

## OIL CLEANING CENTRIFUGE OPERATING INSTRUCTIONS

for LUBEMASTER OS600 CENTRIFUGE / VACUUM DEHYDRATOR

### OPERATION PRESTART CHECK :-

- Connect both suction and delivery hoses and check that fittings are secured to the desired connections.
- Check power supply lead for damage and that it is located in a safe manner.
- Check that centrifuge cover is securely in place and clamps secure. **DO NOT OVERTIGHTEN**
- Connect air supply to dehydrator connection. Leave air supply turned OFF.
- Check that heater switch is in the OFF position.
- Set suction selector 3 way valve to the desired position to obtain correct oil suction path from external or centrifuge tank.
- Set oil delivery 3 way valve to the desired position to obtain the correct oil return path to external or centrifuge tank.
- Check that external return filter (if fitted) is clean and cap is securely in place.
- Turn power supply on.
- Centrifuge should now be ready to start.
- Check the oil level in equipment and overfill by 20 litres to accommodate machine requirement

### STARTING PROCEDURE:

**CENTRIFUGE CAN BE OPERATED EITHER WITH OR WITHOUT VACUUM DEHYDRATOR OPERATING -- LEAVE THE VACUUM AIR SUPPLY TURNED OFF TO START.**

Once all checks above have been made and valve positions have been finally checked and set, turn the start button to activate the motor. **CHECK THE MOTOR IMMEDIATELY FOR CORRECT ROTATION** and reverse if necessary.

Check the pressure gauge to ensure that pressure is increasing as the supply pump primes. Once pressure reaches 80 to 100 psi, pumps are fully operational

**PRESSURE MUST NEVER EXCEED 100 PSI – CENTRIFUGE ROTOR DAMAGE WILL RESULT**

Operating pressure should be reached approximately 30 seconds after starting, depending on oil viscosity and temperature; pressure should stabilise between 80 – 100 psi. Supply pump relief valve has been pre-set and pressure does not need adjusting.

**DO NOT INCREASE PRESSURE SETTING BEYOND 100 PSI AS OVER-PRESSURE COULD CAUSE DAMAGE AND BECOME A SAFETY HAZZARD**

If operating pressure is not obtained within 30 seconds and motor rotation may be incorrect, check suction circuit for sucking air, which will prevent effective priming and pump performance.

Once pressure is reached, check all hoses and fittings for leaks.

Turn the heater master switch ON and wait approximately 1 minute for heater to switch on, which is indicated by the light on the control panel. This light will not come on until time delay activates the heater which will switch on and off as the thermostat controls the heating element. Heater contacts will drop out each time the motor is switched off and timer will delay immediate start.

The temperature thermostat is located in the temperature gauge. Check the desired temperature settings by pressing the mode button and scrolling the arrow up or down until the desired temperature is displayed.

Once set to the desired temperature, press mode, which will display both real time temperature and temperature set value. Increasing the thermostat will not make the oil heat any quicker.

Check the pressure again and feel the centrifuge cover for an intense vibration caused by the rotor, which will be spinning at up to 5,000 rpm when operating correctly. For thicker oils, rotor speed will not increase fully until the oil temperature increases to optimum temperature.

Check equipment oil level and top up if necessary.

## VACUUM DEHYDRATION OPERATION

After the centrifuge is operating correctly, turn on the air supply to the dehydrator and allow vacuum to develop which should continuously reduce. Once vacuum is reached, open the air bleed valve on the end of the dehydrator chamber and set to maintain a steady vacuum of between -40 and -80 Kp. Wait several minutes for vacuum to stabilise as a slight variation will continue after setting. An increase in rotor speed will be observed as vacuum builds.

Be sure no vapours are escaping from vacuum ejector – if observed, reduce vacuum level or reduce supply pump pressure until vaporisation ceases.

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## CENTRIFUGE CLEANING AND MAINTENANCE

OIL SOLUTIONS centrifuge filtration units are designed to function with minimal maintenance. The FM600 centrifuge flows at approximately 70 Litres per minute and will hold 6Kg of dirt. Periodic cleaning is required; the frequency dependent on the condition of the oil being cleaned, and the amount of dirt being removed.

If excessive vibration is observed, the rotor may need cleaning, as often the dirt will collect and pack in the rotor causing an upset in balance.

When removing the rotor, allow time and be sure the rotor has stopped spinning, as it will often take more than the time taken to remove the cover for the rotor to spin down. (2 – 5 minutes) Remove the rotor directly into a bucket for transport to the wash station, disassemble, wash all parts and reassemble, keeping all parts lightly oiled. Be sure to match balance points on rotor parts.

## TAKE PARTICULAR CARE WITH THE ROTOR O-RING AND BE SURE IT IS NOT DAMAGED ON REPLACEMENT.

**ROTOR SPEED WILL BE REDUCED IF THE O-RING HAS NOT SEALED. IF THE O- RING IS DAMAGED, REPLACE IT.**

Reassemble the rotor as per the instructions on the rotor cover, oil bushes and replace the rotor on the spindle. Check the cover o-ring and replace the cover.

Do not overtighten the cover nut or the clamp screw, and do not tighten either clamp or nut whilst centrifuge is operating as the pressures distort the body and can cause damage, making removal difficult when stopped. The unit is fitted with a 125um suction strainer which will need periodic servicing, the frequency depending on the amount of contamination in the oil.

If suction problems are encountered, and pumps have difficulty maintaining steady pressure, or pressures fluctuate, remove the entire strainer then the cover which has the strainer attached. Wash the strainer, check the gauze condition, and replace the cover, taking care that the gasket is sealing.

The **OPTIONAL RETURN DELIVERY FILTER** if used, will need periodic servicing. Filter elements are available in different micron ratings with the standard element rated at 10um.

When changing oil grades, the system will need to be thoroughly cleaned and flushed prior to connecting to new machine. After cleaning, flush the unit until the desired oil is discharged from the delivery hose. Be sure the tank does not contain incompatible oil.

The holding tank is designed to hold a 205Lt drum of oil. **DO NOT OVERFILL.** Oil should not be visible in the top gauge. The tank is fitted with a cut out switch which will completely shut the system down if overfilling occurs. The only way to restart is to remove the tank top and reduce the level of oil in the holding tank.

**THE LUBEMASTER OS600 REQUIRES 20 LTRS OF OIL THROUGH ITS SYSTEM TO OPERATE. BE SURE TO TOP UP ANY SYSTEM AFTER STARTING CENTRIFUGE TO REPLACE THE CIRCULATING OIL AND AVOID LOW LEVEL OPERATION IN EQUIPMENT.**

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