

INSTALLATION INSTRUCTIONS

Figures given for maximum pressure and max. speed (rpm) apply to interval operation.

When the pump is used in continual operation and/or with water warmer than 40°C (100°F), these values must be reduced by 10%.

Required NPSH refers to water: Specific weight 1kg/dm³, viscosity 1°E at max. permissible revolutions.

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 amount: 1.6 gallons (6.0 litres). Only use **ISO VG 220 industrial gear oil** (e.g. Aral Degol BG220) or **automobile gear oil SAE 90 GL4**. We recommend ISO VG 68 (SAE80) gear oil for low ambient temperatures (+41 °F [+5°C] and less).

Initial change after 50 operating hours and then every 1000 operating hours, or after 1 year if used less.

Important! 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 unlevelness) and/or if the pump speed is between 300 rpm and 500 rpm, the oil quantity is 1.9 gallons (7.0 L). To check, put the oil dipstick in the bore situated beside the eye bolt.

Safety Rules

Pump operation without safety valve as well as any excess in temperature or speed limits automatically voids the warranty. The safety valve must be regulated in accordance with the guidelines for liquid spraying units so that the admissible operating pressure can not be exceeded by more than 10%.

When the pump is in operation, the open shaft end must be covered up by shaft protector (21), the driven shaft side and coupling by a contact-protector and the plunger room by cover (30).

Pressure in discharge line and in pump must be at zero before any maintenance to the pump takes place. Close up 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 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-npshr, positive suction head and water temperature must be kept under control.

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 under all circumstances 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.