

Rejuvenation Instructions

#422 – Vacuum Systems – iUPR & SPR



This NRI covers the following:

- The tank factors for all feed tanks.
- The common applications for each type of tank or bottle.
- How to daisy chain the UP1.5L tank.

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WARNING: It is dangerous working around energized high-voltage systems, pressurized systems, and chemicals. Always work in accordance to the Novinium Field Operations Safety Handbook (FOSH) or other local governing safety standards.

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UP-RCVR Vacuum Tank – iUPR

Using the UP-RCVR vacuum tank during iUPR injection will help increase the flow rate of the injection. Pulling a full vacuum in the cable with the tank will effectively add approximately 15psi to the injection.

When fluid has reached the receiver tank, the float will rise until it seals off the valve in the interior cup. At this point, the injection stops as no more fluid can be injected through the cable.

Tank Information

- Maximum Capacity: 14 cc
- Maximum Vacuum: -30 in of Hg
- Enter “1” into the “Flush” field for a complete fill of the cup.



Figure 1: UP-RCVR vacuum tank.

1. Pull vacuum.

- To pull a vacuum in the UP-RCVR tank, a vacuum pump whip fitted with the female white QD is required.



Figure 2: Choose the pump whip with the white QD.

- b. Continue to draw vacuum until the vacuum gauge on the tank reaches maximum or no longer increases.
- c. Disconnect the vacuum pump from the tank.
- d. Watch the tank gauge for a decrease in pressure. If the gauge begins to drop, the vacuum tank has a leak and must be fixed.

2. Empty the tank.

The vacuum tank can be emptied by removing the white cap or purple plug on the base of the tank.

- a. Using a wrench, hold the hex body of the JACO fitting on the tank base to prevent the fitting from coming out of the base when removing the cap.
- b. Unscrew the fitting cap.
- c. Pour out the contents of the vacuum tank. Opening the vacuum port on top of the tank may help.
- d. Hold the JACO fitting's body again.
- e. Tighten the fitting cap back on.

A second way to empty the vacuum tank is described in the Isolation Vacuum Bottle section.

Isolation Vacuum Bottle – iUPR & SPR

Using the isolation vacuum bottle helps protect the vacuum pump's seals during tank overfilling. It is placed in line between the vacuum pump and feed tank as a buffer.

1. Empty the vacuum tank with the isolation vacuum bottle.

- a. Connect a length of tubing to one of the fittings on the isolation bottle.
- b. Connect the other end of the tubing to the JACO valve on the UP-RCVR tank.
- c. Connect the other fitting of the isolation bottle to a vacuum pump.
- d. Open the valve on the UP-RCVR's JACO valve.
- e. Begin pulling vacuum. The fluid in the UP-RCVR tank's cup will be sucked out.
- f. Continue to draw vacuum until the vacuum gauge on the tank reaches maximum or no longer increases.
- g. Disconnect the vacuum pump from the tank.



Figure 3: Isolation vacuum bottle.

- h. Watch the tank gauge for a decrease in pressure. If the gauge begins to drop, the vacuum tank has a leak and must be fixed.

Hand Vacuum Pump

- The hand vacuum pump can be used any time a vacuum needs to be pulled
- It is the necessary alternative to the DC vacuum pump, when there is no power source available in the area.
- The hand vacuum pump can easily pull vacuums in the UP-RCVR tank and feed tanks when filling with fluid.
- The attached vacuum gauge doesn't need to be functional to pull a vacuum, but it can be used as a double check for the amount of vacuum there currently is.
- It is greatly advised to use a buffer tank, like the isolation vacuum bottle, when filling feed tanks, as the fluid can destroy the seals inside the vacuum pump.



Figure 4: Hand vacuum pump.

DC Vacuum Pump

- The DC vacuum pump comes with two alligator clips to be used with a power source. A common source is the crew's vehicle battery, as it is quick and easy to prepare multiple UP-RCVR tanks and fill feed tanks in one central location.
- The attached vacuum gauge does not need to be functional to pull a vacuum, but it can be used as a double check for the current amount of vacuum.
- It is greatly advised to use a buffer tank, such as the isolation vacuum bottle, when filling feed tanks, as the fluid can destroy the seals inside the vacuum pump.
- The pump has a switch on the back used to turn pump on and off at will.



Figure 5: DC vacuum pump.