Hydraulic Power Unit

HPU-0-3-M

The Hydraulic Power Unit is a skid-mounted freestanding unit designed to feed high pressure hydraulic oil with acceptable cleanness to the vessel ring line system and applicable drilling equipment. The ring line system is an open loop hydraulic system. The HPU may be operated locally at the unit.

HPU, 3 pumps, 900 l/min.

Standard delivery includes:

- HPU Skid
- Oil tank
- High pressure pumps
- Control cabinet/control system
- Circulation circuit
- Cooler unit
- Filter system
- Lifting yoke for handling

Specifications	
Main pump capacity	900 (3 x 300) lpm
Working pressure	210 bar
Oil tank volume, max.	2500 L
Main motor power	375 (3 x 125) kW
Area classification	Safe area
Design temperature	-20 to +45 °C
Operating temperature	-10 to +45 °C

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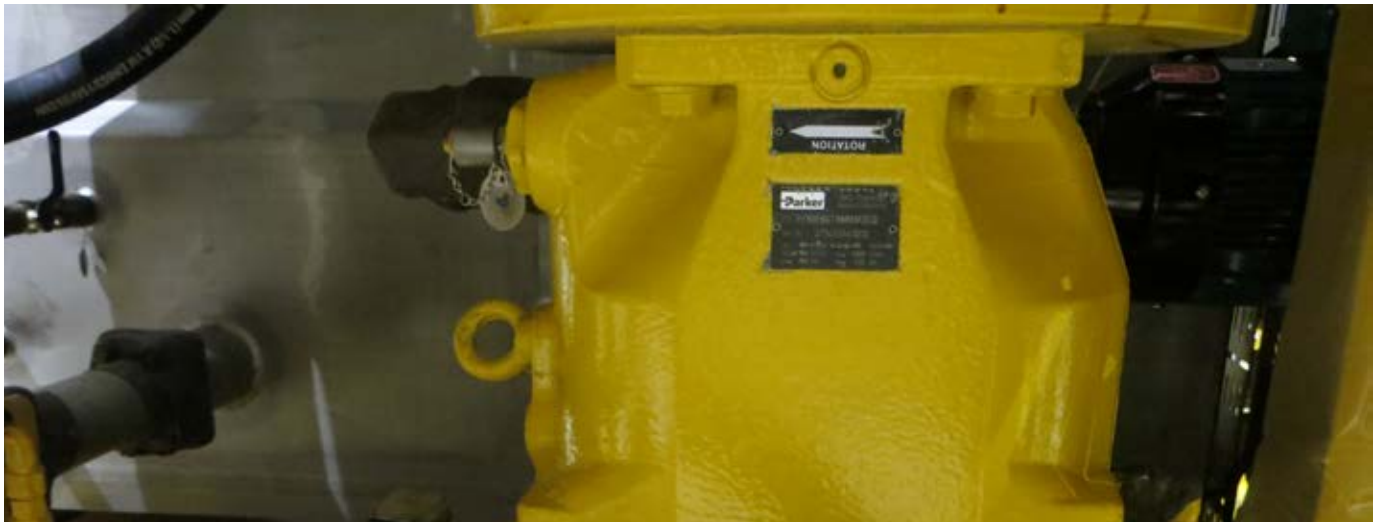

Features and benefits

HPU skid

The HPU skid is a self-bearing steel frame that may be bolted to the deck and includes four lifting brackets for handling. This design eases installation and handling of the unit. Vibration dampers in the interface minimize noise and vibration to the surroundings. A drip pan on the bottom of the frame prevents spilling of leaking oil and hazardous drainage.

Oil tank

The hydraulic oil tank is made of stainless steel and operates at atmospheric pressure. Oil received from the return line feeds into the tank and provides oil to the circulation pumps and high pressure pumps. The tank is equipped with instrumentation and filters, ensuring proper performance of the HPU. The main components installed onto the tank are breather filters, filters for drain, circulation, and return line, and instrumentation such as a temperature and level transmitter and inspection hatch.

High pressure pumps

The high pressure pumps (3 off) are electric driven axial piston pump type with swashplate. The pump displacement is regulated by a hydraulic pressure control valve, ensuring proper oil flow and pressure. Each pump may be isolated from the tank and system, ensuring ease of maintenance.

Control cabinet and control system

Operation is normally local at the unit, and remote operation from the driller's cabin is optional. The control system is PLC-based and located in a cabinet onto the unit.

Circulation circuit

The circulation circuit provides cooling and filtration of the hydraulic oil and flushing of the ring line pumps.

Cooler unit

The fresh water coolers (optionally sea water or air cooled) transfer the heat from the unit and ensure sufficient oil temperature.

Filter system

The unit is equipped with a filling filter, return filters, circulation filters, and ring line filters, ensuring sufficient cleanness of oil delivered to the ring line system. There is one main filter block (pressure filter) for the ring line circuit and the circulation circuit. The filters are monitored manually by use of filter indicators. Oil samples may be tapped from a separate port for third party oil quality testing.

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