

Coolworks®

IceProbe®

Thermoelectric Aquarium Chiller



Model IPAC-50W

Instructions & Warranty
(For U.S.A. Only)

Safety Precautions

To operate your CoolWorks IceProbe Aquarium Chiller:

1. Read all instructions.
2. To protect against electrical shock, do not place cord, plugs, or appliance in water or other liquid.
3. Do not operate this device with a damaged cord or plug or if the device malfunctions. Return device to the factory for examination, repair or adjustment. See Warranty.
4. Do not use outdoors or in damp area.
5. Do not let cord hang over edge of table or counter, or touch hot surfaces.
6. Do not use device for other than intended use.
7. Provide four to six inches of air space around the fan and heat sink for air circulation.
8. Do not plug the IceProbe directly into a 120VAC power source (i.e. standard wall outlet). This device is intended to operate at 12VDC and draws approximately 5 amps.
9. Only power the IceProbe with the power supply included with the device.
10. Do not attempt to service this product. Repairs should be done by authorized service personnel.

IMPORTANT:

- When unpacking or installing the unit, do not scratch or chip the protective coating covering the probe.
- Keep the IceProbe's electrical components and Power Supply away from salt spray.

Introduction

CoolWorks' **IceProbe Thermoelectric Aquarium Chiller** (IPAC-50W) is the ideal cooling solution for small aquariums and insulated bait or specimen tanks. Quiet, reliable and efficient, the chiller uses advanced thermoelectric technology to directly convert electricity into cooling power.

With its threaded probe, nylon nut, and silicon washer, the IceProbe can be easily bulkheaded through a 1.25" hole into siphon overflows, prefilters, sumps, or aquarium walls, or suspended from the top of the aquarium.

In a standard aquarium, a single chiller can cool 10 gallons of water 6°F to 8°F below ambient air temperature. Multiple Aquarium Chillers can be used to achieve higher temperature differentials.

Typical Temperature Pulldown (°F)

		Gallons of Water		
		10	20	40
Chillers	1	6-8	3-4	1-2
	2	10-12	6-8	3-4

Greater temperature differentials can be achieved by insulating the exterior surfaces of the aquarium. For example, a single Aquarium Chiller can maintain a temperature differential of over 20°F in a fully insulated 10 gallon aquarium.

Pre-Installation Preparation

Before installing this product, please read this entire manual carefully.

Assess the area where you intend to bulkhead the IceProbe before drilling any holes. It is important to ensure there is adequate clearance for the probe and ample space for air circulation around the fins and fan. In larger aquariums (20 to 55 gallons), two or more Aquarium Chillers may be needed to achieve the desired temperature differential. If you intend to install multiple units in a single sump/prefilter/aquarium, space the units so that the heat sinks do not contact each other.

Ventilation

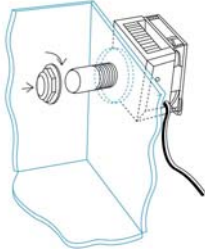
The IceProbe's thermoelectric cooling system chills water by removing heat from the water reservoir and dissipating it via the system's fan into the surrounding area. It is critical that the heat can easily escape, as excessive heat build up can adversely affect the chiller's cooling ability. To ensure optimum chiller performance, place the unit in a clean environment with adequate ventilation. **There should always be four to six inches of open space around the chiller. Do not place the chiller in a completely enclosed cabinet.** Without proper ventilation, the cooling system will not function properly and could be permanently disabled by the system's built in safety feature.

Bulkhead Installation

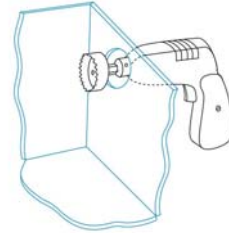
To achieve a watertight bulkhead installation of the IceProbe:

1. Drill a 1.25-inch diameter hole into your sump/prefilter/aquarium.

Note: The hole can be easily drilled through a plastic or acrylic wall using a standard hole saw available at most hardware stores. An experienced glass cutter should be consulted for bulkhead installations in glass aquariums.

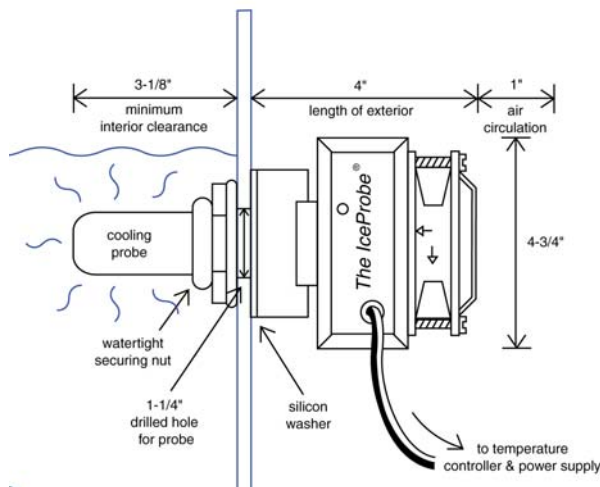


2. Remove the white nylon nut from the threaded probe.
3. Insert the probe through the hole with the clear silicon washer on the outside (dry side) of the reservoir wall.
4. Tighten the nylon nut on the threaded probe. While a watertight seal can often be achieved by hand tightening the nut, we recommend using an adjustable wrench. However, be careful not to over tighten the nut by applying excessive force.



The IceProbe can be oriented in any way. Provided that the probe is fully submerged in water and air can freely circulate around the IceProbe's fins and fan, it can be installed through a top, side, or bottom wall. Alternatively, a simple bracket or lid can be used to suspend the IceProbe for top mounting.

Installation Overview



Normal Operation

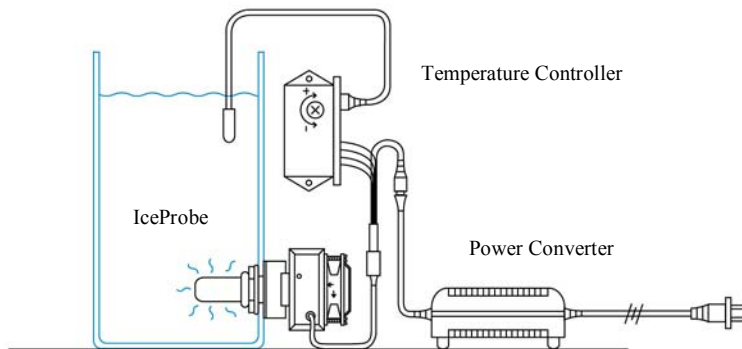
The IceProbe will begin operating once the proper electrical connections are made (there is no “on/off” switch). The system is designed to run continuously when plugged in. The green LED indicates that power is being delivered to the cooling element.

When the system is running, you should be able to see the fan quietly turning and you should be able to feel warm air being exhausted through the aluminum heat sink.

In applications where the IceProbe is cooling large volumes of water, such as in aquariums, the temperature of the probe will only be slightly cooler than the liquid around it. To achieve the maximum temperature pull down, the unit must run continuously for several days.

Optional Temperature Controller

The chiller cools continuously when powered. In most aquarium implementations, the CoolWorks Proportional Temperature Controller is added to regulate the IceProbe’s cooling power.



CoolWorks offers two Proportional Temperature Controllers for aquarium applications. Our TEC-65 controller is designed for tropical aquarium environments, with an adjustable temperature range of 65°F to 85°F. Our TEC-45 is designed for cold water aquariums with a temperature range of 45°F to 65°F.

. For more information, please visit our website at www.coolworksinc.com or contact CoolWorks Customer Service.

Maintenance

The CoolWorks IceProbe Small Aquarium Chiller is made with high quality components and is thoroughly tested prior to shipment to assure years of dependable operation. Please follow these instructions to properly maintain your chiller after installation.

Operating Environment

Always ensure that the operating environment around the IceProbe and power supply is clean, dry and uncluttered. Keep all electrical components away from excessive salt spray. Continual exposure to salt spray will corrode the electrical components and lead to premature failure. When cleaning or changing water in your aquarium, be careful not to splash or spill water onto the IceProbe, temperature controller or power supply. If the power supply is exposed to water, its safety fuse will open to prevent an unsafe electrical condition and the power supply will have to be replaced.

Ventilation

In order to effectively chill water, the IceProbe must be able to dissipate the heat it is removing from the water into the atmosphere. Occasionally verify that fan motor is operating properly and ensure that nothing is obstructing the flow of air through the IceProbe's fins. The IceProbe's fan motor is designed to run continuously, even when used in conjunction with CoolWorks temperature controllers. Compressed air, a small vacuum cleaner attachment, or a small soft brush can be used to remove dust and lint from the fan and thereby extending its useful life. If the fan motor is not running at all or very slowly, contact CoolWorks Customer Service.

Probe Coating

The solid aluminum probe which contacts the water is coated with a very durable FDA compliant material. Care should always be taken when handling and installing the IceProbe to ensure that this coating is not scratched or chipped. If the coating is compromised, salt water will begin to corrode the aluminum and the coating will eventually fail. While failure of the coating material degrades the appearance of the probe, it will not affect the IceProbe's cooling performance or the watertight seal. While aluminum exposure is generally considered safe (e.g. aluminum cookware), you may want to verify that the aquatic life in your aquarium will not be adversely affected by exposure to aluminum if corrosion occurs.

Exterior Cleaning

Clean the outside of the IceProbe, temperature controller, and power supply as necessary with a soft damp cloth. Never submerge any of these devices in water or allow water to enter the housings which protect the electrical components. Never use abrasive cleaners or equipment. To prevent electrical shock and hazards, always unplug electrical devices before cleaning.

Diagnostics

The CoolWorks IceProbe has a straightforward diagnostic system that makes it easy to determine the cause of performance problems. By observing the status of the LED on the electrical cover and determining if the fan motor is operating, the most common failures can be identified and resolved.

The easiest way to verify whether or not the IceProbe is functioning properly is to simply remove it from the reservoir and run it with the probe in the open air. If working properly, the probe should be noticeably cold to the touch within several minutes and should get cold enough to form dew or even frost within 30 minutes. If the probe does not get cold, please refer to this diagnostic chart:

LED	FAN	Most Likely Causes
OFF	OFF	Power cord not properly connected at wall outlet or to chiller. No power at electrical outlet. Power supply failure.
ON	OFF	Fan failure.
OFF	ON	Safety thermal fuse has opened.
ON	ON	Thermoelectric cooling module failure.

Please contact a qualified electrician if the cause of the problem is related to your electrical outlet. Replacement power supplies can be purchased from CoolWorks Resellers or CoolWorks Customer Service and can be easily installed. Fan motor, safety thermal fuse, and thermoelectric cooling module repairs must be performed by the CoolWorks Repair Center.

Power Specifications

The IceProbe is a “low voltage” device that is designed to draw about 5 amps at 12 volts DC (60 watts). The power converter provided with your chiller will convert the 120 volt AC electricity from your wall outlet to the correct 12 volt DC output required by the chiller.

NEVER ATTEMPT TO POWER THE ICEPROBE BY PLUGGING IT DIRECTLY INTO A 120 VAC ELECTRICAL OUTLET.

Place the power converter in a clean, dry place, where air can circulate around it freely.

Connect the 4-prong plug into the chiller and the 2-prong plug into the wall outlet.

DO NOT SUBMERGE THE ENTIRE UNIT OR ANY ELECTRICAL WIRES IN WATER. ONLY THE PROBE PORTION OF THE DEVICE SHOULD CONTACT WATER.

Limited One Year Warranty

CoolWorks Inc. warrants this product, to original purchaser, for one year from purchase date to be free of defects in material and workmanship.

Should any defect be discovered within one year of date of purchase, CoolWorks Inc. agrees to repair or replace the defective part or product at no charge other than handling and return freight charges, provided said part or product is returned with all shipping charges prepaid to CoolWorks Inc., Service Department, 819 A Street, San Rafael, CA 94901, accompanied by proof of purchase and a letter detailing the nature of the defect. The Customer Service Department of CoolWorks Inc. should be contacted prior to any action in the event it is possible to correct the defect without returning the unit.

This warranty does not apply to any unit that has been tampered with, or to damages incurred through negligence in use, faulty packing, or mishandling in transit by any common carrier. Your remedy does not include loss of aquatic life, cost of inconvenience, or damage due to product failure. In no event shall CoolWorks Inc. be liable for incidental or consequential damages.

This warranty gives you specific legal rights; you may also have other rights, which vary from state to state.

Service Information

To assure years of dependable service, our products are made with high quality materials and are thoroughly tested prior to shipment.

At CoolWorks, your satisfaction with our products is our top priority. Should you encounter any form of product failure, please contact our Customer Service Department:

CoolWorks Inc.
819 A Street
San Rafael, CA 94901
Phone: (415) 485-5552
Fax: (415) 258-9963
Email: service@coolworksinc.com
www.coolworksinc.com

This device should be serviced only by properly trained repair technicians. Please do not attempt to service this product yourself.

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