

Fogmaster®

**INSTRUCTION MANUAL
DRUM MOUNT FOGGERS**

For Models: 6428xx
6329xx
7421xx
3290xx
4180xx

6428xxCE
6329xxCE
7421xxCE
3290xxCE
4180xxCE



Pictured: High-Jet DM, model 3290
(drum not included)

Index

Part Numbers	2
EN 55 014 Statement	2
Electrical Compatibility	2
Safety Precautions	3
Product Overview	6
Description of Operation	7
Calibration	7
Equipment Setup	8
Operation	9
Cleaning the Fogger	9
Maintenance	10
Circuit diagram	14
CE Declaration of Conformity	15
Specifications	16
Warranty	17

Part Numbers

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

mmmm	=	basic model number
x	=	rated voltage, ~, 50/60 Hz, 1Ø 1 = 120V; 2 = 240V
y	=	fan stages 1 = 1 stage; 0 or 2 = 2 stage

zz = additional product options.

Example: 742120 = 7421 Micro-Jet ULV DM, 240V.

EN 55 014 Statement

This is to certify that models containing “CE” in position zz (7-8) of the part number (7421xyCE, 6329xyCE, 6428xyCE, 3290xxCE and 4180xyCE) are shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC. Conformity is declared by the application of EN 55 014 (CISPR 16).

Electrical Compatibility

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

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.

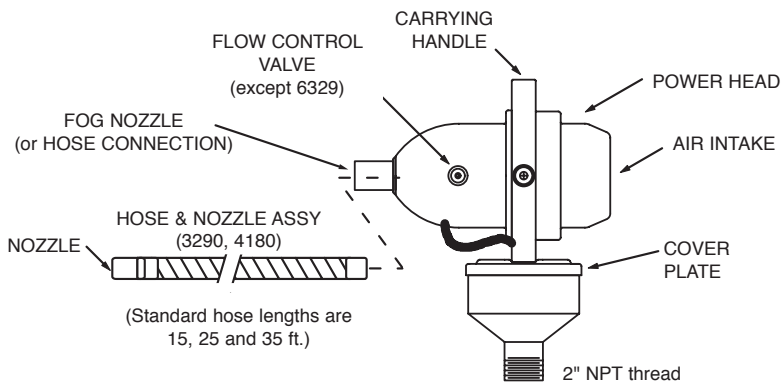
Typical uses of this machine include:

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

The size of the fog droplets produced is primarily determined by the liquid flow rate. Several factors influence 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 droplet size. At a given flow, lighter liquids (lower viscosity, lower surface tension) form smaller droplets and finer fogs than heavier liquids.

The principal components of these machines are shown below.



The machine includes a drum adapter with 2-inch [50 mm] NPT thread to attach to the standard bung hole of a compatible pail or drum. A 40 inch (100 cm) suction tube is able to reach the bottom of a 55-gallon drum.

To assist with liquid lift, a second tube on the power head provides supplemental air pressure to the drum (about 1.25 psi [.085 bar]). The drum should be tightly sealed, with no air relief opening.

The maximum liquid lift (from the **bottom** of the drum to the **fogging nozzle**) is 60 inches [150 cm]. If more lift is required, for example by the 3290, a pressurized liquid source or a transfer pump is required.

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 [120-250 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 located within the liquid feed path.

Calibration

It is easiest to calibrate the unit before installing it on a drum. Extend the suction tube from bottom of drum adapter, clamp power head to adapter and suspend by its handle or place on a suitable stand with suction tube hanging freely. Using a graduated cylinder or jar as a liquid reservoir, fill reservoir with a known amount of fogging liquid. Note liquid height on reservoir, insert suction tube, and position reservoir so liquid level is the same elevation as fogger nozzle. Turn fogger on, adjust control valve for desired fog droplet size and turn off.

Do not change valve setting or reservoir elevation. Refill reservoir to mark and turn machine on for 60 seconds. Remove suction tube, measure remaining liquid and compute liquid consumed. This is the liquid flow rate per minute.

For large reservoirs or low liquid flow rates, you may have to operate longer than one minute to get an accurate measurement.

Equipment Setup

Attach the hose assembly (3290 and 4180 only)

From the open hose end of the hose 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 drum adapter. Uncoil suction tube and extend tubing from bottom of drum adapter. Apply PTFE tape or pipe sealant to threads of adapter and screw securely into chemical drum. (The maximum drum height is 40” [100 cm] for normal operation. For use with a taller drum, an external boost or transfer pump is required.)

There must be a tight seal at the threads so the power head can pressurize the drum. Do not open a relief vent or other plug on the drum.

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 (the 6329 does not have a flow control valve, but may be equipped with an optional precision orifice to limit flow). The 4180, 3290 and 7421 have a locking control valve. Push the red ring of control valve **in** to lock valve setting; pull **out** to release.

Operation

Dilute the fogging chemical as required by the manufacturer. The chemical drum must hold the fogging solution at a “ready-to-apply” concentration. Using the calibrated flow rate and the dosage instructions on the label or provided by the chemical supplier, calculate the time required to properly fog the area. You can control fogging time manually or with a timer.

Adjust the angle of the fogger power head for the space you are treating (point nozzle up slightly 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 will condense if they hit something.

Confirm that the flow control valve is set to the desired setting, and turn on fogger. If a hose-equipped unit has an optional fog control valve, press valve handle or latch up to apply fog.

Cleaning the Fogger

A. Normal cleanup. When fogging is complete, withdraw the suction tube from liquid. Operate machine until discharge ceases and all chemical has been purged from the fogger’s internal lines.

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. Follow steps A or B, then retract suction tube and coil inside the drum adapter.

To help keep tubing pliable during prolonged storage, fog a few minutes with clean kerosene every 6-9 months, then clean as in step A.

Maintenance

The major components of the fogger are identified on page 4. 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.



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

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 filters).

Cleaning the nozzle

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

Simple Workstation for maintenance

The tank of a hand held model (part number 050) can serve as a simple workstation to keep screws and other parts in position when you need to open the power head for maintenance. Unclamp power head from drum adapter and remove rubber gasket from beneath cover plate. Slide gasket over rear housing, flat side toward screw heads. Place fogger's rear housing on tank. Remove cap head nuts and lift front housing to expose internal components.

NOTE: Drum mounted units do not include a tank, but you can purchase a "scratch and dent" tank at modest cost.

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. However, brush life may be reduced substantially if you operate the unit without the intake air filter, allowing dirt and moisture to enter the motor and abrade the brushes. When brushes are worn the motor does not operate properly.

A MOTOR SAVER brush is standard equipment on new units. 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:

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 in an approved manner with a continuous line to ground (earth) from the power head. Return unit to Fogmaster or authorized importing distributor for service.



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

Replace motor

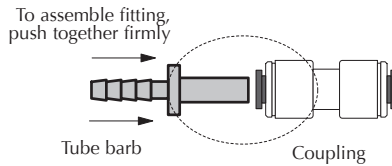
When excessive wear on the motor commutator shortens brush life unacceptably, install a new motor (see "Simple Workstation"). Disconnect motor wires and remove old motor, **noting the sequence and orientation of the plastic motor gaskets and metal torque ring.**

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.

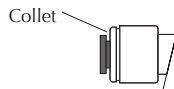
Disassemble tubing connector

Units which have the nozzle at the end of the air hose use “press to insert” quick connect fittings (tube-to-tube couplings, tube-to-thread adapters or tube-to-bulkhead adapters). To make the connection, push the stem into the receptacle and seat firmly.

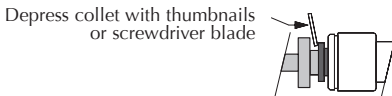


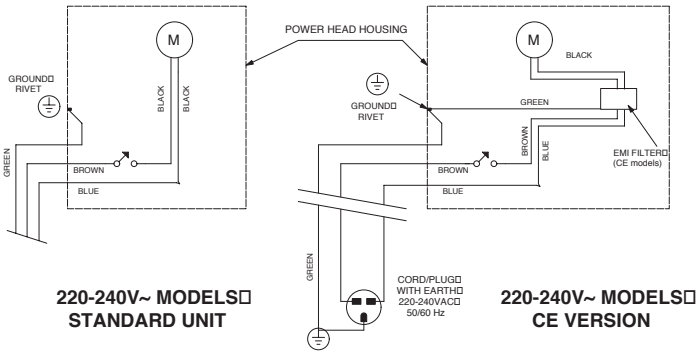
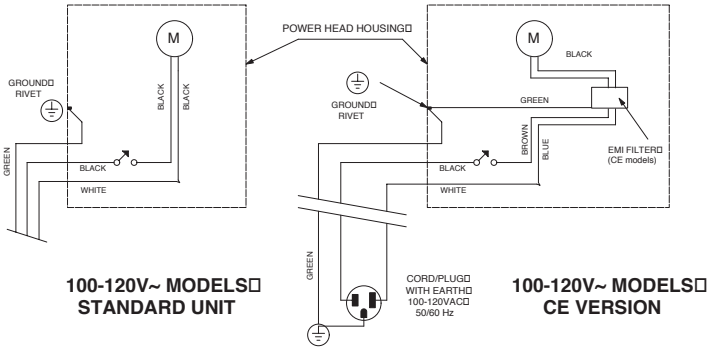
Two styles of connector are used. One has a release tab. To open this style, press release tab and pull fitting apart.

The other style uses a locking collet and spring clips inside the coupling 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



DECLARATION OF CONFORMITY

Application of Council Directive(s) 73/23/EEC, 89/336/EEC, as amended by 92/31/EEC, 93/68/EEC

Manufacturer's Name The Fogmaster Corporation

Manufacturer's Address 1051 SW 30 Avenue
Deerfield Beach, Florida USA 33442

Equipment Description Family: Hand held cold fogging machine(s)

Model Name & Number Pow-R-Jet® DM, model 6329xxCE
MicroJet ULV® DM, model 7421xxCE
Pow-R-Jet® Plus DM, model 6428xxCE
High-Jet™ DM, model 3290xxCE
Sewr-Jet™ DM, model 4180xxCE

Year of Manufacture 2004 and later

Conformance to: EN 60335-1:2001
EN 55014-1:2001, EN 55014-2:2001

Location of Technical Documentation within EEC Zumro B.V.
Meer en Duin 82
2163 HC LISSE
NETHERLANDS

The undersigned hereby declares, on the sole responsibility of the manufacturer, that the equipment specified above conforms to the above Directive(s)

Signature 

Full Name Thomas M. Latta

Position President

Place Deerfield Beach, FLORIDA USA

Date Issued April 1, 2004

ENGLISH

SPECIFICATIONS - DRUM MOUNT UNITS

Motor	1 Hp, 120VAC, 8.0 amp; 240VAC, 4.0 amp 50/60 Hz, 1Ø. Motor saver brush standard.
Blower	Two stage balanced fan, 20,000 rpm (no load).
Intake Filter	Bag type fits over rear housing. Washable. Recommended for increased motor, brush life.
Nozzle Technology	Counter-rotating vortex design. High turbulence in nozzle shears feed liquid into fog-sized droplets. Nozzle has no small orifices and is resistant to plugging.
Particle Size, VMD	3290, 4180, 7421: 7-30µ, adjustable. 6428: 10-30µ, adjustable. 6329: 30µ, fixed (smaller with flow restrictor). Liquid flow rate, viscosity and density affect particle size.
Control Valve	7421, 3290, 4180: Nine turn vernier w/ memory lock. Glass filled epoxy, stainless stem, Viton® seals. 6428: One turn, brass w/ Viton® seal. 6329: None; optional precision flow restrictor available.
Discharge Rate	0-10 oz [300 ml] /min, adjustable (except 6329).
Chemicals	Nozzle can atomize both oil-based and water-based liquids. Particle size distribution varies with liquid viscosity, surface tension, density and output rate.
Range	Visible fog, 20-30 ft [7.5 m].
Drum Adapter	Standard 2 inch [50 mm] NPT thread. Threads should be wrapped with PTFE tape to insure a tight seal; power head pressurizes drum slightly (1.25 psi [.085 bar]).
Liquid Capacity	Depends on drum (not included).
Materials	Power head, drum adapter - aluminum Adapter gasket - Buna N Hose - corrosion resistant vinyl Tubing - fuel and oil resistant vinyl Fittings, toggle valve - brass; stainless optional Nozzle - Celcon® acetyl copolymer.

ENGLISH

Hose	3290, 4180: 15, 25 and 35 ft [4.5, 7.6, 10.7 m] lengths standard. Low pressure transfer pump required for discharge higher than suction lift (about 6 ft [2 m]).
Dimensions	LxHxDia: 12.4 x 15.4 x 8.6 in [32 x 39 x 22 cm].
Shipping Weight	Power head - 12 lb [5.4 kg] Hose/nozzle - 5 to 9 lb [2-4 kg].
Options	3290, 4180: Fog ON/OFF toggle control valve. Custom length hose. 6329: Precision flow restrictor to deliver small droplet fog at fixed flow rate.

Warranty

This product is warranted for one year 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.



(for model numbers with “CE” in positions 7-8 of part number.)



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

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.

“Fogmaster[®]”, the Fogmaster logo, “Fogmaster Tri-Jet[®]”, “Micro-Jet[®]”, “Pow-R-Jet[®]”, “Sewr-Jet” and “High-Jet” are trademarks or registered trademarks of The Fogmaster Corporation. “Celcon[®]” and “Viton[®]” are registered trademarks of their respective owners.

THE
Fogmaster[®]
CORPORATION

1051 SouthWest 30th Avenue • Deerfield Beach, FL, USA 33442

Tel: 1.954.481.9975 • Fax: 1.954.480.8563

e-mail: info@fogmaster.com • <http://www.fogmaster.com>