

# PCS-521B Auto density control double pump cementing skid

## 1. Overview

Model PCS-521B double pump cementing skid equipped with TPH400 pumps is new generation of cementing unit developed in recent years.

The input shaft of TPH400 pump is paralleled with centre line of engine, so the fluid end is at the rear of unit. This inline installation feature makes the maintenance and service of pumps easier. Compared with other cementing plunger pumps with same plunger size, TPH400 pump has features of maximum operation pressure, long stroke and high self-priming capacity. The high energy mixing system is powered by the transmissions PTOs. The skid is very compact, so it is applicable for the areas with strict requirements for space, such as offshore drilling platform, etc.

This unit is mainly utilized in cementing job, acidizing job, oil well pressure testing, and other fluid pumping job in offshore, on land or desert oilfield.

## 2. General specification

Max. working pressure: (14,000 Psi W/ 4" Fluid End)

Max. flow: 3.04m<sup>3</sup>/min (w/ two 4 1/2" fluid ends)

Density range: 1.3-2.5g/cm<sup>3</sup>

Auto control precision: +/-0.02g/cm<sup>3</sup>

Mixing capacity: 0.3-2.3m<sup>3</sup>/min

Working ambient temperature: -20°C ~ 50°C

Overall dimension (mm): 7200(L) x 2500 (W) x 3250 (H)

Net weight: 22000kg

## 3. Features

- High energy recirculating jet mixing system.
- Off-center dry cement valve avoids bulk cement from choking.
- Emergency kill system of air inlet shutoff.
- Plunger pump overpressure protection system.
- SP5 non-leakage packing system.
- Emergency mixing system.
- F300 Non-radioactive densitometer is easy to wash, safe and reliable.
- Simplify operation, adapts to working habits in oilfield.
- 10" operation screen, convenient to monitor the working data.
- Portable wireless / wired data acquisition system available.
- ZONE-II Explosion-proof kit is available for application to hazardous areas.
- Engine auxiliary cold start, pneumatic or hydraulic start available.
- Fan radiator or sea water heat exchanger is available.
- C7 auxiliary power unit is available.

Technical specification			
Engine	Caterpillar C13 475 HP@2100 RPM (2 sets) Caterpillar C15 540 HP@2100 RPM (optional)		
Transmission	Detroit 560 475HP@2100RPM (optional) Allison 4700QFS (5 forward gears + neutral gear) (2sets)		
Hydraulic system	Driven by transmission PTO, closed loop for c-pumps, open loop for agitators Triplex pump (2 sets)		
Model/type	SERVA TPH400 Reciprocal, horizontal single action plunger pump		
Stroke	8" (203.2mm)		
Max. B.H.P.	600 BHP (447Kw)		
Gear ratio	8.6:1		
Fluid End	3 3/8"	4"	4 1/2"
Rated pressure	138MPa	96MPa	77MPa
Max. flow	0.86 m <sup>3</sup> /min	1.2 m <sup>3</sup> /min	1.52 m <sup>3</sup> /min
ACM/VI mixing system			
Mixer	High energy recirculating mixer		
Dry cement valve	off-center bulk cement metering valve		
Mixing water pump	SERVA 4X3 (1.5 m <sup>3</sup> /min@0.78MPa)		
Recirculating/pressure pump	SERVA RA56 (3.7 m <sup>3</sup> /min@0.45MPa) (two sets)		
Densitometer	Micro Motion 3" F300 non-radioactive densitometer		
Computer system	AB PLC		
Others			
Mixing tank	12 BBL (2 m <sup>3</sup> )	Fuel tank	900 L
displacement tank	2 x 10 BBL (2 x 1.5 m <sup>3</sup> )	Hydraulic oil tank	170 L
		Air tank	80L

