



# Smart AWC Lite

## Manual



Model

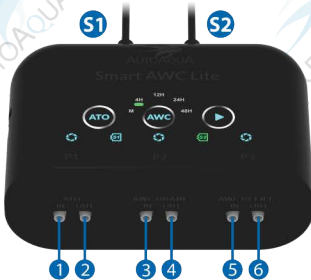
SAWC-470D

## List of Parts (Can Be Purchased Separately)

Item	Picture	Description
Smart AWC Lite Controller		<ol style="list-style-type: none"> <li>1. Integrated with two square dual sensors and three replaceable diaphragm pumps</li> <li>2. Max. mounting thickness : 1/2 inch (12.7 mm)</li> </ol>
Universal Power Adapter		Input : 100-240 VAC 50-60 Hz Output : DC 12 V / 1 A
Quad Tube Holder		For rimmed or rimless aquariums up to 1/2 inch (12.7 mm)
Lifter Pump Holder		<ol style="list-style-type: none"> <li>1. Securing tube to waste water container</li> <li>2. Max. mounting thickness : 1/2 inch (12.7 mm)</li> </ol>
Tube Clip		Organizing tubes into/out of tank/sump
Prefilter x3		A cleanable connector to remove particles in the reservoir
Prefilter Base x3		A weighted base keeps the Prefilter in the water
Tubing 19.6 feet (600 cm)		<ol style="list-style-type: none"> <li>1. Used with Diaphragm Pump and Prefilter</li> <li>2. 4 mm ID x 6.4 mm OD</li> </ol>

## Controller & Square Dual Sensors

### ■ Smart AWC Lite Controller



**S1** : ATO/AWC Sensor (Refill)

**S2** : AWC Sensor (Drain)

**1** : ATO P1 refill pump inlet

**2** : ATO P1 refill pump outlet

**3** : AWC P2 drain pump inlet

**4** : AWC P2 drain pump outlet

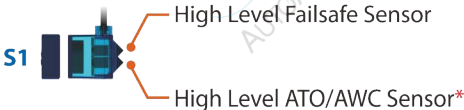
**5** : AWC P3 refill pump inlet

**6** : AWC P3 refill pump outlet



**Caution : Risk of Injury from Strong Magnets**

### ■ High Level Square Dual Sensor



High Level Failsafe Sensor

High Level ATO/AWC Sensor\*

### ■ Low Level Square Dual Sensor



Low Level AWC Sensor\*

Low Level Failsafe Sensor

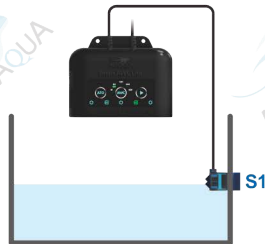
\*The High Level ATO/AWC Sensor (S1) must be at least 1/4 inch (6 mm) higher than the Low Level AWC Sensor (S2), or Smart AWC Lite will not work properly.

## Installation

### 1. Auto Top Off (ATO)

#### Step 1 :

Mount the blue sensor (S1) on the tank/sump with the magnet, and adjust the lower sensor to the normal water level.\*



Tank/Sump

\*Please set the sensor away from water outlet and direct light to avoid bubble interference or malfunctions.

#### Step 2 :

Connect ATO refill tube (P1 pump inlet ① ↔ Prefilter), then put it in the ATO reservoir.



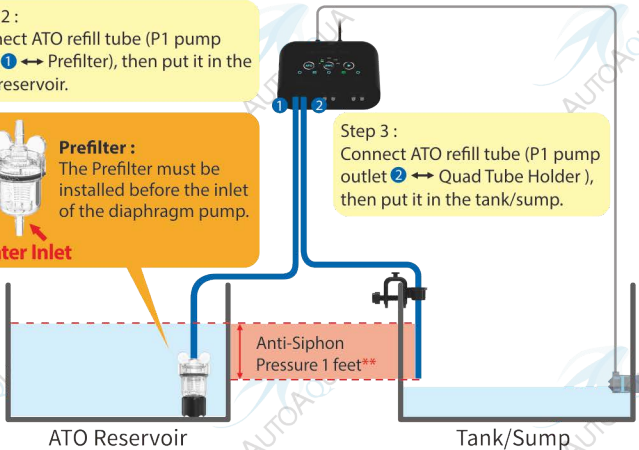
#### Prefilter :

The Prefilter must be installed before the inlet of the diaphragm pump.

**Water Inlet**

#### Step 3 :

Connect ATO refill tube (P1 pump outlet ② ↔ Quad Tube Holder), then put it in the tank/sump.

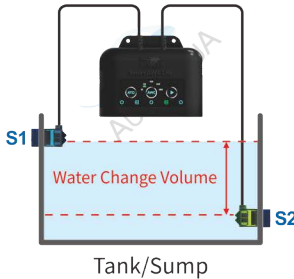


\*\*Outlet tube must be above the water level in the ATO Reservoir, or less than 1-ft (30 cm) below the water level in the ATO Reservoir for the built-in Anti-Siphon Pressure to function. Outlet must also ALWAYS be out of the water.

## 2. Auto Water Change (AWC)

### Step 1 :

Mount the blue sensor (S1) and adjust the lower sensor to the normal water level.\*



### Step 2 :

Mount the green sensor (S2) and adjust the top sensor to the desired water level after draining.\*

\*Please set the sensor away from water outlet and direct light to avoid bubble interference or malfunctions.



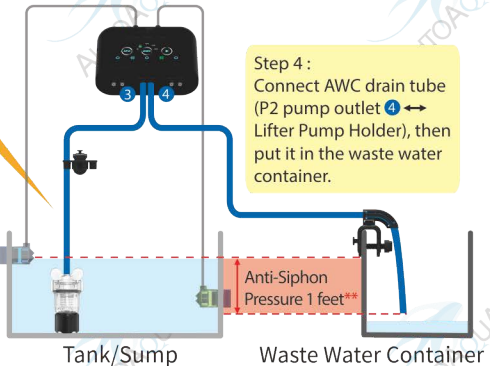
### Prefilter :

The Prefilter must be installed before the inlet of the diaphragm pump.

**Water Inlet**

### Step 3 :

Connect AWC drain tube (P2 pump inlet ③ ↔ Quad Tube Holder ↔ Prefilter), then put it in the tank/sump.



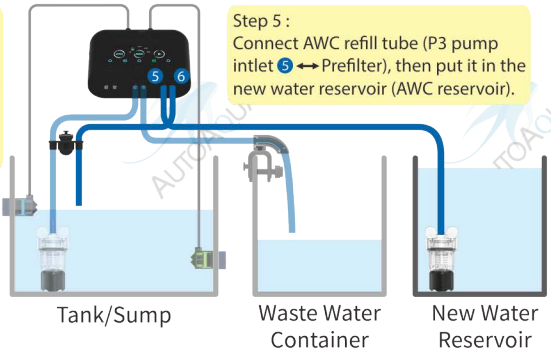
### Step 4 :

Connect AWC drain tube (P2 pump outlet ④ ↔ Lifter Pump Holder), then put it in the waste water container.

\*\*Outlet tube must be above the water level in the Tank/Sump, or less than 1-ft (30 cm) below the water level in the Tank/Sump for the built-in Anti-Siphon Pressure to function. Outlet must also ALWAYS be out of the water.

Step 6 :

Connect AWC refill tube (P3 pump outlet **6** ↔ Quad Tube Holder), then put it in the tank/ sump.



Step 5 :

Connect AWC refill tube (P3 pump inlet 5 ↔ Prefilter), then put it in the new water reservoir (AWC reservoir).

## Comprehensive System

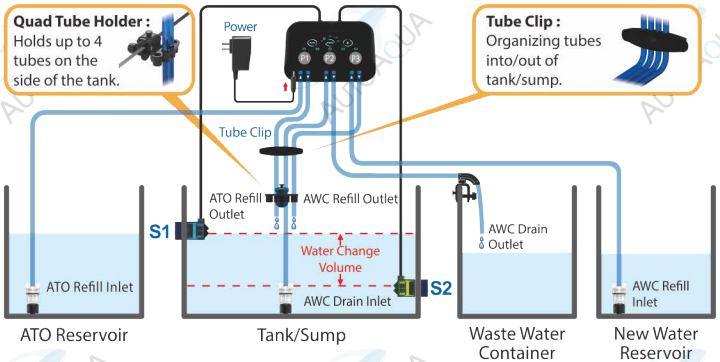
**Quad Tube Holder :**

Holds up to 4 tubes on the side of the tank.



**Tube Clip :**

Organizing tubes into/out of tank/sump.



### Prefilter Base Assembly & Cleanable Prefilter :

A cleanable connector  
to remove particles  
in the reservoir.



## Before starting the Smart AWC Lite

Connect power adaptor and test Smart AWC Lite by letting the AWC perform one filling (for ATO) / one manual water change (for AWC). Check to make sure there is no water dripping from the outlets once the pump stop\*.



\*If water continues to drip after the pumps have stopped, that means it is siphoning. Lower the water level in the corresponding reservoir, or adjust the outlet tube higher.

If neither is an option, you can purchase AUTOAQUA Anti-Siphon Valve(s) and connect it to the outlet tube(s).

## Calculating the Water Change Volume

The volume can be calculated by multiplying the width and length of your tank and the distance between the pyramids of the two sensors.\*\*

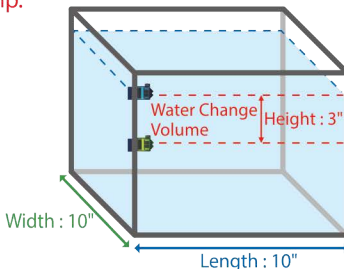
For example, a tank is 10 inches in length and 10 inches in width. If the distance between the two sensors is 3 inches, the water change volume is approximately 1.3 gallons.

Volume Formula :  $L \times W \times H / 231 = \text{Volume in Gallons}$

10" (L) X 10" (W) X 3" (H) = 300 cubic inches (around 1.3 gallons)

Note : Suggested daily water change maximum 1.5 gallons (5.7 liters).

\*\*The water volume may be influenced by factors such as the speed of return pump.



## Buttons for Setting & Indicators

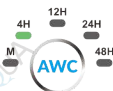


### Button/Indicator

### Description



- Function : Turn ATO on or off.
- Status : Solid Blue : ATO is on.



- Function : Choose AWC mode (Off / Manual / 4H / 12H / 24H / 48H)
- Status :
  1. Solid Blue : AWC is on standby.
  2. AWC mode flashing Green : P3 is in balance mode. (see p.9 for more info.)
  3. AWC mode fading Green : Countdown timer is running.



- Function :
  1. Start/stop AWC process\*
  2. Dismiss alarm
  3. Reset QST memory



- Function : Pump status indicator
- Status :
  1. Solid Blue : Pump is connected and stand-by.
  2. Flashing Blue : Pump is on.








### P1 / P2 / P3 Indicator

P1 : ATO Filling Pump  
P2 : AWC Drain Pump  
P3 : AWC Filling Pump

\*During water change process, pressing will cancel the process. At the same time, ATO is forced to turn off and ATO button flashes 5 times with beeps.



## Alarm

Status	Description	Action
 indicator light does not illuminate.	1. The pump is not connected. 2. The pump malfunctions.	1. Connect the pump cable. 2. Replace the pump.
 flashes orange with audible alert.	Quick Security Technology alarm	1. Press  to dismiss the alarm. 2. Verify the root cause. <ul style="list-style-type: none"> <li>• empty reservoir</li> <li>• bubble interference</li> <li>• Sensor is not clean.</li> <li>• pump failure</li> </ul>
 S1 shows	The High Level Failsafe Sensor detects water.	Press  to dismiss the alarm.
 S2 shows	The Low Level Failsafe Sensor detects no water.	Press  to dismiss the alarm.

## Quick Security Technology (QST)

Smart AWC Lite uses QST for real-time protection against any failure situation.\*

QST can detect the malfunction of the sensor, the controller, and the empty reservoir to avoid the pump running dry. The controller will give an audible and visual alert when any one of the following situations occurs.

**For ATO :** Any filling time is 6 times longer than the first filling time. For example, if the first filling time is 10 sec, the controller will give an alert when any filling time is over 60 sec.

**For AWC :** Any draining time or filling time is 3 times longer than the first one.\*\*

For example, if the first draining or filling time is 20 sec, the controller will give an alert when any draining or filling time is over 60 sec.

\*No security time control for the first filling and draining.

\*\*AWC filling time includes the filling occurring during 3-minute balance period.

## Auto Water Change Setting



### 1. AWC MANUAL Mode (One-Time AWC)

In this mode, users can manually start one-time AWC process.

- 1). Press  until M light is on.
- 2). Press  to start the water change.

### 2. AWC AUTO Mode (Periodic AWC)

In this mode, Smart AWC Lite will perform water changes based on the timer setting.

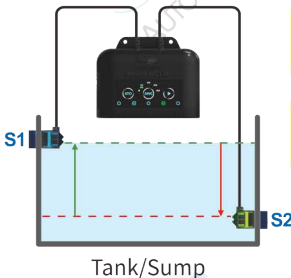
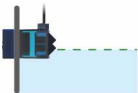
- 1). Press  to select preferred water change cycle (4h, 12h, 24h or 48h). For example, selecting 4H means it will do water change every four hours.
- 2). Press  to start the countdown timer. As soon as it reaches the end, the countdown timer resets and a water change is performed.

## Auto Water Change Process

#### Step 3 :

New water is added until the water level reaches S1.

Refill pump stops as the water level at the bottom sensor of S1.



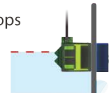
#### Step 1 :

ATO is turned off automatically during AWC process.

#### Step 2 :

Old water is pumped out until the water level reaches S2.

Drain pump stops as the water level at the top sensor of S2.



#### Step 4 :

#### AWC Balance Mode

AWC indicator (Manual/4H/12H/24H/48H) flashes for 3 minutes to balance the water level.




#### Step 5 :

When water change is done,

- MANUAL mode : cycle indicator flashes 5 times with 5 beeps.
- AUTO mode : cycle indicator fades in and out and starts the next cycle.

## How to reset / clear QST memory?

Pressing  for at least 8 seconds until all LED indicators flash will clear QST memory and reset the QST memory to the factory setting.

## Power Outage Security Measures

When the power outage occurs during the water change process, the process will be delayed for 1 minute after restoration of power and then resumes. The pump icon will flash during the delay.

## Specifications

1. Power Input : 100-240 VAC 50-60 Hz
2. Diaphragm Pump :
  - Suction Head : 6.5 feet (200 cm)
  - Flow Rate : 3.2 gph (12 lph)
  - Built-In Anti-Siphon Pressure : 1 feet (30 cm) of water. The height from water level of tank to tube outlet must be smaller than 1 feet (30 cm).
  - Power : 2 W @ 12 VDC
3. Tubing I.D. : 5/32 inch (4 mm)  
O.D. : 1/4 inch (6.4 mm)

## Notice

1. Please read the manual before installation. Keep the controller and power adapter dry and avoid any contact with water to prevent malfunctions.
2. Make sure the water flows through the tubing smoothly.
3. If using another ATO instead of the built-in ATO, please turn off your ATO before AWC starts.
4. Ideal for aquariums under 150 gallons.
5. Suggested daily water change maximum 1.5 gallons (5.7 liters).
6. The Prefilter needs to be cleaned every 3 to 6 months for best filter performance.
7. Please visit [www.autoaqua.com.tw](http://www.autoaqua.com.tw) for diaphragm pump replacement instructions.

## Limited Warranty

**Notice:** Read the entire Limited Warranty prior to purchasing, installing or using this product. By purchasing, installing or using this product, you are acknowledging that this Limited Warranty is part of the sale terms.

AUTOAQUA products are warranted to be free from defects in defects and workmanship for one year from the date of original purchase from an authorized reseller to the original purchaser. This Limited Warranty is not transferable.

AUTOAQUA is not responsible for, and the Limited Warranty does not cover the following: product failures or damage due to normal wear and tear, damages caused by heat/moisture/neglect/improper installation/misuse/abuse/modifications/corrosive chemicals.

**Limitation of Liability** – this Limited Warranty covers only the repair or replacement of the product when damage or failure is a direct result of a defect of the materials or workmanship. In no event will AUTOAQUA be liable to you or any other party for any direct, indirect, incidental, consequential or other damages arising out of the use of the product. AUTOAQUA does not cover personal injury, personal loss, or other damages associated with the use of the products. In no case will AUTOAQUA's liability exceed the amount you paid for the product. If you disagree with these terms and conditions, do not use the covered products.

All warranty repairs or replacements are performed by the authorized distributor in the region where the Product was first shipped by AUTOAQUA. To request warranty service, please email us through our website, [www.autoaqua.com.tw](http://www.autoaqua.com.tw) or [service@autoaqua.com.tw](mailto:service@autoaqua.com.tw). You will receive instructions on how to return the Product for repair or replacement. A copy of the original purchase receipt will be required and buyer shall be responsible for shipment and insurance costs to send the Product to AUTOAQUA for warranty service. International and/or expedited shipping are not covered under your AUTOAQUA warranty.

Purchase Date

(Y/M/D)

Warranty Period

One year from the purchase date

Place of Purchase

(Store name, phone, email, address)

Service

AUTOAQUA Technologies Co., Ltd.  
7F-7, NO.229, Fuxing 2nd Rd., Zhubei  
City, Hsinchu County, Taiwan  
E-mail : [service@autoaqua.com.tw](mailto:service@autoaqua.com.tw)  
[www.autoaqua.com.tw](http://www.autoaqua.com.tw)

\* Please go to AUTOAQUA website to get the distributor information.

