

Cementing Equipment



Introduction

SJS Limited is a joint venture (company) founded in 1992.

SJS Limited is registered under the ISO 9001 quality system program and certified by DNV since 1999, and obtained API 11D1 certification since 2005.

We can implement individual design according to user's requirements, cementing and fracturing equipments are our advantages. SJS is committed to the policy of "Total commitment to customer satisfaction", we sincerely look forward to serving you.

Manfred Stieglmeier President



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Oilfield Service Equipment Model Number

P C T (K) - 6 1 1 A

P	Pumper
C	Cementing
T	Truck Mounted (S:skid Mounted,T:Truck Mounted,TLR:Trailer Mounted)
K	Kit
6	TPB600/TPD600 Pump (4:TPA400,5:TPH400,6:TPB600, TPD600)
1	Single pump (1:single pump,2: Double Pump)
1	Number 1
A	Design number

A C S - IV - 3 0 0 A

A	Mixer/Auto
C	Cementing
S	Skid Mounted
IV	Model product
300	Horse Power
A	Design number

CEMENTING TRUCK

The cementing truck is the most widely used core products of cementing unit series. At present, mainly utilized chassis are VOLVO, Mercedes, MAN, KENWORTH and North Benz. and main driving types chassis are 6X6, 8X4 and 8X6.

Three kinds of major cementing plunger pumps of TPA400, TPH400 or TPB600 and variety of plunger size can be selected according to different operating conditions.

- PCT-511B Single pump cementing truck
- PCT-621A Double pump cementing truck
- PCT-521A Double pump cementing truck

Options

	BENZ		KENWORTH
	China-made North BENZ		China-made Shanqi
	DETROIT engine		CAT engine
	CUMMINS engine		VOLVO engine
	ALLISON transmission		China-made Winstar transmission



PCT-511B Single pump cementing truck

1. Overview

PCT-511B system is a truck-mounted single pump cementing unit with TPH400 plunger pump. Standard configuration should be equipped with North Benz 2535A 6X6 chassis.

The input shaft of TPH400 pump is paralleled with centre line of engine, so the fluid end is located 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.

2. General specification

Max. working pressure 76.2Mpa (11,200Psi W/ 4 1/2" fluid end)

Max. flow: 1.50m³/min

Density range: 1.3-2.5g/cm³

Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3-2.3m³/min

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

Overall dimension (mm): 9700(L) x 2500(W) x 4200 (H)

Net weight: 24000kg

Configuration	
Chassis	North Benz 3525A 6X6
Engine	Caterpillar C13 475HP@2100RPM
Transmission	Allison 4700 OFS
Triplex pump	SERVA TPH400x4.5"
Mixing system	High energy recirculating jet mixing system
Density Control system	ACM- III.1 auto density control system
Slurry recirculating	Serva RA56
Booster pump	Serva RA56 (or RA45)
Mixing water pump	Serva RA43
Measuring tank volume	2X10BBL stainless steel tank
Mixing tank volume	1.6M ³



3. Features

- 1m³ surge tank available, utilized to make bulk cement delivery more stable so as to improve the accuracy of auto control system and slurry quality.
- The mixing power is partially supplied by chassis engine which increases the actual operation power of deck engine.
- TPH400 inline installation, makes the maintenance and service of pumps easier.
- High energy recirculating jet mixing system.
- Off-center dry cement valve avoids bulk cement from choking.
- Emergency kill system of air inlet shutoff.
- SPS non-leakage packing system
- Plunger pump overpressure protection 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.
- Diesel fired coolant pre-heat system available. The heater allows the engine to be preheated before starting without the use of external power.

PCT-521A Double pump cementing truck

1. Overview

PCT-521A Double pump cementing truck is mainly utilized for cementing, acidizing, pressure testing and other fluid pumping jobs, with standard configuration of VOLVO FM440 6X6 chassis.

The input shaft of TPH400 pump is paralleled with centre line of engine, so the fluid end is located at the rear of unit. This inline installation feature makes the maintenance and service of pumps easier. Compared with other cementing pumps with same size of plunger, TPH400 pump has features of maximum operation pressure, long stroke and high self-priming capacity.

2. General specification

- Max. working pressure: 14,000Psi (95.2 MPa, w/ 4" fluid end)
11,200Psi (76.2 MPa, w/ 4 1/2" fluid end)
- Max. flow: 2.7 m³/min(w/ one 4" and one 4 1/2" Fluid End)
3.0 m³/min(w/ two 4 1/2" Fluid Ends)
- Density range: 1.3-2.5g/cm³
- Auto control precision: ±0.02 g/cm³
- Mixing capacity: 0.3-2.3m³/min
- Working ambient temperature: -20°C ~ 50°C
- Overall dimension (mm): 11300(L) x 2600(W) x 4200 (H)
- Net weight: 33000kg



Technical specification			
Chassis	Volvo FM440 6X6		
Engine	Caterpillar C13 475 HP@2100 RPM (2 sets)		
	Caterpillar C15 540 HP@2100 RPM (optional)		
	Detroit S60 475HP@2100RPM (optional)		
Transmission	Allision 47000FS (5 forward gears + neutral gear) (2sets)		
Hydraulic system	Driven by chassis and deck 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	20,000PSI(138Mpa)	14,000PSI (96Mpa)	11,200PSI (77Mpa)
Max. discharge rate	0.86 m ³ /min	1.2 m ³ /min	1.52 m ³ /min
ACM-IV.1mixing system			
Mixer	High energy recirculating jet mixer		
Dry cement valve	Off-center bulk cement metering valve		
Mixing Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)		
Slurry recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)		
Densitometer	Micro Motion 3" F300 non-radioactive densitometer		
Computer system	AB PLC		
Others			
Mixing tank	12 BBL (2 m ³)	Fuel tank	400+300 L
Measuring tank	2X10 BBL (2X1.5 m ³)	Hydraulic oil tank	170 L
		Air tank	80L

3. Features

- TPH400 inline installation, makes the maintenance and service of pumps easier.
- The mixing power is partially supplied by chassis engine which increases the actual operation power of deck engine.
- 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.
- SPS non-leakage packing system.
- Plunger pump overpressure protection system, engine goes back to idle automatically, transmission shifts to neutral position.
- 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.
- Diesel fired coolant pre-heat system available. The heater allows the engine to be preheated before starting without the use of external power.

PCT-621A Double pump cementing truck

1. Overview

PCT-621A double pump cementing truck adopts TPB600 pump with the features of compact structure and light weight, with standard configuration of VOLVO FM440 6X6 chassis.

SERVA TPB600 pump has prominent features of smaller volume and lighter weight. With two pump back to back installation, the overall width will only be 2580mm which can extremely decrease the overall dimension (weight) of unit, especially applicable to truck-mounted units or offshore equipments.

2. General specification

Max. working pressure:

Max. pressure: 69 MPa(w/ 3 1/2" fluid end)

Max. pressure 97.5 MPa (w/ 3" fluid end)

Max. flow: 3.0 m³/min(w/ one 3" and one 4 1/2" Fluid End)

3.4 m³/min(w/ two 3 1/2" and one 4 1/2" Fluid Ends)

Density range: 1.3-2.5g/cm³

Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3-2.3m³/min

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

Overall dimension (mm): 11450(L) x 2600(W) x 4200 (H)

Net weight: 30000kg

Technical specification				
Chassis	VOLVO FM440 6X6			
Engine	Caterpillar C13 475 HP@2100 RPM (2 sets)			
	Caterpillar C15 540 HP@2100 RPM (optional)			
	Detroit S60 475HP@2100RPM (optional)			
Transmission	Allision 4700OFS (5 forward gears + neutral gear) (2sets)			
Hydraulic system	driven by chassis and deck transmission PTO, closed loop for c-pumps, open loop for agitators			
Triplex pump (2 sets)				
Model/type	SERVA TPB600 Reciprocal, horizontal single action plunger pump			
Stroke	6"(152.4mm)			
Max. B.H.P.	600 BHP (447Kw)			
Gear ratio	4.6:1			
Fluid End	3"	3 1/2"	4"	4 1/2"
Rated pressure	14,140PSI(97.5Mpa)	10,000PSI(69Mpa)	7,958PSI (56.1Mpa)	6,290PSI(43.4Mpa)
Max. flow	0.95 m ³ /min	1.27 m ³ /min	1.67 m ³ /min	2.13 m ³ /min
ACM-III.1 mixing system				
Mixer	High energy recirculating jet mixer			
Dry cement valve	Off-center bulk cement metering valve			
Mixing Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)			
Slurry recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)			
Densitometer	Micro Motion 3" F300 non-radioactive densitometer			
Computer system	AB PLC			
Others				
Mixing tank	8 BBL (1.4 m ³)	Fuel tank	400+300 L	
Average tank	20 BBL (2 x1.5 m ³)	Hydraulic oil tank	170 L	
Measuring tank	2x10 BBL (2x1.5 m ³)	Air tank	80L	

3. Features

- 1m³ surge tank available, utilized to make bulk cement delivery more stable so as to improve the accuracy of auto control system and slurry quality.
- The mixing power is partially supplied by chassis which increases the actual operation power of main engine.
- High energy recirculating jet mixing system.
- Off-center dry cement valve avoids bulk cement from choking.
- Emergency kill system of air inlet shutoff.
- SPS non-leakage packing system.
- Plunger pump overpressure protection 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.
- Diesel fired coolant pre-heat system available. The heater allows the engine to be preheated before starting without the use of external power.



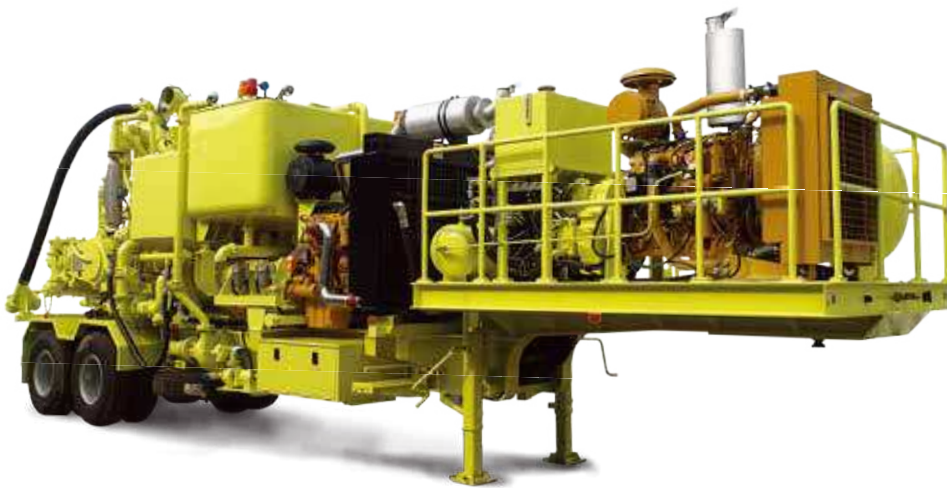
CEMENTING TRAILER

The cementing trailer is the economic and mobile cementing unit, applicable for cementing, acidizing, oil field pressure testing and other fluid pumping jobs in remote oilfield environment such as desert, etc.

Three kinds of major cementing plunger pump of TPA400, TPH400 or TPB600 and variety of plunger size can be selected according to different operating conditions and working habit. Desert type of trailer is also available.

PCTLR-521A Double pump cementing trailer

PCTLR-621A Double pump cementing trailer



PCTLR-521A Double pump cementing trailer

1.Overview

PCTLR-521A Double pump cementing trailer adopts TPH400 plunger pump as cementing pump.

The whole unit is mainly composed of semi-trailer chassis, two main engines, two transmissions, two TPH400 triplex pumps, C7 hydraulic power unit, air system and ACM-IV.1 auto mixing system.

The input shaft of TPH400 pump is paralleled with centre line of engine, so the fluid end is located 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.

2.General specification

Max. working pressure: 95.2 MPa (14,000Psi W/ 4" fluid end)

Max. flow: 2.7 m³/min(w/ one 4" and one 4 1/2" Fluid End)

Density range: 1.3-2.5g/cm³

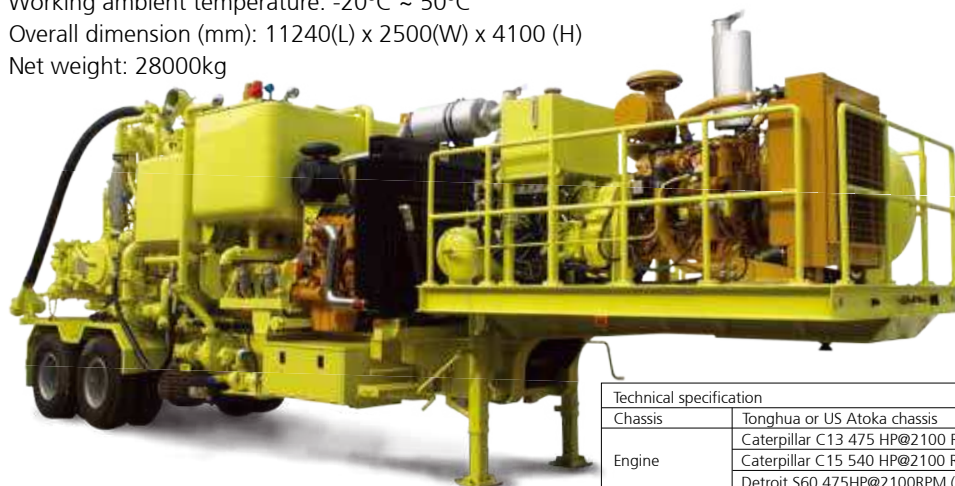
Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3-2.3m³/min

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

Overall dimension (mm): 11240(L) x 2500(W) x 4100 (H)

Net weight: 28000kg



Technical specification			
Chassis	Tonghua or US Atoka chassis		
Engine	Caterpillar C13 475 HP@2100 RPM (2 sets)		
	Caterpillar C15 540 HP@2100 RPM (optional)		
	Detroit S60 475HP@2100RPM (optional)		
Transmission	Allision 4700OFS (5 forward gears + neutral gear) (2sets)		
Hydraulic system	powered by C7 power unit, closed loop for c-pumps, open loop for agitators		
Power unit	Caterpillar C7 300HP@2200RPM engine supplies power to hydraulic system		
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 ³ /min	1.2 m ³ /min	1.52 m ³ /min
ACM-IV .1 mixing system			
Mixer	High energy recirculating jet mixer		
Dry cement valve	off-center bulk cement metering valve		
Mixing Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)		
Slurry recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)		
Densitometer	Micro Motion 3" F300 non-radioactive densitometer		
Computer system	AB PLC		
Others			
Mixing tank	12 BBL (2 m ³)	Fuel tank	900 L
Measuring tank	2x10 BBL (2x1.5 m ³)	Hydraulic oil tank	170 L
		Air tank	80L

3.Features

- Auxiliary C7 Power unit.
- SPS non-leakage packing system.
- Emergency kill system of air inlet shutoff.
- High energy recirculating jet mixing system.
- Portable wireless/ wired data acquisition system.
- Simplify operation, adapts to working habits in oilfield.
- Off-center dry cement valve avoids bulk cement from choking.
- 10" operation screen, convenient to monitor the working data.
- F300 Non-radioactive densitometer is easy to wash, safe and reliable.
- TPH400 inline installation, makes the maintenance and service of pumps easier.
- Plunger pump overpressure protection system, engine goes back to idle automatically, transmission shifts to neutral position.
- Domestic or imported trailer chassis, Low deck, Heavy duty, high temperature, desert type trailer chassis are available.

PCTLR-621A Double pump cementing trailer

1. Overview

PCTLR-621A double pump cementing trailer is a trailer mounted complete mixing and pump unit equipped with TPB600 plunger pump. The whole unit is mainly composed of semi-trailer chassis, two main engines, two transmissions, two TPB600 triplex pumps, C7 hydraulic power unit with hydraulic system and ACM-IV.1 auto mixing system. This unit is mainly utilized in cementing job, acidizing job, oil well pressure testing, and other fluid pumping job, applicable for cementing job in oilfield on land, in gobi desert and remote areas.

2. General specification

- Max. working pressure: 105MPa (w/ 3" fluid end)
- Max. flow: 4.2m³/min (w/ two 4 1/2" fluid ends)
- Density range: 1.3~2.5g/cm³
- Auto control precision: ±0.02 g/cm³
- Mixing capacity: 0.3~2.3m³/min
- Working ambient temperature: -20°C ~ 50°C
- Overall dimension (mm): 11240(L) x 2500(W) x 4000 (H)
- Net weight: 27500kg



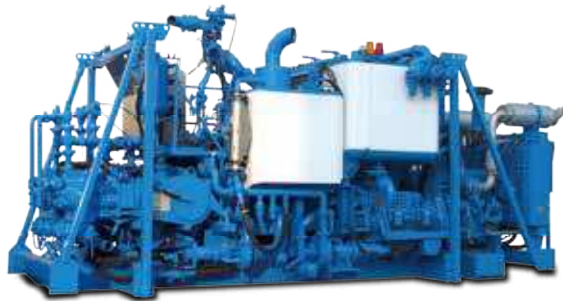
Technical specification				
Chassis	Tonghua or US Atoka chassis			
Engine	Caterpillar C13 475 HP@2100 RPM (2 sets)			
	Caterpillar C15 540 HP@2100 RPM (optional) Detroit S60 475HP@2100RPM (optional)			
Transmission	Allision 4700OFS (5 forward gears + neutral gear) (2sets)			
Hydraulic system	Powered by C7 power unit,, closed loop for c-pumps, open loop for agitators			
Power unit	Caterpillar C7 300HP@2200RPM engine supplies power to hydraulic system			
Triplex pump (2 sets)				
Model/type	SERVA TPB600 Reciprocal, horizontal single action plunger pump			
Stroke	6" (152.4mm)			
Max. B.H.P.	600 BHP (447Kw)			
Gear ratio	4.6:1			
Fluid End	3"	3 1/2"	4"	4 1/2"
Rated pressure	14,140PSI(97.5 MPa)	10,000PSI(69 MPa)	7,958(56.1MPa)	6,290PSI(43.4MPa)
Max. flow	0.95 m ³ /min	1.27 m ³ /min	1.67m ³ /min	2.13 m ³ /min
ACM-IV.1 mixing system				
Mixer	High energy recirculating jet mixer			
Dry cement valve	off-center bulk cement metering valve			
Mixing Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)			
Slurry recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)			
Densitometer	Micro Motion 3" F300 non-radioactive densitometer			
Computer system	AB PLC			
Others				
Mixing tank	8 BBL (1.4 m ³)	Fuel tank	900 L	
Average tank	20 BBL (2x1.5 m ³)	Hydraulic oil tank	170 L	
Measuring tank	2x10 BBL (2x1.5 m ³)	Air tank	80L	

3. Features

- Domestic or imported trailer chassis, Low deck, Heavy duty, high temperature, desert type trailer chassis are available.
- 1m³ surge tank available, utilized to make bulk delivery more stable so as to improve the accuracy of auto control system and slurry quality.
- Auxiliary C7 Power unit.
- High energy recirculating jet mixing system.
- Off-center dry cement valve avoids bulk cement from choking.
- Emergency kill system of air inlet shutoff.
- SPS non-leakage packing system.
- Plunger pump overpressure protection system, engine goes back to idle automatically, transmission shifts to neutral position.
- 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.

SKID MOUNTED CEMENTING EQUIPMENT

Skid mounted cementing equipment is mainly utilized in offshore or remote areas on land, such as desert where the vehicles are difficult to reach. Three kinds of major cementing plunger pumps of TPA400, TPH400 or TPB600 and variety of plunger size can be selected according to different operating conditions. The unit is fully considered the anticorrosion for offshore application. Zone-II explosion-proof unit is also developed, for the characteristics of offshore platform.



PCS-421B Auto density control double pump cementing skid

PCS-521B Auto density control double pump cementing skid

PCS-621B Auto density control double pump cementing skid

PCS-611A Auto density control single pump cementing skid

PCS-522B Offshore (Zone-II) double pump cementing skid



PCS-522B Offshore (Zone-II) double pump cementing skid

1. Overview

With the rising safety requirements of international and domestic regulations for working at potential hazardous area, especially in the last recent years, many international oil companies require service companies or manufacturers to provide the oil equipments working under Zone-II environment. During the actual oil drilling operation, particularly on offshore drilling platform, the equipment is unavoidable to be in this hazardous environment because of the restriction of site and installation.

To meet the requirements of international and domestic market, PCS-522B Offshore Explosion-proof Cementing Skid is the newly developed cementing equipment which can work under Zone-II environment.

TPD600 or TPH400 plunger pump can be selected according to different operating conditions and operation habit.

2. General specification (TPH400 pump)

Max. pressure: 95.2MPa (14,000Psi, W/4" fluid end)

Max. flow: 3.04m³/min (W/tow 4'1/2" fluid end)

Density range: 1.3-2.5g/cm³

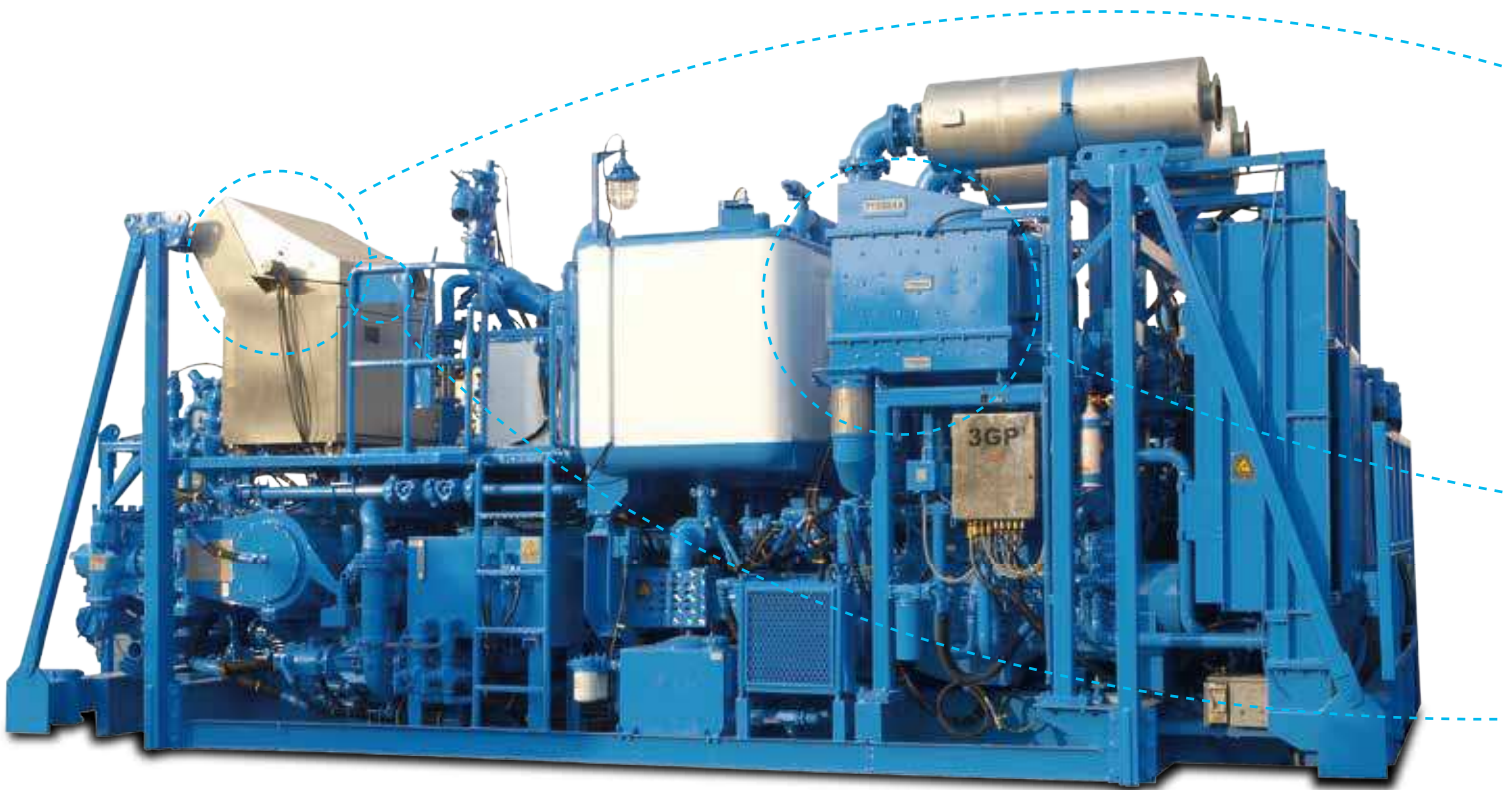
Auto control precision: +/-0.02 g/cm³

Mixing capacity: 0.3-2.3m³/min

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

Overall dimension (mm): 8000(L) x 2600(W)x 3100(H)

Net weight: 27,000kg



3. Engine explosion-proof

1. Choose mechanical fuel supply diesel engine 3406C; according to the characteristics of offshore platform, adopt air control method to operate engine, such as: air start, air control throttle operation, shutoff, etc.
2. Water cooled exhaust manifolds and turbocharger, water cooled flexible pipe; Designed to ensure the surface temperature below T3 (200°C)
3. Crankcase breather with integral flame trap, avoid hazardous air entering into engine.
4. Stainless steel spark arrestor and flame trapper. Stop hot carbon particles exiting the system and prevent flames reaching atmosphere.
5. Anti-static fan and belt, avoid causing static electricity during operation.
6. Pyroban 3GP engine monitor system, to give the automatic shut down of both intake air and fuel in the event of: over speed, over temperature and flammable gas in the atmosphere.
7. Other accessories: Flameproof EExd category 2G alternator, Ex d e II T4 increased safety deep discharge battery pack.

4. Electrical explosion protection

1. All non-explosion-proof electrical components are installed in "Positive pressure" explosion-proof console, so it is applicable for operating conditions in Zonell.
2. The components outside the control console, such as external transducer, electromagnetic valve, etc. meet the requirement of Zone-II explosion-proof.

5. Authorization

The whole unit can be offered with explosion-proof certificate of domestic and international certificate authority.



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: 3.04m³/min (w/ two 4 1/2" fluid ends)

Density range: 1.3-2.5g/cm³

Auto control precision: +/-0.02g/cm³

Mixing capacity: 0.3-2.3m³/min

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

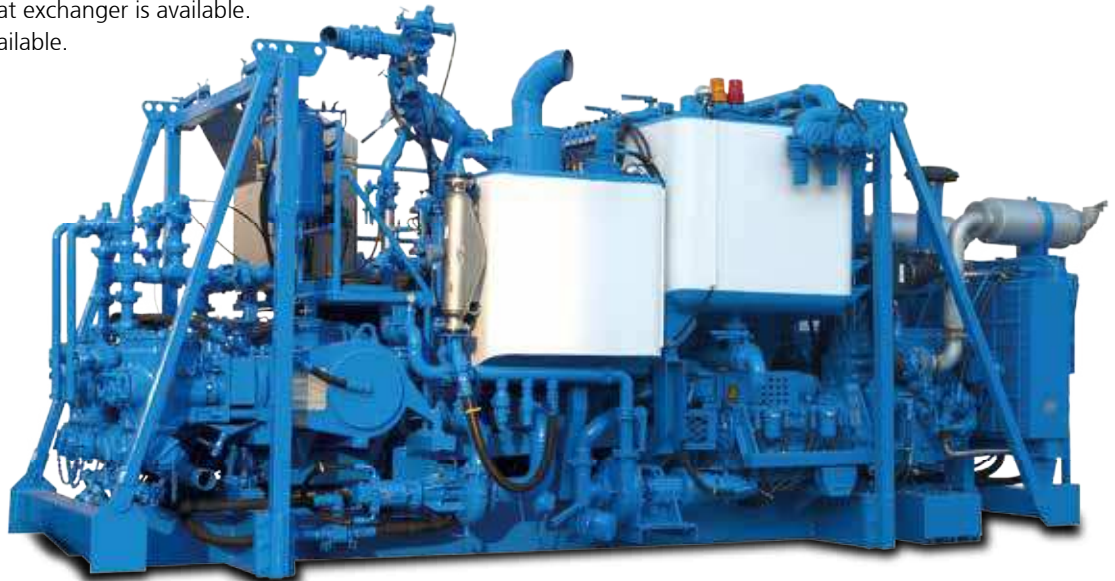
Overall dimension (mm): 7200(L) x 2500 (W) x 3250 (H)

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.
- SPS 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) Detroit 560 475HP@2100RPM (optional)		
Transmission	Allision 4700OFS (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 ³ /min	1.2 m ³ /min	1.52 m ³ /min
ACM-IV.1 mixing system			
Mixer	High energy recirculating mixer		
Dry cement valve	off-center bulk cement metering valve		
Mixing water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)		
Recirculating/pressure pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)		
Densitometer	Micro Motion 3" F300 non-radioactive densitometer		
Computer system	AB PLC		
Others			
Mixing tank	12 BBL (2 m ³)	Fuel tank	900 L
displacement tank	2 x 10 BBL (2 x 1.5 m ³)	Hydraulic oil tank	170 L
		Air tank	80L



PCS-611A Auto density control single pump cementing skid

1. Overview

PCS-611A Auto density control single pump cementing skid is new generation of cementing unit with adoption of long TPC600 pump and ACM auto mixing system.

The prominent feature of extended TPC600 plunger pump is based on the merits of TPB plunger pump, it makes packing replacement and maintenance easier so it is the ideal pump for single pump unit.

2. General specification

Max. working Pressure: 44MPa(w/ 4 1/2" fluid end)

Max. Flow: 2.1m³/min (w/ 4 1/2" fluid end)

Density range: 1.3-2.5g/cm³

Auto control precision: ±0.02 g/cm³

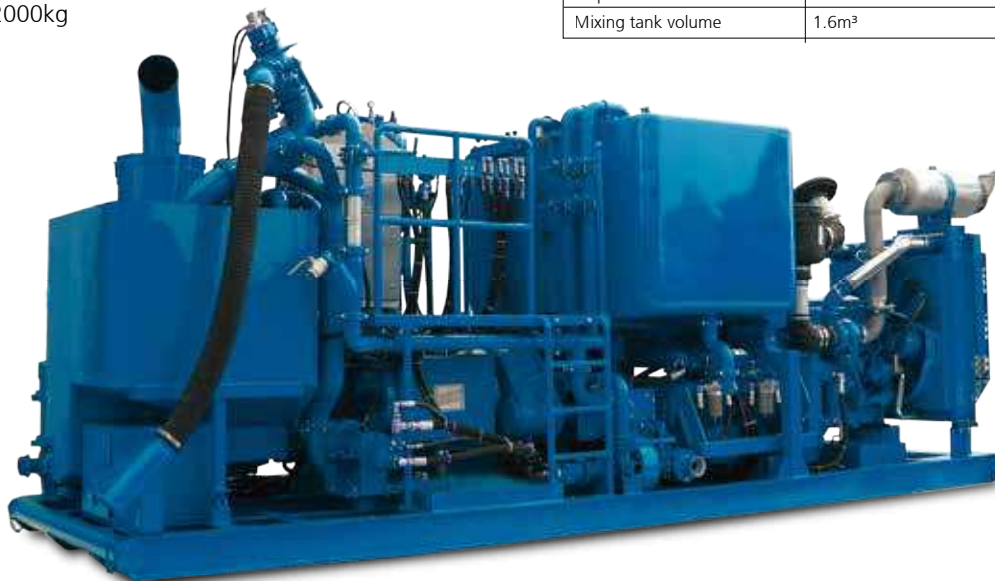
Mixing capacity: 0.3-2.0m³/min

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

Overall dimension (mm): 6300(L) x2300(W) x3100(H)

Net weight: 12000kg

Configuration	
Engine	Caterpillar C13 475hp@2100rpm
Transmission	Allision 4700 OFS
Triplex pump	SERVA TPC600x4.5"
Power unit	Cummins hydraulic power unit 6BT5.9A 180HP @2500RPM
Mixing system	High energy recirculating Jet mixing system
Density Control system	ACM-III.1 Auto control system
Slurry recirculating pump	Serva RA56
Booster centrifugal pump	Serva RA45
Mixing water pump	Serva RB23
Displacement tank	2x10 BBL stainless steel tank
Mixing tank volume	1.6m ³



3. Features

- The skid adopts long TPC600 plunger pump which makes packing maintenance easier.
- The mixing power is supplied by independent power unit which increases the actual operation power of main engine.
- The power sources of slurry recirculating pump and triplex pump are independent, so slurry quality is not affected by the fluctuation of triplex pump pressure or flow rate.
- Dedicated booster centrifugal pump makes recirculating system and booster system mutually independent, and thus avoid two systems influencing each other and improve the quality of mixing.
- High energy recirculating jet mixing system.
- Off-center dry cement valve avoids bulk cement from choking effectively.
- Emergency kill system of air inlet shutoff.
- 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.

PCS-621B Auto density control double pump cementing skid

1. Overview

PCS-621B Auto density control double pump cementing skid is new generation of cementing unit with adoption of plunger pump TPB600 and ACM-III.1 auto mixing system.

SERVA TPB600 pump has prominent features of small size and lighter weight. With two pump back to back installation, the overall width will only be 2580mm which can extremely decrease the overall dimension (weight) of unit, especially applicable to truck-mounted units or offshore equipments.

The high energy mixing system is mainly powered by two transmissions PTOs. The entire skid is very compact, so it is applicable for the areas with strict requirements for space, such as offshore drilling platform, etc.

2. General specification

Max. working pressure: 97.5MPa (14,140Psi W/ 3" fluid end)

Max. flow: 4.2m³/min (w/ two 4 1/2" fluid ends)

Density range: 1.3~2.5g/cm³

Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3~2.3m³/min

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

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

Net weight: 23500kg

3. Technical specification

Technical specification				
Engine	Caterpillar C13 475 HP@2100 RPM (2sets)			
	Caterpillar C15 540HP@2100RPM (optional)			
	Detroit S60 475HP@2100RPM (optional)			
Transmission	Allision 4700OFS (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 TPB600 Reciprocal, horizontal single action plunger pump			
Stroke	6" (152.4mm)			
Max. B.H.P.	600 BHP (447Kw)			
Gear ratio	4.6:1			
Fluid End	3"	3 1/2"	4"	4 1/2"
Rated pressure	14,140PSI(97.5Mpa)	10,000PSI(69Mpa)	7,958PSI (56.1Mpa)	6,290PSI(43.4Mpa)
Max. flow	0.95 m ³ /min	1.27 m ³ /min	1.67 m ³ /min	2.13m ³ /min
ACM-III.1 mixing system				
Mixer	High energy recirculating jet mixer			
Dry cement valve	off-center bulk cement metering valve			
Mixing water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)			
Recirculating/pressure pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)			
Densitometer	Micro Motion 3" F300 non-radioactive densitometer			
Computer system	AB PLC			
Others				
Mixing tank	8 BBL(1.4m ³)	Fuel tank	900L	
Average tank	20BBL (2x1.5m ³)	Hydraulic oil tank	170L	
displacement tank	2x 10BBL (2x1.5m ³)	Air tank	80L	

4. Features

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



PCS-421B Auto density control double pump cementing skid

1. Overview

Model PCS-421B is an integral skid mounted mixing and pumping unit which is state-of-the-art in continuous mixing and density automatic control.

It mainly consists of skid frame, two engines, two transmissions, two TPA400 triplex pumps, hydraulic system, high and low pressure system and ACM auto mixing system. The High energy mixing system is powered from two transmissions PTO. The entire skid is very compact and applicable for offshore drilling platform.

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 oil field.

2. General specification

Max. working pressure: 69MPa (w/ 3 3/4" fluid end)

Max. flow: 3.28m³/min(w/two 5" fluid ends)

Density range: 1.3~2.5g/cm³

Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3~2.3m³/min

Working temperature: -20°C ~ 50°C

Overall dimension (mm): 7400(L) x2500(W) x3265(H)

Net weight: 20000kg

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.
- SPS non-leakage packing system.
- Emergency mixing system.
- F300 Non-radioactive densitometer, easy to wash, safe and reliable.
- Simplify operation, adapts to working habits in oilfield.
- 10" operation screen, convenient to monitor and input the working data.
- Portable wireless / wired data acquisition system available.
- Engine auxiliary cold start, pneumatic or hydraulic start available.
- Fan radiator or sea water heat exchanger are available.
- C7 auxiliary power unit is available.
- ZONE-II Explosion-proof kit is available for application to hazardous areas.

Technical specification			
Engine	Caterpillar C13 475 HP@2100 RPM (2sets)		
	Caterpillar C15 540HP@2100RPM (optional)		
	Detroit S60 475HP@2100RPM (optional)		
Transmission	Allision 4700OFS (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 TPA400 Reciprocal, horizontal single action plunger pump		
Stroke	5" (127mm)		
Max. B.H.P.	400 BHP (294Kw)		
Chain case ratio	27:40		
Gear ratio	25:108		
Fluid End	3 3/4"	4 1/2"	5"
Rated pressure	69MPa	48.3MPa	38MPa
Max. discharge rate	0.92 m ³ /min	1.34 m ³ /min	1.64 m ³ /min
ACM-III.1 mixing system			
Mixer	High energy recirculating mixer		
Dry cement valve	off-center bulk metering valve		
Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)		
Recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)		
Densitometer	Micro Motion 3" F300 non-radioactive densitometer		
Computer system	AB PLC		
Others			
Mixing tank	8 BBL (1.4 m ³)	Fuel tank	900 L
Measuring tank	2X10 BBL (2X1.5 m ³)	Hydraulic oil tank	170 L
		Air tank	80L



PCS-821B Auto density control double pump cementing skid

1. Overview

PCS-821B Auto density control double pump cementing skid is newly developed cementing equipment based on QPA1000 plunger pump and ACM-IV.1 auto mixing system.

QPA1000 pump is applicable for deep well cementing, sand control equipments, small and medium-sized fracturing jobs. With features of light weight and compact structure, it is the new model with power between 600HP and 1800HP which fills up the gap with no suitable cementing plunger pump. Many components of QPA1000 and TPB/TPD600 pump can be used interchangeably. The high energy mixing system of the skid is mainly driven by two transmissions PTO. The entire skid is compact, applicable for the areas with strict requirements for space, such as offshore drilling platform, etc.

2. General specification

Pressure range: Max. pressure 14,140Psi (97.5MPa, w/ 3" fluid end)

Max. Flow: 7m³/min (w/ two 4 1/2" fluid ends)

Density range: 1.3~2.5g/cm³

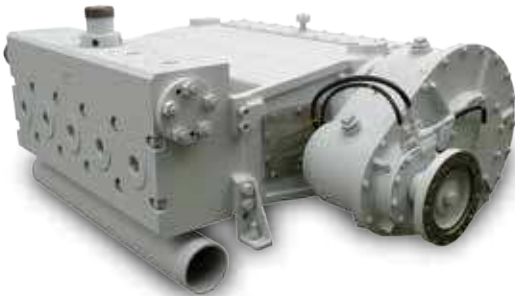
Auto control precision: ±0.02 g/cm³

Mixing capacity: 0.3~2.3m³/min

Working temperature: -20°C ~ 50°C

Overall dimension (mm): 7200(L) x3100(W) x3250(H)

Net weight: 28000kg



Technical specification				
Engine	Caterpillar C27 1150 HP@2100 RPM (2sets)			
Transmission	Allision S8610			
Hydraulic system	Driven by transmission PTO, closed loop for c-pumps, open loop for agitators			
Triplex pump (2 sets)				
Model/type	SERVA QPA1000 Reciprocal, horizontal single action plunger pump			
Stroke	6" (152.4mm)			
Max. B.H.P.	1000 BHP (746Kw)			
Gear ratio	4.6:1			
Fluid End	3"	3 1/2"	4"	4 1/2"
Rated pressure	14,140Psi (97.5MPa)	10,000Psi (69MPa)	7,958Psi(56.1MPa)	6,290Psi(43.4MPa)
Max. discharge rate	1.65 m ³ /min	2.13 m ³ /min	2.78 m ³ /min	3.52m ³ /min
ACM-IV.1mixing system				
Mixer	High energy recirculating jet mixer			
Dry cement valve	off-center bulk cement metering valve			
Mixing Water pump	SERVA 4X3 (1.5 m ³ /min@0.78MPa)			
Slurry recirculating/booster pump	SERVA RA56 (3.7 m ³ /min@0.45MPa) (two sets)			
Densitometer	Micro Motion 3" F300 non-radioactive densitometer			
Computer system	AB PLC			
Others				
Mixing tank	8 BBL (1.4 m ³)	Fuel tank	1500 L (optional)	
Measuring tank	2X10 BBL (2X1.5 m ³)	Hydraulic oil tank	200 L	
Air tank	80L			

3. Features

- Off-center dry cement valve avoids bulk from choking.
- Emergency kill system of air inlet shutoff.
- Plunger pump overpressure protection system.
- SPS non-leakage packing system.
- Emergency mixing system.
- F300 Non-radioactive densitometer is easy to wash, safe and reliable.
- Simplify operation, adapt to working habits in oilfield.
- 10" operation screen, convenient to monitor the working data.
- Portable wireless/ wired data acquisition system.

AUTO MIXING EQUIPMENT

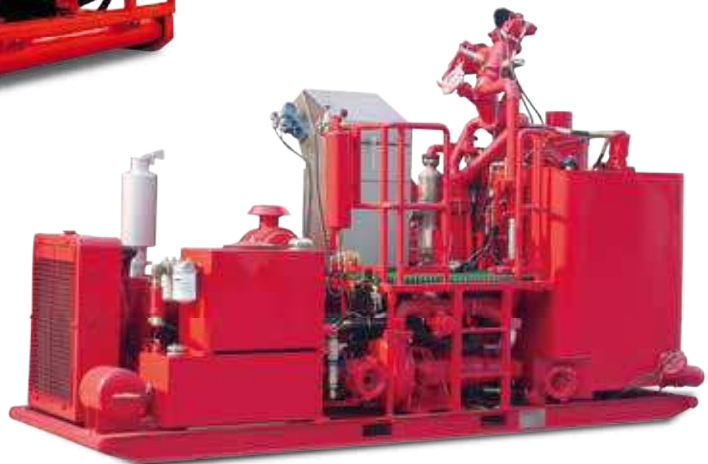
Through 10 years introduction and development, high energy mixing system and ACM auto density control technology have become the most accurate mixing system of the world's density control technology with the best mixing capacity, and used widely in North America, Middle East, Africa, China offshore and on land. The ACM-IV.1 auto liquid level/density control system, ACM-V "one-key" auto control system and cementing unit net-work control system have become the most advanced technology available in the world at present.



ACS-IV-300 Auto density control mixing skid

ACS-III-180 Auto density control mixing skid

ACM-IV Auto density control system



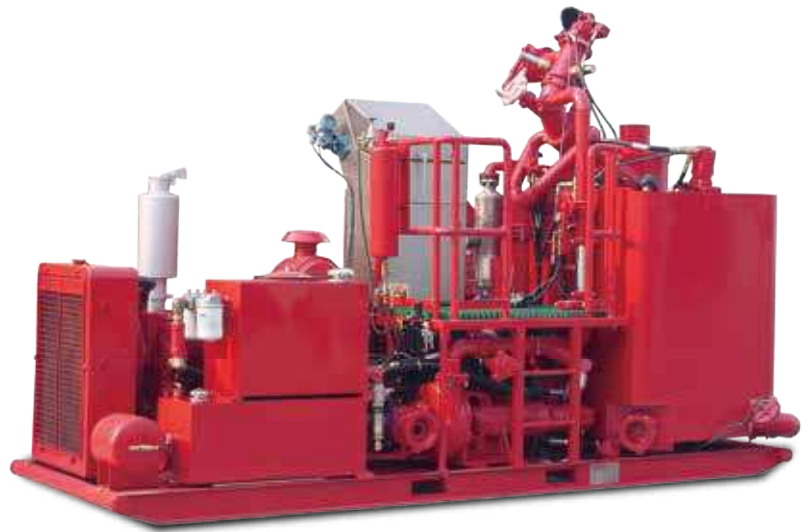
ACS-III-180 Auto density control mixing skid

1. Overview

ACS-III-180 Auto density control mixing skid is a new generation cementing mixing unit with many advanced features. The core parts of ACM-III adopt the newest mixing and density control technology, which divide the mixing tank into mixing tub and averaging tub for advantages of more accuracy and promptness. At the same time it can increase the holding time in average tank to make the slurry more evenly.

2. General specification

Engine power: 180HP@2500RPM
Mixing capacity: 0.3-2.0 m³/min
Mixing tank volume: 1.2 m³
Averging tank volume: 1.2 m³
Density range: 1.3-2.5 g/cm³
Auto control precision: ±0.02 g/cm³
Working ambient temperature: -20°C -50 °C
Overall dimension (mm): 4000(L) x 1400(W)x 2860(H)
Net weight: 3,500kg



Configuration

Engine: Cummins6BT5.9A 180HP@2500RPM
Hydraulic system: Eaton Heavy close-loop hydraulic system
Slurry Recirculation pump: Serva RA56
Mixing Water pump: Serva RB23
Mixing system: high energy mixing system
Density Control system: ACM-III.1 auto control system
Mixing tank volume: 1.2 m³
Average tank volume: 1.2 m³

Optional configuration

Engine: Cummins QSBC185 185HP@2500RPM or Caterpillar C7 300HP@2200RPM
Measuring water tank: 2X10 BBL or 2X1.5 m³
Control System: ACM-IV.1

3. Features

- Utilize advanced high energy mixing technology. By the first mixing in high energy mixer, recirculating between recirculation pump and mixing tank, and blending of agitators, it can ensure the stable quality of slurry.
- The mixing tank is divided into two parts: mixing tub and averaging tub so as to improve the slurry's quality effectively and keep slurry density stable continuously.
- New off-center dry cement valve avoids bulk cement from choking.
- F300 non-radioactive densitometer is easy to wash, safe and reliable.
- Logical layout and compact structure, easy transporting and hoisting with forklift hole and lift pin.
- Friendly user interface and simple operation, suitable for working habits in oil field.

ACS-IV-300 Auto density control mixing skid

1. Overview

ACS-IV-300 Mixing skid adopts ACM-IV.1 auto density control system which can realize full-auto control of density and liquid level so as to make the density feedback and control more prompt and accurate. Meanwhile, optimize software design according to working habits in oilfield which greatly simplifies the operation.

2. General specification

Engine power: 300HP@2500RPM
 Mixing capability: 0.3-2.3 m³/min
 Mixing tank volume: 1.2 m³
 Averaging tank volume: 3.2m³
 Density range: 1.3-2.5 g/cm³
 Auto control precision: +/-0.02 g/cm³
 Working ambient temperature: -20°C-50 °C
 Overall dimension: 4500 (L) x2500(W)x 3000(H)
 Net weight: 6,500 kg

Configuration

Engine: caterpillar C7 300HP@2200RPM
 Gear box: Funk 59000 series
 Slurry Recirculating pump: Serva RA56
 Booster/transfer pump: Serva RA56
 Mixing Water pump: Serva 4X3
 Mixing system: high energy mixing system
 Control system: ACM-IV.1 liquid level/density auto control system
 Mixing tank volume: 1.2m³
 Average tank volume: 3.2m³



3. Features

- 300HP diesel engine, sufficient power for high energy mixing system.
- Advanced high energy mixing technology. By the first mixing in high energy mixer, recirculating between recirculation pump and mixing tank, and blending of agitators, it can ensure the stable quality of slurry.
- Adopts ACM-IV.1 mixing system to realize automatic control of water, bulk, density and mixing tank liquid level.
- 3.2m³ average tank, by which slurry can acquire enough holding time for mixing more evenly and a small batch mixing with Max. capacity of 4.5 m³.
- New off-center dry cement valve avoids bulk cement from choking.
- F300 non-radioactive densitometer is easy to wash, safe and reliable.
- Dedicated booster/transfer pump, priming the triplex pump to increase volume efficiency.
- Friendly user interface and simple operation, suitable for working habits in oil field.

ACM-IV Auto density control system

The Automatic Cement Mixer ("ACM IV") with the Density and Tub Level Control is designed to meet the highest specifications for High Energy Recirculating Mixing with the aid of the latest Computer Control Technology. The ACM density and tub level control systems consists of two interactive parts. The first part that controls density consists of four component groups that work interactively together to produce a consistent quality blend of cement and a wide range of slurry densities. They are: 1) high energy mixer, 2) bulk cement metering valve and 3) density control computer and 4) densitometer. The second part controls the tub level function and consists of: 1) level sensor, 2) proportional control valve, 3) water control actuator and 4) position sensor. These devices interact with the control computer to automatically control the mixing rate to maintain a stable tub level. The tub level system works similarly to the density control system in that it calculates a calibration factor for the water metering valve. It calculates what the water rate should be to maintain or correct the tub level and then positions the water metering valve to a position based on its current calibration.



BATCH MIXING EQUIPMENT

With the improvement of technical requirements for cementing job, the unit performance also advances higher standard. SJS develops all kinds of batch mixing equipments for high density, and high quality slurry. Compared with other mixing units, it has the features of wide density range (especially high density), high density precision, and continuous and batch mixing. The units are accepted and applied by more and more oil field users.

BACS-300-100A Batch and continuous mixing skid

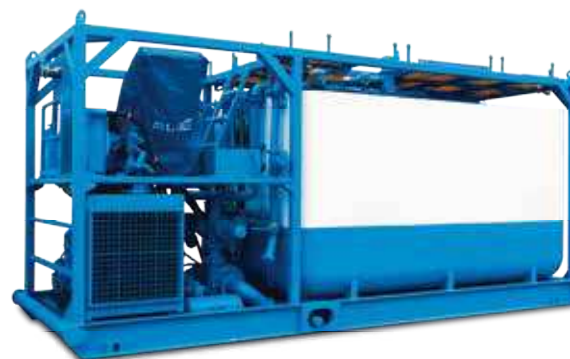
BACT-300-100A Batch and continuous mixing truck

BCS-300-100B Manual batch mixing skid (Single tank)

BCS-300-100A Manual batch mixing skid (Double tank)

BACTLR-300-100B Continuous batch mixing trailer

BACTLR-300-100A Batch and continuous mixing trailer



BACS-300-100A Batch and continuous cement mixing skid

1. Overview

Model BACS-300-100A batch and continuous mixing skid utilizes the ACM-III which is the latest in mixing and density control technology. It can realize batch mixing and continuous supplying the slurry to a cementing pumper.

2. Work process

1. Continuous mixing operation: deliver mixed slurry from mixing tank to triplex pump's suction directly via transfer pump of cementing equipment.
2. Batch mixing operation: deliver mixed slurry from mixing tank to the two batch mixing tanks alternately, to realize batch mixing and continuous supplying.
3. Special slurry mixing: for special formula slurry (such as high density slurry), it can use the regular density slurry as the basic fluid, add weight additive through hopper on the top of unit, and then recirculate it in unit via recirculating pump.

3. General specification

Engine power: 300HP@/2200 RPM
 Mixing Capability: 0.3-2.3m³/min
 Density range: 1.3-2.5g/cm³
 Auto control precision: +/-0.02 g/cm³
 Batch mixing tank volume: 2x50BBL/2x8m³
 Mixing tank volume: 8BBL/1.2m³
 Working ambient temperature: -20°C~+50°C
 Overall dimension: 7850 (L) x 2500(W) x 3150 mm(H)
 Net weight: 11500kg



Configuration

Engine: caterpillar C7 300HP@2200RPM
 Gear box: Funk 59000 series
 Hydraulic system: Eaton heavy close hydraulic system
 Slurry recirculating pump: Serva RA56
 Booster/transfer pump: Serva RA56
 Mixing water pump: Serva 4X3
 Mixing system: high energy system
 Control system: ACM-III.1 auto density control system

4. Features

- Continuous/batch mixing; manual/auto control.
- Utilizes new high energy mixing technology. Slurry enters into batch mixing tank via high energy mixing system and then average to ensure the stable quality of slurry.
- Adopts the international popular configuration 2x50BBL, and install large power agitator in each tank.
- Equipped with anti-impact and lifting frame, for easy transporting and hoisting.
- High efficiency and water-saving semi-automatic tank cleaning system.

BACT-300-100A Batch and continuous mixing truck

1. Overview

BACT-300-100A Batch and continuous mixing truck is new equipment designed for continuous and batch mixing of high quality slurry, according to actual operating condition in oil field,

The unit adopts North Benz 6 X4 chassis equipped with two hydraulic auxiliary jacks at each side, which can meet the requirements of mobility and weight bearing for a batch mixing job.

The deck engine supplies power to whole mixing equipment, through driving the hydraulic system to power the three centrifugal pumps and agitators. The unit is mainly used in cementing jobs with high demand of slurry density.

2. General specification

Engine power: 300HP@2200 RPM

Mixing capacity: 0.3~2.3m³/min

Density range: 1.3~2.5g/cm³

Auto control precision: ± 0.02 g/cm³

Batch mixing tank volume: 2x50BBL/2x8 m³

Mixing tank volume: 8BBL/1.2 m³

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

Overall dimension (mm): 10250 (L) x 2500 (W)x 4150 mm (H)

Net weight: 22000kg

Configuration

Chassis: North Benz 6X4 or 6X6

Engine: caterpillar C7 300HP@2200RPM

Gear box: Funk 59000 series

Hydraulic system: Eaton heavy close hydraulic system

Slurry recirculating pump: Serva RA56

Booster/transfer pump: Serva RA56

Mixing Water pump: Serva 4X3

Mixing system: high energy mixing system

Control system: ACM- III.1 auto density control system



3. Features

- Auxiliary hydraulic jacks meets demand for weight bearing.
- Continuous/batch mixing; manual/auto control.
- Utilize new high energy mixing technology. Slurry enters into batch mixing tank after mixed in high energy mixing system, and then average to ensure the stable quality of slurry.
- Adopt the international popular configuration 2x50BBL, and install large power agitator in each tank.
- High efficiency and water-saving semi-automatic batch mixing tank cleaning system.

BCS-300-100 Manual batch mixing skid

1. Overview

BCS-300-100 Manual batch mixing skid is the economic equipment based on continuous and batch mixing system without ACM system, which is applicable for slurry batch mixing during cementing job. Working principle: keep the slurry circulating via recirculation centrifugal pump, then add the bulk cement or dry additives into the recirculating line via jet nozzle and dry cement valve on the top of tank. The batch mixing tank can be configured with single tank 120BBL or 2X50BBL double tank.

2. General specification

Manual batch mixing	single tank	double tank
Gross Weight	13t	11t
Batch mixing tank volume	120 BBL	2x50 BBL
Density range	1.3-2.7 g/cm ³	1.3-2.7 g/cm ³
Working ambient temperature	-25°C ~50°C	-25°C ~50°C



Configuration

	Single tank	Double tank
Engine	Caterpillar C7 300HP@2200RPM	Caterpillar C7 300HP@2200RPM
Gear box	Funk 59000series	Funk 59000series
Hydraulic system	Eaton heavy-duty close-loop hydraulic system	Eaton heavy duty close-loop hydraulic system
Recirculation centrifugal pumpI	SERVA RA56	SERVA RA56
Recirculation centrifugal pumpII	SERVA RA56	SERVA RA56
Ejection system	Simple jet system+ hopper	Simple jet system+ hopper
Dry cement valve	Manual control	Manual control
Batch mixing tank	single tank+agitator	Double tank+agitator

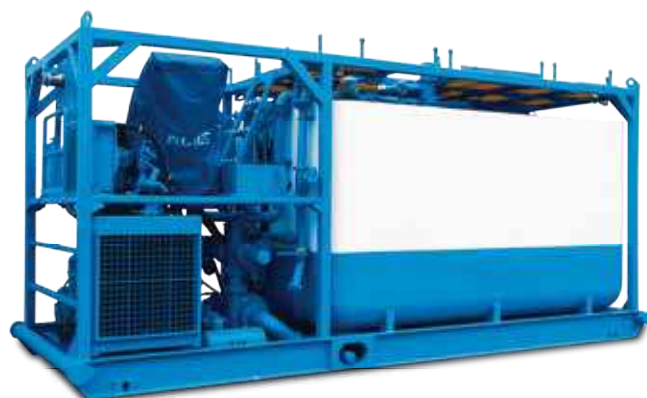
Optional configuration

Mixing system: high energy mixing system.

Power system: Centrifugal pumps and agitator can be driven by electric motors directly, and the unit can meet the demand of Zone-II explosion-proof.

4. Features

- Low cost, Without ACM system and high energy mixing system.
- Adopts international popular single tank or 2x50BBL configuration, and install large power agitator in each tank.
- Anti-impact and lifting frame, for easy transporting and hoisting.
- High efficiency and water-saving semi-automatic tank cleaning system.
- Meets the demand of ZONE-II and applicable for offshore platform, if electric motor system is chosen.



BACTLR-300-100 Continuous and batch mixing trailer

1. Overview

BACTLR-300-100A Continuous batch mixing trailer is designed for continuous and batch mixing of high quality slurry, according to actual operating condition in oil field,

The trailer is equipped with two extra mechanic jack at the tail end which can meet the requirements of weight bearing during the mixing job.

The deck engine supplies power to whole mixing equipment, through driving the hydraulic system to power the three centrifugal pumps and agitators. The unit is mainly used in cementing jobs with high demand of slurry density.

2. General specification

Engine power: 300HP@2200 RPM

Mixing capacity: 0.3~2.3m³/min

Density range: 1.3~2.5g/cm³

Auto control precision: ±0.02 g/cm³

Batch mixing tank volume: 2x50BBL/2x8 m³

Mixing tank volume: 8BBL/1.2 m³

Working temperature: -20°C~+50°C

Overall dimension (mm): 11600 (L) x 2500 (W)x 4150 mm (H)

Net weight: 22000kg

Configuration

Trailer chassis: domestic or imported trailer chassis

Engine: caterpillar C7 300HP@2200RPM

Gear box: Funk 59000 series

Hydraulic system: Eaton heavy-duty close-loop hydraulic system

Slurry recirculating pump: Serva RA56

Booster/transfer pump: Serva RA56

Mixing Water pump: Serva 4X3

Mixing system: high energy mixing system

Control system: ACM-III.1 auto density control mixing system



3. Features

- Extra mechanic jack meets demand for weight bearing.during mixing operation.
- Continuous/batch mixing; manual/auto control.
- Utilizes new high energy mixing technology. Slurry enters into batch mixing tank though mixing in high energy mixing system, and then average to ensure the stable quality of slurry.
- Adopts the international popular configuration 2x50BBL, and install large power agitator in each tank.
- High efficiency and water-saving semi-automatic batch mixing tank cleaning system.



AUXILIARY CEMENTING EQUIPMENT

To satisfy the requirements of oilfield cementing job, the auxiliary equipments are developed according to different cementing techniques, including upstream water supply, cement supply, air supply, adding and mixing of chemicals, downstream job data acquisition, cementing instrument van/instrument skid, etc.

- Offshore continuous liquid additive skid
- Remote wireless cementing data acquisition system
- portable centrifugal pump skid
- Cementing instrument van
- Portable centrifugal pump skid
- Water tank skid
- Portable air compressor skid



Offshore continuous liquid additive skid

1. Overview

The LAS system is designed to continuously add liquid additives into the slurry during the process of offshore or inland oilfield cement jobs. It greatly simplifies the storage of base cement materials. The system makes it possible to satisfy various cement jobs that have different technical requirements with only one grade of cement material stored.

The LAS system is a more scientific and rational solution to liquid additive addition. In addition, the LAS system is the most common practice introduced by many of the major cementing companies.

For a specific cement job, first input into the programmable controller parameters for additive and its proportion. The Serva LAS system automatically delivers the desired amount of each kind of additive in accordance with the flow rate detected from the cement pump skid (truck). It is more convenient and less costly than the regular practice because the system ensures the slurry is strictly made up according to the real amount required for a cement job. It reduces the amount of liquid additives usage and also helps protect the environment (less disposal of unused material).

2. General specification of electric drive LAS

Technical specification				
Net weight	4.2t			
Technical specification (4 standard modular)				
Voltage	380V/50hz or 460V/60hz			
Electrical motor	Explosion proof type motor			
Metering pump	Roper 71000 series screw pump			
Screw pump				
	Pump modular one	Pump modular two	Pump modular three	Pump modular four
Model	713025	71201	71202	71205
Working speed (RPM)	200-1200	200-1200	200-1200	100-900
Displacement (L/min)	2-11.8	6.5-39	15.3-91.7	19.7-177
Liquid storage tank				
	Pump modular one	Pump modular two	Pump modular three	Pump modular four
Length (mm)	1066	1066	1066	2080
Width (mm)	1219	1219	1219	1219
Height (mm)	1300	1300	1300	1300
Volume (gal)	1325(350)	1325(350)	1325(350)	2000(550)
Agitator	Pneumatic agitation/Electrical motor reducer			



Surge tank

General specification

Working pressure: 6-9Psi

Designed pressure: 0.2MPa

Effective Volume: 2m³

Overall dimension (mm): 1500 (L) x 1500 (W) x 3100 (H)

Weight: 1500kg



Remote wireless cementing data acquisition system

The remote wireless cementing data acquisition system is composed of wireless data transmitting terminal and receiving terminal. The wireless data acquisition software equipped in wireless data transmitting terminal can be used with SJS newly developed and researched auto mixing control system ACM-IV.1. The related operation information of cementing job data (such as water flow, cement valve position, water valve position, slurry density, plunger pump pressure, discharge rate, etc.) are transmitted to the receiver of wireless data receiving box via wireless communication method, and then printed out in the form of report or curve via wireless data acquisition software installed in laptop.

Wireless data acquisition adopts wireless series port modem for data transmission, avoids the limitation of wired connections and improves the reliability of data transmission and safety of operator. The acquisition system has the features of small volume, easy operation, stable performance, high anti-interference, can ensure long distance signal transmission and applicable for operation in oil field.

Wireless data communication can also adopt Internet for data transmission. The field acquisition terminal transmits job data to remote cementing data server; the server receives real-time job data and stores them into database. Users can monitor real-time job data and check history job data by visiting cementing data server website. If the laptop supports wireless Internet access (equipped with wireless card, etc.), users can monitor

job data at any regions with network to realize the remote mobile monitoring.

Internet data communication also adopts BGAN service to realize global satellite communication via maritime satellite, which is convenient for users checking job data through Internet at remote areas where mobile signals can't cover.

Remote wireless cementing data acquisition system is composed of wireless data transmitting terminal and wireless data receiving terminal. The system can realize wireless transmitting and receiving of remote cementing & mixing job data, which has the features of remote communication, stable performance, high anti-interference and applicable for operation in oil field.



Wireless communication cementing data transmitting box



Wireless communication cementing data receiving box



Cementing data Internet transmitting terminal



Cementing data wireless network receiving terminal



Portable air compressor skid

1. Overview

The portable air compressor skid mainly supplies stable, clean, dry and high quality compressed air.

The compressed air directly produced by screw air compressor contains large amount of moisture, slight oil and dust, which can't be directly used in situations for clean and dry air, and the compressed air needs post treatment. The air compressor skid has the above functions. It mainly composed of air compressor, air dryer, air tank, skid frame, manifold and pressure relief system, widely used in situations with high requirements for compressed air, such as engine air start, pneumatic tools and dry cement mixing.

The adoption of diesel engine drive moveable air compressor is convenient for moving and applicable for operation in the fields and remote oil field.

2. General specification

Operating environment: below 5000m

Applicable temperature: -20°C ~ 40 °C (can adopt insulation box under low temperature)

Air compressor displacement: 11.1m³/min

Working pressure: 0.7MPa

Air tank capacity: 1.5m³

Discharge pressure: 0.7MPa

Regulated pressure: 0.1MPa ~ 0.35 MPa

Pressure dewpoint: ≤2 ~ 10°C

Oil content in outlet air: ≤0.01ppm

Dust particle size in outlet air: ≤0.01µm



3. Configuration

1. Air compressor: ATLAS X AS186Dd

2. Air dryer: high temperature air cooling refrigeration dryer, model: RD-13HA

3. Air tank: 1.5m³, model C-1.5/8

4. Pressure relief valve: piston pressure relief valve, model Y43H-16Q

5. Precision filter: Model FC13-D filtering precision 3µ, oil-mist removal rate 40%

Model FT13-D filtering precision 1µ, oil-mist removal rate 70%

Model FA13-D filtering precision 0.01µ, oil-mist removal rate 99.99%



Cementing instrument van

1. Overview

Cementing instrument van is applicable for cementing job on land oilfield. It can realize monitoring the whole process of cementing job; centralized control multiple auto mixing equipments; can design the cementing job; can not only real time acquire, display and record the data of whole process cementing, but also process, record and store the job data and then print out job data and curve. The cementing instrument van is composed of chassis, cabin, damping system, power system, communication system, air conditioning system, computer data acquisition system, well head data wireless & wire transmitting device, wire data acquisition system and auto mixing control system, cementing design software, etc. It can work for long time under the environment of -20°C~50°C. The main technical parameters and performance, such as carborne performance, load distribution and non-grade highway property of equipment, all meet national industry standard and legislation requirement.

2. Function

- Data acquisition and processing software SERVAvue™ for cementing
- Wellhead data wireless/wire transmission system
- Wellhead data storage system
- ACM-III/IV.1 wire data acquisition system
- ACM-V auto mixing control system
- Cementing design software



3. Optional configuration

- Can be equipped with generator, UPS, or choose chassis battery to supply power.
- Wellhead high pressure manifold, high pressure flowmeter, pressure transducer, radioactive densitometer.
- Transmit data via satellite communication or GPRS.
- Motorola communication system.
- Moveable/elevating camera and auxiliary control equipments.



Auxiliary equipments



JSJ5251ZBG Tank Transport Truck



JSJ5310GXH3 Powder Tanker



JSJ5259GXH Powder Tanker



SJ250XHG Powder Tank

Portable centrifugal pump skid

1. Overview

The water supply skid can be used as auxiliary facility of cementing job individually, or supply recirculating power to water mixing tank. It can be classified to electrical driven and engine driven.

2. General specification

Max. speed: 2400 r/min

Working speed: 2400 r/min

Working flow: 2100 L/min@0.49MPa

Max. flow: >2500 L/min

3. Optional configuration

Power source: Cummins or Yuchai diesel engine

380V/460V explosion-proof electric motor

Clutch: WPT TD 110 mechanical clutch

Centrifugal pump: Serva RA56

Serva RA43, RB23 and RA45 optional

Others: rainproof and denoising devia



Water tank skid

1. Overview

The design of water mixing skid is applicable for oilfield batch mixing water, spacer fluid, etc.

2. General specification

EMax. length: 6900mm

Max. width: 2400mm

Max. height: 2950mm

Effective volume of water mixing tank: 30m³

Recirculating centrifugal pump: Serva RA56

Serva RA43, RB23 and RA45 optional



3. Features

- International standard 20" container, convenient for sea transportation.
- The tank is surrounded by reinforced steel plates with hem; which reduces the weight of tank with ensuring strength.
- The lift point on top and forklift hole at bottom are convenient for hoisting and transporting.
- The recirculating centrifugal pump can adopt electric driven or hydraulic driven.
- Adopt electric driven to be applicable for Zone-II area, certification can be provided.
- Two high power agitators installed in tank, electric drive or hydraulic drive are optional.
- Simple ejector and hopper mounted on the recirculation line, easy for addition of various dry additives.

CEMENTING BULK MIXING EQUIPMENT

DM-V20 Movable Cementing Bulk Mixing Skid

1. Overview

The unit is applicable for mixing cementing bulk cement, additives and all kinds of dry powder mixtures. Skid-mounted equipment is more applicable for cementing in remote oilfield, such as desert (with air compressor).

DM2000-V20 bulk mixing skid is mainly composed of two independent skids: master mixing skid and air compressor skid. The master mixing skid mainly consists of the following components: material compound tank, mixing tank, measuring tank, process pipeline, control pipeline and skid frame. In order to meet the requirements of road transportation, the design for master skid frame considers the mode of transportation and installation for split skid blocks.

The electronic scale and the transducer components have functions of compensation and adjustment, which ensure them applicable for all-weather-grade field operations. The control system adopts industrial computer and operable display which are more adaptive to oilfield environment. The control system can finish the all operations automatically after being setup the layer and amount of each layer. The computer can save the whole process of main job data and print them out.

2. General specification

Production capacity: 20 ton/h

Air circuit of bulk mixing: operating pressure 0.10-0.30 MPa (14 PSI - 43 PSI) / Max. pressure 0.35 MPa (50 PSI)

Control air circuit: 0.70 MPa (100 PSI)

Control mode: auto/manual

Operating temperature: -29°C ~ +50°C

Residual rate: <0.3%

Air quality: dew point pressure +3°C

Air circuit of bulk mixing: oil removal precision 0.01 mg/m³, dust removal precision 0.01 μm

Gas circuit of control: oil removal precision 0.1 mg/m³, dust removal precision 1 μm

Dry mixing proportion: 0.2%-100%

Bulk delivery speed: ≥ 1.5 t/min

Electronic balance tolerance: <1/3000 of the scale

Tail gas dust concentration of dust collector: <30 mg/m³

Overall dimension (mm):

12192(L)×2600(W)×6350(H) (with dust collector)

12192(L)×2600(W)×3330(H) (without dust collector)



3. Features

- New advanced bulk mixing method, multi-layer lying in measuring tank, multi-cycle between measuring tank and mixing tank.
- Sample ports reserved on outlet pipe for auto sampling automatically.
- Auto valves installed in mixing area can be switched to manual mode in case of emergency.
- Pneumatic valve has function of indicator lamp self checking.
- Weighing system of tank has capability of wind loading resistance.
- Roof dust collector can eliminate material waste completely and obtain more accurate proportion.
- Roof dust collector is connected by union, with installation of skid frame which are more convenient for dismantling and transporting.
- Control mode can be switched, auto/manual, accurately and effectively control job procedure, ensure the quality of bulk mixing.
- Monitor the equipment operation and acquire the job data automatically by the advanced electronics and computer, ensure the accuracy of data acquisition.
- Flash operating screen, check the valve position directly, easy for field maintenance.
- High efficiency dust removal, reach the environmental protection standard.

ACCESSORIES FOR EXTREMELY COLD CONDITION

Design feature

- It's applicable for normal operation in -40°C working condition.
- With higher bearing capacity and maneuverability, the chassis applicable for extremely cold condition is adopted.
- The materials of main mechanical parts meet the requirements of extremely cold working condition.
- Special rubber parts, seals and rubber hoses can meet the requirements of extremely cold performance.
- Special oil is utilized for extremely cold environment.
- Engine preheating system can guarantee to preheat the engine thoroughly without external power supply in frigid area.
- After engine starts, use the warm coolant to heat the hydraulic oil, battery and plunger pump lube oil by means of engine radiator.
- Automatic electric heater is designed in control console. Once it's below certain temperature, the heater will start automatically for reheating.



Hydraulic and lube fluid warmer



Engine shield



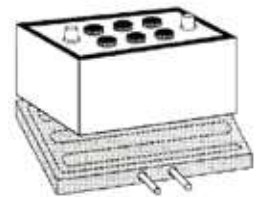
Automatic electric heater for computer System in the control console



Engine coolant heater



Low temperature special rubber products



Battery warmer

CENTRIFUGAL PUMP PLUNGER PUMP

As a famous petroleum equipment supplier, SJS develop the technology of not only the equipment but also the plunger pump.

Now SJS can product four type of the plunger pump, which are the mainstream pump in the cementing, fracture, sanding, & acid well service.

SJS pump is a famous pump, which the performance and the quality is in the highest flight in the world and almost same as Halliburton, SPM, GD.

SJS can product 400 sets plunger pump per one year. And most of them is used in overseas.

SJS is a main manufacture base in the world.

RB23 Centrifugal pump

RA45 centrifugal pump

RA56 centrifugal pump

RA43 centrifugal pump

TPA400 Triplex plunger pump

TPD600 Triplex plunger pump

TPH400 Triplex plunger pump

QPA1000 Quintuple pump



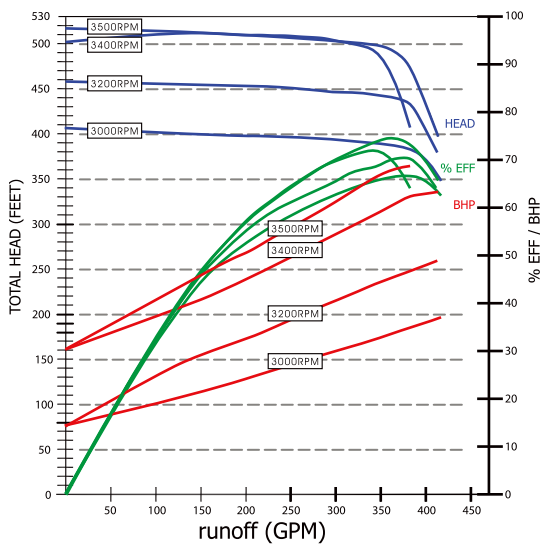
RB23 Centrifugal pump

1. Overview

RB23 centrifugal pump is designed and manufactured based on application characteristics of oilfield operation, especially applicable to be used with cementing/fracturing equipment. It has features of compact structure, large displacement, high lift, high efficiency, long service life, etc.

2. General specification

1. RB23 centrifugal pump characteristic curve



2. Structure dimension

General data

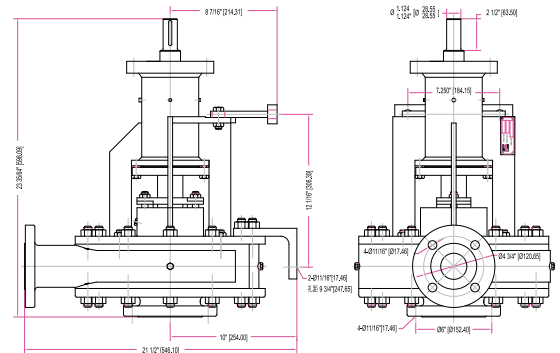
Model	Suction diameter	Discharge diameter	Impeller diameter	Number of Vane
RB23	3"	2"	φ 11"	4

Female spline parameters

Model	Spline type	Teeth number	Pitch	Pressure angle	Pin diameter	Measurements over pins
RB23	Flat root side fit	13	16/32	30°	φ 0.120"	0.6145"/0.6080"

Shaft and pin dimension

Model	Shaft diameter	Key
RB23	1.125"/1.123"	0.25" x 0.25" x 2"



3. Design feature

- A light weight, compact structure pump requiring minimal mounting space.
- A heavy steel frame for horizontal or vertical positioning.
- Segmented structure allows the customer to purchase the components necessary for repair.
- Special front and rear friction rings are provided with every new pump. If necessary, the bronze friction ring can be replaced.
- Change of rotation direction may be easily accomplished by simply moving, turning and repositioning the volute, and changing the impeller to match the desired direction of rotation.
- The enclosed impellers can provide larger pressure and higher efficiency. Available in either a clockwise or counterclockwise rotation, the impeller is secured to the shaft by a superior designed locking system.

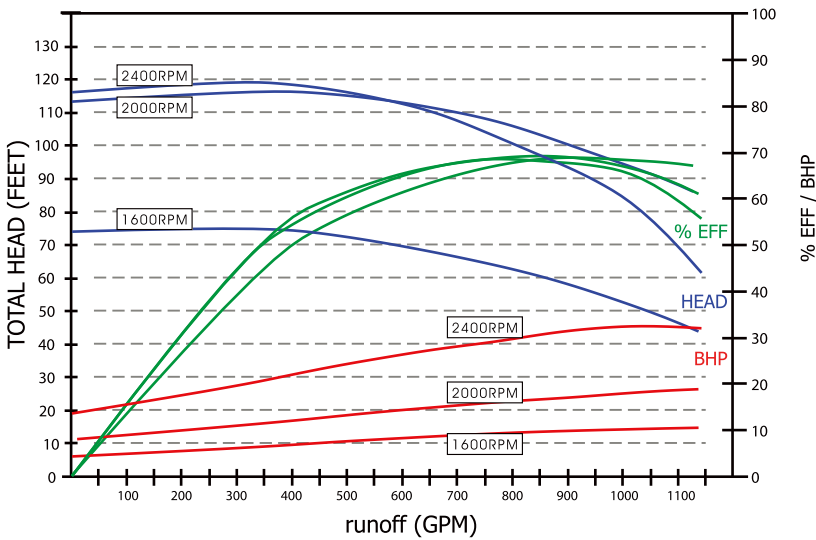
RA45 centrifugal pump

1. Overview

RA45 centrifugal pump is designed and manufactured based on application characteristics of oilfield operation, especially applicable to be used with cementing/fracturing equipment. It has features of compact structure, large displacement, high lift, high efficiency, long service life, etc.

2. General specification

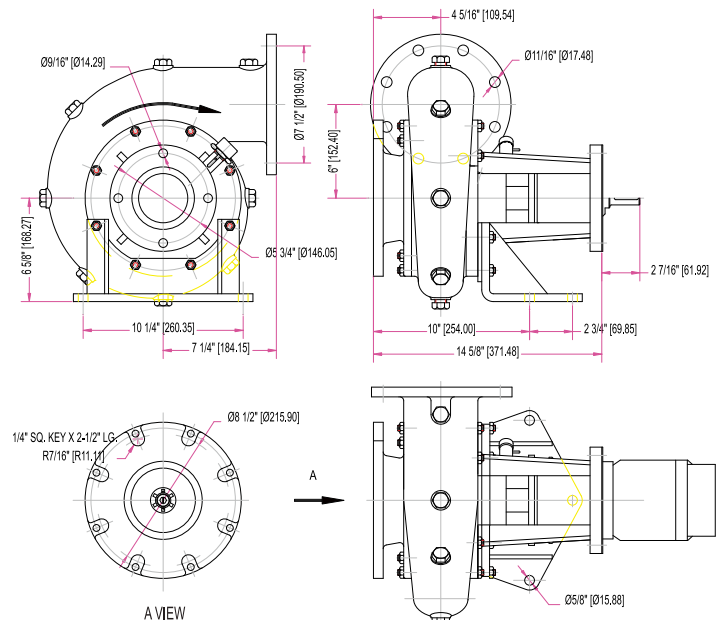
RA45 centrifugal pump characteristic curve



Model	Suction diameter	Discharge diameter	Shaft end structure
RA45	5"	4"	Spline/key

3. Design feature

- A heavy steel frame for horizontal or vertical positioning.
- Segmented structure allows the customer to purchase the components necessary for repair.
- Special front and rear wear plates are provided with every new pump. Although steel plates are available for many mediums, special rubber coated plates are applicable for special environments.
- Change of rotation direction may be easily accomplished by simply moving, turning and repositioning the volute, and changing the impeller to match the desired direction of rotation.
- The open impellers can allow the free movement of large particles and extremely heavy, abrasive laden slurries. Available in either a clockwise or counterclockwise rotation, the impeller is secured to the shaft by a superior designed locking system.



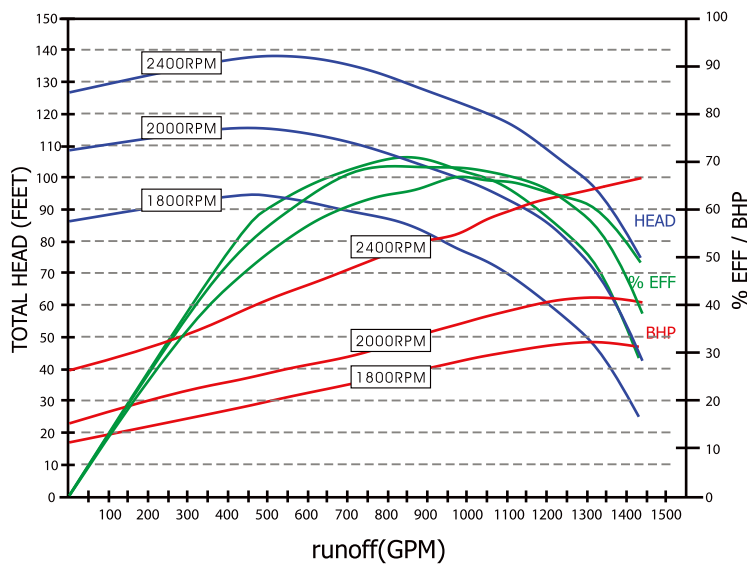
RA56 centrifugal pump

1. Overview

RA56 centrifugal pump is designed and manufactured based on application characteristics of oilfield operation, especially applicable to be used with cementing/fracturing equipment. It has features of compact structure, large displacement, high lift, high efficiency, long service life, etc.

2. General specification

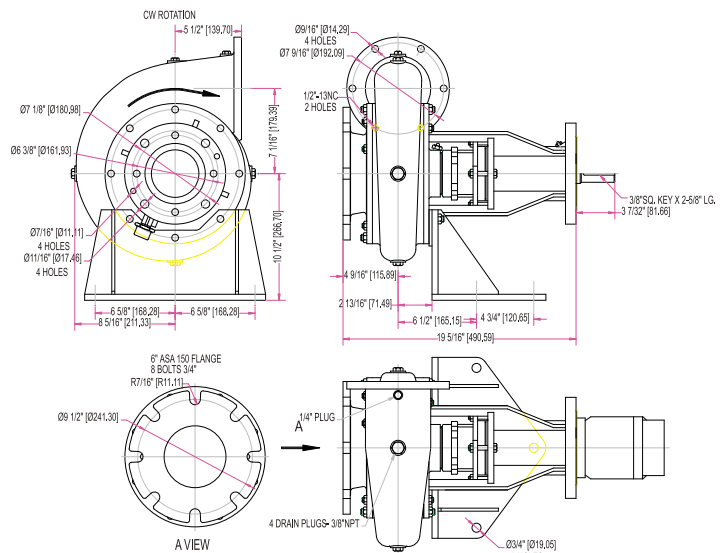
RA56 centrifugal pump characteristic curve



Model	Suction diameter	Discharge diameter	Shaft end structure
RA56	6"	5"	Spline/key

3. Design feature

- A heavy steel frame for horizontal or vertical positioning.
- Segmented structure allows the customer to purchase the components necessary for repair.
- Special front and rear wear plates are provided with every new pump. Although steel plates are available for many mediums, special rubber coated plates are applicable for special environments.
- Change of rotation direction may be easily accomplished by simply moving, turning and repositioning the volute, and changing the impeller to match the desired direction of rotation.
- The open impellers can allow the free movement of large particles and extremely heavy, abrasive laden slurries. Available in either a clockwise or counterclockwise rotation, the impeller is secured to the shaft by a superior designed locking system.



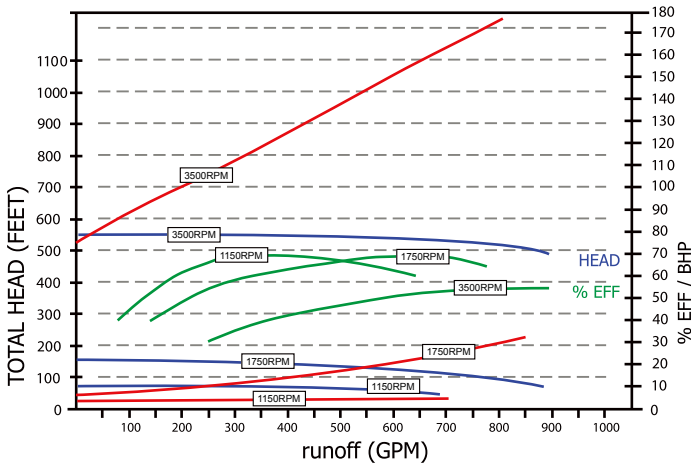
RA43 centrifugal pump

1. Overview

4x3 centrifugal pump is designed and manufactured based on application characteristics of oilfield operation, applicable to be used with cementing/fracturing equipment. It has features of compact structure, medium displacement, long service life, etc.

2. General specification

RA43 centrifugal pump characteristic curve

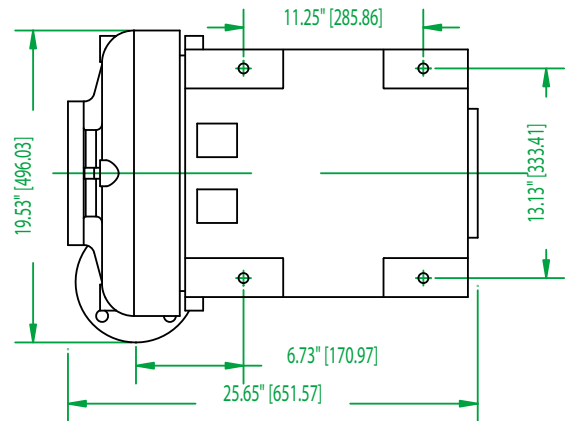


General data

Model	Suction diameter	Discharge diameter	Impeller diameter	Number of Vane
4x3	4"	3"	Φ11"	6

Female spline parameters

Model	Spline type	Teeth number	Pitch	Pressure angle	Pin diameter	Measurements over pins
4x3	Flat root side fit	14	12/24	30°	Φ0.144"	0.9608"/0.9670"



3. Design features

- Compact and simple structure; thinner and stronger concentric casing.
- Power input design: SAE standard female spline, easily connect to hydraulic motor.
- Mechanical seal, without grease oil or any other lubricant.
- Cast frame in block.

TPA400 Triplex plunger pump

1. General specification

- | | |
|-------------------------------------|-------------------------------------|
| 1. Power end | 3. Fluid end |
| Maximum input horsepower: 257KW | Plunger diameter: Φ3 3/4"(Φ95.25mm) |
| Maximum input torque: 7200N•m | Φ4"(Φ101.60mm) |
| Gear ratio : 25/108 | Φ4 1/2"(Φ114.30mm) |
| 2. Long chain case/short chain case | Stroke : 5"(127mm) |
| Center distance : 741.1mm/588.2mm | Max. Pressure : 70 MPa |
| Pitch : 1"(25.4mm) | Max. flow rate : 1.583 m³/min |
| Ratio : 27/40 | |



TPD600 Triplex plunger pump

1. Overview

TPD600 triplex plunger pump was certified by ABS, CE and ATEX. It got the DNV Type Approval, and have passed 1 million endurance test.

2. General specification

1. Power end

Maximum brake horsepower: 600BHP (447KW)

Maximum rod load: 100,000lbs

Stroke length: 6" (152.4mm)

Reduction gear ratio : 4.6/1

Max. working pressure : 116.1 MPa

2. Fluid end

Max. flow rate : 2.1 m³ /min

Plunger diameter: 3" (76.2mm)

Net weight: 4,600 pounds (2,086kg)

3 1/2" (88.9mm)

4" (101.6mm)

4 1/2" (114.3mm)

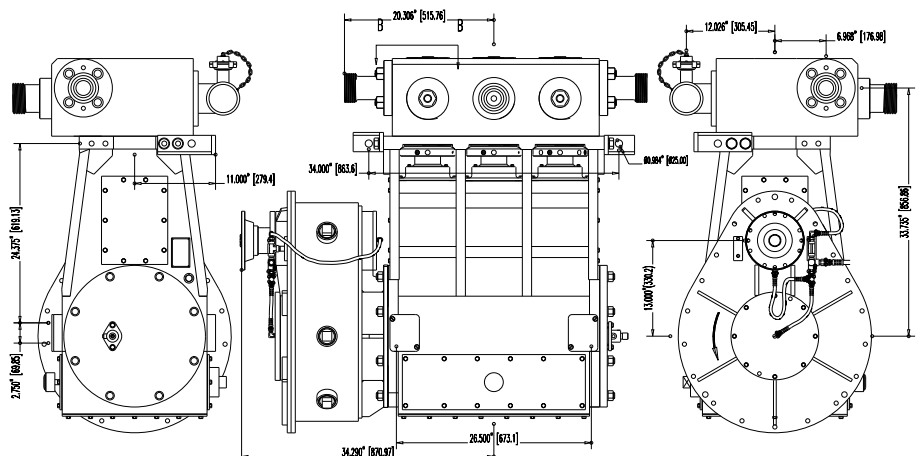
2 3/4" (69.9mm)



Plunger diameter	Displacement per revolution	Displacement at pump strokes per minute/pinion RPM									
		50/230		120/552		200/920		300/1380		450/2070	
Inch(mm)	Gallon/Rev (Liter/Rev)	GPM (LPM)	PSI (MPa)	GPM (LPM)	PSI (MPa)	GPM (LPM)	PSI (MPa)	GPM (LPM)	PSI (MPa)	GPM (LPM)	PSI (MPa)
2 3/4" (69.9)	.46 (1.8)	23 (87)	16,836 (116.1)	56 (210)	16,665 (116.9)	93 (350)	9,999 (69.0)	139 (526)	6,666 (46.0)	208 (788)	4,444 (30.7)
3" (76.2)	.55 (2.1)	28 (104)	15,000 (105.7)	66 (250)	14,003 (98.7)	110 (417)	8,402 (59.2)	165 (625)	5,601 (39.5)	248 (938)	3,734 (26.3)
3 1/2" (88.9)	.75 (2.8)	37 (142)	10,394 (73.2)	90 (341)	10,288 (72.5)	150 (568)	6,173 (43.5)	225 (851)	4,115 (29.0)	337 (1277)	2,744 (19.3)
4" (101.6)	.98 (3.7)	49 (185)	7,958 (56.1)	118 (445)	7,877 (55.5)	196 (741)	4,726 (33.3)	294 (1112)	3,151 (22.2)	441 (1668)	2,100 (14.8)
4 1/2" (114.3)	1.24 (4.7)	62 (235)	6,288 (44.3)	149 (563)	6,224 (43.9)	248 (938)	3,734 (26.3)	372 (1407)	2,489 (17.5)	558 (2111)	1,660 (11.7)
Input horsepower: BHP(Kw)		253(188)		600(448)		600(448)		600(448)		600(448)	

3. Standard Equipment and Features

- Left or right gear box mounting.
- Any one of 17 different input shaft locations to accommodate a number of different pumping unit drive train configurations.
- Customizing discharge blank, straight with one outlet.
- 4" or 5" Suction manifold with Victaulic connections.
- High performance header-ring style packing.
- Short length design for back-to-back mounting and side input/output.
- Forged alloy steel mono-block fluid end with removable suction and discharge covers.
- Threaded packing glands with removable stuffing box assemblies.
- Pump half flanged drive coupling to confirm with 1800 series driveline shaft.
- Pressure lubricated crankshaft, cross head sleeves and wrist pin bearings.



TPH400 Triplex plunger pump

1. Overview

The SJS TPH400 is a reciprocating, positive displacement, horizontal single acting, triplex plunger pump which is rated at 600 Brake Horsepower input maximum. The TPH400 is designed for duty well service applications such as acidizing, cementing, fracturing, well killing, gravel packing, etc.

2. General specification

1. Power end

Max. input horsepower : 600BHP(447Kw)

Max. input torque : 9782N•m

Stroke length : 8" (203.2mm)

Gear Ratio : 8.6 : 1

Max. working pressure : 138Mpa

Max. flow rate 1.88m³/min

Net weight: 6500Lbs(2910kg)

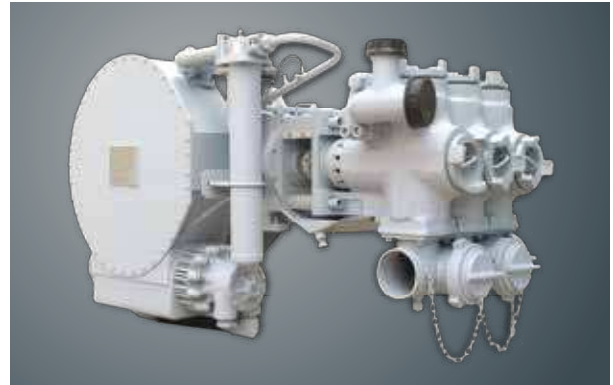
2. Fluid end

Plunger diameter: 3 3/8" (85.7mm)

4" (101.6mm)

4 1/2" (114.3mm)

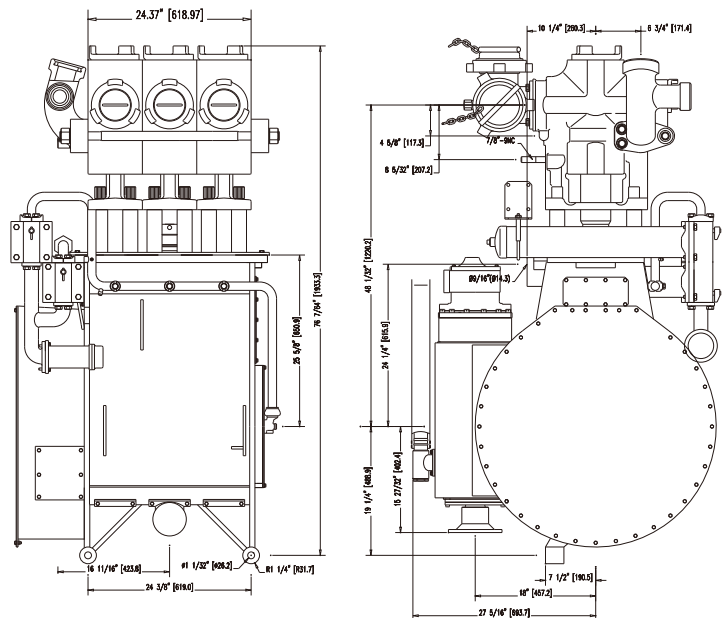
5" (127.0mm)



PLUNGER DIAMETER	DISPLACE PER REV	DISPLACEMENT AT PUMP STROKES PER MINUTE/ PINION RPM									
		32/275		70/598		128/1099		171/1469		244/2100	
Inch (mm)	Gal Ion/Rev (Liter/Rev)	GPM (lpm)	psi (MPa)	GPM (lpm)	psi (MPa)	GPM (lpm)	psi (MPa)	GPM (lpm)	psi (MPa)	GPM (lpm)	psi (MPa)
3 3/8" (85.7)	0.93 (3.52)	29.7 (104)	20,000 (137.9)	64.7 (244.8)	14,314 (98.6)	118.8 (449.8)	7,789 (53.7)	158.7 (600.8)	5,832 (40.2)	227.0 (859.2)	4,078 (28.1)
4" (101.6)	1.31 (4.94)	41.8 (158.2)	14,000 (96.5)	90.8 (343.8)	10,190 (70.2)	166.9 (631.8)	5,545 (38.2)	222.9 (843.9)	4,152 (28.6)	318.8 (1206.8)	2,903 (20.0)
4 1/2" (114.3)	1.65 (6.25)	52.9 (200.2)	11,200 (77.2)	115.0 (435.2)	8,051 (55.5)	211.3 (799.7)	4,381 (30.2)	282.2 (1068.1)	3,280 (22.6)	403.5 (1527.4)	2,294 (15.8)
5" (127.0)	2.03 (7.72)	64.9 (247.0)	9,000 (62.05)	142.1 (540.4)	6,491 (44.7)	259.8 (988.1)	3,550 (24.5)	347.1 (1320.1)	2,653 (18.3)	495.3 (1883.7)	1,862 (12.8)
BHP(kw)		346(258)		600(448)		600(448)		600(448)		600(448)	

3. Standard Equipment and Features

- Lightweight and compact, and can be airlifted into remote areas.
- High strength forging-aluminum connecting rod.
- Gear pump driven off worm(std) or remote.
- Customizing discharge flanges: blank, straight with one outlet or ell with two outlet.
- High performance header-ring style packing.
- Three separate fluid-end sections that can be replaced individually.
- Pump half flanged drive coupling to confirm with 1800 series driveline shaft.
- Pressure lubricated crankshaft, cross head sleeves and wrist pin bearings.



QPA1000 Quintuple pump

1. Overview

QPA1000 Quintuple plunger pump was certified by ABS, CE and ATEX. It got the DNV Type Approval, and have passed 1 million endurance test.

2. General specification

1. Power end

Max. brake horsepower : 1000BHP(746Kw)

Max. linkage load: 100,000lbs(43,360kg)

Stroke length : 6" (152.4mm)

Gear Ratio : 4.6 : 1

Max. working pressure : 116.1MPa

Max. flow rate : 3.52m³/min

2. Fluid end

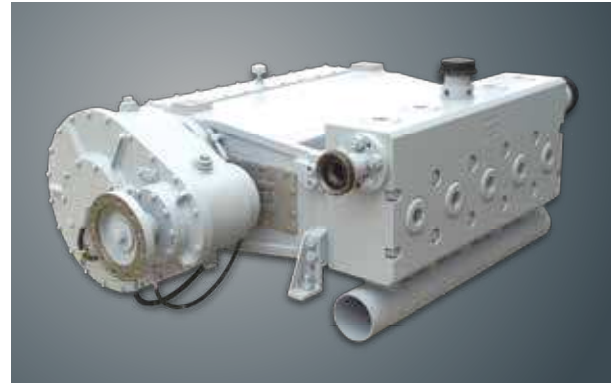
Plunger diameter: 2 3/4" (69.9mm)

3" (76.2mm)

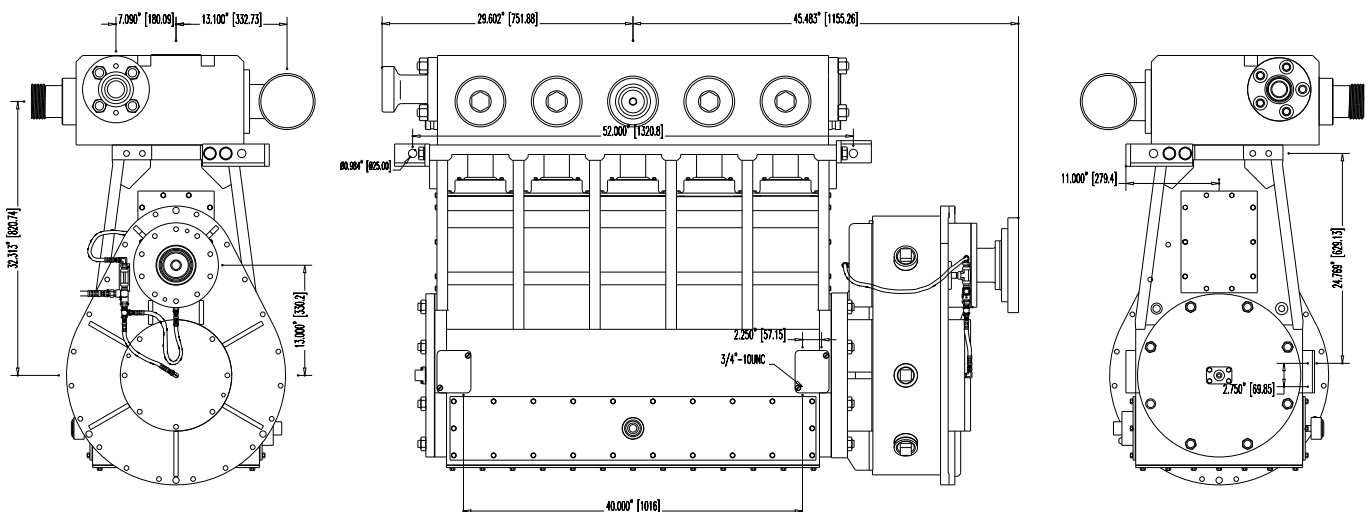
3 1/2" (88.9mm)

4" (101.6mm)

4 1/2" (114.3mm)



PLUNGER DIAMETER	DISPLACE. PER REV	DISPLACEMENT AT PUMP STROKES PER MINUTE/PINION RPM									
		50/230		120/552		200/920		300/1380		450/2070	
In(mm)	Gal/rev (liter/rev)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)
2 3/4" (69.9)	.77 (2.9)	39 (146)	16,836 (116.1)	92 (347)	16,665 (116.9)	154 (584)	9,999 (69.0)	231 (876)	6,666 (46.0)	347 (1,318)	4,444 (30.7)
3" (76.2)	.92 (3.5)	44 (163)	15,000 (105.7)	110 (417)	14,003 (96.6)	183 (695)	8,402 (57.9)	275 (1042)	5,601 (38.6)	413 (1563)	3,734 (25.8)
3 1/2" (88.9)	1.25 (4.7)	62 (237)	10,394 (71.7)	150 (568)	10,288 (71.0)	250 (947)	6,173 (42.3)	375 (1418)	4,115 (28.4)	562 (2128)	2,744 (18.9)
4" (101.6)	1.63 (6.2)	82 (308)	7,958 (54.9)	197 (742)	7,877 (54.3)	327 (1235)	4,726 (32.6)	490 (1853)	3,151 (21.7)	735 (2780)	2,100 (14.5)
4 1/2" (114.3)	2.07 (7.8)	103 (392)	6,288 (43.4)	248 (938)	6,224 (42.9)	413 (1563)	3,734 (25.8)	620 (2345)	2,489 (17.2)	929 (3518)	1,660 (11.4)
BHP(kw)		421(314)		1000(746)		1000(746)		1000(746)		1000(746)	



Cementing Equipment



Total Commitment to Customer Satisfaction

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