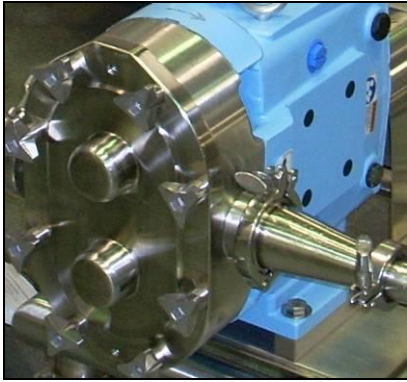
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Purpose: To perform an inspection and oil change of the sludge system rotary pumps.



Required PPE:



Safety Glasses



Hearing Protection



Steel Toed Shoes



Nitrile Gloves

Potential Hazards:



The slurry pumps have rotating components. Keep hands clear unless the unit is off and locked out and tagged out.



Electrical shock hazards exist when working on these pumps. Be sure the pump motor is locked out and tagged out before performing maintenance on this equipment.



The slurry pumps have hot surfaces, which could cause severe burns. Avoid contact with these hot surfaces.


Reference Documents:

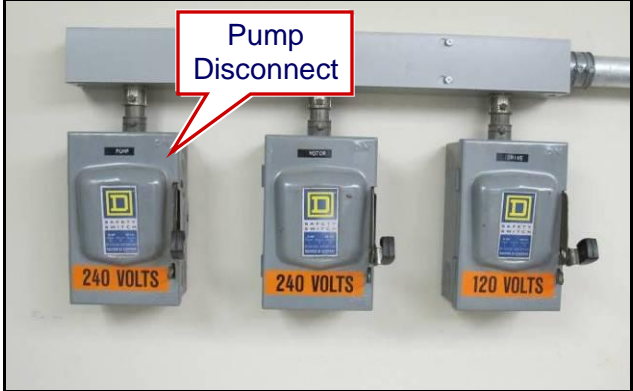

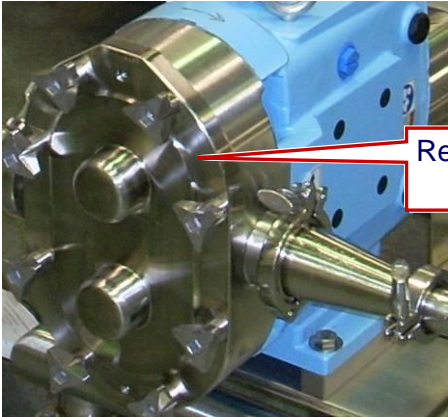
- Waukesha Operations and Maintenance Manual for Models 15, 30, 60, and 130 rotary pumps
- LOTO procedure LT-907356

Required Equipment & Materials:


- Standard preventive maintenance tool kit
- Rags for cleaning
- FMO 1100 AW Gear Oil
- Catch pan for oil
- Oil funnel

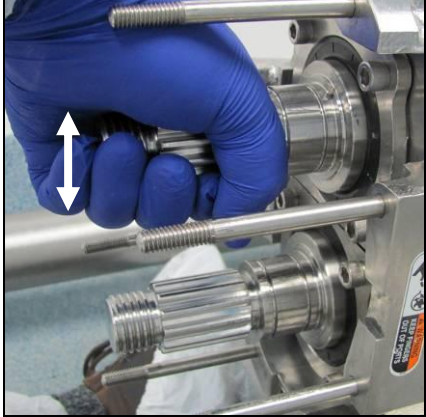
	SAMPLE PROCEDURE ONLY – DO NOT USE FOR EQUIPMENT OPERATION	
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Steps	Key Points
<p>Prepare the Pump for Inspection</p> <p>1. Place the pump's local disconnect switch in the OFF position.</p>	 <p style="text-align: center;">Disconnect Switch</p>
<p>2. Lock out the pump in accordance with LOTO procedure LT-907356.</p>	
<p>3. Remove the pump faceplate.</p>	


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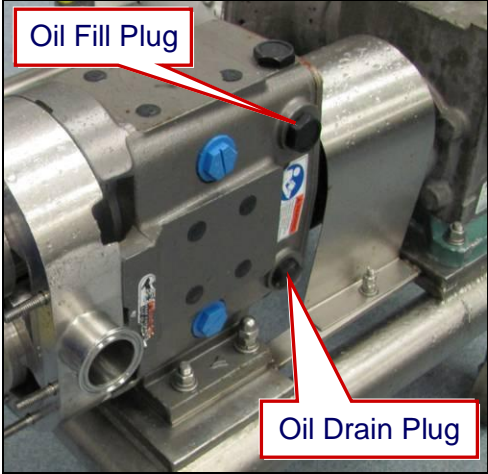
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Steps	Key Points
Inspect Pump Shaft Bearings	
1. Grasp the pump shaft and apply an upward and downward force of about 30 pounds.	 <p style="text-align: center;">Check for Shaft Movement</p>
2. Check that there is no detectable shaft movement.	Detectable shaft movement is an indication of a failing bearing.
3. Repeat inspection for the other shaft.	


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Steps	Key Points
Inspect the Pump Gears	
1. Grasp the pump shaft and attempt to rotate it.	 <p style="text-align: center;">Check for Gear Backlash</p>
2. Check that the shaft will not rotate without transmitting motion to the other shaft.	Detectable shaft rotation indicates gear backlash which can be caused by worn gears or gears loose on shaft.
3. Repeat inspection for the other shaft.	
Inspect the Mechanical Seals	
1. If applicable, obtain and inspect the chrome oxide mechanical seal for: <ul style="list-style-type: none"> • Cracks • Chips • Scratches • Grooves 	 <p style="text-align: center;">Inspect Chrome Oxide Mechanical Seal</p>

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Steps	Key Points
Change the Gearbox Oil	
1. Inspect the gearbox case for any sign of oil leaks.	
2. Drain oil from the gearbox as follows: <ul style="list-style-type: none"> a. Remove the oil fill plug from the gearbox. b. Place a container under the oil drain plug. c. Slowly remove the oil drain plug and allow the gearbox to completely drain. d. Replace and tighten the oil drain plug. 	 <p style="text-align: center;">Change Gearbox Oil</p>
3. Add FMO 1100 AW Gear Oil to the gearbox through the fill opening. See chart at right for oil capacities.	<p>Pump Oil Capacities</p> <ul style="list-style-type: none"> • Model 15 1.3 ounces • Model 30 2.0 ounces • Model 60 6.0 ounces • Model 130 6.0 ounces
4. Replace and tighten the oil fill plug.	
5. Clean up any oil spillage.	
6. Dispose of used oil properly.	

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History of Revisions			
Revision Number	Revision Date	Revised By	Reason for Revision
V1	6 Mar 14	M. Smith	Included review comments.