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GEAR PUMPS

Handling

● Hydraulic oil

- Use a general-purpose hydraulic oil (R&O) equivalent to ISO VG32 to 68, or wear-resistant hydraulic oil.
- Operate the unit in an environment where both the following conditions are satisfied: viscosity range from 15 to 400 mm²/s {cSt} and oil temperature from 0 to 60°C.
- Contamination of the hydraulic fluid causes pump trouble and reduces the service life, so pay due attention to controlling contamination and ensure that it goes no higher than NAS contamination class 9.

● Filters

- Use a suction filter with 150 meshes per inch at the inlet side.
- In the return line to the tank at the discharge side, use a line filter with a filtration accuracy of 25 μm or better.

● Piping

- Ensure the suction port is airtight. Aeration will cause abnormal noise.
- When using steel pipes for piping, take care not to force the pump off center. Forcing the pump off center with pipes may cause abnormal noise.

● At start

- Supply fluid inside the pump before starting operation for better lubrication of sliding surfaces.
- After checking that all hydraulic circuits and electrical circuits are ready for operation, set the hydraulic circuit at the load side in the no-load status or connect an unloading circuit before starting the pump.
- Check that the pump rotates in the direction of the arrow showing the direction of rotation.
- When the pump is driven for the first time, turn the power switch to the motor on and off a few times to let the air out of the piping and then run it continuously at full speed. Noise may be observed until the air has been completely removed but this is not abnormal.
- At a fluid temperature of 7°C or lower, warm up the pump by running it at a pressure of 2 MPa {20 kgf/cm²} maximum and increase the pressure when the fluid temperature has risen.
- If there is a temperature difference of 20°C or greater between the pump and fluid, warm up the pump to reduce the temperature difference to within 20°C before running it.

● Suction pressure

- Maintain the suction pressure -13.3 kPa to 15 kPa {-100 mmHg to 0.5 kgf/cm²}.
- The unit can permit a pressure up to -40.0 kPa {-300 mmHg} for short time at the start but do not increase the pressure during this time.
- High suction pressures will generate cavitation and cause damage to the parts, noise, and vibration, resulting in a shorter pump service life.

● Rated pressure

- The rated pressure refers to the maximum pressure at which the product can be operated continuously.

● Maximum operating pressure

- The maximum operating pressure refers to the maximum pressure at which the product can be operated.