

1.0 Reference and Address			
Report Number	101134100ATL-001A	Original Issued: 10-Jul-2013	Revised: 27-Apr-2018
Standard(s)	Electric Fans <Expires: 03Dec2018> [UL 507:1999 Ed.9+R:04Aug2015 Fans And Ventilators [CSA C22.2#113:2015 Ed.10+U1]		
Applicant	<u>International Ozone Technologies Group, Inc.</u>	Manufacturer	International Ozone Technologies Group, Inc.
Address	1100 SW 10th. Street Suite J Delray Beach, Florida 33444	Address	1100 SW 10th. Street Suite J Delray Beach, Florida 33444
Country	USA	Country	USA
Contact	Mr. Russ McCubbin	Contact	Mr. Russ McCubbin
Phone	(561) 733-8955	Phone	(561) 733-8955
FAX	(561) 733-8053	FAX	(561) 733-8053
Email	russm@internationalozone.com	Email	russm@internationalozone.com

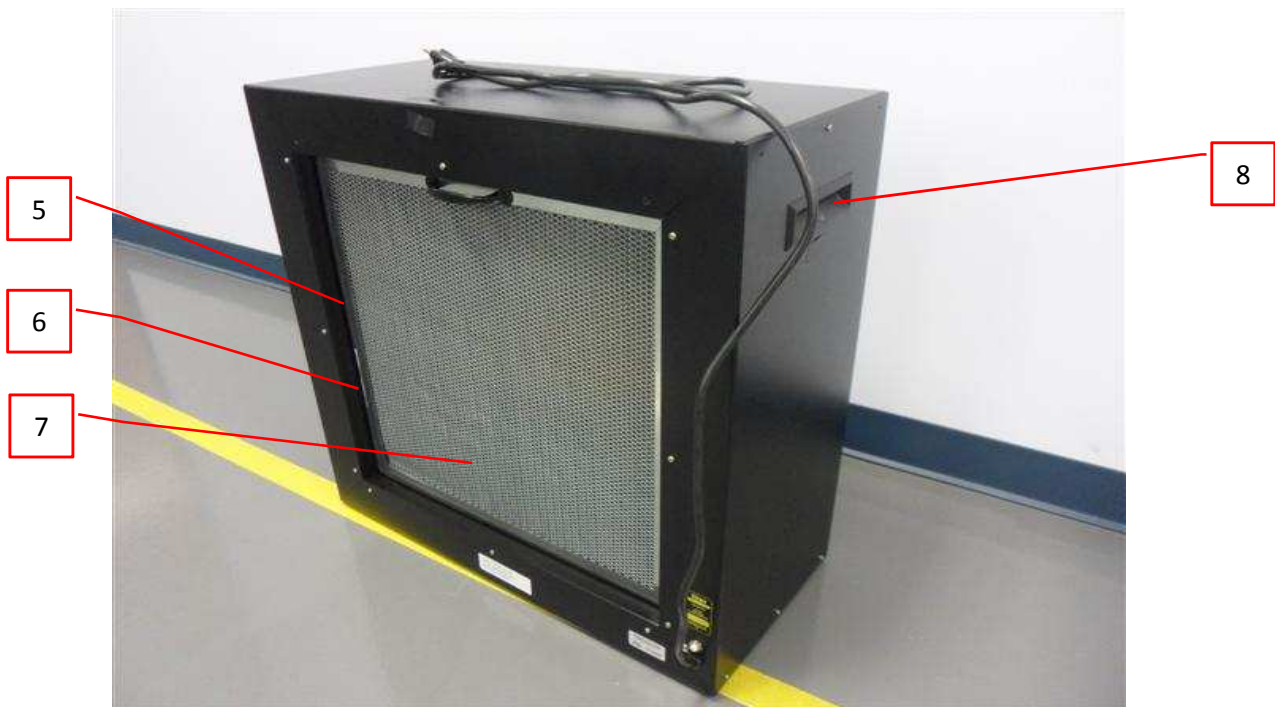
2.0 Product Description	
Product	Hydroxyl Generator
Brand name	Titan
Description	The product covered by this report is an Air Purifier based on UVA/TiO ₂ , and it is for the fire/flood/mold damage restoration industry.
Models	Titan 4000
Model Similarity	NA
Ratings	110V, 50/60Hz, 4A, 5,000CFM Max
Other Ratings	NA

3.0 Product Photographs

Photo 1 - Front Side View of Titan 4000



Photo 2 - Rear Side View of Titan 4000



3.0 Product Photographs

Photo 3 - Rear View without the Filter

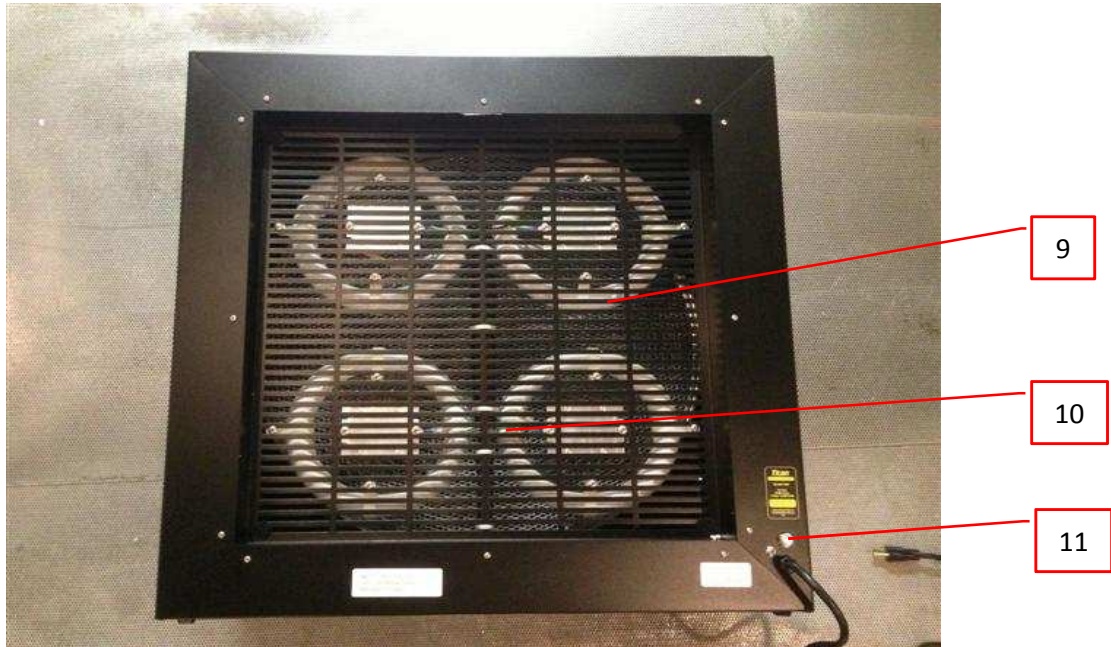
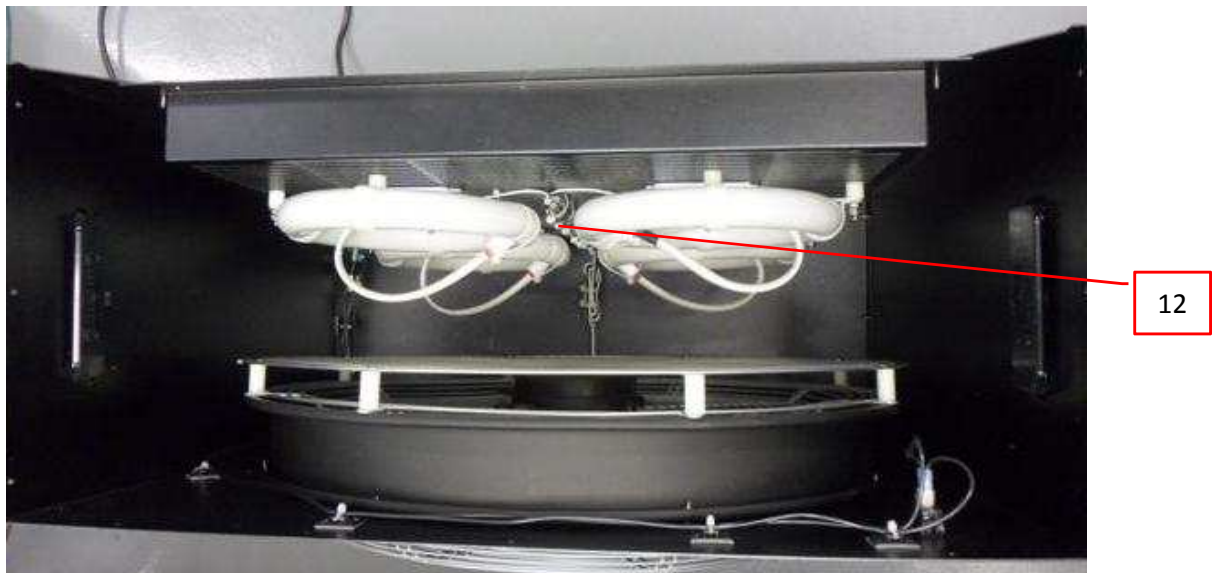


Photo 4 - Internal View of Titan 4000



4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	1	Enclosure	Various	Various	Painted metal sheet minimum 1.70 mm thick, overall dimensions 66.1 cm by 66.1 cm by 30.5cm. Front Grille is part of ETL listed fan.	NR
1	2	Fan Unit	Orient Industries Inc.	HV-20S / M-20S	Rated 120V, 60Hz, 150W	cETLus
1	3	Power Cord	Various	SJT	Rated 105 °C dry, 300 V, 16 AWG and length measured 2.13 m with molded on 5-15P attachment plug..	UL, CSA
1	4	Switch	Carling Technologies	RA901 series	Rated 16 A, 125 V, 3/4 HP; 10 A, 250 V, 3/4 HP.	UR, CSA
				RA901-VB-B-9-V		
2	5	Filter Frame	Various	Various	Metal frame with metal grille front and rear. Overall dimensions 50 cm by 50 cm.	NR
2	6	Filter Foam	Rubberlite Inc.	SCE41B	HF-1, thickness 6.15mm.	UR
2	7	Filter	Kurashiki Textile MFG Co. Ltd.	Polypropylene	HF-1, measured approx. 50 cm by 50 cm to exact fit the Filter Frame.	UR
2	8	Handle	IRPC Public Co. Ltd.	GA800	Rated HB at 1.50 mm and all, part of fire enclosure to blocked 13.3cm by 3.2cm hole, thickness 1.6mm. (2)	UR
3	9	UV Lamp	Various	Various	TiO2 Photocatalytic UL Lamp, Ring Shape, 22 W with 4-pin connector which fits the Ballast. (4)	NR
3	10	Ballast	Keystone Technologies LLC	KTEB-1C22-1-TP-WS	120 V, 60 Hz, 0.33 A (4)	cULus
3	11	Circuit Protector	Tyco Electronics	W57 Series	Rated 5 A, 250 VAC	cURus
				W57-XB7A4A10-5		
4	12	Tubing	Various	Various	V-2, 135 °C, 37 cm length used.	UR

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. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.



1. Spacing - Primary circuit is part of approved approved fan; primary circuits, approximately 13.7 mm minimum spacing are maintained through air and over surfaces of insulating material between current-carrying parts of opposite polarity for parts not part of fan.
2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lockwashers, starwashers, or other mounting format that prevents turning of the component.
3. Corrosion Protection - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4. Accessibility of Live Parts - All uninsulated live parts in primary circuitry are housed within metal and non-metallic enclosure constructed with no openings other than those specifically described in Sections 4 and 5.
5. Grounding - All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the grounding lead of the power supply cord.
6. Polarized Connection - NA
7. Internal Wiring - Internal wiring is routed away from sharp or moving parts. Internal wiring leads terminating in soldered connections are made mechanically secure prior to soldering. Recognized Component separable (quick disconnect) connectors of the positive detent type, closed loop connectors, or other types specifically described in the text of this report are also acceptable as internal wiring terminals. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by plastic bushings or grommets. All wiring is minimum 18 AWG, with a minimum rating of 600V, 105°C.
8. Schematics - NA
9. Markings - The product is marked as follows: manufacturer's name, brand name, model number, date of manufacturer and electrical ratings.

The following markings in French are required: see Illustration no. 1.
10. Cautionary Markings - See Illustration no. 1.
11. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer.

7.0 Illustrations

Illustration 1 - Marking Label



8.0 Test Summary			
Evaluation Period	04/12 to 04/22, 04/26/ to 05/02 and 07/02/2013		Project No. G101134100
Sample Rec. Date	15-Apr-2013, 25-Apr-2013	Condition Prototype	Sample ID. ATL1304151002-001 to 004; ATL1304251532-001
Test Location	1950 Evergreen Blvd., Suite 100, Duluth, GA, 30096, USA		
Test Procedure	Testing Lab		
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.			
The following tests were performed:			
Test Description	UL 507, Ninth Edition, Rev. Rev. June 18, 2012 Clause	CSA C22.2 No. 113-12 Clause	
Leakage Current Test	32	6.8	
Continuity of Grounding Circuit Test	33	5.17	
Input Test	35	6.3	
Temperature Test	36	6.4	
Abnormal Temperature	--	6.11	
Dielectric Voltage Withstand Test	37	6.5	
Humidity Conditioning Test	41	6.3.3	
Strain Relief Test	42	6.9	
Push Back Relief Test	44	6.28	
Impact Test (Enclosure0	--	6.29	
Stability Test	54	--	
Evaluation Period	6/25/2014	Project No.	101134100SVN1A
Due to previous testing performed and reported above, no additional testing was necessary for Standard for Safety for Electric Fans, UL 507 Ninth Edition, Dated December 13, 1999 Revised October 9, 2013 Standard for Safety for Fans and ventilators, C22.2 No. 113-12, Dated August 2012 Revised October 1, 2012			
Evaluation Period	12/7/2016	Project No.	G102824462CRT
Due to previous testing performed and reported above, no additional testing was necessary for Electric Fans [UL 507:1999 Ed.9 +R:28Oct2014] and Fans and Ventilators [CSA C22.2#113:2015 Ed.10] SUN's.			
Evaluation Period	4/27/2018	Project No.	G103486920SVN
Due to previous testing performed and reported above no additional testing was necessary for Electric Fans <Expires: 03Dec2018> [UL 507:1999 Ed.9+R:04Aug2015. Fans And Ventilators [CSA C22.2#113:2015 Ed.10+U1].			
8.1 Signatures			
A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.			
Completed by:	D. Robb	Reviewed by:	A. Sharma
Title:	Engineer	Title:	Reviewer
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	International Ozone Technologies Group, Inc.
Address	1100 SW 10th. Street Suite J Delray Beach, Florida 33444
Country	USA
Product	Hydroxyl Generator

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	

ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	

ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	

ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

For Canadian standards, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.

The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to:

Intertek Testing Services NA Inc.
ETL Component Evaluation Center
45000 Helm Street, Suite 150
Plymouth Twp., MI 48170 USA
Attn: Component Evaluation Center

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

- Dielectric Voltage Withstand Test
- Grounding Continuity Test

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

- 1 - a voltmeter in the primary circuit;
- 2 - a selector switch marked to indicate the test potential; or
- 3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.

In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this Report.	1000 V	60 s
	or	
	1200 V	1 s

11.2 Grounding Continuity Test



Method

Each product listed below shall be subjected to a test to determine that there is continuity between accessible dead-metal parts of the product and the grounding pin or blade of the attachment plug.

If all accessible dead metal is connected, only a single test need be performed. A visual or audible device (ohmmeter, buzzer, etc.) may be used to indicate grounding continuity.

Products Requiring Grounding Continuity Test:

All products covered by this Report.

12.0 Revision Summary				
The following changes are in compliance with the declaration of Section 8.1:				
Date/ Proj # Site ID	Project Handler/ Reviewer	Section	Item	Description of Change
19-Aug-2013	G. Yu	4.0	2	Added an additional model name "M-20S" for the existing fan for clarity during inspections.
G101134100ATL	P. Mason			
25-Jun-2014	D. Robb	1.0	--	Administrative change to update standard UL 507 From: UL Standard for Safety Electric Fans UL 507 Issue: 1999/12/13 Ed: 9 Rev: 2012/06/18 To: Standard for Safety for Electric Fans, UL 507 Ninth Edition, Dated December 13, 1999 Revised October 9, 2013 and standard CSA C22.2 No.113 From: Safety standard for Fans and Ventilators CSA-C22.2 No. 113-12 issued 2012/08/01 Ed: 9 To: Standard for Safety for Fans and ventilators, C22.2 No. 113-12, Dated August 2012 Revised October 1, 2012. Product listed is not affected.
101134100SVN1A	J. Pierce	8.0	--	Added new test summary.
		8.1	--	Added new signatures.
7-Dec-2016	K. Hinshaw	1.0	--	UL SUN update from "Standard for Safety for Electric Fans, UL 507 Ninth Edition, Dated December 13, 1999 Revised October 9, 2013" to: "Electric Fans [UL 507:1999 Ed.9 +R:28Oct2014]"
G102824462CRT	R. Ransom	1.0	--	CSA SUN update from "Standard for Safety for Fans and ventilators, C22.2 No. 113-12, Dated August 2012 Revised October 1, 2012" to: "Fans and Ventilators [CSA C22.2#113:2015 Ed.10]"
		4.0	3	Added "with molded on 5-15P attachment plug."
		8.0	--	Added new Test Summary.
		8.1	--	Updated signatures from "Robb/Pierce" to "Hinshaw/Ransom"
27-Apr-2018	 D. Robb	1.0	-	Technical change to update standard CSA C22.2#113 From: Fans and Ventilators [CSA C22.2#113:2015 Ed.10]. To: Fans And Ventilators [CSA C22.2#113:2015 Ed.10+U1]. Product listed is not affected.
G103486920SVN	 A. Sharma			Administrative change to update standard UL 507 From: Electric Fans [UL 507:1999 Ed.9 +R:28Oct2014]. To: Electric Fans <Expires: 03Dec2018> [UL 507:1999 Ed.9+R:04Aug2015]. Product listed is not affected.
		7.0	1	Removed outdated ETL logo.
		8.0	-	Added new test block.
		8.1	-	Added new signatures.