

***Dear Customer,***

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully.

**User Memo:**

|                   |                |
|-------------------|----------------|
| Date of purchase: | _____          |
| Dealer name:      | _____          |
| Dealer address:   | _____<br>_____ |
| Dealer website:   | _____          |
| Dealer email:     | _____          |
| Dealer phone no.: | _____          |

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<https://www.facebook.com/Maxspect>



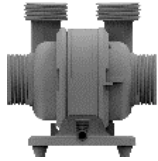
<http://twitter.com/maxspectled>

# Package Content

Please check the content in the package.

English

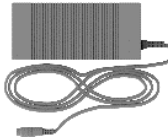
## Main Components



Pump Unit



Controller



Power Supply Unit

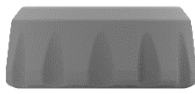


Power Cable



Backup Battery  
Adapter

## Inlet Spare Parts



1.  $\Phi 58\text{mm}$  2pcs



2. 1" 2pcs



2A.  $\Phi 32\text{mm}$  2pcs



3.  $\Phi 40\text{mm}$  2pcs

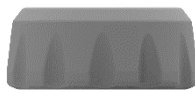


4. 2pcs

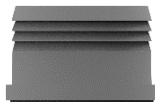


5. 2pcs

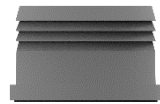
## Duo Outlet Spare Parts



6.  $\Phi 51\text{mm}$  2pcs



7.  $\frac{3}{4}$ " 2pcs



7A.  $\Phi 25\text{mm}$  2pcs



7B.  $\Phi 16\text{mm}/\frac{1}{2}$ " 1pc  
 $\Phi 20\text{mm}/\frac{3}{4}$ " 1pc



7C.  $\Phi 25\text{mm}/1$ " 1pc  
 $\Phi 32\text{mm}/1\frac{1}{4}$ " 1pc

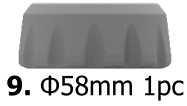


8.  $\Phi 32\text{mm}$  2pcs

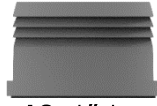
# Package Content

English

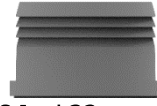
## Y-Tubing Spare Parts



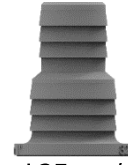
**9.**  $\Phi 58\text{mm}$  1pc



**10.** 1" 1pc



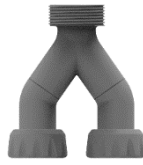
**10A.**  $\Phi 32\text{mm}$  1pc



**10B.**  $\Phi 25\text{mm}/1''$  1pc  
 $\Phi 32\text{mm}/1\frac{1}{4}''$  1pc



**11.**  $\Phi 40\text{mm}$  1pc



**12.** 1pc

## Single Outlet Spare Parts



**13.** 1pc



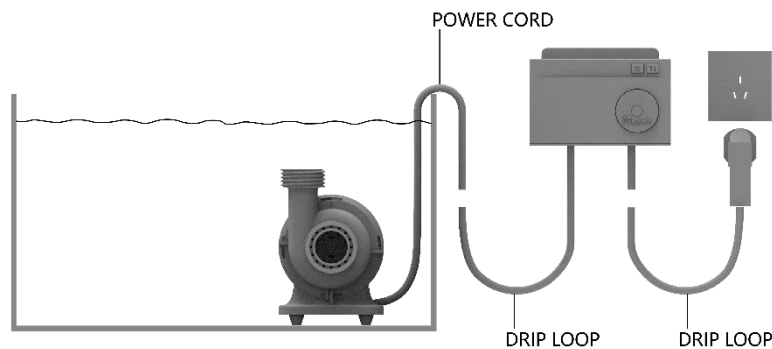
**14.** 1pc

Before using this Maxspect™ Turbine Duo DC Pump please read these operating instructions carefully. Take special care to follow the safety suggestions listed below.

Afterwards keep this manual handy for future reference.

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **DANGER** – To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt to repair by yourself; return the appliance to an authorized service facility for service or discard the appliance.
  - a) If the appliance shows any sign of abnormal water leakage, immediately unplug it from the power source.
  - b) Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
  - c) Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or has been dropped or damaged in any manner.
  - d) To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium stand and tank to one side of a wall-mounted receptacle to prevent water from dripping onto the receptacle or plug. A “drip-loop” shown in the figure, should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. The “drip-loop” is that part of the cord below the level of the receptacle, or the connector if an extension cord is used, to prevent water traveling along the cord and coming in contact with the receptacle. If the plug or socket does get wet, **DON'T** unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the appliance. Then unplug and examine for presence of water in the receptacle.

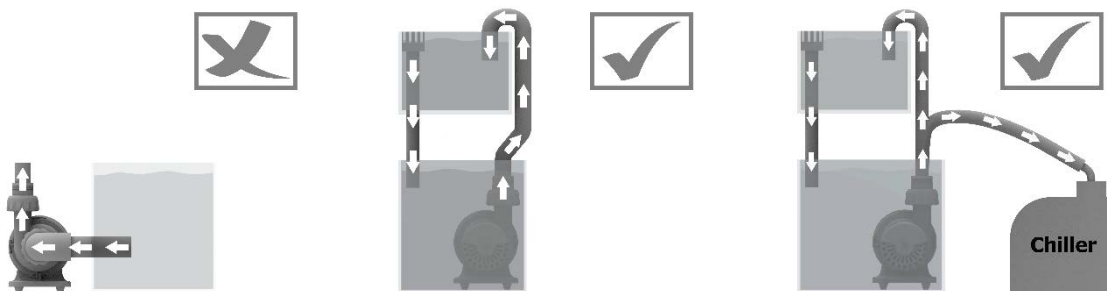


2. Close supervision is necessary when any appliance is used by or near children.
3. To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, and the like.

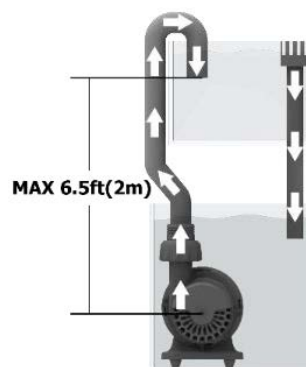
## Precautions

English

4. Always unplug an appliance from an outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.
5. Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
6. Do not install or store the appliances where it will be exposed to the weather or to temperatures below freezing.
7. Make sure an appliance mounted on a tank is securely installed before operating it.
8. Read and observe all the important notices on the appliance.
9. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat.
10. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
11. The appliance is designed to be used in the water ONLY, the entire body of the appliance must be submersed in the water.



12. To maintain the good performance of the appliance, it should be installed where the vertical distance between the outlet and inlet is less than 6.5ft (2m).

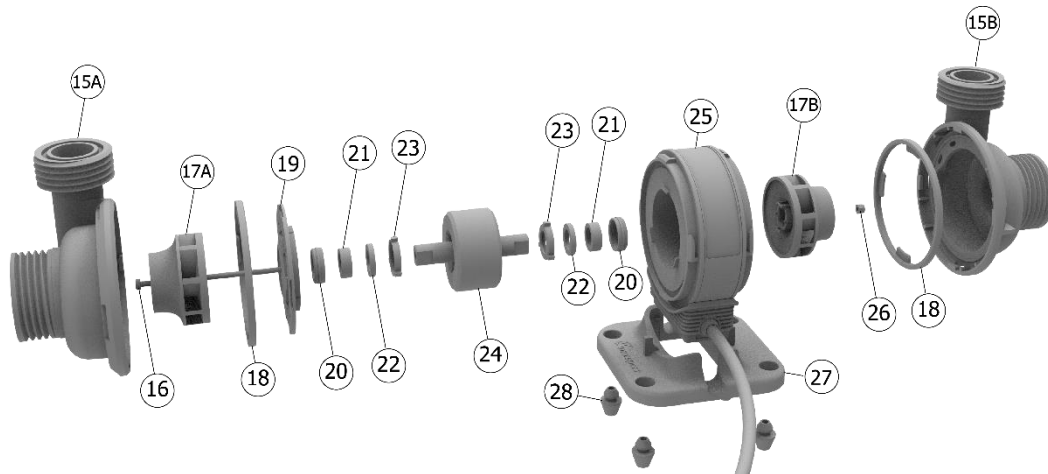


## Regular Pump Unit Maintenance

### Maintenance of the Appliance

English

Your Turbine Duo DC Pump is designed to operate optimally with little attention after initial setup. However, due to the harsh conditions of a saltwater aquarium and resulting buildup of algae and other organic matter, it is advisable to clean the pump to ensure the longevity of appliance. Maxspect recommends doing a cleaning every 6 months or as necessary. This can be accomplished by opening the impeller housing and gently brushing the impeller and inside of impeller housing with a soft brush under running water. If there is calcium buildup, it may be necessary to soak these parts in a mild acid solution such as vinegar. Do not use strong acids, because these may damage the components. After cleaning, reassemble the appliance.



15A. Impeller Housing(A)

15B. Impeller Housing(B)

16. Screw

17A. Impeller(A)

17B. Impeller(B)

18. Silicon Seal

19. Rotor Cover

20. Silicon Pad

21. Bearing

22. Ceramic Bearing

23. Silicon Pad

24. Rotor

25. Stator

26. Nut

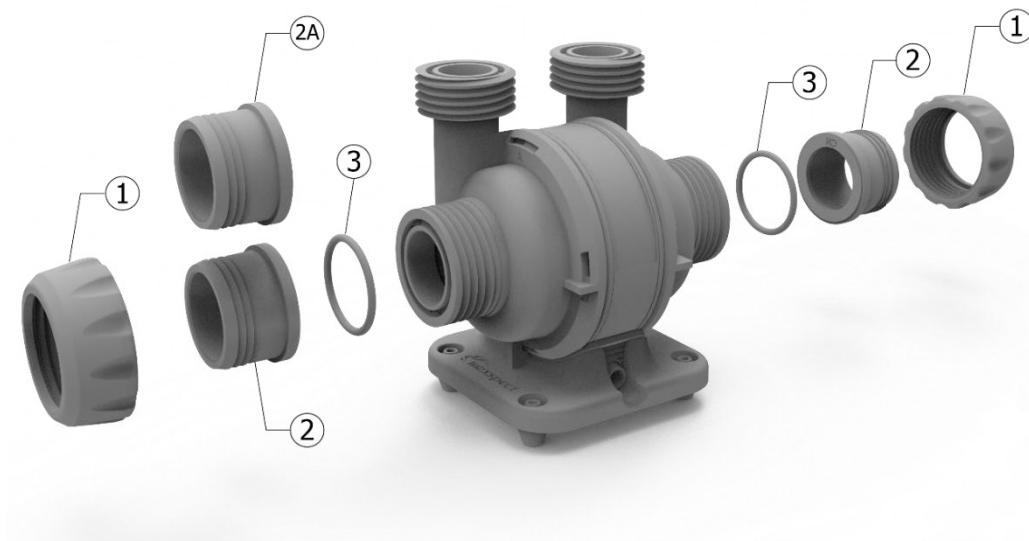
27. Pump Base

28. Silicon Pad

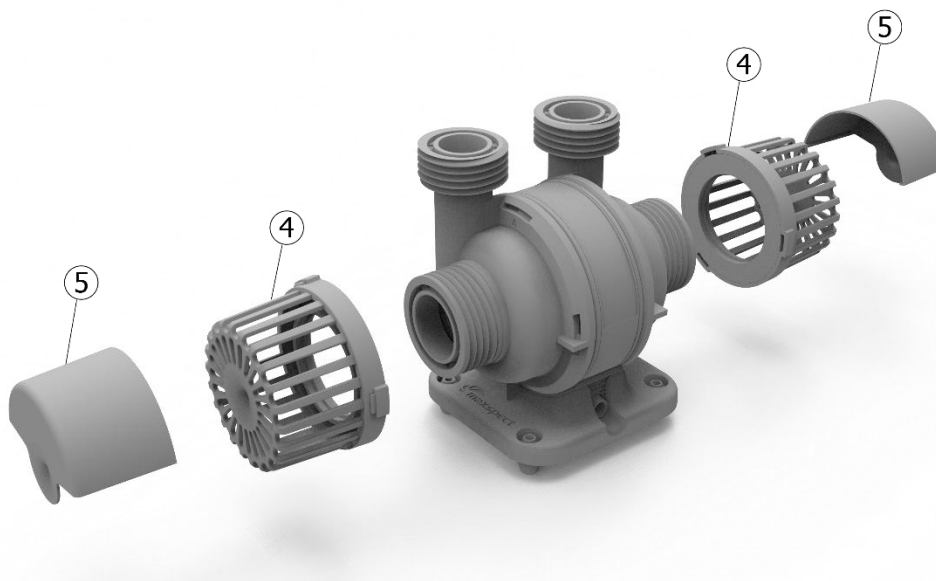
## Inlet Installation

You can switch the union coupling between 2/2A to fit a different size pipe while Turbine Duo runs as a closed loop pump.

English

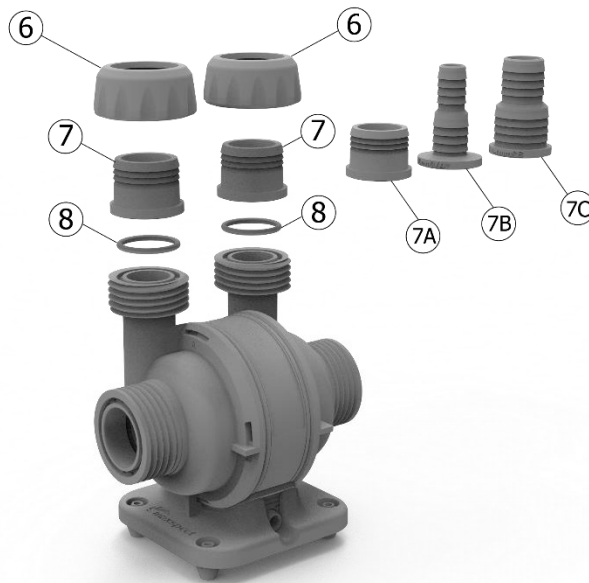


Or you can also install two intake grids while it runs as a return pump.

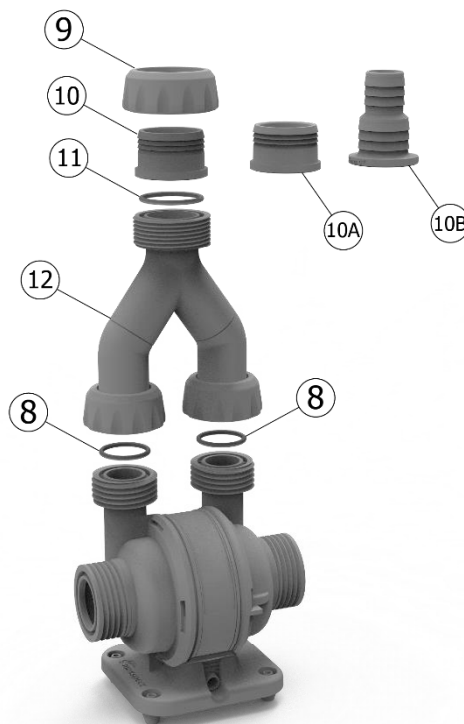


## Outlet Installation

**Duo Outlets:** Switch the union couplings among 7/7A/7B/7C to a fit different size pipe or hose.



**Combined Outlet using Y-Tubing:** Switch the union couplings among 10/10A/10B to a fit different size pipe or hose.

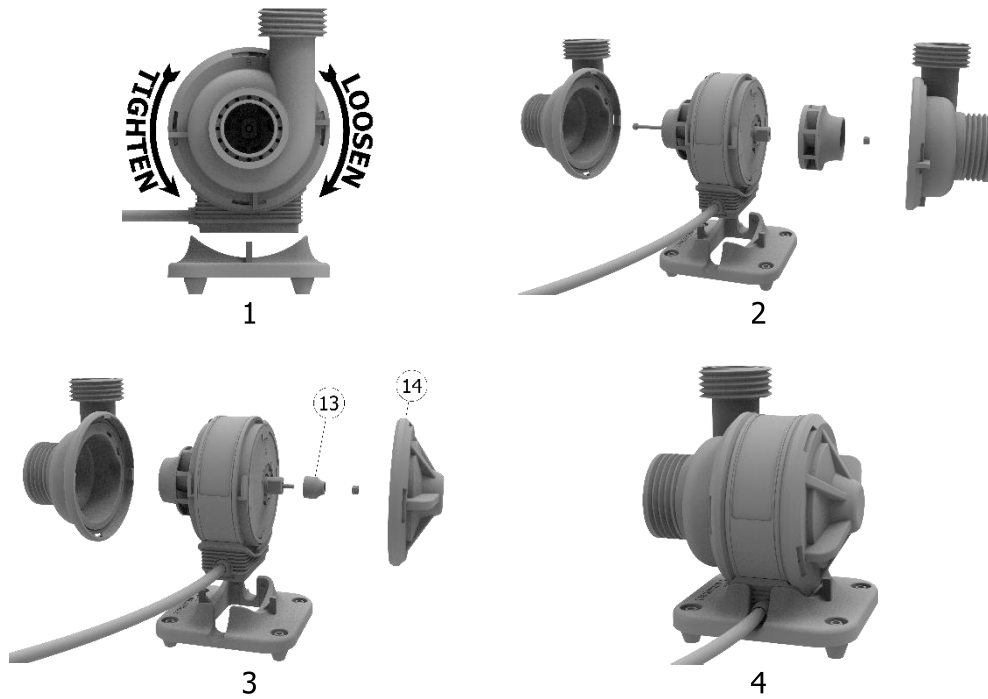




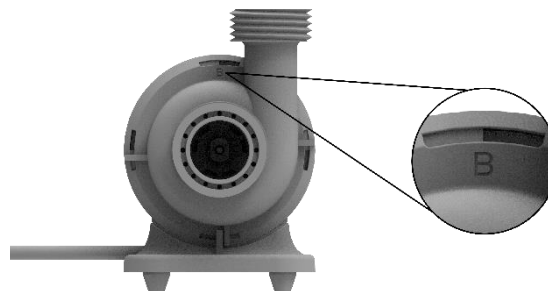
# Installation

English

**Single Outlet:** You can also replace the B impeller housing by the cap to make it a single outlet DC pump.



**Important: Only B impeller housing can be replaced by the cap.  
Pump Base must be installed before putting into use.**



## Direction of Outlet

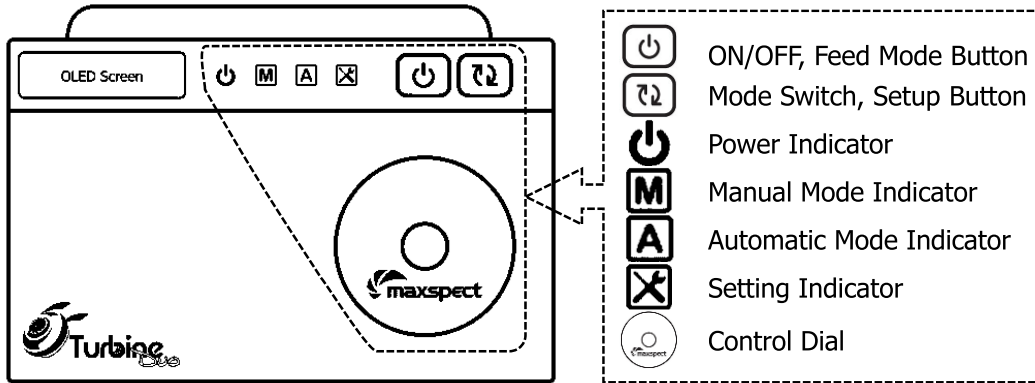
Both A and B impeller housings can be installed in three directions.



# Operating Instructions

## The Turbine Duo Controller Unit

English

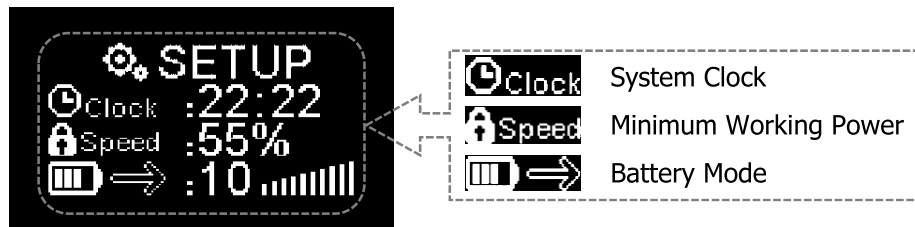


### Switch ON/OFF of the Turbine Duo

Press and hold the ON/OFF button over 4s can turn on or off the appliance. While the appliance is turned off, the pump will stop working, the indicators and OLED screen of the controller will be shut down. However, if the appliance is connected to an ICV6 (sold separately), it still can be activated by the Syna-G App.

### Initialize Your Turbine Duo

Before using the appliance, there are some basic setting you need to do for your Turbine Duo.



**Clock:** Set up the system clock to match with your local time.

**Speed:** Set up the minimum working power for the pump of all time. It means this setting will be applied in all circumstances. The minimum working power can be set from 1% to 90%. For example, if the value is set at 20%, the working speed of the pump you can set for a specific program will always start from 28% (20%+80%÷10) to 100% power range. If the working speed of the pump is set at level 5 (Max 10), in this case the pump will be working at 68% (28%+8%\*5) power range.

Example: M.W.P. = Minimum Working Power






| M.W.P. | Interval | Lv. 1 | Lv. 2 | Lv. 3 | Lv. 4 | Lv. 5 | Lv. 6 | Lv. 7 | Lv. 8 | Lv. 9 | Lv. 10 |
|--------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 15%    | 8.5%     | 23.5% | 32%   | 40.5% | 49%   | 57.5% | 66%   | 74.5% | 83%   | 91.5% | 100%   |
| 25%    | 7.5%     | 32.5% | 40%   | 47.5% | 55%   | 62.5% | 70%   | 77.5% | 85%   | 92.5% | 100%   |

# Operating Instructions

English

**Battery Mode:** Set up the working speed of the pump while it is powered by a backup battery. The product is packed with a power switch adapter which featured with two power source cables, one end connects to the power supply unit offered by Maxspect, the other end connects to a DC12v battery (sold separately). When the power from the PSU is cut, the power source will be switched to the battery automatically.



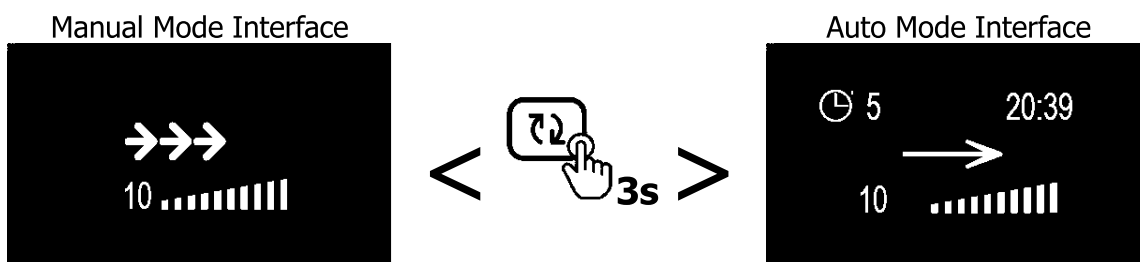
1. While the OLED screen is activated, press both  and  buttons simultaneously to enter the setup page.
2. Press  to switch between the settings.
3. Rotator  to set a value.
4. Press the  to save the setting.



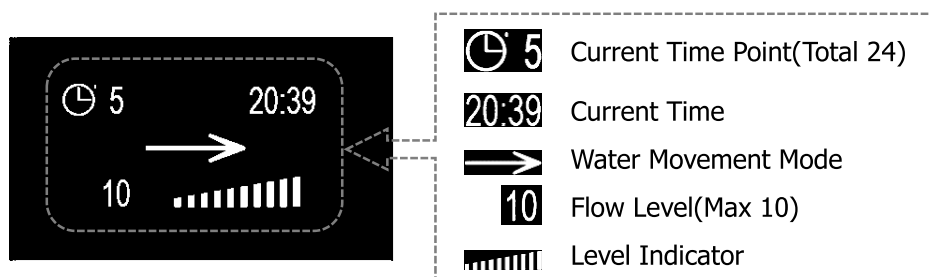
## Switching between Automatic and Manual Mode

**Manual Mode:** Manually set a water movement mode and flow level for your Turbine Duo.

**Auto Mode:** A set of programs with programmable water movement mode and flow level which will be cycled every 24hrs.



## Interface Introduction



# Operating Instructions

## OLED Screen Icon

### Water Movement Modes



Constant Speed Mode



Pulsing Mode



Random Mode



Advanced Pulsing Mode

### Variables



Maximum Flow



Ramp Up Time



Maximum Flow Time



Minimum Flow



Wind Down Time



Minimum Flow Time

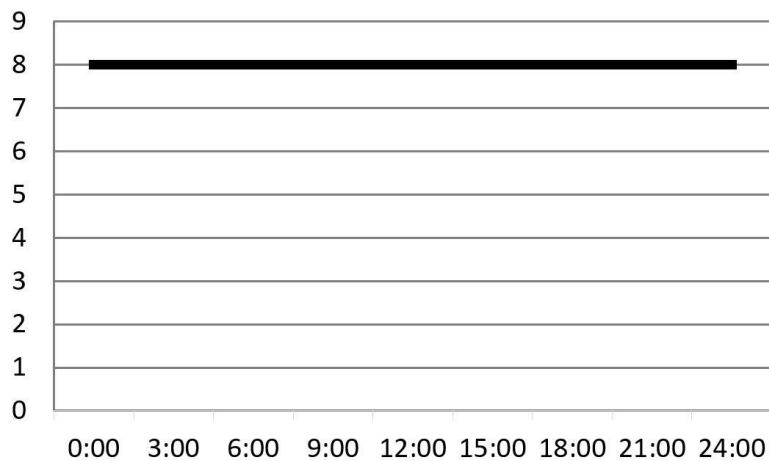
### Variables Illustration



### Water Movement Mode Illustration



Constant Speed Mode



### Configurable Variables

Flow range: 1-10



Level 8



N/A



N/A



N/A



N/A



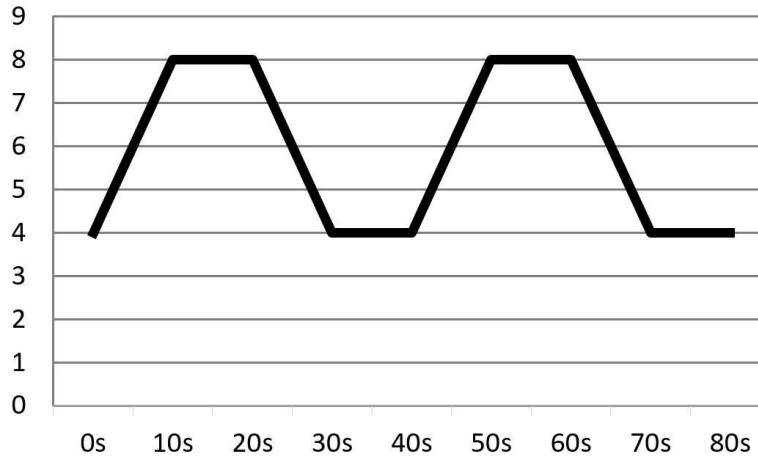
N/A

# Operating Instructions

English



## Pulsing Mode



### Configurable Variables

Flow range: 1-10

Time range: 2-30s



Level 8



10s



N/A



Level 4



N/A

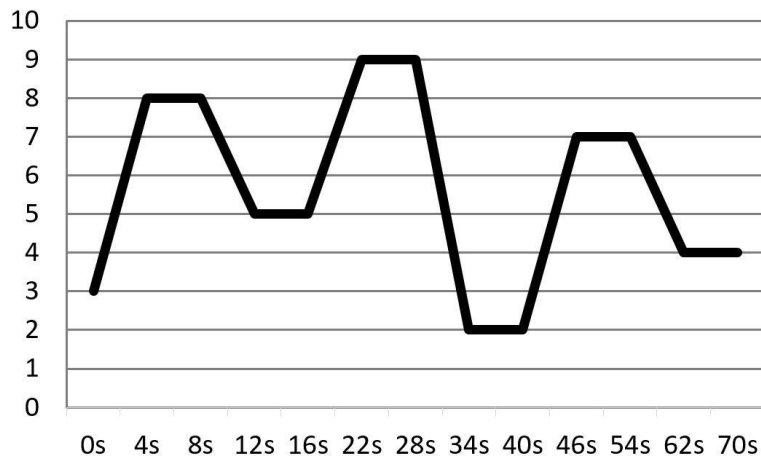


N/A

= = = = 10s



## Random Mode



### Configurable Variables



N/A



N/A



N/A



N/A



N/A

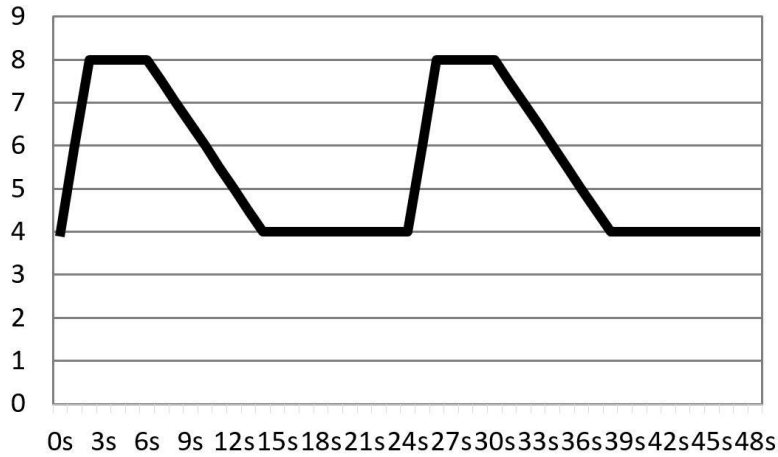


N/A



## Advanced Pulsing Mode

English



### Configurable Variables

Flow range: 1-10

Time range: 2s-5m



Level 8



2s



4s



Level 4



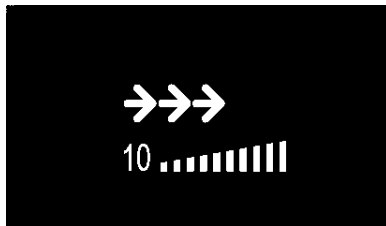
8s



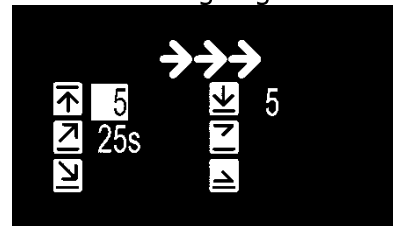
20s




### Manual Mode

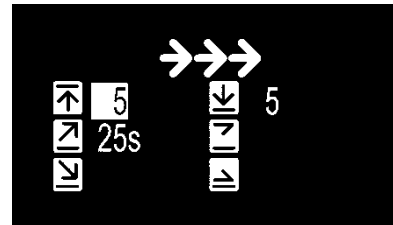
Main Interface



Setting Page



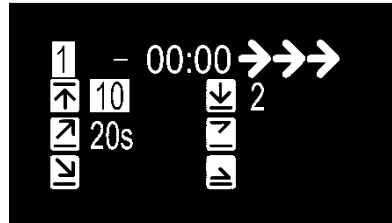
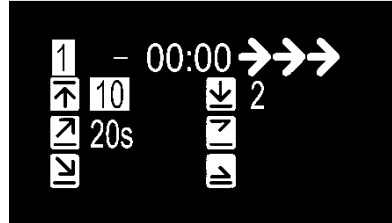
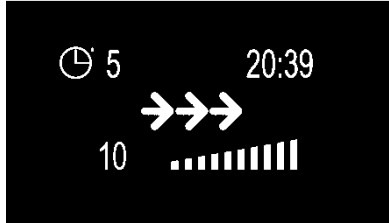
1. Press  to switch between the settings.
2. Rotator  to set a value.
3. Press  to save the setting.






# Operating Instructions

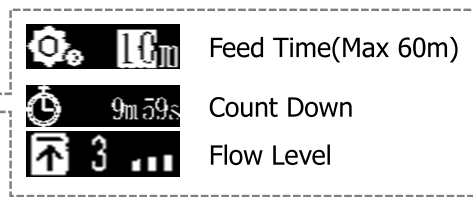
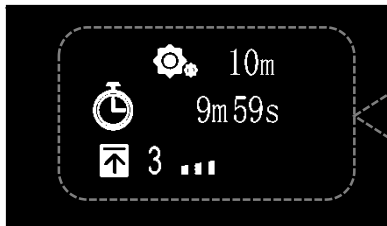
English

## Automatic Mode







1. Press  to switch between the settings.
2. Rotator  to set a value.
3. Press  to save the setting.

## Feed Mode



In either main interface, press  to enter Feed Mode.



1. Press  to activate the setting.
2. Press  to switch between the settings.
3. Rotator  to set a value.
4. Press  to save the setting.



# Maintenance Instructions

## System Setup

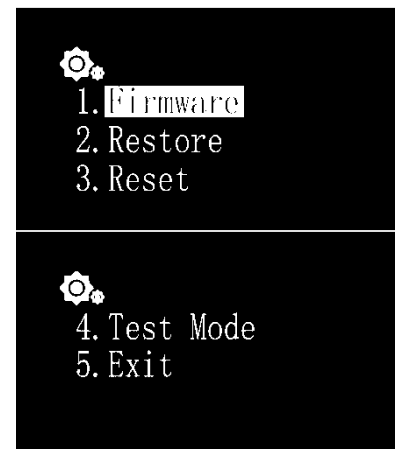
English

System Setup features a set of functions allowing you to do perform maintenance on the appliance.

To enter the System Setup page, first turn off the appliance, then press and hold control dial while turning the appliance back on. Keep on holding the control dial until the system setup page is shown on OLED monitor.



There are 5 functions in the System Setup screen.

1. Firmware
2. Restore
3. Reset
4. Test Mode
5. Exit



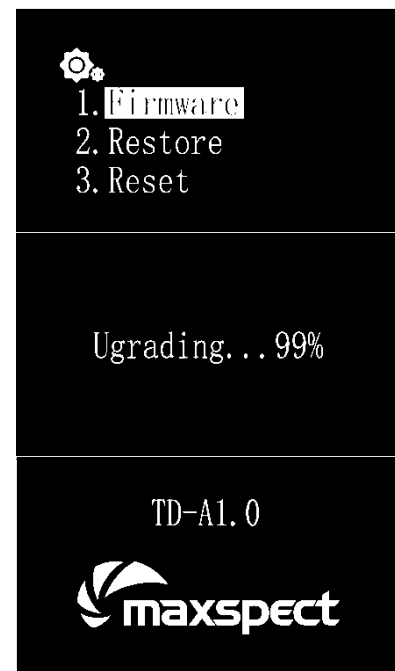
### 1. Firmware

This function allows you to update the firmware.

1. Rotate  to select "Firmware".
2. Press  to begin the firmware update.

1. When there is no micro SD card or invalid firmware in the micro SD card, "NO SD Card" or "Wrong File" will be shown on the screen.
2. Otherwise the firmware update progress will be shown.

Once the firmware has been updated successfully, the appliance will restart automatically and the new firmware version number will be shown on the screen.






## Maintenance Instructions

English

### 2. Restore



This function allows you to restore the firmware to its original factory version. After finish restoring the firmware, it'll restart automatically and the firmware version number will be shown on the screen.

1. Rotate  to select "Restore".
2. Press  to restore the firmware.



### 3. Reset

This function allows you to reset the appliance back to its factory settings. After finish resetting the appliance, it'll restart automatically.



1. Rotate  to select "Reset".
2. Press  to factory reset the appliance.



### 4. Test Mode

This function allows you to put the appliance in the test mode, which would help our customer service representative to diagnose the appliance. **This should only be done by the users when told by authorized dealer or customer representative to perform certain test on the appliance.**

### 5. Exit

1. Rotate  to select "Exit".
2. Press  to factory restart the appliance.



## Limited Warranty

Maxspect (HongKong) Limited warrants all Maxspect™ Turbine Duo DC pump products against defects in workmanship for a period of 12-months from the date of purchase. If a defect exists during the warranty period, Maxspect (HongKong) Limited at its option will either repair (using new or remanufactured parts) or replace (with a new or remanufactured unit) the product at no charge.

THE WARRANTY WILL NOT APPLY TO THE PRODUCT IF IT HAS BEEN DAMAGED BY MISUSE, ALTERATION, ACCIDENT, IMPROPER HANDLING OR OPERATION, OR IF UNAUTHORIZED REPAIRS ARE ATTEMPTED OR MADE. SOME EXAMPLES OF DAMAGES NOT COVERED BY WARRANTY INCLUDE, BUT ARE NOT LIMITED TO, USING AFTER-MARKET LED BULBS AND MODIFICATION OF THE CIRCUITRY, WHICH ARE PRESUMED TO BE DAMAGES RESULTING FROM MISUSE OR ABUSE.

### **DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES:**

You and any other user of Maxspect (HongKong) Limited products shall not be entitled to any consequential or incidental damages, including without limitation, loss of use of the unit, inconvenience, damage to personal property, phone calls, lost income or earnings. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

MAXSPECT LTD. MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT'S QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS PRODUCT, IS SOLD "AS IS," AND YOU THE PURCHASER ASSUME THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE.

IN NO EVENT WILL MAXSPECT LTD BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PRODUCT OR ITS DOCUMENTATION.

The warranty, disclaimer, and remedies set forth above are exclusive and replace all others, oral or written, expressed or implied. At no time will any Maxspect (HongKong) Limited dealers, agents, or employees be authorized to make any modifications, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

## Specifications

For the latest specifications of Turbine Duo DC Pump, please visit: [www.maxspect.com](http://www.maxspect.com)



NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.