

# INSTALLATION INSTRUCTIONS

## Operation and Maintenance

Check oil level prior to starting and 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: Use only 1.2 gal. (4.6 L) SAE 80W-90 Industrial Gear Lube Oil.

**Before putting the pump into operation for the first time, and every time the suction line is emptied, the plugs (37) must be removed and the pump cranked manually or started briefly until water emerges out of the plug bores. This procedure serves to vent the drip-return so that the low-pressure seals (32) do not run dry.**

Thereafter the plugs (34) must be screwed back on and tightened.

Initial oil changed after 50 operating hours and then every 1000 operating hours, or 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 respected.**

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

## 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 shaft end must be covered by shaft protector (21) and the driven shaft side and coupling by a protective cover.

Pressure in the discharge line and in the pump must be at zero before any maintenance to the pump takes place. Close off 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 to prevent cavitation occurring, the pump positive suction head (npshr) and water temperature must be respected.

**Cavitation and/or compression of gases lead to uncontrollable pressure spikes which can ruin pump and unit parts and also be dangerous to the operator and 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 flammable, explosive and toxic media - Giant 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.**