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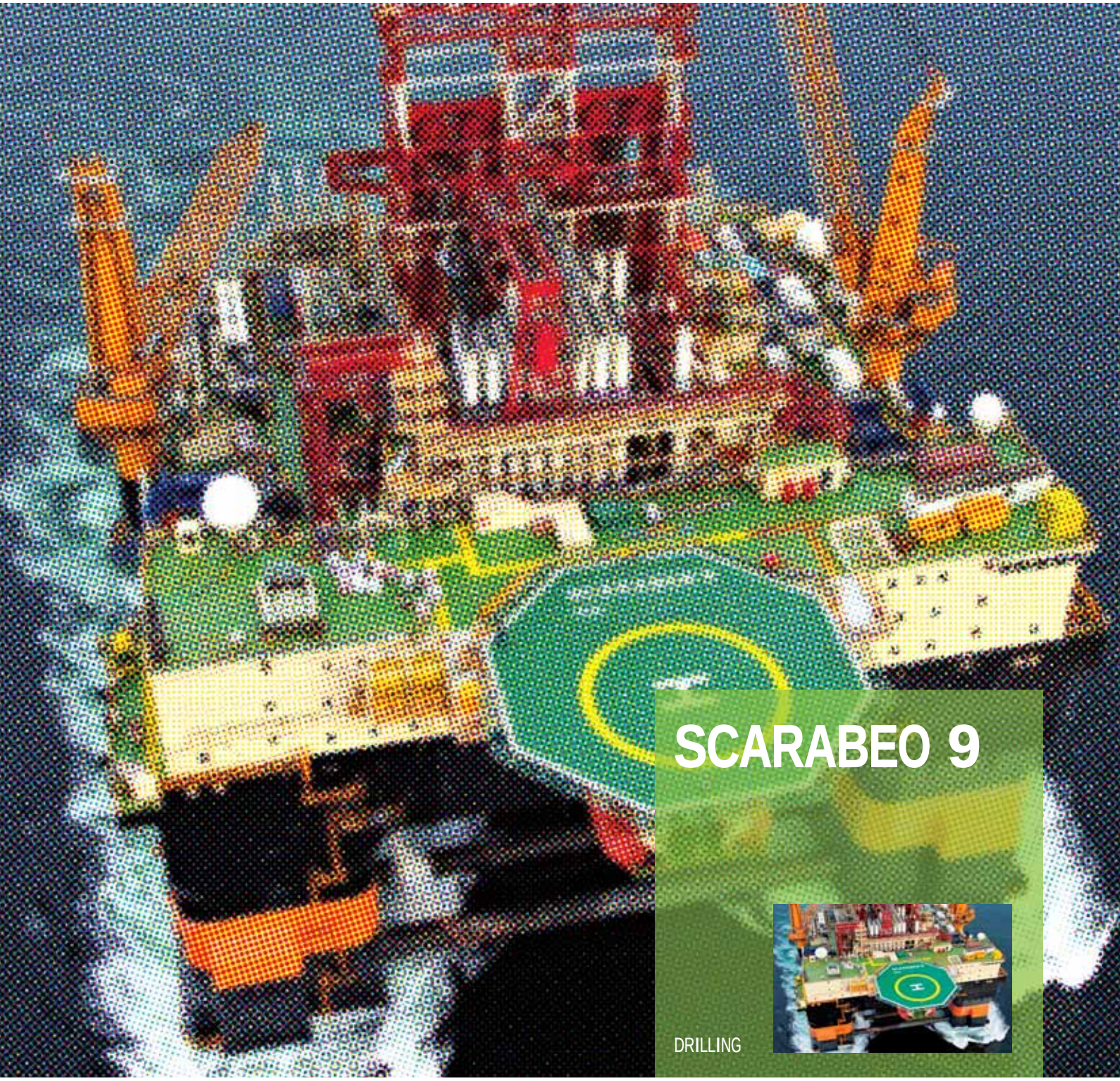

SCARABEO 9

DRILLING

SCARABEO 9

6TH GENERATION SEMISUBMERSIBLE DRILLING UNIT
FRIGSTAD D90 DESIGN

BRIEF DESCRIPTION

The Scarabeo 9 is a last generation semisubmersible unit equipped with a dual RamRig and a Dynamic Positioning (DP3) system.
The Mobile Offshore Drilling Unit (MODU) is an ultra-deepwater drilling unit, designed to operate in water depth up to 12,000 ft, and with a drilling depth capacity up to 50,000 ft below the rotary table.
The MODU consists of two pontoons and four columns connected to the upper hull (deckbox).
The pontoons are connected with four transverse braces attached at the lower part of the columns.
The upper hull (deckbox) accommodates the drilling package and general utilities and it is equipped with a permanent accommodation module for 200 people. The helicopter deck suitable for the use of a M18, EH101 or 61 helicopter. Fluids in bilges and drains are collected in dedicated tanks.
The properties of drain and bilge water is controlled prior to discharge into the sea (max 15 ppm oil).
Contents of collection tanks can be pumped to vessels alongside via the loading stations or transferred to portable tanks for transfer to shore.

CLASSIFICATION

1A1 Column Stabilized Drilling Unit, DRILL, EC0, DYNPOS-AUTRO, POSMOOR, CRANE, HELDK F-AM

UNIT DESIGN

Frigstad D90

DYNAMIC POSITIONING

Dynpos Autro, DP class 3, Convert Team A series

MOORING SYSTEM

Four double drum winches with eight fairleads for connection to pre-set system

MAIN DIMENSIONS

Overall length: 115 m
Length of pontoons: 110 m
Pontoon breath: 16 m
Pontoon depth: 11.6 m
Breath overall: 80 m
Deck box width: 74 m
Moon pool dimensions: 42 m x 8 m
Lightship weight: 31,000 mt
Max. operational displacement: 53,800 t
Survival displacement: 46,700 t
Max. transit displacement: 39,900 t
Max. operational draft: 23.6 m
(28.4 m including thrusters)
Survival draft: 17.1 m
(21.9 m including thrusters)
Max transit draft: 11.6 m
(16.4 m including thrusters)
Variable deck load
(max. operational): 8,100 mt
Variable deck load (max. transit):
6,100 mt
Variable deck load (max. survival):
6,100 mt

STORAGE CAPACITY

Total mud capacity (active + reserve):
14,900 bbls
Total drill water capacity: 19,300 bbls
Base oil tank capacity: 3,000 bbls
Diesel fuel capacity: 4,352 m^3
Cement silos total capacity:
15,300 cu.ft
Bentonite silos total capacity:
7,650 cu.ft
Barite silos total capacity: 7,650 cu.ft
Brine tanks total capacity:
28,800 cu.ft
Sack storage capacity: 162 m^2,
for approximately 8,000 sacks
Potable water: 1,139 m^3

OPERATING LIMITS

Water Depth capabilitiy: up to 12,000 ft
Drilling Depth capability: up to 50,000 ft
Maximum wind velocity
(operating condition): 70 knots
Significant wave height
(operating condition): 8.2 m
Maximum wave height
(operating condition): 14.5 m
Maximum wind velocity
(survival condition): 100 knots
Significant wave height
(survival condition): 14.6 m

Maximum wave height
(survival condition): 25.8 m
Air temperature range:
-20°C to +40°C

DECK CRANES
Main Hoist: Two Liebheer
MTC 6000, 100 t @ 11 m radius,
55.3 t @ 55 m radius
Whip Hoist: 15 t @ 27.5 m radius

POWER PLANT AND MARINE FACILITIES
Eight diesel engines Wartsila,
each with 5,400 kW
Capacity, coupled with 11kV AC alternators
Total installed power 43.2 MW
Eight azimuth thrusters Wartsila,
driven by 4,300 kW electric motor

DERRICK
Hydraulic dual ram rig, Aker Maritime,
118 ft clear heigth
Both main rig and auxiliary rig have
2,000,000 lbs static hook load and full drilling capabilities
Set back for 50,000 ft drill string/casing of double stand range 3
Active heave compensator integrated in the ram rig system

ROTARY TABLE
Two Wirth RTSS 60 1/2" hydraulic,
maximum opening 60 1/2"
Rated capacity 1,000 st, driven by hydraulic motor

TOP DRIVES
Derrick Drilling Machine
Two Aker Maritime DDM-1000-H4-R-R
Rated load capacity 1,000 st
Max torque 75,000 Nm
7,500 psi WP
Max speed 258 rpm

MUD PUMPS
Four Baoji oilfield machinery model
F2200HL input power 2,200 HP each
fluid end 7,500 psi WP

MUD TREATMENT
Four Axion AX-1 high efficiency shale shakers
Two MI-Swaco desilter 10 cones x 4",
(1,000 GPM each)
Mi Swaco CD-1400 degasser
Water Jet type mud gas separator
(poor-boy), with 12" vent line to top of derrick
Two MiSwaco Decanting Centrifuges

BOP STACK
LMRP (Lower Marine Riser Package)
One (1) Shaffer Spherical Preventer
18 3/4" - 10,000 psi WP
BOP Lower Stack
One (1) Shaffer Spherical Preventer
18 3/4" - 10,000 psi WP
One (1) Shaffer Double Ram Preventer
18 3/4" - 15,000 psi WP, with Shear capacity (one cavity with casing shear capacity up to 13 3/8" casing size, and one cavity able to shear DP 6 5/8" size)
One (1) Shaffer Triple Ram Preventer
18 3/4" - 15,000 psi WP

DIVERTER
Fixed diverter system Vetco Gray CS,
21" WP 750 - 1,500 psi
with 2 lines 14"

RISERS
Maritime Hydraulics AKS 21, 21" x 55ft stroke slip joint
Direct Acting Tensioning System

HELICOPTER DECK CAPACITY
Designed for MI8 and EH 101

CREW FACILITIES
Air conditioned living quarters
for 200 people
Hospital equipped with 4 berth
Gymnasium
Recreation rooms

REMARKS
Automatic pipe handling system
Automatic riser handling system

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People, Skills, Equipment.

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