AquaEuroUSA™
Trusted for Quality and Performance

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1-800-978-3480
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State of the Art Cooling Chiller

Great for freshwater, saltwater and reef tanks

INSTRUCTION MANUAL

MODEL: **MC-1/13HP & 1/10HP**

Before operating this appliance, please read this instruction manual completely and keep it handy for future reference.

CE

CONTENTS

LIMITED WARRANTY

AquaEuroUSA™ guarantees this product, to the original purchaser, against defects in components, materials and workmanship (that occur under normal use) for a period of ONE (1) YEAR from the date of retail purchase. The warranty is not transferable and is confined to the original retail purchaser only. The warranty does not extend to damages caused by power surges, saltwater corrosion, improper installation or any form of abuse. The warranty does not apply if (1) damages result from misuse, accident, lack of reasonable care or abuse, (2) the product is not purchased from AquaEuroUSA™ or an authorized dealer, (3) damage due to modification or alteration that is made to the product (4) wrong circuitry or unspecified electrical input to the chiller, (6) the site (location where the product is kept) conditions do not conform to the recommended operating conditions for the chiller, (6) the original brand name is removed, obliterated or altered from the product.

Contact the company at www.aquaeurousa.com

Purchaser pays any postage, shipping and insurance fees to return chiller. If the repairs needed are covered by the warranty, the company will pay the return shipping charges to destinations in the U.S.A.

Again, in the event of product failure within the warranty period, please contact the store where the product was purchased for further instructions for repair or replacement. Repair or replacement will be carried out through AquaEuroUSA™ or its authorized dealers. A return authorization number (RMA) and a copy of original purchase receipt are required for return of the defective product. After any repairs/replacement of the unit, this warranty will thereafter continue and remain in force only for the unexpired period of warranty. Moreover, the time taken for repair/replacement and in transit whether under the warranty or otherwise shall not be excluded from the warranty period.

Limitation of Implied Warranties and Exclusion of Certain Damages.

Limit of Liability: For any single claim, the limit of liability under this contract is the least of the cost of (1) authorized repairs, (2) replacement with a product or equal or greater value, (3) reimbursement for authorized repairs or replacement, or (4) the price that you paid for the product. (No cash refunds will be made). The total liability under this contract is the purchase price you paid for the product; in the event we replace the product or reimburse you for replacement of the product with another product of equal or greater value, we shall have satisfied all obligations owed under this contract.

PREFACE

Thank you for purchasing a AquaEuroUSA™ MC chiller series, the chiller represents a significant step forward in aquarium cooler engineering, offering state of the art technology at highly competitive prices. Temperatures in aquariums that range in size between 12 to 1200 gallons can now be quickly and economically maintained by selecting the correct chiller model from the AquaEuroUSA™ MC series and, with a heat exchanger that is manufactured from high grade pure titanium, the chillers are suitable for applications in fresh or salt water aquariums. Quieter than a similar domestic or foreign refrigerator, whilst the digital temperature controller ensures that the selected temperature is maintained. AquaEuroUSA™ MC chiller series have a strong frame with a housing of ABS plastic which is anti–rust, anti–corrosive, ensuring the chiller does not look out of place in any surrounding unlike other cooling units, our chillers use the environment friendly refrigerant R134a (1HP chiller uses refrigerant R22).
For the complete use and understanding of this chiller, it is recommended that this instruction manual is thoroughly read and understood. Failure to do so may result in loss of livestock or damage to this unit.

SUGGESTIONS FOR SAFE OPERATION

Several symbols are used in this manual and on the product itself which are aimed at proper and safe operation in order to prevent injury to you or damage to the chiller. The meanings of these symbols are explained below. Please be sure you understand their meanings before you read this manual.

EXPRESSIONS (TERMS AND SYMBOLS)

Hazard seriousness level will be indicated by the term or shown by pictures. The symbol on the left is a general emphasis but specific details of the action which must be taken will be shown by a picture or explanatory near to the symbol.


This symbol advises you of an item which should be noted (including danger and warning).

This term indicates the possibility that continuing to work while ignoring this attention, or working incorrectly without full understanding, may cause personal injury or equipment damage.


This symbol advises you of an action which must be taken (is mandatory) in order to avoid danger.


This symbol advises you of an action which must not be taken (is prohibited) in order to avoid danger.

FEATURES

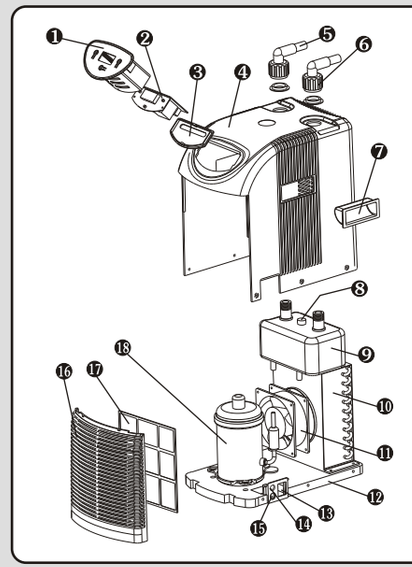
1. Microcomputer control system for the convenience of user.
2. Large refrigeration capacity.
3. Adopt Freon–free R134a refrigerant, which is safe and environment friendly.
4. Anti corrosive pure titanium evaporator can be used for fresh or salt water applications.
5. Auto overcurrent power off protection system.
6. Temperature memory system stores temperature setting in case of power failure.

TECHNICAL DATA

Model	MC–1/13HP
Rated Voltage	110–120V
Rated Frequency	60Hz
Working Current	1.6A
Power	1/13HP
Water Temperature Before Refrigeration	82°F
Refrigeration Time	20h
Water Temperature After Refrigeration (Water Refrigerated 34Gal)	57°F
Water Temperature After Refrigeration (Water Refrigerated 68Gal)	70°F
Rate of Flow	50–260GPH
Refrigerant	R134a
Refrigerant Weight	110g
Weight	21lb.
Size	13.3"L x 8.6"W x 12.8"H

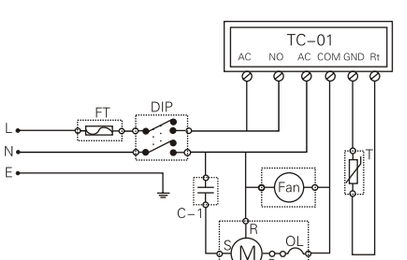
1. The rate of flow is decided according to the flow rate of the pump (submersible pump or other external power filter) and the circulation equipment.
2. The refrigeration performance test is indicated when the ambient temperature is 60°F, the water temperature before refrigeration is 82°F, the set temperature is 57°F and the water refrigerated is 34–68 Gal. When water refrigerated is reduced, the water temperature will drop down on.
3. The refrigeration efficiency is determined according to the installation location, heating source, lighting, pump\ filter and other connecting parts. Special pump and other accessories sold with AquaEuroUSA chillers should be used. Do not use other alternatives to avoid affecting the performance of the unit.
4. When there is not enough exchanged air in a room, the refrigeration efficiency is reduced if the surrounding temperature increases due to the heat from the unit.

PARTS LIST



❶ Control & command box
❷ Circuit board
❸ Back cover of circuit board
❹ Top cover
❺ Water inlet / outlet adaptor
❻ Nut ❼ Handle
❽ Water temperature sensor
❾ Tank (Evaporator inside)
❿ Condenser ⓫ Fan motor
⓬ Base ⓭ Power switch
⓮ Fuse ⓯ Socket
⓰ Front draft hood
⓱ Filter (Front draft hood)
⓲ Compressor

CIRCUIT DIAGRAM



TC–01–Temperature controller
FT–Fuse
FAN–Fan
OL–Motor protector
DIP–Switch
C–1–Capacitor
M–Compressor
T–Water temperature sensor

A GUIDE TO SIMPLE PROBLEM SOLVING

Before calling service personnel, please check the following chart for possible cause to the trouble you are experiencing.

SYMPTOM	CAUSE	COUNTERMEASURE
No power source. The unit doesn't run & nothing appears on temperature display	Power is not turned on	Turn on the power
	Not plugged properly	Be sure the power cord is fully plugged in
	The fuse is defective	Change a new one
The unit turns on and off	Apply to wrong voltage and frequency	Apply to correct power source according to the nameplate
	The unit protection device is responding	A. Check if the water circulation is normal B. If the fan and the chiller dissi–pate heat normally, wait for 3 minutes & the unit will turn on again automatically
Water refrigerated reduces or even no refrigeration	The compressor runs normally, but the fan stopped running, the unit can't dissipate heat	Replace with a new fan of the same specs
	The set temperature is higher than the aquarium water temperature	Reset desired water temperature
	The air filter inlet and outlet are clogged with dirt	Remove the dust from the air filter inlet/outlet with a brush or a vacuum cleaner
	Not enough refrigerant	☞ Look at pages 2/3, have the unit fill with the same type of refrigerant by a qualified technician
	Too much water in aquarium	Reduce the water
Running with shock & loud noise	The base is not flat	Mount it on a flat base

TECHNICAL DATA

Model	1/10HP
Rated Voltage	110–120V
Rated Frequency	60Hz
Working Current	2.2A
Power	1/10HP
Water Temperature Before Refrigeration	82°F
Refrigeration Time	20h
Water Temperature After Refrigeration (Water Refrigerated 60Gal)	60°F
Water Temperature After Refrigeration (Water Refrigerated 80Gal)	70°F
Rate of Flow	60–315GPH
Refrigerant	R134a
Refrigerant Weight	120g
Weight	33lb.
Size	16.5"L x 9.8"W x 14.4"H

1. The rate of flow is decided according to the flow rate of the pump (submersible pump or other external power filter) and the circulation equipment.
2. The refrigeration performance test is indicated when the ambient temperature is 86°F, the water temperature before refrigeration is 82°F, the set temperature is 60°F and the water refrigerated is 130/60–80Gal. When water refrigerated is reduced, the water temperature will drop down on.
3. The refrigeration efficiency is determined according to the installation location, heating source, lighting, pump, filter and other connecting parts. Special pump and other accessories sold with AquaEuroUSA chillers should be used. Do not use other alternatives to avoid affecting the performance of the unit.
4. When there is not enough exchanged air in a room, the refrigeration efficiency is reduced if the surrounding temperature increases due to the heat from the unit.

PRODUCT INTRODUCTION

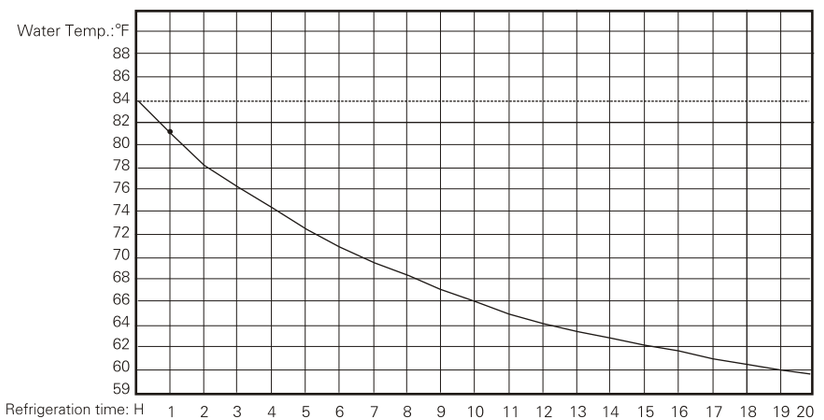
MODEL: MC–1/13 & 1/10 HP

AquaEuroUSA SERIES PRODUCTS

CHILLER

PERFORMANCE CURVE

MODEL:MC–1/13–1/10HP AMBIENT TEMPERATURE:86°F WATER REFRIGERATED:34G/40G

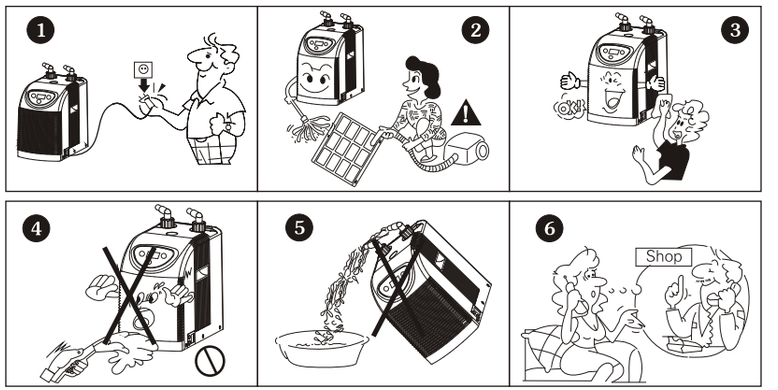


Note: The refrigeration performance test is indicated when the ambient temperature is 86°F, the water temperature before refrigeration is 82°F, and the water refrigerated is 34G/40G. When water refrigerated is reduced, the water temperature will drop down to any degree above 39°F in a short period of time.

INSTALLATION

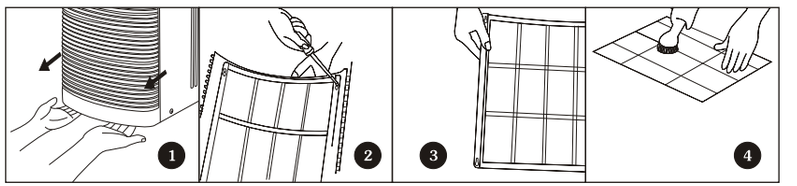
This chiller is designed and built with safety as prime concern. Each chiller is checked at the factory for safety and proper operation prior to shipment. Read and follow the safety rules before installation, operation and performing routine maintenance. Inspect chiller when it is received for damage that might have occurred during transportation. If you encounter any discrepancy or difficulties, contact the company you purchase the unit from.

5. If storing the unit for a long period of time, disconnect from power supply, remove the inlet & outlet hoses, use a pump to remove the water from the unit. Do not tilt chiller, clean all the parts with a soft cloth and cover it with a vinyl bag, put it into the color box, then store it in a safe and dry place. (Fig.5)
6. If the power cord is damaged, it must be replaced by the manufacturer or its service agent to avoid a hazard and void the warranty.
7. Do not try to repair a chiller that was damaged in shipment or usage. Contact the manufcturer or your retailer in the event of malfunction. (Fig.6)



CLEANING FILTER

1. Pull front hood cover out gently (Fig.1)
2. Loosen filter screws (Fig.2).
3. Remove the filter (Fig.3).
4. Completely remove the dust with a brush or a vacuum cleaner (Fig.4).
5. Install all the parts back by counter steps.

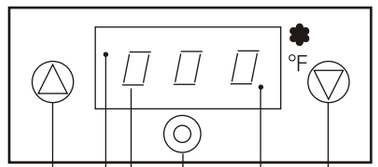


■ **REFRIGERATION COMPRESSOR ON & OFF AUTOMATICALLY**

When the refrigeration compressor stops working for over three minutes & the water temperature is 2°F above the set temperature, the compressor will automatically start to work. The compressor will automatically stop working when the aquarium water temperature reaches or is below the set temperature. The light "6" on the display will turn ON to indicate when the compressor is working and OFF to indicate the set water temperature has been reached. The compressor will then turn off and the light will start flickering to indicate that the protection device will be on for three minutes.

■ **DISPLAY SYSTEM**

Description of display system is also provided with the chiller. When the water temperature sensor has an open circuit or has a broken circuit, the letters "P1" or "P2" will appear on the display and the protection device will turn on to stop the chiller.



CLEANING AND MAINTENANCE

Warning: Do not touch chiller, cord or electrical plug with wet hands. Do not allow electrical components to get wet. If electrical components get wet, unplug chiller immediately.

1.Cleaning of the circulating system and the filtration system is recommended once a month for optimum refrigeration performance, operation and efficiency.
Unplug the power cord from the outlet before cleaning. (Fig.1)
2.Remove dust from both sides of the air filter: with a brush or vacuum cleaner. To avoid electric shock, during operation, do not insert wire into the exhaust outlet or the air inlet. (Fig.2)
3.The electric supply plug, power switch and temperature display must be cleaned with dry soft cloth. (Fig.3)
4.Do not submerge the unit in water or flush it directly with water to avoid damaging the electric components of the chiller. (Fig.4)

1. PLEASE CHECK THE CONTENTS OF THE PACKAGE:

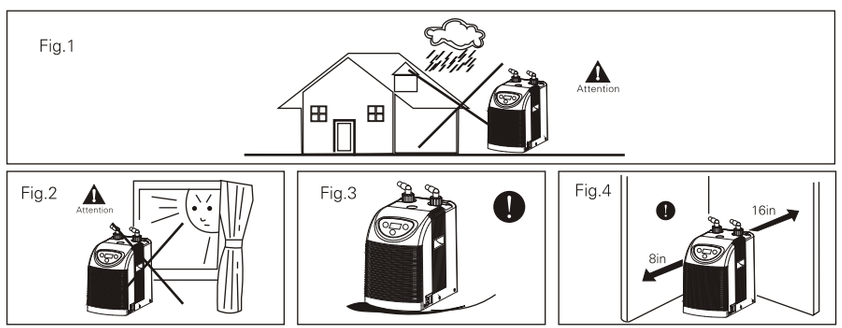
- ※ AquaEuroUSA MC chiller.....1 set.
- ※ Instruction manual .....1piece.

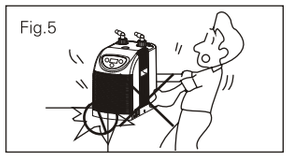
OPTIONAL :

- ※ Water inlet & outlet adaptor .....4 pieces.
- ※ Nut .....2 pieces.
- ※ Seal rubber plug.....2 pieces.
- ※ Fuse .....1 piece.

2. INSTALLATION SAFETY PRECAUTIONS

(1) Don't install the chiller outdoors. (Fig.1)
(2) Place the chiller in a well ventilated area away from flammables, high temperature, direct sun light, moisture or dust. Maximum operating room temperature for this chiller is 95°F.(Fig.2)
(3) Place the unit on a stable, flat, even horizontal surface. (Fig.3)
(4) Do not store chiller in a closed location that does not receive air flow such as a closet or cabinet. Clearance of at least 8" in the front and 16" in the back of the chiller are needed for proper air flow. (Fig.4)
(5) Don't cover the chiller while in operation. Do not place items on top of unit.
(6) The required water flow of the chiller is indicated in the technical data table. This chiller does not include a water pump. AquaEuroUSA water pump is sold separately. Do not use a pump with more than 19 feet of head pressure rating. Inadequate equipment can cause water leakage or other damage. (Fig.6)
(7) Do not put the unit up side down; it will cause damage to the unit. If unit is moved for any reason you must wait for 20 minutes before turning unit on (Fig.7)
(8) Do not operate chiller if you smell smoke or there is burning.
(9) Do not use extension cords. Keep all connections dry and off the ground.
(10) Do not allow water or salt to come in contact with thermostat or power cord.



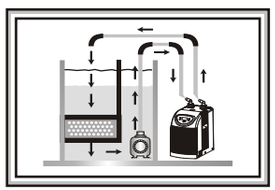


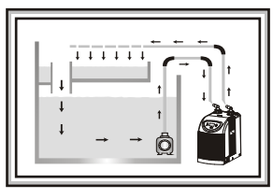
3. SAFETY:

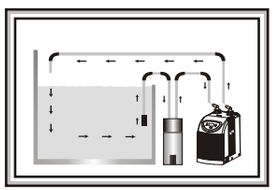
1. Do not attempt to repair unit yourself. Electrical work must be done by a qualified technician.
2. Provide a dedicated power outlet to be used only for the unit.
3. Ensure that the power source to be utilized match the power requirements specified on the product nameplate.
4. Plug the chiller into a dedicated GFCI(ground fault circuit interrupter) protected grounded electrical outlet. Do not leave any gap between connections.
5. Unplug unit before putting on or taking off parts, before cleaning and when not in use.

4. INSTALLATION METHODS

Note: The chiller must be operated with water pump or filtration system.
The chiller can be installed in a hidden position such as inside of an aquarium cabinet. If cabinet is completely sealed, air ventilation slots must be made. When making the slots, make sure the air intake slots are in exact alignment with the air vents of the chiller and the air outlet slots on the cabinet should be made as high as possible for easy air removal. The chiller should be installed with its back as near as possible to the slots of the cabinet to allow for fresh air circulation.
The chiller can also be installed under an open style aquarium cabinet. It must be installed at a minimum distance of 8–20 inches from each side of the cabinet, to allow fresh air flow in the chiller intake area. For best air circulation, avoid placing your chiller in an aquarium cabinet.
If the chiller is placed under an aquarium fitted with a filter, a water intake tube must be provided with the water pump which arrives directly to the input connector in chiller to ensure the intake water is pure. All water must be filtered before entering the chiller, or the evaporator will get dirty and this will affect the refrigeration. Please note that the filter (with the pump) must be located below the aquarium water level. If you wish to use an external filter, you must fill the filtration system with water before turning unit on.







5. BEFORE STARTING THE OPERATION OF THE CHILLER , PLEASE CHECK THE FOLLOWING POINTS:

(1) Check if the water level inside the aquarium is appropriate.
(2) Make sure the inlet and outlet plumbing fittings are connected properly to avoid water leakage.
(3) Connect chiller to a ground fault circuit interrupter (GFCI). Leave a drip loop in the power cord to prevent water from running the length of the power cord and reaching the power outlet.
(4) Check all connections for water leakage and/or obstruction. Do not operate chiller without water flow to the unit.

PROGRAMMING

Note: Before turning chiller on and once all connections are made, circulate water through chiller for 30 minutes before turning the unit on. Check all connections for water leakage and / or obstruction. Verify pump is operational and unblocked. There are three buttons for switching or setting the temperature on the control / command panel.

■ AQUARIUM TEMPERATURE DISPLAYS & SET TEMPERATURE DISPLAYS

After pressing the (SET) button, the indicator "1" will appear to indicate the previously set temperature on the display, press the SET button again, the indicator light "1" will turn off and the aquarium water temperature will appear on the display.
Note: The light flickers to indicate the set temperature.

■ ADJUSTING THE SET TEMPERATURE

Press the (SET) button for five seconds, the previously set temperature will be displayed. Press the "△" button to increase the temperature or "▽ " button to decrease the temperature. The set temperature can be set between 39° F to 82° F. After new temperature has been programmed press the (SET) button again or just wait for eight seconds for the current aquarium water temperature to appear on the display.

■ ADJUTING THE TEMPERATURE ERROR

The common setting is "□□", when the aquarium water temperature is different from the temperature that appears on the chiller LCD display, you can adjust the error as follows:
Press "△"and "▽" buttons at the same time for 6 seconds until the display flickers, then press "△" or "▽" button separately for temperature error adjustment ranging from –34°F~+34°F. (Do not use this function frequently if it is not necessary.)

■ CHILLER RESETTING PROTECTION

Protection device is provided within the chiller. The device gives the refrigeration compressor a cooling period of three minutes after resetting for the first time, and gives about one minute after that.