



## DYNAMIC DRILLING PTE LTD

8 Shenton Way, #09-01, AXA Tower,  
Singapore 068811  
Phone +(65) 6429 3630 Fax +(65) 6429 3631  
Email [marketing@ddhpl.com](mailto:marketing@ddhpl.com)  
Website <http://www.ddhpl.com>



## DYNAMIC MOMENTUM

The Dynamic Momentum is a LeTourneau Super 116E cantilever jack up rig, being built by COSCO Dalian, China and scheduled to be delivered in early – Q3 2017. The rig is capable of operating in water depths up to 350 feet and drilling to depths of 30,000 feet. The drilling unit has a 70 feet x 30 ft (stbd/port) cantilever envelope and 1,500,000 lbs hook load capacity and is also equipped with a 15,000 psi main well control system, 3 x 2200HP Mud pumps and offers accommodations for up to 120 people. Rig management system will be certified to ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007 standards.

### GENERAL INFORMATION

Design : LeTourneau Super 116E  
Builder : COSCO Dalian  
Year Built : New build (delivery – end-Q2 2017)  
Flag : TBA(Singapore)  
Classification : ABS  
Helideck : S61N & S92 - 72.8 ft diameter  
Accommodation : 120 beds

### MAIN DIMENSIONS

Length : 243 ft  
Breadth : 206 ft  
Depth : 26 ft  
Leg Length : 477 ft  
Leg Below Hull : 423 ft  
Leg Spacing : Transverse 142 ft / Longitudinal 129 ft  
Cantilever/Envelope : 70 ft x 30 ft (15 ft Stbd/Port)  
Spud Cans : 46ft and can be enhanced to 50.5 ft to avoid deep penetration in soft soil  
Deck Area : 8,000 sq.ft. (including cantilever)

### STORAGE CAPACITIES / WATER TREATMENT

Variable Deck Load : 7,755 kips  
Cantilever & Drilling : 2,650 kips  
Combined Load :  
Liquid Mud : 4,928 bbls  
Barite/Bentonite : 5,150 cu. ft.  
Cement : 5,150 cu. ft.  
Sacks : 5,000 sacks  
Drill water : 13,800 bbls  
Potable Water : 1,625 bbls  
Brine Storage : 850 bbls  
Base Oil Capacity : 1,500 bbls  
Fuel Oil : 2,150 bbls

### MACHINERY / POWER

Main Power : 5 x Caterpillar 3516CHD, 2150 bhp each  
Total Power : 5 x 2150 KVA (1720 Kw) = 10,750 KVA / 8,600 Kw  
Emergency Power : 1 x Caterpillar 3512B, 1,478 bhp & alternator 1,400 KVA / 1,120 Kw

### HOISTING EQUIPMENT

Deck Crane : 2 x LET PCM-120SS 120 ft Boom, Rated 84,110 lbs @ 25 ft (38.2 tonnes @ 7.62m) & 1 x LET PCM-220SS 140 ft Boom API-2C, Rated 150,000 lbs @ 32 ft (68.0 tonnes @ 10.7m)  
Offline Activities: Offline stand building with Forum OAC crane and offline cementing

### OPERATING PARAMETERS

Water Depth : 350 ft  
Min Water Depth : 30 ft ( Spud cans (46 feet) flush with hull and can work in lower water depths with specific location/area bathymetry and metocean condition assessment)  
Max. Drilling Depth : 30,000 ft

### DRAFT AND DISPLACEMENT

Transit Draft : 17 ft

### JACKING SYSTEM

Make/ Speed : LeTourneau/1.5 ft/min.  
Normal Holding capacity : 600 kips/pinion  
Normal Elevating : 375 kips/pinion  
Storm holding : 1,048 kips/pinion

### MOORING

Winches : 4 No. DC 222, 50,000 lbs  
Anchors : 4 No. HYD-14,10,000 lbs

### DRILLING EQUIPMENT

Derrick : Load Master 170 ft x 32 ft x 35 ft  
Hook load : 1,500,000 lbs  
Drawworks : Cameron LDW-1500 Klbs  
Racking : 312 stands of 5-7/8" DP, 16 stands of 9" DC can be kept on both set back areas  
Top Drive : Cameron LTI L-DDTD 750 V2 (72,000 lbs continuous / 100,000 lbs intermittent)  
Iron Roughneck : Cameron JIM 10 T-P-L  
Rotary Table : Cameron LTI L495, 49½"  
Traveling Block : Cameron Lewco TB 750; 68"; 1¼" Grooves  
Mud Pumps : 3 x Cameron W-2215, 2200HP each  
Shale Shaker : 4 x Brandt VSM 300  
Pressure Rating : 7,500 psi

### WELL CONTROL SYSTEMS

BOP Main Stack : Cameron, 1 x BOP stack 13-5/8" x 15,000 psi  
Annular : 1x20-3/4" x 3,000 psi & 1x13-5/8" x 10,000 psi  
BOP Handling : JDN Hoist 2 Nos each having capacity 75 tons  
BOP Control System Accumulator  
Unit : Cameron 3,000 psi, 32 Nos, 15 gal. bottles  
Diverter : Cameron KFDJ 49½", 500 psi  
TV System : 2 CCTV system, 10 Cameras, 2 x Control cabinet ex-proof type  
Choke and Kill : Cameron 3-1/16" x 15,000 psi with 1 remote and 1 Local control



**DYNAMIC DRILLING PTE LTD**

8 Shenton Way, #09-01, AXA Tower,  
 Singapore 068811  
 Phone +(65) 6429 3630 Fax +(65) 6429 3631  
 Email [marketing@ddhpl.com](mailto:marketing@ddhpl.com)  
 Website <http://www.ddhpl.com>



**Value added features**

<b>Equipment Reliability</b>	All major equipment/Safety Critical equipment and systems are from proven Western equipment/service providers like Cameron/NOV/Forum
<b>Equipment selection/ FAT/ SIT/Testing and Commissioning</b>	<p>The rig has undergone /is undergoing one of the most rigorous testing and commissioning processes with major equipment layout/selection decided by In-house domain specialists and SMEs from Lloyd’s Register- Drilling (earlier ModuSpec) – with new generation process safety guidelines.</p> <p>The unit’s cranes are built/surveyed and will be assigned with the ABS class notation “CRC” in accordance with the Rules of American Bureau of Shipping (ABS), Guide for Lifting Appliances.</p>
<b>Well Control system</b>	<p>FAT attended by Owner SME including actual shear test conducted at Cameron facility in Béziers, France. 3 layered BOP acceptance criteria with FAT followed by SIT at shipyard and final testing and commissioning on board.</p> <p>Compatible equipment/systems and processes for HPHT application and could be made UBD/MPD compliant with Safety case/ Hazid and Hazop studies with Operator and other stakeholders as and when required</p>
<b>Software integrity and Cyber security</b>	<p>The entire rig software system will undergo audit and mitigations will be in place according to Industry standard Cyber security guidelines</p> <p>It is proposed to have Cameron VTB (Virtual Tech Box) which is a computer system capable of performing all of the following on a rig without the need on an on-site service technician:</p> <ul style="list-style-type: none"> <li>• Installing rig requested system modification and upgrades</li> <li>• Monitoring equipment to ensure proper operation. 24X7X365</li> <li>• Troubleshooting and performing cause / effect analysis of malfunctioning equipment</li> <li>• Updating PLC and HMI software through patches</li> </ul>
<b>Data integration and analytics capability</b>	Rig has Cameron / Forum Integrated Drilling Control System Instrumentation and data acquisition system and has systems/outlets designed which could be hooked up to any Operator provided SCADA system for data acquisition/ transmission/analysis in a secure system
<b>Offline capabilities</b>	Offline drill pipe/ BHA stand building capabilities/ Offline Cementing capabilities with certified piping and hoses/Other Offline requirement to be discussed and safe systems put in place with discussions with Operator