Instruction manual

Please read carefully before operating

Le Maitre

G300

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G300

Specifications

Model:	G300 Continuous Flow Smoke/Haze Micro-Processor Control Management		
Type:	Electrical, Thermal Fogging Machine Employing Aqueous Fluid System		
Size:	610 x 210 x 295 mm.		
Weight:	24 Kilos		
Power Rating:	110 Volt A.C.	50/60 Hz	2.2KW
	240 Volt A.C.	50/60 Hz	2.2KW
Facilities:	Selectable 'Haze' or Hi-Power 'G300' Mode Detachable Digital Display Remote Electronic Fluid Out Sensing 0-10 Volt Smoke/Flow Control Smoke/Flow Digital Machine Linking Flow /Smoke/Data Accept Switches		

Fluid Types

Hazing Mode:	C-Beam - Standard to Concentrated LSX - Standard Full Range of Smoke Fluids
Hi - Power G300 Mode	Standard, Long Lasting LSX.

NOTE: *Under NO circumstances should C-Beam Fluid be used when the machine is set in the G300 Mode.*

Operating Procedure

1 The G300 must only be connected to a mains supply capable of sustaining at least 2.5Kw, and be adequately earthed. The supply should be 'clean' and free of interference.

2 The Power to the G300 should be controlled by the Mains Power switch located on the rear panel.

3 Shortly after switching 'ON', the digital display on the remote panel will show a 50H or 60H. This is an automatic line frequency check which allows highly accurate timing features.

4 The Display unit will now start flashing 'HAZE'. This is a default setting. If C-beam fluid is to be used, then the machine should be allowed to continue without interruption. If the Hi-Power G300 mode of operation is required where 'normal' fluid will be used, then at this time of display flashing, the button marked 'G300 MODE' should be kept pressed. The display will change to read G300, until such time as this mode is recorded, and the machine continues in its start up procedure. The button can then be released.

5 If there is no fluid present, then at any stage during the following procedures, a warning 'FILL FLUID' will scroll across the digital display. Fluid must be refreshed, and after doing so, the mode of operation ('Haze' or 'G300') re-set.

Should fluid run out at any time during the use of the machine, then this re-setting of the characteristics will be necessary. This prevents the possible mistake of using C-Beam fluid in the G300 mode.

Note: Should 'Haze' mode be selected when the machine has been operating in the 'G300' mode, then it is possible that time will be required to allow the machine to adjust to the 'Haze' characteristics. This will be indicated by a flashing 'C' code in the Heat-Flash window of the remote control.

6 The Remote Display will now enter its standard phase. This indicates the 'Heating' power, the 'Flow' rate setting, and the 'Ready' status. At this stage the flow rate may be adjusted freely between minimum and maximum settings. (Upon entering a 'ready to operate' phase the maximum allowable flow rate will be automatically adjusted.)

7 The Timer controls are of an auto-display option, and will display immediately upon being adjusted, or if set to any position apart from the Interval being 'Off' will display approximately every 10 seconds.

The 'Interval' control (time between repeating smoke issues), allows the following selection:

'OFF'	–	No timer or time display
'1-SH'	–	Single issues upon smoke activation
00:10'	–	Timer selection in 10 second steps
'05:00'	–	to 5 minutes, then 30 second steps
'20:00'	–	to 20 minutes.

The 'Duration' control (time of actual smoke issue) allows the following selection:

'00.02'	–	Timer selection in 2 second steps
'00.30'	–	to 30 Seconds then 30 second steps
'08.00'	–	to 8 Minutes.

Note that when the automatic display of the timer settings occurs, the Interval time will have a central colon (:) whereas the Duration time will have a central point (.) displayed.

Operating Procedure *continued*

8 As the machine heats up to its operating temperature, if the flow setting has been set to maximum, there will be a point when this will re-adjust to a much lower value. It is at this point that the machine has reached its lowest 'ready' point. A flashing 'H' or 'G' will appear in the 'Ready Flash' window, indicating that the machine is now ready at its minimum level. The machine can in fact be operated at this point, or further time allowed for maximum issue capabilities. If the machine is allowed further time, then the 'Flow' rate will be seen to increase in its allowable maximum setting until position 31 is reached.

At this time, or shortly afterwards, the 'Heat Flash' indicator bars on the Remote handset will reduce from 3 bars to 2, and then 1 and finally no bars, as the heater switches off.

When settled, the 'Heat Flash' indicator will indicate the power being used in maintaining the working temperature. Since proportional control is used, this will vary upon the operating environment.

9 The machine may now be operated fully as desired with due attention to all prevailing safety regulations.

Operating Procedure Notes

Fluid replacement

Replacing fluid does not require any attention to 'priming' conditions. The G300 uses a unique system of fluid pumping which allows fluid system replenishment without requiring special settings of flow control.

'Haze' flow control

The machine will change the characteristics of the 'Flow Rate' settings when 'Haze' mode is in effect. This allows very short burst issues up to 5 seconds apart to be selected just by the 'Flow Rate' control when at its lowest 'on' setting. ('0' is actually no flow, which can be useful if only a single channel 0 -10v control is available)

This decreases to every 4, 3, 2, and 1 seconds, after which point normal flow control commences as the flow rate is increased.

This feature allows instant 'Hazing' to be instigated by employing a high flow setting, then allowing replenishment of loss by means of a low output, high velocity haze issue.

Automatic and continual flow control

The G300 employs an extremely high accuracy thermal monitoring system. Combining this with Micro-Processor control and a highly stable Patented Heat Exchanger, allows a self management system to automatically adjust the flow rate for maximum conditions at any temperature. This means that regardless of energy availability, a continual flow setting is automatic. If the initial flow setting is high, then this will be decreased as flow continues, until such time as a stable situation is attained.

Remote and External Control Features

The standard Remote Handset may be removed from the machine, and operation effected away from the issue site. The maximum recommended cable length is 25 Metres.

It is not recommended to plug/unplug the handset whilst the machine is still powered up. If this should occur, there is a possibility that the display will produce non readable characters if transmission is broken mid stream of a display update.

Analog 0-10V Control

The rear panel of the machine is fitted with a 4 Pin 'XLR' connector which will allow the connection of two 0 - 10 volt lines.

One line is of a switching characteristic for the activation of smoke, simulating the 'Smoke On' switch, whilst the second line is for analog control of the 'Flow Rate'.

Both lines can be used simultaneously for complete control, or either can be used individually.

In the case of the 'Flow Rate' line being used alone, the 'Smoke On' switch will be required to be set in the 'On' position, and a definite 0 volt condition available from the controller to switch the smoke output off.

No special selection of rear panel control switches is required for this mode of operation.

Machine to Machine Linking

This facility is available for the purpose of multi-machine control.

The rear panel of the machine is fitted with two 5 Pin 'XLR' connectors for 'daisy chaining' any number of machines.

Three selector switches above the Remote panel control various available options.

Please note that the protocol of the communication is exclusive to the G300. Linking cable should be of high quality screened data type. Communication is dealt with via opto-coupled links, which will isolate ground potentials, but it should be remembered that if the cable is grounded at both ends, then any ground voltage difference could convert to high current paths between machines via this screen.

Linking Switch Setting Options

If it is required for a machine to accept 'Flow Rate' data from an 'upstream' unit, then the 'Flow Accept' switch on this machine must be active.

If it is required for a machine to accept the 'Smoke On' switch data from an 'upstream' unit, then the 'Smoke Accept' switch on this machine must be active.

If it is required to control the next 'downstream' machine with the 'timer' control of the local machine then the 'Send Timer' switch must be active.

Using these various switching options will allow flexibility in a link up pattern, and enable individual machine setup without the need to break the linking path.

G300/Haze – Mode Changing

The two modes of operation that can be performed by the G300 machine are unique in their operating characteristics. They allow distinctly different fluid types to be used for a wide range of effects.

As stated repeatedly throughout this operations manual, 'Hazing' type fluid should not be used in the Hi-Power G300 Smoke Mode. Although actual machine damage will not result, long term performance will suffer as a result.

Changing modes of operation is effected at the point of switch on, and re-selection of the Hi-Power Smoke mode at the time of Fluid replacement.

It should be noted, however, that under certain conditions, the electronic 'Fluid Out' sensor may not respond to a rapid change of fluid types and hence not activate the 'Fluid Out' action, which would automatically re-select the 'Haze' mode. In this case the machine will continue to operate in its preselected mode. Should the Fluid type change be of the normal Smoke to Hazing fluid then the machine will not be in the correct mode.

It is important to note that the 'user' will be responsible for ensuring that the machine is in the correct mode for the prevailing fluid type.

All that is required is a brief machine switch 'Off' then back 'On' again.

In the example given i.e. from Hi-Power G300 mode to HAZE mode, a re-adjustment period will be required for the machine to settle to the 'Hazing' characteristics. (Indicated by a flashing 'C' in the heater flash window of the digital display.)

To allow a quicker change over from G300 to Haze, operate the machine with normal' fluid to the point of continuous flow, switch the machine off, replace the fluid with the 'Hazing' type, switch back on, and all will be well.

Electrical Connections

The G300 must only be connected to a suitable electricity supply line.

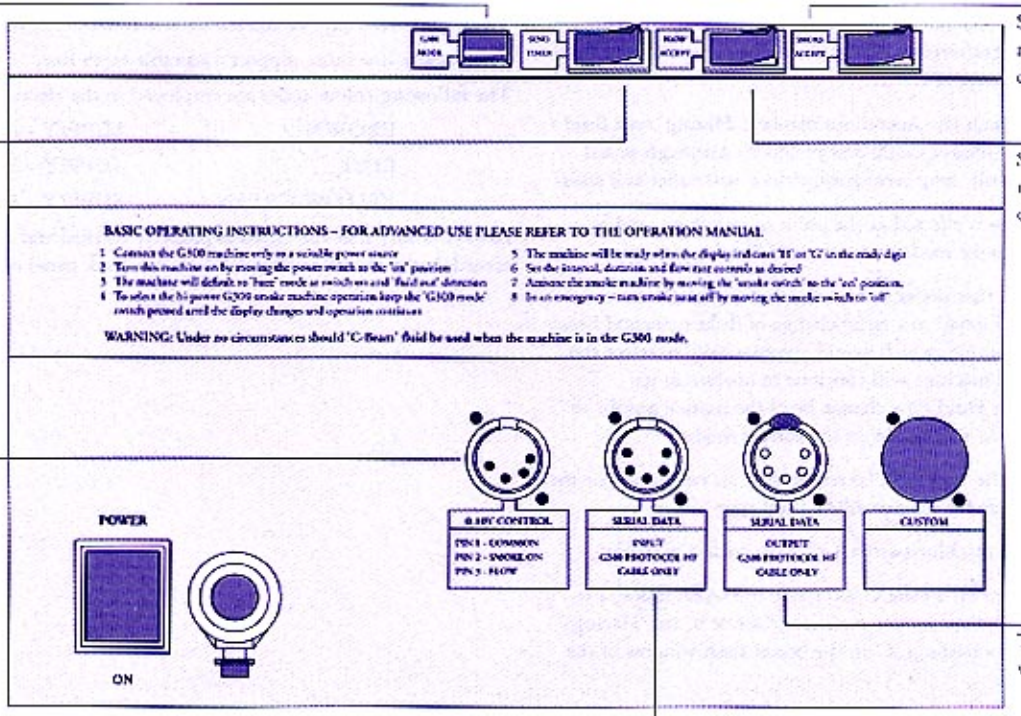
This supply line must support a suitable earth line.

The following colour codes are employed in the electrical connection.

BROWN	–	SUPPLY - LIVE
BLUE	–	SUPPLY - NEUTRAL
YELLOW/GREEN	–	SUPPLY - EARTH

Always ensure that the G300 is properly earthed and that the supply is in accordance with the specifications on the back panel of the machine.

Rear Panel Diagram



Remote Diagrams

Heating mode

Interval set to off

Ready mode

Interval set to single shot

Interval set to 20 seconds

Fluid out scrolling display

Duration set to 12 seconds

Safety Precautions

1 Ensure that operation of the machine is supervised by suitably trained and authorised personnel.

2 Do not modify the machine or use a machine which has been damaged in any way.

3 Allow sufficient air circulation around the machine at all times.

4 Protect the G300 from direct weather effects and wet Training procedures.

5 Only use fluids recommended by the Manufacturer.

6 Do not continue to produce Smoke output in an enclosed area when visibility is reduced below 50cm.

7 Avoid direct Smoke output continuously at persons, structure or objects within close proximity of the discharge nozzle.

8 Ensure that adequate exhausting arrangements are available in the event of an emergency.

9 Do not place hands, or exposed skin within the first 50cm of the discharge nozzle at any time during smoke production.