

Pump Maintenance – Part 1

Wilfley heavy duty centrifugal pumps are designed for long life with minimal maintenance. Even so, some pump maintenance is required and should be carried out on a consistent basis. Maintenance procedures and checklists vary by pump model and type, as well as service requirements so the most accurate information and troubleshooting guidelines can be found in your Installation, Operation and Maintenance (IOM) Manual. These critical resources are available in the literature section and through our customer service department.

Maintenance and troubleshooting questions concerning motors, baseplates, couplings, instrumentation, and other accessories manufactured by outside vendors should be directed toward the appropriate vendors' instruction manual, also available through Wilfley's customer service department.

In this article we will review a general pump maintenance checklist for the initial and weekly checkups.

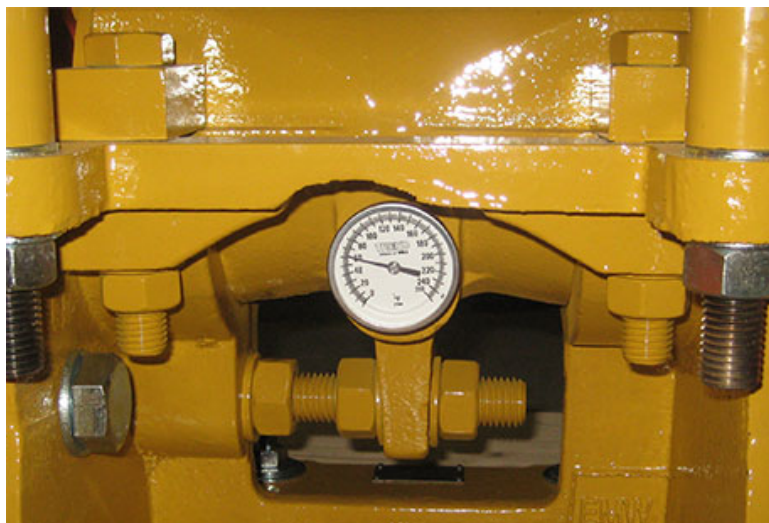
A robust pump maintenance plan starts with a clean environment. In the midst of corrosive and abrasive process fluids, the pump and surrounding area should be kept clean. Cleanliness aids with inspections and maintenance procedures.

General Pump Maintenance Checklist

When the pump is first installed and started the periodic pump maintenance should be initiated. Baseline observations and readings should be established so that future changes and trends can be recognized and documented. Thereafter the inspection checklist below should be consistently performed on a weekly basis.

Description	Weekly
Process Check	X
Visual Check	X
Noise/Vibration Check	X
Oil Level Check	X

Process Check: All flow, pressure, and temperature gauges should be monitored to ensure that the pump is operating within specified limits. If the bearing frame temperatures are monitored (an infra-red thermometer makes this check very easy), this temperature generally should not exceed 160°F (71°C).



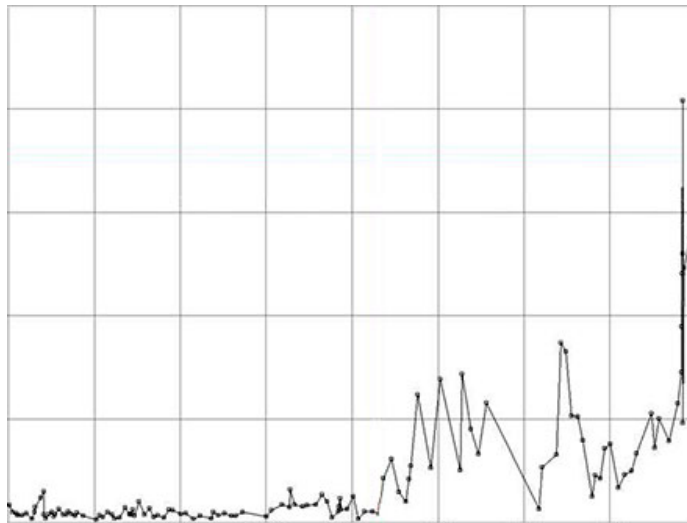
Ensure that the pump is operating within specified limits.

Visual Check: Periodic visual inspection should be made of the pump and its installation. These checks should include: all mounting supports, fasteners and fittings, suction and discharge piping, and surfaces and joints. Loose pieces and/or leaking joints should be corrected immediately.



Looks like it's time to replace the oil seals.

Noise/Vibration Check: Pumps should maintain a smooth and relatively quiet operation. Any increased vibration or noise should be identified and corrected immediately. Most often, noise indicates an upset process condition such as cavitation.



Pump Noise vs Time in Service

Oil Level Check: Pumps equipped with oil lubricated bearing frames are fitted with oil site glasses. The oil level should be half way up the site glass. This check should be performed while the pump is not operating. Oil should be added if low.



Oil site glass showing the appropriate amount of oil.



The result of a poorly maintained pump. The bearing frame is full of potash.