



ECO Slim 造浪泵 ECO Slim Wave maker

Instructions 使用说明书

使用前请仔细阅读说明书并妥善保存，
以备日后参考之用！

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简介

本造浪是中科又一力作，外观造型别致，控制模式更是创立了先河，成为了全世界首款能真正模拟海洋状态，根据日出日落，潮起潮落分时段设定不同的工作状态的造浪泵。水泵根据不同时间设定不同的造浪功率，不同的造浪模式以及不同的造浪频率。造浪泵双头互换，其中自旋转泵头可以在造浪泵工作的时候自动改变水流的方向，鱼缸造浪无死角。体积小隐藏性好，噪音低，力度足，扩散度高。

安装

现将水泵置于水面以下15-20cm左右，将另外一面磁铁置于缸外，用户可自己根据实际情况放置。出水口朝上朝下都可以。出水口方向可以手动调整。(ECO SLIM 6000不可调整方向)



ECO Slim 6000



ECO Slim 10000



ECO Slim 20000



ECO Slim 30000

控制面板



当水泵工作在造浪模式的时候如果功率设定在40%则前五个灯跑马灯式点亮，跟随造浪频率，当设定造浪功率60%的时候，则前六个灯跑马灯式亮，跟随造浪频率。

当工作在造浪造流模式时：功率设定80%的时候在功率上升阶段前七个灯依次点亮（全亮），在造浪造流减弱的时候再反过来依次灭灯。轮流的时候等的工作状况就根据当前工作状况（乱流其实就是前三个模式的随机运转）

• 数码管显示含义：

数码管显示内容分为两种，分别是时钟和工作模式，显示内容可通过S键切换。其中数码管中间两点“:”为闪亮时表示当前显示的是时钟，反之数码管中间两点“:”不亮即表示当前显示为工作模式，四位数码管在显示工作模式时分别定义的是，从左至右第一位水泵工作的时间段，第二位表示功率，第三位造浪模式，第四位造浪频率。

• LED显示含义：

8个LED可显示：造浪模式，快慢，功率，频率显示
前五个灯亮表明水泵工作在40%功率
前六个灯亮表明水泵工作在60%功率
前七个灯亮表明水泵工作在80%功率
八个灯亮表明水泵工作在100%功率

• 按键定义：

S 显示内容切换键

M 设置位切换键

+ 档位递增键

F 喂食模式按键

功能设定

1. 时间设定：

单击 **S**，切换到时钟模式下，**00:00**

单击 **M**，第一位数码显示开始闪烁，

单击 **M** 键，数码管闪烁依次向右移一位，**00:00** → **00:00**

单击 **+** 键，可校准当前闪烁的数码管 **12:34**

设定完成后等待几秒停止闪烁即可完成保存。

2. 潮汐时段设定：

控制器的数码管分4位显示，修改第一位显示管数值，可切换到对应潮汐时段，出厂设定的潮汐表分为5个时段。

05:30-07:30 黎明 **1312**

07:30-09:30 日出 **2413**

09:30-14:00 白天 **3413**

14:00-16:30 日落 **4425**

16:30-05:30 黑夜 **5138**

单击 **S**，切换到造浪设定模式下，例如显示 **5138**

单击 **M** 键1次，第一位数值开始闪烁，**5138**

单击 **+** 键，修改第一位数值可切换不同的时段，修改对应的 **功率** 和 **造浪模式** 和 **造浪频率**。

设定完成后等待几秒停止闪烁即可完成保存。

3.功率设定:

按下 **S** 键，切换到造浪设定模式下，例如显示 **5138**

按下 **M** 键2次，切换到第二位数码管开始闪烁，**5138**

按下 **+** 键，可修改当前潮汐时段的功率，当前功率设定分4个档位设定，

8188 功率设定在40%

8288 功率设定在60%

8388 功率设定在80%

8488 功率设定在100%

设定完成后等待几秒停止闪烁即可完成保存。


4.造浪模式设定:


按下 **S** 键，切换到造浪设定模式下，例如显示 **5138**


按下 **M** 键3次，切换到第三位数码管开始闪烁，**5138**

按下 **+** 键，可修改脉冲造浪和营养传输和定速造流和乱流模式，

8818 脉冲造浪 

8828 营养传输 

8838 定速造流 

8848 乱流模式 

注：乱流模式是4种模式随机快速变化组合，所有功率和频率也是随机输出，所以该模式启用时，第二位和第四位数码管不可调节。

5.造浪频率设定:

按下 **S** 键，切换到造浪设定模式下，例如显示 **5138**

按下 **M** 键4次，切换到第四位数码管开始闪烁，**5138**

按下 **+** 键，可校准当前闪烁的数码管值在1-8间。

8881 最快频率

⋮

8888 最慢频率

设定完成后等待几秒停止闪烁即可完成保存。

6.喂食模式设定:

按下 **F** 键，在泵体任意模式下运行都会执行暂停动作，显示内容 **F-10**

此时开始10分钟倒计时，计时结束后会恢复到原设定工作状态上。

若需要手动恢复，请再次按下 **F** 键即可。

常见故障显示:

ERR1 软件过流保护

ERR2 硬件过流保护

ERR4 欠压保护

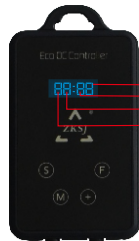
ERR5 过压保护

ERR6 缺相保护

ERR7 堵转/空转保护

ERR8 启动失败

• 设定对应列表如下:



时间段	功率	模式	频率
1: 05:30~07:30 拂晓 (DAWN)	1:40%功率	1: 脉冲造浪模式	1: 频率1 最快
2: 07:30~09:00 日出 (Sunrise)	2:60%功率	2: 营养传输模式	2: 频率2
3: 09:00~14:00 白天 (Daylight)	3:80%功率	3: 定速造流模式	3: 频率3
4: 14:00~16:30 日落 (Sunset)	4:100%功率	4: 乱流	4: 频率4
5: 16:30~05:30 夜晚 (Night)			5: 频率5
			6: 频率6
			7: 频率7
			8: 频率8 最慢

• 出厂初始设定表:

05:30~07:30 (DAWN):	1	4	2	5
07:30~09:00 (Sunrise):	2	4	2	8
09:00~14:00 (Daylight):	3	3	3	8
14:00~16:30 (Sunset):	4	3	2	8
16:30~05:30 (Night):	5	4	2	5

备注: 造浪泵在设定的时候某些档位是不能调节的, 注意事项如下:

- 1、当造浪调节到模式3 (显示器第三位显示3) 即造流模式的时候, 最后一位是不能调节。模式为8.因为造流只需要调节功率即可, 例如5138,5238,5338,5438。
- 2、当造浪调节到模式4 (显示器第三位显示4) 即乱流模式的时候, 第二位和第四位不可调节。因为乱流无需设定。例如1040,2040,3040,4040,5040。
- 3、造浪泵一旦出现反向出水表示造浪叶轮有异物缠绕。清洗叶轮并且重新启动。

参数规格及尺寸

型号 Model	ECO SLIM 6000	ECO SLIM 10000	ECO SLIM 20000	ECO SLIM 30000
流量 Flow	6000L/H	10000L/H	20000L/H	30000L/H
鱼缸尺寸 Tank	<0.6m	<0.8m	0.8~1.2m	1.2~2m
最大功率 Max Power	9w	20w	40w	70w
最小功率 Min power	3w	6w	6w	10w
电压 Voltage	DC12V	DC24V	DC24V	DC24V
尺寸 Size	47.8*47.8*52.5mm	62*62*66mm	74.8*74.8*82mm	105*105*105mm
鱼缸磁吸厚度 Tank thickness	12mm	15mm	20mm	20mm

保养

定期清洗造浪泵以确保其有效动作;

控制盒表面有水后请用干布擦干, 防止水进入控制盒;

清理泵体内杂物时, 首先把泵底座两侧的挂钩支架取下, 然后取出中间盘与叶轮, 用软布擦拭叶片, 并用水清洗泵体污物;

此产品适用于户内, 但严禁控制盒与适配器调入水中, 以免造成不必要损失。

注意事项

备注：如果控制器显示err表示异常报警，异常报警有几种情况：

- 第一、造浪未放置于水中，或者空转；
- 第二、为保证产品性能，禁止无水运行；
- 第三、控制盒的安装位置，注意防水，防止水花飞溅到控制盒上；
- 第四、造浪泵体未连接控制器；
- 第五、造浪泵卡死，这个时候需要清理，重新组装；
- 第六、非专业人员请不要随便打开控制盒与适配器，以免损坏；

产品保修卡

- 一、请保留购货凭证及保修证书，并在维修时一并出示。
 - 二、以下条款不属于保修范围：
 - 因不规范操作：错误安装、摆放、搬运造成的损坏。
 - 用户不当修理造成的故障。
 - 室内意外区域使用造成的故障。
 - 不可抗拒的自然灾害以及认为原因造成的故障。
 - 额定电源（电压及频率）意外造成的故障。
- *以上保用条款解释权归本厂销售部所有。

用户填写资料

用户填写资料				
产品名称			购买日期	
产品编号				
顾客	姓名		电话	
	住址			
零售商	姓名		电话	
	住址			
维修记录	日期	故障及维修说明	用户签字	维修人员
检验员：		检验日期：		

Instruction

This wave maker is another masterpiece of ZKSJ, it has become the world's first wave maker which simulate the state of ocean according to five time range of Dawn, Sunrise, Daylight, Sunset and Moonlight). Each time range the wave mode, intensity and wave frequency adjustable. Pump have two kinds of head which can give different flow direction especially the automatic rotating head, the flow direction especially the automatic rotating head, the flow direction will change automatically.

Installation

Install the wave maker at the position 15–20cm below water level. The wave maker can be up and down of any direction according to the actual situation. The direction of the water outlet can be adjusted manually. (ECO SLIM 6000 cannot be adjusted.)



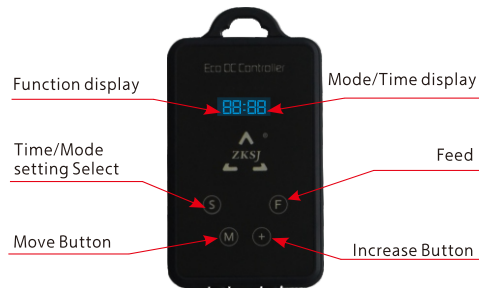
ECO Slim 6000

ECO Slim 10000

ECO Slim 20000

ECO Slim 30000

Controller Panel



• LED Display:

8 LED lights can display the information of wave-making mode, speed, power, frequency.
When the first five lights on it means the pump work at 40% of the max power.
When six lights on it means the pump work at 60% intensity.
When seven lights on it means the pump work at 80% intensity.
When eight lights on it means the pump work at 100% intensity.

In classic wave-making mode, if power is set at 40%, the first five lights will be lighted one by one per wave frequency accordingly. and if set at 60%, the first six lights will be lighted one by one per wave frequency accordingly. In constant stream mode, when power is set to 80%, the first seven lights are turned on in turn during power-rising stage (all six lights are on), and the lights are turned off in turn when the wave-making flow is weakened. Random mode is actually the random working of the three modes (Classic Wave, Nutrition Transmission Wave, Constant Stream). So the lights status is per the actual mode status.

• **Digital tube Display:**

88:88 shows the time or wave mode, select by the key of “S” 。 When the middle two potints “:” flashing it shows the time, and then touch the key “S” , it will shows the wave mode information,the first number of the Digital tube shows the time range,the second shows power intensity, the third shows wave mode, the last one shows wave frequency.

• **Button Definition:**

S Time/Wave Mode setting select button
+ Increase button

M Digital tube number select
F Feed button

Function Setting

1. Timeset

Press the **S** button to enter into timeset mode, **00:00**

Press the **M** button, the first digital display starts to flash

Press the **M** button one time,the digital display one bit to the right. **00:00** → **00:00**

Press the **+** button to calibrate the flashing digital display **12:34**

Wait a few seconds after the setting is completed until the digital display stops flashing to complete the save.

2. Tidal Time Setting:

The digital display of the controller with 4 digits,the first digit is modified to switch to tide period. The factory–set tide table with 5 periods:

05:30–07:30	Dawn	1 3 1 2
07:30–09:30	Sunrise	2 4 1 3
09:30–14:00	Day	3 4 1 3
14:00–16:30	Sunset	4 4 2 5
16:30–05:30	Night	5 1 3 8

Press the **S** button to enter into the wave setting mode,such as display: **5138**

Press the **M** button once, the first digit starts to flash. **5138**

Press the **+** button,modify the first digit can switch different time periods,and modify the corresponding power and wave making mode and wave frequency.

3.Power Setting:

Press the **S** button to enter into wave setting mode,such as display **5138**

Press the **M** button twice to switch to the second digit display start flashing. **5138**

Press the **+** button to modify the power of the current tidal period,the current power setting is divided into 4 levels.

8 1 8 8	Power set at 40%
8 2 8 8	Power set at 60%
8 3 8 8	Power set at 80%
8 4 8 8	Power set at 100%





Wait a few seconds after the setting is completed until the digital display stops flashing to complete the save.

4.Wave Mode Setting:

Press the **S** button to enter into wave setting mode,such as display **5138**

Press the **M** button three times to switch to the third digit display start flashing. **5138**

Press the **+** button to modify to classic wave or nutrient transfer or constant stream or random modes.

8 8 1 8	Classic Wave	
8 8 2 8	Nutrituion Transfer Wave	
8 8 3 8	Constant Stream	
8 8 4 8	Random Mode	

Note:Note: The random mode is a combination of the four modes with random rapid changes,and all power and frequency are also random outputs.so when this mode enabled,the second and fourth digit display cannot be adjusted.

5. Wave frequency setting:

Press the **S** to switch to wave setting mode, such as display: **5138**

Press the **M** button 4 times, switch to the fourth digital display start flashing. **5138**

Press the **+** button to calibrate the currently flashing digital display number between 1 to 8.

8888 | The Fastest Frequency

⋮

8888 | The Slowest Frequency

Wait a few seconds after the setting is completed until the digital display stops flashing to complete the save.

6. Feeding Mode Setting:

Press the **F** button to pause action in any mode of the pump, and display the content. **F-10**

At this point, the 10-minute countdown will begin, it will return to the original working state after the end.

If need manually recovery, press the **F** button again.

Common Faults:

ERR1	Software Overcurrent Protection
ERR2	Hardware Overcurrent Protection
ERR4	Undervoltage Protection
ERR5	Overvoltage Protection
ERR6	Phase Loss Protection
ERR7	Locked-rotor protection/Dry running protection
ERR8	Startup Failed

• Digital tube No defintion:



Time range	Intensity	Wave Mode	Frequency
1: 05:30~07:30 (DAWN)	1:40%	1: Classic waves	1: Fast
2: 07:30~09:00 (Sunrise)	2:60%	2: Nutrition transmission wave	2:
3: 09:00~14:00 (Daylight)	3:80%	3: Constant stream	3:
4: 14:00~16:30 (Sunset)	4:100%	4: Random Mode	4:
5: 16:30~05:30 (Night)			5:
			6:
			7:
			8: Lowest

• Factory setting:

05:30~07:30 (DAWN):	1	4	2	5
07:30~09:00 (Sunrise):	2	4	2	8
09:00~14:00 (Daylight):	3	3	3	8
14:00~16:30 (Sunset):	4	3	2	8
16:30~05:30 (Night):	5	4	2	5

Note: When setting the wave maker some issues need to know:

- When adjust to mode 3 (The third digital tube shows 3) Constant stream mode, the last digital tube can not be adjusted. The default is 8. Because the Constant stream mode only need to adjust the power, for example, 5138,5238,5338,5438.
- When adjust to mode 4 (The third digital tube shows 4)Random mode. The first and digital tube can not be adjusted, Because the Random mode does not need to set intensity and wave frequency. Such as 1040,2040,3040,4040,5040.
- When the wave maker run reversal it means you need to clean the impeller and restart the wave maker.

Parameter

Model	ECO SLIM 6000	ECO SLIM 10000	ECO SLIM 20000	ECO SLIM 30000
Flow	6000L/H	10000L/H	20000L/H	30000L/H
Tank	<0.6m	<0.8m	0.8-1.2m	1.2-2m
Max Power	9w	20w	40w	70w
Min power	3w	6w	6w	10w
Voltage	DC12V	DC24V	DC24V	DC24V
Size	47.8*47.8*52.5mm	62*62*66mm	74.8*74.8*82mm	105*105*105mm
Tank thickness	12mm	15mm	20mm	20mm

Maintain

Clean the wave pump regularly to ensure its effective operation;

If there is water on the surface of the control box, please dry it with a dry cloth to prevent water from entering control box;

When cleaning the debris in pump body, firstly, remove the hook brackets on both sides of the pump base, then remove the intermediate disc and the impeller, wipe the impeller with a soft cloth, and clean pump body with water;

This product is suitable for indoor use. Don't immerse the controller box and adapter into water.

Notice

Note: If the controller shows "err" means there are several cases:

1. The wave maker not put in water.
2. The wave maker is not connected to the controller
3. The wave maker stuck, need to clean and reassemble it.
4. Dry run not allow In order to guarantee the product performance.
5. Keep the controller and adapter away from water and water splash.
6. To avoid damage please don't open the controller and adapter.

Warranty Card

Please keep the warranty card, present at the time of repair.

Following item are not covered by warranty:

- Non standard operation: Incorrect installation and placement, damage caused by transport.
- Damage caused by improper repair faults.
- Improper out door use.
- Malfunction caused by irresistible natural disasters.
- Failure caused by accidents of rated power (voltage and frequency) .

The interpretation of the above warranty terms belongs to our sales department.

User's Information				
Product Name			DOP	
Product No				
Customer	Name		Tel	
	Add			
Retailer	Name		Tel	
	Add			
Maintenance records	Date	Remarks	Sign	Maintenance person
Checker :		Check Date :		