Chemical Treatment Safety Station SOP

Equipment

* Transfer pump and battery cable clamps
* 1 50’ or 100’ garden hose (rinse hose) with quick-connect fitting (hose length will depend on whether safety station in fixed location or in truck, i.e., mobile safety station)
* 1 2’ garden hose (transfer pump) with quick-connect fitting
* 3 1-2’ garden hose (carboy hose) with quick-connect fittings and stainless-steel hose clamp
* 3 ≥50-L carboys (goal is for high volume of water for rinsing)
* Hose or screwdriver
* 12-v automotive tractor or marine type battery and battery charger

Operation

1. Charge 12-v battery.
2. Place transfer pump on a stable level surface.
   1. The safety station may be placed at a fixed location near the area or pond to be treated or in the bed of a pick-up truck, which would allow staff to respond to multiple locations around pond(s) in an emergency.
   2. Observe the direction of the arrow on the front of the pump.
      1. The arrow indicates which way the water will flow (Fig. 1).

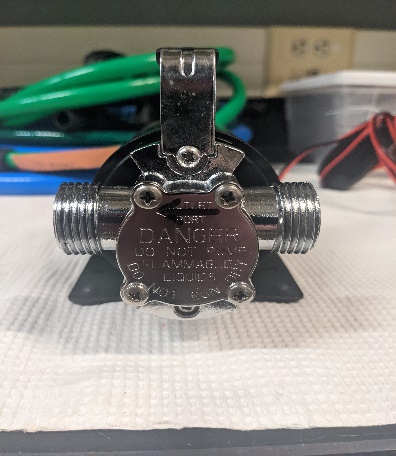


Figure 1: Transfer pump manifold.

1. Examine the inlet and outlet hoses to insure there are no blockages, kinks, or bends.
2. Connect white garden hose on the side of pump to which the arrow is pointing (Outlet) (Fig. 2).
   1. The white garden hose will be used to rinse people off with in case of an emergency.

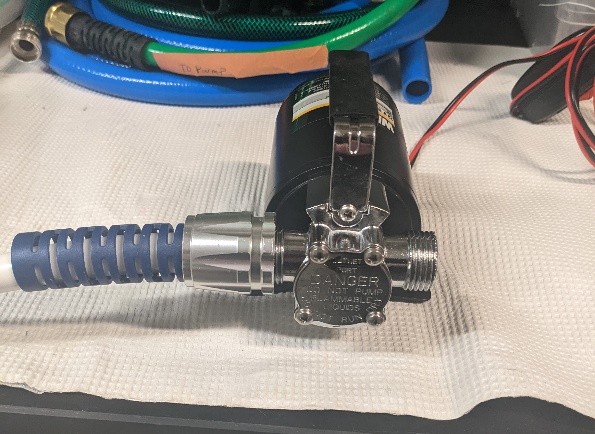


Figure 2: Rinse hose attached to transfer pump manifold

1. Connect the end of the green garden hose labeled “To Pump” to the other end of the pump (Inlet), opposite of the white garden hose (Fig. 3).



Figure 3: Fill hose attached to transfer pump manifold.

1. Install three 1-2’ section of hose with quick connect fitting onto three 50-L carboys.
2. Tightened stainless steel hose clamp with socket or screwdriver to ensure hose doesn’t leak or come off during operation (Fig. 4).
3. Connect the green garden hose to one of the white hoses on one of the 50-L carboys using the quick-connect fittings (Fig. 5). The green hose will be sequentially connected to each carboy as carboys are drained. Total volume to water to be delivered quickly or under pressure = 150 L or 40 gallons.

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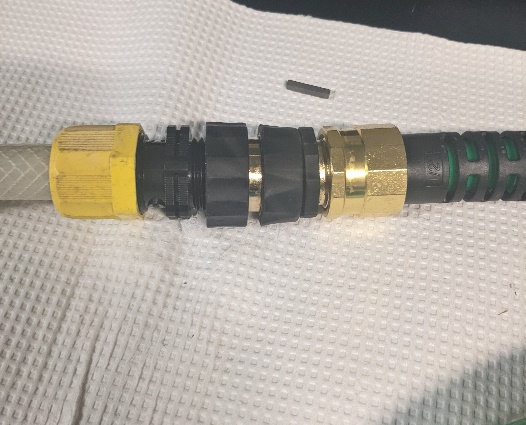
 

Figure 4: 50-L carbos, battery, pump, and 50 ft garden hose

Figure 5: Hose with quick connect fitting attached to 50-L carboy.

Figure 6: Quick-connect fittings from carboy and transfer pump manifold connected.

1. After the pump is attached to a carboy (make sure all connections are secure and tight), proceed to connecting the pump to 12-v battery power source, with pump placed on a dry level location.
   1. Pump motor must be connected to a fully charged automotive tractor or marine type battery to operate.
   2. Make sure switch is off “O” before connecting battery terminals to battery (Fig 6).



Figure 6: Transfer pump power switch in the off (O) position

1. Connect the red clamp to the positive (+) type battery terminal. Connect the black clamp to the negative (-) type battery terminal (Fig. 7–8).

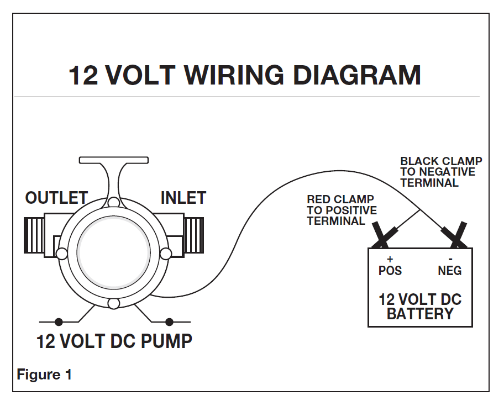
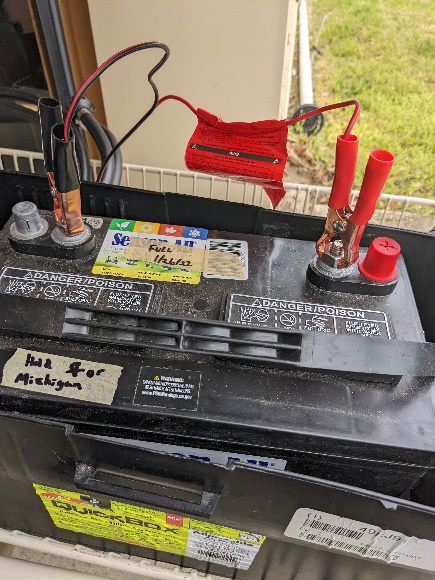
 

Figure 7: Schematic of transfer pump and power source.

Figure 8: Transfer pump battery clamps attached to 12-v battery.

1. The safety station should be prepped and ready to use prior to the start of chemical treatment.
   1. Ensure that the rinse hose (white garden hose) is pointed away from the pump and battery.
   2. In the case of an emergency, turn the pump on or the switch to “1 or -” position on the battery cables.



Figure 9: Transfer pump power switch in the on (1 or -) position

1. Staff at the safety station should monitor the water level in the carboy and be prepared to quickly move the transfer pump hose to the 2nd and 3rd carboys.
   1. Hoses should be disconnected and reconnected using the quick-connect fittings.
2. After all the carboys are drained or adequate rinsing of contaminated staff has occurred, turn off the transfer pump (switch to ‘O’ position).
3. Disconnect transfer pump battery cable terminals from battery by removing the black clamp from the negative (-) type battery terminal first and then the red clamp from the positive (+) type battery terminal.

Storage

1. Prior to storage, disconnect all hoses from pump and carboys and allow hoses and pump to drain adequately.
2. Inspect hose, cables, labeling and replace as needed
3. Once dry, store transfer pump in original box.
4. Store hoses in labeled container with transfer pump.