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广东省园艺水族器材工程技术研究开发中心
Research Center of Gardening & Aquarium Equipment Engineering of Guangdong

多项国家标准、行业标准的制订单位
The Constitutor of Multiple National Standard And Industry Standard

ISO9001 ISO14001 OHSAS18001

BOYU 博宇®

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BOYU®

INSTRUCTION MANUAL
WATER CHILLER LS SERIES
LS系列水温调节机使用说明书

使用前请详细阅读本说明书
Please read the instruction manual detailedly before use

LS系列水温调节机

感谢您使用本公司生产的LS系列水温调节机。为确保您的使用安全和对水温调节机的正确使用，在使用前请先详细阅读本使用说明，并按本使用说明介绍的方法进行安装和操作使用。请妥善保管好本使用说明，以备需要时查阅。

警告：

1. 供给水温调节机的电源电压和频率，应确保产品的铭牌上所标的规格相同。
2. 为确保使用安全，在供电线路中应安装有漏电保护装置，应通过一个额定剩余动作电流不超过30mA的漏电保护装置（RCD），再向水温调节机供电。
3. 由于水温调节机中压缩机的启动电流比正常运行电流大得多，供电线路和插座必须足够能提供额定电流8倍以上的电流。
4. 水温调节机在使用、运输、维修过程中均严禁侧置或倒置，侧置或倒置将可能造成压缩机损坏。
5. 本系列水温调节机仅适用于不高于35℃的室内环境，禁止阳光直晒、水淋。且进风口和出风口应保持良好通风，严禁堆放杂物。
6. 为防止管道、接头等出现泄漏或破裂，供水压力不得过高（压力≤80KPa），配用水泵的最高扬程不得高于 8米。
7. 水温调节机的滤尘网应定期检查是否积聚污物，并及时清除污物。
8. 湿手不得拔插电源插头，不要用力拖拉电源线，电源线不得被重物压着。
9. 严禁非正常用途的滥用水温调节机，水温调节机不得用于除普通清水以外的任何液体。严禁对水温调节机进行私自改造。
10. 为确保安全，在移动、清洁、维护水温调节机之前，必须先拔下水温调节机及循环水泵的电源插头，使水温调节机及循环水泵停止运行。
11. 若发现水温调节机有故障或异常、漏电等现象时，应立即拔下电源插头，停止使用，待查明原因并排除故障后才可继续使用。
12. 若有损坏或电气故障，不得擅自拆修，必须由具有资格的专业人员来维修。
13. 本水温调节机不适合于如下人员使用：对于那些身体、感官或智力不全，或没有使用经验和知识的人员，包括小孩，不能使用本水温调节机，除非在有人负责安全监护和指导的情况下使用。

产品特点：

●采用单片计算机温度控制系统，温度控制准确，具有断电记忆功能。
● 采用高效压缩机及环保冷媒，寿命长，运行平稳，调温快，噪音低，高效节能。
● 采用纯钛管道制作的迷宫式钛金属热交换器，制冷速度快，效率高，耐腐蚀。
● 采用耐腐蚀材料，无铜元素接触调温水体，淡水、海水均适用。
● 制冷降温、加热升温多功能，智能自动转换。
● 结构紧凑，外形新颖，美观大方。

适用范围:

LS系列水温调节机采用环保冷媒压缩机及纯钛制作的热交换器，具有低功耗、低噪音、高效率及抗腐蚀等特点。适用于酒楼、海鲜市场、水族馆、水产养殖场及家用水族箱等对水温进行调节和控制，淡、海水均可适用。

技术参数: （见产品铭牌）

●注：LS系列水温调节的机型号不带后缀的为冷热自动机型（如：LS-5）;型号带后缀A的为单冷机型（如：LS-5A）。

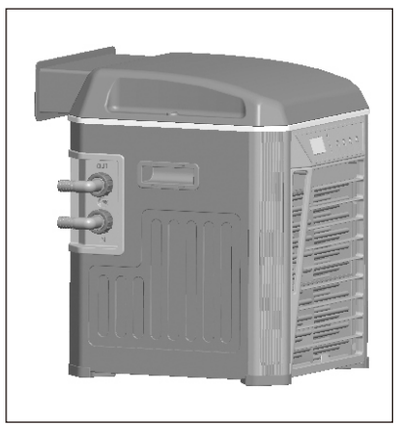
使用须知:

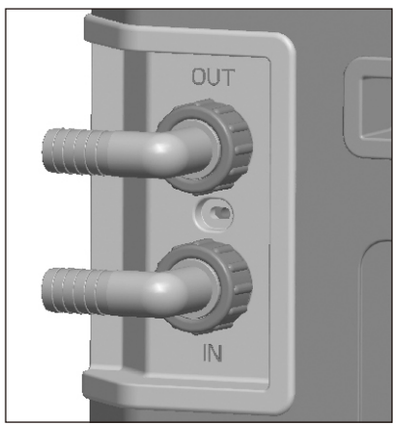
1. 使用前应先详细阅读本使用说明，并严格按照“警告”中的各项规定，特别注意供电电压和频率的规格。
2. 先检查产品外观及配件，若无损坏、缺失、变形及其它异常现象，才可投入使用。
3. 水温调节机在搬动时，应用手插入其左右两个提手或整机的底板下，不得用拉住上盖提起整机。在使用、运输、维修过程中均严禁侧置或倒置，侧置或倒置将可能造成压缩机损坏。
4. 本系列水温调节机仅适用于不高于35℃的室内环境，禁止阳光直晒、水淋。安装位置应尽量靠近需调节水温的水池附近，且安装平面应平坦、坚实、宽敞，进风口和出风口周围应保持良好通风，周围严禁堆放杂物。请不要将贵重、怕潮湿的物品放置在水温调节机的附近或下方。
5. 先将水温调节机置于目标安装位置，或目标安装位置附近方便安

装连接的地方，连接好进、出水管道后，再将水温调节机移至目标位置（或水族箱的地柜内）

6. 水温调节机可与水族箱（水池）的循环过滤系统结合使用，水循环依次为：水族箱→水泵→过滤系统→水温调节机进水口→水温调节机出水口→水族箱。

水温调节机的左侧有两个水管接头，下方标有“IN”的为进水口，上方标有“OUT”的为出水口。若用软管连接，应确保软管不出现因受折压弯曲而明显减小内径，影响水流通过。排向水族箱（水池）的出水口应略高于水族箱的水面，取吸水口应置于水族箱的近底部处，且与出水口分别处于两侧或对角，以使箱内的水体能循环流动，避免产生水流循环的死角。进、出水接头与连接管道间应加锁紧装置，以防止管道松脱漏水。





7. 连接好进、出水管道后再连接电源线。将电源线的D型插头插入水温调节机后方的电源输入插座，将电源线的输入插头连接至供电的电源插座。并检查安装是否正确无误。

8. 在开启水温调节机前，应先开启循环水泵，使供水流动正常后，再打开电源启动运行水温调节机。

9. 控制面板的设置和操作：

水温调节机的控制面板上设有：“温度显示窗口”和“电源指示灯”、“制冷指示灯”、“制热指示灯”、“设置指示灯”等4个指示灯，以及“设置键”、“增加键”、“减少键”等3个操作按键。

①、长按“设置键”4秒以上，“设置指示灯”亮，进入设置状态，“温度显示窗口”显示“当前设定温度”。轻按“增加键”或“减少键”以调节“当前设定温度值”。温度调节设定范围为：5℃～34℃（或41℉～93℉），不区分制冷或制热温度，设备根据设定温度和当前水温自动设定工作状态。设置完成后再轻按“设置键”则返回正常模式，且“设置指示灯”灭，“温度显示窗口”显示“当前水温度”。

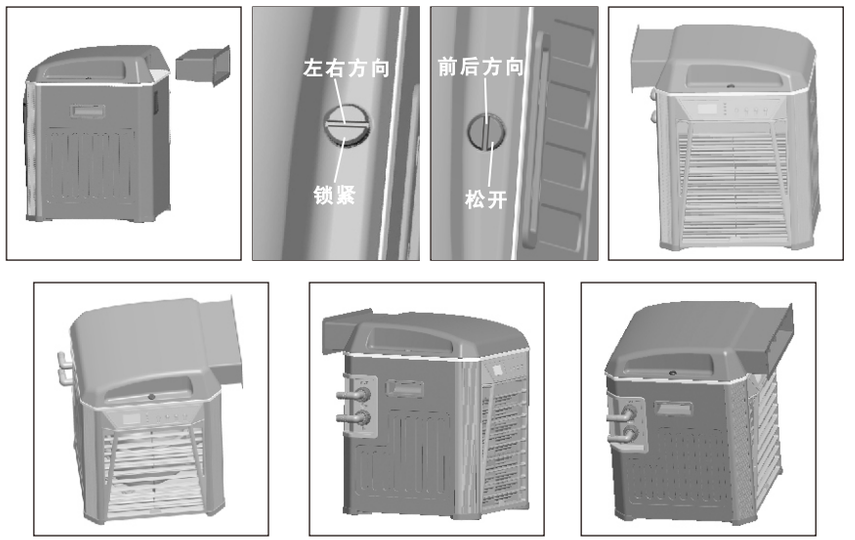
②、在正常模式下，短按“设置键”则进入“当前设定温度”显示，再次短按“设置键”则返回正常模式，显示“当前水温度”。

●注意：制冷需延时3分钟后才启动“制冷状态”，制热需延时10秒钟后才启动“制热状态”，

10. 水温调节机在初次接通电源或排除故障后再次运行时，均应检查水温调节机运行是否平稳，有无异常或故障，并观察运行至少30分钟。若发现有异常现象，应立即拔下供电的电源插头，待查明原因，排除故障后才可继续使用。

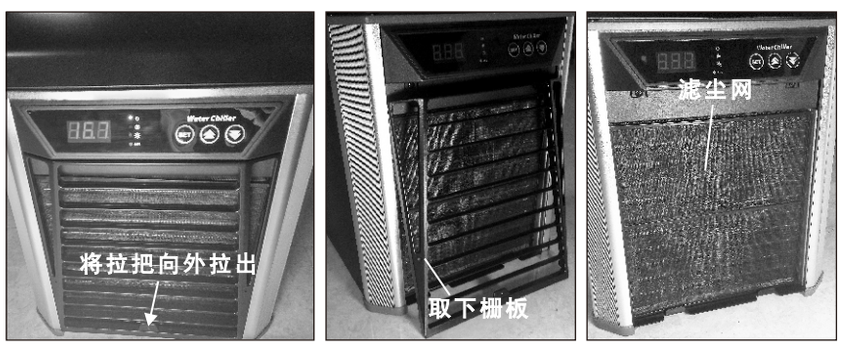
11. 若有电气故障，请勿擅自拆修，必须由具有资格的专业人员来维修。

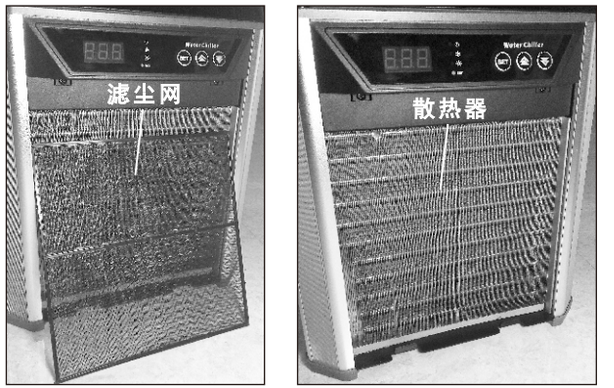
12. 水温调节机的上盖及出风口的方向可以调换，出厂默认为向后。上盖两边的锁紧塞，一字开口处于左右方向时为锁紧，一字开口处于前后方向时为松开。当需调换出风口的方向时，先取下出风口管，再用一字头螺丝刀转动锁紧塞至前后方向（松开），即可将上盖向上提起并取下，将上盖转到需要的方向，然后将上盖装回水温调节机主机的上方，再将锁紧塞压下并转至一字开口为左右方向（锁紧），再将出风口管装回上盖。这样，出风口可按需要调换至前、后、左、右等四个方向。



13.水温调节机使用一段时间后，由于滤尘网、散热器会积聚污物，制冷效果会比原来差，应定期检查并清除污物。
当需要清洁滤尘网、散热器时，用手将前过滤栅板下方的拉把向外拉出，即可将前过滤栅板取下，然后可直接取下滤尘网，即可对散热器进行清洁。

清洁完成后，先将滤尘网放入安装座中，再将前过滤栅板网上端向上插入并同时将下端向内压入即可使其卡住在安装座上。





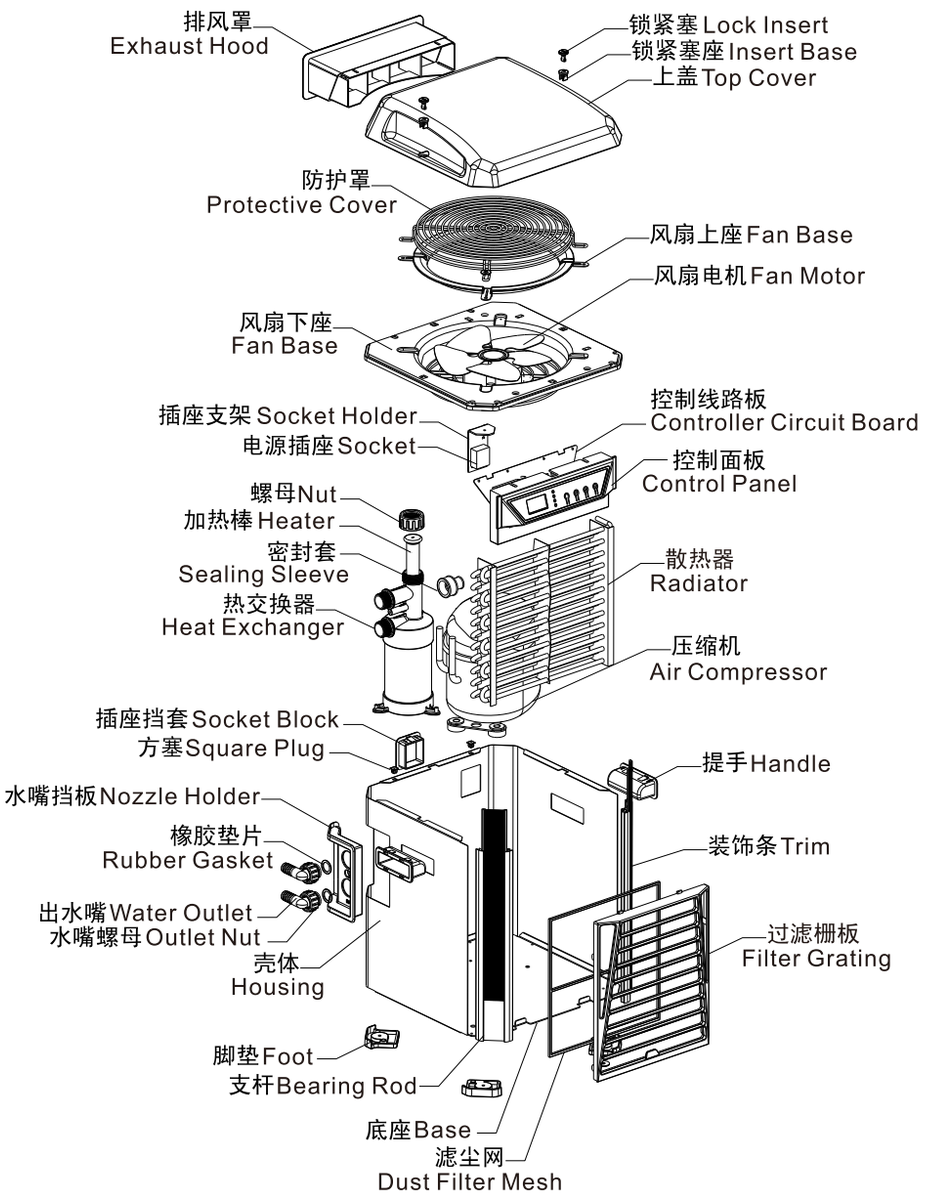
14.为确保安全，当移动、清洁、维护水温调节机之前，必须先拔下水温调节机及循环水泵的电源插头，使水温调节机及循环水泵停止运行。
15.水温调节机制冷吸收的能量（或制热发出的能量）受产品设计而定，过份的增加供水压力或水流量不会提高制冷（或制热）能力。适用水容量受环境温度和与调节温差而影响，当需调节的温度差较大时，适用的水容量则应适当减少，反之可适当增加适用水容量。
16.水温调节机若长期不使用时，应拔下电源插头，拆除安装管道，排干机内积水，并清洁滤尘网、散热器等的污物，再存放于干爽之处，以备日后再次使用。

维护指南:
1.接通电源后，无显示、不工作。检查电源是否供电正常，电源插头与供电插座间是否接触不良，电源保险管是否已烧毁，供电电源线是否损坏。若设备内部有电气故障，请勿擅自拆修，必须由具有资格的专业人员来维修。
2.若出现压缩机保护性停机，检查环境温度、进水温度是否过高，水温调节机附近是否有杂物造成通风不良，滤尘网、散热器是否污物过多，应加强通风、并清除杂、污物。
3.应定期检查并清除污物。使用一段时间后制冷效果比平时差，检查滤尘网、散热器是否积聚污物，应清除污物，加强通风。
4.在移动、清洁、维护水温调节机之前，必须先拔下水温调节机及循环水泵的电源插头，使水温调节机及循环水泵停止运行。

5.如发现有异常声音、冒烟、漏电等现象，应立即拔下电源，待查明原因并排除故障后才可继续使用。
6.若设备内部有电气故障，不得擅自拆修，必须由具有资格的专业人员来维修。
7.查明原因并排除故障后，方可重新投入使用，且应再运行并观察至少30分钟以上。

质保期：
LS系列水温调节机的保修期为12个月。若用户未能提供有效发票等证据，则以出厂之日起最长不超过18个月。
下列原因不属于保修范围：
1.因不规范使用操作、错误的安装、搬运、摆放等造成的损坏。
2.用户非正常用途的滥用水温调节机，及用户自行不当修理、改造而造成的损坏。
3.因不可抗力的自然因素及人为造成的损坏。
4.因电源电压或频率与产品铭牌不符而造成的损坏。

产品结构分解图：
Part Exploded View：



Thank you for purchasing BOYU LS series aquarium water chillers. To assure that this product can be safely and correctly used and exert its optimal performance, and to prevent failure and accident, please read this instruction book carefully before use, and obey the instruction manual and safety instruction strictly. And keep it properly for future consultation.

Warning:

1. Make sure the electricity voltage and frequency are in accordance with the requirement on the nameplate.

2. For safe, the electricity leakage protection switch must be installed when used the device, and there must be an earthing device to the power socket.. This residual working current should not exceed 30mA. Please check the electricity leakage protection switch regularly to make sure that the device works reliable.

3. The starting current of air compressor of the water chiller is far bigger than the its usual operation current. Please make sure the power source and the socket can be afforded the current 8 times bigger than the rated Amps of the water chiller.

4. Any sidelong ground or upended placing is strictly not allowed as it may cause damages to the air compressor of the water chiller.

5. The appliance is for indoor use only with ambient temperature lower than 35℃. Any direct sunshine or raining to the appliance is strictly prohibited. Keep better ventilation to the air inlet and outlet of the appliance.

6. To avoid any water leaking or broken to pipes and nozzles, the water supplying pressure shall be less or equal to 80Kpa. The max. head of the water pump applied to the appliance shall not be more than 8 meters.

7. Regularly inspect and clean if any dusts accumulated at the pre-filter mask.

8. Do not pull the cord in case the hands are wet. Any heavy subjects are not allowed to put on the cable.

9. The appliance is designed for application to water only. Do not operate it with any other liquid. Any alteration to the appliance is strictly prohibited.

10. For safety, always unplug or disconnect the appliance from the outlet when maintenance.

11. When the device is out of order or any leakage of electricity, the power supply must be cut off at once and use it until all are fixed.

12. Any relevant electrical problems must be required or replaced by professional.

13. The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Features:

●Single-chip computer temperature control system, built-in RAM memory CMOS chip, and precise control temperature

with electrical memory functions.

●Super silent top-quality compressor and environment-protective refrigerent , high-efficient and energy-saving.

● Labyrinth type titanium heat-exchanger, quick refrigeration speed, high-efficiency, anticorrosion, and suitable for fresh water and seawater aquariums.

● Applied resistant materials and no any copper material exposed. Suitable for fresh and sea water use.

● Multifunction of cooling and heating. Intelligent and automatic conversion

● Compact structure and novel design.

Use scope:
With Environment-protective refrigerant and titanium heat exchanger, LS series water chillers are with low power consumption, quiet operation and strong corrosion resistance. Ideal for water temperature control for fresh and sea water of aquariums or any restaurants, fish markets or aquafarm etc.

Technical Specifications : (Please refer to the nameplate)
●Remark: LS models are with dual function of cooling and heating (i.e. LS-5) . LS-A models are for cooling only. (i.e.LS-5A)

Caution:
1. Please pay attention to the “Warning” which are mentioned above. Especially make sure that the voltage and frequency of power supply are up to the specifications marked on the nameplate of this product.

2. Make sure that there is no abnormalities,. Please check the product appearance before use.

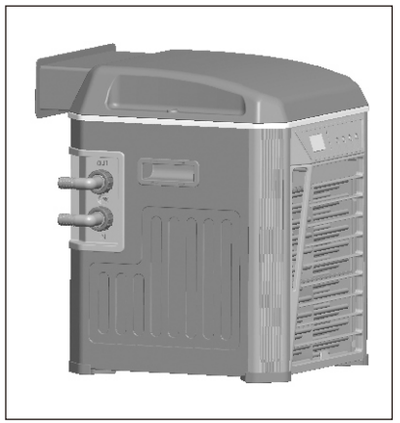
3. Do not pull the top cover to lift the appliance. You can carry the appliance by 2 handle bases at both sides or from the bottom of the chiller. Any sidelong ground or upended placing is strictly not allowed as it may cause damages to the air compressor of the water chiller.

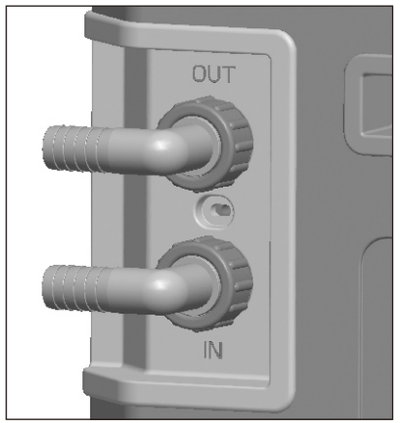
4. The appliance is for indoor use only with ambient temperature lower than 35℃. Any direct sunshine or raining to the appliance is strictly prohibited. Keep better ventilation to the air inlet and outlet of the appliance.

5. Before placing the appliance to the purposed location, you may leave it at the convenient place nearby the location and assemble completely all the pipes and the connectors.

6. To combine the connection of the appliance to the filtration of the aquarium, a proper connection order is to be Aquarium, water pump, filtration equipment, inlet of the chiller, outlet of the chiller and then aquarium tank.
On the appliance, the connector of “IN” is inlet for water intake and “OUT” is for water outlet. If connected by water hose, make sure it's not flexed and folded in order to keep proper water flow. The position of the final water outlet into the aquarium tank must be slightly higher than the water level, and the final water intake inlet shall be placed at the bottom place of the aquarium tank. Inlet and outlet inside the tank shall be installed oppositely or by 2 different sides to reach the perfect performance of water circulation. Clips to the hose connection for tightening are

necessary when connected.





7. Plug in the D type plug to the power input socket of the appliance and connect to the electricity. Check all the connections are proper.

8. Turn on the water pump prior to the appliance. Make sure the water circulation is proper before turned on the appliance.

9. Set and operation of the controller.
There are 1 temperature display screen and 4 indicator lights on the controller panel i.e. Power, Cooling, Heating and Set, and 3 buttons for operation i.e. Set, Increase and Decrease.

①. Press the Set button 4 seconds and the indicator light of Set will be on. It enters the set status and the current set temperature is displayed on the temperature display screen. Press Increase or Decrease button to adjust the temperature. The scale of the temperature is 5℃ ~ 34℃(41 ℉ ~ 93℉) and same either cooling or heating. After setting, press Set button again and resume the normal mode. The indicator light is off and the temperature screen displays the real-time water temperature.

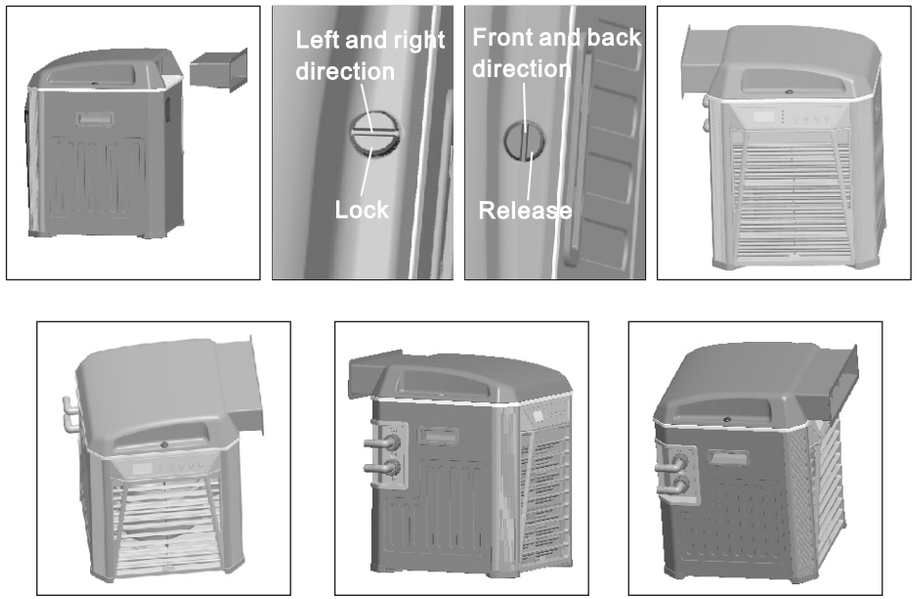
②. Under the normal mode, press the Set button to display the current set temperature, and press
It again to resume the mode and it displays the real-time water temperature.
●Note: The cooling starts in 3 minutes after set, and the heating function starts in 10 seconds after set.

10. Inspect and make sure the proper installation. Switch on the power and for the first running please observe for 30 minutes to make sure its running steady and without any abnormal. Any faults must be solved before using the appliance.

11.Never dismantle the pump by yourself if malfunction occurs. Repair must be carried out only by the professional technicians in the maintenance station.

12. The orientation of top cover and the exhaust hood can be changed. The orientation by factory default is backward. There are 2 screws at 2 sides of the top cover, it's for lock when parallel positioned and unlock when vertical positioned. To change the orientation, take off the exhaust hood pipe and unlock the top cover by using screw driver to

drive the screws vertically. The exhaust hood can be adjusted to be backward, forward, leftwards and rightward.



13. Regularly clean the front filter mesh and the radiator in some period after use to reach the ideal cooling efficiency. To clean the front filter mesh and the radiator, carry the handle from the lower part of the filter grating and pull outwards to take off the filter grating, and then you can take off the filter mesh directly and clean the radiator.
After cleaned, put the filter mesh into the fitting seat and insert the filter grating upwards and press the lower part into the fitting seat.

14.For safety, always unplug the appliance and the water pump as well when maintenance, cleaning and move the appliance.

15.To increase the water flow pressure or flow rate the cooling (or heating) capacity can not be enlarged. The applicable water capacity is limited by the ambient temperature and the regulating temperature difference. The applicable water volume shall be reduced or increased in case the gap between the regulating temperature and he ambient temperature is small or big.

16. In case no long no need to use the appliance, unplug it and disassemble the pipes and connectors, drain out the water from the machine and clean the filter mesh and radiator. Keep the appliance in dry for future use demand.

Maintenance Guideline:

1.If the appliance does not work after connected, check if the power source supply is proper or the plug connection to the socket is poor, or if the electricity fuse is broken, or if the cord is damaged. Never dismantle the appliance by yourself if malfunction occurs. Repair must be carried out only by the professional technicians in the maintenance station.

2.In case the air compressor is protectively shut down, check whether the ambient temperature is too high or the temperature of intake water is too high, or if any subjects are stacked besides it to cause poor ventilation, or if the filter mesh and radiator are blocked by dirt.

3.Regularly inspect and clean the dirt on the filter mesh and radiator when you notice the cooling capacity is poor.

4.For safety, always unplug or disconnect the appliance from the outlet when maintenance.

5.When the device is out of order or any leakage of electricity, the power supply must be cut off at once and use it until all are fixed.

6.Never dismantle the appliance by yourself if malfunction occurs. Repair must be carried out only by the professional technicians in the maintenance station.

7.The appliance is to re-started only when all the faults are solved and observe the running in 30 minutes

Warranty:

We provide one year guarantee. But if the user can not provide the valid invoice or other valid document, the warranty will be calculated from the date of production, but should not exceed two years from the production date

The following reasons are excluded:

- Any damage by wrong operation, installation, carry or use. .
- Any damages by wrong fixation by the consumer himself.
- Any damages by force majeure or man-made.
- Any damages by wrong electricity supply.