 RESUN[®] 日生

冷水机 CL-300/450/650
MICRO COMPACT CHILLER

INNOVATIVE AND PATENTED!
Excellent cooling effect

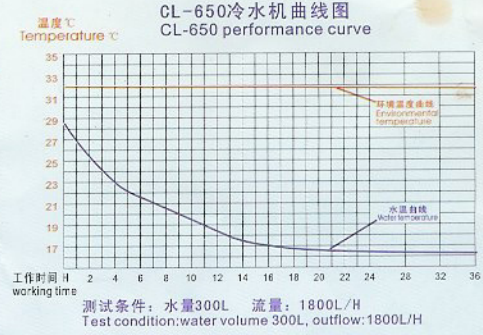
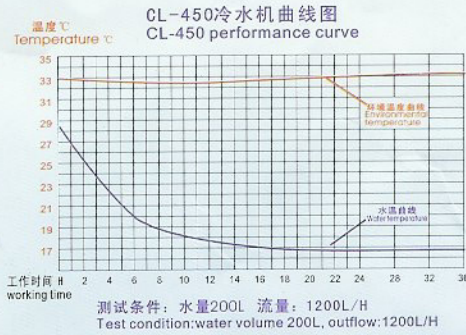
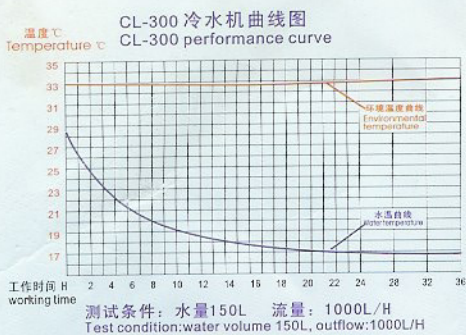
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Chiller



四、使用注意事项 Cautions

1. 请确认电源、电压及频率是否与本机标贴一致，并为本机提供有接地的专用规格插座；
2. 选择周围环境干净，环境温度不超过35°C (95. F) 的通风位置。若放鱼缸地柜里，应有足量通风孔或小型排气扇。
3. 禁止阳光直晒，水淋，并保证该机垂直安放。
4. 选用扬程不超过8米，流量在900L/H~2400L/H的水泵或过滤器为最佳（水泵的扬程如超过8米，可能会因为内压过高而引起泄漏或其它损坏）。
5. 该机的进水应有过滤装置，以免积污沉淀。
6. 应定期清洗本机前端的滤尘罩，最好每月一次。
7. 该机若长时间不使用，应把热交换器内的积水排除，以免积垢，并安放于阴凉干燥处。

1. Please check the power supply, voltage and frequency are in accordance with the label, and make sure the socket you are using has an earth connection.
2. Please place the machine in a clean environment with temperature less than 35°C (95 F) and good ventilation. If the machine is placed in the aquarium cabinet, the cabinet should have enough ventilation holes or be equipped with a ventilation fan.
3. Please DO NOT expose the machine in the sun or let it drenched by water. Please be sure the machine is put vertically.
4. Choosing pumps or filter with high lift less than 8 meters, and pump outflow between 900L/H and 2400L/H is the best (If the high lift exceeds 8 meters, leak or other damage might be caused due to over-high internal pressure).
5. The water should be filtered before going into the chiller, to prevent filth from accumulating inside the machine.
6. Please clean the front air filter cover regularly, better to clean it monthly.
7. If the machine is not in use for a long time, please drain out the water in the thermal converter and put the machine in a dry and clean place.

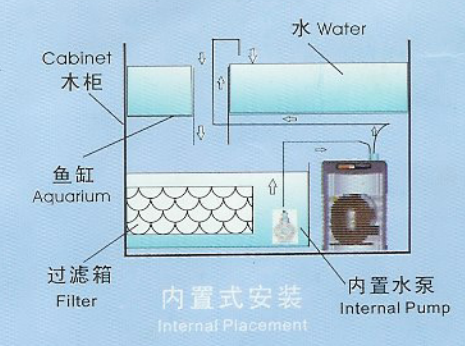
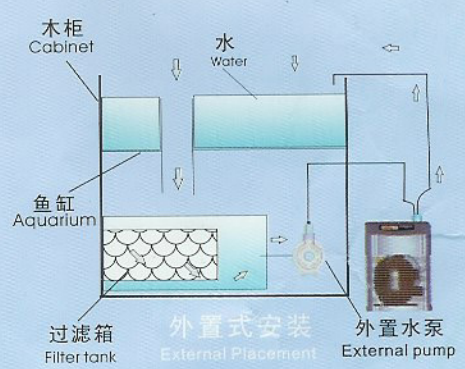
五、使用和操作方法 Operating Instructions

1. 开机使用前，请注意下列各项：1) 水族箱或海鲜池水量是否合适，2) 进出水口是否安装牢固；3) 水管各处接头是否有漏水现象；4) 电源插头或接线端子是否接驳牢固；5) 启动循环水泵，确认冷水机或冷暖机内水箱及循环系统，过滤系统各部分运转正常，没有堵塞现象。
2. 本机采用智能型微电脑温控器控制：
 - 1) 控温精度：1°C；
 - 2) 启动温差：+ 2°C，即鱼缸中水温高于设置温度 2°C；
 - 3) 控温范围：0°C ~ 40°C
 - 4) 压缩机延时启动时间：3分钟
3. 本机控制面板有三个轻触型手动按键，分别为SET键 + 键、- 键，机身侧面有保险管装置、二脚扁插插座，
 - (1) 将电源插头连接外电源，此时数码管显示鱼缸中水温；
 - (2) 按SET键此时数码管显示设置水温（即需要制取的水温）；
 - (3) 按+ 键（升）或- 键（降）调节所需求的水温，即设置水温（操作停止十秒后，恢复鱼缸中的现有水温）；
 - (4) 延时三分钟后机器工作，直至水温达到设置水温；
 - (5) 当需加热时，把加热棒插头插上本机专用插孔，并按照（2）（3）点方法调高设置水温。当设置温度高于鱼缸水温 2°C 以上时，EXTERNAL HEATER灯亮，加热棒开始工作。

1. Please read and check the following carefully before you use the machine:

- (1) Please check whether the water quantity in the aquarium or sea fish tanks is suitable.
- (2) Please check whether the water inlet and outlet are connected to the machine firmly.
- (3) Please check whether the connectors connecting every parts of the water pipe leak or not.
- (4) Please check whether the cable plug or cable connecting end is connected firmly.
- (5) Please turn on the recycling water pump to check whether the water tank, recycling system and filtration system of the chiller or the chiller-and-heater unit function normally.

安装方式 Assemble



Chiller

一、日生CL系列冷水机简介 RESUN CL series of chiller

日生CL型冷水机系日生集团经过八年的专业制造、经验积累、及引进日本专家的设计理念，而成功开发投入市场的新一代产品。领先的制作工艺及完善的检测手段，配合日本松下、三菱等的优质压缩机，保证了该机的技术性能及制冷指标达到国内外同行之最佳，全塑ABS外壳，安全可靠，简便的操作系统，是广大水族爱好者的最佳选择。欢迎比较同类产品。

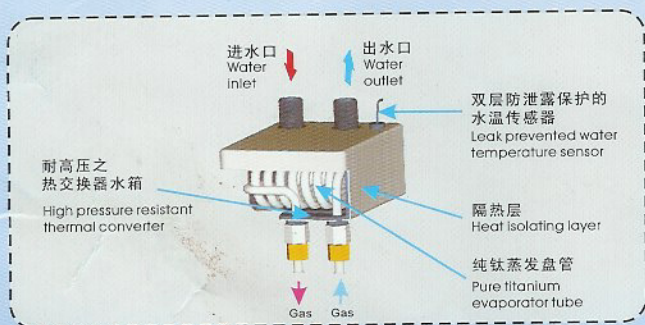
Thank you for choosing RESUN chillers. CL series of chiller is a new series of product made by Guangdong Risheng Group, which is successfully introduced into the market as a result of eight years' experience of professional manufacturing combined with Japanese design and idea. The leading technology, excellent test methods and adoption of National and Mitsubishi compressor make it outstanding in the same line of domestic and international business. Its ABS casing and reliable, safe and easily operating system also make it the best choice of aquarists.

二、结构及技术特点 Structure and technology features:

1. 太空时代设计，ABS全塑外壳，独特新颖，安全可靠；
2. 采用松下、三菱等高效优质压缩机，省电耐用；
3. 纯钛金属管制作的热交换器，耐腐蚀，淡水、海水均能适应；
4. 智能型控制系统，精确显示，操作方便；
5. 制冷范围广，34℃以下的水温均能理想工作。
6. 简易的可拆装进风滤尘网，确保机器不受灰尘影响，保持良好的散热性能，定期清洗方便；
7. 独特的随机插座，可外接加热棒，受温控系统控制，在面板显示水温。
8. 360°可旋转进出水接头，安装方便。



1. Unique and creative design of the space era with ABS casing, safe and reliable.
2. Adopt compressor of National and Mitsubishi, etc., economic and durable.
3. Thermal converter made of pure titanium pipe, corrosion endurance, suitable for refrigerating both fresh water and salt water.
4. Intelligent control system, precise display and easy operation
5. Wide cooling range, ideal working under 34℃ water temperature.
6. The air filter prevents the chiller from affected by dirt, thus keeps it in good condition for heat diffusion. The air filter can be disassembled and assembled easily, and cleaned conveniently.
7. An external heater can be plugged into the special socket on the side of the machine directly and controlled by thermal control system. The temperature can be set freely on the operating plate.
8. The water inlet and outlet are 360°turnable, and can be easily assembled to the machine.



三、技术参数表 Technical information

型号 Model	功率 Power	电压 Voltage	冷媒 Ice Medium	循环水量 Pump outflow	制冷量 Refrigerating Capacity	冷却水量(设置温度:22℃/72°F) Recommended Tank Size (Set temperature:22℃/72°F)	冷却水量(设置温度:25℃/77°F) Recommended Tank Size (Set temperature:25℃/77°F)	重量 Weight	外型尺寸 Dimensions
CL-300	1/10HP	110V/60HZ 220V/50HZ	R134A	>900L/H (>238USg)	300w	<300L (<79USg)	<500L (<132USg)	14.5kg	38×29×43(cm)
CL-450	1/6HP	110V/60HZ 220V/50HZ	R134A	>1200L/H (>317USg)	450w	<450L (<119USg)	<700L (<185USg)	18kg	38×29×43(cm)
CL-650	1/4HP	110V/60HZ 220V/50HZ	R134A	>1800L/H (>476USg)	650w	<650L (<172USg)	<1000L (<264USg)	21kg	38×29×43(cm)

注：如果你需要更低水温，可减少水量，水温可降至4℃

Notes: If you need lower temperature, you can reduce it by reducing water.
Water temperature can be reduced to 4℃.

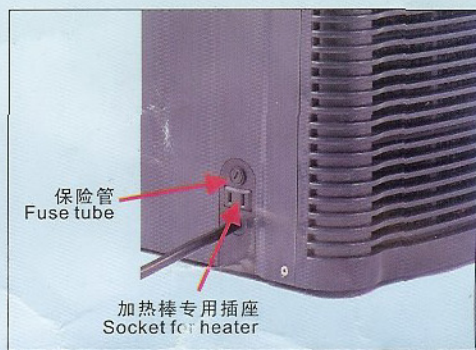
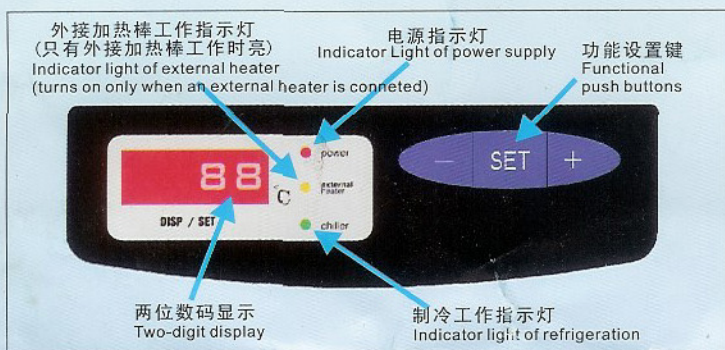
Chiller

2. Resun CL chillers adopt intelligent micro-computerized thermal controller control system.

(1) Temperature controlling precision: 1°C; (2) Starting temperature difference: +2°C (the original water temperature in the fish tank is 2°C higher than the set temperature); (3) Temperature controlling range: 0°C ~40°C; (4) Delaying starting time of the compressor: 3 minutes.

3. The operating plate has three push buttons: "SET", "+", "-". On the side of the machine, there are a fuse tube and a two-pin-plug socket.

(1) Connect the power supply, then the water temperature of the fish tank will be indicated on the digital display; (2) Press "SET", then the set water temperature (the water temperature needed) will be indicated on the digital display; (3) Press "+" (increase) or "-" (reduce) to adjust water temperature, that is, to set water temperature (If your operation is paused for ten seconds, the temperature will go back to the original temperature); (4) The machine begins working in three minutes until water temperature reaches the set temperature. (5) If you need to heat up the water temperature, please connect a heater to the special socket on the side of the machine, and follow (2), (3) steps to increase the set temperature. When the set temperature is 2°C higher than the original water temperature of the fish tank, the "External Heater" light will turn on, and the heater begins working.



六、常见故障的排除 General knowledge for common breakdown repairs

1. 长时间正常使用时, 若发现制冷量明显不足或不制冷, 应考虑是否冷媒不足, 请送交专业人员检修并加注同类制冷剂;
 2. 气温, 水温过高会导致系统内压过高, 压缩机保护性停机。此时应加强通风散热, 即可恢复工作;
 3. 显示屏不亮或整机不工作, 先查看电源插头是否松动, 并检查保险丝是否熔断, 若是则更换保险管;
 4. 如果发现数码管显示温度和实际温度有误差, 可采取如下办法校正:
(1) 按 S E T 键持续十秒, 进入温度误差校正功能, 此时数码管显示 CA;
按 + 键 (增加) 或 - 键 (减少) 至数码管所显示的数字符合需要消除的误差; (误差值 CA = 实际温度 - 显示温度); (3) 停止操作十秒钟后, 数码管显示实际水温。
 5. 若按正常程序操作, 本机有其它异常情况, 应送经销商或专业人士检修, 请勿自行拆修。
1. If the refrigerating capacity reduces obviously or refrigeration stops after the chiller has been in normal use for a long time, this may be because the ice medium is insufficient. Please ask certificated and licensed technicians to check it, and put ice medium of similar type into the machine.
 2. If the air temperature and the water temperature are too high, which will result in over-high pressure inside the machine, the compressor will stop protectively. In this case, please improve the ventilating and heat diffusing condition, and then the machine will begin working again.
 3. If the display does not turn on or the machine does not work, please check whether the plug is connected firmly, whether the fuse is broken, and whether the fuse tube needs replacing.
 4. If there is tolerance between the temperature indicated on the digital display and the actual water temperature, you can rectify the temperature by following the steps below:
(1) Press "SET" for ten seconds, then "CA" will jump onto the digital display, indicating that the rectifying function is in a ready state.
(2) Press "+" (increase) or "-" (reduce) until the figure indicated on the digital display equals to the tolerance intended to eliminate (tolerance CA = Actual water temperature - displayed temperature).
(3) After your operation is stopped for ten seconds, the digital display will show actual water temperature.
 5. If unusual phenomena happen to the machine under normal operation, please do not disassemble the machine by yourself, but take it to your supplier or certificated and licensed technicians for repair.