ELECTRONICS TESTING CENTER, TAIWAN
ADDRESS: NO.5 HSIN HO 2 RD.,AN PIN INDUSTRIAL PARK,
TAINAN , TAIWAN
TEL:06-2925787 FAX:06-2650302
http://www.etc.org.tw

Testing Laboratory
1161

Ind. Ser. No. : 14-04-NEF-039

Issue Date : 2014 / 5 / 5

TEST REPORT

Ind. Ser. No.	:	14-04-NEF-039
Applicant	:	Qualtek Electronics Corporation
Address	:	7610 Jenther Drive Mentor,Ohio 44060 U.S.A.
Products	:	Axial fans
Model	:	FDA2-17238、FDA2-17251、FDA2-17255 series
Quantity	:	6 set
Date of Receipt	:	Reference : ETC's Report NO.12-05-NEF-026
Date of Testing	:	
Test specification	:	IEC60529 Edition 2.1 2001-02 Electronics Testing Center, Taiwan – Southern Taiwan
Inspection Site	:	Industry Service Department (TAF Certification No:1161)
Ambient Environment	:	IP5X Temp. 23 ± 1 ℃ , R.H. 52 ± 2 % IPX6 Temp. 24 ± 1 ℃ , R.H. 59 ± 2 %
Testing Item	:	IP56M
Test condition	:	See the following sheets
Test result	:	PASS (Reference : ETC's Report NO.12-05-NEF-026)

The test results relate only to the items tested.

The report shall not be reproduced except in full without the written approval of Electronics Testing Center, Taiwan.

This inspection has carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care, this certification is not intended to believe the sellers from their contractual obligations.

Tested by : Yi Lieh Fu. 2014.5.5

Yi Lieh Fu
Southern Taiwan Industry
Service Department

Approved by : Yi Hong Lin 2014.5.05

Yi Hong Lin
Southern Taiwan Industry
Service Department

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Testing Item: IP56M

Testing Conditions：

IP5X：

(1) The enclosure under test is supported in its normal operating position inside the test chamber.

(2) The test shall be continued for a period of 8h.

IPX6：

(1) Internal diameter of the nozzle: 12.5 mm.

(2) Delivery rate: 100 l/min ±5%.

(3) Distance from nozzle to enclosure surface：between 2.5 m and 3 m.

(4) The duration of test is 3 min.

IPXXM(Supplementary letters)：Tested for harmful effects due to the ingress of water when the movable parts of the equipment (for example,the rotor of a rotating machine) are in motion

Testing Result：

Request/Experiment	Results	Remark
Accordance with IEC60529 13.1,13.4and 13.5 test. The protection is satisfactory if, on inspection, talcum powder has not accumulated in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment or impair safety.	There are some traces of dust inside, but not impaired safety.	IP5X
After testing in accordance with appropriate requirements of IEC60529 14.1,14.2.6 and 14.3	There are some traces of water inside, but not impaired safety.	IPX6
After testing in accordance with appropriate requirements of IEC60529 14.1,14.2.6 and 14.3	There are some traces of water inside, but not impaired safety.	IPX6M

NOTE：This report does not imply the assessment of CORD of the EUT.

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Utilized testing equipments

used	Kind of Instrument	Manufacturer	Model Serial NO.
✓	TEMP/HUM RECORDER Cal. Date:2013/05/07 Recommended Recal Date:2014 / 05 / 06	KIMO	KH210-AO/13491047-001
	Electrical Safety Compliance Analyzer	EXTECH	7452/E992214
	AC 20Kv 200mA	Asis	SYT-20kV200mA/S97-004
	Push And Pull Dynamometer with Linear Scale (0…50N)	PTL	P10.35/5001028
	Push-Pull gauge	ALGOL	NK-300/30954
	Protractor	—	A7028-J（0°~90°）
✓	Stop Watch Clock Alarm Cal. Date:2013/09/03 Recommended Recal Date:2014/09/02	CATIGA	CT-500
✓	Test rod,1mm	E.D.&D.	TRP-02
	Test rod,2.5mm	ASIA QTECH	TRP-1/0803
	Test sphere 50mm	ASIA QTECH	TSP-1/0801
	Test finger	PTL	P10.14/5001023/13502009-001
	Test sphere 12.5mm	ASIA QTECH	TSP-2/0802
✓	DUST TEST CHAMBER Cal. Date:2013/04/24 Recommended Recal Date:2014/04/23	PTL	P14.41/5050255
	Drip Box（IPX1~IPX2）	PTL	P01.18/5080026
	Oscillating Tube（IPX3~IPX4）	PTL	P02.27/5080027
	Hose Nozzle（IPX5）	PTL	P03.26/5080028
	Hose Nozzle（IPX6）	PTL	P03.28/5080029
✓	Water Butt（IPX7~8）	—	—

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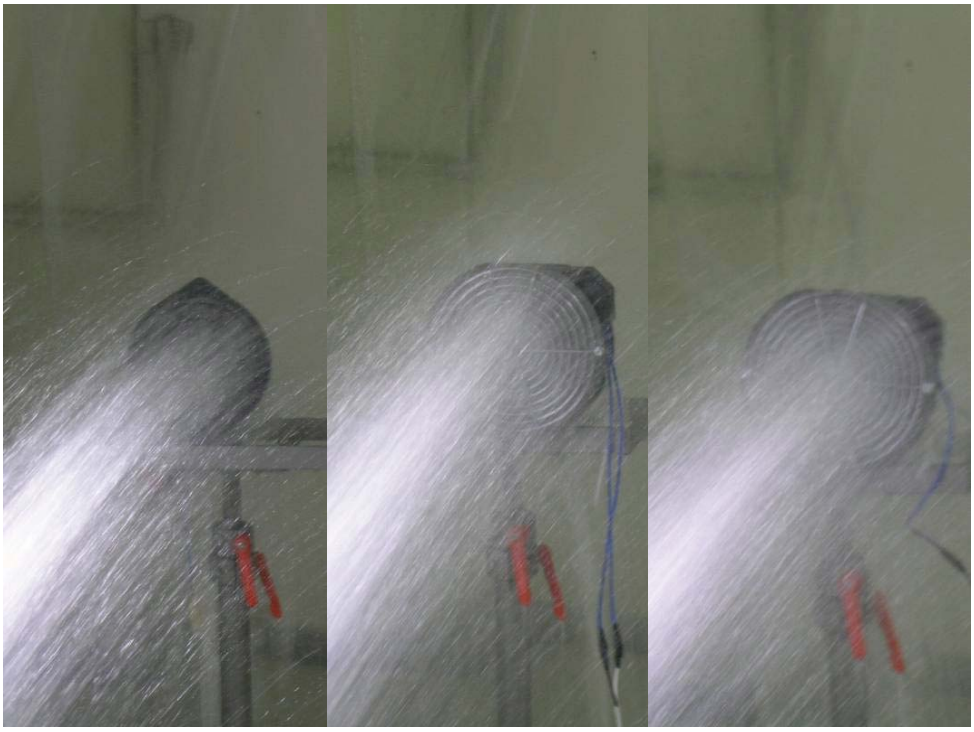
Axial fans：IP5X Test Photo

Axial fans：IPX6 Test Photo



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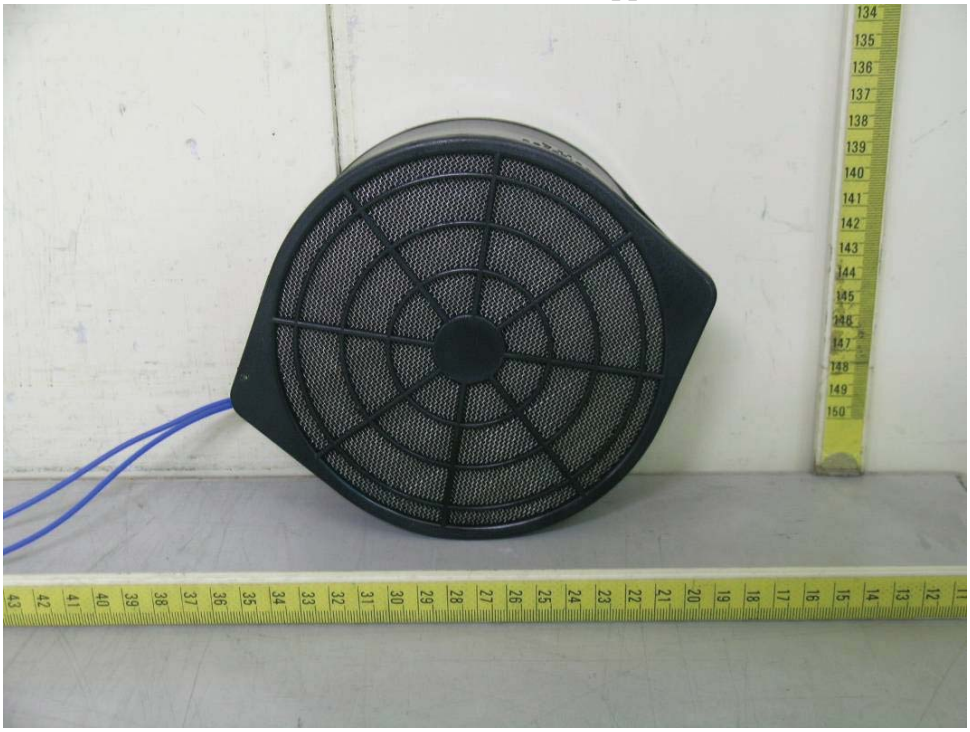
Axial fans (FDA2-17255)：Appearance



Axial fans (FDA2-17255)：Appearance

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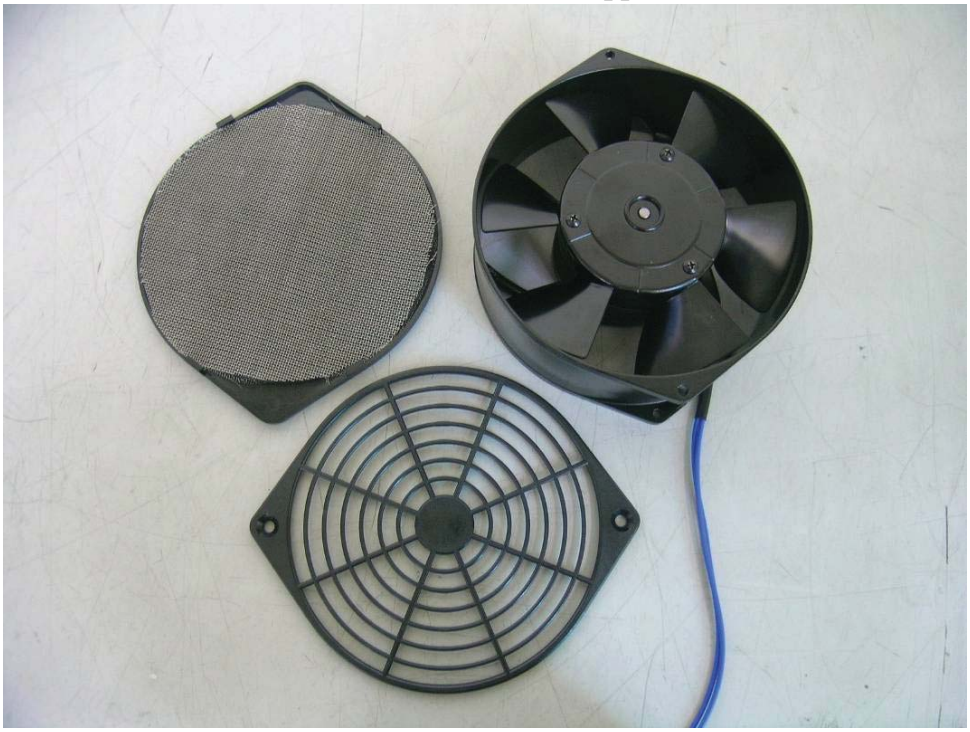
Axial fans (FDA2-17255)：Appearance



Axial fans (FDA2-17255)：Inside

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Axial fans (FDA2-17238)：Appearance

Axial fans (FDA2-17238)：Appearance

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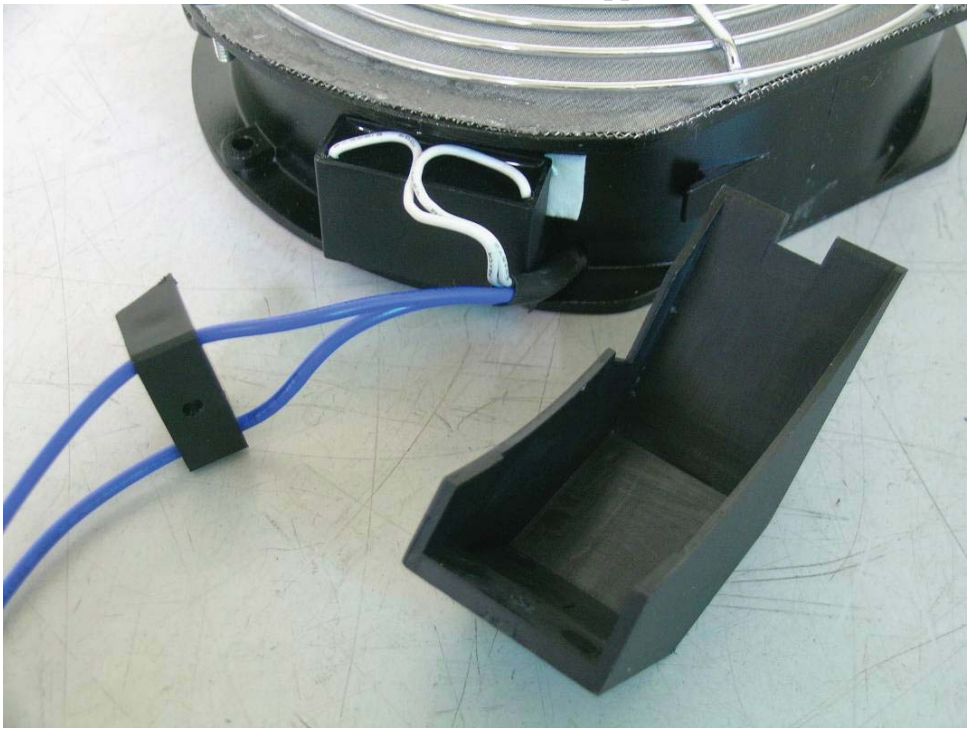
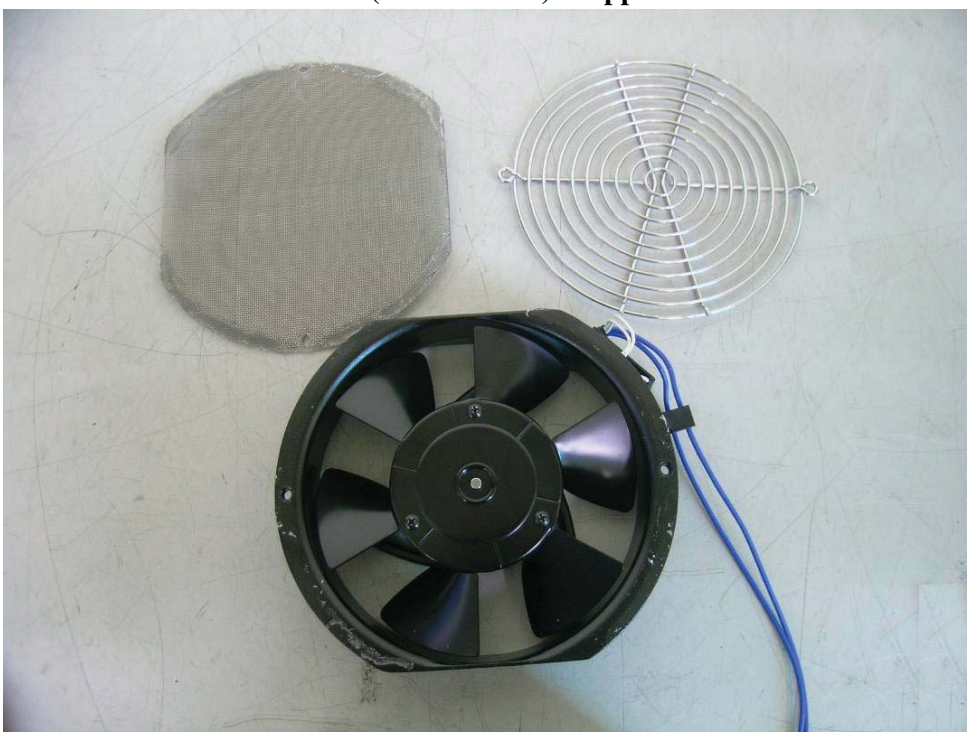
Axial fans (FDA2-17238)：Appearance



Axial fans (FDA2-17238)：Appearance



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Axial fans (FDA2-17238)：Inside

Axial fans (FDA2-17251)：Appearance

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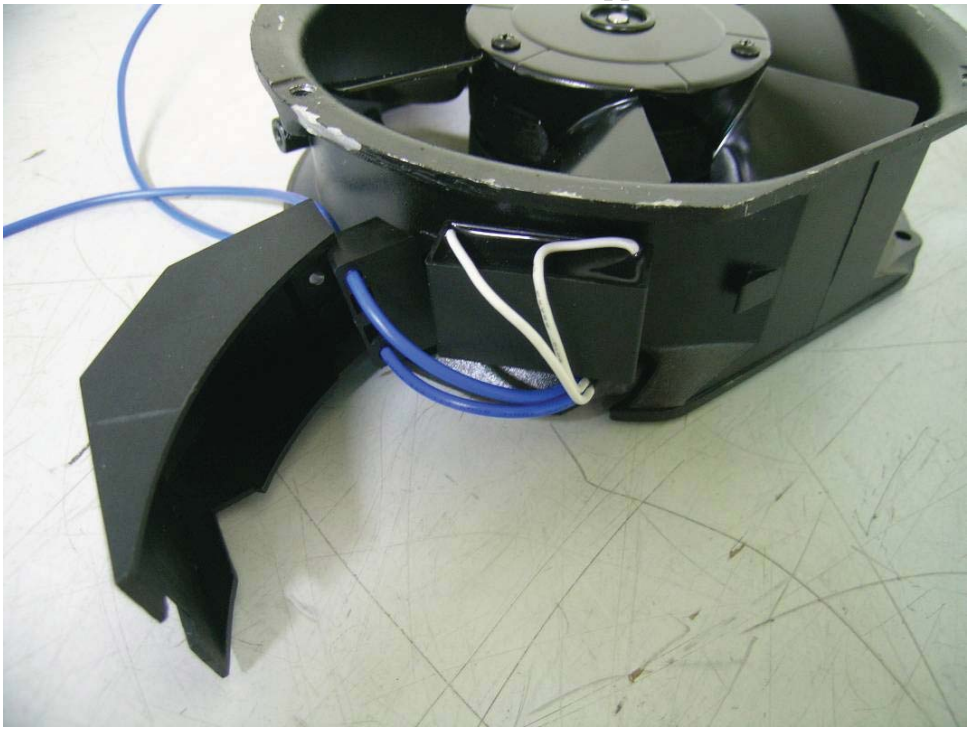
Axial fans (FDA2-17251)：Appearance

Axial fans (FDA2-17251)：Appearance



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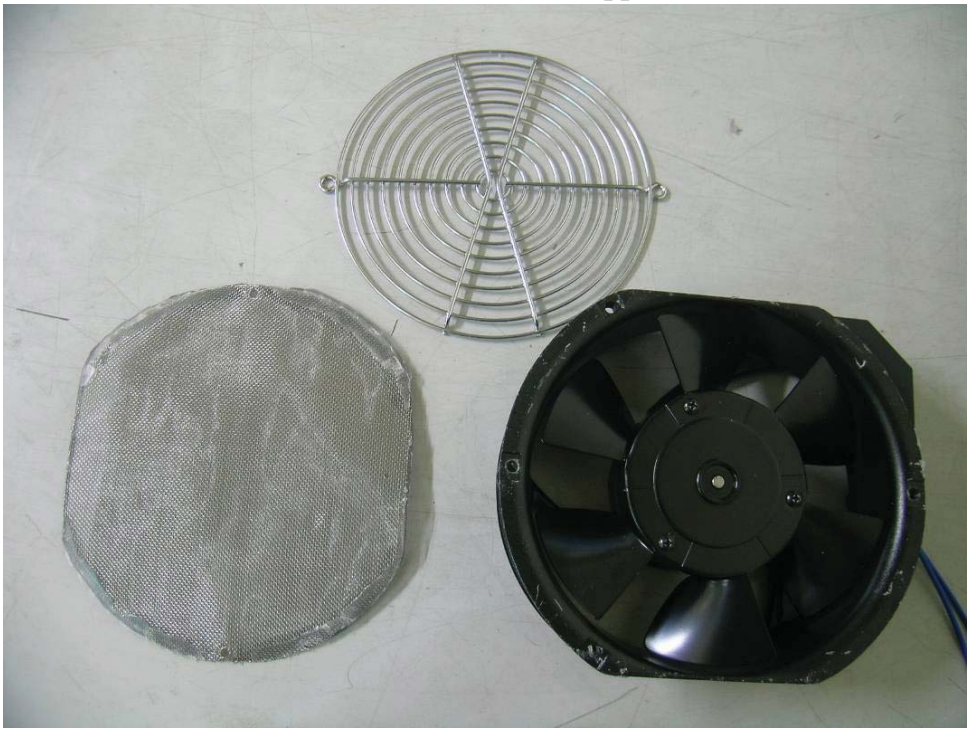
Axial fans (FDA2-17251)：Appearance



Axial fans (FDA2-17251)：Inside

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Testing Laboratory
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Ind. Ser. No. : 14-04-NEF-038

Issue Date : 2014 / 5 / 5

TEST REPORT

Ind. Ser. No.	:	14-04-NEF-038
Applicant	:	Qualtek Electronics Corporation
Address	:	7610 Jenther Drive Mentor,Ohio 44060 U.S.A.
Products	:	Axial fans
Model	:	FDA2-25489、FDA2-22580、FDA2-28080 series、FDD1-17251 series
Quantity	:	8 set
Date of Receipt	:	
Date of Testing	:	Reference : ETC's Report NO.14-04-NEF-001
Test specification	:	IEC60529 Edition 2.1 2001-02
Inspection Site	:	Electronics Testing Center, Taiwan – Southern Taiwan Industry Service Department (TAF Certification No:1161)
Ambient Environment	:	IP5X Temp. 23 ± 1 ℃ , R.H. 52 ± 2 % IPX6 Temp. 24 ± 1 ℃ , R.H. 59 ± 2 %
Testing Item	:	IP56M
Test condition	:	See the following sheets
Test result	:	PASS （Reference : ETC's Report NO.14-04-NEF-001）

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This inspection has carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care, this certification is not intended to believe the sellers from their contractual obligations.

Tested by : Yi Lieh Fu. 2014.5.5.
Yi Lieh Fu
Southern Taiwan Industry
Service Department

Approved by : 2014.5.05
Yi Hong Lin
Southern Taiwan Industry
Service Department

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Testing Item: IP56M

Testing Conditions：

IP5X：

(1) The enclosure under test is supported in its normal operating position inside the test chamber.

(2) The test shall be continued for a period of 8h.

IPX6：

(1) Internal diameter of the nozzle: 12.5 mm.

(2) Delivery rate: 100 l/min ±5%.

(3) Distance from nozzle to enclosure surface：between 2.5 m and 3 m.

(4) The duration of test is 3 min.

IPXXM(Supplementary letters)：Tested for harmful effects due to the ingress of water when the movable parts of the equipment (for example,the rotor of a rotating machine) are in motion

Testing Result：

Request/Experiment	Results	Remark
Accordance with IEC60529 13.1,13.4and 13.5 test. The protection is satisfactory if, on inspection, talcum powder has not accumulated in a quantity or location such that, as with any other kind of dust, it could interfere with the correct operation of the equipment or impair safety.	There are some traces of dust inside, but not impaired safety.	IP5X
After testing in accordance with appropriate requirements of IEC60529 14.1,14.2.6 and 14.3	There are some traces of water inside, but not impaired safety.	IPX6
After testing in accordance with appropriate requirements of IEC60529 14.1,14.2.6 and 14.3	There are some traces of water inside, but not impaired safety.	IPX6M

NOTE：This report does not imply the assessment of CORD of the EUT.

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Utilized testing equipments

used	Kind of Instrument	Manufacturer	Model Serial NO.
✓	TEMP/HUM RECORDER Cal. Date:2013/05/07 Recommended Recal Date:2014 / 05 / 06	KIMO	KH210-AO/13491047-001
	Electrical Safety Compliance Analyzer	EXTECH	7452/E992214
	AC 20Kv 200mA	Asis	SYT-20kV200mA/S97-004
	Push And Pull Dynamometer with Linear Scale (0…50N)	PTL	P10.35/5001028
	Push-Pull gauge	ALGOL	NK-300/30954
	Protractor	—	A7028-J（0°~90°）
✓	Stop Watch Clock Alarm Cal. Date:2013/09/03 Recommended Recal Date:2014/09/02	CATIGA	CT-500
✓	Test rod,1mm	E.D.&D.	TRP-02
	Test rod,2.5mm	ASIA QTECH	TRP-1/0803
	Test sphere 50mm	ASIA QTECH	TSP-1/0801
	Test finger	PTL	P10.14/5001023/13502009-001
	Test sphere 12.5mm	ASIA QTECH	TSP-2/0802
✓	DUST TEST CHAMBER Cal. Date:2013/04/24 Recommended Recal Date:2014/04/23	PTL	P14.41/5050255
	Drip Box（IPX1~IPX2）	PTL	P01.18/5080026
	Oscillating Tube（IPX3~IPX4）	PTL	P02.27/5080027
	Hose Nozzle（IPX5）	PTL	P03.26/5080028
	Hose Nozzle（IPX6）	PTL	P03.28/5080029
✓	Water Butt（IPX7~8）	—	—

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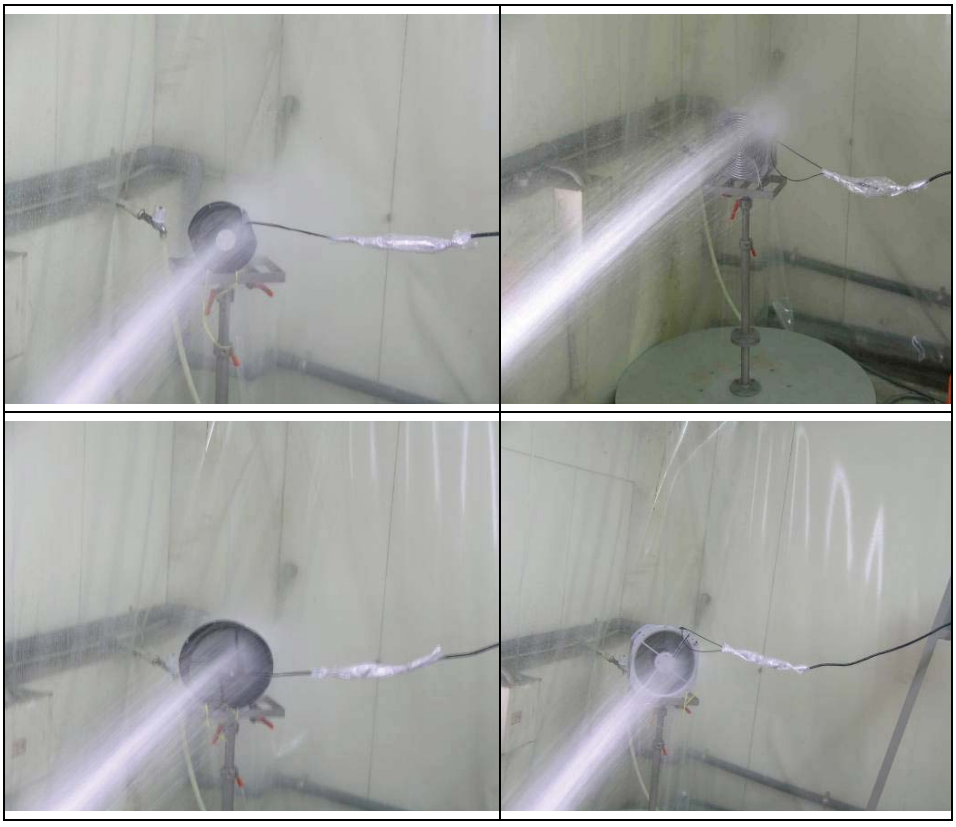
Axial fans：IP5X Test Photo

Axial fans：IPX6 Test Photo



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Axial fans (FDA2-25489)：Appearance

Axial fans (FDA2-25489)：Appearance

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Axial fans (FDA2-25489)：Appearance

Axial fans (FDA2-25489)：Inside

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Axial fans (FDA2-28080)：Appearance

Axial fans (FDA2-28080)：Appearance

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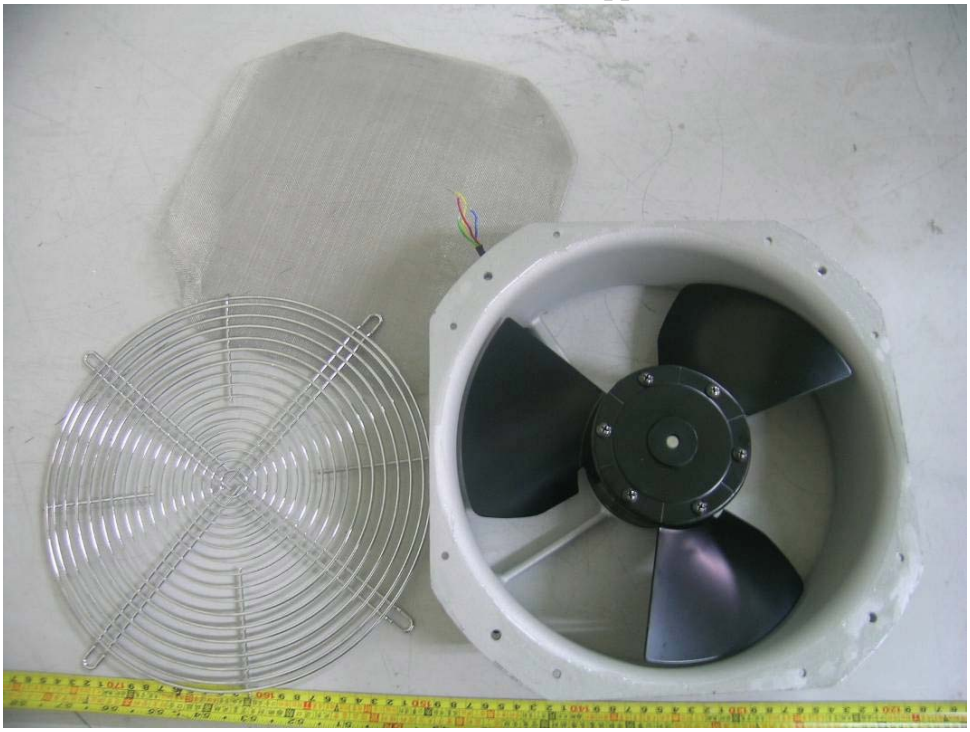
Axial fans (FDA2-28080)：Appearance



Axial fans (FDA2-28080)：Inside

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Axial fans (FDA2-22580)：Appearance

Axial fans (FDA2-22580)：Appearance

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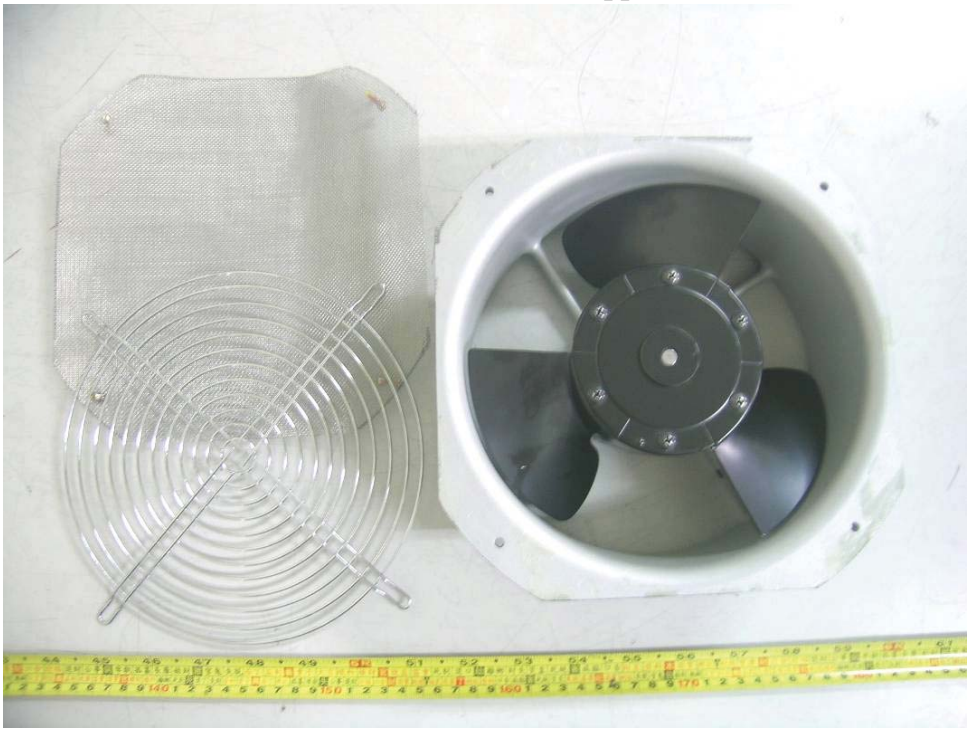
Axial fans (FDA2-22580)：Appearance



Axial fans (FDA2-22580)：Inside

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Axial fans (FDD1-17251)：Appearance

Axial fans (FDD1-17251)：Appearance

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Axial fans (FDD1-17251)：Appearance

Axial fans (FDD1-17251)：Inside