

## HOW TO MAINTAIN YOUR PUMP STATION

Thank you for purchasing a Munro pump station. Your pump station requires regular maintenance. Without regular maintenance your pump station may not function properly or may fail prematurely. These are basic guidelines for recommended maintenance. Maintenance is recommended quarterly.

### MOTOR

- Voltage unloaded – Check voltage into contactor/VFD with motor off.
- Voltage loaded – Check voltage out of contactor/VFD with motor ON-voltage should be symmetrical between phases, and should be not more than 5% different from unloaded results.
- Amperage loaded – Check amperage to motor with motor ON-amperage should be symmetrical between phases.
- Megger readings (do not use if motor is attached to a VFD, and do not exceed twice the motor rated input voltage) – Test insulation from ground to motor lead for 6 sec. Note insulation level. Observe any changes from previous readings.
- Check t-box connections – Look for discolored wires, detect any burning odor. Call a certified electrician if any issues are detected.
- Check t-box gasket condition – If broken, missing, or damaged, replace as needed.
- Change oil – Should be changed at least twice a year, even when winterized or not in use.
- Grease bearings – Refer to motor owner's manual. Over greasing can cause damage. Different frames and duties require different intervals and quantities.

### PUMP

- Exercise valves – Open and close, fully, multiple times. The importance of this cannot be underrated. Adjust or replace packing, check shaft condition, grease packing gland if required – Refer to pump owner's manual.
- Inspect mechanical seals – Look for leaks and mechanical looseness. Replace as necessary. Refer to pump owner's manual.
- Check flush lines – Break connection and check for flow or any blockages.
- Check air bleed lines and stuffing box drain lines – Clear as required.

### PUMP SKID

- Clean and clear of debris.
- Place controls back in AUTO setting prior to departure.
- Ensure all access panels and hatches are closed.



## PANEL

**⚠** Use caution – multiple power sources may be present!

- Check/tighten connections – Torque per manufacturer’s specification.
- Check Control voltage – Use voltmeter, refer to panel wiring diagram. Observe any changes from previous readings. If power is not present, contact certified electrician.
- Check/clear transducer port (use caution not to damage pressure transducer) – Remove transducer to check/clear port and clear any debris or other occlusion.
- Clean level sensors and check for proper operation (low level safety transducer probes) if accessible – Be careful not to damage when cleaning. Remove from water/media and confirm that the station goes into fault.

## VFD

(p. 213-220 of Yaskawa OM)

- Check connections.
- Check fans/filters.
- Record user data (runtime, bus voltage, fault history).

## COOLING

- Check fans/filters (A/C unit) – Remove filter and inspect for heavy debris. Clean or replace as necessary. Refer to AC or fan owner’s manual.

## PRESSURE RELIEF VALVE

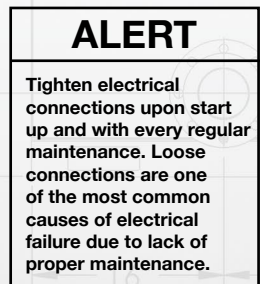
- Check valve operation/setting (25 PSI over set point).
- Clean y-strainer.
- Exercise valves.

## FLOW METER

- Check connections.
- Confirm upstream and downstream ground plate connections to a valid ground plane, if so equipped.

## GFCIs

- Ensure that GFCIs are not tripped.



## PUMP STATION WINTERIZATION

- ❑ Turn the H-O-A switch to the OFF position.
- ❑ Close discharge valve and blow out the system downstream from the pump.
- ❑ Remove all drain plugs from piping and pump; do not reinstall plugs, keep in a safe place and install when starting system again.
- ❑ Drain the suction or turn off water from incoming pressure.
- ❑ Disconnect ALL monitoring devices, such as transducers (being careful not to twist the wires), temperature sensors and pressure sensors. At a minimum, all water should be removed and, if possible, monitoring devices should be stored somewhere that they will not risk freezing.
- ❑ Make sure all bolts on check and butterfly valves are loosened to let water drain. Do not tighten until starting system again.
- ❑ Ensure that all devices and accessories containing water are drained, like filter bodies, filter pistons, and pump bodies. Remove filter scanner piston assemblies and compress the piston, thus extracting all the water from the body.

*Note: Remember that water expands when it freezes, and that characteristic can be very destructive when the water is encapsulated in a rigid body.*

