



Ultimate ATO

Manual



Model

UATO-400P

Thank you for purchasing the XP Aqua Ultimate ATO.

The Ultimate ATO is the world's first quad-sensor ATO; with one sensor for top-off detection and two sensors for overflow detection. It also features a non-filling / run-dry detection sensor; which is also a first in any aquarium ATO.

For your convenience, we include an AC Switch for installations that require more-powerful pumps and a Solenoid Valve for installations that connect directly to RO/DI systems.

The Ultimate ATO provides the ultimate protection as well as the ultimate convenience. The system is designed to be plug-and-play and make installation as easy as possible. These instructions will guide you through the various installation options and well as explain the how the system will operate.

Thank you again for choosing XP Aqua!

List of Parts

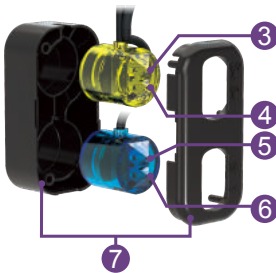
Item	Picture	Description
Ultimate ATO Controller Module	 The image shows the Ultimate ATO Controller Module, which consists of a black rectangular unit with a circular sensor on top, a power cord, and a separate black component.	Auto Top Off with 2x Dual Sensors
Universal Power Supply	 The image shows a black universal power supply with a power cord and a connector.	Universal Power Supply : 110V-240V
Universal ATO Tubing Holder	 The image shows a black universal ATO tubing holder, which is a clamp-like device used to hold tubing in place.	For rimmed or rimless aquariums up to 1/2 inch (12.7 mm)
ATO DC Pump	 The image shows a black ATO DC pump with a small black component on top.	Head : 8.2 feet (250 cm)
Siphon Break	 The image shows a white siphon break, which is a connector used to break the siphon.	A connector to break the siphon
Tubing 6.5 feet (200 cm)	 The image shows a coil of blue tubing, used with the ATO DC Pump.	Used with ATO DC Pump
AC Switch	 The image shows a blue and white AC switch, used for connecting with AC pumps.	For connecting with AC pumps (10 A Max.)
RO Solenoid Valve	 The image shows a white RO solenoid valve with a blue component on top.	For use with RO/DI Systems

Controller & Accessories

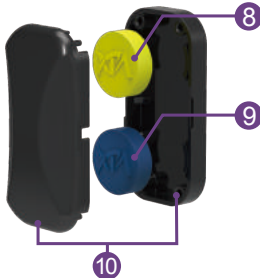
Ultimate ATO Controller Module



- 1. Controller Bracket
- 2. Ultimate ATO Controller



- 3. Secondary Overfill Protection Sensor
- 4. Primary Overfill Protection Sensor
- 5. ATO Level Detection Sensor
- 6. Non-filling/Run Dry Protection Sensor
- 7. Sensor Housing



- 8. Dry Side Magnet(Yellow)
- 9. Dry Side Magnet(Blue)
- 10. Magnet Housing



Caution :
Risk of Injury from Strong Magnets

Installation

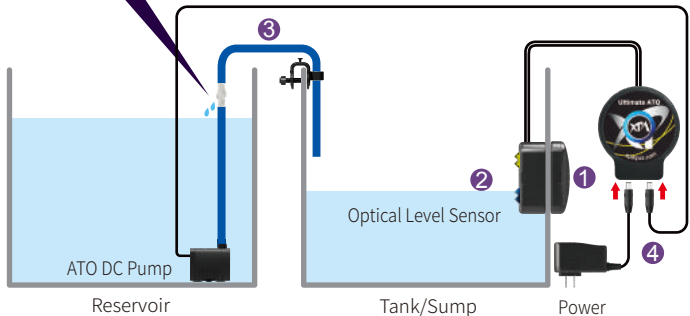
I. Installation with Sensor Housing (Standard Installation)

- ① Mount the sensor module to the sump with the magnet.
- ② Move the sensor to the normal water level with the water level reaching the upper blue sensor.
- ③ Connect ATO refill tube (pump ↔ siphon break ↔ tubing holder).
- ④ Connect both of the DC pump and power adapter with the controller.

*Please avoid setting up the sensor in an area with micro bubbles or direct light.



- Siphon break must be higher than the water level in the reservoir.
- **Air In** : Siphon break allows air in to break the siphon when the pump turns off.
- **Water Out** : Water drops out of the hole are normal when the pump is on.




II. Installation without Sensor Housing (Optional Installation)

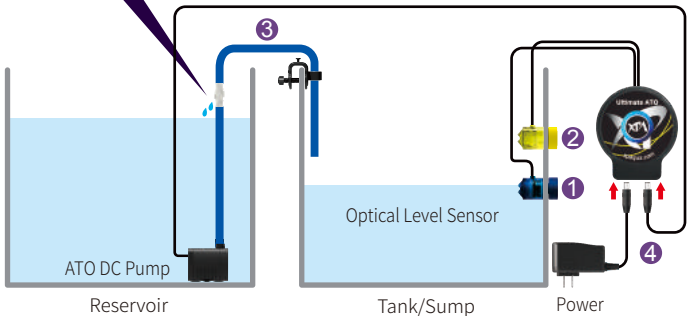
For sumps with EXTREME water level fluctuations.

- 1 Mount the blue dual sensor at the normal water level on the tank/sump.*
- 2 Mount the yellow dual sensor at the desired safety level on the tank/sump.
- 3 Connect ATO refill tube (pump↔siphon break↔tubing holder).
- 4 Connect both of the DC pump and power adapter with the controller and then connect power.

*Please avoid setting up the sensor in an area with micro bubbles or direct light.

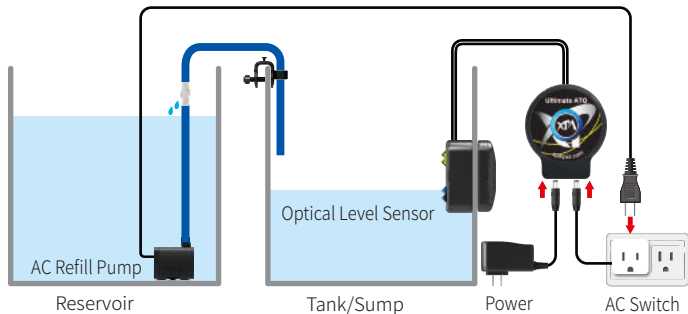


- Siphon break must be higher than the water level in the reservoir.
- **Air In** : Siphon break allows air in to break the siphon when the pump turns off.
- **Water Out** : Water drops out of the hole are normal when the pump is on.



III. AC Switch Installation (Using AC Pumps)

This option is perfect for aquariums that require a larger/stronger ATO pump. Simply use the AC Switch in place of the supplied DC pump and plug in your own ATO pump (10A Max.) in to the AC Switch.

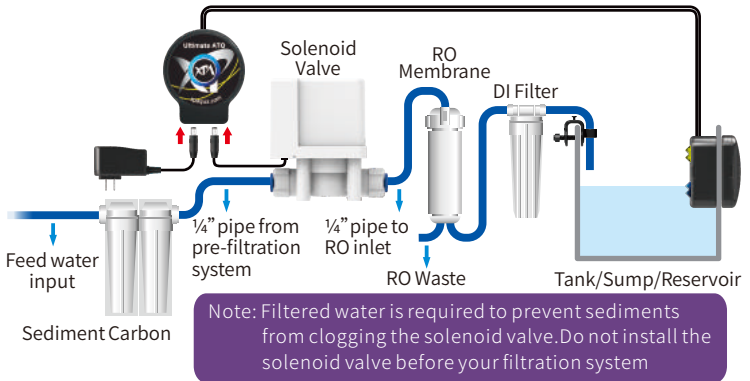


IV. Solenoid Valve Installation

a. RO/DI System without Auto Shut Off (Installation Option 1)

Cut the tubing between the carbon block filter and the RO membrane. Install the solenoid valve.

*Arrow on solenoid valve indicates water flow direction.

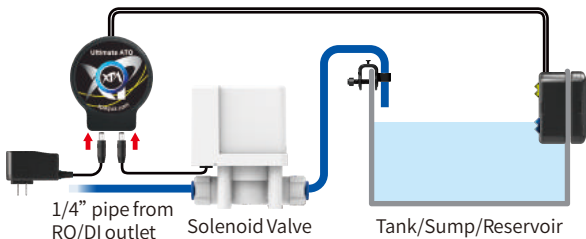


b. RO/DI System with Auto Shut Off (Installation Option 2)

Connect the solenoid valve at the RO/DI output.

This option can be very helpful when the RO/DI system is remotely located.

*Arrow on solenoid valve indicates water flow direction.

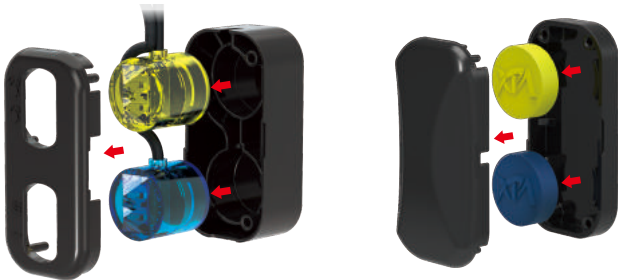


Installation

Housing

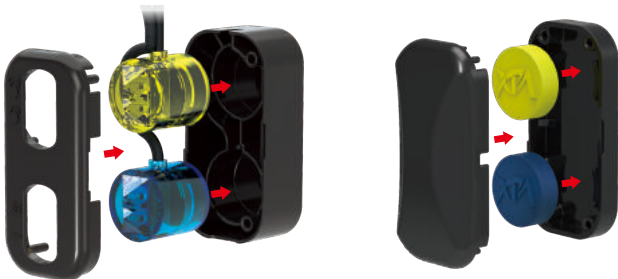
a. Dismantling the Housing

- 1.Remove the cover off the sensor housing. Take out the sensors.
- 2.Remove the cover off the magnet housing. Take out the magnets.



b. Assembling the Housing

- 1.Place the yellow dual sensor in the upper position of housing while the blue one in the lower position, and put the cover and the sensor housing together.
- 2.Place the yellow and blue magnet in the magnet housing with the logo facing the cover. Put the cover and the magnet housing together.



LED Indicator

LED Color	Status	Description	Action
Blue LED	Solid	Power on	N.A.
	Circulating	Refilling / Pumping	N.A.
	Pulsing light	Detection delay of safety sensors	N.A.
	Flashing with short beeps	Pump connection failure	Check the connection of the pump and the controller.
Alternating Blue & Orange LED*	Flashing with short beeps	QST alarm: 1. Bubble interference 2. Empty reservoir	1. Move the upper blue sensor to an area away from micro bubbles. 2. Refill the reservoir.
Orange LED	Flashing slowly with short beeps	Non-filling alarm of Non-filling/Run Dry Protection Sensor	1. Keep the blue sensor clean. 2. Check if the ATO function properly.
	Flashing quickly with short beeps	Overflow alarm of Primary Overflow Protection Sensor	1. Check if the upper blue sensor function properly. 2. Check the set-up of siphon break and tubes.
	Flashing quickly with long beeps	Overflow alarm of Secondary Overflow Protection Sensor	3. Take out the yellow dual sensor to check if the yellow sensors function properly.

*Please follow the instruction above to fix issues and then reset (unplug the power and plug it back in).

Detection Delay of Safety Sensors

All the safety sensors (the lower blue sensors and the upper yellow sensors) have detection delays of 3 minutes after the ATO system is plugged-in. If you would like to skip the delay, press the center button on the controller to allow the sensors to detect the water level immediately.

Touch Button



Touch button :

1. Skip the 3-minute detection delay of safety sensors.
2. Switch off the alarm.

***Touch the button will not clear the QST memory. Please unplug the power and plug it back in to clear the QST memory.**

Quick Security Technology (QST)

Ultimate ATO uses QST for real-time protection against any failure situation. The controller will give an audible and visual alert when it senses any other refilling time is 6 times longer than the first refilling time*. For example, if the first refilling time is 10 sec, it will alert when any other refilling time is over 60 sec.

***No security time control for the first refilling.**

Specifications

1. Power Input : 100-240 VAC 50-60 Hz
2. DC Pump :
 - Head : 8.2 ft (250 cm)
 - Flow Rate : 74 gph (280 lph)
3. Max Mounting Thickness : 1/2 inch (12.7 mm)
4. AC Switch :
 - Capacity : 100-240 VAC 50-60 Hz
 - Max. Load : 10 A / 1200 W @ 120 VAC ; 10 A / 2400 W @ 240 VAC
5. Solenoid Valve Power Consumption : 6 W @ 12 VDC

Limited Warranty Policy

1. Limited warranty is provided by XP Aqua only if your XP Aqua Product ("Product") was purchased from an authorized distributor or an authorized reseller. This limited warranty is not transferable.
2. All warranty repairs or replacement are performed by the authorized distributor or authorized reseller in the region where the Product was first shipped by XP Aqua.
3. The limited warranty is valid for a period of 1 year under proper installation and normal use from the date of the original purchase listed on the proof of purchase or sales receipt.
4. In the event of a limited warranty claim, proof of purchase or sales receipt (issued to the original purchaser) is required.

Purchase Date

(Y/M/D)

Warranty Period

One year from the purchase date

Place of Purchase

Store name/phone/email/address

Service

Expert Aqua Co., Ltd.
service@xpaqua.com
www.xpaqua.com

