

READ AND SAVE THESE INSTRUCTIONS

**Fogmaster®**

**INSTRUCTION MANUAL  
HAND HELD FOGGERS**

For Models: 6208xx  
6309xx  
7401xx  
7807xx

6208xxCE  
6309xxCE  
7401xxCE  
7807xxCE



Micro-Jet® ULV, model 7401



Pow-R-Jet®, model 6309



Fogmaster Tri-Jet®, model 6208



Noz-L-Jet™, model 7807

*(showing intake filter in position)*

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### Part Numbers

Product numbers are eight characters (mmmm+x+y+zz):

mmmm	=	basic model number
x	=	rated voltage, ~, 50/60 Hz 1 = 120V; 2 = 240V
y	=	fan stages (0 or 1 = 1, 2 = 2)
zz	=	additional product options.

Example: 620810 = 6208 Fogmaster Tri-Jet, 120V, 1 stage fan.

### Compatibility with World Electrical Systems

Fogger motors and cord options (KUE-xxx) are available for most electrical supply systems and socket configurations.

### Electromagnetic Emissions

Models with "CE" in position zz (7-8) of the part number (6208xyCE, 6309xyCE, 7401xyCE and 7807xyCE) are shielded against the generation of radio interference in accordance with EN55014, CISPR 14 and CISPR 16.

# IMPORTANT SAFETY INSTRUCTIONS

## INSTRUCTIONS RELATING TO RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS

**WARNING** – When using electric appliances, follow these basic safety precautions:

- 1 Read all the instructions before using the appliance.
- 2 To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- 3 To disconnect, turn all controls to the off (“O”) position, then remove plug from outlet.
- 4 Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- 5 Unplug from outlet when not in use and before servicing or cleaning.
- 5 Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions or is dropped or damaged in any manner. Return appliance to the nearest authorized service facility for examination, repair, or electrical or mechanical adjustment.

To reduce the risk of electrical shock, do not put fogger in water or other liquid.  
Do not place or store fogger where it can fall or be pulled into a tub or sink.

Connect to a properly grounded outlet only. See **Grounding Instructions**.

## GROUNDING INSTRUCTIONS

This appliance must be grounded. In the event of malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER** – Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if there is any doubt as to whether the outlet box and the appliance is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

## USER MAINTENANCE INSTRUCTIONS

We recommend that the machine be returned to an authorized Distributor or Service Center for repairs. However, users may undertake maintenance if they wish. The Instruction Manual contains information on common repair procedures.

**DANGER - RISK OF ELECTRIC SHOCK. Remove electrical plug from outlet before attempting any service. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.**

# SAVE THESE INSTRUCTIONS

## SAFETY PRECAUTIONS



**Do not inhale fog output.** Highly atomized liquid droplets can float in the air a long time and are quickly absorbed by the lungs. Depending on the material being fogged, this could result in serious injury or death.



**Do not use to apply any liquid that is hazardous to people, animals or property when atomized into small droplets.** The large surface area of small droplets increases their reactivity and potential to form an explosive mixture. Be aware of potentially dangerous interactions between liquid fog droplets and other aspects of the treatment area.



**Read the label of the chemical you plan to use, and follow the instructions in its "Precautions" and "Directions for Use" sections.** If the label lacks this information, obtain directions for use and safety precautions **including personal protective equipment** (respirator, face mask, special clothing) from the chemical manufacturer or distributor.

**Keep an intake air filter in place during use.** This will help prevent dust and fog droplets from entering the unit.



**Do not atomize a flammable liquid.** Electric arcs produced inside the motor during normal use could ignite it.

**Do not fog near an open flame.**



**Risk of Electric Shock – Do not expose to rain. Store indoors. Use only a properly grounded (earthed) three pin electric outlet.** The ground wire is an essential safety feature of this product. Do not remove the grounding lug on the power cord. Do not use an ungrounded ("3-to-2") plug adapter.



**An extension cord, if used, must have a continuous ground wire leading to earth and an amperage rating greater than the rated current on the fogger nameplate label.** Do not chain two extension cords together.

# Product Overview

This machine atomizes light liquids into a fog, mist or spray of small droplets. It can atomize both oil- and water-based solutions, as well as emulsions and dilute suspensions of wettable powders.

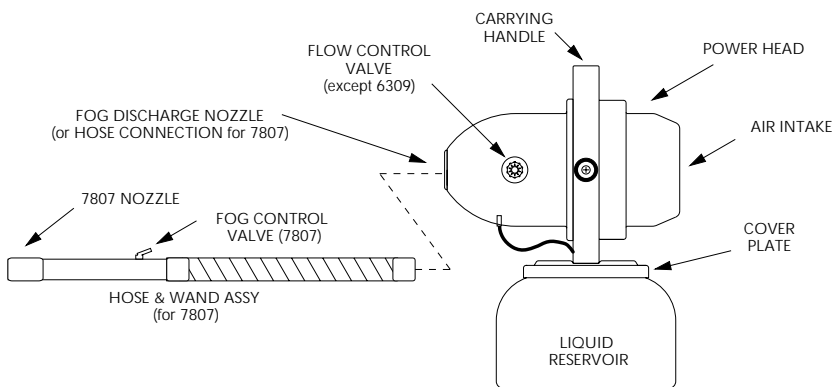
Typical uses of this machine include:

- Humidification (fogging water)
- Odor control (fogging odor neutralizers, scents or masking chemicals)
- Control of flying insects (application of insecticides)
- Cleaning, sanitizing and disinfecting (applying germicides or sanitizing chemicals), and for air duct cleaning, applying sealants
- Control of mold and mildew (applying sporicides, fungicides or anti-mildew chemicals).

The liquid flow rate determines the size of the fog droplets formed by the machine. Several factors influence the liquid flow rate – the density and viscosity of the liquid; the setting of the flow control valve or size of the flow restriction orifice; and the frictional resistance of the machine's internal lines.

Liquid viscosity and surface tension also affect the size of fog droplets produced. At a given flow, lighter liquids (lower viscosity, lower surface tension) generally make smaller droplets and finer fogs than heavier liquids.

The drawing below identifies the principal components of the machine.



This machine has a one-gallon [4 liter] reservoir to hold fogging liquid. On the 7807 the fogging nozzle is at the end of the hose/wand assembly; on other models Except for the 7807, it is mounted in the power head;

## **Description of Operation**

Fogmaster foggers atomize liquids into small droplets (fog or mist) by shearing them in a highly turbulent section of the nozzle. A blower in the power head supplies air to create the turbulence.

The liquid flow rate controls fog characteristics and average droplet size. A low rate (1-2 ounces [30-60 ml] per minute) produces a dry fog of small droplets that float extensively and diffuse widely. Larger flow rates (4-8 ounces [100-250 ml] per minute) produce progressively larger droplets (wet fog, fine mist).

Liquid flow is regulated by a control valve or, for certain models, a fixed flow restrictor in the liquid intake line.

## **Calibration**

Adjust the angle of the nozzle for your application and adjust the liquid control valve to obtain the desired fog droplet size characteristics.

Remove the power head from the tank or drum adapter. Place power head on a suitable stand, or suspend by its handle.

Fill a graduated cylinder or jar with a measured quantity of your fogging liquid. For hand held models, position the cylinder or jar so the liquid level is 6" (15 cm) below the fogger nozzle and insert suction tube.

Operate the fogger for 60 seconds. Remove suction tube, measure remaining liquid and compute liquid consumed. This is the flow rate per minute.

At low liquid flow rates, you may have to operate longer than one minute to get an accurate flow measurement.

# Equipment Setup

The hose and nozzle assembly of the 7807 Noz-L-Jet is shipped in a separate carton, and must be attached to the power head.

## Attaching the 7807 Noz-L-Jet hose/wand assembly

From the open hose end of the hose/wand assembly, gently stretch out the internal tube to access the “push to connect” male fitting. The tube carries liquid to the nozzle.

On the power head, extend the liquid connector and insert male fitting fully. (For disassembly instructions, see Maintenance).

Attach hose to power head. Loosen hose clamp, slide hose firmly over air discharge opening, and retighten hose clamp to secure.

## Set-up for all models.

Loosen tank clamps and remove power head from tank. Remove extra plastic tank liners from tank.

Open a protective plastic tank liner and position it inside tank (new units ship with a tank liner in place). The top of the liner should extend over and outside the top lip of the tank.

Add fogging liquid to the tank (inside the tank liner). Confirm that the tank gasket is in place inside the lip of the cover plate. Put the power head on the tank and fasten clamps to secure it.

Install the air intake filter over the air intake. Attach to “hook & loop” dots at the 10 and 2 o'clock positions on the housing, then stretch filter down and anchor over bottom of air intake.

Plug the fogger power cord into a **grounded (earthed)** outlet and turn power switch ON.

Adjust liquid valve for the desired fog droplet size characteristics [some models do not have a flow control valve]. On the 7401, push the red ring of control valve **in** to lock valve setting (**out** to release).

On the 7807, depress the fog control valve on the wand; latch valve handle up for continuous output.



## Operation

Add chemical solution to the liquid tank. If applying a wettable powder or suspension, remove retaining ring and screen from weighted suction tube. Clamp the power head in place.

Using the calibrated flow rate and the dosage instructions provided by the chemical label or chemical manufacturer, calculate the time required to properly fog the area. You can control the fogging time manually or with a timer.

Adjust the angle of the fogger power head for the space you are treating (point the nozzle slightly up for maximum distance).

Aim fog output towards area requiring treatment. For space fogging, select the direction of greatest clearance so fog droplets can fill the space; droplets that hit something will condense. You can also place machine on a turntable (except 7807).

Confirm that flow control valve is set to the desired setting, and turn on fogger. On 7807, press fog control valve on wand, or latch up.

When carrying fogger by hand, move it **gently and slowly** in a smooth arc. Sudden movements can impose excessive torque on the rapidly spinning fan blades and could cause premature blade failure.

## Cleaning the Fogger

A. Normal cleanup. When fogging is complete, remove the suction tube from the liquid source and operate the fogger for one minute with the valve open full. This will expel any liquid remaining in the fogger's internal lines. Transfer excess chemical from tank to an appropriate container.

B. Cleanup of difficult liquids. After fogging a viscous liquid, emulsion or a solids suspension, begin with a "normal cleanup" (step A). Then put suction tube into an appropriate solvent for your fogging chemical (water for water-dispersible liquids, kerosene for oil-based liquids, etc.) and operate unit for 1-2 minutes, flushing residual chemical with clean solvent. Then repeat step A.

C. Cleanup for long-term storage. Remove all liquid from tank to eliminate the potential for long term chemical attack on tank, suction tube weight, or tubing. Then follow steps A or B.

To prevent internal tubing from becoming brittle in prolonged storage, fog a few minutes with clean kerosene each 6-9 months, then clean as in step A. This will help keep tubing pliable.

# Maintenance

The major components of the fogger are identified on page 6. A detailed parts list and order form is included as a separate sheet with each unit. This document is also available for download on our web site.



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**WARNING: Unplug fogger power cord from electrical outlet before attempting any maintenance operation.**

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## Routine maintenance

Clean fogger after each use. Wash outside of machine with a mild detergent and wipe with a soft cloth to maintain its appearance. (**Do not immerse machine.**) Replace motor brushes when they are completely worn.

## Clean intake air filter

Wash filter with water or appropriate solvent, allow to dry and reinstall. A replacement filter is available (part number = 081, or 080 for a package of 10).

## Cleaning the nozzle

Deposits which form on the nozzle can degrade performance. Try to dissolve deposits with an appropriate mild solvent (soapy water, vinegar solution, kerosene, etc.). Add about 2 inches of liquid to tank and immerse nozzle (front of power head, or end of 7807 wand). If this is not successful, replace nozzle assembly. **Do not use a strong acid;** it will attack the metal components. Do not insert probe into nozzle opening; it may damage nozzle elements

## Simple Workstation for maintenance

During maintenance, you can use the tank as a workstation to keep screws and other parts in position when you open the power head. Unclamp power head from tank and remove rubber gasket from beneath cover plate. Slide gasket over rear housing, flat side toward screw heads. Place fogger rear housing on tank. Remove cap head nuts and lift front housing to expose internal components.

## **About motor brushes**

Two graphite brushes convey electric power to the motor commutator. Brushes are a consumable item, and have a lifetime of about 650 operating hours. Operating without the air intake filter lets airborne dirt and moisture enter the motor; this can reduce brush life substantially. When brushes are worn the motor does not operate properly.

If you must replace motor brushes, we recommend installing a MOTOR SAVER brush on one side. The MOTOR SAVER brush contains an insulating pin to shut down the motor when the brush is worn, minimizing the chance that the motor will drag and scratch the commutator. Replacement brush part numbers are:

030: Brush kit (two standard brushes), 120 VAC.

032: Brush kit (two standard brushes), 240 VAC

033: Brush kit (one standard, one MOTOR SAVER), 120 VAC.

034: Brush kit (one standard, one MOTOR SAVER), 240 VAC

## **How to replace motor brushes**

Unplug power cord to prevent shock. Remove front housing (see “Simple Workstation”) to access the motor. Identify the two motor brush housings on opposite sides at the top of the motor.

Insert a small flat blade screwdriver between the motor wire/terminal and the plastic brush housing. Gently pry terminal out, pushing it towards the commutator until it is loosened. Take care not to break the terminal contact or the wire. If the plastic brush housing is very tight, heat slightly with a hair drier or heat gun to soften before sliding the wire/terminal out. Repeat for the second brush.

Remove two Phillips head screws and retaining bracket holding one motor brush. Lift brush off motor frame and discard.

Hold replacement brush in position (tab pointed down). Press the motor wire terminal (flat brass piece) partially into the brush assembly, between the brass shell and the plastic housing.

Slide the brush assembly towards the commutator until the tab seats in the notch on the motor frame. Replace retaining bracket and two screws. Then slide or pry the wire terminator securely back into the brush housing with the screwdriver.

Repeat for other brush.

## Damaged power cord

If the power cord is damaged, it must be replaced with an approved cord that includes continuous line to ground (earth). Return unit to Fogmaster or authorized importing distributor for service.



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**WARNING: A continuous ground (earth) line in the power cord is essential for safe operation. Do not operate machine without a continuous line to earth.**

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## Replace motor

When excessive wear on the motor commutator shortens brush life unacceptably, install a new motor (see "Simple Workstation"). Disconnect motor wires and remove old motor, **noting the sequence and orientation of the plastic motor gaskets and metal torque ring.**

Replace motor and reinstall gaskets and torque ring in proper sequence. Take care that the bent tab on the torque ring faces the motor and is seated in the small hole on the motor frame.

Reconnect electrical lines as shown on the circuit diagram.

## Replace fan blade

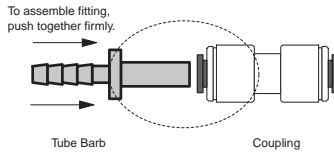
Twisting the machine aggressively while it is running will cause the fan blade to flex and scrape against the fan housing with a shrill, grinding noise. Repeated flexing will eventually cause the fan to fail; the motor operates but does not blow air.

To replace fan blade, open power head (see "Simple Workstation") and remove motor. Straighten the three bent tabs holding the fan housing to the motor frame. Remove fan housing and unscrew the 1/2" nut holding fan blade to motor shaft. Replace fan blade (part number = 040) and reassemble.

**NOTE:** You may have to remove motor brushes and the aluminum armature bracket to grip the armature so it does not rotate when you unscrew nut.

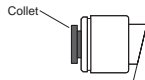
## Disassemble tubing connector

Certain models use “press to insert” quick connect fittings (tube-to-tube couplings, tube-to-thread adapters or tube-to-bulk-head adapters). To make the connection, push the stem into the receptacle and seat firmly.

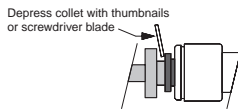


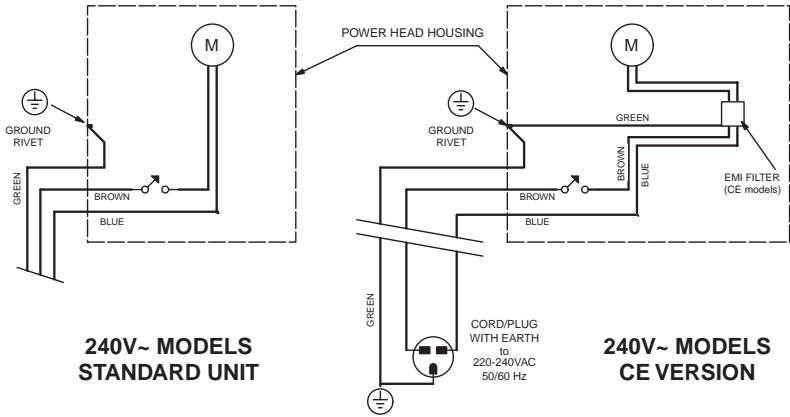
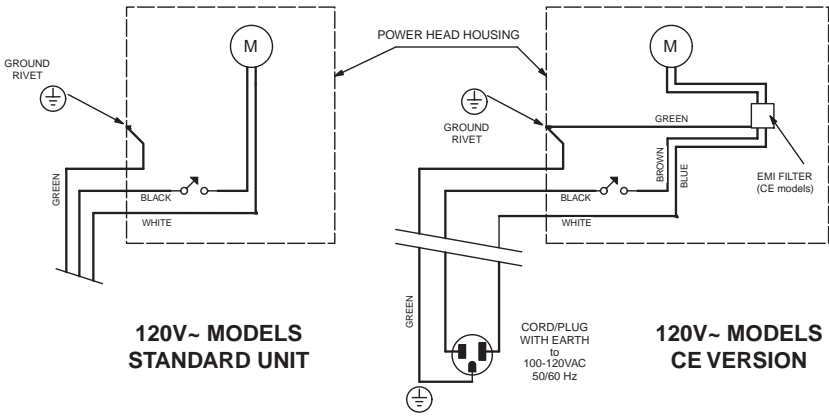
There are two styles of connector. One has a release tab. To open this style, press release tab and pull fitting apart.

The other style uses a locking collet with spring clips inside the receptacle to secure the connector.



To open this style connector, release the locking collet by pushing it towards the housing with your thumbnail or a small screwdriver blade. Holding the collet ring in, withdraw the stem portion, twisting slightly if necessary.





Fogger circuit diagrams

## Specifications

Nozzle Technology	Counter-rotating vortex design. High turbulence in nozzle shears feed liquid into fog-sized droplets (7-30 microns VMD). Nozzle has no small orifices and is resistant to plugging.
Chemicals	Nozzle can atomize both oil-based and water-based liquids. Particle size distribution varies with liquid viscosity, surface tension, density and flow rate.
Approximate Range	Visible fog, oil-based, outdoor, still air 7401: 20-30 ft [10 m] 7807: 20-25 ft [7.5 m] from end of wand 6208: 20-25 ft [7.5 m] 6309: 25-30 ft [10 m]
Discharge Rate	7401: 0-10 oz [300 ml] /min, adjustable 7807: 0-10 oz [300 ml] /min, adjustable plus liquid ON/OFF toggle valve on wand 6208: 0-10 oz [300 ml] /min, adjustable 6309: 10 oz [300 ml] /min, not adjustable (a)
Droplet Size, VMD	7401: 7-30 $\mu$ (microns), adjustable 7807: 10-30 $\mu$ , adjustable 6208: 15-30 $\mu$ , adjustable 6309: 30 $\mu$ , fixed (a) Liquid viscosity and surface tension affect droplet size.
Control Valve	7401: Nine turn vernier w/ memory lock. Glass filled epoxy, stainless stem, Viton <sup>®</sup> seals 7807: Std: one turn, brass w/ Viton <sup>®</sup> seal (std) Opt: nine turn vernier w/ memory lock, stainless steel/glass filled epoxy 6208: One turn, brass w/ Viton <sup>®</sup> seal 6309: None
Liquid Capacity	1 gallon [4 L]
Blower Motor	1 Hp, open frame universal type motor, 50/60 Hz 120V~, 7.0A [780710: 8.0A] 240V~, 3.5A [780720: 4.0A]

Blower	Balanced fan, one stage, 20,000 rpm (no load) Two stage fan optional (standard in 7807)
Intake Filter	Bag type, fits over rear housing. Washable.
Materials (b)	Power head, wand, tank - aluminum Tank gasket - Buna N Hose - vinyl Tubing - fuel and oil resistant vinyl Fittings - brass; stainless steel optional Nozzle - Celcon® acetyl copolymer
Dimensions	LxHxDia: 12.5 x 15.4 x 8.6 in [32 x 39 x 22 cm]
Hose/Wand (7807)	36 in [91 cm] hose and either 38 in [96 cm] long curved wand or 16 in [40 cm] short straight wand
Shipping Weight	Power head: 12 lb [5.4 kg] 7807 hose/wand (2nd carton): 5 lb [2.3 kg]

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(a) Lower flows available with optional orifice flow restrictor.

(b) See also Control Valve



# Warranty

This product is warranted for five years [one year for 7807] from the purchase date against defects in materials and workmanship. If you have a warranty claim, return the unit freight prepaid to The Fogmaster Corporation. We will repair or replace (at our option) any defective parts and return the unit to you.

Motor brushes and tank gaskets are not covered under warranty.

This warranty does not apply to any unit which has been: subject to misuse, neglect or accident; used for a purpose for which it is not designed; altered in any manner; serviced by unauthorized parties; or subjected to any but the specified voltage.

This warranty is limited to the original purchaser only, and does not include claims for incidental or consequential damages resulting from the non-function or malfunction of this product or for breach of any express or implied warranties.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This Limited Warranty notice replaces any other warranty or guarantee information accompanying this product or appearing in any literature referring to this product. Any implied warranties, including merchantability or fitness for a particular purpose, shall not extend beyond the warranty period.



(certain models)



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**WARNING: Chemicals dispensed by this machine may be fatal if inhaled. Always follow safety precautions and directions for use of any chemical product.**

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In the interest of improving internal design, operational function, and/or reliability, The Fogmaster Corporation reserves the right to make changes to the products described in this document without notice. The Fogmaster Corporation does not assume any liability that may occur due to the use or application of the product(s) described herein.

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