

PM 32 15118-1

15118

US ENVIRONMENTAL PROTECTION AGENCY OFFICE OF PESTICIDES PROGRAMS REGISTRATION DIVISION (75-767) WASHINGTON, DC 20480 NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> REGISTRATION <input type="checkbox"/> REREGISTRATION <i>(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)</i>	EPA REGISTRATION NO. 15118-1	DATE OF ISSUANCE May 13, 1993
	TERM OF ISSUANCE	
	NAME OF PESTICIDE PRODUCT lobio	

NAME AND ADDRESS OF REGISTRANT (Include ZIP code)

Baltimore Aircoil Company
P.O. Box 7322
Baltimore, MD 21227

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit/cite all data required for registration/ reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
2. Add the phrase, "EPA Registration No. 15118-1" to your label before you release the product for shipment.
3. Submit five (5) copies of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.
4. An inhalation study is required to fulfill the acute toxicity requirements. At our meeting on March 22, 1993 you stated that you were committed to producing such a study. You must submit the required study by September 22, 1994 as you have indicated in your response

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL	DATE
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For your information:

- The revised Confidential Statement of Formula dated 2-24-93 is filled out correctly and completely. It is in compliance with PR Notice 91-2, agrees with the label claim (the nominal concentration) and is acceptable.

A stamped copy of the labeling is enclosed for your records.

Sincerely,



Ruth G. Douglas
Product Manager (32)
Antimicrobial Program Branch
Registration Division (H7504C)

Enclosures

2/24/93

30418

Baltimore Aircoil Company

IOBIO™ Bacteria, Slime and Algae Control

IODINE CONTAINING CANISTER

KEEP OUT OF REACH OF CHILDREN

DANGER

ACTIVE INGREDIENT

Iodine	99.5%
INERT INGREDIENTS	0.5%
TOTAL	100.0%

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Call a physician.

If on Skin: Wash with plenty of soap and water. Get medical attention.

If Swallowed: Call a physician or poison control center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If Inhaled: Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Call a physician immediately.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

EPA Reg. No.
EPA Est. No.

Net Contents:

ACCEPTED
with COMMENTS
in EPA Letter Dated:

Manufactured for:

MAY 13 1993

Baltimore Aircoil Company
PO Box 7322
Baltimore, MD 21227

Under the Federal Insecticide
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed or inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Do not breath vapors. Wear goggles or face shield, protective clothing and chemical resistant gloves when handling. Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

Iodine is toxic to fish. Do not discharge into lakes, streams, ponds or public waters unless in accordance with a NPDES permit. Do not contaminate water when disposing of equipment washwaters. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

Do not store or ship in the presence of ammonia. This product will form explosive nitrogen iodides when contacted with gaseous ammonia, aqueous ammonia solutions (such as household ammonia) or alkaline solutions of ammonia salts.

THIS CANISTER CONTAINS A COMMERCIAL GRADE OF PURE, ELEMENTAL IODINE. DO NOT DAMAGE OR IN ANY WAY ATTEMPT TO EMPTY CANISTER OF CONTENTS.

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DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

The **IOBIO™** device aids in the control of bacteria, algae and slime in open recirculating cooling water systems that are used in conjunction with cooling towers, evaporative condensers and evaporative fluid coolers. The **IOBIO™** device automatically controls and continuously dispenses a precise and very low concentration of elemental iodine into the recirculating water.

DO NOT USE THIS PRODUCT WITH AIR WASHERS OR DIRECT EVAPORATIVE COOLERS USED FOR HUMAN COMFORT COOLING. DO NOT USE THIS PRODUCT WITH EVAPORATIVE CONDENSERS UTILIZING AMMONIA AS A REFRIGERANT.

IOBIO™ is not affected by pH values, dissolved mineral levels, or temperatures commonly found in open recirculating water systems which cool air-conditioning and industrial processes. When correctly selected and applied, the **IOBIO™** canister requires replacement only once per year.

See the enclosed booklet for background information on the **IOBIO™** device and instructions on installing and operating the product.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Keep canister tightly closed. Store in a dry place. Do not store in the presence of ammonia.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Canister Disposal: DO NOT THROW EXPENDED IODINE CANISTERS IN THE TRASH. Ship the expended canister back to the manufacturer in the reusable carton that arrives with the replacement canister. See section on replacing canisters in Directions for Use booklet for instructions on changing canisters.

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Baltimore Aircoil Company

I O B I O™

BACTERIA, SLIME, AND ALGAE CONTROL

APPLICATION KIT

DIRECTIONS FOR USE

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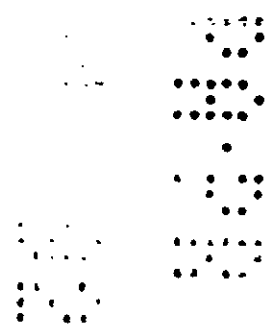
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Patent Pending

BAC Technical Publication No. MEM00107

3/3/92 -

APPLICATION INSTRUCTIONS

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

IOBIO™ Bacteria, Slime, and Algae Control is intended for use on open recirculating cooling water systems that are used in conjunction with cooling towers, evaporative condensers, and evaporative fluid coolers. The IOBIO™ Device automatically controls and continuously dispenses a precise and very low concentration of elemental iodine into the recirculating water.

DO NOT USE THIS PRODUCT WITH AIR WASHERS OR DIRECT EVAPORATIVE COOLERS USED FOR HUMAN COMFORT COOLING. DO NOT USE THIS PRODUCT WITH EVAPORATIVE CONDENSERS UTILIZING AMMONIA AS A REFRIGERANT.

IOBIO™ Bacteria, Slime, and Algae Control is not affected by pH values, dissolved mineral levels, or temperatures commonly found in open recirculating water systems which cool air-conditioning and industrial processes. When correctly selected and applied, the IOBIO™ canister requires replacement only once per year.

PRINCIPLE OF OPERATION

The IOBIO™ Device is installed in the make-up water piping to the cooling tower, evaporative condenser, or evaporative fluid cooler. As make-up water flows through the device, the flow is divided into two streams, a primary stream and a much smaller secondary stream.

The secondary stream passes slowly and gently through a bed of elemental iodine, allowing it to become saturated with iodine at approximately 300 ppm. The primary and secondary flows are then remixed such that the make-up water exiting the device contains approximately 3.0 ppm of elemental iodine. This concentration entering the cooling tower through the water level control mechanism (i.e. float valve) is sufficient to maintain a very low and benign residual concentration of iodine in the recirculating water of approximately 0.3 ppm.

IOBIO™ Bacteria, Slime, and Algae Control does not intensify an existing corrosive or scaling condition, nor does it eliminate such conditions. Additional water treatment may be required for corrosive and/or scaling situations. BAC recommends that the services of a competent water treatment specialist be obtained in all instances.

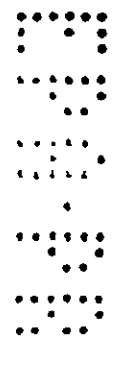
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PHYSICAL DESCRIPTION

The IOBIO™ device is constructed of two primary components, a permanent upper housing and a replaceable lower iodine canister. The iodine canister contains a quantity of elemental iodine designed to last a full operating season on a duty cycle typical of commercial air conditioning installations in the southern U.S. (12 hr./day, 10 mo./yr.), with blow-down set for five cycles of concentration. In more moderate climates, the canister will last longer. On industrial installations, replacement may be required several times per year. Since the exact duty cycle is difficult to project on each application, it is suggested the IOBIO™ Device be monitored during the first season of use, and a replacement canister size be ordered that best matches the desired replacement interval.

Available IOBIO™ canister sizes:

NOMINAL DIMENSIONS	NOMINAL SYSTEM SIZE	MAXIMUM ALLOWABLE, MAKE-UP WATER FLOW THRU CANISTER*
4 in. dia. x 6 in. long	10 tons	10 GPM
4 in. dia. x 6 in. long	33 tons	10 GPM
4 in. dia. x 10 in. long	60 tons	10 GPM
4 in. dia. x 20 in. long	137 tons	10 GPM
6 in. dia. x 10 in. long	161 tons	15 GPM
6 in. dia. x 20 in. long	370 tons	15 GPM

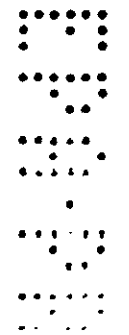
* Water flow in excess of these values, on a day in/day out basis, will erode the internal passage ways of the IOBIO™ Device. Water flow as much as 30% above these values can be tolerated for seven days per year.

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PRECAUTIONARY STATEMENTS

THE IOBIO™ CANISTER CONTAINS A COMMERCIAL GRADE OF PURE, ELEMENTAL IODINE. DO NOT DAMAGE CANISTER OR IN ANY WAY ATTEMPT TO EMPTY CANISTER OF CONTENTS.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Iodine is corrosive to the eyes and skin. Inhalation of vapors causes irritation and burning of respiratory tract. When swallowed, severe burning of the mouth, vomiting, abdominal pain, and diarrhea will occur. Ingestion of 2 to 3 grams may cause death. Avoid iodine contact with eyes, skin, and mouth. Do not breathe vapors. Wear goggles or face shield, rubber gloves, and protective clothing when handling pure iodine. Wash thoroughly with soap and water after handling iodine. Immediately remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

Iodine is toxic to fish. Do not discharge into lakes, streams, ponds, or public waters unless in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. Do not contaminate water when disposing of equipment washwaters. For guidance, contact your State Water Board or Regional Office of the Environmental Protection Agency (EPA).

PHYSICAL OR CHEMICAL HAZARDS

DANGER - EXPLOSION HAZARD: Do not store in the presence of ammonia. Iodine will form explosive nitrogen iodides when contacted by gaseous ammonia, ammonia solutions (such as household ammonia), or alkaline solutions of ammonia salts.

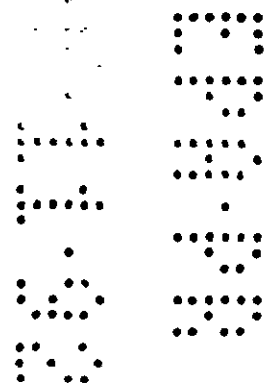
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STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush with large amounts of water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. If physician is not available, flush for an additional 15 minutes. Call a physician immediately.

IF ON SKIN: Immediately wipe away excess material with a dry cloth while removing contaminated clothing and shoes. Wash affected areas thoroughly with large amounts of water and soap. Call a physician immediately.

IF INHALED: Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Call a physician immediately.

IF SWALLOWED: Promptly drink large quantities of water. Do not induce vomiting. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contra-indicate the use of gastric lavage.

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STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL

Storage:

Keep canister tightly closed. Store in a dry place. Do not store in the presence of ammonia.

Pesticide Disposal:

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of federal law. If these wastes cannot be disposed of by use, according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Canister Disposal:

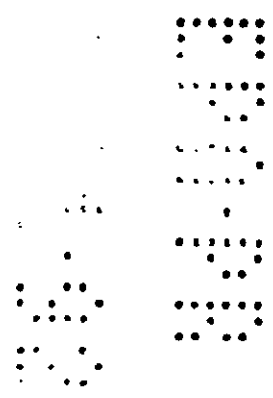
DO NOT THROW EXPENDED IODINE CANISTERS IN THE TRASH. Ship the expended canister back to the manufacturer in the reusable carton that arrives with the replacement canister. See the instructions in this booklet for replacing and disposing of canisters.

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PLUMBING CONSIDERATIONS

Before installing the IOBIO™ Device, check the make-up water pressure available at the cooling tower under a no-flow condition (manually close float valve if necessary). The maximum allowable working pressure for the device is 100 psig.

Check the make-up water pressure available at the cooling tower under a maximum flow condition. To overcome the flow resistance of the float valve, IOBIO™ Device, anti-syphon valve, piping, and fittings, and to provide the minimum pressure necessary to seat the anti-syphon valve, the measured pressure must be 15 psig or greater.

It is recommended that the IOBIO™ Device be installed using the PVC pipe and fittings enclosed with this kit. Under prolonged shut-down conditions, the water in the piping in the immediate vicinity of the Device can become concentrated with iodine at up to 300 ppm. CAUTION: AT 300 ppm IODINE CONCENTRATION, SOME CORROSION OF METALLIC PIPING WILL OCCUR. If the Device must be installed with steel or copper piping to comply with a local plumbing code, the pipe should be inspected at the time of each annual canister replacement, and corroded pipe should be replaced.

CAUTION: PLUMBING CODES REQUIRE THAT POTABLE WATER DISTRIBUTION SYSTEMS BE PROTECTED FROM CONTAMINATION BY NON-POTABLE WATER. Cooling tower water is considered to be non-potable. Contamination can occur when the potable piping is opened for service work at a location below the cooling tower, causing a syphoning effect at the tower.

Under most circumstances, BAC cooling towers require no mechanical isolation from the potable water supply because the make-up water valve (float-operated valve) discharge connection has been positioned at a height above the basin overflow that is more than the minimum required by model codes for an "air break".

When the IOBIO™ Device is installed in the make-up water piping, it must be mechanically isolated from the potable water system. The anti-syphon valve furnished with this kit is a "Pressure Vacuum Breaker" which meets the American Society of Sanitary Engineers (ASSE)-1020 specification and is approved for "high hazard" application by Building Officials & Code Administrators Intl. Inc. (BOCA), International Association of Plumbing & Mechanical Officials (IAPMO), International Conference of Building Officials (ICBO), Southern Building Code Congress International (SBCCI), and the Canadian Standards Association (CSA). Consult the specification sheet enclosed with the anti-syphon valve for further information.

If the cooling tower is already isolated from the potable water supply with a "Reduced Pressure Principle Backflow Preventer" (ASSE-1013), or a "Pressure Vacuum Breaker" (ASSE-1020), the anti-syphon valve furnished with this kit is not needed. However, any existing apparatus should be tested in accordance with the manufacturer's specifications to ensure proper functioning.

CONSULT LOCAL PLUMBING CODES TO ENSURE INSTALLATION COMPLIANCE.

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PARTS LIST

The IOBIO™ APPLICATION KIT contains the following items:

- Upper housing.
- Housing mounting bracket.
- Anti-syphon valve and specification sheet.
- Mounting bracket for anti-syphon valve.
- Plastic strap.
- Sheet metal screws for brackets.
- PVC pipe.
- PVC fittings.
- Drain plug (for 6 inch diameter; opaque blue canister, only).
- Instructions.
- IOBIO™ Replacement Canister Package.

TOOLS AND MATERIALS REQUIRED FOR INSTALLATION

- Drill.
- Drill bits.
- Hand wrenches.
- Pipe thread dope or sealant.
- PVC solvent cleaner.
- PVC pipe adhesive.
- Hack saw.

Additional tools and materials as necessary to re-route and modify existing make-up water supply piping (copper, steel, or PVC) to fit pipe thread connection at bottom of anti-syphon valve.

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INSTALLATION INSTRUCTIONS

The IOBIO™ Device should be installed as close as possible to the make-up water connection to the cooling tower and should be attached to the side of the cooling tower. Do not install the device at a location remote from the immediate vicinity of the tower.

If the make-up water frequently contains sand or other particulates, a commercially available water filter should be installed upstream of the anti-syphon valve. An occasional particle of sand, smaller than .020 inch diameter, will not harm the IOBIO™ Device, however, A CONTINUING FLOW OF SUCH PARTICLES WILL RENDER THE DEVICE INACTIVE AND MAY PREVENT THE ANTI-SYPHON VALVE FROM SEATING PROPERLY. A filter will not be needed with a normal potable water supply.

In the direction of make-up water flow, the major components should be installed in the following order (Figures #1 and #2):

Service valve, if any (not supplied).

Water filter, if any (not supplied).

Water meter, if any (not supplied).

Anti-syphon valve.

IOBIO™ Device.

Existing water level control (float valve or electrically actuated valve).

1. Identify a convenient location for the IOBIO™ Device on the side of the cooling tower near the make-up water inlet connection. Allow 2 inches of clearance beneath the iodine canister to permit removal and replacement.
2. Locate a spot to mount the anti-syphon valve, allowing a minimum valve elevation of 12 inches and a minimum straight run of pipe upstream of the IOBIO™ Device of 10 inches, as shown in Figures #1 and #2.

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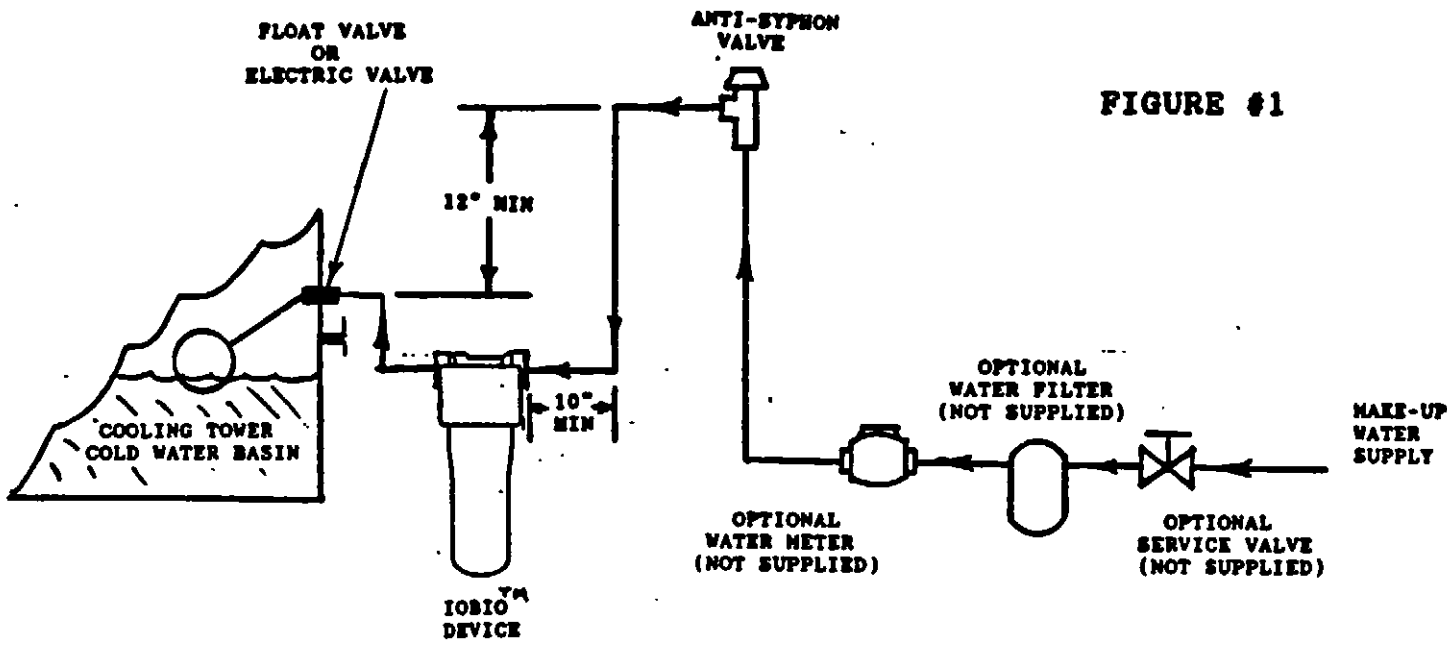


FIGURE #1

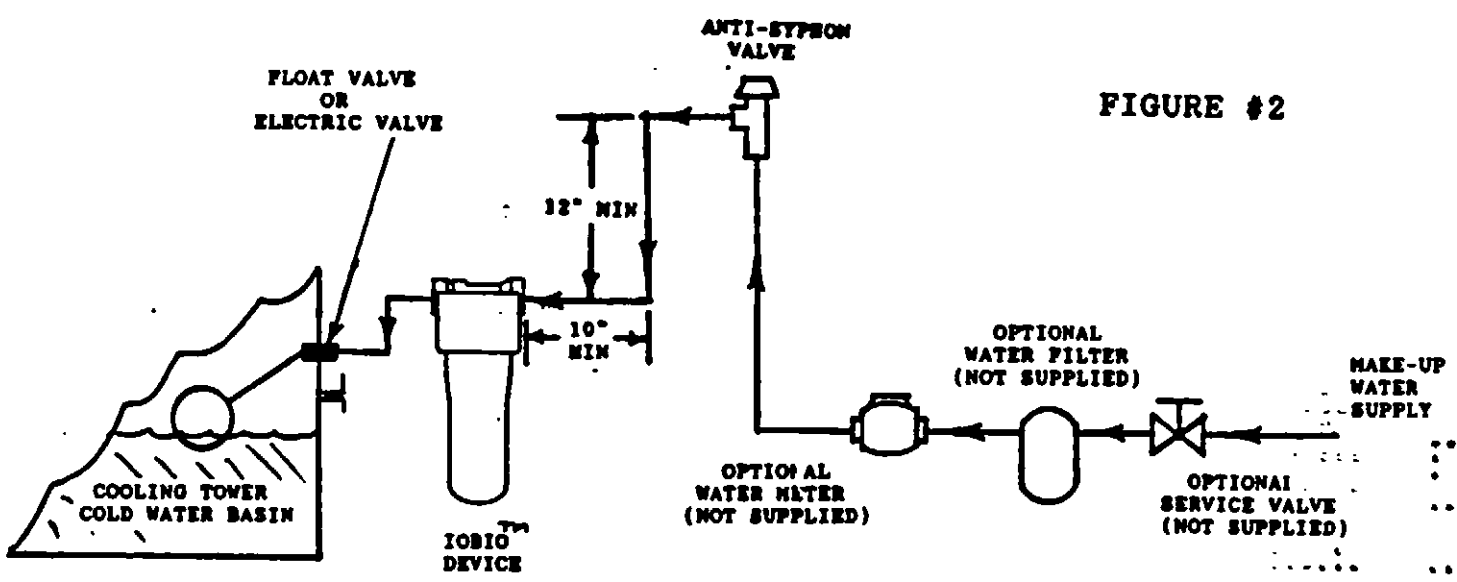


FIGURE #2

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3. Drill holes in the cooling tower casing, using the mounting brackets as templates. Attach mounting brackets with sheet metal screws provided (Figure #3).
4. Turn off make-up water to cooling tower. If it is desired to keep the cooling tower in operation during installation of the device, supply make-up water to the tower with a garden hose.
5. Remove the existing piping from the cooling tower water level control mechanism.
6. Attach the upper housing of the IOBIO™ Device to its bracket with screws provided. Observe the flow direction markings on water connections (Figure #3).

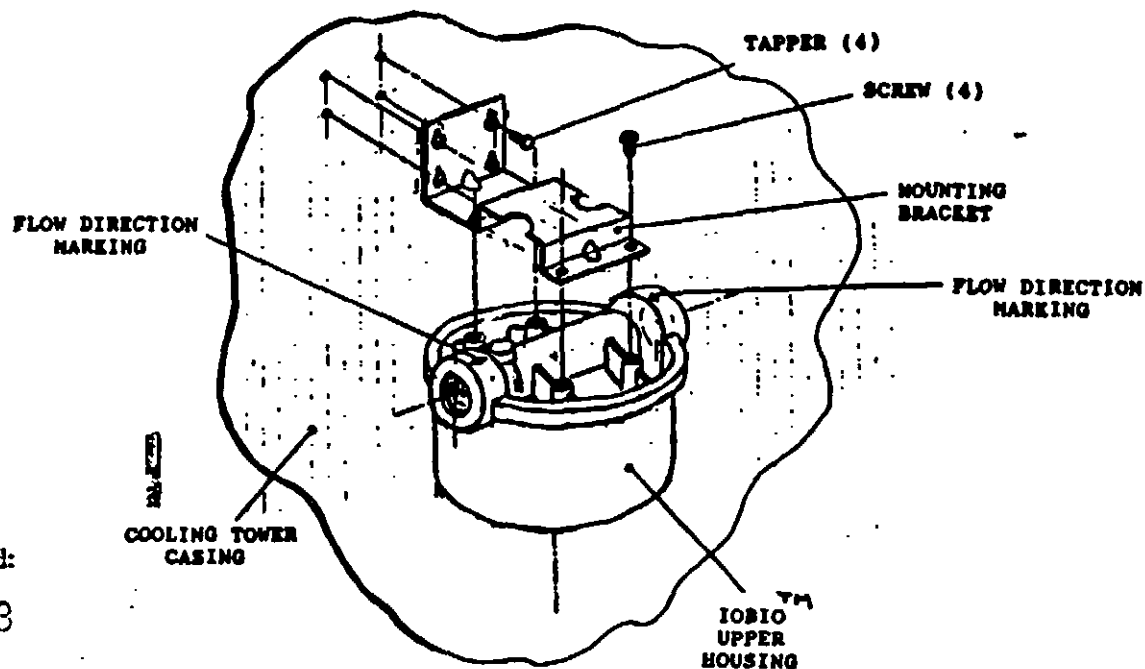


FIGURE #3

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7. Open the ball valves that are located at the inlet and outlet of the anti-syphon valve.
8. Attach the anti-syphon valve to its mounting bracket using the plastic strap provided. Close the test connections.
9. Piping from the anti-syphon valve to the IOBIO™ Device, and from the device to the cooling tower water level control mechanism (float valve or solenoid valve), must be plastic to minimize corrosion. Install the PVC pipe thread adapters, using pipe dope or sealant.
10. Cut, deburr, and install PVC pipe, using joint cleaner and adhesive..
11. Modify existing make-up water piping to make connection to bottom inlet of anti-syphon valve.

- 12. Remove the IOBIO™ canister from the Replacement Canister Package, and remove the plastic bag from around the canister. Following the instructions enclosed with the canister, remove the plastic closure part(s) and install the canister into the upper housing.
- 13. When an expended canister is being replaced, the closure part(s) from the new canister is used to cap the expended canister for shipment back to the manufacturer for recycling. On a new installation of the IOBIO™ Device, the plastic closure part(s) should be rinsed under a faucet and then discarded. DO NOT RETAIN THESE CLOSURE PARTS FOR OTHER USES. THEY ARE CONTAMINATED WITH IODINE AND CAN CAUSE HARM TO HUMANS AND DOMESTIC ANIMALS.
- 14. Install drain plug in bottom of canister (6 inch diameter, opaque blue canister only).
- 15. Turn on make-up water to the cooling tower and check for leaks.

OPERATING INSTRUCTIONS

The IOBIO™ Bacteria, Slime, and Algae Control requires operator attention. The residual iodine concentration in the cooling tower and recirculating water should be checked daily for several days following the initial installation of the IOBIO™ Device and following a canister replacement. Thereafter, the iodine concentration in the cooling tower and recirculating water should be checked weekly during the operating season.

To measure the residual iodine concentration in the cooling tower and recirculating water, use the test kit enclosed in the replacement canister package. Follow the instructions enclosed with the test kit. The residual iodine content in the water should be between 0.1 and 0.5 ppm.

The amount of iodine remaining in the canister can be determined by observing the black mass within the translucent canister. Opaque blue canisters are equipped with a sight glass to provide a visual indication when the iodine is nearing depletion. The operator should procure a replacement canister when the level of iodine beads is at the center of the sight glass on the opaque blue canister or when the black mass has diminished to the horizontal score mark on the translucent canister.

When the cooling tower is secured for freezing weather, and after the make-up water to the tower is valved off, the plug at the bottom of the canister should be loosened to allow the water in the canister and adjacent piping to drain out. Alternatively, in situations where the cooling tower is operated in freezing weather, the canister and upper housing should be wrapped with heat trace material and LIGHTLY insulated. WARNING: DO NOT OVER-INSULATE! The canister is plastic which can be damaged by excessive heat. If the IOBIO™ Device is overheated to 250 degrees F, the entire Device must be replaced.



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CANISTER REPLACEMENT INSTRUCTIONS

1. Turn off the make-up water to the cooling tower. The ball valve at the outlet of the anti-syphon valve may be used for this purpose.
2. Remove drain plug from bottom of expended canister to drain canister and piping of water.
3. Remove the expended canister by unscrewing it from its upper housing. Place expended canister upside down over an open drain to empty any remaining water.
4. Remove the fresh IOBIO™ canister from its carton, and remove the resealable plastic bag.
5. In an open and well ventilated space, and while keeping face away and upwind of canister, CAREFULLY remove the plastic closure part(s) from the fresh canister. The canister is not under pressure, but a small amount of iodine vapor will be released when the canister is opened. Avoid breathing iodine vapors. DO NOT DISCARD CLOSURE PART(S). They are to be used to close expended canister for return shipping.
6. Observe seal ring at upper end of fresh canister. Ensure that it is well lubricated with light grease. If dry, apply thin coat of Vaseline.
7. Install fresh canister by screwing it into the upper housing. Turn 4 inch diameter (translucent) canister clockwise until solid stop at end of thread is felt. Turn 6 inch diameter (opaque blue) canister clockwise until seal ring is firmly compressed.
8. Install plug into bottom of fresh canister (6 inch diameter, opaque blue only).
9. Turn on the make-up water to the cooling tower and check for leaks.

CANISTER DISPOSAL INSTRUCTIONS

1. Reinstall plug at bottom of expended canister (4 inch diameter, translucent only).
2. Install plastic closure part(s) onto expended canister.
3. Insert expended canister into plastic bag and reseal.
4. Insert bagged canister into shipping carton. Seal carton.
5. Attach prepaid shipping label to carton.
6. Ship.

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Fungicide, and Rodenticide Act as
amended for Fungicide
registered under FIFRA No.

15118-1

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