

Cruiser Services

TDS-PANEL MOUNT METER MANUAL



Motorized Valve Version

This manual covers the Cruiser Services TDS meter programming and motorized valve integrations for auto purge at watermaker startup and automated tank switching using an added valve or valves controlled by panel switches for multiple tanks

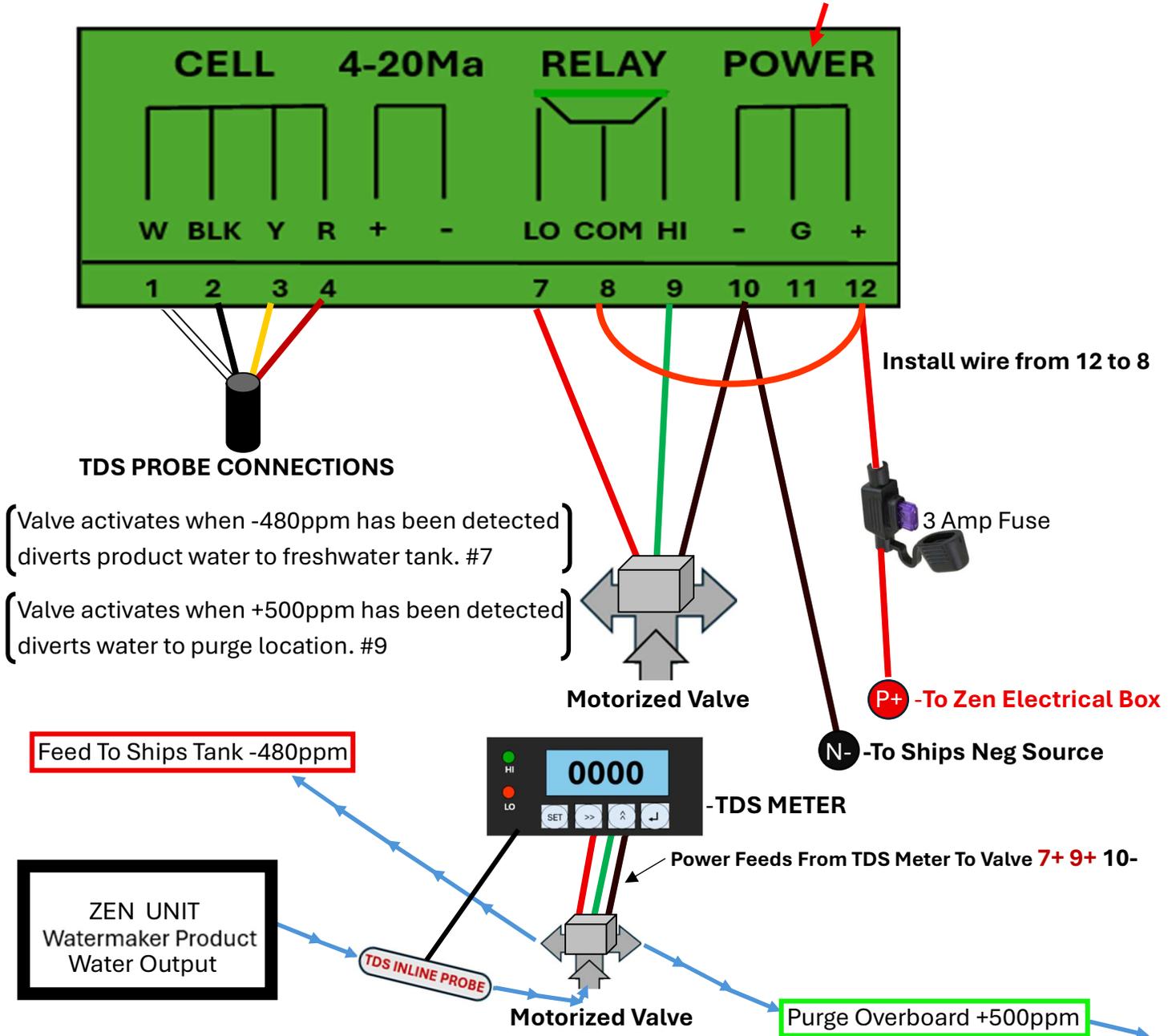
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TDS PANEL MOUNT MANUAL

TDS Panel Mount Meter Wiring Diagram - Motorized Valve

NOTE: Power Source Will Be 12vdc or 24vdc Labeled Here



(#7 LO) Valve rotates at -480ppm sending product water to fresh water tank.

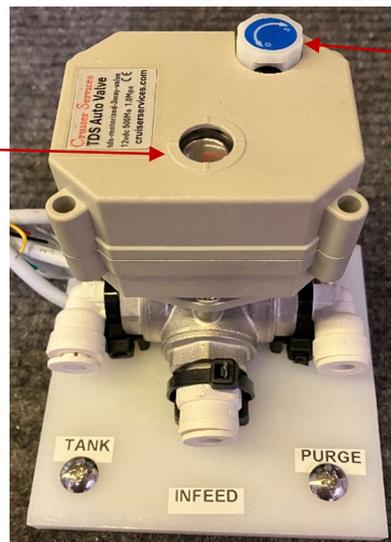
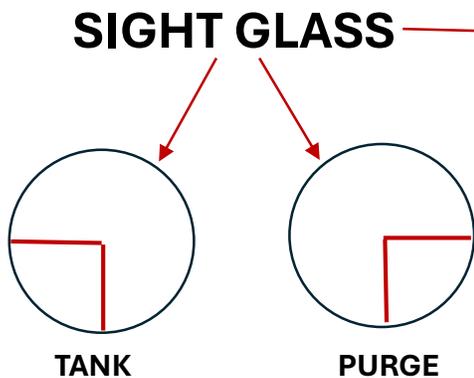
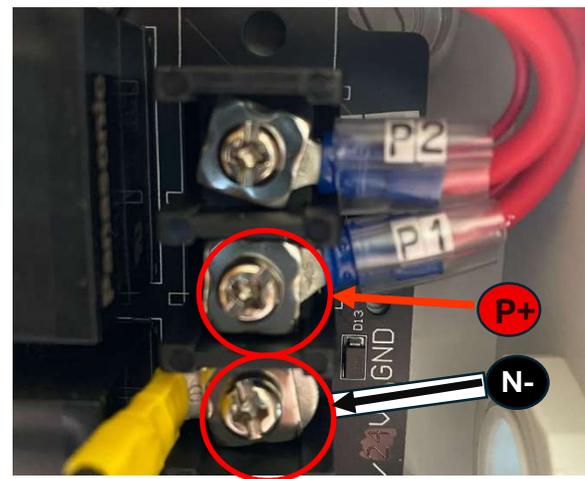
When the measured PPM exceeds the set threshold of +500ppm, the TDS meter powers on the (#9 HI) of the Relay. This powers the valve automatically rotating, directing the +500ppm product water to flow to the overboard purge location. Remains in this position until -480ppm is achieved, at which time #7LO powers on.

IMPORTANT:

The DC+ positive source for the TDS meter is to be connected to the P1 connection within the watermaker enclosed junction box. This will ensure the TDS meter and valve are only active when the watermaker is on.

A 3amp fuse is required on the positive line feed prior to the TDS meter connection for overload protection.

See images for reference.



MANUAL KNOB

Manual Override Instructions:

- © In the event of an electrical or functional failure, it is possible to operate the valve manually.
- © All power to the valve must be off prior to engaging the manual override.
- © Gently pull the manual knob upward approximately 3mm / 1/8", then rotate the knob left or right to control the valve functions to **Purge** or **Fresh water tank position**.
- © When the red needle in the indicator is pointing to right  this indicates the valve is in the **Purge** position; When it is pointing to left  this indicate the valve is in the **Fresh water tank position**.
- © After finishing the manual override operation, You must press down on the knob, to engage and resume the normal electrical functions.

TDS Display Programming Instructions

PROGRAMMING: (HI-Terminal #9) for motorized valve auto diversion at watermaker power on;

1-POWER ON THE METER

2-SET the (HI-Terminal #9) aka [Ho - -] to 0480ppm

A: Start by pressing the SET Button 

B: Then press this button  to scroll to the right until you see [Ho - -] appear in led screen

C: Once you see [Ho - -] press the  enter button.

D: Now set Ho - - to 0480ppm using these buttons 

E: Once the number is set to 0480ppm press the enter 

F: Once you have pressed the enter button from step E: wait for [Ho - -] to appear and start flashing.

At that point press the SET  button to save this setting of 0480ppm.

This is the point where the positive DC power switches from (HI #9) to (LO #7) on the rear of the TDS meter rotating the valve sending product water flow to the ship's freshwater tanks.

TDS Display Programming Continued

3: Setting the PURGE OVERBOARD valve activated setting.

A Start by pressing the SET Button



B: Then press this button  to scroll to the right until you see [HC --] appear in led screen



C: Once you see [HC --] press the  enter button.



D: Now set [HC --] to 0500ppm using these buttons

E: Once the numbers are set to 0500ppm press the enter

F: Once you have pressed the enter button step E:, wait for [HC --] to appear and start flashing.

At that point press the SET  button to save this setting of 0500ppm.

This is the point where the (LO#7) on the rear of the TDS meter positive DC power switches to (HI-#9) rotating the valve and the product water that is not below 0500ppm is directed to the purge location. Water continues to flow to the purge location until reaching -0480ppm.

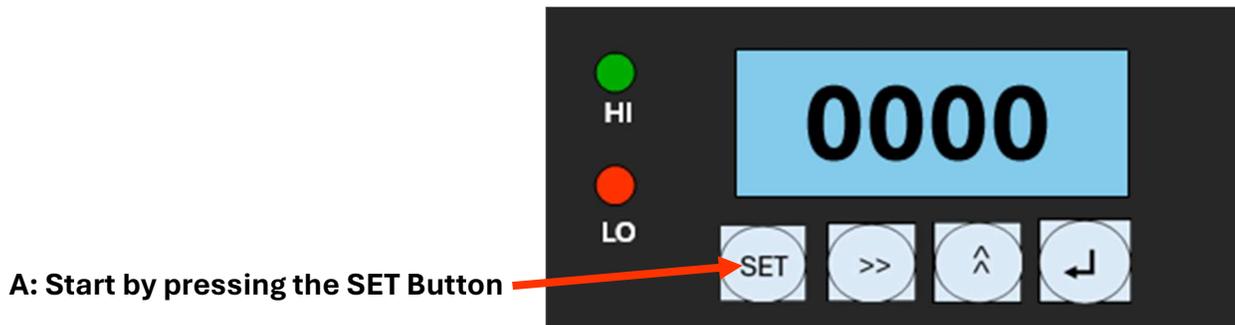
TDS Display Programming Continued

The [Lc --] and [LO --] settings are related to the (LO-Terminal #7) and will also be set for the same settings as the [Ho --] and [HC --] (HI-Terminal #9).

PROGRAMMING: (LO-Terminal #7)

1-POWER ON THE METER

4-SET the (LO-Terminal #7) aka [Lo --] to 0480ppm



B: Then press this button  to scroll to the right until you see [Lo --] appear in led screen



C: Once you see [Lo --] press the  enter button.

TDS Display Programming Continued



D: Now set [Lo - -] to 0480ppm using these buttons

E: Once the number is set to 0480ppm press the enter

F: Once you have pressed the enter button from step E: wait for [Lo - - to] appear and start flashing.

At that point press the SET  button to save this setting of 0480ppm.

5: Setting [LC - -] to 500ppm

A: Start by pressing the SET Button



B: Then press this button  to scroll to the right until you see [LC - -] appear in led screen



C: Once you see [LC - -] press the  enter button

TDS Programming Instructions Continued



D: Now set [LC - -] to 0500ppm using these buttons

E: Once the numbers are set to 0500ppm press the enter

F: Once you have pressed the enter button from step E: wait for [LC - -] to appear and start flashing.

At that point press the SET  button to save this setting of 0500ppm. Programming is now completed.

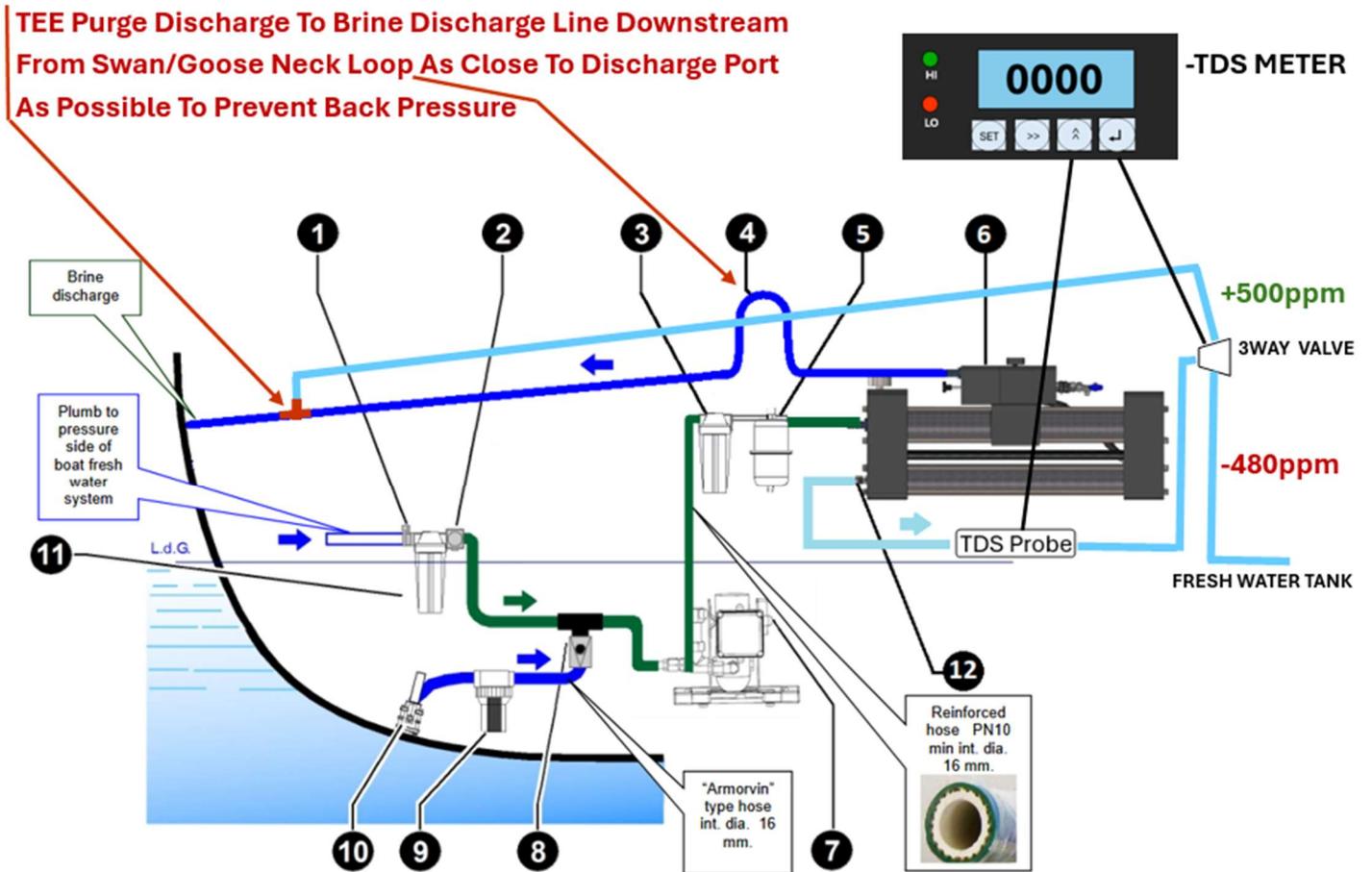
NOTE: A good practice is to test the system to a bucket or other container to ensure you have plumbed the motorized valve for correct water flow before sending unwanted water to your ship's freshwater tank.

Please continue to view the follow additional automated valve information on the next pages. The motorized valve functions are explained, and layout examples of the valve or valves are provided.

Typical Install Layout

The diagram below shows the typical install methods with a Schenker watermaker system.

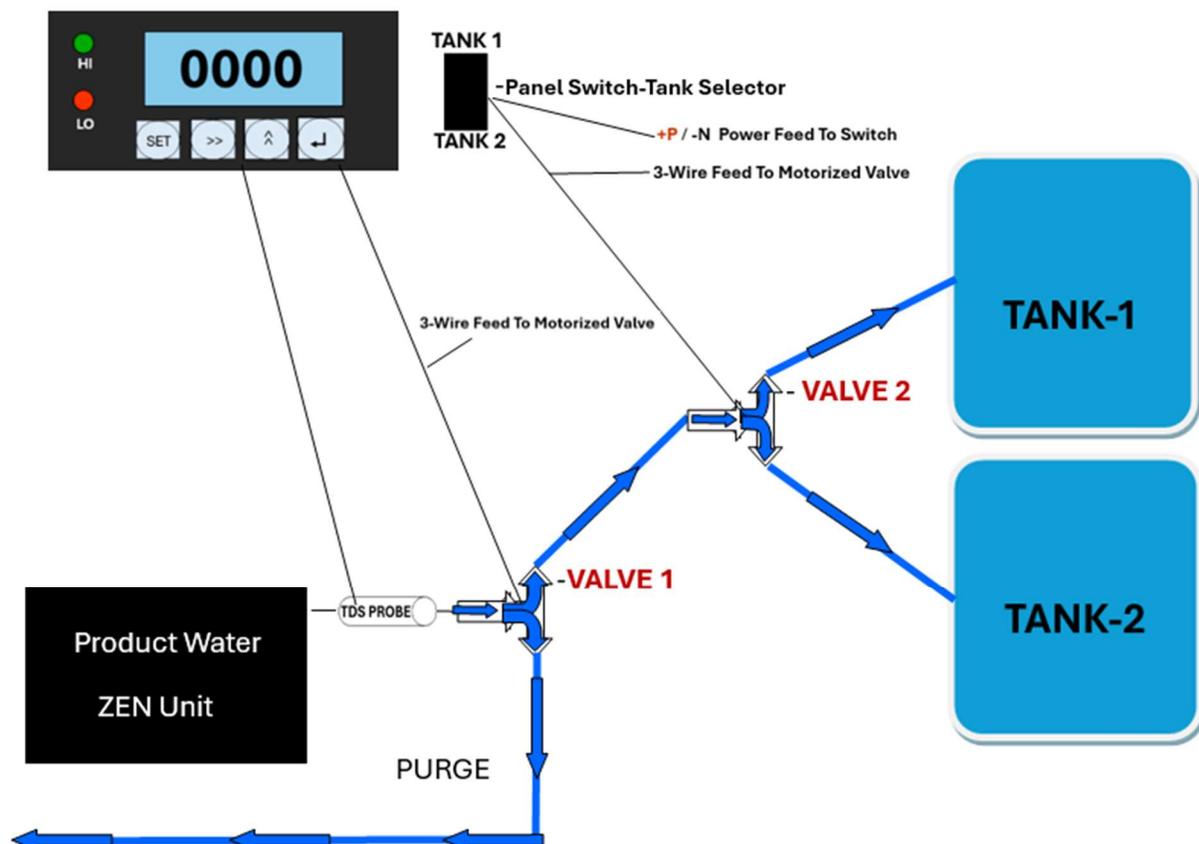
This is a universal system and can be integrated for use with any watermaker brand unit.



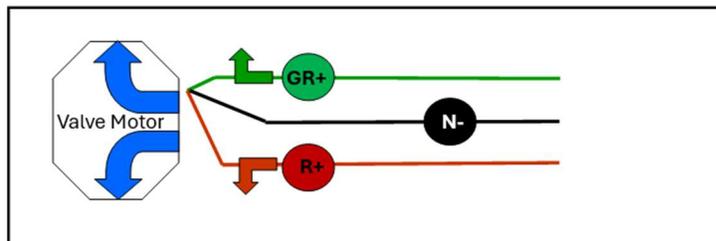
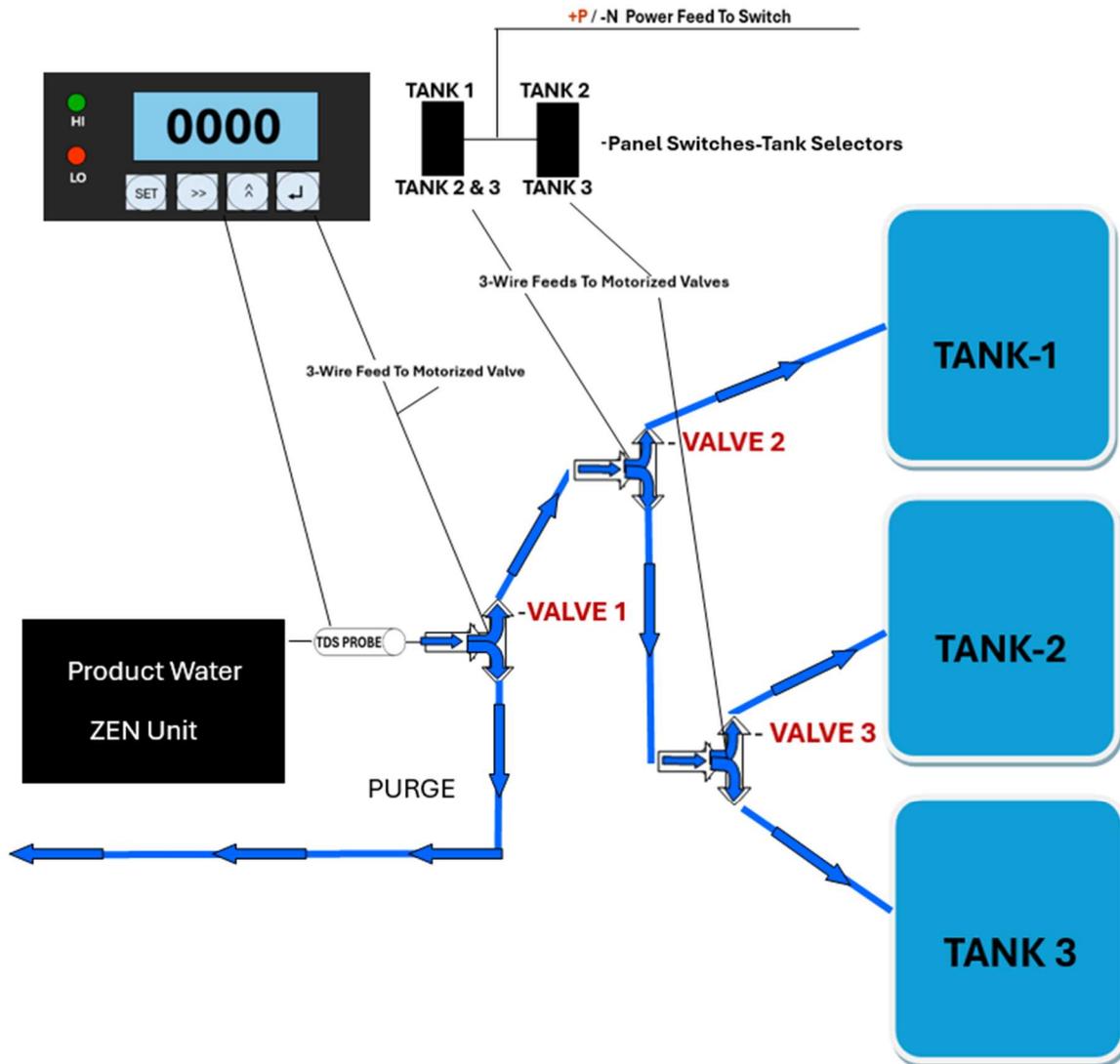
Our New Motorized 3-Way Valve

- + Valve is constructed of 304 stainless steel, making it a superior choice over other valves constructed of brass. No unwanted taste distortion.
- + Very quiet when in operation. No continuous duty heat generated. Automatically cuts power when a rotation has completed.
- + Contains a manual control knob in the event of electrical failure.
- + An additional valve/valves can be utilized to automate tank selectors and fill multiple fresh water tanks with a push of a switch.

EXAMPLE OF A TWO TANK SYSTEM:



EXAMPLE OF A THREE TANK SYSTEM:



Three wire feeds:

GR+ Wire: Positive from TDS meter terminal #9 or from a panel switch if valve is being used to control tanks. Rotates valve to the right-side port.

BLACK aka N- Wire: Negative source, TDS Meter or the ships negative power source.

R+ Wire: Positive from TDS meter terminal #7 or from a panel switch if valve is being used to control tanks. Rotates valve to the left-side port.