

## 4 Hole ISO Bi-Directional Gear Pumps

### Recommendations for Installation,

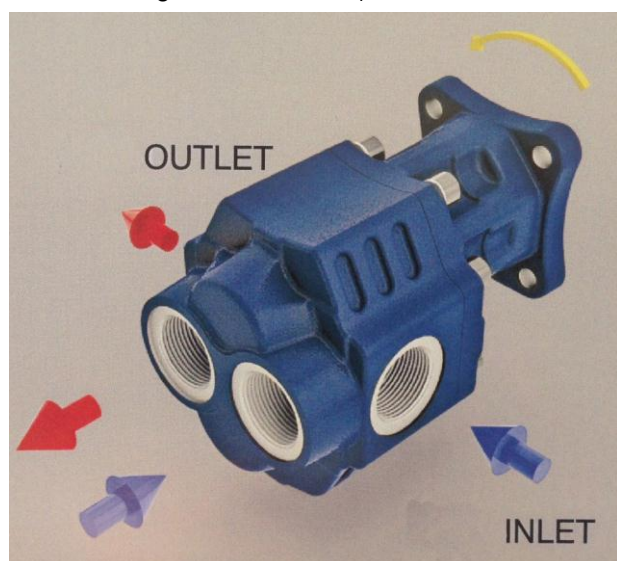
With suction fitting

**Attention:** This application of Harsh Pumps must follow all the instructions hereby mentioned in order to assure a long life of the product and preserve the warranty mark. If there should happen to be any malfunction, it is strictly forbidden to disassemble the product, unless authorised by Harsh Ltd. If this is not followed warranty may be rejected.

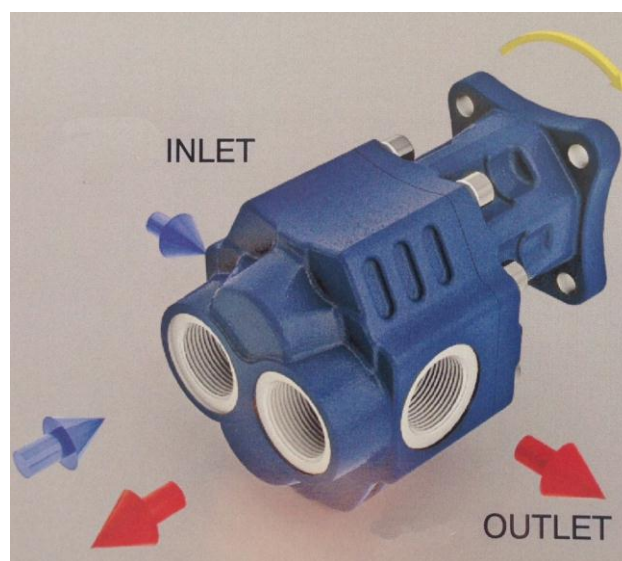
#### Installation

1. Verify the rotation of the Pump, Right or Left Hand.

Right Hand Pump Rotation



Left Hand Pump Rotation



2. Attach the Pump to the PTO (apply 80Nm torque in the tightening nuts). Please note that the Pump must be tightened via hand not by for instance, air ratchets
3. Insert the adaptors complete with dowty seals in to the Pump and attach the hoses. Ensure all fittings are tight and well-sealed.

#### Fluids:

For Gear Pumps, Harsh Recommends the use of high quality mineral oils type ISO HM or DIN 51524-2 HLP, with viscosities from 10 – 100cSt at working temperature .It is possible to use other oils with the same characteristics, but only after consulting and getting permission from Harsh Ltd.

Oil Temperature must be maintained between  $-25^{\circ}$  and  $80^{\circ}\text{C}$ , We advise you to use an oil cooler when the temperature exceeds this.

Harsh recommend the Oil should be replaced after 1000 working hours or at least once a year.

**ALWAYS ENSURE THE WHOLE SYSTEM IS PERFECTLY CLEANED BEFORE BEING FILLED WITH OIL.**