

Standard Operating Procedure 2008-2

Pump – DOP 250



Equipment Description

The Desmi DOP 250 transfer pump is a multi-purpose positive displacement submersible vertical Archimedes screw pump with a rated capacity in excess of 100m³/h. It is capable of pumping a wide variety of liquids from water to highly viscous oils, mud and sludge, with a discharge pressure up to 10 bar/147 psi. The hydraulically driven stainless-steel screw rotates inside a lightweight aluminium housing. DOP250 pump contains cutting knives to prevent any debris being trapped in the pump and these, combined with a pressure lubricated screw bearing, greatly increase the reliability of the pump.

Technical Specification

Weight: 80kg
Width: 370mm
Length: 550mm
Height: 750mm

Hydraulic fittings: TEMA – Supply/Return/Case Drain
Hydraulic flow: 160L/min
Hydraulic pressure: 210 bar max
Peak Capacity / hour: 100m³

Extra requirements

The DOP 250 is to be used in conjunction with LPP38 hydraulic power pack and control stand.

Health and Safety



To safely operate this equipment 2 people are required.

Safe Operating Requirements

- All personnel are to be trained in the use of the Pump – DOP 250 or under the close supervision of a trained operator.
- Job Safety Analysis (JSA) to be conducted prior to work commencing. Identification of the following safety factors are critical, but not limited to:
 - o Manual Handling,
 - o Slips/Trips/Falls,
 - o Vehicle/Vessel Movements,
 - o Pinch Points and Personnel
 - o Contamination/Decontamination.
- Ensure adequate Personal Protective Equipment (PPE) is worn – as detailed above.
 - o * Life jackets must be worn near water depending on operation.

- A communication plan must be decided upon to ensure clear and concise communication at all times
- Hydraulic unloaders should be used to depressurise hydraulic hoses when required.
- Only use appropriate and certified lifting equipment
- All incidents, accidents and near misses must be reported as per AMOSC HSSE Plan.

Operational Instructions

Emergency shutdown

In the event that an emergency shutdown is required, the following measures should be taken:

- Shut down the power pack immediately where safe to do so.
- Return the hydraulic flow control to "off" position.
- Close all isolation valves.
- Communicate according to the designated communications plan.

Pre start checks

- Be sure that the grease nipple on the side of the plate wheel casing has been greased prior to operating.
- Visually inspect - by looking into the inlet - the condition of the cutting knife, the pump screw, and the sealing ring around the pump screw.
- Check that the hydraulic quick release couplings are clean and in good condition.

Note: Perform pre-start checks on the power pack according to the appropriate SOP and instruction manual.

Assembly

- Securely connect the hydraulic hoses to the pump, ensuring that the locking rings on the hydraulic quick couplings are securely locked. Use a sorbent pad to catch any spilled oil.

Note: Do not connect the hydraulic hoses to the power pack until you are ready to use the pump.

Note - Failure to correctly connect all hoses may result in failure and extensive damage to the pump unit.

- Connect the discharge hose to the pump's discharge coupling and ensure it is free of twists and kinks.
- Attach the loose end of the discharge hose to the temporary storage e.g. camlock/rope/cable ties etc.
- Ensure that the hydraulic controls on the power pack are in the "off/neutral" position and that the hydraulic flow controls are at the lowest setting.

Operation

- Lay out the hydraulic hoses and connect them to the power pack or hydraulic remote. Use a sorbent pad to catch any spilled oil. Ensure the locking rings are securely locked.

Note: Operate the power pack according to the appropriate SOP.

- Attach the lifting equipment to the pump.
- Lower the pump into the water using a suitable crane. Ensure the pump is fully submerged.
- Once the pump has been submerged, start the power pack and run pump as required.

Note: If the pump clogs due to large debris or solids, reverse the pump to eject the blockage.

Post operation – Contaminated pump

- Establish a bunded cleaning station.
- Place the pump in the bunded cleaning station.
- While the power pack is turned off, release all hydraulic pressure prior to the disconnection of the hydraulic hoses by manually moving the hydraulic levers.
- Disconnect hydraulic hose connections and fit dust covers. Use a sorbent pad to catch any spilled oil.
- Drain all discharge hoses, flushing through to remove residual oil.
- Clean the pump with hot water. If required, diesel fuel/detergent can be used to assist with the cleaning of the pump.
- The pump is to be dry prior to maintenance inspection, re-stowage and storage
- Ensure the pump is returned to response ready condition.

Note - Maintenance of the pump is to be performed as listed below.

Post operation – Uncontaminated pump

- While the power pack is turned off, release all hydraulic pressure prior to the disconnection of the hydraulic hoses by manually moving the hydraulic levers.
- Disconnect hydraulic hose connections and fit dust covers. Use a sorbent pad to catch any spilled oil.
- The pump should be washed and flushed with fresh water.
- Drain all discharge hoses and flush through with fresh water.
- The pump is to be dry prior to maintenance inspection, re-stowage and storage
- Ensure the pump is returned to response ready condition.

Note - Maintenance of the pump is to be performed as listed below.

Additional Information

Maintenance

- All maintenance and repairs are to be completed in accordance with either the manufacturer or AMOSC procedures.
- All equipment must be left in an operational condition when not in use.
- All defects must be repaired or the equipment is to be “tagged out” for maintenance and repair.

Related Documents

SOP 2008 Eq; Lamor Power Pack
AMOSC HSSE Plan
PN08 - HSSE Policy
AMOSC JSA Template