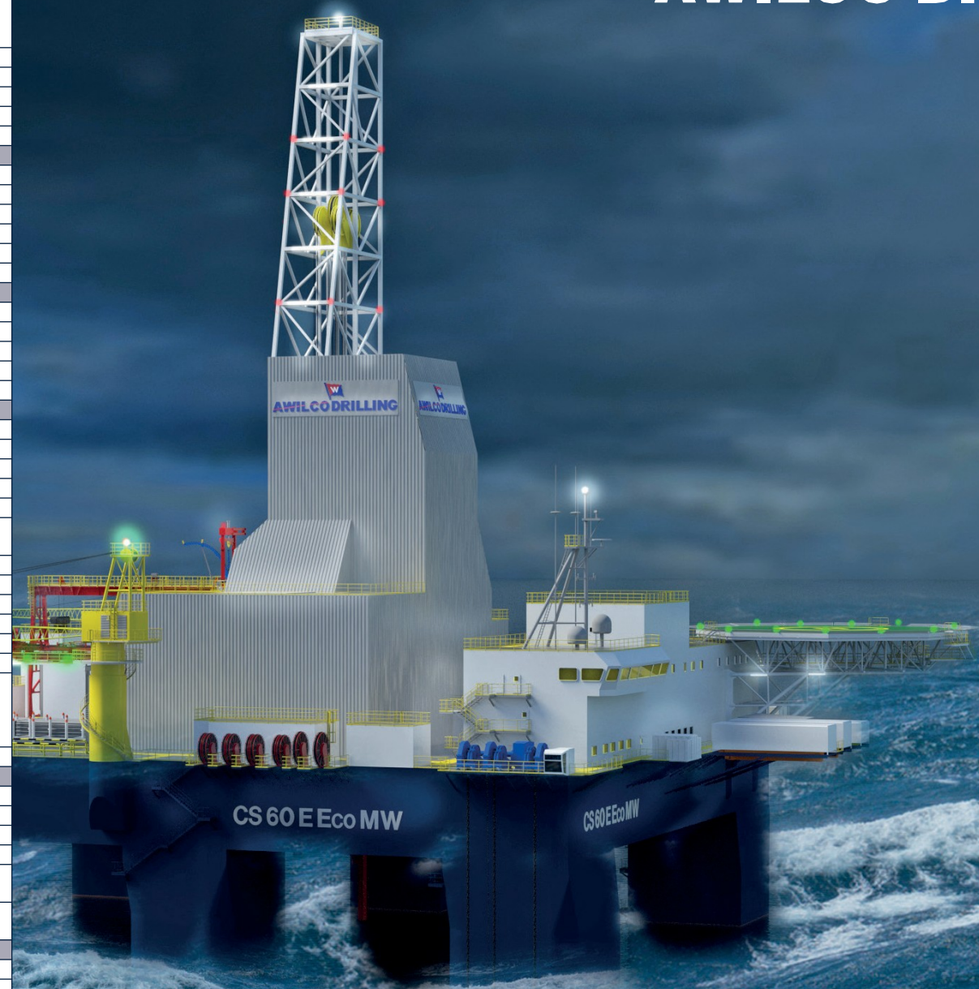
AWILCO DRILLING

CS60 ECO MW

Ultra-harsh Environment Semi-Submersible

Awilco Drilling's CS60 ECO MW is a harsh environment winterised drilling semi-submersible, optimised for the Norwegian Continental Shelf and mid-water depths, outfitted with the latest generation of drilling equipment and industry leading digitalization, while minimising environmental impacts through the use of hybrid and regenerative power systems.

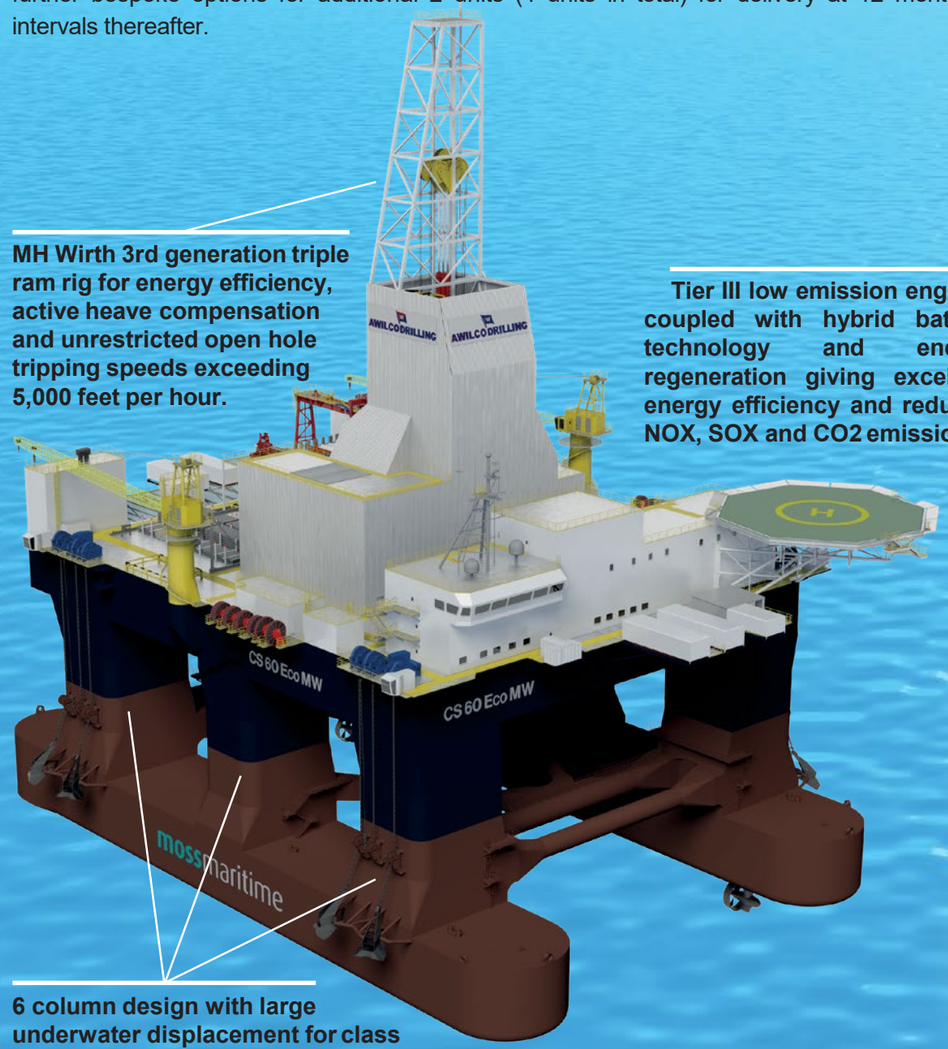
General			
Rig Type	Harsh environment winterized semi-submersible		
Design	Moss Maritime CS60 MW ECO		
Delivery	2021		
Construction Yard	KeppelFELS, Singapore		
Flag	Vanuatu		
Classification	DNV GL, ✠ 1A Column-Stabilised Drilling Unit (N), UKVS, DRILL (N), HELDK-SH (N), CRANE OFFSHORE(N), E0, DYNPOS (AUTR), DYNPOS (ER), POSMOOR (ATAR), BATTERY (SAFETY), BATTERY (POWER), CLEAN (DESIGN, Tier III), WINTERIZED (BASIC. -20 DEG C), ICE-T (1C)		
Maximum water depth	1,500 m		
Maximum drilling depth	10,000 m		
Accommodation	140 persons in single cabins		
Helideck	CAP 437, S92 and EH101		
Winterized	Yes		
Dimensions & Deck Load			
Length (deck box)	85.76 m	Survival Draft	21.50 m
Breadth (deck box)	75.28 m	Extreme Survival Draft	19.50 m
Operating Draft	23.50 m	Air Gap at Extreme Survival Draft	17.00 m
Operating Displacement	63,300 Tonne	Operating VDL	7000 Tonne
Transit Draft	10.35 m	Moonpool	38m long x 7.5m wide
Transit VDL	5000 Tonne		
Station Keeping			
Dynamic Positioning	IMO Class 2 DP (DYNPOS AUTR) & POSMOOR ATA		
Thrusters	4 x Rolls Royce UUC 355 Fixed Pitch High Torque 3.8 MW each		
Transit Speed	7 to 8 knots in calm seas		
Mooring Winches	4 x Rolls Royce BRE triple windlasses for 12 point mooring system		
Mooring Chains/Anchors	12 x 2,400m 84mm R5 chains, 12 x 15 Tonne Stevpris Mark 6 anchors		
Drilling Equipment			
Derrick/Hoisting	MH Wirth RamRig - Triple Cylinder - 907 Tonne - 53m lifting height and 26.5m cylinder stroke		
Hookload	907 Tonne		
Setback	10,000m drill pipe in quads with low centre of gravity/900 Tonne/casing to 14" diameter		
Motion Compensation	Integrated RamRig passive and active heave compensation - 36 foot stroke		
Top Drive	MH Wirth Derrick Drilling Machine - DDM 1000 AC 2M ENH (GEB)		
Iron Roughnecks	MH Wirth Hydraulic roughneck w/DTS - MH RNX 300R_MB_RS60RT & Hydraulic roughneck w/DTS - MH RNX 215P with Casing Tong Module for MH RNX (MH 14000)		
Pipe Handling	MH Wirth Dual System Vertical Pipe Racker 135 - MH VPR 135 P EL for low set-back		
Offline Capability	Enhanced offline capabilities		
Rotary Table	MH Wirth Hydraulic driven - RTSS 60 1/2"		
Mud Pumps	3 x MH Wirth TPK 2200 AC-TG-WJ 7500psi - space provided for 4th pump		
Mud Standpipe	5-1/8" 10,000 PSI Dual Mud Standpipe Manifold		
Shale Shakers	Dual Pool 626 High G Shaker - Vacuflo 1200 Degasser		
Digital Drilling Applications	WITS (wellsite information transfer specification), DEAL (drilling equipment automation layer), DCMS, LIR. DRILLVIEW (HMI), DDIS, SZMS, RDS, CADS V2.0 (automated drill floor operation), CM, E-Tally V2.0, Soft Torque Z (3rd gen stick/slip mitigation), Drillers Assist, Mud Watch, Performance Analyser, Riglogger, EKD (early kick detection), DrillTronics, AHC while drilling, DrillOps - Symphony (dynamically calculated drilling parameters)		
HPHT	Yes - specified for High Pressure High Temperature wells		
Lifting			
Main Deck Cranes	2 x NOV All Electric Lattice Boom Cranes - SWL 100 Tonne Model OC3550LCV		
BOP Handling	BOP Crane - two leg - SWL 2 x 200 Tonne, BOP Trolley SWL 400 Tonne and under hull guidance		
Pipe Handling - Rig Floor	2 x MH Vertical Pipe Rackers		
Pipe Handling - Pipe Deck	Tubular Feeding Machine - MH TFM 100 (3 1/2" to 14") 3.5 Tonne complete with stand lifter		
Riser Handling	Riser Gantry Crane MH RGC 100 YSL - 48m lateral travel SWL 40 Tonne, Tubular Feeding Machine - MH TFM 100 (2 7/8" to 60" - telescopic joint) 45 Tonne		
Tree Handling	X-mas Tree Crane - SWL 2 x 50 Tonne, MH Utility Skid MH MX15/17 - SWL 80 Tonne (rig floor), 2 x 100 Tonne Subsea Skid (moon pool and main deck), X-mas Tree Trolley SWL 110 Tonne		
Well Control Equipment			
BOP	NOV Shaffer NXT 5 ram 18 3/4" 15,000 psi - double and a triple with spacer for 6th ram		
BOP Annulars	NOV Shaffer 18 3/4" 10,000 psi spherical BOP x 2, both annulars mounted on the LMRP		
Well Head Connector	NOV CHX-1527 18-15M		
Control System	NOV MUX		
Riser	500m/1,500m x 75 foot MH QTR 4000 Riser		
Telescopic Joint	Matched to 60 foot riser tensioner travel		
Riser Tensioners	8 x 200 kips multi-capacity wireline riser tensioner 60ft wire travel		
Choke & Kill Manifold	CKM 15,000/10,000 PSI w/automated dumping		
Diverter	NOV 21-500-60-REG		
Capacities			
Liquid Mud (Active)	800 m3 upper hull tanks	Bulk Cement	400 m3
Liquid Mud (Reserve)	1,225 m3 pontoon tanks	Bulk Barite/Bentonite	400 m3
Drill Water	1,600 m3	Base Oil	525 m3
Potable Water	550 m3	Brine	675 m3
Fuel Oil	3,000 m3	Sack Storage	??
Power			
Main Engines	5 x Rolls Royce Bergen B33:45L8A 4.8 MW each in 2 engine rooms - Tier III emissions compliant		
Generators	5 x Rolls Royce		
Battery Bank/Hybrid Power	Kongsberg		
Emergency Power	All main engines classed as emergency generators		
Power Distribution/DP	Kongsberg		
Marketing Contact	marketing@awilcodrilling.com		
Disclaimer	Specification is preliminary and subject to change		



Awilco Drilling's CS60 ECO MW is the first of a new generation of ultra-harsh environment semi-submersibles, specifically designed to meet the challenges of the world's most extreme sea areas including the North Sea, Barents Sea, Canada East and the Atlantic margin to the West of the UK & Ireland. Fully winterised and capable of thruster assisted mooring in water
depths up to 1,500m, the unit has been designed to reduce well construction times, improve safety, minimise costs and reduce the environmental impact of drilling operations. The rig incorporates an innovative battery based hybrid power system as well as the very latest drilling technologies all with digitalization built in.
Awilco Drilling have confirmed the order of 2 x CS60 ECO MW drilling units which will be delivered from Keppel FELS in Singapore in spring of 2021 and 2022 respectively, with further bespoke options for additional 2 units (4 units in total) for delivery at 12 month intervals thereafter.

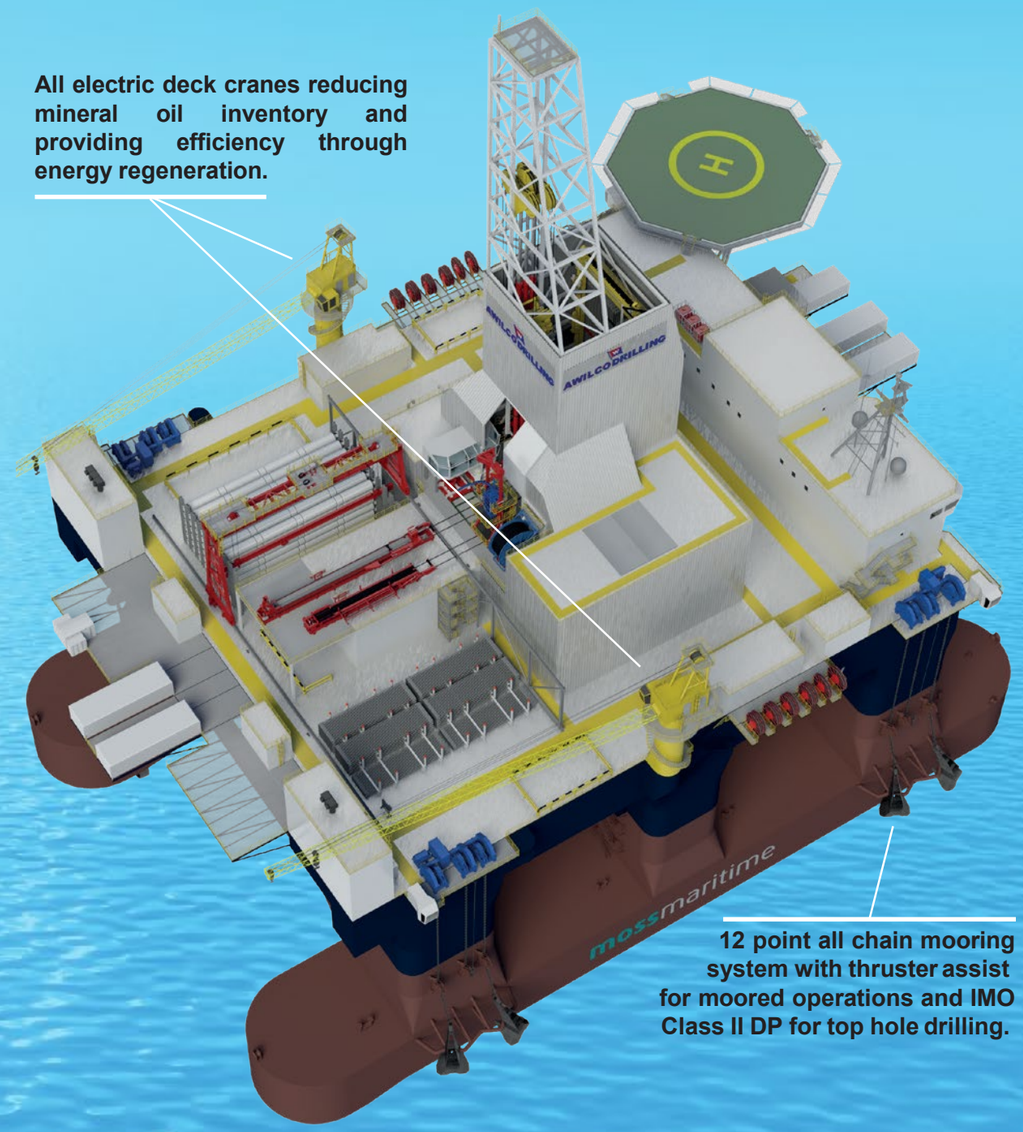
MH Wirth 3rd generation triple ram rig for energy efficiency, active heave compensation and unrestricted open hole tripping speeds exceeding 5,000 feet per hour.

Tier III low emission engines coupled with hybrid battery technology and energy regeneration giving excellent energy efficiency and reduced NOX, SOX and CO2 emissions.



6 column design with large underwater displacement for class leading motion characteristics.

All electric deck cranes reducing mineral oil inventory and providing efficiency through energy regeneration.



12 point all chain mooring system with thruster assist for moored operations and IMO Class II DP for top hole drilling.

Reduced maintenance and improved efficiency through industry leading condition based monitoring.

Digitalization designed into the unit – a connected data driven platform future proofed through an open platform enabled for continuous performance improvement.

The most technologically advanced semi-submersible yet built, focussed on safety, performance, efficiency and our customer's requirements while setting new standards in sustainable environmental operations

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