

INSTALLATION INSTRUCTIONS

Check oil level prior to starting and ensure trouble-free water supply.

Oil: Use only 4.8 gallons (18 liters) of ISO VG 220 GL4 (e.g. Aral Deago BG220) or SAE 90 GL4 gear oil (Giant's p/n 01154). Initial change after 50 operating hours and then every 1000 operating, or after one year if used less.

IMPORTANT! Caution when operating in damp places or with high temperature fluctuations. Oil must be changed immediately should condensate (frothy oil) occur in the gear box.

NPSH values must be observed.

IMPORTANT! The water input pressure must not exceed 29 PSI (2 bar) when using the integrated system for cooling the gear oil (standard version). If a **separate** cooling circuit (maximum 29 PSI or 2 bar) is installed, it is then possible to have an input pressure of maximum 145 PSI (10 bar) on the **suction side**. Make sure that suction pulsation is sufficiently dampened - water column resonance must be avoided.

Before beginning work for the first time, the pump must run at zero pressure for approximately one minute.

IMPORTANT! The GP8100 series has a black arrow on the reduction gear with shows the preferred direction of rotation. The pumps can be delivered either with the gear on the left or right side which eases the planning of assembling units with regard to rotational direction.

Gear on right side (from behind pump) = optimal rotation : counterclockwise

Gear on left side (from behind pump) = optimal rotation: clockwise

The preferred/optimal direction of rotation ensures the motion of the connecting rods correctly distributes the oil onto the crosshead guides - which is a particular advantage where continuous operation is involved.

The pump can also be run against the recommended direction of rotation if operated periodically or a reduced pressure. If so, the pump has to be run in this direction to smoothen the bearing areas. This is done by a one-time operation at zero pressure for at least 30 minutes; thereafter, the pressure must be slowly increased over the next hour to the desired maximum operating pressure after which the pump is then run in. The oil temperature is to be checked during this procedure.

IMPORTANT! If operational power exceeds 80 HP (60 kW) or if continuous operation is the case, the pump must be run with the integrated oil cooling system. The maximum temperature of the water being pumped and which is also fed through the cooling system must not exceed 86 °F (30°C). The water amount which is fed into the cooling system depends on the pump speed and is approximately 1.8 GPM (7.0 l/min) at 580 pump rpm. The cooling water is sucked in by one of the pumping chambers and pumped away. The pumps can be run without gear oil cooling in continuous operation up to a power rating of 107 HP (80 kW) or with major intermittent operation at full performance. If this is your case, please request an extra spare parts list.

Definition of intermittent operation: operation at full performance for not more than altogether 20 minutes an hour, with the pump running without pressure or turned off in between. For example, this can be full load operation for 5 minutes four times an hour with 10 minute breaks in between or continuous full load operation for 20 minutes followed by a 40 minute break.

IMPORTANT! The pump and cooling system must be emptied if there is a danger of frost. Travel wind can cause water in pumps fitted on open vehicles to freeze even if the outside temperature is above freezing point.

The torque tension on the valve casing nuts (49A) is to be checked after approximately 200 operating hours. Please see page 6 for values. When checking the torque tension, the pump must be at zero pressure.

IMPORTANT! The service life of the seals is maximized if a minimal amount of leakage is present. A few drops of water can drip from each plunger every minute. Leakage has to be examined every day. The plunger seals must be changed should leakage become excessive (=constant dripping).



Safety Rules

The operating instructions must be read and adhered to before performing any work on the pump or complete assembled unit. Not responsibility will be carried by us for damage to materials or persons caused by improper handling of our pumps.

Access to the pump is not allowed for unauthorized personnel. A safety valve is to be installed in accordance with the guidelines for liquid spraying units so that the admissible operating pressure cannot be exceeded by more than 10%. Pump operation without a safety valve as well as any excess in temperature or speed limits automatically voids the warranty.

When the pump is in operation, the driven shaft side and its coupling must be covered by a protective guard. The plunger area must also be covered by the protective plate (30). Do not step onto the protective plate (30) nor put weight on it.

Pressure in the discharge line and pump must be at zero before carrying out any maintenance work to the pump or unit.

Close off the suction line. Disconnect fuses to ensure that the driving motor cannot get switched on accidentally. Make sure that the pump, the cooling system and all parts on the pressure side of the unit are vented and refilled with pressure at zero, before starting the pump.

In order to prevent air on an air/water mixture being absorbed and cavitation occurring, the pump npshr, (net positive suction head required) and water temperature must be respected.

Cavitation and/or compression of gases lead to uncontrollable pressure kicks which can ruin the pump and unit parts and also be dangerous to the operator or anyone standing nearby.

Giant plunger pumps are suitable for pumping clean water and other non-aggressive or non-abrasive media with a specific weight similar to water.

Before pumping other liquids - especially inflammable, explosive and toxic media - the pump manufacturer must be consulted with regard to the resistance of the pump material. It is the responsibility of the equipment manufacturer and/or operator to ensure that all pertinent safety regulations are adhered to.