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DC PROTEIN SKIMMER

产品说明书

深圳市中科世纪科技有限公司
Shenzhen zhongke Century Technology CO.,LTD

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PRODUCT OVERVIEW

产品概图

REEF系列高效蛋白质分离器，对蛋白分离器和混合泵行全新设计，优化水气比，增强蛋白质分离器效率，优异的剪切效果，使水泡更加细腻稳定，水体中的污染物，由于在气泡的水气交界面上，容易形成带正负电的极性端，所以污染物容易被气泡附着，从而跟随气泡上升并凝聚堆积，而更加细腻的气泡，能将更小的污染物基团带离你的水族箱。好的蛋白质分离器，能够在有机物分解成可溶性氮素之前，将有机废物撇除，撇除率可高达50%以上。

ZKSJ REEF series of high-efficiency protein skimmer are all equipped new-designed skimmer pumps, optimized the Water/Air ratio, improve the efficiency of protein skimmers, this brand-new designed skimmer pump can cutting bubbles at a higher RPM than a traditional pump, so it can make the bubbles fine and smooth. The pollutants in water are easily attached by the bubbles because the pollutant often have a polar tail, so that these pollutants will pull up by the bubbles, the smaller the bubbles formed, the smaller pollutants can be take out of the tank. An excellent protein skimmer can take more than 50% DOC before DOC broke up into Dissolved Nitrogen.



BASIC PARAMETERS

产品基本参数

蛋白质分离器，可全面覆盖海水水族缸。为了便于日后升级更新蛋白质分离器，蛋白质分离器均提供升级增值服务，只需购买相应配件即可完成升级，不需重新购买蛋白质分离器。

ZKSJ REEF series of high-efficiency protein skimmer can adjust reef tank size form 30 Gallon to 900 Gallon. Most accessories of four size protein skimmers are universal, you can easily upgrade your Model REEF-150 to Model REEF-300 through buying a bigger skimmer body, you have no need to buy a new skimmer to up grad any more.

01



REEF-150

尺寸：260*180*520mm

Model

流量：3000L/H

Flow

电压功率：24v/30w

Voltage power

适用鱼缸：400L

Suitable tank size

反应室管径：150mm

Skimmer diameter

最佳水位：18-23cm

Best water level

适用于密度适中和中小的鱼缸

Suitable for small size tank

02



REEF-200

尺寸：330*230*570mm

Model

流量：8000L/H

Flow

电压功率：24v/42w

Voltage power

适用鱼缸：400L-1000L

Suitable tank size

反应室管径：200mm

Skimmer diameter

最佳水位：18-23cm

Best water level

适用于密度较高和中型的鱼缸

Suitable for medium size tank

03



REEF-250

尺寸：410*280*620mm

Model

流量：10000L/H

Flow

电压功率：24v/52w

Voltage power

适用鱼缸：1000L-2000L

Suitable tank size

反应室管径：250mm

Skimmer diameter

最佳水位：18-23cm

Best water level

适用于密度较高和较大的鱼缸

Suitable for much larger tank with many fishes

04



REEF-300

尺寸：450*330*630mm

Model

流量：12000L/H

Flow

电压功率：24v/60w

Voltage power

适用鱼缸：1500-3000L

Suitable tank size

反应室管径：300mm

Skimmer diameter

最佳水位：18-23cm

Best water level

适用于密度较高和较大的鱼缸

Suitable for much larger tank with many fishes



PRODUCT MIX

产品结构

蛋白质分离器结构如图
The construction of REEF all-new protein skimmer



1.收集杯盖
2.拟阀管
3.硅胶软管
4.排污阀门
5.出水三通

6.消音器
7.电源
8.控制器
9.混合泵
10.配件包

1.Collecting cup lid
2.Tube valve
3.Soft tube
4.Sewage valve
5.Drainage tee

6.Silencer
7.Power supply
8.Controller
9.Mixing pump
10.Accessory kits

LIST OF ACCESSORIES

产品配件清单

ASSEMBLE INSTRUCTION

产品组装说明

第①步 step1:



将水位调节杆对准反应杯主体上的孔位竖直插入出水口内并压入。

Align the water level adjustment lever with the hole on the main body of the reaction cup. Insert it into the outlet and press it in.

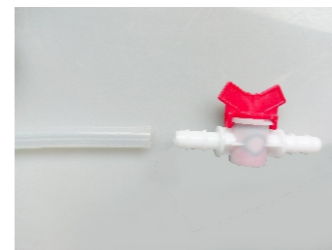


检查出水口的底部是否安装到位，正确安装结果为旋转调节杆能转动，出水口挡片卡入定位槽，并能扭到最底处即为关闭。

Check if the bottom of outlet is installed in place. The correct result is that the rotary adjustment lever can rotate, and the outlet stopper is locked into the positioning groove, and can be turned to the bottom to close.

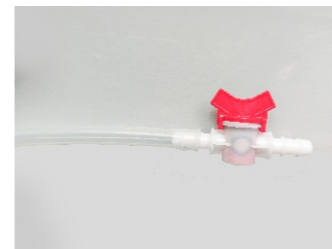


第②步 step2:

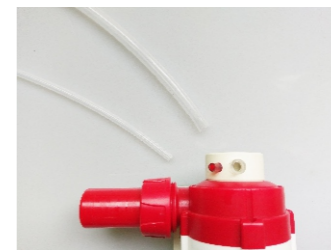


从包装内取出三根管，取最大号与排污开关装配。

Take out the three tubes from the package, and assemble the largest one with the drain switch.



第③步 step3:

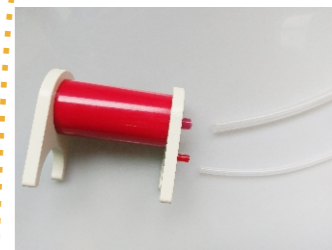


取中号与小号管，分别装配到泵体索气嘴的进气口和臭氧接口上。

Take the medium and small tubes and assemble them to the air inlet of pump nozzle and ozone port.

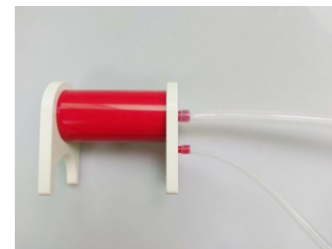


第④步 step4:

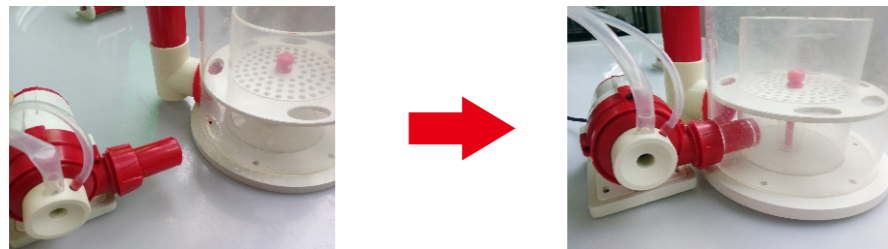


中号管与小号管的另一端则与消音器装配。注意：此处用户若需加装臭氧设备，则把小号管接入臭氧机即可。

The other end of the medium and small tubes is assembled with the silencer. Note: If you need to install additional ozone equipment here, please connect the small tube to the ozone equipment.



第⑤步
step5:



把装 配好的泵主体对准反应杯的底部进水口，水平压入，穿过两孔压入反应杯内的导流盒内。
Align the assembled pump with the bottom inlet of the reaction cup, press it horizontally,

第⑥步
step6:



再将配装好的消音管凹口压入水位调节杆卡位即可，放入底缸后并注意调整离水面的高度。
Then, press the notch of the assembled silencer tube into the water level adjustment lever and put it into the sump. Please pay attention to adjust the height from the water surface.

第⑦步
step7:



取装配好的排污管和开关对准集污杯的底部排污口入并压入即可。
Take the assembled drain pipe and switch to the bottom of sewage collection cup and press it in.

第⑧步
step8:



取装配好的排污管和开关对准集污杯的底部排污口入并压入即可。
Remove the controller / DC power supply and pump connections from the package, connect and tighten the water-proof connector properly.

USE INSTRUCTION

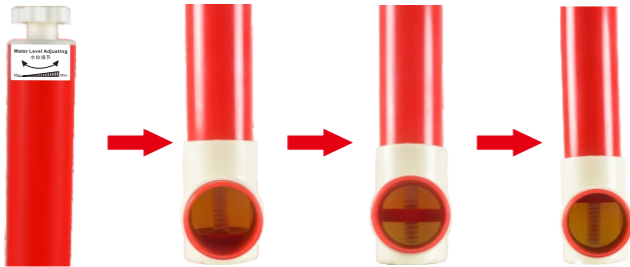
产品使用说明



首次把蛋白分离器放入水深约18–24CM底缸中，22CM是较佳的水位。在蛋白质分离器下水开机之前，应将出水管阀开到最大，置于最大出水量位置。

For the first time, the protein skimmer was placed in a water depth of about 18–24 CM sump, 22 CM is the preferred water level.

Before you start up your protein skimmer, please make sure the tube valve situate fully open.



使用蛋白质分离器时，参考调节杆上的水位调节方向，向左调节为增大出水量，向右调节为减少出水量，反应杯内水位会相应变化。图 为管阀不同开启程度示意。

When using the protein skimmer, please refer to direction marking on the lever. Adjust to left to increase flow, and to right to reduce flow. The water level in reaction cup will change accordingly.



接通电源后，根据主缸的下水量调节控制器档位选择蛋分的合适进水量。

After the power is turned on, adjust the controller gear to select the appropriate amount of water for the skimmer according to the amount of water discharged from the master cylinder

• “F” 键按一次为暂停工作10分钟，按两次为20分钟，按三次为30分钟，按第四次为恢复工作。“+、-” 键用于调节档位大小。

• 蛋分在刚通电瞬间将会在半分钟以内以一个低转速运转，半分钟之后慢慢上升到原有的功率，以防止鱼缸停电突然上电之后水位过高而产生的爆冲现象。

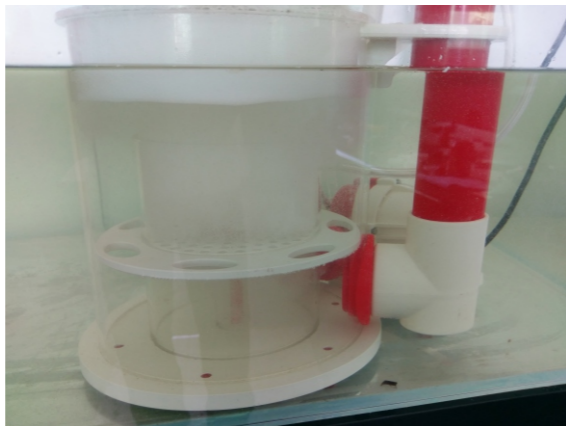
• Press “F” button once, pause for 10 min. Press twice, pause for 20 min. For the third time, pause for 30 min. For the last time to back to operating. “+、-” button are used for adjust the speed of pump(0–20 grade).

• The Skimmer will run at a low speed within 30s just after the power is turned on. After 30s, it will slowly rise to the original power to prevent the overflow of the skimmer after the sudden power-on.



转动水位调节杆的方向，控制反应杯内气泡堆积线在集污杯的底部处附近。然后静待新泵的磨合。

Rotate the water level adjustment lever to control the bubble accumulation line in the reaction cup near the bottom of the swedge collection cup. Let the new pump run in.



· 蛋白分离器在磨合期可能会出现爆冲现象，新蛋白分离器和新水都会出现这种情况，调整水位调节杆适量降低反应杯内水位即可。爆冲过后水位会偏低，需再次调整气泡层水位。这个过程可能会反复多次调节，直接稳定下来。这种现象是因为蛋白分离器内有油脂导致水面张力不稳定，通常磨合一段时间即可改善，磨合时间一般为30min至几小时。在蛋白分离器稳定工作后，在微调阀管来控制蛋白分离器内工作水位。

The skimmer may explode normally during the first running-in period. This may occur in new skimmer and new water in the aquarium. Adjust the water level adjustment lever to reduce the water level in the reaction cup. After the explosion, the water level will be lower, and the water level of the bubble layer needs to be adjusted again. This process may be repeated several times until it stabilizes. That because of surface tension is continuously changed. After hours operating, the skimmer operating steadily, then fine adjusting the tube valve to keep the foam on suitable line.

使用过程中可能会出现漏泡现象，即反应杯内气泡跟随水流吸进出水口，这种现象请转动水位调节杆升高反应杯内水气分离层的位置，让气泡层远离出水口不被吸走即可。如上图所示

Bubble leakage may occur during use, that is, bubbles in the reaction cup follow the water flow into the water outlet. Please rotate the water level adjustment lever to raise the position of the water vapor separation layer in the reaction cup, so that the bubble layer is not sucked away from the water outlet. As shown in the above picture.

· 蛋白质分离器水位的调节——干泡与湿泡的调节

蛋白质分离器可以通过阀管来调节蛋白质分离器内的水位，水位较低时，气泡经过一段时间的堆积，含水量较低，水位较高时，气泡几乎不堆积，含水量较高，通常在水体相对较干净时，适当调高蛋白质分离器内水位，使蛋白质分离器以湿泡状态运行，以含水量较高的方式快速的分离去除有害物。

· Adjusting the operating foam line—wet foam and dry foam

Protein skimmer can adjust the foam height by fine adjusting the tube valve. When the foam height is low, the foam was pull up and contain less water, it will be the dry foam; when the foam height is high, the dry foam is hardly formed, bubbles are easily exploded, foam is full of water quality is very good, foam can mainly take organics; high foam level (so called wet foam) will take more water and organics out of the tank when water quality is bad or high density feeding.

· 蛋白质分离器使用窍门——紧急换水

在水质突然起变化时，例如生物死亡，或者有其他污染物进入鱼缸内时，通过将蛋白质分离器打出的水泡直接溢出，从收集杯将脏水放出的方法，来快速将污染物去除，同时再将新配好的海水加入缸中。

注意：针刷泵使用时应浸没在水中，针刷泵吸水口应低于水面，正常使用水位为18–30cm,针刷泵应避免离水干转，导致泵轴严重磨损。

· Tips—emergency water change

When the water quality suddenly changer, as creature dead or any other pollutants go into tank, foaming overflow into collect cup, then draining waste water out of cup, and add new salty water into tank to remove pollutant rapidly, to keep water clean.

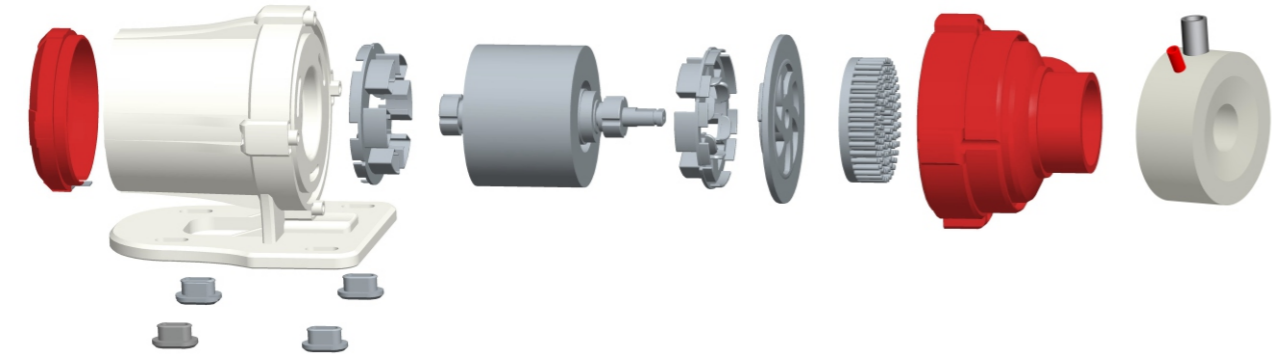
Attention: the mixing pump must start up in water, the water entrance must under the water, water lever won't less than 15cm. The mixing pump must avoid operating out of water, it will cause severe wear of the spindle.

USE SPECIFICATION

MAINTENANCE

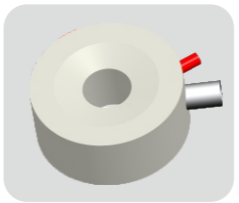
维护使用说明

蛋白质分离器在使用中，简单的机械故障可以根据本说明书进行维护。
针刷泵结构如图所示。
Simple mechanical failure may maintained in accordance with these instructions for maintenance.
The construction of mixing pump

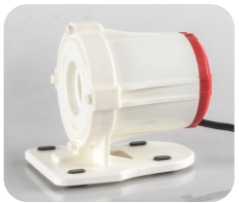


Protein Separator

针刷泵零件图 Accessories of mixing pump



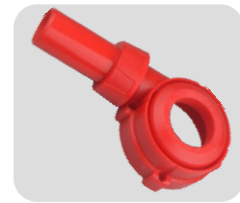
1 针刷泵-进气嘴
Air intake



2 针刷泵-身座
Body and base



3 针刷泵-密封圈
O-ring



4 针刷泵-泵盖
Cap

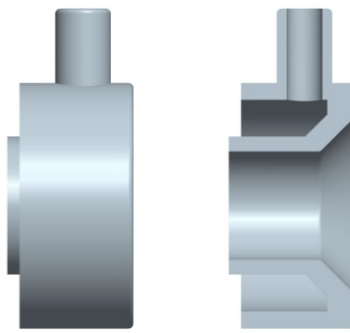


5 针刷泵-针刷转子
Needle brush rotor

针刷泵进气嘴的维护 Maintenance of air intake

在长期使用中，由于在进气嘴管的进气处，处于长期水气交界区，并且气流速较快，容易造成盐分结晶并且附在进水管内壁，随堵塞过程的进行，导致进气管直径变小甚至堵塞，导致进气量过小，将进气嘴拆下用温水浸泡后用水重新进气管内部即可。

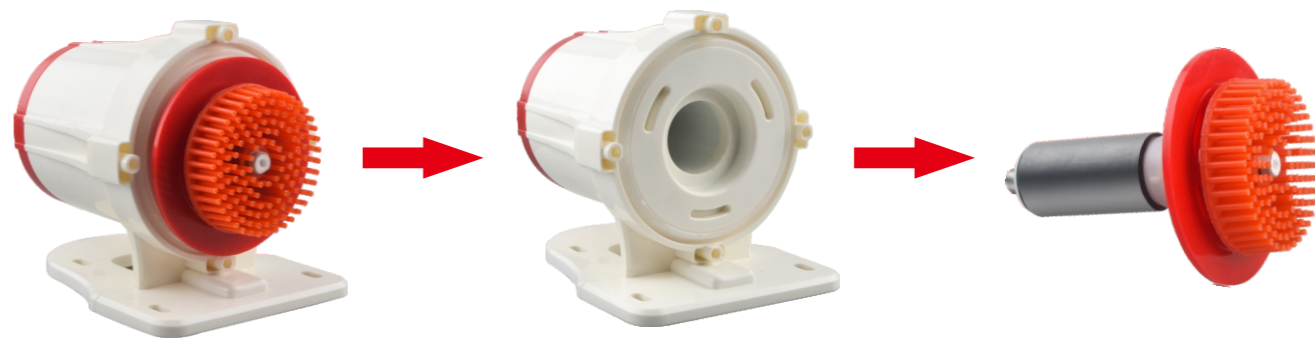
When use for a long time, salt will dissolve out because of the fast air speed of air flow in intake, salt will decrease the diameter of air intake tube, even block the air intake, cause lack of air, Remove the air intake then soak it in warm water, then wash the inside of the air intake.



针刷泵叶轮的维护 Maintenance of needle wheel parts

针刷泵在工作中由于不断吸入水，同时可能吸入其他颗粒物例如砂石，滤材碎片，珊瑚骨等碎片，并且卡在针刷泵的针刷叶轮上，导致叶轮剪切效率下降，这时应把针刷泵取出，打开泵盖，将叶轮上的异物清理干净。再将泵盖旋紧，把针刷泵装回。

During the mixing pump operating, other large particles like gravel、fragments of filter material、coral fragment may be took in with water, these matters will stack on the needle of the wheel. This progress will cause wheel cutting efficiency decreases. Remove the pump cap , then clean the matters stack on the needle, the put the rotor back, assemble the pump cap, finish the maintenance.



针刷泵轴承的维护 Maintenance of mixing pump rotor shaft

针刷泵在使用中，由于转子轴和转子仓之间空间狭小，。摩擦温度较高，这部分的水容易析出碳酸钙和碳酸氢钙沉淀附着在转子上，影响转子的运行，加剧磨损，需定期进行维护。将针刷泵取下，逆时针方向拧开泵盖，将转子取出，用水或者柠檬酸溶液对转子进行清洁浸泡，将沉淀的钙质清洗去除，同时将转子仓内壁也以同样方法清洁。清洁完毕后将转子装回转子仓，将泵盖旋紧，将针刷泵装回。

During the mixing pump operating, because of the narrow space between rotor shaft and rotor drum, the friction produced high temperature, water will be heated, CaCO_3 and $\text{Ca}(\text{HCO}_3)_2$ are easily dissolved out and attached on the rotor shaft, it will cause pump efficiency decreases. Remove the pump cap counterclockwise, take the rotor out, wash it with water or citric acid liquor, to clean up the calcium precipitation, then clean the rotor drum with the same method. After clean out of this part, assemble shaft back to drum, Screw the cap, finish the maintenance.

注意：用户不能自行对本蛋白质分离器的任何电气原件进行维修，也无需进行任何例行维护，本产品的维护工作职能由本公司的经销商来完成，备换的水泵等配件，请于经销商联系购买。

Attention: customers don't repair any electrical components for this protein skimmer, also need not make any routine maintenance, the maintenance function of the product by the dealers to complete a change of water pumps and other accessories, please contact with dealers to buy.

CAUTIONS

注意事项

- ▲ 请不要将电源、控制器置入水中。
- ▲ 请按照本说明书指导使用该蛋白质分离器。

中科世纪公司向此产品的原始消费者、所有者保证，本产品在材料和工艺方面没有缺陷，保质期为从购买日起5年。请妥善保管您的收据作为购买日期证明，如果产品在购买之后没有被滥用、错误使用、更改或损坏，而是根据说明书进行使用，我公司将根据自行判断更换本产品任何有缺陷的部分。

- ▲ Don't put power supply and controller into water.
- ▲ Please follow this manual instruction to use the protein skimmer.

Dear original consumers, owner of the product, ZKSJ company promise this product has no defects in material and process, guaranteed life for 5 year from the date of purchase. Please keep your receipt as proof of date of purchase, after purchase if the product is not abuse, change or damage, but according to the directions for use, our company will replace the product according to the discretion of any defective parts.

WARRANTY

保修事项

重要提示：

您安装设备之前请仔细阅读本手册，我们建议您阅读完手册再进行设备的安装。这可以防止安装过程中可能出现的任何问题。您认为您读懂本手册再为蛋白质分离器接通电源。如果怀疑或者有什么不清楚的问题，请联系你的供应商或经销商再启动您的蛋白质分离器。

Important notice:

Please read this manual carefully before you install equipment. We recommend that you read the manual for the installation of equipment. This prevents the installation process any problems that may occur. Make sure you read this manual for protein skimmer again. If you doubt or have any problems, please contact your supplier or dealer before start up your protein skimmer.