



REEF-80IN



DC PROTEIN SKIMMER
产品说明书

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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进行全新设计，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，容易形成带正负极的极性端，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 skimmers feature newly designed DC pinwheel pumps. This pump optimizes Water/Air ratio, which improves the efficiency of the protein skimmer. The skimmer cuts the bubbles at a higher RPM than traditional ones, which enables the skimmer to generate fine and smooth bubbles. The pollutants in water can be easily absorbed by the bubbles because the pollutants have polar tails. And these pollutants will be piled up by the bubbles until they fall into the collection cup. The smaller the bubbles form, the smaller and more pollutants can be taken out of the tank. An excellent proteinskimmer can clear more than 50% DOC before DOC breaksup into Dissolved Nitrogen.





BASIC PARAMETERS

产品基本参数

尺寸: 88*105*425mm

Size:

流量: 700L/H

Flow

电压功率: 12v/6w

Voltage power

适用鱼缸: 120L

Suitable tank size

反应室管径: 80mm

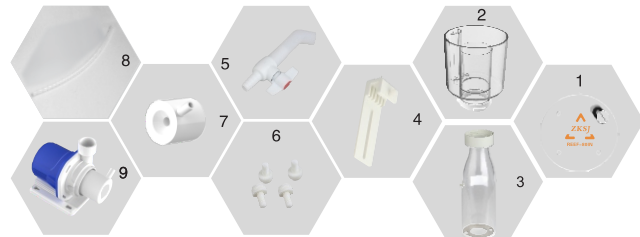
Skimmer diameter

最佳水位: 15-20cm

Best water level

适用于有背格的背滤缸或50cm以内的NANO缸

Suitable for back filter tank with back grid or NANO tank within 50cm



PRODUCT MIX

产品结构

1. 收集杯盖
2. 收集杯
3. 反应桶
4. 固定支架
5. 排污阀

6. 固定螺丝
7. 进气嘴
8. 进气管
9. 针刷泵

1. Collecting cup lid
2. Collecting cup
3. Reaction cup
4. Fixed rack
5. Sewage valve

6. Screws
7. Venturi
8. Soft tube
9. Skimmer pump

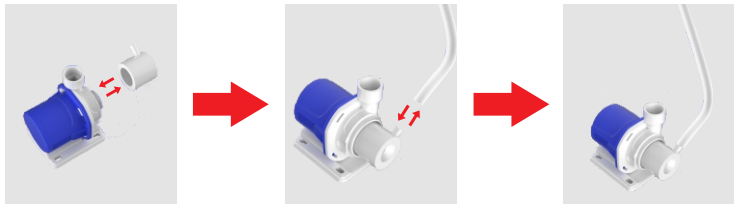
蛋白质分离器结构如图

The construction of REEF all-new protein skimmer

ASSEMBLE INSTRUCTION

产品组装说明

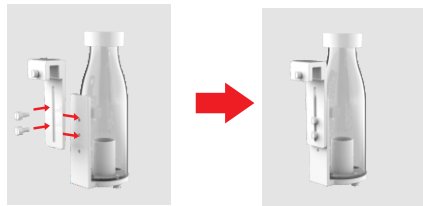
第①步 step1:



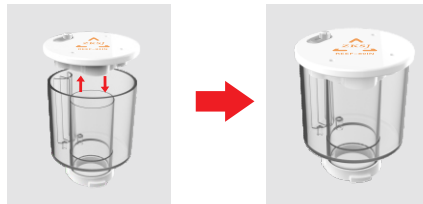
将进气嘴安装到针刷泵上，使进气口朝上。
Install the venturi on the needle rotor pump, make the entrance face up.

将进气管如图示方式安装到进气嘴上。
Install the inlet pipe to the venturi as shown in the above picture.

第②步 step2:



第③步 step3:



将反应桶与固定支架用塑料螺丝如上图方式固定好。
Fix the reaction cup and the fixing rack with plastic screws as shown in the above picture.

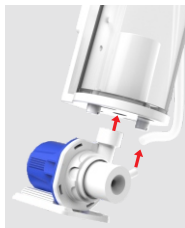
将收集杯与杯盖按上图方式装配。
Assemble the collecting cup and collecting cup lid as shown in the above picture.

第⑤步
step5:



把收集杯从与反应桶身再次装配压入,并转动收集杯至最紧处。
Insert the collection cup into the neck of skimmer body. Rotate the cup until it is fastened.

第⑥步
step6:



把针刷泵与反应桶进行装配,泵体的出水口压入反应桶底的中心孔处,进气管另一端安装到收集杯的消音管口处。(注意不是排污管口)
Assemble the needle rotor pump with the reaction cup, the outlet of the pump body is pressed into the middle hole at the bottom of the reaction cup, and the other end of the inlet pipe is installed at the silencer pipe of the collection cup. (Note that it is not a sewage pipe)

第⑦步
step7:



把排污管装配到收集杯底的排污口处;安装完成。
Assemble the sewage valve hose to the drain port at the bottom of the collection cup; installation is complete.

USE INSTRUCTION

产品使用说明

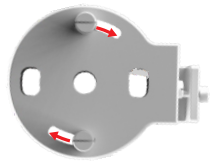


把蛋白放入缸内，调整支架螺丝固定在下玻璃缸边，蛋白壳体可上下活动调节深度，最佳水位是泵的底部至水面距离是20CM。蛋白下水前请调整到最大出水量状态，下水后可以转动桶身自行调整合适的出水量或升降桶身的深度，来控制蛋白达到最佳效率。

Put the protein skimmer into the tank, and fix the adjusting bracket screw on the side of the lower glass tank. The skimmer shell can move up and down to adjust the depth. The best water level is that the distance from the bottom of the pump to the water surface is 20cm. Please make sure the water outlet of the body is adjusted to MAX before you start up the skimmer.



旋转反应杯
Rotating



反应杯底部
Bottom of reaction cup



限位挡片
Gear limit

使用蛋白质分离器时，可根据需求手动旋转反应杯体，调节反应杯内气泡层水位。Rotate the skimmer body to reach the desired water level. More flexible and better reaction.



进气口
Air inlet

如图标示，进气口位于收集杯盖上，手动拨动进气口挡片，调节进气量的大小，从而可以调节泡沫位的高低。

A small screw on the upper cover of the collecting cup to adjust the air intake.

蛋白在磨合期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。

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.

蛋白在磨合期可能会正常出现爆冲现象，新蛋白和鱼缸新水都会出现这种情况，转动桶身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质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。在蛋白质分离器稳定工作后，再微调桶身来控制蛋白质分离器内工作水位。

Overflow may occur during running-in period. Adjust the air intake and water outlet to reach the appropriate water level. After that, the water level will drop, and it needs to be adjusted again. As the surface tension of the bubble is constantly changing, this operation may need to be repeated several times before the skimmer breaks in. This usually needs a couple of days to one or two weeks. After that, adjust the air intake and water outlet slightly to achieve stable performance.

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，这种现象请转动桶身升高反应杯内水气分离层位置，让气泡层远离出水口不被吸走即可。

Bubble leakage may occur while operating, that is, bubbles in the skimmer body are discharged from the water outlet. Please rotate the skimmer body to adjust the separation line in the skimmer body, to keep the bubbles away from the outlet.

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桶身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 skimmer body. 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，从收集杯排污阀将脏水放出的方法，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，最佳使用水位为20-22cm。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.

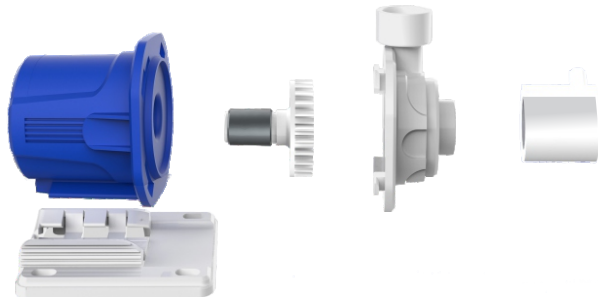
Attention: the mixing pump must start up in water, the water entrance must under the water, water lever won't less than 20-22cm. The mixing pump must avoid operating out of water, it will cause severe wear of the spindle.

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 machine failure can be maintained according to this instruction.

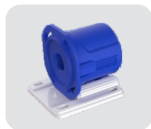


针刷泵零件图

Needle wheel pump



1 针刷泵-进气嘴
Air intake



2 针刷泵-身座
Body and base



3 针刷泵-泵盖
Cap



4 针刷泵-针刷转子
Needle impeller

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。

After operating for a period of time, salt will crystallize at the air intake. Salt will adhere to the inner wall of the tube, which will block the intake tube and reduce the intake volume. Please remove the air intake nozzle, soak it in warm water and rinse it.



针刷泵叶轮的维护

Maintenance of needle impeller

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 operation of the needle wheel pump, sand, filter material fragments, coral bones and other substances will be brought in, which will be stuck on the needle wheel, and the operation efficiency of the needle wheel will be reduced. Please remove the pump, take off the cap, then take out the impeller. Clean the impeller and the inner part of the pump.

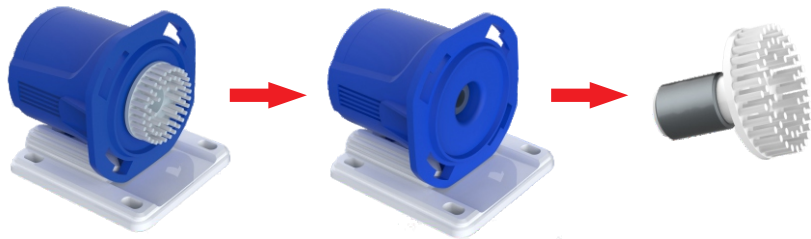


针刷泵轴承的维护

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 operating of the pump, due to the narrow space between the rotor shaft and the chamber, high speed friction generates a lot of heat. CaCO_3 and $\text{Ca}(\text{HCO}_3)_2$ are resolved. They will adhere to the rotor, affecting the operation of the rotor and exacerbate abrasion failure which requires regular maintenance. Remove the impeller, soak and clean it with water or citric acid to remove the precipitated calcium, and clean the inner part of the chamber in the same way.



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，本产品的维护工作只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 cannot repair or maintain the electrical components of this proteinskimmer. Contact the company or the retailer for replacement please.

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。
- ▲ 水泵需要定期两个月清洗一次，否则因为水中杂质，鱼便，钙澡过多导致转子转动受阻转子和泵腔刮擦，导致电机过载温度过高从而泵体变形这种变形不属于质保范围。
- ▲ 水泵控制器以及电源适配器不属于防水器件避免潮气和水。进水属于非质保范围。
- ▲ 水泵严禁使用超压电源，损坏不在质保范围。
- *以上保用条款解释权归本厂销售部所有。
- ▲ 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.
- ▲ The pump needs to be cleaned regularly for two months, otherwise it will turn because of impurities in the water, fish stool and calcium bath. The rotation of the rotor is blocked and the pump cavity is scraped, which leads to the excessive overload temperature of the motor so that the deformation of the pump body is not. Belong to the scope of quality assurance.
- ▲ Pump controllers and power adapters do not belong to waterproof devices to avoid moisture and water. The intake of water belongs to the scope of non-quality assurance.
- ▲ The use of overvoltage power supply is strictly prohibited in the pump, and the damage is not within the scope of quality assurance.

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.