

INSTALLATION INSTRUCTIONS

Fields of application

The fields of application of these pump types correspond to the specifications in the assembly instructions Giant Industries Pumps.

Ambient conditions

Ambient temperature: $41\text{ °F} < T_{\text{Amb.}} < 86\text{ °F}$

Ambient temperature: $5\text{ °C} < T_{\text{Amb.}} < 30\text{ °C}$

Oil filling

- Filling quantity: **3.3 gal (12,5 l)**
- Quality: Industrial gear oil **ISO VG 220** or automotive gear oil **SAE 90 GL4 (Giant's p/n 01154)**.
- Intervals: first oil change after **50 operating hours**, then every **1000 operating hours**, but at the latest after **12 months**.



If the pump is mounted on a vehicle (possible inclined position during operation) and/or if the pump speed is between 300 rpm and 500 rpm, the required oil quantity increases by 0.26 gallons (1 liter).

Installation/ Putting into Operation

Shaft protector

When the pump is in operation, the driven shaft side and coupling by a contact-protector and the plunger room by cover (30).

Do not step onto the protective plate (30) nor put heavy objects on it.

Direction of pump rotation

An arrow on the pump crankcase indicates the recommended direction of rotation for the drive shaft.

The indicated direction ensures that oil is correctly distributed on and into the crosshead guides via optimal connecting rod motion thus providing best possible lubrication particularly with regard to continuous operation.

The pump can also be run against the recommended direction of rotation if operated periodically or at reduced pressure.

If so, the pump must be run in in this direction to smoothen the bearing areas.

This is done by initially operating the pump at zero pressure for 30 minutes; thereafter the pressure is to be slowly increased over a period of an hour to the desired max. operating pressure.

Check the oil temperature during this process.

Suction line filter

Recommended mesh size 50 µm.

Gear oil cooling



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 operational power exceeds 107 HP (80 kW) in continuous operation, 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 nominal speed. The cooling water is sucked in by one of the pumping chambers and pumped away.



If higher medium temperatures or liquids other than water are involved or aggressive media such as seawater, demineralised water etc., the pump must be fitted with a separate cooling circuit.

The separate cooler must have a cooling efficiency of 1700 watt.

If there is a danger of frost, an appropriate amount of antifreeze must be mixed into the cooling circuit.

Valve Casing

The torque tension on the valve casing nuts (49A) is to be checked after approx. 200 operating hours. Please see page 7 concerning the torque values.

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

Operation

When starting up for work, the pump must run first at zero pressure for approximately 1 minute.

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

Empty the pump through the second unused suction and discharge connection using compressed air, for example. Bottom plugs (12) on the suction channel can be opened as well.

The pump can also be run "dry" for 1-2 minutes to aid emptying.

Empty the cooling system by removing screw joints (K11) on the pump head (50) and by blowing the hoses (K12) with compressed air on the (K11/K7) side.

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).