

Mosquito Killing System™

OWNER INSTRUCTION MANUAL



Developed
with technical
assistance
from NASA

For model numbers:
MKS-1011 (without stand)
MKS-1022 (with stand)

ARCTIC

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Mosquito Killing System™

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Parts List

<i>Description</i>	<i>Quantity</i>
Mosquito Killing System	1
Capture Net	1
Instruction Manual	1
Carbon Dioxide Regulator	1
Carbon Dioxide Hose Attachment	1
CO2 Tank Cover (MKS-1022)	1
Portable Stand (MKS-1022)	1

Specifications

Dimensions:	12" diameter x 24" height (top cover: 14" diameter)
Weight:	MKS-1011 (without stand) 30 lbs. MKS-1022 (with stand) 54 lbs.
Construction:	High-grade powder-coated aluminum
Color:	Hunter Green
Power Supply:	120 volt AC common household current (4 amps.)
Warranty:	1 year full factory warranty (warranty card must be returned to activate warranty)

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HOW THE MKS WORKS

The Arctic Mosquito Killing System (MKS) is a revolutionary mosquito control device. The MKS has been developed with over 16 years of research by Alvin Wilbanks with technical assistance from NASA. A scientific breakthrough in controlling mosquitoes, the MKS significantly reduces the mosquito population in a one-acre area. It mimics the main cues to attract and kill biting mosquitoes by simulating the infrared (heat) signatures of their natural prey and the releasing of warmed carbon dioxide (CO₂) which mimics breathing. The MKS uses carbon dioxide to mimic the respiration of a 300 lb. person and cycles through body temperatures ranging from humans, livestock, poultry, and domesticated pets every 6 to 9 minutes. Mosquitoes are attracted and then vacuumed into the unit where they are quickly and quietly eliminated. The MKS has been shown to attract and kill large numbers of mosquitoes in a single night reducing the mosquito population. In this age of increasing environmental awareness and the diseases created by the mosquitoes, the MKS is a safe alternative to the use of chemicals to control mosquitoes.

Safe and quiet, the MKS is the most effective way to combat your existing mosquito problem without the need for potentially harmful pesticides or chemicals. In addition, the MKS does not attract beneficial insects, which are good for the environment. The MKS is equipped with a photocell that turns the unit on at dusk, making it energy efficient. Made from high-grade aluminum, it may be mounted with the provided bracket.

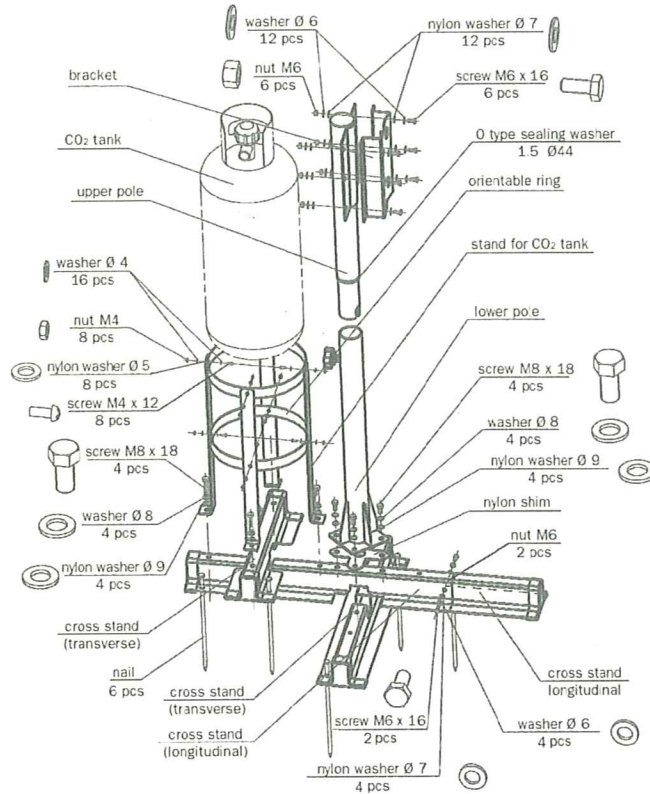
The MKS unit features strong, durable construction; yet is attractive enough to be a suitable addition to any lawn, patio, or any other area in need of mosquito control. With consumer safety as a primary consideration, the MKS features:

- UL (Underwriters Laboratory) Listed (# 1WF9 #)
- Certified Components
- Quality Workmanship
- Manual reset default breaker

During testing at different locations, the MKS killed large numbers of mosquitoes nightly, from 200 to 15,000 plus. That prevents the mosquito from reproducing in turn, naturally reducing the mosquito population in the area. Unknown to most people, the female mosquito can reproduce 1,000 to 3,000 eggs during the insects life span (which is 20-100 days in laboratory conditions depending on species.)

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SELF-SUPPORTING STAND (MKS-1022)



1. Place the lengthwise crossed bases and transverse crossed base on the floor and then attach them together as shown.
2. Attach lower pole and crossed base together with the bolts and washers provided and tighten securely.
3. Attach upper pole and lower pole together as shown by rotating the upper pole clockwise after you insert it into the lower one, then use the knob provided and tighten securely.
4. Attach the mounting bracket and the upper pole together as shown below using 6 each of nuts, bolts and washers provided and tighten securely.
5. Using a hammer, insert the 3 anchor pins through the holes on each corner of the stand base until the anchor pin head is flush with the base.
6. Attach the tank holder and the crossed base together as shown with bolts and washers provided and tighten securely.

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PLACEMENT OF THE MKS

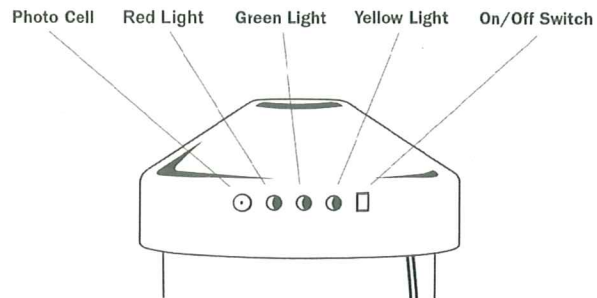
1. The MKS unit is equipped with a 3-prong ground plug and must be connected to an appropriate receptacle that is properly installed and grounded in order to reduce the risk of electrical shock.
2. The MKS should be placed approximately 20' away from all outdoor activities so you are not competing with the MKS.
3. Do not place the unit in direct outdoor lighting. This effects the photo-sensor operation and may cause it to capture beneficial insects.
4. Place the MKS unit in shaded area if unit is to operate during the day. (will not function properly in direct sunlight.)
5. Place the MKS so that you are not downwind from the MKS attractants. (body heat and breathing signatures.)
6. If mounting on a fence, building, etc., the bottom of the MKS should be 3 feet from the ground but not higher than 4 feet from the ground.
7. The MKS can be placed in areas where roosting is noticeable such as garages, shrubbery, water sources, shaded areas, mulch areas, decks, etc.
8. When the MKS is mounted make sure there is sufficient room for air to pass through the MKS.
9. Do not restrict the airflow by, placing the MKS on the ground, table, etc.
10. Having the unit in place at the beginning of the mosquito season will be more effective in helping to keep reproduction at a lower rate.
11. It is important to remember the overall result of the total reduction of mosquitoes may not be observed overnight. If you plan an outdoor event, have the unit in place approximately 14-days ahead of the scheduled event to allow sufficient time for the unit to work properly.
12. If an area is heavily infested with mosquitoes, (i.e., a porch, garage, or deck), place the unit in the area near the infestation.
13. Depending on the density of the foliage and the surrounding environment, more than one unit may be necessary to obtain the desired level of comfort.
14. If after 3-4 weeks in an area there is little reduction in the number of mosquitoes, look for areas where mosquitoes are roosting, such as under a porch or deck, shaded shrubbery areas and place the unit in that area.
15. MKS comes with one mounting bracket for easy installation.

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OPERATION OF THE MKS

1. Plug the MKS cord into a 3-prong ground receptacle.
2. Turn the On/Off switch to the "On" position.

The MKS will check for darkness by its photocell. The photocell is located on top of the unit to the left of the red function light. A cover is on the unit when it is shipped and must be removed for the MKS to function properly so that the unit can release carbon dioxide as programmed. The heating/electrocution grid/carbon dioxide will begin to run when it becomes dark and will automatically shut off when it becomes light. When it becomes dark, carbon dioxide is emitted for 2 minutes, the MKS then transfers to fan mode for 1.5 minutes. This cycle will repeat for 5 hours. The MKS then randomly produces various animal body signatures every 6 to 9 minutes via its internal heat blanket for the remainder of the night.



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CAPTURE NET

- The MKS capture net is mainly used for Mosquito Control Monitoring Programs.
- The MKS capture net should be used by a trained service representative to determine an optimum location for the MKS unit and monitoring for the mosquito population.
- The MKS capture net is included with all units to confirm a mosquito kill. The capture net will also assist in determining the direction of infestation.

Note: During the many years of research and development it took 4 years alone to determine the correct airflow, which is a critical factor in the MKS performance. After determining a location for your MKS, remove the capture net for best results in reducing the mosquito population.

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BENEFITS OF THE MKS

The purpose of the MKS is to effectively attract and kill large numbers of mosquitoes. ARCTIC'S belief is that in order to kill mosquitoes they must first be attracted to an eradication device. Other electronic devices now on the market simply have never been able to attract sufficient mosquito numbers to reduce the population.

With the introduction of MKS, you will now be able to obtain greater enjoyment from outdoor recreational activities.

Major benefits that can be expected from the use of the MKS include:

- A reduction in the mosquito population.
- Reduced risk of diseases caused by mosquitoes.
- A cleaner environment.
- Revenue savings for both individuals and municipalities.
- Unlike conventional "bug zappers" that indiscriminately attract and kill many types of insects, including beneficial species, the MKS exclusively attracts mosquitoes. Studies have shown that the typical "bug zappers" are not attractive to mosquitoes.
- Safe, quiet and environmentally friendly.
- Helps to lessen the chances of heartworms in your pets, not to mention the misery caused by mosquito bites.
- Reclaim your back yard from the mosquitoes; enjoy grilling out, hot tubs, swimming pool and gardening again.
- Increases property value.
- Increases revenues for outdoor activities and business ie., golf course, hotels, etc.
- Powered by 120 volt AC, estimated operational cost for the MKS is \$6 to \$8 a month.

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USAGE, CARE, AND SAFETY

- The MKS unit is equipped with a 3-prong ground plug and must be connected to an appropriate receptacle (120v/60Hz) that is properly installed and grounded in order to reduce the risk of electrical shock. Locate the MKS near a 3-prong ground receptacle power source.
- If an extension cord must be used to supply the power to the unit:
 - use only 3-conductor extension cords that have 3-prong ground plugs on both ends
 - use only extension cords containing a surface mark rating of SJW-A, SJEW-A, or SJTW-A and having a tag stating, "Suitable for use with outdoor appliances"
 - the extension cord must be kept dry and off the ground
 - never connect a damaged extension cord to the MKS unit
- To reduce the risk of electrocution, do not place the MKS next to or within 20-feet of a swimming pool where it could possibly tip over if mounted on the portable stand.
- Do not place the MKS over standing water, due to risk of electrocution, unless the unit is permanently mounted and the electrical supply is through a 3-prong ground fault receptacle.
- Any electrical supply should be installed by a licensed electrician for permanent placement of the unit.
- Consult a qualified electrician or serviceman if any doubt exists concerning your grounded power source.
- If used, the electrical rating of the extension cord must be equal to or greater than the electrical rating of the MKS. (4-Amps.)
- Do not abuse the power cord. Never carry the MKS Unit by the cord, or jerk the cord to disconnect from the power receptacle.
- Keep the cord away from heat, oil and sharp edged objects.
- Disconnect the MKS power cord from the power source when not in use. (Conserves energy.)
- Never insert foreign objects into the MKS.
- Do not clean with liquid cleaners. Never spray water into the MKS.
- All servicing should be performed by an authorized ARCTIC representative.
- Do not operate the MKS when the MKS has a restricted airflow. (i.e., Sitting on a table or on the ground directly.)
- The MKS is safe around children and pets. Manual reset default breaker is located at the back, under the top of the unit. Depress button until it engages and the unit will be reset.

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CARBON DIOXIDE INFORMATION

- Use carbon dioxide in ventilated areas only.
- Insert the regulator washer into the regulator connector fitting end that attaches to the carbon dioxide tank. Tighten the connector nut securely to the tank using an adjustable wrench.
- Attach the threaded connector hose of the carbon dioxide hose to the end of the regulator and tighten securely using an adjustable wrench.
- Carbon dioxide is a colorless, odorless, incombustible gas formed during respiration, combustion, and organic decomposition also used in food refrigeration, carbonated beverages, inert atmospheres, fire extinguishers and aerosols.
- On the carbon dioxide exhaust line there are three tiny holes that release carbon dioxide above the name plate, inward, upward, and outwards.
- The MKS is dispensing the carbon dioxide in various ranges equivalent to small pets, people and cattle.
- A 20 lb. carbon dioxide tank will last approximately thirty-one days.
- Carbon dioxide tanks are readily available in your area. Please check the yellow pages of your phone book under the headings titled "Gas-Industrial & Medical-Cylinder & Bulk", or under the heading of "Oxygen". Tanks are also available through ARCTIC PRODUCTS.
- The tank cover is for cosmetic purposes only.

CAUTION: Arctic suggest to use the regulator supplied with the unit. Arctic will not accept responsibility for the functioning of the MKS if an alternate regulator is used.

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FREQUENTLY ASKED QUESTIONS

Q: How does the MKS really work?

A: The MKS creates a source of heat and carbon dioxide that attracts female mosquitoes.

Q: What insects will the MKS eradicate?

A: The MKS will attract insects that are attracted to heat and carbon dioxide. Primarily the female mosquito, No-See-Ums, gnats, and biting flies.

Q: Does the MKS harm the environment in any way?

A: No, the MKS uses carbon dioxide which is completely harmless to the environment.

Q: Does the placement of the MKS affect the results?

A: Yes, mosquitoes look for the nearest source of heat and carbon dioxide. The closer the MKS is placed to mosquitoes, the better it works.

Q: Is the MKS expensive to maintain?

A: No, electricity and carbon dioxide are the only expenses for the MKS. The carbon dioxide the MKS uses breaks down to about .50 cents per day and the use of electricity breaks down to about \$6 to \$8 per month.

Q: "The MKS is plugged in but it seems to keep turning on and off. Is it working properly?"

A: Yes, the MKS has a unique operating cycle that emits carbon dioxide for 2 minutes, then stops for 1.5 minutes. The MKS then produces various animal body signatures every 6 to 9 minutes via its heat blanket.

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WARRANTY AND CONTACT INFORMATION

Full one year Factory Limited Warranty on all components and labor. ARCTIC Customer Service: 800-801-1951.

- All merchandise returned for reasons other than warranty issues will be subject to a 35% restocking fee. Customer will be responsible for the cost of freight to ship the return to ARCTIC.
- Repack the unit in original package if available. If the original package is not available, have the product packaged by a professional service. ARCTIC recommends that you insure the return shipment of all merchandise. ARCTIC accepts no liability for damages in shipment due to improper packaging.
- All returns must have a RGA (Return Goods Authorization) number or it will not be accepted. The RGA number must be clearly marked on the outside of the packaging. To receive an RGA number call Customer Service.
- All returned merchandise must have the individual's name, address, phone number and description of problem printed on a piece of paper. Enclose this information in the packaging along with the merchandise.
- All merchandise returned to ARCTIC for warranty repairs under the "one year manufacturers warranty" will not be subject to repair charges. PLEASE VERIFY THAT THE UNIT IS UNDER WARRANTY BY SERIAL NUMBER.
- Customer may be liable for all warranty repairs if the Warranty Registration Card has not been completed and returned within 30 days from purchase date.
- All merchandise returned to ARCTIC for repair that is not warranty work, will be subject to the following charges: \$35.00 per hour labor with a one-hour minimum, plus parts and packaging if necessary for reshipment. Customer will be responsible for all shipping charges.

WARRANTY CARD

To activate your MKS warranty, please complete this form and return to the address below within 30-days from purchase date. Omission of any information will void warranty. Failure to return this card within 30 days of purchase voids warranty. (photocopies are acceptable) Thank You.

Name: _____

Address: _____

City/State/Zip: _____

Model Number: _____

Serial Number: _____

Place Purchased: _____

Date Purchased: ____ / ____ / ____ Purchase Price: _____

Comments: _____



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