

Back Flushing a Centrifugal Pump

Purpose: To back flush a centrifugal pump as part of monthly maintenance and after using contaminated water supply using fresh hydrant water.

Background: A variety of contaminants may enter a fire pump from both municipal water sources and drafting operations in natural water sources. When allowed to accumulate these contaminants may damage the pump impeller, the plumbing, and hose or appliances. Excessive contaminants may even effect the capacity of the pump or block discharges or jam gate valves.

Operations:

1. Position the apparatus in a convenient location near a hydrant.
2. Flush hydrant until water runs clear and contains no debris.
3. Place hydrant gate valve on a 2½" outlet on the hydrant.
4. Connect a hose from the hydrant gate valve to the highest discharge on the pump. This is usually the deck gun.
5. Uncap all intakes and remove all intake screens and gaskets.
6. Disconnect all pre-connected hose from discharges. Uncap all discharges.
7. Close tank-to-pump valve.
8. Charge the hose from the hydrant into the highest discharge. Open that discharge to allow water to enter the pump via the discharge.
9. Open discharges, from highest to lowest, one at a time and flow water through the pump until water flows clear.
10. Open intakes one at a time and flow water through the pump until water flows clear.
11. After all intakes and discharges are clear, close the discharge being fed by the hydrant to stop water flow into the pump.
12. Shut down the hydrant.
13. Replace all gaskets, screens, and caps. Reconnect any pre-connected hoselines.



Considerations:

- ❑ Remove any screens, clean and inspect for damage or lodged debris.
- ❑ If onboard tank was filled with contaminated water, dump the tank water and refill with clean water. Repeat procedure until clear water runs out free of debris. Do this prior to back flushing the pump.

- ❑ Remove any external intake valves and intake screens prior to back flushing and replace any broken ones. If any large pieces break off and enter the pump they should come out during back flushing. Intake screens are typically made of a soft metal like zinc and will dissolve in time unlike a rock stuck in an impeller.
- ❑ Clean, inspect, and lubricate all nozzles after use and during monthly maintenance per the manufacturer's recommendations.
- ❑ Run fresh water through any other auxiliary devices used with contaminated water.

