

CPS-763

Offshore cementing pump package

APPLICATIONS

- Deepwater cement slurry mixing and pumping applications
- High-pressure pumping and testing operations
- Precision pumping for integrity tests

BENEFITS

- Increased mixing rate capability to minimize job time
- Power-take-off- (PTO-) driven cementing pumps for improved reliability and smaller footprint
- Minimal environmental impact because of elimination of need for diesel tank, radiators, and exhaust piping

FEATURES

- Electrically driven 1,193 kW [1,600 hhp]
- 3-in high-pressure lines for accurate high-rate displacement
- Solid fraction monitor to enhance density monitoring

CONVENTIONAL REQUIREMENTS

Performance expectations are extreme for cementing units onboard ultradeepwater drillships and semisubmersibles. Maximum cement mixing rates and downhole pump rates are critical to improve overall rig efficiency and save valuable time.

CPS-763 UNIT REQUIREMENTS

The CPS-763 ultradeepwater cementing package was designed and built to exceed these extreme requirements. The 1,193-kW [1,600-hhp] unit has the capability to pump 3.8 m³/min [24.4 bbl/min] and can be used at working pressures up to 103 MPa [15,000 psi]. It is optionally equipped with a high-efficiency mixing package of dual SLURRY CHIEF* Mark III cement mixers with averaging tanks capable of 3.5-m³/min [22-bbl/min] rates for lead slurries and 2-m³/min [15-bbl/min] rates for standard tail systems.

Two electrically driven 16-m³ [100-bbl] batch mixers can be integrated for spacer or pill mixing isolated from contamination points. A high-rate, process-controlled, direct-injection liquid additive system provides the ability to meter up to six chemicals into the mix-water stream.

Data acquisition and control is handled by two complete systems for redundancy and reliability of automated mixing, solids fraction monitoring, foam process control, and liquid additive system.



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Specifications

General

Engines	Two General Electric GE B22A2
Capability	860 kW (1,150 bhp), 690 V
Transmissions	Two Allison SS 6600
Cooling systems	Marine cooled (air cool optional)

Triplex Pumps

Model 1	Gardner Denver GD 1250 Series with 3¾-in fluid end
Capability	103 MPa [15,000 psi] or 1.03 m ³ [6.5 bbl/min] (Gardner Denver FOPI)
Model 2	Gardner Denver GD 1250 Series with 6½-in fluid end
Capability	41 MPa [6,000 psi] or 3 m ³ [20 bbl/min] (Gardner Denver IOPI)
Discharge manifold	103 MPa [15,000 psi]
Displacement tanks	Two 1.6-m ³ [10-bbl] stainless steel 316

Slurry Mixing System

Model	Single or dual CBS-393
Capacity (single CBS 393)	1-m ³ [6-bbl] mixing tub and 3-m ³ [18-bbl] averaging tank
Maximum mixing rate (single CBS 393)	1,749 L/min [60 sacks of dry cement per min or 11 bbl/min]
Slurry pumps	RA-56
Mix-water pumps	RA-45

Liquid Additive System

Model	Wide range of options, from manual metering types to fully computerized direct-injection types
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Other

Area classification	Zone II package
Process control and acquisition	Redundant control systems
Remote control mode	Optional

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