

DESCRIPTION:	6 Monthly Zone 1 Lubrication and Service	FREQUENCY:	6 Months
LOCATION:	Rosewood Sewerage Treatment Plant	STANDARD JOB No.:	LTS314

Tools & Equipment
Spare Parts/Materials List
Castrol Oil – Whitmor WOM 14 – Submersible pumps, WAS & WAS Thickening pumps
Castrol Oil – ATF DEX III - Rotary Drum Thickener Mixer, speed motor variator.
Castrol Grease – AP3 - Rotary Drum Thickener – support bearings.
Chevron Grease – Black Pearl EP2 or equivalent (Caltex EMG 2) – Aerator & mixer motors
Castrol Oil – Tribol 800-320 – Inlet Works Screw Compactor drive unit.
Reference
CST Wastewater Solutions, O&M Manual – Screen Extractor, Model SF4 x 5.0 mm
CST Wastewater Solutions, O&M Manual – Rotary Drum Thickener, Model EM ID8020-M2NV
Liquitek Pty. Ltd. O&M Manual – AquaDDM Mixers, Model FSS (Aqua-Aerobic Systems Direct Drive Mixer)
Liquitek Pty. Ltd. O&M Manual – Aqua-Jet Aerators, Model FSS (Aqua-Aerobic Systems Surface Aerator)
Grundfos O&M Manual Rosewood STP – Polymer Dosing Skid
KSB O&M Manual - Amarex KRT Submersible Pump (RAS)
KSB O&M Manual – Sewatec Dry-Installed Volute Casing Pump (WAS)
Maintenance Group
Inlet Works – Screen Extractor
Rotary Drum Sludge Thickener
Demand Aeration Tank (DAT)
Intermittent Aeration Tank (IAT)
Turbidity Analyser Skid
Polymer Dosing Skid
Procedural Steps
Before isolating any equipment, where possible observe in running condition. Check for correct operation.

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Inlet Works – Screen Extractor
Check Screen Extractor (screw conveyor) for noise, vibration and/or leaks.
Check Screen Extractor supports and fasteners are secure and for defects and/or damage.
Check screw brushes for wear.
Check Screen Extractor washing system nozzles & pipe work for damage, blockages.
Screen Extractor drive unit for noise, vibration and/or leaks.
Check basket for excessive wear.
Check anti wear plates for excessive wear.
Check oil level in drive gearbox, top up if required with Tribol 800-320.
Rotary Drum Sludge Thickener
Check Sludge Tank for damage, leaks and/or defects.
Check Sludge Tank Mixer for noise, vibration and/or leaks.
Check Rotary Drum Sludge Thickener for noise, vibration and/or leaks.
Check Rotary Drum Sludge Thickener drive unit for noise, vibration and/or leaks.
Isolate Rotary Drum Sludge Thickener.
Remove Rotary Drum cover and inspect belt for stretching, tears or any other type of defects.
Carry out internal inspection of Rotary Drum.
Replace cover and return to service.
* Note Motovario Worm Gear Reducers are oiled for life and do not have oil plugs.
* Note Motovario TXF Motor Variator is oiled for life.
Demand Aeration Tank (DAT)
Check aerators and mixer anchor points and shackles on DAT.
Tow in DAT Aerator No.1 checking cables (mooring lines), anchor points and shackles.
Remove rag and other contaminants from cables and aerator.
Remove fan cowling and clean cooling fins, replace cowling.
Grease bearings with Caltex EMG 2. Refer to attached Motor Lubrication except from O&M manual.
Return DAT Aerator No.1 to correct operating position.
Repeat as above for DAT Aerator No.2 and DAT Mixer.
Intermittent Aeration Tank (IAT) Refer to attached Motor Lubrication except from O&M manual.
Check aerator and mixer anchor points and shackles on IAT.
Tow in IAT Aerator No.1 checking cables (mooring lines), anchor points and shackles.
Remove rag and other contaminants from cables and aerator.
Remove fan cowling and clean cooling fins, replace cowling.
Grease bearings with Caltex EMG 2. Refer to attached Motor Lubrication except from O&M manual.
Return IAT Aerator No.1 to correct operating position.
Repeat as above for IAT Aerator No.2 and IAT Mixer.

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Polymer Dosing Skid
Poly dosing pump 1 for noise, vibration and/or leaks.
Poly dosing pump 2 for noise, vibration and/or leaks.
Calibration Cylinder for build-up of contaminants and clean.
Gemu Flow Meter (rotameter) for build-up of contaminants and clean.
Clean in line strainers.
Polydos Batch
Agitator No.1 for noise, vibration and/or leaks.
Agitator No.2 for noise, vibration and/or leaks.
Dry Material Feeder for noise, vibration and/or leaks.
Jet Mixer for noise, vibration and/or leaks.
Hopper Loader for noise, vibration and/or leaks.

3.1 **Motor Lubrication**

3.1.1 **Endura® Series Motors**

No motor relubrication is necessary for three (3) years. Motors are supplied with the grease ports plugged.

An Endura® Series motor is provided with a combination of proprietary design features and a lubricant specifically formulated for extra long life in harsh environments. If it should become necessary to relubricate the motor due to repair or rebuild, contact Aqua-Aerobic Systems.

After three (3) years, the motor may be relubricated by replacing the grease plug with a standard 1/8" NPT grease zerk. **Use only Chevron Black Pearl EP 2** or an approved equal lubricant. Before greasing the motor, be sure the grease vent (usually located on the opposite side of the motor) is open and clear. Follow lubricating instructions outlined below. Replace any open vent prior to operating unit.

3.1.2 **All Other Motors**

The different type and frame size motors used on AquaDDM® Mixers and Aqua-Jet® Aerators are not lubricated identically. This is due to the various casting and production techniques utilized by the different electric motor manufacturers. However, two (2) basic types of lubrication fittings and techniques are employed.

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Type A

Normal alemite fittings are provided for grease-through type lubrication. This fitting is found on the outer frame of the motor at both the top and bottom motor bearings. Just opposite, or 90° from the fitting, is the relief plug. This plug is a spring-loaded pressure relief type that does not require removal before greasing.

Type B

The second type of fitting used is called a keystone fitting. This is a fitting that relieves itself at the same location where it is greased. This fitting is found on the outer frame near the top and bottom bearings and is identified by its "hex" appearance. The outer perimeter of the hex has three (3) holes for relief, with the grease fitting inserted (threaded) into the center of the hex.

When lubricating either type fitting, snap the grease gun onto the zerk fitting and begin pumping the grease. After several strokes, grease should begin to appear at the relief points. Stop pumping in grease and wipe off the excess.

Frame Size	Amount	Average Number of Pumps from a Standard Hand Grease Gun
182 thru 215	12 ml	9 pumps
254 thru 286	25 ml	18 pumps
324 thru 365	33 ml	24 pumps
404 thru 449	50 ml	36 pumps