



Saipem



# Drillings

Saipem 10000

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The Saipem 10000 ultra-deepwater drillship is the latest vessel to join Saipem's drilling fleet and represents an innovative and advanced addition to oil and gas exploration and production worldwide.

Built by Samsung Heavy Industries in its Kojima shipyard in South Korea and completed in 2000, Saipem 10000 is a drillship for the new millennium.

The vessel has been designed and built to Class III Dynamic Positioning specifications making it capable of worldwide, year-round operations.

The main operating areas for Saipem 10000 will be the US Gulf of Mexico, South Atlantic, West Africa and, during the summer weather window, the UK sector of the North Sea and West of Shetlands.

Saipem 10000 has been built to set a new standard in drilling activities. The vessel has been designed and completely outfitted to explore and develop hydrocarbon reservoirs down to 30,000 ft RKB, operating in water depths in excess of 10,000 ft in full DP mode.





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SAIPEM 10000





# Saipem 10000

## BRIEF DESCRIPTION

The main operational modes of the vessel in DP are the following:

- drilling activities (exploration/appraisal/development);
- early production and extensive well production/testing;
- crude oil storage and offloading;
- well completion activities.

All of the equipment installed onboard the vessel has been designed to meet the most stringent health, safety and environmental standards.

Among the chief benefits gained through operating with the Saipem 10000 are the particular arrangement of drilling facilities, the high payload capacity and its Extended Well Testing facilities.

The arrangement of the vessel's topsides equipment allows the drilling crew to conduct several activities simultaneously, thereby optimising the sequence of operations and reducing downtime between different phases. The Saipem 10000's payload, recorded at more than 20,000 t, permits the loading of large quantities of consumables, reducing the necessity of frequent reloading and the number of required supply vessel trips and, consequently, cutting overall operating costs for the client. Saipem 10000 is fitted with Extended Well Testing facilities that allow for the storage of up to 140,000 barrels of crude oil and has offloading capabilities to avoid the need for flaring, thus limiting environmental impact whilst optimising cost.





### INTEGRATED MANAGEMENT SYSTEM

The Saipem 10000 holds the ABS and 'ACCU' notation, meaning all vessel automation and instrumentation is in line with the unattended machinery space class requirements. Based on the operating philosophy of DP Class III, the Integrated Automated System (IAS) is fibre optic based and fully integrated with the drilling control system.

A dual data highway will carry signals to and from operator stations located in the bridge, cargo control centre and engine control room.

The main subsystems incorporated in IAS are the following:

- power generation/manoeuvring;
- auxiliary system control and monitoring;
- cargo/ballast;
- riser management system;
- serial interface with the following systems:
  - Drilling Integrated Systems (DIS);
  - gas detection systems;
  - tank level gauging system;
  - fire detection system;
  - emergency shutdown system.

### ACCOMMODATION

The accommodation module, built in accordance with ABS regulations, has been designed to accommodate 172 people with a high degree of comfort and includes two recreation rooms, coffee shop, sauna and gymnasium.

# Vessel specifications

## UNIT TYPE

Ultra deep water drillship, equipped with EWT (Extended Well Testing), designed for exploration and development drilling down to 30,000 ft RKB, operating in water depth in excess of 10,000 ft

## UNIT FLAG

Bahamas

## UNIT CLASSIFICATION

ABS +A1(E), "Drilling Unit", +FPSO, +AMS, +ACCU, +DPS-3, OMBO, DLA, +CDS

## UNIT DESIGN

Samsung

## YEAR OF UNIT CONSTRUCTION

1999-2000

## UNIT POSITIONING SYSTEM

Simrad SDP-32, DP class III



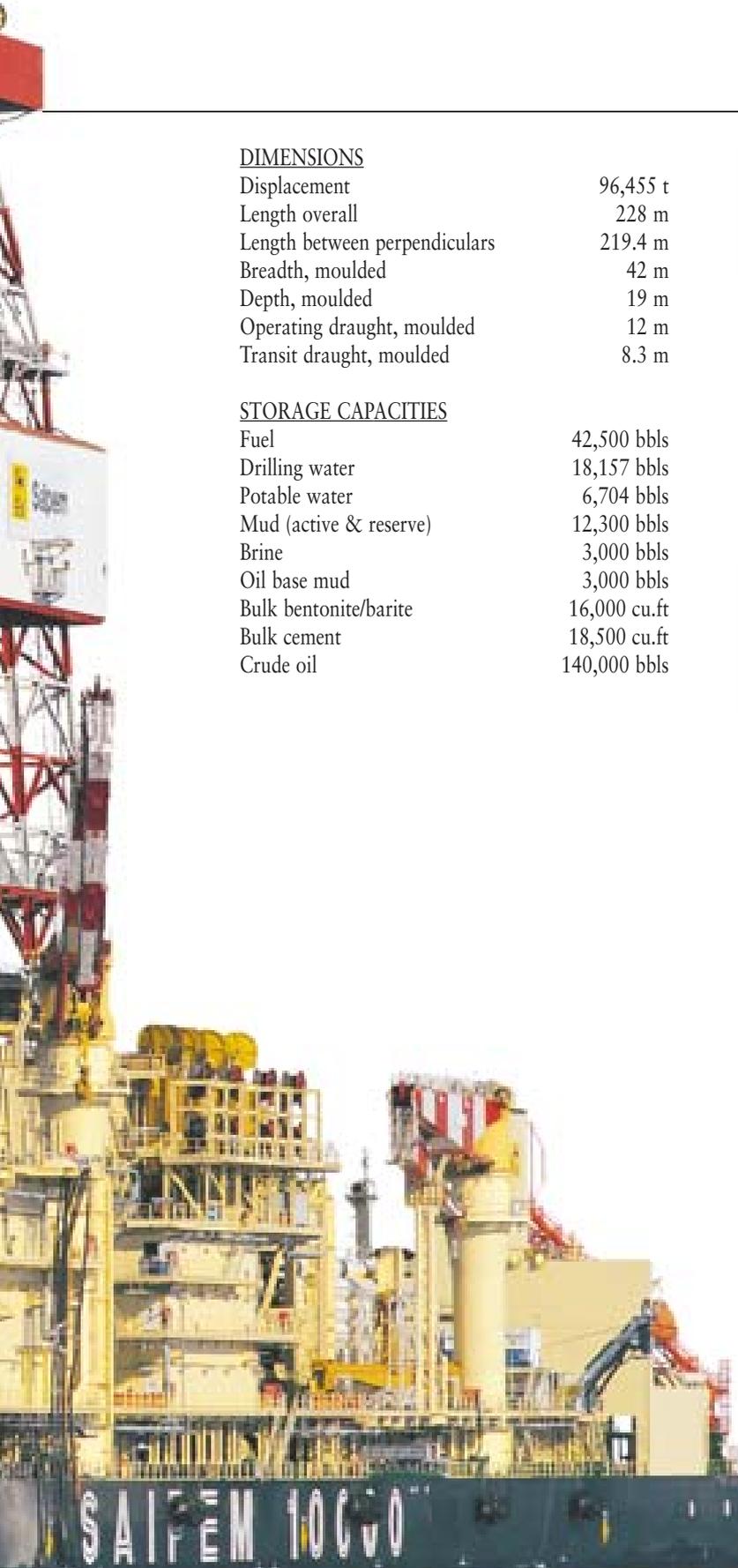


DIMENSIONS

Displacement	96,455 t
Length overall	228 m
Length between perpendiculars	219.4 m
Breadth, moulded	42 m
Depth, moulded	19 m
Operating draught, moulded	12 m
Transit draught, moulded	8.3 m

STORAGE CAPACITIES

Fuel	42,500 bbls
Drilling water	18,157 bbls
Potable water	6,704 bbls
Mud (active & reserve)	12,300 bbls
Brine	3,000 bbls
Oil base mud	3,000 bbls
Bulk bentonite/barite	16,000 cu.ft
Bulk cement	18,500 cu.ft
Crude oil	140,000 bbls





# Vessel specifications

## OPERATIONAL CAPABILITIES

Water depth capability in excess of 10,000 ft  
Drilling depth 30,000 ft RKB

Variable load in transit mode  
With crude oil: 20,000 t. Without crude oil: 17,000 t.  
Variable load in drilling mode  
With crude oil: 18,000 t. Without crude oil: 20,000 t.  
Variable load in survival mode  
With crude oil: 15,000 t. Without crude oil: 20,000 t.

## CRANES

4 Hydralift Knuckle Boom Cranes.  
Rated capacity 85 t. at 18.4 m

## PIPE RACK OVERHEAD CRANE

1 Hydralift Catwalk machine (loaded by Knuckle Boom Crane)

## RISER RACK OVERHEAD CRANE

1 Hydralift Catwalk machine (loaded by Knuckle Boom Crane)

## BOP HANDLING SYSTEM

1 Hydralift Overhead Crane. Rated capacity 350 t.

## X-TREE HANDLING SYSTEM

1 Hydralift Skidding System + trolley.  
Rated capacity 120 t.

## ACCOMMODATION

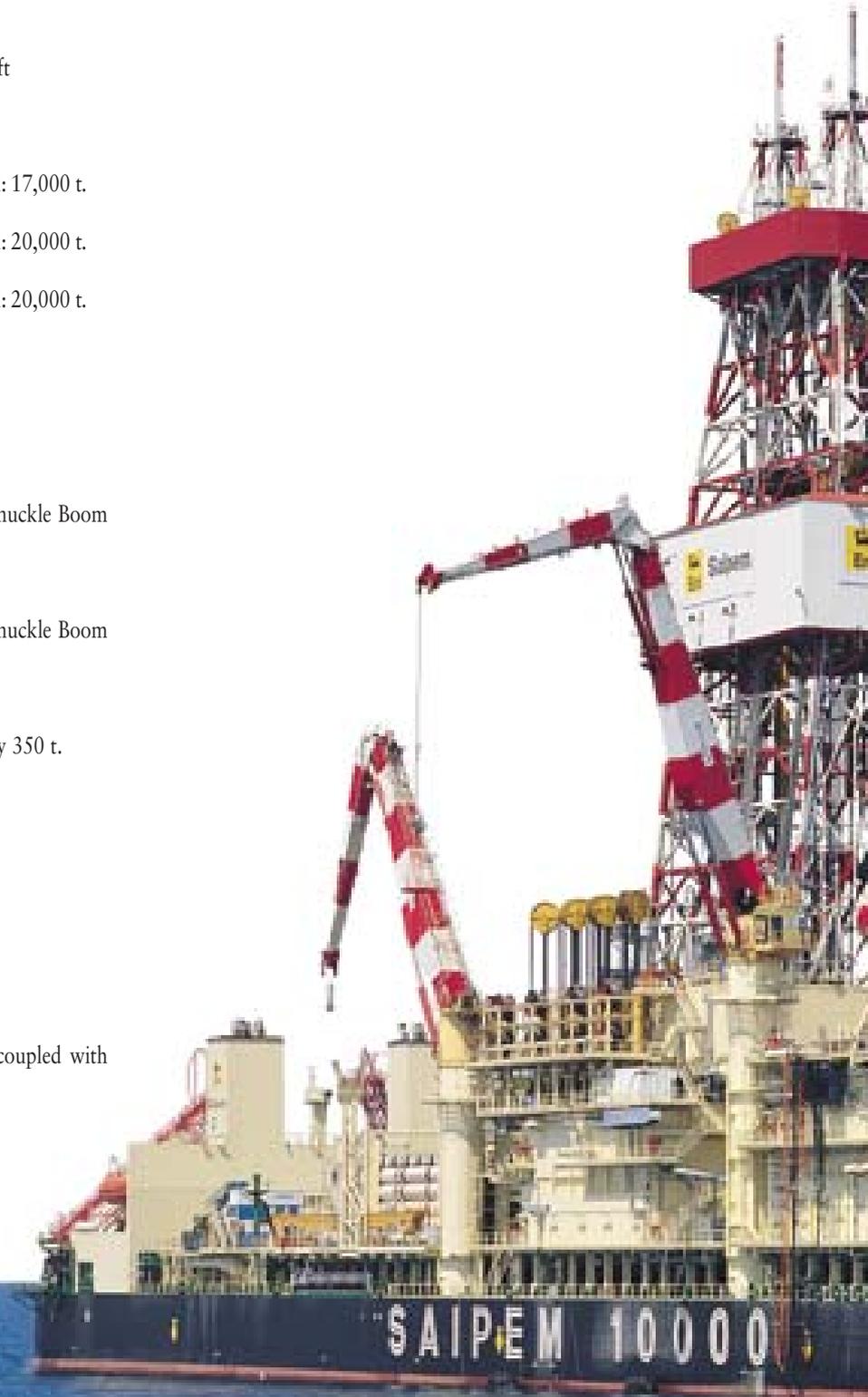
172 people

## POWER PLANT

6 Wartsila Nsd Co 18V32LNE 9,910 hp coupled with  
ABB HSG900XU10 8,750 kVA.

## VFD SYSTEM

18 ABB 600 V (Variable Frequency Drive)





# Drilling rig specifications





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<u>DERRICK</u>	Bailey	Dynamic	base 80 x 60 ft top 60 x 20 ft height 200 ft
		Static hook load	2,000,000 lbs
<u>SUBSTRUCTURE/RIG FLOOR RACKING PLATFORM</u>	Simultaneous setback and hook Hydralift	load capacity 2,600,000 lbs 6 $\frac{1}{2}$ " D.P. plus 5" D.P. plus 9 $\frac{1}{2}$ " D.C. plus 8 $\frac{1}{4}$ " D.C. plus 6 $\frac{3}{4}$ " D.C. plus 4 $\frac{1}{4}$ " D.C. 13 $\frac{3}{8}$ " Casing or 9" Casing or 7" Casing	252 joints Range III 121 joints Range III 6 Stands 12 Stands 6 Stands 10 Stands 80 Stands in triple 105 Stands in triple 105 Stands in triple
<u>AUTOMATIC DRILL PIPE RACKING SYSTEM</u>	Hydralift	Vertical Column Type capable to handle from 3 $\frac{1}{2}$ " D.P. to 13 $\frac{3}{8}$ " Casing	
<u>CASING STABBING BOARD DERRICKMAN PLTF-TV</u>	Hydralift	Hydraulic basket adjustable from rig floor up to 16 m	
		Located on upper and lower finger board with monitors located in the driller's house and TV net. Capable to camera system zoom, pan and tilt.	
<u>DRAWWORKS</u>		Wirth GH 4500 EG 4,500 hp, Re-generative Braking + Baylor 7838 + disk brake + back up disk brake. Powered by 3 General Electric GEB 22A1, AC.	
<u>CROWN BLOCK</u>	Hydralift	Rated capacity	907 t
		Sheaves	8 x 2" drilling line
<u>TRAVELLING BLOCK</u>	Hydralift	Rated capacity	907 t
		Sheaves	7 x 2" drilling line
<u>HOOK BLOCK</u>	Hydralift	Integrated with travelling block	
<u>SWIVEL HEAD</u>	Hydralift	Integrated with Top Drive	
<u>MOTION COMPENSATOR</u>	Hydralift	Crown mounted equipped with Active Heave Compensation System	
		Rated capacity compensated	450 t
		Rated capacity locked	907 t
		Stroke	25 ft
<u>ROTARY TABLE</u>	Wirth RTSS 60 $\frac{1}{2}$ " hydraulic	Maximum opening	60 $\frac{1}{2}$ "
		Rated capacity	907 t
		Driven by	Hydraulic motor
<u>TOP DRIVE</u>	Hydralift HPS 750 2E	Rated capacity	680 t
		Driven by	2 x GEB 752 22 A1AC
<u>MUD PUMPS</u>	Wirth TPK 2200	4 triplex pumps, 2,200 hp each with 7,500 psi fluid end	
<u>CEMENTING UNIT</u>	BJ Services	SCP 248/RAM	
		Driven by	2 x Caterpillar 3406 B
<u>SHALE SHAKER</u>	Brandt	6 VMS 300	
<u>DESANDER AND DESILTER</u>	Gann Mekaniske Brandt	2 installed	16 M - 3 x 12"+ 16 M - 16 x 8"
<u>DRYER</u>	BRANDT	1 VORTEX FINDER	
<u>DEGASSER</u>	Burgess	1 installed	Magnavac 1500
<u>BOP STACK</u>	Shaffer	18 $\frac{3}{4}$ " - 15,000 Guidelineless with Vetco HD-H4 Bop Connector	
<u>RISER</u>	Abb Vetco Gray	3,000 m w.d. Type HMF 21" o.d. x 90 ft long	
<u>DIVERTER</u>	Abb Vetco Gray	KFDS Type CSO	
<u>RISER TENSIONERS</u>	Hydralift	16 x 200,000 lbs type 65' Line Travel	
<u>BOP CONTROL SYSTEM</u>	Shaffer	Multiplex with 5,000 psi Accumulator Unit	

