

# INSTALLATION INSTRUCTIONS

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

## Operation and Maintenance

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

**Important!** If there is a **danger of frost**, the water in the pump and in the pump fittings (particularly the unloader valve) must be emptied. The second discharge port can also be used and the pump run "dry" for 1-2 minutes for this purpose.

Oil amount: 30.4 ounces (0.9 liters). Only use **ISO VG 220 industrial gear oil** (e.g. Aral Degol BG220) or **automobile gear oil SAE 90 GL4** (Giant p/n 01154).

Initial oil change after 50 operating hours and then every 500 hours, after 1 year if used less. 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.

Maximum input pressure 145 PSI (10 bar), maximum suction head -4.35 PSI (-0.3 bar). Make sure that suction pulsation is sufficiently dampened - water column resonance must be avoided.

**Important!** If the pump is not used for a long period of time, it is possible the seals (23/23B) could become hard or brittle thus causing the pump to leak when put into operation.

If this is the case, we recommend these seals be replaced every 4 years.

## 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 voids the warranty.

When the pump is in operation, the drive shaft end and the coupling must be enclosed by a protective cover or a coupling bell.

Pressure in the discharge line and pump must be at zero before any maintenance to the pump takes place. Shut off suction line. Disconnect fuses to ensure that the driving motor does not get switched on accidentally. Make sure that all parts on the pressure side of the unit are vented before starting the pump. In order to prevent air, or an air-water mixture being absorbed and to prevent cavitation occurring, the pump NPSHR (=suction head) 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 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.**

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## Torque Specifications - P420HP / P422HP / P423HP / P425HP

<u>Item #</u>	<u>Part #</u>	<u>Description</u>	<u>Lubrication</u>	<u>U.S. (Metric)</u>
3A	07186	Oil Sight Glass w/Gasket	Loctite 5910	106 in.-lbs. (12 Nm)
5	07109	Oil Drain Plug		59 ft.-lbs. (80 Nm)
5B	08092	Plug with Gasket		59 ft.-lbs. (80 Nm)
6	01010	Screw		110 in.-lbs. (12.5 Nm)
10	07114	Screw with Washer		133 in.-lbs. (15 Nm)
15	08390	Connecting Rod Assembly		97 in.-lbs. (11 Nm)
16D	08399	Tensioning Screw	Loctite 243	22 ft.-lbs. (30 Nm)
32	05971	Plug	Loctite 243	107 ft.-lbs. (145 Nm)
34	05973	Cap Screw	Lightly oil threads	30 ft.-lbs. (40 Nm)

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**Contact Giant Industries for service school information. Phone: (419) 531-4600**