



## **Waterous Pump Maintenance**

### **Backflushing**

This guide will apply to all Waterous pumps, but will primarily be focusing on the midship mounted CM/CS pumps.

Backflushing of a pump is the process of flushing water through the pump, with pressure, either from a hydrant or another pump, into the discharge side of the pump and out of the intake fittings to remove any foreign materials that could accumulate inside the pump body and impellers.

When testing a rated fire pump, a general rule of thumb is - whenever a pump cannot meet the capacity rating, the pump, more than likely, has a blockage or restriction in the intake side of the pump. Consequently, cannot move enough water through the pump, resulting in lower readings. This may also be present when vibration is heard within the pump body.

**⚠ WARNING**

Death or serious personal injury might occur if proper operating procedures are not followed. The pump operator, as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with these pump operating instructions as well as other operating instructions and manuals for the apparatus, water hydraulics and component limitation.

**⚠ WARNING**

**Pressure Hazard. May result in personal injury.**

Prior to connection or removal of hoses, caps or other closure with pump intake or pump discharge connections, relieve pressure by opening drains or bleeder valves. Bleeder valves should also be used while filling a hose connected to an intake with water.

If this occurs, Waterous recommends that you conduct a backflush of the pump, which can be done by following the several steps below:

1. Open all intake fitting caps and remove all strainers.



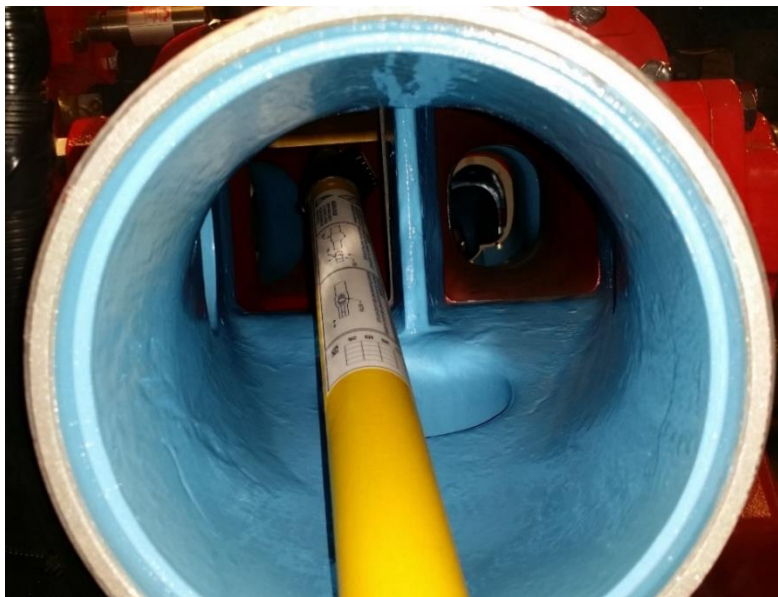
2. Open any discharge valve, remove cap and connect hose from a second apparatus or hydrant. Leave the remaining discharges closed and capped.

## For Two-Stage Pumps Only (CM/CMU Pumps)

3. Place the transfer valve in the "VOLUME" position (if equipped with a CM/CMU two-stage pump).

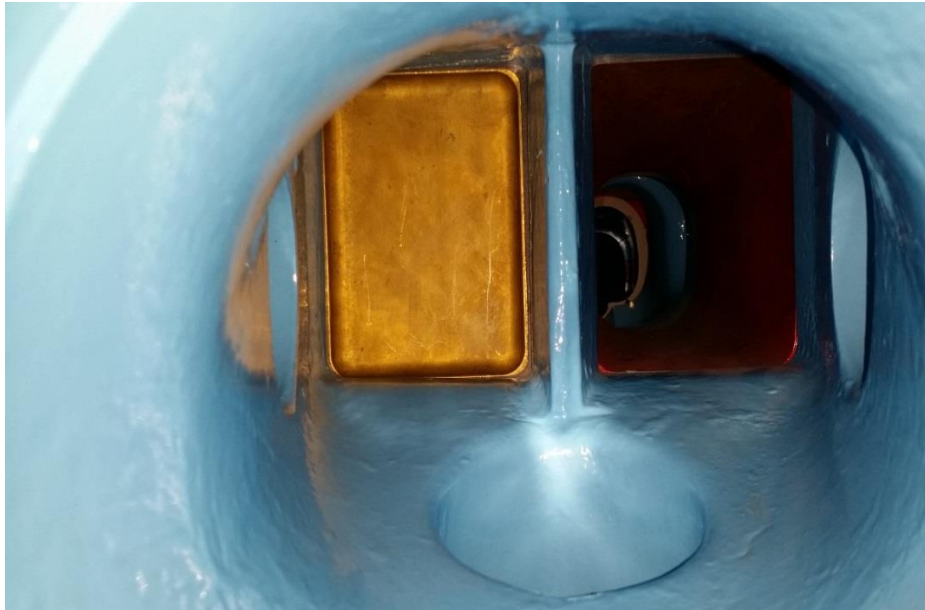


4. Insert a pike pole or long object into the intake fittings on either side of the CM/CMU pump to hold open the flap valves.

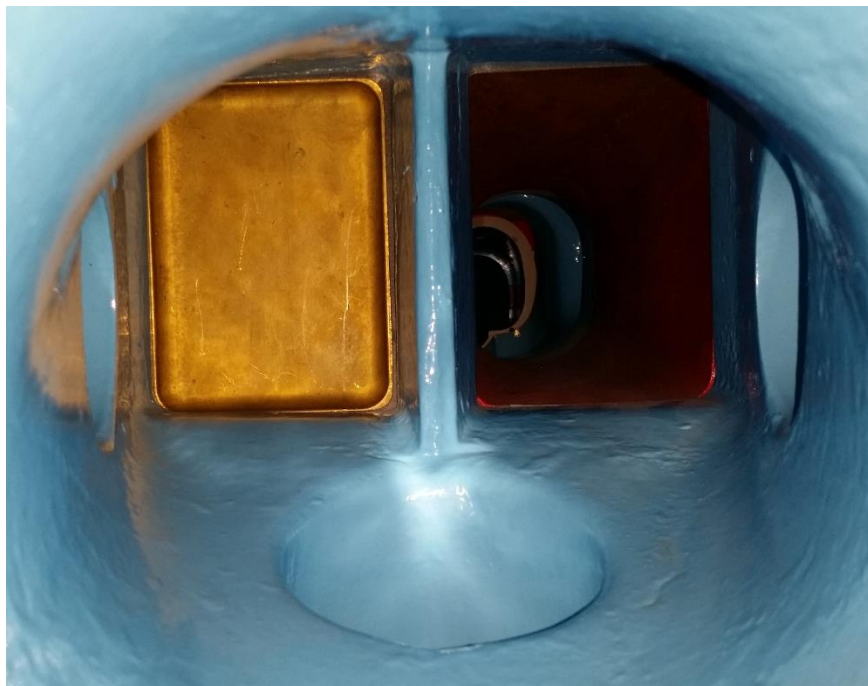


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5. Check to make sure that the flap valves located in the front side of the intake adapters are able to swing freely. (This could be one of the causes.)



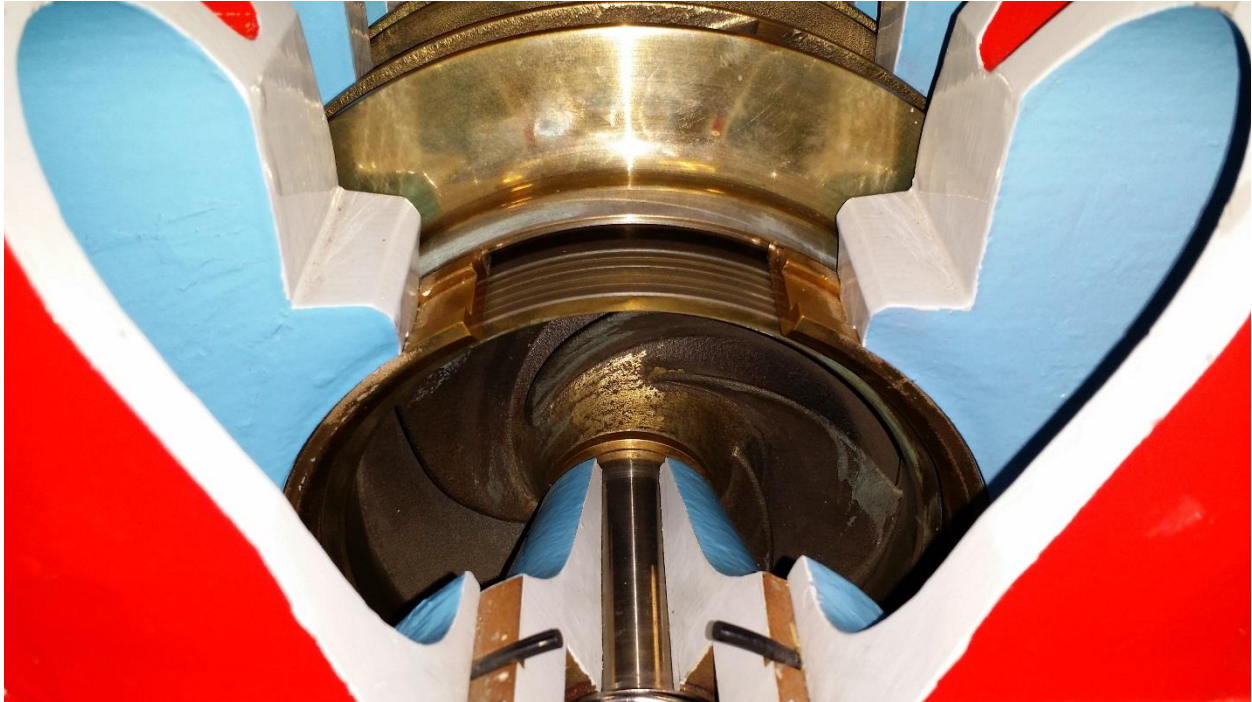
6. Keep the pike pole inside the intake adapter, holding open the flap valve while performing the backflush. This will ensure that all foreign material can be flushed out of both sides of the pump.



## For Single and Two-Stage Pumps

7. The pump being back flushed, leave in the pump disengaged or road position.
8. On a second apparatus, increase the discharge pressure up to 200 psi (13.8 bar).
9. Holding at 200 psi (13.8 bar), watch for any foreign material to flow out of the intake fittings. Run this operation for approximately two (2) to three (3) minutes.

**NOTE: If using a hydrant for this operation, with less pressure, all of the material might not be flushed out. Perform this operation for five (5) minutes.**



10. Shut down the second apparatus and breakdown the hose connection to the back flushed pump.
11. On the back flushed pump, replace the screens and run another pump test.
12. No foreign material/blockage on the intake side of the pump should greatly improve the function of the pump on the capacity test.