

# ActiveAQUA

Ideal for Hydroponic System Reservoirs

**1/10 HP • 13-105 GALLONS (50-400 LITERS)**

# CHILLER

INSTRUCTION MANUAL

## HGCH1/10

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



PATENT NUMBER:200630051337.1/01235915.7

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# ACTIVEAQUA CHILLER

## INTRODUCTION


Thank you for purchasing an ActiveAqua Chiller, this chiller represents a significant step forward in horticultural cooler engineering, offering state of the art technology at highly competitive prices. Temperatures for volumes ranging from 100 to 6000 liters (approx. 25 to 1500 gallons) can now be quickly and economically maintained by selecting the correct model ActiveAqua Chiller. The super silent design results in significantly lower noise levels, quieter than any other similar domestic or imported chiller, while the digital temperature controller ensures that the selected temperature is maintained. ActiveAqua Chillers have a strong chassis with an ABS plastic housing which is anti-rust and anti-corrosive, ensuring that the chiller does not look out of place in any setting. Our chillers use the environmentally friendly coolant R134a. For a complete understanding of this chiller, we recommend reading this instruction manual thoroughly. Correct usage and proper maintenance will ensure the long life and accurate performance of this quality product.


## SUGGESTIONS FOR SAFE OPERATION


Several symbols are used in this manual and on the product itself which are aimed at promoting proper and safe operation in order to prevent injuries or damage to the chiller. Please familiarize yourself with the symbols below before reading the manual or trying to operate the chiller.


## TERMS AND SYMBOLS

Hazard seriousness levels will be indicated in writing or shown by pictures. The symbol on the left provides general emphasis of the hazard, but specific details of the action which must be taken will be shown by a picture or explanation near to the symbol.

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

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

 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.

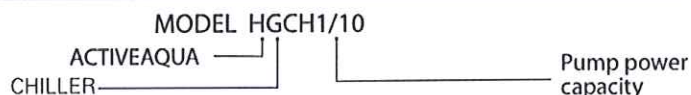


# ACTIVEAQUA CHILLER

## FEATURES

1. Convenient microcomputer control system.
2. Large refrigeration capacity: water can be refrigerated to any level above 39° F (4°C) in a short period of time.
3. Uses Freon-free R134a refrigerant, which is safe and environmentally friendly.
4. The super quality condenser is manufactured by American OAK production line.
5. Anti corrosive pure titanium evaporator for fresh water.
6. The compressor protection device system is built to shut off the circuit automatically to prevent the motor from burning out when the motor is overheated due to overload.
7. Temperature memory system that makes the chiller refrigerate continuously according to the previous temperature when the power supplied again to protect plant in the reservoir.

## PRODUCT INTRODUCTION



## TECHNOLOGY DATA

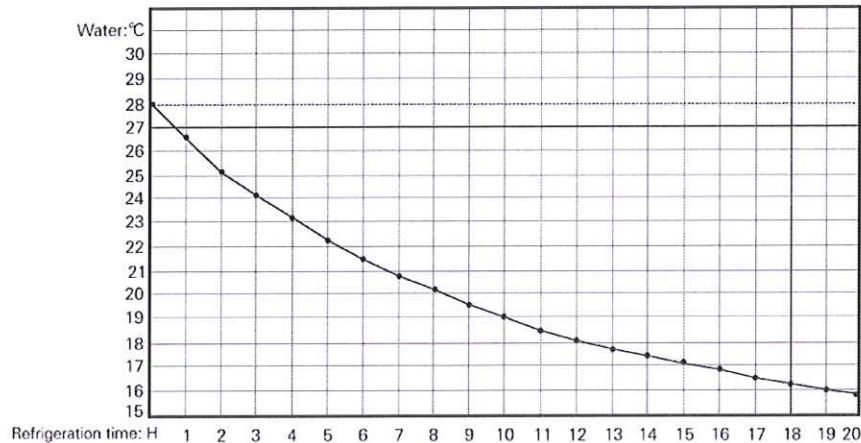
Model	HGCH1/10
Rated Voltage	220-240V (110-120V )
Rated Frequency	50Hz (60Hz)
Working Current	1.1A (2.2A)
Power	1/10HP
Water Temperature Before Refrigeration	82.4°F (28° C)
Refrigeration Time	20h
Water Temperature After Refrigeration ( Water Refrigerated 150L )	60.8°F (16° C)
Water Temperature After Refrigeration ( Water Refrigerated 300L )	72°F (22° C)
Refrigerant	R134a
Refrigerant Weight	180-200g
Rate of Flow	250-1200L/h
Weight	34 lbs.
Size	16.5"x10"x14.5"

1. The rate of flow is decided according to the max jet of the pump (immersible pump or other external power filter) and the circulation equipment.
2. The refrigeration performance test is indicated when the ambient temperature is 30°C (86°F), the water temperature before refrigeration is 28°C (82°F), the setting temperature is 16°C (61°F) and the water refrigerated is 150/300L. When water quantity is reduced, the water temperature will also drop.
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 ActiveAqua series chillers should be used. Do not use other alternatives to avoid affecting the performance of the unit.
4. When there is not enough exchange air in a room, the refrigeration efficiency is reduced if the surrounding temperature increases due to the heat from the unit.

# ACTIVEAQUA CHILLER

## PERFORMANCE CURVE

AMBIENT TEMPERATURE: 30°C WATER\_REFRIGERATED: 150L



The refrigeration performance test is indicated when the ambient temperature is 30°C (86 °F), the water temperature before refrigeration is 28°C (82°F), and the water refrigerated is 150L. When water is refrigerated, the water temperature will drop down to any degree above 4°C (39°F) in a short period of time.

## INSTALLATION

When the chiller carton is unpacked, check to see that the chiller is the right model and that no damage to the chiller occurred during transportation. You should also check to be certain that the quantity and quality of the spare parts and accessories are the same as those mentioned in the instruction manual. If you find any discrepancy or have any difficulties, please contact our dealer in your area.

### 1. PLEASE CHECK THE CONTENTS OF THE PACKAGE:

- ※ ActiveAqua Chiller Series .....1 set.
- ※ Instruction manual .....1 piece.

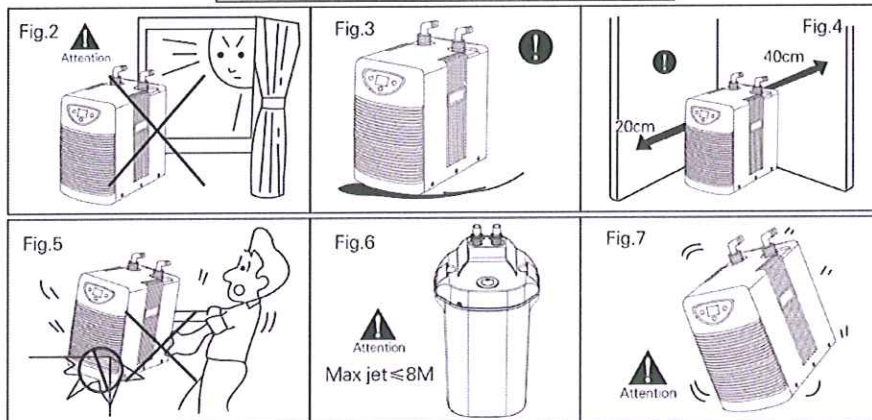
### OPTIONAL :

- ※ Water inlet & outlet adaptor .....4 pieces.
- ※ Seal rubber ring.....4 pieces.
- ※ Nut .....4 pieces.
- ※ Fuse(in the socket) .....1 piece.

# ACTIVEAQUA CHILLER

## WHERE TO INSTALL:

- (1) Don't install the chiller outdoors. (Fig.1)
- (2) Place the chiller in a ventilated place away from inflammables, high temperature, direct sunshine, moisture or dust. (Fig.2)
- (3) Place the unit on a horizontal stable surface. (Fig.3)
- (4) Install at least 20~40 cm (8-16 inches) away from the walls to allow the units to vent. (Fig.4)
- (5) Don't cover the chiller while it's working, and avoid shaking or banging the unit against other things.
- (6) The circulation water flow of the chiller is indicated in the technology parameter table. This chiller doesn't have a water pump. So, it needs a pump with an external filter available. The lift is no more than 8m maximum. If other equipment out of specification is used, it may cause water leak or other damage. (Fig.6)
- (7) Don't put the chiller on its side or upside down as this will cause damage to the chiller. If it is placed in its side, right the unit and wait for 20 minutes before switching it on. (Fig.7)



## ACTIVEAQUA CHILLER

### 3. SUGGESTIONS FOR INSTALLATION :

1. All electrical work should be done by a qualified electrician.
2. Provide a separate power outlet to be used only for the unit.
3. Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
4. The power supply should be fitted with earth leakage breaker.
5. Disconnect the power during installation.

### 4. INSTALLATION METHODS

Note: The chiller must be operated with a circulation & filtration system. The chiller also can be installed in a hidden position such as inside a closed style cabinet, providing that cabinet has ventilation grilles. If you need to make grilles, make sure the air intake grilles are aligned with the aspiration grille of the chiller. The air outlet grille on the cabinet should be made as high as possible for easy air outlet.

The chiller should be installed with its back as near as possible to the grille of the cabinet to allow for fresh air circulation. The chiller also can be installed under an open style cabinet. As you know, it should be installed at a minimum distance of at least 20-50 cm (8-20 inches) from each side of the cabinet, so as to allow fresh flow air in the intake area. For fresh air circulation, it is suggested to put your chiller out of the reservoir cabinet. If the chiller is placed under a water plant tank fitted with a filter, a water intake tube must be provided with the water pump which arrives directly to the input connector on the chiller to ensure the intake water is pure. Please note that the filter (with the pump) must be located below the reservoir water level.

*If you wish to place the unit at the side of the reservoir, you must fill the filtration system with water before turning it on.*

# ACTIVEAQUA CHILLER

## BEFORE OPERATING THE CHILLER, PLEASE REVIEW THE FOLLOWING POINTS:

- (1) Check if the water level inside reservoir is appropriate.
- (2) Make sure that no water leaks from the hose connections.
- (3) Insert the power plug completely into the power outlet so that the plug itself does not wobble.
- (4) Make sure there is nothing wrong with the water circulation & filtration system, making sure that the circulation tube is not clogged.

## OPERATION

Note: Before starting the chiller, you must run the pump & make sure that there is nothing wrong with the water circulating system. There are three buttons for switching or setting temperature on the control & command panel.

## RESERVOIR TEMPERATURE DISPLAY & SETTING TEMPERATURE DISPLAY

After pressing the (SET) button for a short period of time, the indicator "2" will appear to indicate the previously setting temperature value on the display, press the SET button once again, the indicator light "2" will turn off and the reservoir water temperature will appear on the display. The light twinkles to indicate the setting temperature.

## ADJUST THE SETTING TEMPERATURE

Press the (SET) button for more than three seconds to indicate that the programming function is enabled and the previously setting temperature value will appear on the display, press the "▲" button for increasing temperature or "▼" button for decreasing temperature to choose your required temperature. The setting temperature is from 39°F (4°C) to 82°F (28°C). After setting, press the (SET) button again or just waiting for eight seconds. The reservoir water temperature will appear on the display while the chiller is working.

## TEMPERATURE ERROR ADJUSTMENT (III)

The common setting is "III", when the reservoir water temperature is different from the temperature value which appears on the display of the chiller, you can adjust the error as following:

Press "▲" and "▼" buttons at the same time for 6 seconds till the display twinkles, then press "▲" or "▼" button separately for temperature error adjustment ranging from -1.5 to +1.5. (Do not use this function frequently if it is not necessary.)

## THE CHILLER PROTECTION DEVICE

A protection device is provided with the chiller. The refrigeration compressor needs three minutes to start after resetting and at initial start up, it takes about one minute.

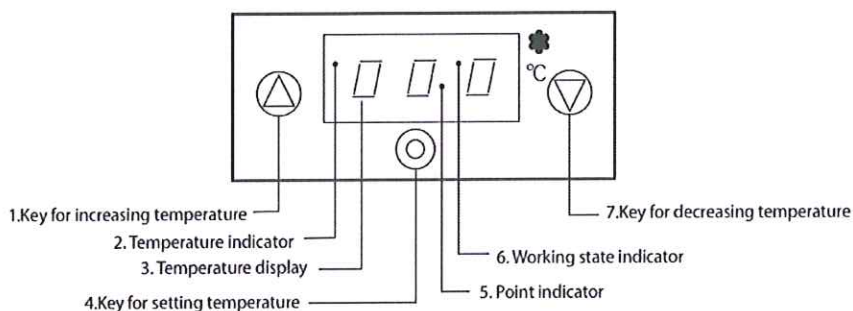
## ACTIVEAQUA CHILLER

### REFRIGERATION COMPRESSOR ON & OFF AUTOMATICALLY

When the refrigeration compressor stops working for over three minutes & the water temperature is 1 above the setting temperature, the compressor will start to work again automatically. The compressor will stop working automatically when the reservoir water temperature reaches or is below the setting temperature. The light "6" on the upper part of the display appears to indicate that the compressor is working, turn off to indicate the reservoir water temperature reaches the setting temperature and the compressor stops working; the light twinkles to show that the protection device is responding for three minutes.

### FAILURE INDICATION

Certain failures automatically show on the display panel. When the water temperature sensor has failed, "P1" will show on the display, and the protection device will stop the chiller..

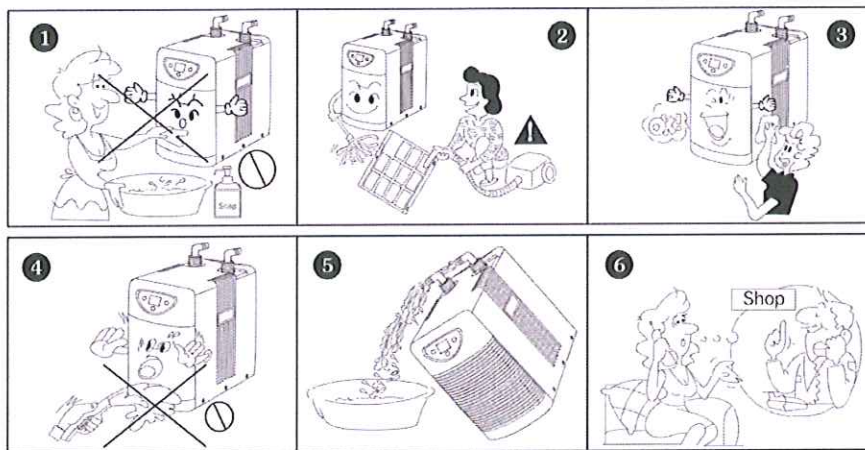


### CLEANING AND MAINTENANCE

1. Cleaning the circulating system and the filtration system is recommended once every one or two months for optimum refrigeration performance and efficiency. Unplug the cord from the outlet before cleaning. Rinse collected debris from the filter media, inlet & outlet pipe, flow diverter, impeller and chamber cover with clear lukewarm tap water. Soap or detergents are not recommended for filter maintenance because they are bad for the fish's health. (Fig.1)
2. Remove the dust at the air inlet and outlet with a brush or a 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 switch and temperature adjuster must be cleaned with dry soft cloth. (Fig.3)
4. Don't immerse the unit in water or flush it with water directly> Doing so may damage the electric insulation of the chiller. (Fig.4)

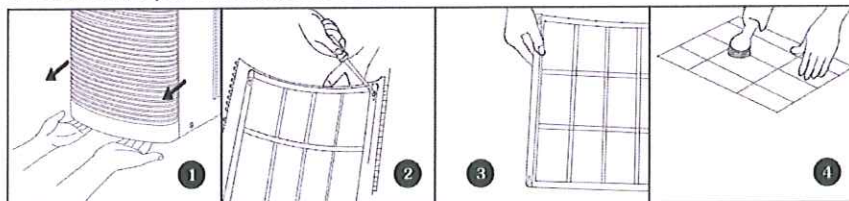
## ACTIVEAQUA CHILLER

5. If the chiller will not be used for a long time, disconnect the power supply plug, remove the inlet & outlet pipes, then lift the back of the chiller a bit to remove water inside the chiller, clean all the parts with a soft cloth and cover it with a vinyl bag, put it into the box, then store it in a safe and dry place. (Fig.5)
6. If you still have any other questions, please contact your place of purchase. (Fig.6)



### STEPS OF FILTER CLEANING

1. Draw front drawl hood out lightly by hands (Fig.1)
2. Loosening screws of the filter (Fig.2).
3. Remove the filter (Fig.3).
4. Remove the dust with a brush or a vacuum, cleaning completely (Fig.4).
5. Install all the parts back in reverse order.



# ACTIVEAQUA CHILLER

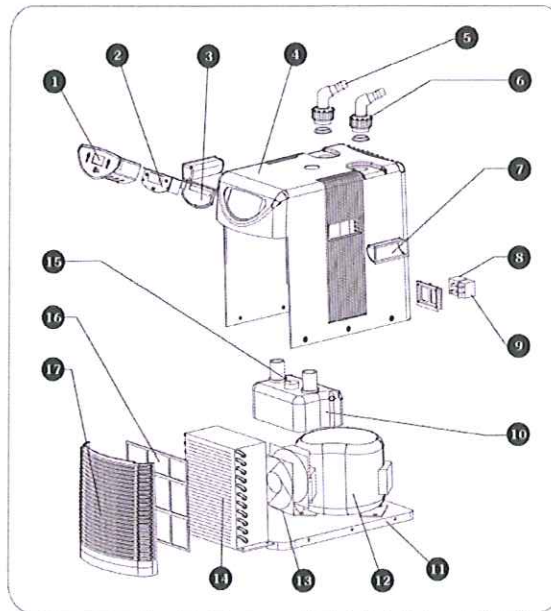
## A GUIDE TO SOLVE SIMPLE PROBLEMS

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

SYMPTOM	CAUSE	COUNTERMEASURE
The chiller doesn't run & the display appears empty	Power is not turned on	Turn on the power
	Plugged in insufficiently	Be sure the power cord is to be fully plugged in
	The fuse has broken	Install a new one
The chiller repeats on and off	Due to wrong voltage and frequency	Apply to correct power source, according to the nameplate.
Refrigeration capacity reduced or no refrigeration	The chiller protection device to be responding	Wait for 3 minutes & the chiller will turn on again automatically
	The setting temperature is higher than the reservoir water temperature	Reset refrigeration temperature
	The air inlet and outlet are clogged with dirt	Remove dust at the the air inlet of filter with a brush or vacuum cleaner
	Refrigerant is low	Look at page 3, have an electrician fill the chiller with the same type of refrigerant
	Too much water in reservoir	Reduce the water
Vibration & loud noise	The base is not flat	Mount it on a flat base

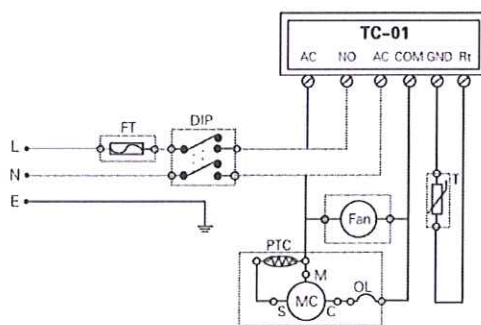
# ACTIVEAQUA CHILLER

## PARTS LIST



- ① Control & Command box
- ② Circuit board
- ③ Back cover of circuit board
- ④ Top cover
- ⑤ Water inlet & outlet adaptor
- ⑥ Nut ⑦ Handle ⑧ Switch
- ⑨ Socket
- ⑩ Tank(with evaporator)
- ⑪ Base ⑫ Compressor
- ⑬ Fan motor ⑭ Condenser
- ⑮ Water temperature sensor
- ⑯ Filter ( Front draft hood )
- ⑰ Front draft hood

## CIRCUIT DIAGRAM



- TC-01 Temperature controller
- FT Fuse
- PTC Motor starter
- Fan Fan
- MC Compressor
- OL Motor protector
- T Water temperature sensor

## ACTIVEAQUA CHILLER

### GUARANTEE CLAUSES

Hydrofarm hereby agrees to take the responsibility of servicing the ACTIVEAQUA Chiller identified on this guarantee form.

#### SERVICE UNDER GUARANTEE

1. This product is guaranteed by us against defects due to faulty workmanship or materials.
2. If the product has been damaged under normal use, it will be entitled to be free repairing service. Service under guarantee is provided only upon presentation of reasonable evidence (eg. Completed guarantee card or purchase receipt) that date of the claim is within the guarantee period.

**GUARANTEE PERIOD:** A period of ONE YEAR after the date of purchase.

#### SERVICE NOT UNDER GUARANTEE

1. The guarantee is not valid if the defect is due to accidental damage, misuse or neglect and in case of alterations or repair carried out by unauthorized persons.
2. If your unit can't work after guarantee or during guarantee because of your using or maintaining uncurrently, we'll charge the material cost.
3. If your guarantee form is missing, the guarantee is not valid, either.



ONE YEAR WARRANTY

WARRANTY FORM

DATE :

PURCHASER'S NAME		TELEPHONE NUMBER	
POST CODE		PRODUCT	
ADDRESS			
MODEL		PRODUCT NUMBER	
TO BE SIGNED AND SEALED BY THE RETAILER			
WITH EFFECTIVE FROM (DATE OF PURCHASE)			
REPAIRING SUMMARY RECORD			