Oasis

Valve Actuator

INSTALLATION AND OPERATION MANUAL

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1. FOREWORD

This manual contains essential information regarding the installation, operation, and safe use of this product. This manual must be provided to the owner and/or operator of the equipment and retained for future reference.

IMPORTANT SAFETY INSTRUCTIONS

These instructions do not purport to cover all possible conditions, equipment variations, or situations that may occur during installation, operation, or maintenance. Should a situation arise that is not adequately covered by this manual, seek advice from a suitably qualified installer, pool service technician, or Oasis Aquatics before proceeding.

WARNING: Electrical rating: 24 VAC, 50 Hz. For connection only to a Class 2 Extra-Low Voltage (ELV) circuit supplied by a suitable pool actuator control device. Isolate the electrical supply before installing, servicing, or adjusting the unit.

WARNING: Installation must be carried out by a suitably qualified person, in accordance with all applicable local regulations and Australian/New Zealand Standards. Incorrect installation may result in serious injury, death, or property damage, and may void the manufacturer's warranty.

CAUTION: Before placing the actuator into service, verify correct valve rotation, travel direction, and limit stop positions. Failure to do so may result in unintended restriction of water flow ("dead-heading"), which may cause system damage.

Do not use power tools when installing or servicing the actuator assembly. Overtightening fasteners may damage the unit and void the warranty.

The actuator may be installed on horizontal or vertical valves; however, the actuator housing must not be installed with the cable and switch entry end facing upwards. Incorrect orientation may allow water ingress, leading to premature failure and voiding of the warranty *(see Section 4.2 – Mounting the Actuator)*.

2. INTRODUCTION

Congratulations on your purchase of the **Oasis Valve Actuator**. This actuator is designed to automatically rotate **2-way** and **3-way** valves when connected to a suitable pool automation controller, enabling automated control of pool and spa operation, heating systems, water features, and a wide range of other applications.

The **Oasis Valve Actuator** utilises a standard industry mounting configuration and connector plug, making it compatible with valves and pool automation systems from all major manufacturers. Precision-moulded, splined actuator cams allow for quick and straightforward installation while providing accurate control of water flow.

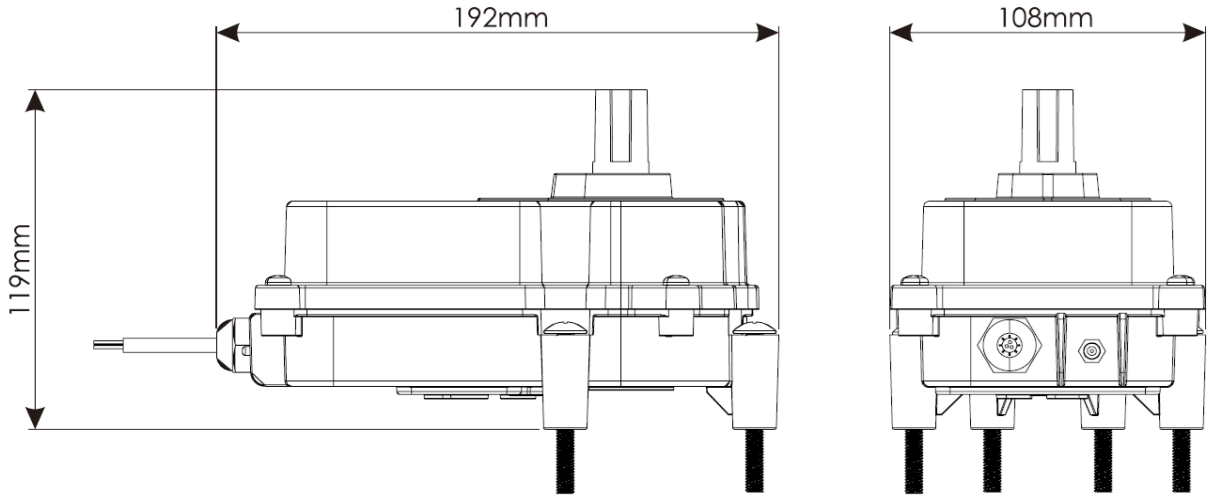
The actuator is also equipped with a **manual override feature**, allowing the valve to be manually positioned to any required setting during commissioning or servicing, without the need to remove the actuator from the valve body.

Please take the time to familiarise yourself with the installation, operation, and maintenance procedures outlined in this manual. Doing so will assist in ensuring a safe, trouble-free installation and optimal performance for you or your customer. Thank you for choosing **Oasis Aquatics**!

3. SPECIFICATIONS

Item Code	Voltage	Cycles	Amps	Ingress Protection	Cable Length
OVA001	24 VAC	50hz	0.75	IPX4	6m

3.1 Dimensions



4. INSTALLATION

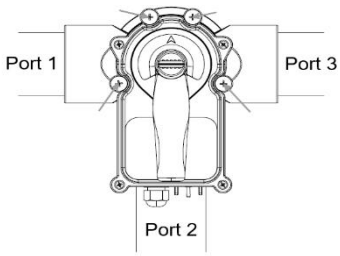
4.1 Fitment Options

The actuator may be fitted to a valve in four different positions (refer to the diagrams below).

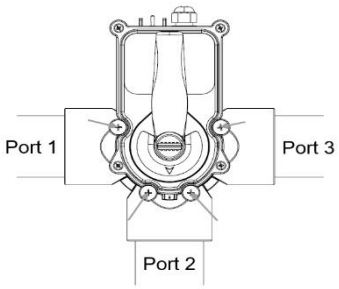
Depending on the position of the common (inlet) port and the selected outlet port, adjustment of the internal cam settings may be required to ensure correct valve operation *(see Section 5 – Cam Adjustment)*. The actuator cams are factory set for Option A, where Port 2 is always open.

Note: The actuator housing must not be installed with the cable and switch entry end facing upwards. This may allow water ingress, leading to premature failure and voiding of the warranty.

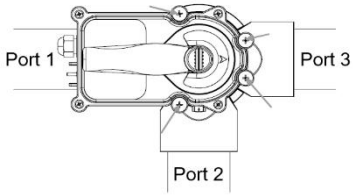
Option A
(Standard)



Option B



Option C



Option D

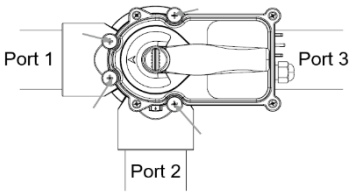


Figure 1: Possible mounting positions

4.2 Mounting the Actuator

CAUTION: Before starting, ensure all pool pumps and associated equipment are switched off and isolated to prevent accidental water flow during installation.

1. Remove the locking knob and valve handle from the valve to which the actuator will be fitted. Retain these components for reinstallation.

2. Determine the desired mounting orientation for the actuator. Ensure the cable entry end of the actuator housing does not face upwards, as this may allow water ingress, leading to premature failure and voiding of the warranty.

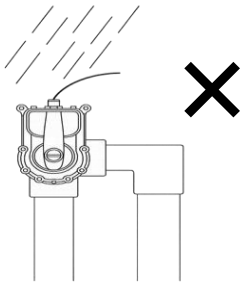


Figure 3: Cable end must not face UP

3. Identify and remove the four (4) screws from the valve cover that correspond with the actuator mounting holes. These will be replaced by longer screws which are supplied with the actuator.

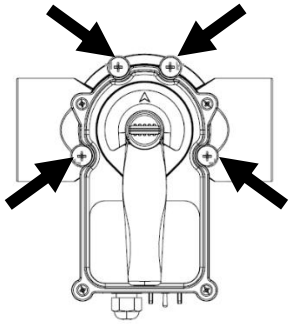


Figure 4: Actuator mounting holes

4. Turn the actuator over to view the underside. Inside the clear actuator housing are four internal drive teeth that engage with the valve diverter shaft, in the same manner as the original valve handle.

Identify the smallest drive tooth and align it with the smallest slot on the valve diverter shaft, then slide the actuator partially onto the valve shaft.

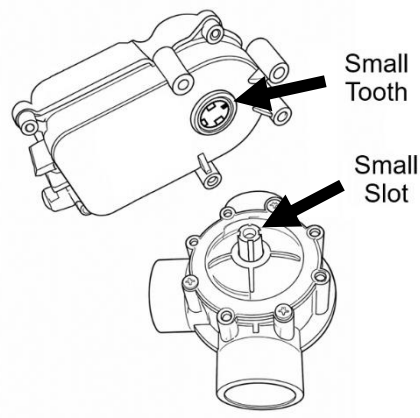


Figure 5: Aligning the slot

5. Rotate the actuator and valve shaft as necessary until the mounting holes in the actuator align with the screw holes in the valve cover.

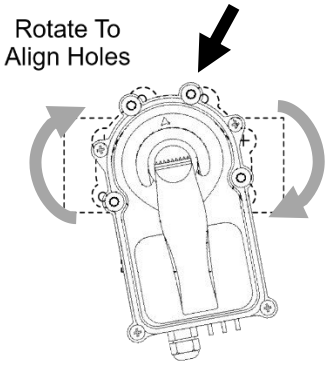


Figure 6: Aligning the mounting holes

6. Secure the actuator using the four (4) 50mm mounting screws *(provided with the actuator)*. Tighten firmly using hand tools only.

Do not overtighten, as excessive torque may damage the unit and void the warranty.

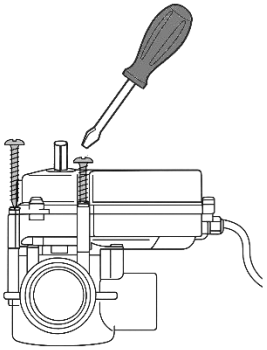


Figure 7: Tightening the screws

7. Plug the actuator cable into the pool automation or heating controller and carry out any required setting adjustments to supply power to the actuator *(refer to the controller manufacturer's instructions)*.

Note: When power is applied, the valve may automatically rotate until a cam stop limit is reached.

8. Install the original valve handle and locking knob on top of the actuator and tighten firmly.

Tip: A replacement locking knob is supplied with the actuator which can be used if the original valve knob does not match the actuator shaft thread.

4.3 Toggle Switch Operation

At the base of the actuator is a three-position toggle switch labelled ON 1, OFF, and ON 2.

The two ON positions are used to control actuator rotation and for synchronisation *(see Section 4.5 – Synchronisation)*.

The centre OFF position stops and electrically disables the actuator during servicing or adjustment.

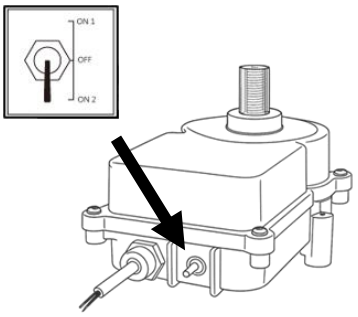


Figure 8: Toggle switch location

4.4 Checking Valve Limit and Direction

1. **<u>Valve Limit 1</u>**

With the actuator cable connected to the pool controller, move the toggle switch to one of the ON positions. The valve will rotate in one direction until it reaches a cam stop limit. Allow rotation to complete and note the resulting valve position.

2. **<u>Valve Limit 2</u>**

Move the toggle switch to the opposite ON position and allow the valve to rotate fully in the opposite direction. Again, note the final valve position.

3. **<u>Valve Direction</u>** ***(CRITICAL REQUIREMENT FOR 3-WAY VALVES)***

Observe the full range of valve movement and confirm that the common (e.g. water inlet) port is not blocked at any point during the valve's rotation. The final actuator configuration must not allow the common port to become dead-headed, as this condition may result in damage to pumps and other system equipment.

Note: If adjustments are required, refer to the instructions in Section 5, then retest valve direction and limit positions before continuing with the next step.

4.5 Synchronisation

After installation and initial testing of the actuator(s), confirm that the valve(s) are correctly synchronised with the controller.

Out-of-synchronisation occurs when a valve operates opposite to the intended function, for example starting in the ON position and rotating to OFF, or rotating to the POOL position when the controller is demanding SPA.

If this occurs, locate the toggle switch on the base of the actuator and move it it to the extreme opposite position which will reverse its polarity.

Re-test operation from the controller to confirm correct valve behaviour.

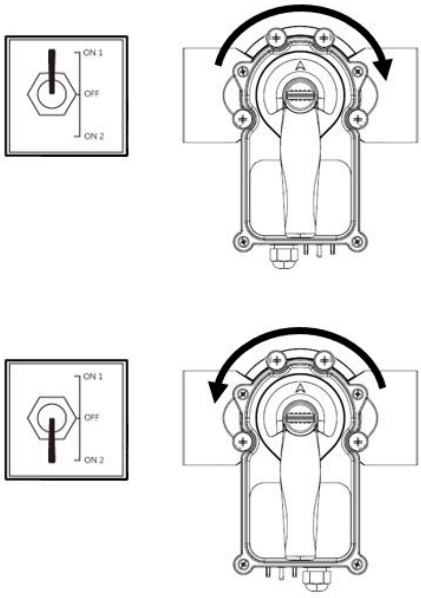


Figure 9: Synchronising the valve direction

4.6 Final Checks

After the actuator is installed and tested, carry out a final inspection and neatly route the cable back to the controller, securing it using suitable cable ties to minimise tripping hazards and to prevent the connector from being inadvertently pulled out of the pool controller.

Note: Shortening the actuator cable is not recommended, as this may damage the connector or compromise reliable operation. Bundling and securing of any excess cable is the preferred option to maintain a tidy and serviceable installation.

Having trouble with fitment or cam adjustments?

Scan the QR code for installation videos and other helpful setup resources.

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5. CAM ADJUSTMENT

CAUTION: Disconnect power to the actuator valve before making any cam adjustments.

Inside the actuator are two adjustable cams mounted on a slotted drive shaft, positioned one above the other. The lower cam actuates the left-hand limit switch during anti-clockwise rotation, while the upper cam actuates the right-hand limit switch during clockwise rotation.

The drive shaft is equipped with 28 splined slots, allowing valve limits to be adjusted in increments of approximately 13 degrees per slot. This provides precise adjustment of valve travel to suit the required application.

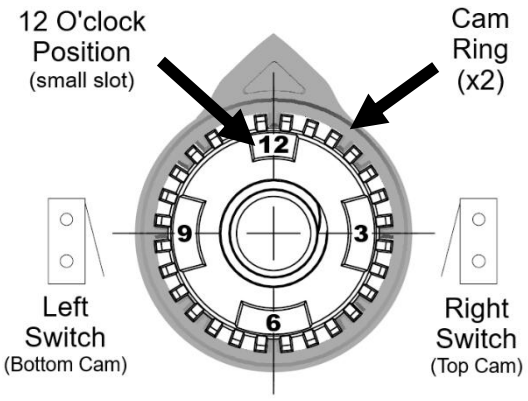

Figure 10: Actuator Cam Arrangement

5.1 Default Cam Settings

The actuator is **factory-set to provide 180 degrees of valve rotation**. In this default configuration, both the upper and lower cams are positioned so that they are keyed in the 12 o'clock setting – **as shown in Figure 10** *(above)*.

Use the configuration chart on the next page to determine the correct cam settings using standard clock-position references (align the keyway on the cam to matching clock position on the shaft).

5.2 Accessing the Cams

CAUTION: Ensure that the actuator housing is clean and dry before opening the cover. This will minimise the risk of dirt or moisture entering the actuator. Always disconnect power to the actuator prior to making any cam adjustments.

1. Move the toggle switch located at the base of the actuator to the OFF (centre) position.

2. Unscrew the valve handle locking knob by turning it anti-clockwise. Remove both the locking knob and the valve handle.

3. Using a hand-held screwdriver, remove the 4x Phillips-head screws (1) securing the actuator cover (2). Carefully lift off the cover and place it, along with the screws, on a clean, stable surface.

4. Remove the cover bushing (3) from the top of the actuator shaft (5) and set it aside with the cover and screws.

5. The two cams (4) can now be adjusted as required.

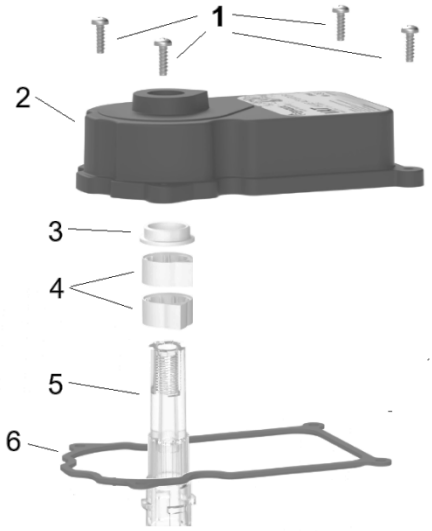

Figure 11: Actuator Cover Removal

6. When reassembling after cam adjustment, reinstall the cover bushing, cover, and fixing screws in the reverse order of removal. Ensure the rubber cover gasket (6) is correctly seated in its groove before fitting the cover to maintain proper sealing. Tighten the screws evenly and **do not overtighten**, as this may damage the cover or compromise the gasket and/or actuator housing.

5.3 Basic Settings Table

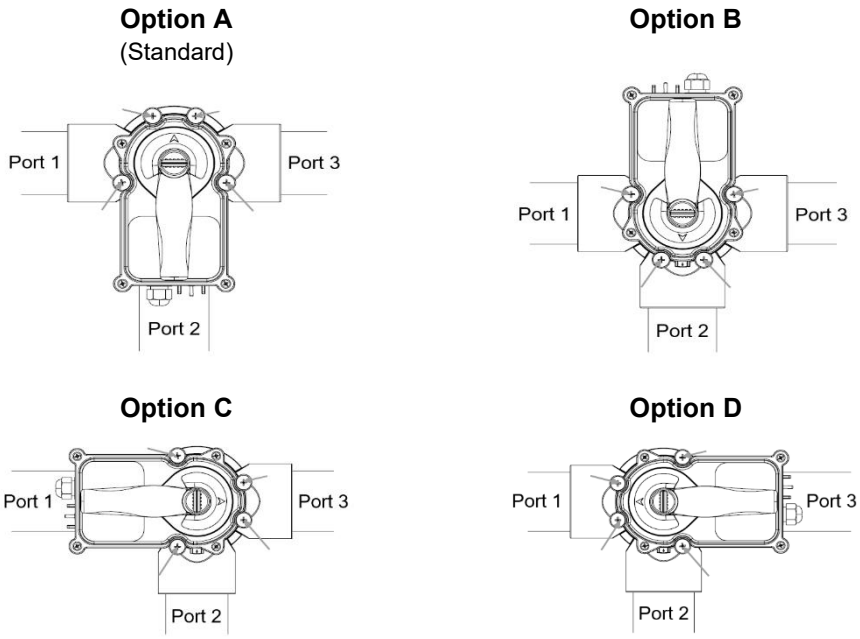

Figure 12: Actuator Positions

3-Way Valves

Mounting Position	Common Port	Entry or Exit Port 1	Entry or Exit Port 2	Lower Cam Position	Upper Cam Position
Option A *(standard)*	1	2	3	6 o'clock	9 o'clock
	2 *(standard)*	1	3	12 o'clock	12 o'clock
	3	1	2	3 o'clock	6 o'clock
Option B	1	2	3	12 o'clock	3 o'clock
	2	1	3	6 o'clock	6 o'clock
	3	1	2	9 o'clock	12 o'clock
Option C	1	2	3	9 o'clock	12 o'clock
	2	1	3	3 o'clock	3 o'clock
	3	1	2	6 o'clock	9 o'clock
Option D	1	2	3	3 o'clock	6 o'clock
	2	1	3	9 o'clock	9 o'clock
	3	1	2	12 o'clock	3 o'clock

2-Way Valves

As with three-way valves, the actuator may be mounted to a two-way valve in any of the four different orientations. However, where the two required valve positions are simply OPEN and CLOSED, the internal cam settings remain the same, regardless of the mounting orientation.

Mounting Position	Common Port	Entry or Exit Port 1	Entry or Exit Port 2	Lower Cam Position	Upper Cam Position
ALL	N/A	N/A	N/A	6 o'clock	3 o'clock

5.4 Advanced Cam Settings

Note: For adjustment by experienced pool professionals only!

For advanced cam settings, the actuator shaft is divided into 28 indexed positions, allowing fine customisation of water flow to suit individual installations. Each slot represents approximately 13 degrees of rotation, enabling configurations such as partially open, semi-open, or partially closed valve positions. These advanced settings are not listed in the standard settings table.

Minor Adjustments

For minor changes to the valve stop position, use the toggle switch to manually move the valve to a mid-travel position so the cams are clear of the microswitches. Open the actuator and adjust the cams as required. The upper cam and right-hand microswitch control the clockwise rotation stop, while the lower cam and left-hand microswitch control the anti-clockwise rotation stop. Rotating a cam towards its microswitch will reduce travel and cause the valve to stop earlier, while rotating it away from the microswitch will increase valve travel, resulting in the valve stopping later.

Major Adjustments

1. Remove both cams from the actuator shaft completely.

2. Use the toggle switch to manually drive the valve in an anti-clockwise direction until the desired stop position is reached (temporarily fitting the valve handle can assist with visually confirming the current position of the valve).

3. Now, toggle the switch to move the valve clockwise for approximately three seconds and then stop.

4. Reinstall the lower cam, positioning the cam lobe so it sits just above the left microswitch contact *(e.g. small gap between the switch tab and the tip of the cam)*.

5. Test the actuator with the toggle switch to confirm the stop position; if further adjustment is required, manually toggle the valve again and fine-tune the cam position.

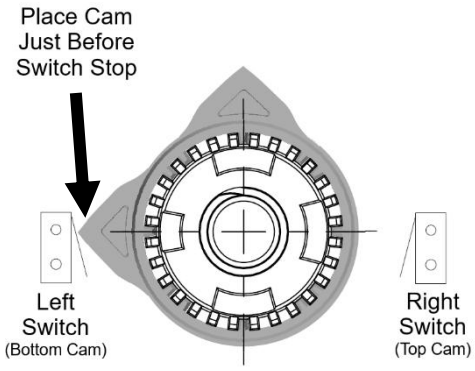

Figure 13: Advanced Cam Settings

6. Once the lower cam is correctly set, repeat the same procedure for the opposite direction with the upper cam and right-hand microswitch to define the clockwise rotation stop.

NOTE: CRITICAL REQUIREMENT FOR 3-WAY VALVES
After making any cam adjustments, make sure to observe the full range of valve movement and confirm that the common port is not being dead-headed at any point during the valve's rotation.

Having trouble cam adjustments?

Scan the QR code for installation videos and other helpful setup resources.

6. MANUAL VALVE OVERRIDE

The Oasis Valve Actuator is equipped with a manual override feature that allows the valve(s) to be rotated without using the pool system controller. This may be required if the controller is not accessible or operational, or if the valves need to be moved beyond the normal actuator range to assist with servicing or repair activities, such as isolating a pump inlet before removing the basket.

WARNING: Turn power OFF to all filtration pumps before performing this action to minimise the risk of injury or equipment damage.

1. Turn the actuator toggle switch to the OFF position.

2. Unscrew the valve handle locking knob by approximately one turn.

3. Push down on the handle and knob firmly to disengage the gear train. The handle (and valve) can now be rotated freely to any desired position.

4. After completing any required works, return the actuator to automatic operation by rotating the handle back to the stopped position and pulling up on the handle until it clicks back into place.

5. Tighten the valve handle locking knob securely (do not overtighten).

6. Flip the toggle switch back to its original position and test the valve limit and direction to ensure correct operation *(see Section 4.4 - Checking Valve Limit and Direction)* before restoring water flow.

7. ANNUAL MAINTENANCE

The Oasis Valve Actuator is fitted with two seals that require lubrication **once per year**. These seals are located at the top and bottom of the actuator, where the shaft exits the actuator housing.

<u>Lubricate the seals as follows</u>

1. Turn the actuator toggle switch to the OFF position.

2. Remove the valve locking knob and handle.

3. Apply a small amount of silicone-based grease around the actuator shaft where it enters the top cover.

4. Reinstall the valve handle and locking knob but leave the knob loose by approximately one turn.

5. Push down on the knob and handle to place the actuator into the manual override position *(see section 6 – Manual Valve Override)*.

6. Using a thin brush to reach inside the gap, apply a small amount of silicone-based grease around the actuator shaft where it protrudes from the bottom of the actuator.

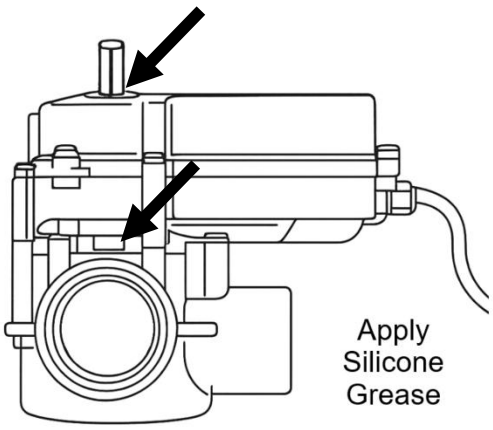

Figure 14: Actuator Lubrication Points

7. Rotate the valve handle one full turn to evenly distribute the lubricant.

8. Pull up on the handle until it clicks back into place, exiting manual override.

9. Tighten the valve handle locking knob securely (do not overtighten).

6. Flip the toggle switch back to its original position and test the valve limit and direction to ensure correct operation *(see section 4.4 - Checking Valve Limit and Direction)*.

8. TROUBLESHOOTING

Issue	Possible Cause	Solution
The actuator motor does not turn.	Actuator toggle switch is in the OFF position.	Move the toggle switch to one of the ON positions *(see Section 4.3 – Toggle Switch Operation)*.
	Actuator cable is disconnected.	Check actuator cable and reconnect to pool controller.
	Damaged cable.	Inspect actuator cable for any signs of damage and repair or replace.
	Incorrect cam settings (both left and right microswitches engaged simultaneously).	Check cam settings *(see Section 5 – Cam Adjustment)*.
	No power to the actuator.	Measure voltage between the black (common) wire and each switch leg (red, white) inside the actuator. There should be 24VAC present between black and red, or black and white – depending on the pool controller's commanded valve position.
	Failed motor or microswitch.	Replace actuator.
The actuator handle surges or shudders.	Lack of valve seal lubrication or obstruction inside the valve body.	Lubricate actuator *(see Section 7 – Annual Maintenance)* and retest. If surging still occurs, overhaul and lubricate the water valve in accordance with the relevant manufacturer's instructions.
The actuator motor is audibly working but the valve does not turn.	Actuator in manual override position.	Return to automatic mode *(see section 6 – Manual Override).*
	Broken valve.	Replace valve.
	Broken actuator shaft or geartrain.	Replace actuator.
The actuator rotates in one direction but not back again.	Improper cable connection or pinout (e.g. black/common wire in wrong position).	Check security of all cable connections and ensure wire colours are in the correct order *(see Figures 15 & 16 – below).*
	Improper pool controller settings (valve is not being activated).	Check settings in accordance with relevant pool controller instructions.
	Damaged cable.	Inspect actuator cable for any signs of damage and repair or replace.
	Failed motor or microswitch	Replace actuator.

Figure 15: 'Standard' Controller Plug

Figure 16: 'AV'-Type Controller Plug

9. WARRANTY

AUSTRALIAN CONSUMER LAW

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The Oasis Valve Actuator is covered by a limited **12-month warranty** against manufacturing defects from the date of installation.

This is a back to base warranty excluding on-site labour or travel costs to or from installation site. Replacement of routine maintenance items are not covered under warranty.

Defective equipment must be returned to the manufacturer or dealer as soon as the purchaser becomes aware of the defect and all transport must be prepaid. Neither the manufacturer nor the dealer shall be responsible for any goods damaged in transit.

Adverse operating conditions beyond the control of the manufacturer such as improper installation, voltage or usage will render this warranty null and void.

10. TECHNICAL SUPPORT

For all technical assistance and warranty enquiries, please contact your local distributor or contact Oasis Aquatics directly:

OASIS AQUATICS

Phone: 1800 815 913

Website: oasisaquatics.com.au

Email: info@oasisaquatics.com.au

More troubleshooting resources are available online:

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NOTES

NOTES

INSTALLATION RECORD

DEALER / INSTALLER NAME

SERIAL NUMBER

DATE INSTALLED

A part of the sunlover group

Victoria
6-8 Austral Place
Hallam VIC 3803
Australia
T: 03 9887 2131

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Upper Coomera QLD 4209
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