Warranty

When installed and operated as recommended, MDG Fog Generators Ltd. Guarantees that this product will remain free of defects in parts and labor for a period of five (5) 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 is authorized service center, or if it is used under conditions for which it has not been designed, or if a none MDG Fog Fluid has been used. 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 labor, 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 fulfillment 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 nontransferable 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.

MDG

Haze Generator

ATMOSPHERE APS™ Series

Fog Generator

MAX APS™ Series

User Guide

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MADE IN CANADA
FABRIQUÉ AU CANADA

INTRODUCTION

Congratulations! You are now in possession of a MDG **MAX** Fog Generator series and/or a MDG **ATMOSPHERE** Haze Generator series.

We hope it will bring you long hours of satisfaction. This product is available in many versions to satisfy the needs of our professional users.

Please read the following instructions carefully and completely before filling your generator with fog fluid and turning it on.

BASIC DESCRIPTIONS

The MDG MAX™ and ATMOSPHERE™ Series as well as their H.O. / TOURING™ Versions were designed with safety and reliability in mind. They are capable of generating pure white fog or haze for as long as you want (100% duty cycle). Those generators are also equipped, as a standard feature, with the Automatic Purging System™ (APS ™). This system purges the heating module(s) after the first heating cycle and after every emission of fog preventing residual build up and clogging.

The MDG MAX™ and MAX™ H.O. / TOURING™ Series are variable output Fog Generators capable of generating large volumes of very dense fog in a short period of time. They are one of the quietest units on the market.

The MDG ATMOSPHERE™ and ATMOSPHERE™ H.O. / TOURING Series are non-stop haze generators capable of creating the finest and almost invisible mist. They highly emphasize laser and light beams. They also feature variable output.

At the heart of the MDG Generators is an electronic assembly that keeps the heating module(s) at a very stable temperature which integrates three types of fail-safe systems. Those three types of electronic fail-safe systems are designed to protect against over and under-heating conditions and, against component failure.

The temperature is maintained within a narrow margin (the HEAT yellow LED turn on & off from time to time to indicate the control of temperature) otherwise, an error condition will result and the Fog Generator will shut down. *When one of the safety systems is activated, the HEAT yellow LED will start blinking indicating the fail mode.* Shut down the main power switch, wait 3 to 4 minutes and retry the generator. If the fail mode still appears, unplug your generator and return it to an authorized service center for verification.

The FOG ON signal (green LED) can be applied to produce fog / haze for as long as the ready level is reached and all other control parameters are within specifications. When the "FOG ON" signal is removed, the APS™ cycle is automatically initiated to clear the heating module(s). Never remove the power to a generator while it is producing fog – See the shut down procedures.

The 100% Duty cycle is continuous with specified line voltage, and will degrade with line voltage loss. If that is the case, it can be compensated by reducing maximum operating pressure.

SHUT DOWN PROCEDURE

A Generator must never be shut down while making Fog. To power off a Generator the following sequence must be observed:

- Always turn off the fog emission,
- Wait a minimum of 1 minute for the purge cycle to complete, if possible avoid purging at very low pressure which reduces the efficiency of the Automatic Purging System™. The recommended minimum purging pressure is 10 psi.
- Power of the Fog Generator (by switching off the "MAIN POWER SWITCH" or by removing the MAIN POWER.

The CO2 or N2 gases are used as a propellant when generating Fog / Haze. They are also used for purging the heating module(s) when the APS™ cycle is initiated. Output pressure can be adjusted by mean of the CO2 or N2 gas regulator. The ideal range for MAX™ Series is 10 to 40 psi. and the H.O. / TOURING™ Version is 10 to 60 psi., for the ATMOSPHERE™ Series it is 5 to 20 psi. and the H.O. / TOURING™ Version is 5 to 30 psi.

FILLING OF THE FLUID RESERVOIR

WARNING – Use only MDG Neutral Fog Fluid. Not doing so, will void the warranty and may damage the generator.
CAUTION – DISCONNECT UNIT BEFORE ADDING FOG FLUID

To fill the fluid reservoir, unscrew the brass closure and pour the MDG Neutral Fog Fluid until it reaches the inside bottom of the opening. Avoid overfilling, screw back the closure and make sure it is tightened.

OPERATING INSTRUCTIONS

The MDG Fog Generators are quite easy to operate and require no preventive maintenance. They are supplied with a removable remote control. A DMX Interface can be bought as an option.

When the MAIN POWER (115 or 230Vac) and the MAIN POWER SWITCH is applied, the generator is placed in stand-by mode. When in stand-by mode, most of the electronic controls are off (except for the three types of fail-safe systems), waiting for the ON switch on the remote control to be activated.

When the ON switch is pressed, the red LED indicating that the unit is working will light up, as well as the yellow LED call HEAT, indicating the start of the heating cycle which will last approximately 10 minutes. When the temperature reaches a pre-adjusted level called the READY level (indicated by a green LED), the HEAT yellow LED will turn off. The Automatic Purging System™ (APS™) will be automatically initiated.

After the first purging cycle is completed (approx. time 30 to 60 sec.) the generator is ready to produce fog. The amount of the fog / haze emission can be controlled by adjusting the working pressure of the CO2 gas regulator.

When an overheating condition is detected, or if the internal temperature reaches 60°C (140°F), a safety circuit is triggered. This circuit removes the power to the heating elements, preventing hazardous conditions.

When an under-heating condition occurs, the generator will stop producing fog until the temperature of the heating module is back within parameters.

SETTING UP

WARNING:

- When not in use ALWAYS switch off the power switch located on the back panel, or unplug the generator.
- Never install above people.
- These Fog Generators must be installed in an upright position on a stable and level surface.
- Do not operate at less than 2 meters (6.5 ft.) from people.
- Use in a well ventilated area.
- Maximum Operating Pressure: **ATMOSPHERE** [APS] 138 kPa / 1.38 bar / 20 psi, **ATMOSPHERE** [APS] **H.O. / TOURING** 207 kPa / 2.07 bar / 30 psi, **MAX 3000** [APS] & **MAX 5000** [APS] 276 kPa / 2.76 bar / 40 psi, and **MAX 5000** [APS] **H.O. / TOURING** 414 kPa / 4.14 bar / 60 psi,

GAS REQUIREMENTS

WARNING – In the European Community the gas cylinder and regulator must be compliant with the Pressure Vessel Directive. In North America the gas cylinder must be manufactured, inspected and tested in accordance with U.S. Department of Transportation (DOT) 3AL and Transport Canada (TC) 3ALM requirements.

WARNING – The CO2 gas regulator and the N2 regulator do not use the same thread to mate with the cylinder. Make sure to use a CO2 gas regulator with the CO2 gas cylinder and to use a N2 gas regulator with the N2 cylinder.

Attention: Only use industrial grade Carbon Dioxide gas (CO2) or industrial grade Nitrogen gas (N2). ***Caution:*** To prevent gas leak and drop of pressure, ALWAYS use a neoprene washer when connecting the regulator to the cylinder

TECHNICAL SPECIFICATIONS

	Atmosphere[APS]		Atmosphere[APS] H.O. / Touring		Max 3000[APS]		Max 5000[APS]		Max 5000[APS] H.O. / Touring
Electrical									
Voltage - VAC	115	230	115	230	115	230	115	230	230
Frequency - Hz	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60
NB of phase	1	1	1	1	1	1	1	1	1
Watts	715	715	1415	1415	715	715	1415	1415	2815
Amp.	6,2	3,2	12,3	6,2	6,2	3,2	12,3	6,2	12,3
FLUID									
Type – M.S.D.S. available on request	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral	MDG Neutral
Reservoir size – litre (US gal.)	2,5 (0.66)	2,5 (0.66)	6,5 (1.72)	6,5 (1.72)	2,5 (0.66)	2,5 (0.66)	2,5 (0.66)	2,5 (0.66)	6,5 (1.72)
Consumption in litre (US oz) per hour									
@ 138 kPa / 1,38 bar / 20 psi	0,055 (1.85)	0,055 (1.85)			-		-	-	
@ 207 kPa / 2.07 bar / 30 psi			0,11 (3.7)	0,11 (3.7)					
@ 276 kPa / 2,76 bar / 40 psi	-	-	-	-	1 (34)	1 (34)	2,6 (88)	2,6 (88)	
@ 414 kPa / 4.14 bar / 60 psi	-	-	-	-	-	-	-	-	4,5 (120)
GAS									
Type (industrial grade quality)	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	CO_2 or N_2	N_2 Only
Consumption in Kg (Lb) per hour									
@ 138 kPa / 1,38 bar / 20 psi	0,18 (.4)	0,18 (.4)	-	-	-	-	-	-	-
@ 207 kPa / 2.07 bar / 30 psi	-	-	0,36 (0.8)	0,36 (0.8)	-	-	-	-	-
@ 276 kPa / 2,76 bar / 40 psi	-	-	-	-	0,97 (2.13)	0,97 (2.13)	2,25 (5)	2,25 (5)	-
@ 414 kPa / 4.14 bar / 60 psi	-	-	-	-	-	-	-	-	5 (11)
OUTPUT									
Fog volume in m^3 (ft^3) per min.									
@ 276 kPa / 2,76 bar / 40 psi	-	-	-	-	85 (3 000)	85 (3 000)	218 (7 680)	218 (7 680)	445 (15 750)
Total running time in hour									
@ 138 kPa / 1,38 bar / 20 psi	45	45	60	60	-	-	-	-	-
color	Pure white	Pure white	Pure white	Pure white	Pure white	Pure white	Pure white	Pure white	Pure white
Particule size in microns	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7	0,5 – 0,7