

CPS 977

Cement pumping skid

APPLICATIONS

- High-pressure pumping
- Metering and pumping of mixing and displacement fluids
- Cement recirculation

BENEFITS

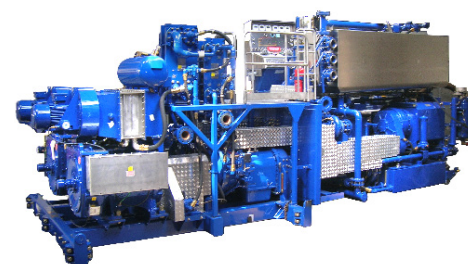
- Lower NPT as a result of full system redundancies
- Improved reliability and efficiency with direct-driven mixing pumps
- Minimized environmental impact due to elimination of diesel tank, radiator, and exhaust pipe requirements

FEATURES

- Nonradioactive densitometer
- Split skid and bulkhead
- Full selection of fluid ends
- Pressurized packing and lubrication systems
- Solids fraction monitoring

The CPS* 977 cement pumping skid is designed for offshore high-pressure pumping services, delivering up to 2,000 hhp. A closed-loop seawater circuit cools the motors that power the unit. The Advanced Cement Control (ACC) data acquisition and monitoring system enables precise control of slurry density.

The CPS 977 skid features stainless steel displacement tanks, an adjustable choke valve, and a temporary replacement for mud pumping. It is compliant with Zone 2 hazardous area regulations and meets the American Bureau of Shipping (ABS) certified drilling system (CDS) criteria.



CPS 977 cement pumping skid.

CPS 977 Skid Specifications

General

Engines	Two General Electric® GEB22 motors and one General Electric GEB20 motor
Capability (each)	1,150 bhp [860 kW]
Transmissions	Allison Transmission® S8610M with air shift, six speeds Allison Transmission S9810M with air shift, seven speeds
Cooling systems	Marine cooled

Triplex Pumps

Model 1	Gardener Denver GD1250 Series with 3¾-in fluid end
Capability	18,100 psi [125 MPa] or 8.9 bbl/min [1.41 m³/min] (FOPI)
Model 2	Gardener Denver HD2250 Series with 5½-in fluid end
Capability	10,000 psi [69 MPa] or 19.3 bbl/min [3.07 m³/min] (IOPI)
Discharge manifold	15,000 psi [103 MPa]
Displacement tanks	2 × 20 bbl [3.18 m³], stainless steel 316

Slurry Mixing System

Model	Twin CBS-393 mixing systems with Mark III SLURRY CHIEF* cement mixing equipment
Maximum mixing rate	22 bbl/min [3.5 m³/min] for lead slurry and 15 bbl/min [2.38 m³/min] for standard tail slurry [60 sacks/min of dry cement per mixer]
Volume capacity	6-bbl [0.95-m³] mixing tub and 18-bbl [2.86-m³] averaging tank per mixer

Liquid Additive System

Model	Four SUP-511 pumps (Waukesha 015U2)
Capability of SUP-511	0.25–11 galUS/min at 100-psi [0.69-MPa] max. discharge pressure
Model	Three SUP-512 pumps (Waukesha 045U2)
Capability of SUP-512	1–54 galUS/min at 100-psi [0.69-MPa] max. discharge pressure
Flowmeters	Micro Motion™ R050S and R100S, accurate to ±0.5% of flow rate

Other

Area classification	Zone 2 Package, DNV certified
Process control and acquisition	Redundant control systems
Auxiliary equipment	Twin 100-bbl [15.9-m³] batch mixers, electric with independent drives for each centrifuge and agitator

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