

Start up and maintenance instructions during reduced capacity

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Grundfos Service & Solutions

Rotation

Rotate all motors, turbines, compressors, pumps, fin fans, blowers, aerators, mixers and feeders every two weeks.

Visual Inspection

When rotating exposed machined surfaces, check shafts and couplings to see that a protective coating has been applied and has not been removed. Reapply if needed.

Check all lubricating lines to see if any tubing, piping, tank or sump covers have been removed. Retape ends and cover. If flanges are open on machinery, notify pipe fitter general foreman or other designated personnel.

Inspect the interior of lube oil consoles on a six-week schedule. Check to see if the reservoir is clean and rust- and condensate-free. Clean and dry if needed, then fog with rust-preventive concentrate.

Draining of Condensate

Drain condensation from all bearing housings, sumps and oil reservoirs on a once-per-month schedule. If an excessive amount of condensation is found, recheck once a week, or at two-week intervals depending on condensate present.

Bearings

Fill all bearing housings that are oil-lubricated but not force-fed with rust-preventive concentrate, bringing the oil level up to the bottom of the shaft. For force-fed bearings, the upper bearing cap and bearing must be removed. A coat of heavy, inhibited oil can be applied to the journal and bearing surfaces. This should be reapplied as needed.

For some product families our own Installation and operation manuals have a few paragraphs:

Temporary storage If you do not store or operate the pump soon after arrival, store it in a clean, dry place with slow, moderate changes in ambient temperature. Protect the pump from moisture, dust, dirt and foreign bodies. Avoid exposing the motor to direct, intense sunlight, rain, snow, ice and also dust for an extended periods of time. Attach a covering structure or an additional cover when using or storing the product outdoors. Before and during storage we recommend these precautions: 1. Make sure that the bearings are filled with the recommended grease to prevent moisture from entering around the shaft. 2. Make sure that the inlet and outlet ports and all other openings are covered with cardboard, wood or masking tape to prevent foreign objects from entering the pump. 3. Cover the unit with a tarpaulin or other suitable covering if it is to be stored where there is no protective covering. 4. Rotate the shaft two turns every two weeks to prevent corrosion of the bearing surfaces and the stuffing box or sticking of the shaft seal faces.

Taking the product out of operation The following shutdown procedures apply to most normal shutdowns. If the pump is to be inoperative for a long time, follow the storage procedures: 1. Always close the outlet or throttle valve before stopping the pump. Close the valve slowly to prevent hydraulic shock, but make sure that the pump does not run against a closed valve for more than a few seconds. 2. Switch off the power supply to the motor.

Long-term shutdown For long shutdown periods or to isolate the pump for maintenance, close the inlet and outlet valves. If no inlet valve is fitted and the pump has positive inlet height, drain all liquid from the inlet pipe to terminate the liquid flow into the pump inlet port. If applicable, turn off any external source of cooling or lubricating liquid to the stuffing boxes or shaft seals. Remove the plugs in the pump drain and vent tapplings, as required, and drain all liquid from the pump casing. Remove the stuffing box glands and packing rings, if applicable.

Fig. 22 Example of drain plugs

1. After draining the pump during long shutdown periods under freezing conditions, blow out all liquid in passages and air pockets using compressed air. You can prevent freezing of pumped liquid by filling the pump with antifreeze solution.
2. Rotate the shaft by hand monthly to coat the bearings with lubricant and delay oxidation and corrosion.
3. Where applicable, follow the motor manufacturer's storage recommendations.

CAUTION Hot or cold surface Minor or moderate personal injury - Make sure that the escaping water does not cause injury to persons or damage to the motor or other components. - In hot-water installations, pay special attention to the risk of injury caused by scalding hot water. - In cold-liquid installations, pay special attention to the risk of injury caused by cold liquids and cold surfaces. TM04 0378 0608 Drain plug, pump casing Drain plug, inlet port and outlet port **WARNING** Harm to health Death or serious personal injury - Do not use antifreeze solution if you use the pump for public or potable-water supply.

If the pump has been stored or out of operation for more than six months, we recommend you to replace the grease before it is put into operation.

Pumps with stuffing box In the case of pumps with stuffing box, check that the stuffing box gland is correctly fitted. It must be possible to turn the pump shaft manually. If the pump has been inactive for a long period, turn it manually to make sure it has not got stuck. Loosen the stuffing box or remove the packing.

If the pump is to be drained prior to a long period of inactivity, inject a few drops of silicone oil on the shaft at the bearing bracket. This will prevent the shaft seal faces from seizing up.

Waste Water pumps:

After a long period of storage, that is six months or longer, inspect the pump before putting it into operation. Make sure that the impeller can rotate freely. Pay special attention to the condition of the shaft seals, O-rings and the cable entries.

During operation, the cooling jacket must be filled with pumped liquid to ensure sufficient cooling. Before the first startup and after long standstill periods, the air must be evacuated from the cooling jacket through an air-vent valve