ProTool

PROTOOL RODI CART STAINLESS STEEL

FILTER LOCATIONS

RO FILTER

Life expectancy is 5 to 7 years, when the carbon filter is changed twice per year and RO Flushing is done at beginning and end of the job.

CARBON FILTER

We recommend changing the filter twice per year

DI FILTER

This filter should be changed when the TDS Meter is measuring RODI water output and the reading rises above 10 TDS

WATER INLETS AND OUTLETS

RO FLUSH VALVE

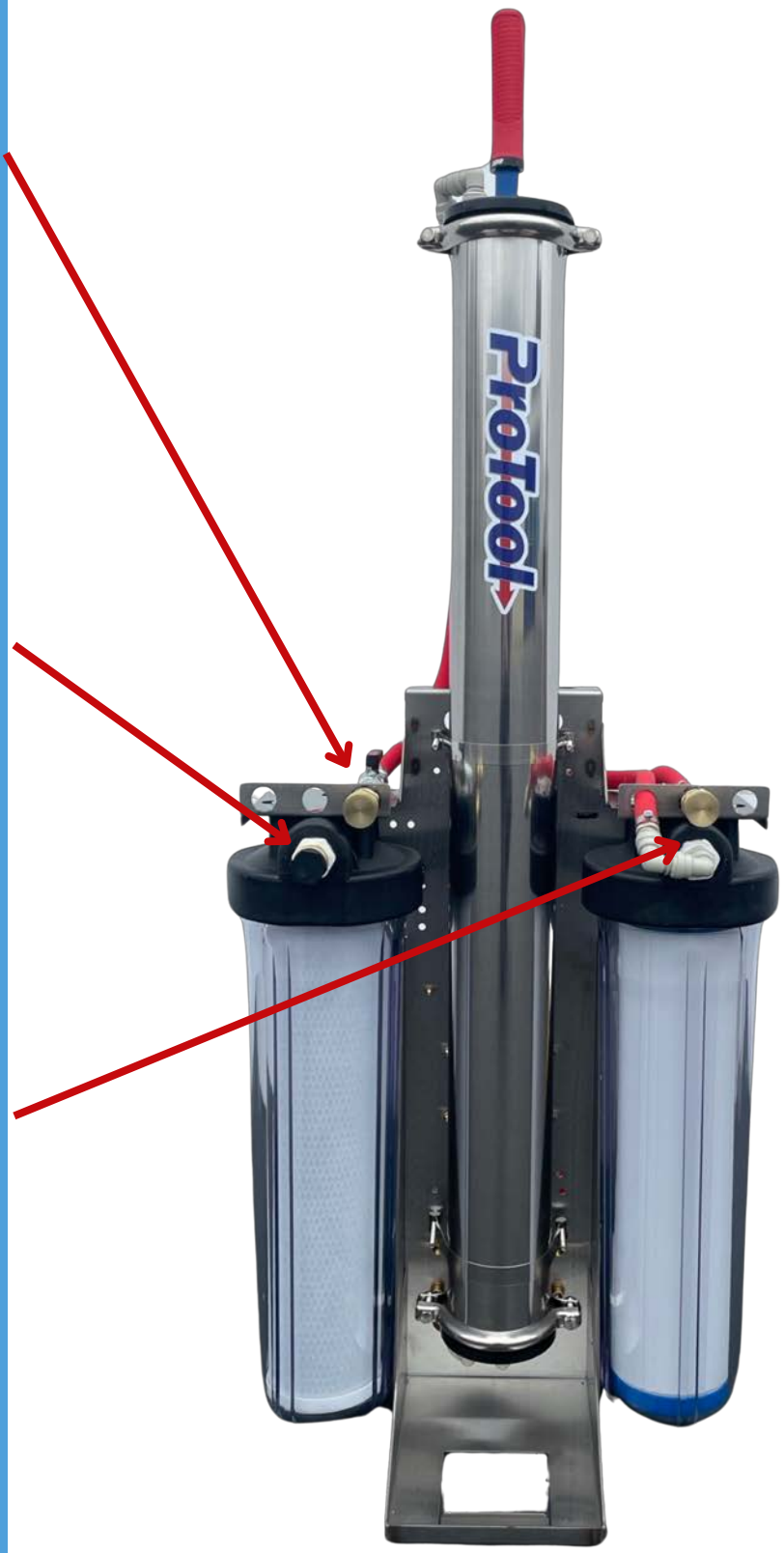
Open for 30 seconds plus at the beginning of use and at the end of the job

WATER INLET INTO CARBON FILTER

Inlet water pressure should be greater than 60psi, check the gauge

WATER OUTLET

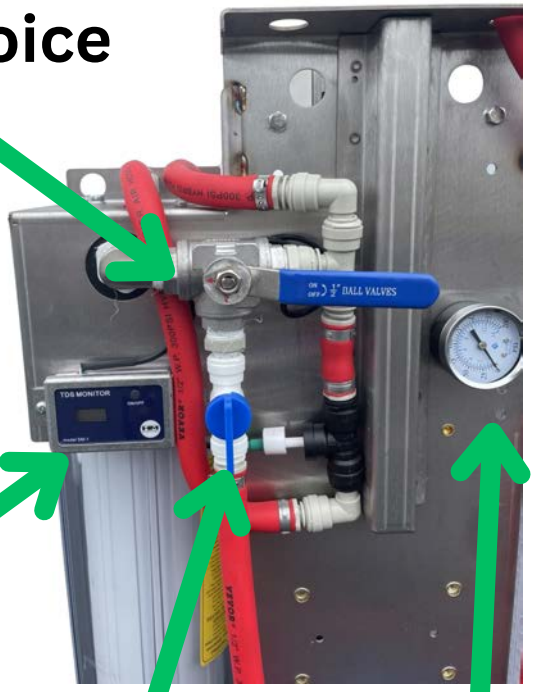
Will be RO Water or RODI Filtered depending on the choice valve



OPERATOR CONTROLS

1. The RO Choice Valve is used to direct the RO permeate (filtered RO Water) away from the DI resin, in one direction and in the other, you are passing the RO Permeate water into the DI Resin Filter
2. The TDS meter is turned on with a puch of the button and the readout will describe the Total Dissolved Solids (TDS) for the water output of the RO or RODI Choice valve
3. Water Out valve, stop the water from heading to your water fed pole or other destination
4. The Pressure gauge shows the water pressure after the carbon filter and on the way to the RO Membrane

1. RO or RO-DI Water Choice Valve



2. TDS Meter

3. Water Out On Off Valve

4. Pressure Gauge

UNPACKING

ATTACH
the wheels and Handle

- Cart Handle
- 2 x Wheels
- 2 x E – Wheel Pins

STEP 1

1. Line up the wheels with the posts on the wheel bracket.
2. Slip a wheel on the axel.
3. Slip the wheel pin E through the hole in the axl.
4. Repeat for the other wheel.

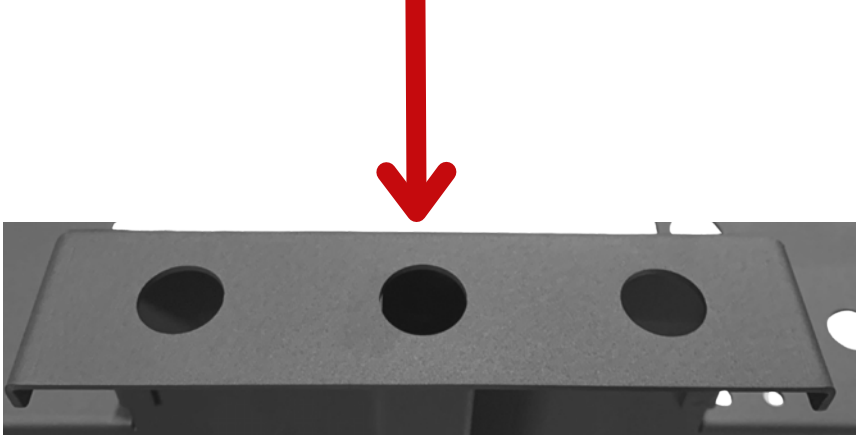
STEP 2

Items Needed:

- 1 x Cart Frame Handle

Steps:

1. Remove the handle from the packaging.
2. The open end has a rivet nut embedded in the pole.
3. Slide this side through the center hole at the top of the cart.
4. Dont Push down very hard!
5. Rotate the pole as you slide it down.
6. Ensure the pole is all the way in and threaded to the rivet nut.
7. It will no longer rotate clockwise once tightened.



Your system is ready to clean!

Remaining pages have some maintenance and operating tips.
Please read to ensure longevity of your system.

OPERATING INSTRUCTIONS

1. The most important thing is to keep the RO healthy.
    a. Replace the carbon filter every 6 months
    b. Flush your system.
        i. When you start your system, flush the RO for 30 seconds.
        ii. When you are done at the job, flush the RO filters for 1-2 minutes.
    c. Run water every two weeks.
        i. Do not let the system sit.
        ii. Make sure to run water for 10 minutes and flush the RO's for 2-3 mins at least twice a month.
2. Stay ahead of filter replacements.
3. Keep a spare DI resin incase of emergency.

CLOSED
Production Mode

Valve is closed, the system in production and sending RO water to the choice valve.

When Closed
A small amount of water will pass through to help extend RO Membrane life.
Run this water to a flower bed or a drain

OPEN
Flush Mode

Valve is open, the system is flushing.

MAINTENANCE DIRECTIONS + TIPS

1. The most important thing is to keep the RO healthy.
    a. Replace the carbon filter every 6 months
    b. Flush your system.
        i. When you start your system, flush the RO for 30 seconds.
        ii. When you are done at the job, flush the RO filters for 130 seconds to 2 minutes.
    c. Run water through the system every two weeks.
        i. Do not let the system sit for longer than a month.
        ii. Make sure to run water for 10 minutes and flush the RO's for 2-3 mins at least once a month.
2. Stay on time with your Carbon filter replacement.
3. Keep a spare DI resin cartridge nearby (Store in an Airtight Baggie) in case you run out in the field.

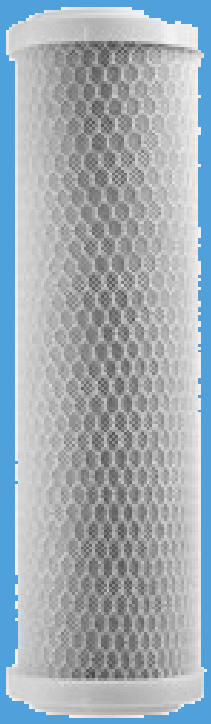
CLOSED

Valve is closed, the sytem is producing RO water.

*small amount of water will pass through to maintain pressure.

OPEN

Valve is open, the system is flushing.



REPLACING CARBON FILTER

1. Using the black housing wrench, loosen the housing just enough that you can turn it by hand.
2. Using your hands loosen and remove the housing.
3. Lift up on the carbon filter to remove.
4. After removing all wrapping from new carbon filter, place carbon filter into housing. Make sure it is aligned in the center.
5. Filter should rest on a centering knob on the bottom.
6. Make sure the o-ring is secure in the plastic housing channel. Flat side down.
7. Thread the plastic housing into the black housing cap on the left side of the filter. Inlet side (left when looking at front of cart)
8. Hand tighten the plastic housing.
9. Use the black housing wrench to tighten the housing further.

Video instruction at this url:
https://youtu.be/HPR-fXXHoK8

The Video can also be found on the product page of the website

REPLACING DI RESIN

1. Using the black housing wrench, loosen the housing just enough that you can turn it by hand.
2. Using your hands loosen and remove the housing.
3. Remove the blue/white container. Open the top and remove the solid foam filter.
4. Empty the contents of the container into a disposable container. Ensure the donut shaped foam filter remains in the bottom of the container.
5. Cut open the corner of a DI resin bag. Pour the contents into the container.
6. Gently shake/tap the container on the ground to let the DI resin settle in the container.
7. Fill the container until full.
8. Replace the top foam filter and the blue lid. Tighten lid.
9. Place the blue/white container in the other clear plastic housing.
10. Thread the housing into the right plastic cap(when looking at the front)
11. Hand tighten the plastic housing.
12. Use the black housing wrench to tighten the housing further.

MAINTENANCE DIRECTIONS + TIPS

1. The most important thing is to keep the RO healthy.
    a. Replace the carbon filter
        i. Every 12 months minimum.
        ii. Every 6 months if you use this system everyday 6-8 hours a day.
    b. Flush your system.
        i. When you start your system, flush the RO for 30 seconds.
        ii. When you are done at the job, flush the RO filters for 2-3 minutes.
    c. Run water every two weeks.
        i. Do not let the system sit.
        ii. Make sure to run water for 10 minutes and flush the RO's for 2-3 mins at least twice a month.
2. Stay ahead of filter replacements.
3. Keep a spare pump (if applicable) and DI resin incase of emergency.

TROUBLESHOOTING

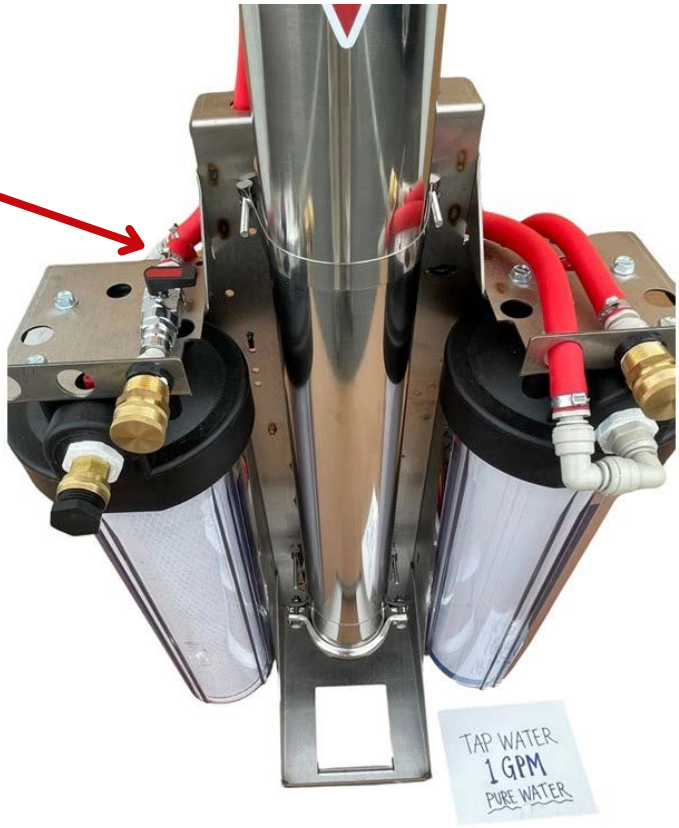
1. Not enough flow?
    a. Ensure tap water pressure is good.
    b. Ensure pressure gauge is reading around 60 PSI or higher.
2. DI resin is being used too quickly.
    a. Check the TDS coming out of the RO (blue hose). Make sure the RO is removing 90% of the tap water TDS.
        i. Turn the RO Choice Vale to RO Mode. Run water and test the TDS.
    b. Check tap water TDS. High TDS areas will use more resin, even after RO.
        i. IE: 200 TDS vs 1000 TDS incoming is 5 x more resin. (20 vs 100 RO), even when the RO is working.

START OF JOB INSTRUCTIONS

1. Connect Water-fed pole.
2. Connect tap water.
3. Flush RO for 30 seconds.
4. Close valve and turn into production mode.
5. Ready to clean.

END OF JOB INSTRUCTIONS

1. Open RO waste/flush valve.
2. Wait 2-3 minutes.
3. Turn off tap water
4. Put away/reel hoses.
5. Place caps on both male garden hose fittings and the female garden hose fitting for storage and transport.



ADDITIONAL TIPS

1. The handle is used to easily move the cart around. It also protects the SS housing if the system is knocked over or if you want to lay it down.
2. The handle can be removed
3. This system has various holes that can be used to strap to a wall or truck bed to secure the system during transport.
   a. On the inlet/outlet brackets are two side holes.
   b. On the top of the frame is an extra hole by the pole.
4. The extra holes can be used for spare parts.
5. If you need extra pressure this cart comes with hole patterns to quickly add either a 12V pump kit to the back of the cart.

PUMP UPGRADE OPTIONS

12V PUMP

The ProTool Cart offers mounting options for both a 12V Pump.

With rivnuts pre-installed and clearance holes adding a RO booster pump is quick and easy.

These kits make it easy to boost RO pressure for more water flow. This allows you to run 2 operators, or reach new heights.

This cart can reach up to 90 feet when paired with the proper water-fed pole and a pump.

The red arrow points to the mounting locations for both the 12V pump.

Following the provided instructions in the upgrade kit, simply rework the plumbing, attach the pump, and you are all set.

12V PUMP CONTROLLER AND BREAKER

1. The 12V pump kit comes with a pump, breaker switch and a power cables (12v and 110v Power Adaptor.
2. The green arrow points to the mounting locations for the pump breaker switch.