INSTRUCTIONS - BRS RO/DI SYSTEMS

4 Stage Value & Value PLUS

Please make sure all parts are included and undamaged. If a part is found missing or damaged, please contact our customer service department.

4 STAGE VALUE RO/DI SYSTEM - 75 Gallons Per Day

Red Intake, Black Waste Water and Blue Output Tubing

Purtrex 5 Micron Depth Sediment Filter

75 GPD Dow Filtmtec Membrane

DI Resin

MATRIKX CTO 5 Micron Carbon Block

PARTS BAG INCLUDES:
Filter Wrench
Garden Hose/Utility Sink Adapter
Kitchen Faucet Diverter Valve

RECOMMENDED ITEM:
Tube Cutter

Top View

Automatic Shut Off Valve
Flow Restrictor

4 STAGE VALUE PLUS RO/DI SYSTEM - 75 Gallons Per Day

Red Intake, Black Waste Water and Blue Output Tubing

Purtrex 5 Micron Depth Sediment Filter

75 GPD Dow Filtmtec Membrane

PLUS FEATURES:
Air-Filled Pressure Gauge
Dual Inline TDS Meter
Membrane Flush Kit (seen in Top View)

DI Resin

MATRIKX CTO 5 Micron Carbon Block

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Filter Wrench
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Tube Cutter

Top View

Membrane Flush Kit & Flow Restrictor
Automatic Shut Off Valve

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SYSTEM OPERATION

During operation, the system will produce up to 75 gallons of purified RO water per day (3.125 gallons per hour) under the correct water temperature and pressure.

> HOT WATER SHOULD NEVER BE USED with the RO system as it can damage the RO membrane and may also contain additional contaminants. For this reason, only water from the COLD water supply should be used.

> For optimal results, water pressure should be at least 50 psi entering the membrane. If operating pressure is under 50 psi, a reduction in water production and a lower rejection rate may be experienced. If water pressure is approaching 35 psi, consider adding a booster pump to increase performance.

> A ratio of 4:1 waste water to purified RO water is normal. The waste water contains the dissolved solids from the source water and should not be used in your aquarium.

SET UP & MAINTENANCE - 4 Stage Value & Value PLUS

1. TURN THE WATER SUPPLY TO THE CONNECTION POINT OFF

2. CHOOSE AND INSTALL YOUR CONNECTOR/ADAPTER

<table>
<thead>
<tr>
<th>NON-PERMANENT</th>
<th>Garden Hose/Utility Sink Adapter</th>
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<tbody>
<tr>
<td>Thread onto a hose, laundry/utility sink faucet or fittings with similar threads.</td>
<td></td>
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<tr>
<td>Provides a quick connect fitting for the RO/DI tubing.</td>
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<tr>
<td>Great option for quick installation.</td>
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<table>
<thead>
<tr>
<th>NON-PERMANENT</th>
<th>Kitchen Faucet Diverter Valve</th>
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<tbody>
<tr>
<td>Attaches easily to the majority of kitchen sink faucets. If faucet has a different thread, inexpensive thread adapters are available at most hardware stores.</td>
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<tr>
<td>Easy installation. Diverter has built in valve to switch between faucet use and sending water to RO system.</td>
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<tr>
<td>Hose to fitting connection is made by sliding the tubing over the barbed connection on the kitchen faucet diverter.</td>
<td></td>
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3. INSTALL YOUR RO SYSTEM

RED Tubing - intake from home water line  BLACK Tubing - waste water  BLUE Tubing - output of purified water

1. Attach the water source to the RED line of the RO system using the installed connector/adapter. Push connect fittings are connected by firmly pushing one end of the tube into the fitting. Remove tube by holding the round retention ring tightly against the fitting and pull the tube. Visit bulkreefsupply.com/instructions for more detailed information on push connect fittings.

2. Direct the BLUE line to a suitable collection/storage container.

3. Guide the BLACK line down a drain.

4. FLUSH YOUR RO SYSTEM

On initial installation or filter changes, the RO/DI system must be flushed for one hour before making final product water.

1. Ensure that all fittings and hoses are correctly hooked up.
2. Direct the purified RO/DI water from the BLUE line into a sink or drain.
3. Turn on the household water supply.
4. Allow the system to run for one hour to flush dusty fines from carbon blocks and preservatives from the RO Membrane. This is a good time to check all fittings and connections for leaks.
5. Return the BLUE line to your purified water storage container. Your BRS RO/DI System is now ready for use.
MAINTAIN YOUR RO SYSTEM

Filter life depends on many different factors including total water production and the quality of the source water. This kit does not include a 75 GPD Dow Filmtec Membrane filter as they only need replacement every three years or so, depending on water and set up.

Recommended Replacement Filter Arrangement with Water Flow

<table>
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<tr>
<th>Sediment Filters</th>
<th>Carbon Blocks</th>
<th>Deionization Resin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purtrex 5 Micron Depth Sediment Filter</td>
<td>MATRIKX CTO 5 Micron Carbon Block</td>
<td>DI resin will change from dark blue (almost black) to light brown upon exhaustion.</td>
</tr>
</tbody>
</table>

Sediment filters should be changed when they become visually dirty and/or a drop in pressure going into the membrane is noticed.

Carbon blocks should be changed after processing 6,000 gallons of water (waste and product water combined). In most cases this will be ~1200 gallons of purified water.

Example Set Up:
100 gallon tank with 20 gallon changes twice a month and 2 gallons evaporation per day
> Uses 100 gallons of RO/DI water per month.
This setup would require that the carbon blocks are changed every 12 months.

A pressure drop may indicate a clogged sediment filter.

Changing the inexpensive sediment filters frequently will help extend the life of the more expensive carbon blocks.

Properly maintained sediment filters will also help ensure that the membrane is operating at the proper pressure which will increase performance.

If sediment filters are not properly maintained or there are high amounts of sediment in the water supply, carbon blocks may need to be changed more frequently to maintain the proper water pressure into the membrane. If carbon blocks are frequently exhausted quickly change sediment filters more often.

This will help extend the life of the more expensive carbon blocks.

PLUS FEATURES - 4 Stage Value PLUS

Dual Inline TDS Meter DM-1 HM Digital
Measures total dissolved solids (TDS) in water. The TDS meter is pre-installed on the IN and OUT of the DI canister on the PLUS system.
The IN connection monitors RO system performance.
The OUT connection monitors DI resin performance. The OUT reading should always read zero. Please note that the RO system needs to operate for 10 minutes before an accurate reading can be achieved.

Air-filled Pressure Gauge
The majority of performance issues are related to water pressure and the pressure gauge will help immensely with troubleshooting as well as provide a good indication of when to change sediment and carbon blocks. The pressure gauge measures water pressure going into the RO membrane. For optimal performance water pressure should be above 50 psi.
To ensure longevity of seals keep water pressure under 80 psi.

Membrane Flush Kit
The membrane flush kit is a ball valve installed on the black waste water line that bypasses the flow restrictor. Opening this valve increases the flow through the waste line and flushes deposits off of the membrane. Flushing the membrane increases membrane life and system performance. On a RO system that is only used a few times a month flush the membrane for 1-2 minutes before and after each use. If you use the system frequently flush the system for 3-5 minutes a few times each month. Please note that in normal operation this valve should be closed. If you are unsure if the valve is closed check the flow rate out of the black waste water line. When the valve is closed for normal operation the flow out of this line will be slower.
FAQs

Q: Is it normal for the DI stage to not fill completely with water?
A: Yes, air gets caught in the top of the canister and has no way to escape. This does not interfere with system performance, but if desired open the canister slightly while the unit is running to allow the air to escape. Retighten the canister when the water reaches the top.

Q: Is it normal for TDS to be higher when the system is first turned on?
A: Yes, this is called “TDS creep” and normal on all RO systems. Please allow the RO system to run for 10 minutes before testing TDS.

Q: Is it okay to leave water in the canisters between uses?
A: Yes, it is advised to keep them wet between uses and to store in a cool, dark location.

UPGRADES TO YOUR RO SYSTEM

Float Valve

Turns off the RO/DI unit when the desired level is reached in a storage container. Works in conjunction with a Auto Shut Off Valve which is already installed on your RO/DI unit.

Dual DI Canisters

Helps ensure the quality of product water and maximize the lifespan of DI resin. We recommend rotating the DI canisters to maximize DI resin use. When the first cartridge is depleted move the second cartridge to the first stage and replace the second with new resin.

FM-2 Filter Monitor with Volumizer

Tracks the flow of water through the unit. Having an accurate count of gallons processed will help determine when it is time to change filters. Comes with a mounted LED light which flashes at pre-determined gallon set points to indicate when it’s time to change filters.

NEED HELP? Customer Service Hours: M-F 9am - 5pm CST

Phone: 763-432-9691  Email: customerservice@bulkreefsupply.com  Live Chat: bulkreefsupply.com