Each sample is to be energized at a test potential in accordance with Table 40.1 with the rotor locked. The motor circuit is to be cycled on and off as quickly as the motor allows. The winding temperatures shall reach the maximum temperature and the minimum temperature shown in Table 51.1, as determined with a thermocouple. The test duration is to be for 18 days with the motor at room temperature at the beginning of the test.

Protective devices shall be by-passed and when the motor does not function throughout the test, a different motor shall be chosen and the test started from the beginning. When a part, such as a capacitor, can be replaced in order for the motor to function, then the test may continue.

As a result of the test in 51.2 and 51.3, there shall be no loosening of the coil wrap, lifting of the coil wrap termination greater than 1.6 mm (1/16 inch), nor other degradation of the coil wrap's adhesive bond as determined by visual examination.

Result(s): Pass

52 Flagging

Method(s):

The test method for flagging shall be in accordance with the Test for Flagging (as received), Method A-For Class 1 Tape, of the Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications, ASTM D 1000-04.

The rod used for the test shall be 19 mm (3/4 inch) in diameter.

The length of the unwound tape (flag) from the end of the tape to the point of tangent of the rod shall be less than 1.6 mm (1/16 inch).

Result(s): N/A

53. Humidity Conditioning Test

Method(s):

A sample of the appliance is to be heated to a temperature just above 34°C (93°F) to reduce the likelihood of condensation of moisture during conditioning. The heated sample is then to be placed in the humidity chamber and conditioned for 48 hours in air having a relative humidity of 88±2 percent and a temperature of 32±2°C (90±4°F). Following the conditioning:

a) A cord-connected appliance rated for a nominal 240-volt supply or less is to be tested in the unenergized condition as specified in 32.6(a). The sample is then to be energized and tested as specified in 32.6(b) and (c). The test is to be discontinued when the leakage current stabilizes or decreases.

b) An appliance other than as mentioned in (a) is to have an insulation resistance of 50,000 ohms or more between live parts and interconnected dead metal parts.

c) An appliance shall comply with the dielectric voltage withstand requirements.

Result(s): Pass

1. Leakage current:

Condition	**S1**	**S2**	Tested positio	**Measured maximum leakage current (mA)**
a. - Unit ON	OFF OFF	A B	Live parts to enclosure with metal foil	0.004
b. - Unit ON (0 - 5 seconds)	ON ON	A B		0.006
c. - Unit ON (Thermal stabilization)	ON ON	A B		0.011
d. - Unit OFF (Leakage current stabilized or decreases)	ON ON	A B		0.001

2. The sample (did/~~did not~~) comply with the dielectric voltage withstand requirements.

54. Strain Relief Test

Method(s):

The strain relief means:

(a) provided on a flexible cord shall withstand for 1 minute without displacement a direct pull of 155.68N (35 pounds) applied to the cord with the connections within the appliance disconnected.

(b) a torque of___N·m in either direction is applied for 1 minute between the cord and the enclosure; and

Result(s): Pass

1. There (~~was~~/was no) such movement of the cord as to indicate that pull on the connections have resulted.

2. There (~~was~~/was no) such movement of the cord as to indicate that torque on the connections have resulted.

55 Interconnecting Cords and Leads

Method(s):

55.1 Each lead or flexible cord provided for wiring between components or for interconnection between parts of a motor, (e.g. motor windings to capacitor, motor connections to receptacle, light connections to receptacle, etc.) shall be subjected to the test described in 54.1 and 54.3 except that the pull shall be 20 pounds (89 N). Each lead or cord is to be tested with the 20-pound (9-kg) weight.

Exception No. 1: This test is to be waived if the lead or cord is routed such that it cannot be easily grasped or subject to other means of mechanical strain.
Exception No. 2: This test is to be conducted on all leads simultaneously when the leads are bundled such that individual leads cannot be easily grasped or subject to other means of mechanical strain.
Exception No. 3: When testing the terminals of a device intended for crimp connection, there shall be no damage to the connection or separation of the conductor from the crimp.
Exception No. 4: Mechanically secured and soldered connections and the connections of multi-pole connectors are not required to be disconnected prior to application of the force

Result(s): N/A

56 Unguarded Impeller Tests

An impeller of a portable fan not required to be guarded shall not break, crack, or chip when operated for 1 hour connected to a supply voltage of 130 percent of the rated supply voltage. The test is to be conducted before and after conditioning as described in 56.2.

An impeller not required to be guarded is to be placed in an air-circulating oven maintained at 70°C (158°F) for 7 hours. After removal, it is to be tested as described in Section 56, Unguarded Impeller Tests; Section 61, Impact Test on Guards; and Section 70, Drop Test. As a result of the testing, the impeller shall not break.

A motor-driven impeller not required to be guarded shall be energy absorbent to the extent that a 3.2 mm (1/8 inch) diameter dry hardwood dowel does not break when thrust into a rotating blade. The fan is to be fixed in place and energized so that the impeller rotates at intended speed. The dowel is to be supported on a stable, stationary flat surface perpendicular to the plane of rotation. The surface is to have a straight edge located approximately 9.5 mm (3/8 inch) from the fan blade. The dowel is then to be suddenly thrust and retained by hand along an axis perpendicular to the plane of impeller rotation into the blade. This procedure is to be repeated at different points on the impeller (blade and hub) with the impeller rotating at all intended speeds and from in front of and behind the impeller in order to include the most severe condition.

Result(s): Pass

57. Push Back Relief Test

Method(s):

The supply cord or lead is to be held 25 mm (1 inch) from the point where the cord or lead emerges from the product and is then to be pushed back into the product. When a removable bushing that extends further than 25mm(1 inch) is present, it is to be removed prior to the test. When the bushing is an integral part of the cord, the test is to be carried out by holding the bushing. The cord or lead is to be pushed back in to the product in 25mm(1-inch) increments until the cord buckles or the force to push the cord into the product exceeds 27N(6 pounds –force).

Result(s): Pass

The sample was tested (with/without) occurrence of any of the following conditions:
a) Mechanical damage to the supply cord or lead;
b) Exposure of the supply cord or lead to a temperature higher than that for which it is rated.
c) Reduction of spacing (such as to a metal strain –relief clamp) below the minimum required values; or
d) Damage to internal connections or components.

58 Oscillating Fan Test

Method(s):

58.1 An oscillating or adjustable appliance in which normal function causes movement of the power supply cord, electrical wiring or other insulated live parts, shall withstand an endurance test for the number of cycles described in 58.2. Upon completion of the test:
a) There shall be no electrical malfunction of the appliance;
b) There shall be no exposure of an uninsulated conductor strand either within or outside of the enclosure;
c) The appliance shall comply with the Dielectric Voltage Withstand Test;
d) There shall be no breakage of more than 10 percent of the strands of any conductor strands; and
e) There shall be no signs of oscillation cord or wire insulation abrasion.

58.2 The endurance test required by 58.1 is to consist of:
a) 750,000 cycles of operation for an appliance in which the movement of the power-supply cord, electrical wiring, or other insulated live parts occurs as a result of the operation of an automatic mechanical feature.
b) 6000 cycles of operation for an appliance in which the movement of the power-supply cord, electrical wiring or other insulated live parts only as a result of the operation of a manual feature.

Exception: The 6000 cycle test in 58.2 need not be conducted if it is determined that the component power supply cord has been previously subjected to the 6000 cycle flex testing, and it is determined in the application that it is not subjected to rubbing, chafing, or similar mechanical stress.

58.3 Where movement of electrical wiring or other insulated live parts occurs, six representative samples shall be subjected to this test. Throughout the test, the appliance shall be continuously energized at maximum rated input. The movable member shall be operated so that it will reach the limits of travel in both directions during each cycle by either the integral automatic mechanical feature of the appliance or by a external mechanical arrangement that operates the movable member. The cycling rate shall be one of the following:
a) Twelve cycles per minute;
b) The rate at which the automatic mechanical feature operates, if the rate is less than 12 cycles per minute; or c) Greater than 12 cycles per minute using the external mechanical arrangement, if agreeable to all concerned, or as controlled by the integral automatic mechanical feature.

58.4 For an oscillating fan with a tilting head assembly, two samples are to be oriented in the head fully forward position, two are to be oriented in the head straight up position, and two are to be oriented in the head fully back position

Result(s): Pass

59 Tests of Switches and Controls

A switch or other device that controls a motor and that has not been previously investigated for its suitability of controlling a motor shall perform acceptably when subjected to an overload test consisting of 50 cycles of operation, making and breaking the locked-rotor current of the motor. As a result of the test, there shall be no electrical or mechanical breakdown of the device. The fuse in the grounding connection shall not open

In a test to determine whether a switch or other control device complies with the requirements in 59.1.1, the appliance is to be connected to a grounded supply circuit of rated frequency and maximum rated voltage in accordance with 46.1.10, with the rotor of the motor locked in position. During the test, exposed dead metal parts of the appliance are to be connected to ground through a 3 ampere plug fuse, and the connection is to be such that any single-pole, current-rupturing device is connected in the ungrounded conductor of the supply circuit. If the appliance is intended for use on direct current, or on direct current as well as on alternating current, the exposed dead metal parts are to be connected so as to be positive with respect to a single-pole, current-rupturing control device. The device is to be operated at a maximum rate of 10 cycles per minute, except that a faster rate of operation is to be employed only when agreeable to all concerned.

Result(s): Pass

60. Static Load Test For Mounting Means

Method(s):

60.1 When subjected to the test specified in 60.2 – 60.3, a cord-connected wall- or ceiling-surface mounted or direct plug-in appliance shall comply with the following:
a) The security of the attachment of the appliance to the wall shall not be adversely affected;
b) There shall be no evidence of a risk of fire or electric shock;
c) The insulation resistance between live and dead-metal parts shall not be less than 50,000 ohms; and
d) The appliance shall withstand for 1 minute without breakdown the application of a 60-hertz essentially sinusoidal potential of 1000 volts between live and dead-metal parts.
Exception: This requirement does not apply to cord-connected rangehoods.

60.2 An appliance that is wall or ceiling surface mounted as mentioned in 60.1 is to be mounted in accordance with the installation instructions provided by the manufacturer on 3/8-inch-thick plasterboard (dry wall) on nominal 2 by 4-inch wood studs/joists spaced on 24 inch (609 mm) centers. The mounting parts are to be used as specified in the instructions, and the securing screws are to be located between the studs/joists and secured in the plasterboard.
Exception: Commercial/industrial products shall be mounted in accordance with the installation instructions provided by the manufacturer.

60.3 After installation, the appliance is to be subjected to a static load. The load is to be applied so as to transmit the maximum amount of stress to the mounting means and is to be increased during a 5 to 10 second interval, until a load equal to the weight of the product plus a force of three times the weight of the product, but not less than 10 pounds (45 N), is applied to the mounting system. The load is to be maintained for 1 minute.

60.4 Testing is to be repeated for all industrial/commercial air circulator fan head/mounting assembly combinations as described in 80.4.2.

Result(s): N/A

The probe (could/could not) contact any moving part.

61. Impact Test on Guards

Method(s):

A polymeric guard that is subject to impact, such as one on a portable fan, the malfunction of which results in a risk of injury to persons, that is subjected to impact shall withstand the impact test.

An appliance is to be subjected to an impact of 2.0 J (1.5 foot-pounds) on any surface that is exposed to a blow during intended use. Only one impact is to be applied at a given point. The impact is to be produced by dropping a steel sphere, 50.8 mm (2 inches) in diameter and weighing approximately 0.54 kg (1.18 pounds), from a height of 381 mm (15 inches). For surfaces other than the top of an enclosure, the steel sphere is to be suspended by a cord and allowed to swing as a pendulum, dropping through a vertical distance of 381 mm. For the test on a freestanding fan, the fan is to stand in its intended operating position without restraint.

Following the impact test, the probe illustrated in Figure 8.1 is to be used to determine whether a portion of an impeller that presents a risk of injury to persons is exposed.

Result(s): Pass

The probe (~~could~~/could not) contact any moving part.

62. Static Force Test on Guards

Method(s):

An 88.96N (20 pounds) force is applied for 1 minute over a 50.8 mm (2-inch) diameter area to any part of the guard. The probe in Figure 8.1 is used to determine if spacing to a moving part that cause injury to persons are reduced so that the probe can contact a portion of an impeller that can cause injury to persons.

Result(s): Pass

The probe shown in Figure 8.1 (~~could~~/could not) contact moving part that can cause injury to persons when inserted in any opening in the guard.

63 IMPELLER TEST FOR PORTABLE FANS

Method(s):

With reference to the requirement in 9.2.12, the following tests are to be conducted on non-metallic impellers of portable fans and window fans. A 6.35 mm (1/4 inch) diameter steel rod is to be pushed suddenly into the blade with the fan resting on the floor and operating at maximum speed and rated voltage. A test is to be made with the rod inserted near the hub, and a second sample is to be tested with the rod inserted 2/3 of the distance from the hub to the tip of the blade. The rod is to rest on the guard as it is inserted. A part of the blade is not to be thrown more than 1.52 m (5 feet) from the closest part of the base of the fan.

Result(s): Pass

64 IMPELLER IGNITION TEST

Method(s):

64.1 The requirements in this Section are intended to investigate the risk of fire for fans as referenced in the Exception No. 1 (e) of7.4.2. 64.2 A polymeric impeller that is located outside a thermally protected motor on a fan that does not comply with 7.4.2 and Exception No. 1 (a) – (d) of 7.4.2the shall not ignite as a result of a locked rotor test conducted as described in 64.3. Exception: When the impeller ignites, the results meet the intent of the requirement only when the cheesecloth does not ignite and there is no emission of flame beyond the fan enclosure during the following test on three additional fans: a) A double layer of cheesecloth is to completely cover each fan before the test; and b) The test described in 64.3 is to be repeated. 64.3 The motor thermal protector is to be shunted out of the motor winding so that the motor stays continually energized. The rotor is to be locked. The fan is to be positioned as intended in application and is to be energized in a room ambient temperature of 10 to 40°C (50 to 104°F) at the voltage indicated in Table 40.1. The fan is to be energized until ultimate results are observed, but no more than 18 days. This procedure is to be repeated on two additional fan samples.

64.4 The cheesecloth referenced in the Exception to 64.2 is to be bleached, 914.40 mm (36 inches) wide, 28.22 – 30.24 meters per kilogram (14 – 15 yards per pound), and having what is known to the trade as a count of 32 × 28 – that is, along the two directions parallel to the threads, there are 13 threads per centimeter in one direction and 11 threads per centimeter in the other (32 threads per inch in one direction and 28 threads in the other).

Result(s): N/A

65 COMPONENT BREAKDOWN TEST

Component Breakdown Test

Method(s):

A sample shall be operated with a component such as electrolytic capacitor, a diode, or other solid-state component short- or open-circuited, as applicable. A 3-ampere fuse was connected between all exposed dead-metal parts of the nightlight and the neutral conductor.

Result(s):

No.	Condition	Observation	Other
1			
2			
3			
4			
5			
6			
7			
8			

The 3-ampere fuse (was / was not) opened.

Result(s): N/A (Battery appliance)

66 FUSEHOLDER COVER TEST

Methods

66.1 When required by 25.3, an open cover shall be subjected to a force of 36 N (8 lbs) applied for 1 minute in any direction that the cover may be removed, the open cover of a fuseholder, fused attachment plug, or current tap, or similar device, shall not detach from the body of the device. One fuseholder is to be tested.

Result(s): N/A

67 GENERAL PURPOSE TRANSFORMERS

Methods

In addition to the end-product temperature test and dielectric voltage-withstand test, a general purpose transformer shall also be subjected to the tests of 67.2 – 67.4.

For purposes of comparison with voltages measured as described in the overload test of 67.3, each secondary open-circuit voltage shall be measured with the primary connected to a test voltage and frequency supply source as indicated in input test, section 45.

OVERLOAD TEST

67.3.1 A transformer shall be subjected to the test conditions described in 67.3.2. The stabilized surface or core temperature recorded on the transformer during the second 50 percent load operation shall not be more than 5°C (9°F) greater than the stabilized core temperature obtained during the initial 50-percent of load operation. The open-circuit output voltage determined following the final 50 percent load operation shall be within 2 percent of the output voltage measured during the Voltage Measurement Test in 67.2. As an option, a protective device, if provided, may be bypassed when conducting this test.

67.3.2 The transformer shall be operated as described in the Temperature Test in Section 46, except that the load shall be 50 percent of the rated value, until the core, or surface temperatures if encapsulated, stabilize. After stabilization, the load shall be adjusted until 200 percent of rated secondary current is reached. After 2 minutes of operation, the load shall be readjusted, if necessary, to restore the current to 200 percent, but no further adjustment is to be made thereafter. The duration of this overload shall be 30 minutes. The load is then to be restored to the original 50 percent of rated value. It shall be held at that value until the core temperature again stabilizes or until the temperature drops to within 5°C (9°F) of the original stabilized 50-percent load-current temperature (whichever occurs first). This temperature value shall be compared with the original 50-percent load stabilized condition, as specified in 67.3.1. Then, the secondary load shall be removed. With the primary energized, the secondary voltage(s) shall be measured and compared with the original output voltage measurements.

67.3.3 When the core of the transformer is not accessible for direct temperature measurement (due to the transformer construction or reasons such as encapsulation or filling with electrical insulating material), the surface of the transformer enclosure shall be used. The portion of the enclosure surface used to measure this temperature shall be the hottest spot occurring in the 100-percent load heating test.

67.3.4 A protective device, when provided, shall be bypassed when the device opens while the load is adjusted after the surface temperatures have stabilized.

Repeated dielectric voltage-withstand test

1 Following the Overload Test in 67.3, the transformer shall be subjected to a repeated dielectric voltage-withstand test. The test potential shall be 65 percent of the value originally specified. After this test, the transformer shall perform as intended.

Result(s): N/A

68 THERMAL AGING

A polymeric material employed in a Class 105 (A) insulation system in accordance with the Exception to 33.3 is to be aged for the amount of time corresponding to an aging temperature that appears on the Class 105 (A) system response shown in Figure 68.1. The insulation system is to cool to room temperature and the applicable dielectric voltage-withstand requirements specified in Section 47 are to be applied between live parts and noncurrent-carrying metal parts that are isolated from each other by the material under consideration

Results: Pass

69 PERMANENCE OF MARKING TESTS

Methods

to determine compliance with 69.1, a cord tag shall be conditioned in accordance with (a) – (c). following the conditioning each sample shall be tested in accordance with 69.3. if a tag is applied by an adhesive, the conditioning and test are to be conducted no sooner than 25 h after application of the tag.

a) three samples, as received, shall be tested in accordance with 69.3.

b) three samples shall be conditioned in an air-circulating oven at 60 ±1°c (140 ±1.8°f) for 240 h followed by 30 min of conditioning at a room temperature of 23 ±2°c (73.4 ±3.6°f) and 50 ±5% relative humidity then followed by the test in 69.3.

c) three samples shall be conditioned for 72 hr at a humidity of 85 ±5% at 32 ±2°c (89.6 ±3.6°f) and followed by test in 69.3 within 1 min after conditioning

Each sample is to consist of a length of power-supply cord to which the tag has been applied. The power-supply cord, with the attachment plug pointing up, is to be held tautly in a vertical plane. A force of 5 lbf (22.2 N) is to be applied for one minute to the upper-most corner of the tag farthest from the power-supply cord, within 1/4 in (6.4 mm) of the vertical edge of the tag. The force is to be applied vertically downward in a direction parallel to the major axis of the cord. In determining compliance with 69.1(d), manipulation is permissible, such as straightening of the tag by hand. To determine compliance with 69.1(d), each sample is to be scraped 10 times across printed areas and edges, with a force of approximately 2 lbf (8.9 N), using the edge of a 5/64-in (2.0-mm) thick steel blade held at a right angle to the test surface.

Results: Pass

70 Drop Test

Methods

A desk fan and a box fan shall withstand, with the fan operating at maximum speed, the drop test described in 70.2.

Each of three samples of a fan is to be dropped through a distance of 914.40 mm (3 feet) to strike a hardwood surface. Each sample is to be dropped three times. Three samples shall be employed for the test; however, if the manufacturer so elects, fewer samples may be used in accordance with Figure 70.1. As a result of the drop test, the probe illustrated in Figure 9.1 shall not be able to contact a portion of a blade or blower wheel that presents a risk of injury to persons when inserted in any opening in the guard.

The hardwood surface mentioned in 70.2 is to consist of a layer of 19-mm (3/4-inch) thick tongue-and-groove oak flooring mounted on two layers of 19-mm (3/4-inch) thick plywood. The assembly is to rest on a concrete floor during the test

All samples are to be supported on a surface 914.40 mm (3 feet) above the hardwood surface. Each sample is to be dislodged from the supporting surface by a sudden pull applied to the power-supply cord in a plane parallel to the supporting surface and twice by being pushed by a force parallel to the mounting surface applied to the top of the sample, which is to be placed at the edge of the supporting surface. The sample is to be oriented differently for each test.

Deformation of a guard or detachment of a guard or portion of a guard during the drop test is acceptable when the part (including ribs of a desk fan) can readily be restored to its original shape or a detached guard can be readily replaced in the intended manner. After restoration of the guard, the probe illustrated in Figure 9.1 shall not contact a portion of a blade or blower wheel that presents a risk of injury to persons when inserted in any opening in the guard.

A part of the blade shall not be thrown more than 1.52 m (5 feet) from the closest part of the base of the fan.

Result(s): Pass

71 Security of Handle Test

Methods

A handle used to support or carry a fan shall withstand a force of four times the weight of the fan without breakage of the handle, its securing means, or that portion of the enclosure to which the handle is attached.

To determine if a handle complies with the requirements in 71.1, the force is to be started at zero and gradually increased so that the force specified in 71.1 is attained in 5 to 10 seconds and maintained for 1 minute. When the handle is 76.20 mm (3 inches) or more in width, the force is to be uniformly distributed over a 76.20-mm width at the center of the handle without clamping. When the width is less than 76.20 mm, the force is to be distributed over the entire handle. When more than one handle is furnished on a fan and the fan cannot be carried by only one handle, the force is to be distributed between the handles. The distribution of forces is to be determined by measuring the percentage of the fan weight sustained by each handle with the fan in the intended carrying position. When a fan is furnished with more than one handle and can be carried by only one handle, each handle is to sustain the total force.

Results: Pass

72. Stability Test

Method(s):

A cord-connected freestanding appliance was placed on a plane inclined at an angle of 10° to the horizontal with removal of casters and is adjusted and operated in any intended manner so that it is most likely to tip over.

Result(s): Pass

The unit (~~did~~ / did not) tip-over at an angle of 10° to the horizontal.

73 Hassock Fan Load Test

Method(s):

A hassock fan shall sustain a 1779 N (400 pound) load uniformly distributed over the top of the fan for 1 minute, without breakage or cracking of the enclosure or guard, after which the probe illustrated in Figure 9.1 shall not contact a portion of the impeller that presents a risk of injury to persons when inserted through any opening in the guard or enclosure.

Result(s): N/A

ANNEX 1		**TABLE: Critical components information**				P
Photo #	**Item no.[1]**	**Name**	**Manufacturer/ trademark [2]**	**Type / model [2]**	**Technical data and securement means**	**Mark(s) of conformity [3]**
3	1	Power cord set	Various	Various	18AWG with rating: 105°C, 300V, VW-1	cULus
3	2	Control	Various	Various	100-120V~, 60/50Hz, 1A MAX, 180W Max.	cULus
1	3	LED cover	Various	Various	PC, V-0, 125 °C	cULus

NOTES:
1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.
2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.
3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary.

Attachment No. 1: Photo documents

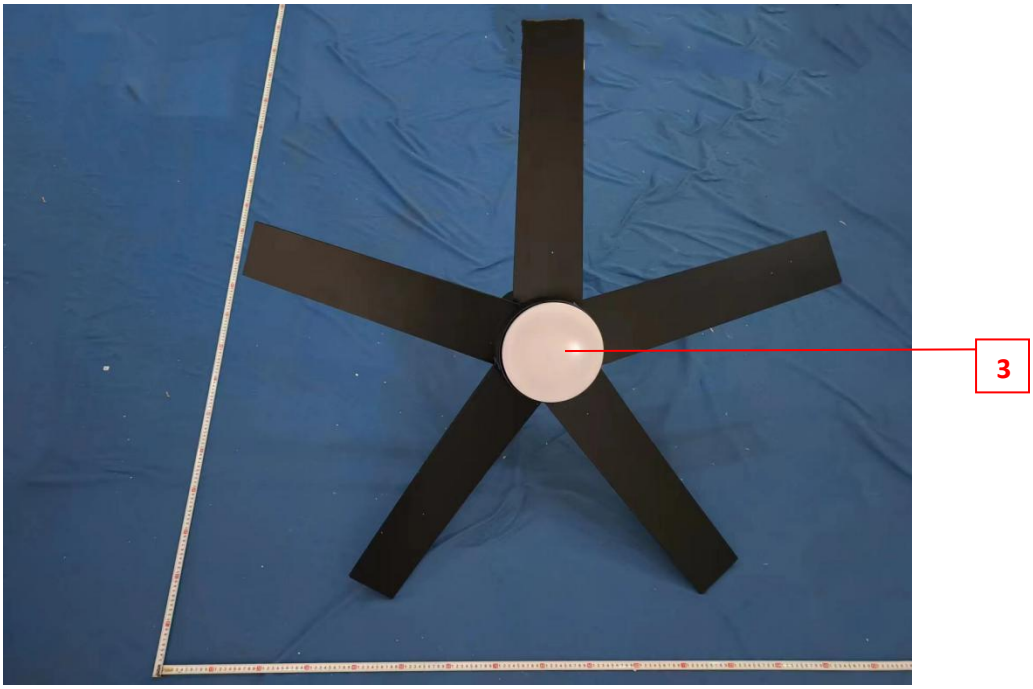


Fig. 1 - Overview for model FF-J5203AC

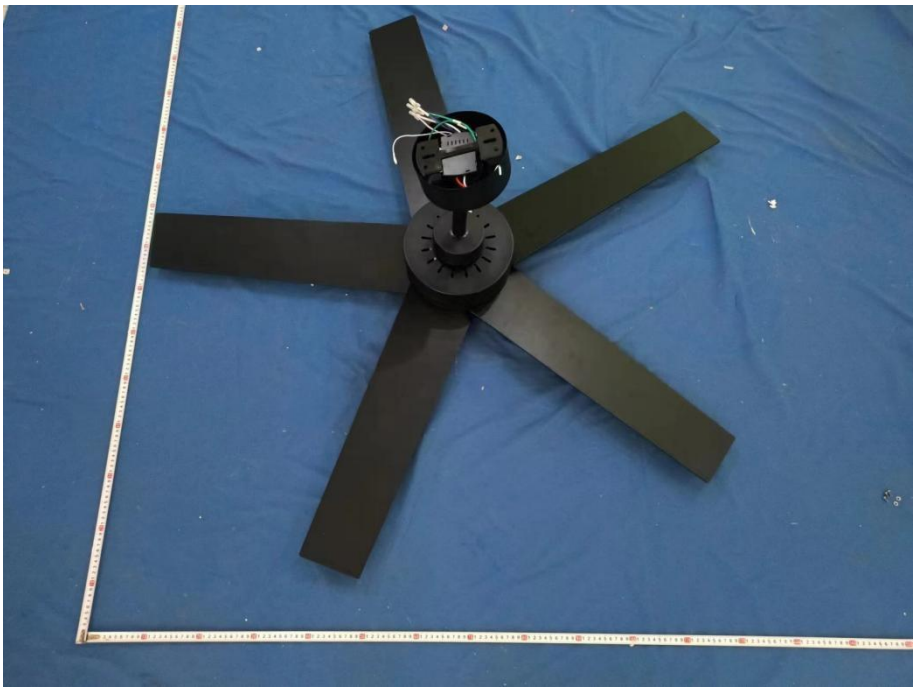


Fig. 2 - Overview for model FF-J5203AC

Attachment No. 1: Photo documents

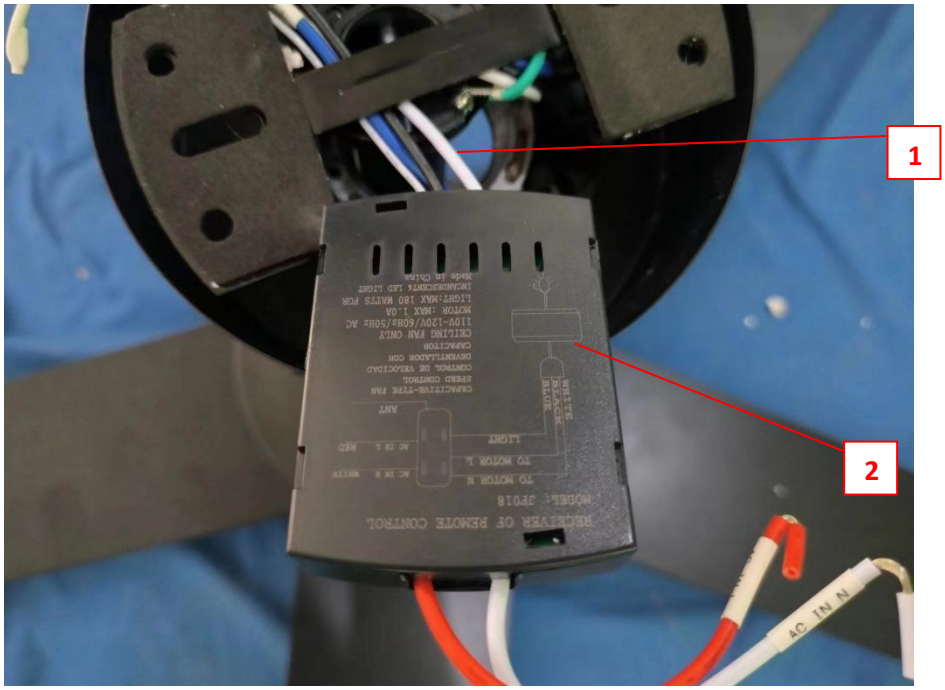


Fig. 3 - Overview for model FF-J5203AC

End of Report ***