

# INSTALLATION INSTRUCTIONS

The stated figures are maximum values for pressure and speed (rpm) and apply for interval operation with cold water.

These values must be reduced by 10% if the pump is used in continuous operation and/or with water above 86°F (30°C).

## **NPSH values must be respected.**

Required NPSH refers to water (specific weight 1kg/dm<sup>3</sup>, viscosity 1°E at maximum permissible pump revolutions).

## **Operation and Maintenance**

The pumps can be run without gear oil cooling in continuous operation up to a power rating of **80 HP (60 kW)** or with major intermittent operation at full performance (see bottom of next column regarding the definition for intermittent operation).

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

**Oil:** Use only 1.6 gallons (6.0 litres) of Giant's p/n 01154 or ISO VG 220 (e.g. Aral Degol BG220) or SAE 90 gear oil.

We recommend ISO VG 68 (SAE80) gear oil for low ambient temperatures (+5°C and lower). Initial change after 50 operating hours and then after every 1000 operating hours, or after one year if used less.

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

**IMPORTANT!** If the pump is mounted on a vehicle (possibility of unevenness) and/or if the pump speed is between 300 rpm and 500 rpm, the oil quantity is 1.8 gallons (7.0 L). To check, put the oil dipstick in the bore situated beside the eye bolt.

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

To empty the cooling circuit, remove the L-joints (K11) on the pump head (50). Blow out the circuit liquid (hoses K12) at the joint connection (K11/K7) using compressed air.

The torque tension on the valve casing nuts (49A) is to be checked after approximately 200 operating hours. Please refer to page 6 for the torque values.

The pump must be at zero pressure when checking the torque tension.

## **▲ Safety Rules**

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 void the warranty.

When the pump is in operation, the shaft end must be covered by shaft cap (21A). The driven shaft side and coupling must be enclosed by a protective cover and the plunger area must be covered by plate (30).

Pressure in discharge line and in pump must be at zero before any maintenance to the pump takes place. Close off the suction line. Take necessary precautions to ensure that the driving motor cannot get switched on accidentally (by disconnecting the fuses, for example). Make sure that the pump 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, or an air/water-mixture being absorbed and cavitation occurring, the pump positive suction head (nps<sub>hr</sub>) and water temperature must be respected.

**Cavitation and/or compression of gases lead to uncontrollable pressure kicks which can ruin 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 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 manufacture and/or operator to ensure that all pertinent safety regulations are adhered to.**

**Definition of intermittent operation:** operation at full performance for not more than altogether 20 minutes per 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.