

MDG

User Guide



the Fan

Digital Fan, Model 1.00

(Revision A/d, November 2016, © MDG Fog Generators Ltd)

CE

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USER GUIDE

Congratulations on your purchase of the **MDG theFan™**. These original instructions describes the use of this digital Fan.

MDG manufactures fog generators since 1980. Our fog systems have been used in numerous applications including firefighters' training, the motion picture industry, theatres, theme parks, flight simulators, and also educational, worship and touring venues throughout the world. With proper care, we are confident your **MDG theFan™** will provide you with years of quality service.

HOW TO READ THIS USER GUIDE



WARNING and **CAUTION** are used throughout this manual to forewarn of possible danger to the users if precautions are not observed. As is customary in military and some commercial manuals, the precautions will always precede the steps to which it refers so that the users will be aware of any potential danger before performing the task.



WARNING and **CAUTION** labels are key equipment parts. Do not remove, change or cover these labels. If the labels are not readable, contact **MDG Fog Generators Ltd.**

BOLD TEXT: Contains important information, cautionary steps and warnings that should be read and understood prior to installing the unit.

BOLD and ITALIC TEXT: *pertains to product names and trademarks, proprietary names and products made by MDG Fog Generators Ltd.*

Please read the following instructions carefully and completely before installing, and using this digital fan.

QUALIFIED PERSONNEL

MDG Fog Generators Ltd systems will perform as designed but are to be installed, operated, and serviced by trained personnel. Installation, operation and servicing of this equipment require trained personnel with technical skills in electrical theory and fluid dynamics.



CAUTION

This equipment must always be disconnected from its power source during service or when replacing parts.

This manual is not a substitute for qualified technicians or local authorities on electricity, gas, fluid, or engineering, and therefore does not supersede, amend or void local safety installation practices. Please refer to local authorities for further information.



CAUTION

This equipment is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



CAUTION

Children should be supervised to ensure that they do not play with the appliance

NEED A LITTLE HELP?

At MDG, we try our best to provide you with complete information for our products. Despite it all, sometimes, a little more is required due to the specifics of your project and installation. We're looking forward to go that extra mile for you.

Contact us:

By Phone: +1-800-663-3020 +1-514-272-6040

By Fax: +1-514-722-3229

By e-mail: info@mdgfog.com

On the Web: www.mdgfog.com

By Mail: **MDG Fog Generators Ltd.**
10301, Avenue Pelletier
Montréal, QC, H1H 3R2
Canada

Please note that our business hours are from **08h30 to 12h00** and from **12h30 to 17h00** (8:30AM to 12:00PM and 12:30PM 5:00PM), **Eastern (GMT -5)**.

COPYRIGHT NOTICE

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BASIC DESCRIPTION

The MDG **theFan™** is a revolutionary digital fan. It is the best complement to any atmospheric effect!

Low power consumption – only 100W – with controllable velocity via DMX or RDM, this ultra-compact stage fan can be used anywhere due to its universal switching power supply (100V-250V, 50/60 Hz), either sitting on stage or hung from underneath your trussing (Omega bracket, metric and imperial-size clamp sockets).

Its simple and efficient multi-level User Interface, accessible from the backlit LCD panel, allows for a gradual switch between local mode and most common protocols: DMX-512-A USITT and RDM ANSI E1.20.



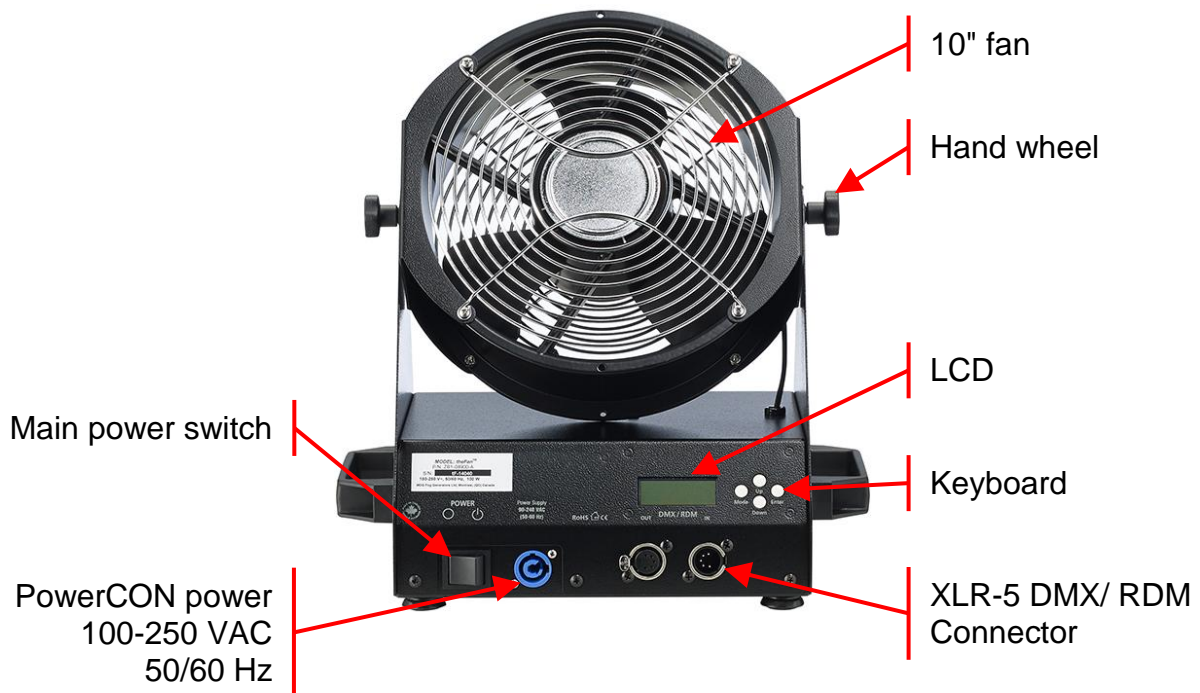
WARNING

- When not in use **ALWAYS** switch off the power switch located on the front panel, or **unplug** the appliance.
- Never install above people.

WORKING WITH THEFAN™

The MDG **theFan™** is quite easy to operate and require no preventive maintenance. It should only be used indoor.

It can be suspended from a truss via a Omega clamp or a Half Cheeseborough clamp, or it can be simply placed on a horizontal surface on its vibration feet.

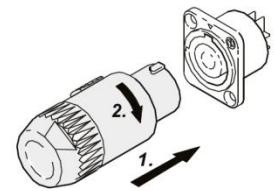


Connect the data wiring (DMX or RDM), if you want to use remote control

Plug the PowerCON connector (100–250 VAC, 50/60 Hz, 100 W)

Block the hand wheels

Switch On the power



The MDG **theFan™** will display during two (2) seconds, the following message:

theFan by MDG
V: x.xx – F: y.yyy

where 'x.xx' is the version of your theFAN, and 'y.yyy' is the firmware of the program.

The program will load the configuration parameters, saved in the EEPROM memory. These parameters are saved each time the program is modifying them (User or Configuration).

Finally, the screen will display the menu.

THE KEYBOARD

The user can scroll in the menu by using the buttons of the keyboard:

'Down' moves the selection to the next menu, or decrease a data value.

- When at the end of a list, the program moves back to the first item of this list.
- If the selected menu is a **data input menu**, keeping this key pressed will decrease the value more rapidly.
- In a **data input menu**, when the value reaches its minimum value, the program continues with the maximum value.

'Up' moves the selection to the previous menu, or increase a data value.

- If the item is the first of a menu, the program moves the selection to the last item of that menu.
- If the selected menu is a **data input menu**, keeping this key pressed will increase the value more rapidly.
- In a **data input menu**, when the value reaches its maximum value, the program continues with the minimum value.

'Mode' moves the last selection to the upper level

- This key has no effect in the first level.
- In a **data input menu**, pressing this key permit to exit the menu without changing any value (escape).

'Enter' confirms a selection or data value.

- This key has the same effect that the key '→', when scrolling through the menus.
- In a **toggle menu**, this key confirms the selection and moves the cursor back to the upper level menu.
- In a **data input menu**, this key confirms the value of the data and moves the cursor back to the upper level menu.

LCD SAVER

The program can automatically switch off the LCD screen (menu display and backlight) if there is no keyboard activity. The user can choose between a 30 second and a 2 minute delay in the Settings Menu (« SETTINGS ▶ LCD SAVER »).

When the LCD Saver is activated, just press any key of the keyboard to re-activate the LCD screen functions.

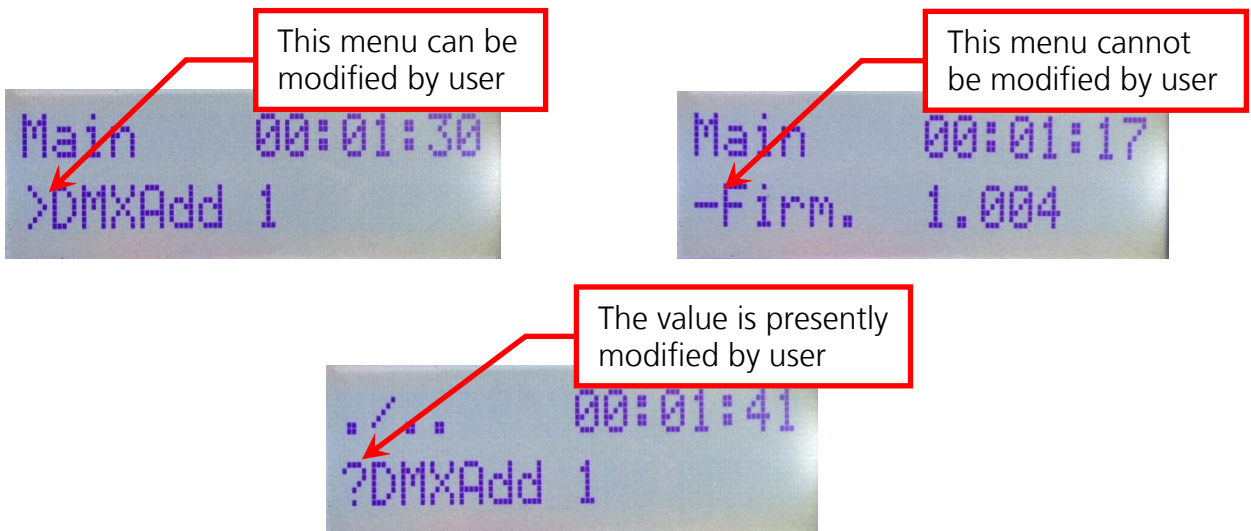
The user can also deactivate the LCD saver by selecting the OFF option.

THE MENU

The tree menu architecture is explained below. Items highlighted in blue are state menu (⌂), and those highlighted in yellow are control menu (>).

The menu is refreshed every second.

- Items preceded by the « - » character are state messages or parameters, updated by the program. The user cannot modify them.
- Items preceded by the « > » character are control parameters.
- The user, within specific ranges or choices, can **MODIFY** them. In user input mode, the value or the choice is preceded with the « ? » character.



Since the MDG **theFan™** has two personalities, the Menu tree varies:

Mode 1 Channel

Output	xxx	Fan Output (0 - 255) - < 26 (10%), the Output is off - ≥ 26 (10%), proportional Output
--------	-----	--

Mode 2 Channels

Fan	OFF/ON	Start or stop the fan
Output	xxx	Fan Output (0 - 255), from low to high speed

DMXAdd	YYY	DMX Address (1 to 511) Can be set by RDM
Perso.	1 CH/2 CH	Personality (Can be set by RDM)
Comm.	----	Communication toggle. The MDG theFan™ is: - controlled by DMX/RDM if a signal is present, or locally if there is no signal - controlled by the keyboard ONLY - controlled by DMX/RDM ONLY
Firm.	x.xx	Program Firmware
DevLab	YYYYYY	RDM Device Name (Can only be set by RDM)
DevUID	YYYYYY	RDM Device ID
Saver	----	LCD Saver (Can be set by RDM) 30 s - LCD saver is activated after 30 s 2 mn - LCD saver is activated after 2 min OFF - LCD Saver is Off
R. Time	YYYYYY	Run Times (Decimal hours)

OPERATING INSTRUCTIONS

The MDG **theFan™** can be controlled either locally, with the keyboard, via DMX (see *DMX control and RDM Control*). This paragraph focuses on **local control**.

Starting Procedures

Powered up, the control program configures the Input/Output and loads the configuration parameters, saved in the EEPROM memory.

At this point, the MDG **theFan™** switches to stand-by mode, and most of the electronic controls are off.

Mode 1 Channel

Scroll to the **Output** menu.

- Any value between **0 (0%)** and **26 (10%)** will stop the fan.
- Any value above **26 (10%)** will start the fan. The program is written to generate a **proportional air flow** between **26 (10%)** and **255 (100%)**.

Mode 2 Channels

Scroll to the **Fan** menu.

- Set the Fan menu to On to start the MDG **theFan™**. The fan will start to blow immediately.
- Set the **Fan** menu to **Off** to stop the MDG **theFan™**.

Scroll down to the **Output** menu.

- Set any value between **0 (0%)** and **255 (100%)**.
- The program is written to generate a **proportional air flow** between **0 (0%, low flow)** and **255 (100%, high flow)**.

DMX CONTROL

The MDG **theFan™** can be controlled via a DMX512-A USITT standard protocol.



WARNING

Activating the «**DMX**» mode («Comm. ▶ **DMX**»), controls the MDG **theFan™** only by DMX signal. If the DMX wire is **unplugged** or DMX **signal is lost**, the MDG **theFan™** will stop.

Activating the «**AUTO**» mode («Comm. ▶ **AUTO**»), controls MDG **theFan™** by DMX, only if there is a signal. If the DMX wire is **unplugged** or DMX **signal is lost**, the **MDG theFan™** keeps the last DMX values.



WARNING

In «**AUTO Mode**», DMX commands always take precedence over Local commands.

The MDG **theFan™** provides a simple way to check if there is DMX signal:



The user can change the DMX Start Address in the Interface Menu («DMX Add»), and choose any value between 1 and 511 (512, last DMX channel).

The MDG **theFan** has two personalities:

Mode 1 Channel

1. Fan Off < 10% (26)
- Fan Speed, from low (10%) to high (100%)

Mode 2 Channels

1. Fan Off < 50 % (128) ≤ Fan On
2. Fan Speed, from low (0%) to high (100%)

These channels have the same behaviour that the menus of the local interface (see **Operating instructions** paragraph).

RDM CONTROL

The MDG **theFan™** can be controlled via a RDM ANSI E1.20 protocol, an intelligent bi-directional communication utilizing the DMX512 data link.

RDM permits a console or other controlling device to discover and then configure, monitor, and manage intermediate and end-devices connected through a DMX512 network. RDM provides for intelligent control of devices on a DMX512 network, which has not been previously available outside of proprietary networks

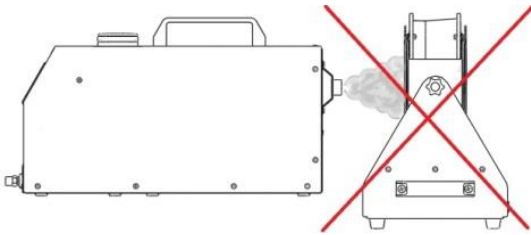
RDM Control has the same functionalities than the DMX Control (see *DMX Control*) with bi-directional functions allowing the user to read or write specific functions.

The RDM supported parameters implemented in the MDG *theFan™* are summarized in the following table.

RDM Parameter ID's	Value	GET Allowed	SET Allowed	Comments
DISC_UNIQUE_BRANCH	0x0001			
DISC_MUTE	0x0002			
DISC_UN_MUTE	0x0003			
QUEUED_MESSAGE	0x0020	✓		
STATUS_MESSAGES	0x0030	✓		
SUPPORTED_PARAMETERS	0x0050	✓		
PARAMETER_DESCRIPTION	0x0051	✓		
DEVICE_INFO	0x0060	✓		
PRODUCT_DETAIL_ID_LIST	0x0070	✓		Air Mover
DEVICE_MODEL_DESCRIPTION	0x0080	✓		Atmospheric Other
MANUFACTURER_LABEL	0x0081	✓		MDG Fog Generators Ltd
DEVICE_LABEL	0x0082	✓	✓	
SOFTWARE_VERSION_LABEL	0x00C0	✓		
DMX_PERSONALITY	0x00E0	✓	✓	2
DMX_PERSONALITY_DESCRIPTION	0x00E1	✓		theFan (x1), Version 1.00 theFan (x2), Version 1.00
DMX_START_ADDRESS	0x00F0	✓	✓	1 to 512
SLOT_INFO	0x0120	✓		
SLOT_DESCRIPTION	0x0121	✓		
DEFAULT_SLOT_VALUE	0x0122	✓		
IDENTIFY_DEVICE	0x1000	✓	✓	LCD flashes
MDG_LCD_SAVER	0x8004	✓	✓	Unsigned Byte (0=30 s, 1=2 min, 2=Off)
MDG_COMM	0x8005	✓	✓	Unsigned Byte (0=AUTO, 1=LOCAL, 2=DMX)

Table 1: RDM Supported Parameters.

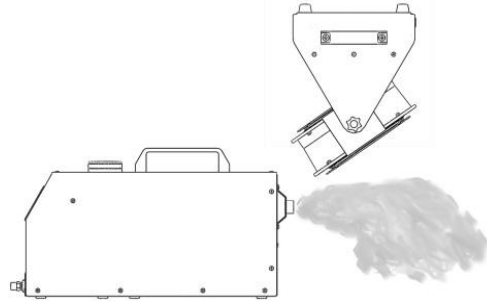
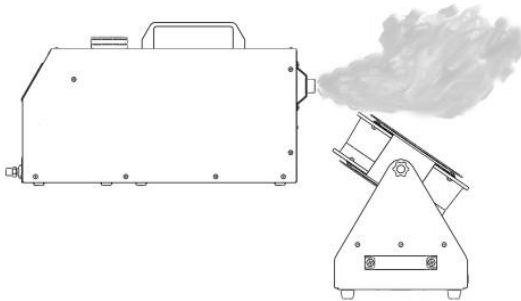
Using theFan with a fog generator



Do not place the MDG **theFan**™ in front of a fog generator with the fog flowing through the fan.

This will cause condensation and will degrade the quality of the fog.

Always blows the fog...



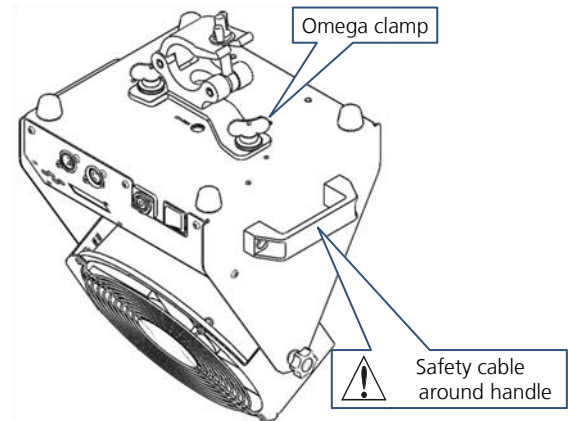
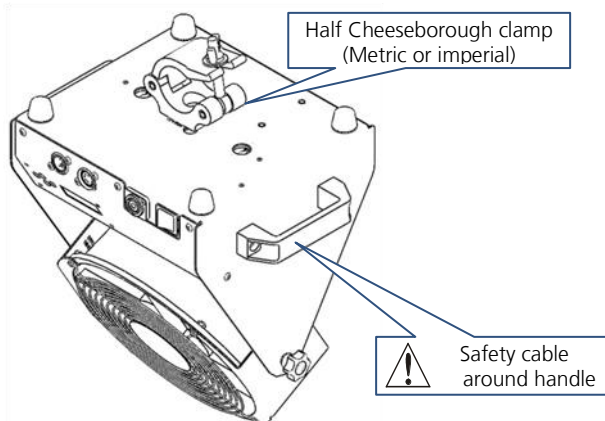
RIGGING THEFAN

Verify that the structure can support at least 10 times the total weight of the complete fixtures.

Verify that Cheeseborough bolts are properly tightened.

Any quarter-turn fasteners used (omega clamp) must be turned a full quarter turn clockwise to lock them.

Always use a safety cable (around one of the handle) that can hold at least 10 times the weight of the MDG **theFan**.



WARNING

The fan is to be installed by qualified installer. Installer is responsible for mounting properly and securely according to manual

TROUBLESHOOTING

Contact MDG, if symptoms are not listed, or if the provided solutions fail to resolve the issue.

Table 2: Symptoms and Solutions

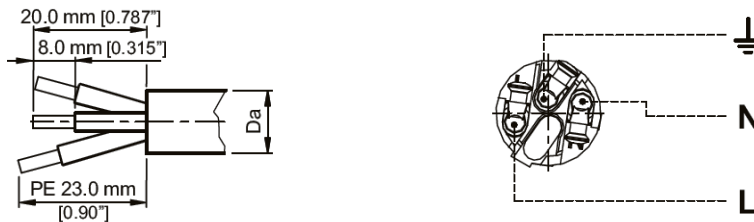
Symptoms	Probable Causes and Suggested Actions
The MDG theFan™ does not switch on	<ul style="list-style-type: none"> • Verify that AC power cord is properly connected on both ends. • Check the fuse or the breakers of your VAC entry. The wattage of the MDG theFAN is around 100 W. • Verify the AC voltage on the power cord. 100-250 VAC. • Switch ON the Main
The MDG theFan™ does not blow	<ul style="list-style-type: none"> • Verify the personality (1 or 2 channels) The Output channel must be over 10% for the 1 Channel personality The Fan channel must be ON for the 2 Channels personality • Verify the communication mode «Comm.» You cannot control the MDG theFAN locally if you are in DMX mode, and vice-versa. • If you are in DMX mode: <ul style="list-style-type: none"> • Verify the cable • Verify the DMX address • Verify the personality • Verify the channels
LCD displays strange letters or does not seem to work normally	<p>In some conditions (Radio transmission or static discharges), the LCD may lose its settings. The MDG theFAN is still working, but the LCD displays strange or no characters:</p> <ul style="list-style-type: none"> • Wait 30 seconds without touching any key, • Press any key <p>If the menu does not reappear, restart the MDG theFAN. Please contact the Service if this problem persists.</p>

TECHNICAL DATASHEET

ELECTRICAL REQUIREMENTS

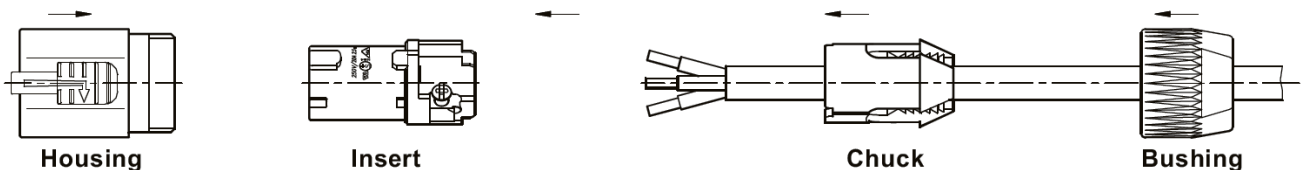
If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer, or its distributing / service agent.

- Operating voltage: 100-250 VAC, single phase. 50/60 Hz, 100 W.
- Ground / Earth connection **REQUIRED**.
- Cable Preparation



$$Da = 9.5 [0.374\"] - 15.0 [0.59\"]$$

- Cable Assembly



1. Put bushing and chuck onto the cable
2. Prepare cable as shown above
3. Insert the wire into the terminals and fasten the clamping device by a flat screw driver
4. Push insert and chuck into housing (pay attention to the guiding keyway!)
5. Fasten bushing by means of a fork wrench $\frac{3}{4}''$, min. Torque 2.5 Nm (1.8 lb-ft)

CABLE REQUIREMENTS

- Power input: 1 mm (18 AWG), 3-wire, 90 °C copper, CE UL/CSA compliant cable
- DMX/RDM data: Dual twisted pair 0.75 mm (22 AWG) + shield, XLR-5 type connector, CE UL/CSA compliant cable.

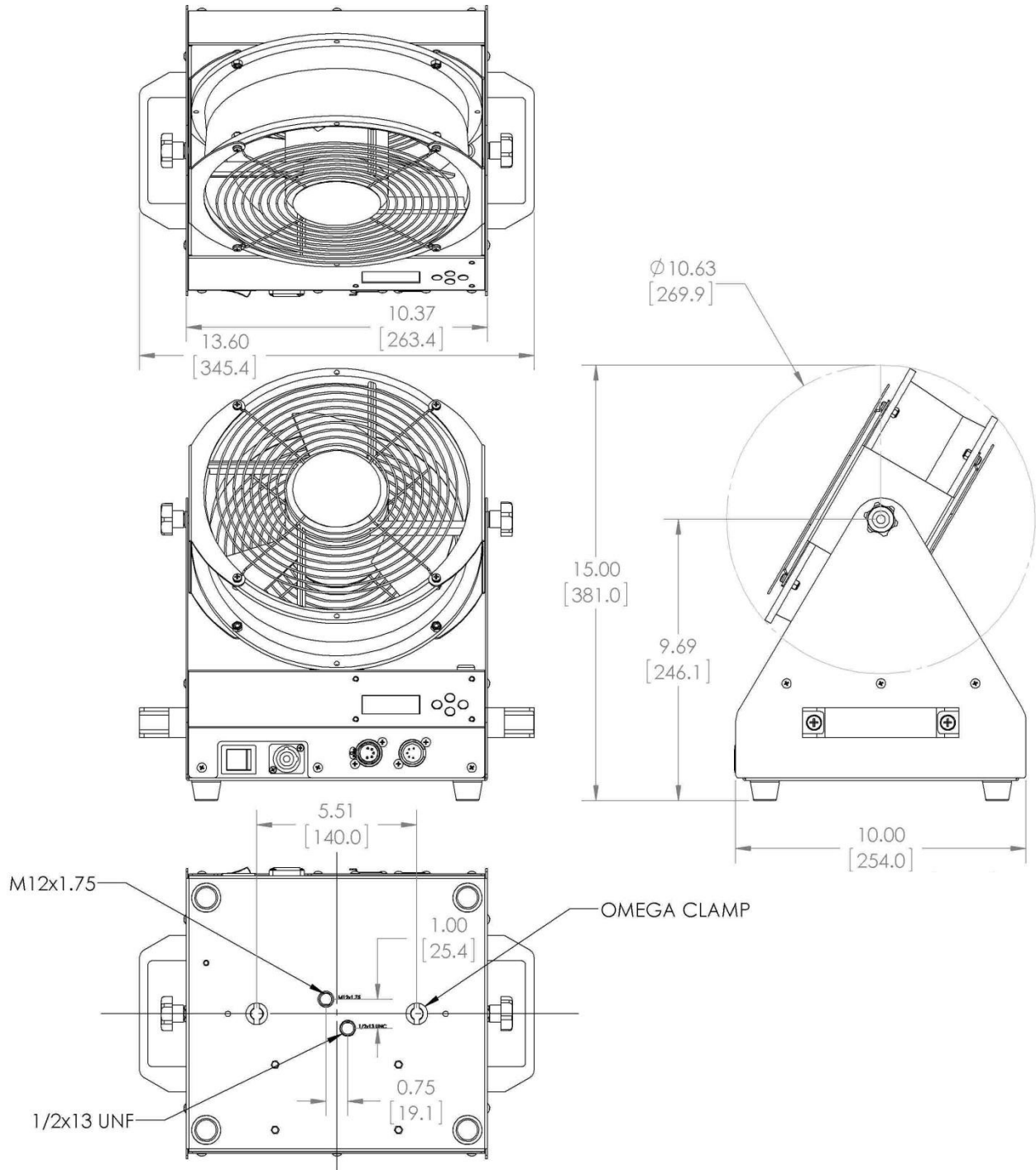
ENVIRONMENTAL REQUIREMENTS

- Indoor use.
- Dry room conditions, 90 % relative humidity @ 50 °C (122 °F) , non-condensing
- 0 °C to 50 °C (32 °F to 122 °F) operating temperature
- Dust-free space
- Storage conditions: -40 °C to 60 °C (-40 °F to 160 °F), 80 % relative humidity @ 60 °C (140 °F).

MECHANICAL DATA

- 3-bladed fan, 270° tilt
- Variable speed, Max airflow: 850 CFM
- Noise Level: 64db @ full speed
- Omega clamp socket, M12x1.75 metric bolt hole, 1/2"x13 imperial bolt hole
- 2 handles
- Total net weight: 6.8 kg (15 lbs)

INSTALLATION DIMENSIONS



WARRANTY

When installed and operated as recommended, **MDG Fog Generators Ltd** guarantees that this product will remain free of defects in parts and labour for a period of two (2) years from the moment it is delivered. This warranty does not apply if the product has been modified without our written authorization, or repaired without a written authorization from MDG or one of its authorized service centres, or if it is used under conditions for which it has not been designed. **MDG Fog Generators Ltd** is not responsible for any damages resulting from a faulty installation or from abusive use of the product.

If any device is found unsatisfactory under the terms of this warranty, **MDG Fog Generators Ltd** will repair or replace it free of all charges, except transportation costs.

This warranty applies only to the product itself and **MDG Fog Generators Ltd** declines responsibility for any losses, costs, or damages resulting from its use.

MDG Fog Generators Ltd shall not be liable for consequential damage in case of any failure to meet the conditions of any warranty or shipping schedule, nor will claims for labour, loss of profits, repairs, or other expenses incidental to replacement be allowed.

The repair or replacement of the product, by **MDG Fog Generators Ltd** shall constitute fulfilment of all obligations to the purchaser.

No other guarantees or warranties, expressed or implied, are made by **MDG Fog Generators Ltd** in connection with its products. This warranty is non-transferable and applies to the original purchaser only.

To obtain satisfaction under the terms of this warranty, contact your local sales office, and we will be pleased to help you.

DECLARATION OF CONFORMITY



EC DECLARATION OF CONFORMITY

According to IEC/ISO 17050

We, **MDG Fog Generators Ltd**
10301 ave Pelletier
Montreal, QC, Canada H1H 3R2

declare under our sole responsibility, that the product including options or accessories

Fan model: theFAN

to which this declaration relates, is in conformity with the following standards:

IEC 60335-2-80:2002 (Second Edition) + A1:2004 +A2:2008 in conj. With
IEC 60335-1:2010 (Fifth Edition)
Household and similar electrical appliances – Safety - Part 1: General Requirement
Household and similar electrical appliances – Safety - Part 2: Particular requirements for fans

IEC 61000-6-1:2005, EN 61000-6-3:2007
CISPR 16-2-3, CISPR 16-2-1, CISPR 16-1-2, CISPR 22, EN 61000-3-2, EN 61000-3-3,
EN 61000-4-2, EN 61000-4-3, EN 6100-4-4, EN 61000-4-5, EN 61000-4-6,
IEC 61000-4-8, IEC 61000-4-11

By conformance with the standards referenced, the product follows the provisions of the directives listed below:

2014/35/EU Low Voltage Directive
2014/30/EU EMC Directive
2006/42/EC Machinery Directive
2011/65/EU RoHS2 Directive

Martin Michaud, President
September 24, 2015
Montreal, Canada

CERTIFICATE OF COMPLIANCE

- CSA SPE-1000 for Serial Number below « **tf-15059** »
- cQPSus certified for Serial Number above « **tf-15060** »



QPS Evaluation Services Inc
 Testing, Certification and Field Evaluation Body
 Accredited in Canada, the USA, and Internationally

File
LR1268

CERTIFICATE OF COMPLIANCE (ISO TYPE 3 CERTIFICATION SYSTEM)	
Issued to	MDG Fog Generators Ltd.
Address	10301 av, Pelletier Montreal, Quebec H1H 3R2, Canada
Project Number	LR1268-1
Product	Commercial Fog Generator and Commercial Fan
Model Number	TheONE and theFan
Ratings	theONE: 100-250V, 50/60Hz, 1100-1480W theFan: 100-250V, 50/60Hz, 100W
Applicable Standards	<ul style="list-style-type: none"> • CAN/CSA C22.2 NO.60335-1-11: Safety of Household and Similar Appliances - Part 1: General Requirements - First Edition • UL 60335-1: UL Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements - Fifth Edition
Factory/Manufacturing Location	MDG Fog Generators Ltd. 10301 av, Pelletier Montreal, Quebec H1H 3R2, Canada
<p>Statement of Compliance: The product(s) identified in this Certificate and described in the Report covered under the above referenced project number have been investigated and found to be in compliance with the relevant requirements of the above referenced standard(s). As such, they are eligible to bear the QPS Certification Mark shown below, in accordance with the provisions of QPS's Service Agreement.</p>	
Issued By: Steve Siu	
Signature:	<i>Steve Siu</i>
	Date: September 24, 2015

