

ELECTRICAL SPECIFICATIONS

Supply Voltage	12V DC	24V DC
Stand-by Current	40mA	28mA
Operating Current	3.3A	1.2A
Stall Current	20.0A	8.4A

ENVIRONMENTAL SPECIFICATIONS

Electronic Aquavale IP 55 – dust and water spray proof.
*Note: The Electronic Aquavale should not be submerged.
 The valve should be located above the bilge flood area.*

Control Panel IP 55 – dust and water spray proof.

The Electronic Aquavale should not be operated if frozen.

SPECIAL CONSIDERATIONS

The Electronic Aquavale on applying power will cycle between ports returning to the set position. The valve should be wired so power is applied each time the boat is used.

If continuously powered, the Electronic Aquavale will automatically cycle between ports (returning to the set position) at regular intervals of 4-6 weeks to ensure lubrication of the seal. If the Electronic Aquavale has not been operated for an extended length of time (wintering over etc) the Valve should be serviced to ensure adequate lubrication. See Disassembly and Servicing instructions.

WARNING

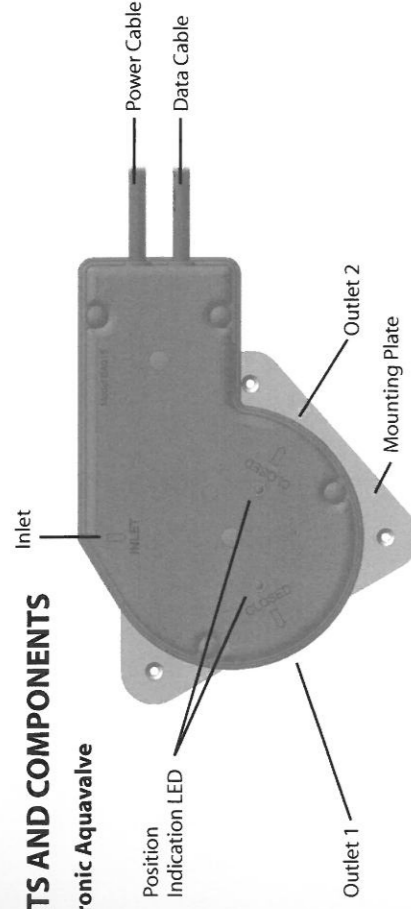
Disconnect power during installation and before performing maintenance, or attempting to dislodge blockages. The Electronic Aquavale contains a powerful electric motor. There is a risk of serious harm if the motor operates while objects or body parts are near moving parts.

CAUTION

The Electronic Aquavale is a diverting valve. It cannot be used in place of a seacock, ball valve or gate valve for thru-hull connection. Contact your local Tru-Design agent for a Tru-Design thru-hull and ball valve solution.

The Electronic Aquavale is designed to seal in low pressure applications. It may not be suitable for use in vacuum toilets depending upon the position of the valve relative to the toilet.

The Electronic Aquavale Electronics Module contains no user serviceable parts.

PARTS AND COMPONENTS**Electronic Aquavale**

The Power Cable is fitted with male quick connects (QC tabs) for easy installation.
 The Data Cable is fitted with a Water-proof connector.

Control Panel

The Control Panel is supplied with a gasket to reduce the possibility of water travelling behind the panel.

OPERATING INSTRUCTIONS

The Electronic Aquavale is operated using the Operation Keys on the Control Panel. The Position Indication LED will indicate which position the Electronic Aquavale is currently located in. The Control Panel can be locked to eliminate inadvertent operation of the valve.

Locking the Control Panel

Press HOLDING TANK LOCK button for 4 seconds. The Valve moves to the Holding Tank position. The HOLDING TANK and HOLDING TANK LOCK lights show the Control Panel is locked. The OVERBOARD button is unavailable.

Unlocking the Control Panel

Press HOLDING TANK LOCK for 4 seconds. The HOLDING TANK LOCK light will turn off. The HOLDING TANK and OVERBOARD buttons are available.

TROUBLE SHOOTING**LEDs on Control Panel are flashing**

The Electronic Aquavale has not been able to move fully into either position indicating the Rotor has become stuck.

Attempt to unlock the Electronic Aquavale by following the instructions for manual operation. If the Rotor can be turned through the full range of movement, reassemble and attempt to operate. If the Electronic Aquavale will still not operate, consult with your local Tru-Design agent.

If Rotor cannot be turned through its full range of movement, the valve will require disassembly.

Follow the Disassembly instructions to remove the Rotor and check for blockages.

Reassemble and attempt to operate. If the Electronic Aquavale will still not operate, consult with your local Tru-Design agent.

LEDs are visible but valve will not operate

The Electronic Aquavale requires sufficient power to operate. In some situations the power supply is not adequate to operate the valve.

Check condition of batteries / power supply.

Confirm operation using a fresh battery. If the Electronic Aquavale will still not operate, consult with your local Tru-Design agent.

No LEDs visible on the Control Panel

Confirm visibility of LEDs on the Electronic Aquavale. If LEDs are visible on Electronic Aquavale, then there is a fault in the connections of the Data Cable or the Control Panel.

Check all connections and attempt to operate. If the Electronic Aquavale will still not operate, consult with your local Tru-Design agent.

If the LEDs are not visible on the Electronic Aquavale, confirm power is being supplied to the Aquavale.

Switch the power off for approximately 1 minute.

Once power is returned, one of the LEDs should light and the valve will cycle.

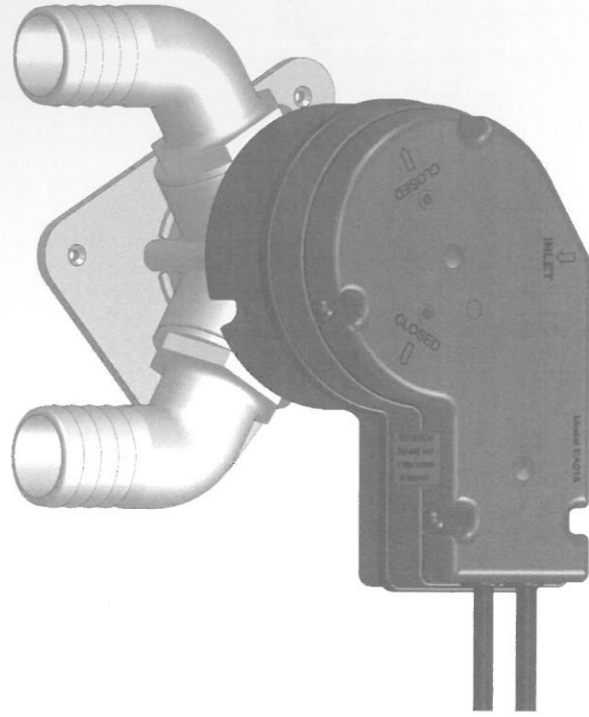
If the Electronic Aquavale will still not operate, consult with your local Tru-Design agent.

The Electronic Aquavale Electronics Module contains no user serviceable parts.

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1 x Control Panel	1 x Spanner
1 x Control Panel gasket	1 x Silicone grease
1 x 5m Data Cable	1 x Manual Socket
2 x Control Panel mounting screws	1 x Warranty card



TRUDESIGN®
ELECTRONIC AQUAVALVE®

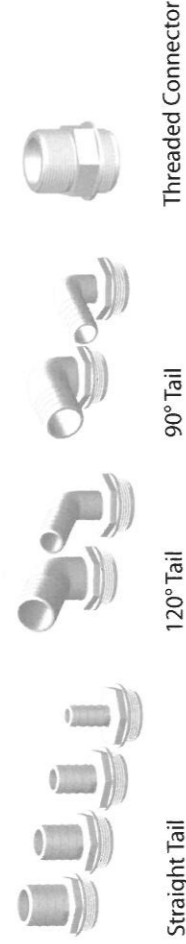
INSTALLATION

Accessories Required

As every marine plumbing arrangement is unique, the plumbing accessories required for installation of the Electronic Aquavalve are purchased separately.

A range of Tru-Design accessories are available to suit standard piping sizes and angles, as well as fittings to suit specialised applications. For a full list of accessories for installation of your Electronic Aquavalve, please consult your local Tru-Design agent.

Example accessories are shown below.



Straight Tail

120° Tail

90° Tail

Threaded Connector

The Electronic Aquavalve is supplied with a 5m Data Cable. If a longer length of cable is required, contact a Marine Electrician to lengthen the cable.

Electronic Aquavalve Installation

1. Plan out your intended plumbing layout, and location of the Electronic Aquavalve. The Electronic Aquavalve can be placed in any orientation but must be secured to a flat surface. Do not screw to surface until accessories are installed. Note: the Electronic Aquavalve should be located above the bilge flood area.
2. Obtain the appropriate Tru-Design accessories to suit your plumbing arrangement.
3. Fit your accessories using the RED seals supplied with your Electronic Aquavalve using the supplied Spanner. The fittings seal without the need for thread tape or sealant. If the fittings cannot be adjusted to the correct orientation, remove the RED seal and replace with the thicker BLUE seal supplied with the accessory. Note: do not use both seals.
4. Screw the Electronic Aquavalve in its final location using 3 large screws supplied.
5. Fit other plumbing onto the Electronic Aquavalve.

Tru-Design recommends the use of two hose clamps on all hoses to reduce the possibility of inadvertent disconnection.

Control Panel Installation

Note: the Control Panel can also be fitted to a BEP Contour Panel.

1. Using the Control Panel gasket as a template for placement, mark the centre of the rectangular hole in the gasket.
2. Drill a 20mm diameter hole in the bulkhead for the Data Cable.
3. Feed the Data Cable through the 20mm hole, BLACK connector first.
4. Connect the Data Cable to the Electronic Aquavalve.
5. Secure the Data Cable so it cannot be damaged or chafed.
6. Fit the Control Panel gasket to the Control Panel.
7. Connect the Data Cable to the Control Panel.
8. Screw the Control Panel onto the bulkhead using 2 small screws supplied. Take care to not over-tighten the screws. Fit the Control Panel screw covers in place.

Power

WARNING - Do not connect power until the valve is fully installed. The Electronic Aquavalve contains a powerful electric motor. There is a risk of serious harm if the motor operates while objects or body parts are near moving parts.

The Electronic Aquavalve should be connected so that power is supplied to the Electronic Aquavalve each time the boat is used. Upon applying power, the Electronic Aquavalve will automatically cycle between ports (returning to the set position) to ensure lubrication of the seal.

1. Connect the Black wire to the Ground or Negative Terminal of the Power Supply.
2. Connect the Red wire to the Positive Terminal of the Power Supply.
3. The Electronic Aquavalve should cycle between positions once power is applied.
4. Check that the Control Panel operates the valve as intended.

If the Labels on the Control Panel do not match the plumbing arrangements the following instructions can be followed to rectify.

1. Remove the Control Panel.
2. Disconnect the Data Cable from the back of the Control Panel.
3. Swap the ORANGE and RED wires by unscrewing from the back of the GREEN connector.
4. Reconnect the Data Cable and refit the Control Panel.
5. Check that the Control Panel operates the valve as intended.

SERVICING

Tru-Design recommends lubrication of the sealing components yearly. Regular lubrication of the seals is recommended for smooth operation and long life of the seals. Use Silicone Grease (supplied).

A service kit is available for replacement of all sealing components:

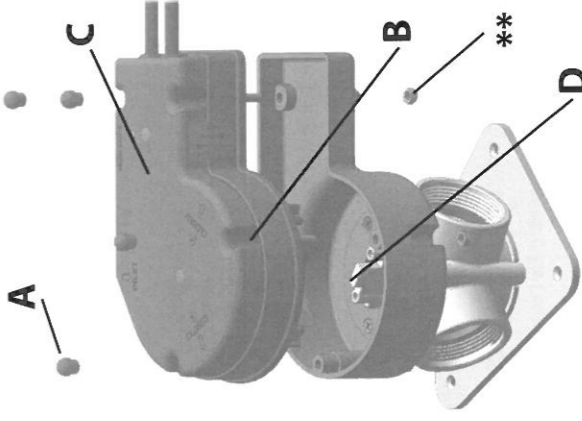
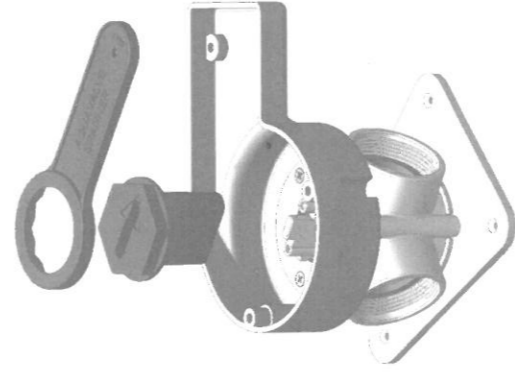
90316 Seal Kit Aquavalve Silicone



MANUAL OPERATION

When power is lost the Electronic Aquavalve can be operated manually.

1. Disconnect power to the Electronic Aquavalve.
2. Follow steps 2-5 of DISSASSEMBLY
3. Use the Socket and Spanner to alter the position of the Valve.
4. Place the Rotor (D) in the position noted in step 5 of Disassembly.
5. Fit the Electronics Module taking care to not pinch the seal.
6. Push the nut up into the nut retainer while turning screws until the screw is secure.
7. Fit the screw covers.
8. Reconnect power.



DISSASSEMBLY

1. Disconnect power to the Electronic Aquavalve.
2. Remove 4 x screw covers (A) by prying out with a flat bladed screwdriver.
3. Unscrew 4 x screws (B) using a Phillips screwdriver.

** Important Note: the screws are held captive and unscrewing drops a nut out the bottom of the unit directly below the screw.

4. Lift the Electronics Module (C) off the Valve Body and place this upside down in a secure location.
5. Take note of (or mark) the position of the Rotor (D). The Rotor must be returned to this position to reassemble.

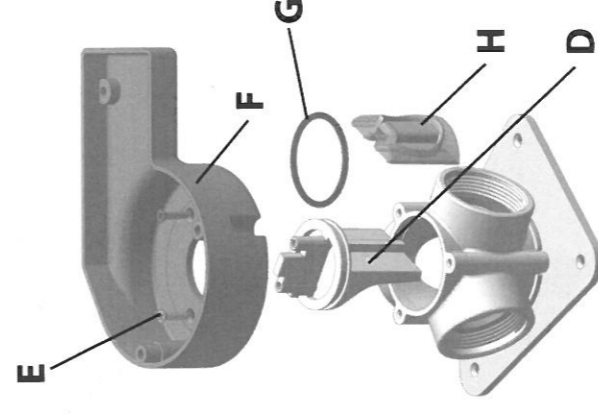
DISSASSEMBLY CONTINUED

6. Isolate valve from effluent stream.

Note: Handling of raw effluent is hazardous.

Take all precautions such as gloves, protective clothing and respirators. Empty tanks and hoses and flush with clean water whenever possible. Think responsibly about your disposal of raw effluent.

7. Undo 3 x screws (E) using a Pozi-drive screwdriver.
8. Remove the Bottom Cover (F) by moving from under the Rotor (D) and lifting upwards,
9. Remove the Rotor (D) by twisting and pulling upwards.



Using the components supplied in the service kit

- Replace the O-Ring (G) by carefully prying out using a small flat bladed screw driver.
- Remove the Silicone Seal and Holder (H) and replace.

REASSEMBLY

1. Lubricate the O-Ring and Silicone Seal with Silicone Grease.
2. Lubricate the inside of the Valve Body with Silicone Grease.
3. Fit the Rotor (D) by installing with a twisting motion.
4. Fit the Bottom Cover (F) and screw into place.
5. Place the Rotor (D) in the position noted in step 5 of Disassembly.
6. Fit the Electronics Module taking care to not pinch the seal.
7. Push the nut up into the nut retainer while turning screws until the screw and nut are secure.
8. Fit the screw covers.
9. Reconnect power.
10. Confirm the operation of the Electronic Aquavalve using clean water.