

FRIGSTAD ENGINEERING

The Frigstad Engineering Group has provided rig designs and engineering services to the offshore drilling and production industry since 1981. With offices in Singapore, Norway, Cyprus and Brazil, we have established strong ties with major offshore shipyards and suppliers of drilling equipment – and we are able to serve our clients worldwide.

Frigstad Engineering operates with a deeply embedded philosophy of designing and modifying rigs according to the operational needs of the professionals who work on them and with the expectations of the oil companies and investors in mind. Particular emphasis is placed upon equipment selection and arrangement which offers superior safety and operational performance while maintaining the highest levels of environmental protection and cost-efficiency.

EXPERIENCE MEETS INNOVATION

A wealth of experience earned at the sharp end of oil exploration is being harnessed to shorten the journey from drilling to production. New requirements are forcing the offshore drilling industry to challenge designs, processes and capacities that have endured the test of time.

BLUE PRINT FOR SUCCESS

Our hands-on experience has resulted in the optimum approach to design and construction of deepwater drilling rigs. Frigstad Engineering's blueprint for success has been developed with efficiency, ergonomics, safety and environmental awareness as key design priorities.

Frigstad T70™ Outline Specification T70 M

REGULATIONS			
SOLAS 1974 as amended, MARPOL 1973/78, IMO MODU CODE 2009, all with latest amendments.			
CLASSIFICATION			
ABS +1A1 COLUMN STABILIZED DRILLING TENDER UNIT, CRANE SERVICE, CIRCLE P, AMCC			
ENVIROMENTAL OPERATING LIMITS			
Maximum wind velocity	70 knots / 100 knots	Air gap (Operating/Survival)	7.5 to 11.5 m / 12.0 m
Wave height Hs / Hmax	15.8/29.2m (51.8/95.8 ft)		
PRINCIPAL PARTICULARS			
Length of pontoons	80 m (262 ft)	Displacement (operational)	27,463-30,413 t (30,272-33,524 st)
Width & length, pipe rack deck	70 x 70 m (230 x 230 ft)	Displacement (survival)	27,094 t (29,866 st)
Height to pipe rack deck (ABL)	36.3 m (1,191 ft)	Displacement (transit)	21,713 t (23,934 st)
Draft (operational) min/max	16 - 20 m (52.5 - 65.5 ft)	Water depth own (max, based on mooring)	305 m(1,000 ft)
Draft (survival)	15.5 m (50.7 ft)	Drilling depth (DES dependent)	DES dependent
STORAGE CAPACITIES			
Bulk mud, upper hull	283 m³ (10,000 ft³)	Drill water, pontoon	3,262 m³3 (20,517 bbls)
Bulk cement, upper hull	283 m³ (10,000 ft³)	Potable water, pontoon	1,330 m³ (8,365 bbls)
Sack material, upper hull	9,000 sacks	Open pipe rack deck area	2,900 m2 (31,215 ft2)
Base oil for mud, pontoon	730 m³ (4,591 bbls)	Variable deck load (max oper.)	4,600 t (5,070 st)
Liquid mud / brine, upper hull	985 m³ (6,195 bbls)	Variable deck load (max transit)	3,500 t (3,858 st)
Liquid mud / brine, column	490 m³ (3,082 bbls)	Payload (max operational)	10,200 t (11,243 st)
Diesel fuel oil (MDD), pontoon	2,262 m³ (23,119 bbls)		
ACCOMODATION / OFFICE			
Total capacity of 160 persons in 1 or 2 person cabins with individual bathroom. Ample office space and service facilities.			
MATERIAL HANDLING			
Deck cranes	One (1) 400 t deck crane with 52 m boom. Two (2) 65 t deck cranes with 45.8 m boom.		
Access to machinery spaces	One (1) 6 t cargo elevator & several forklifts to service all major machinery spaces in the deck box and pipe rack deck including: engine rooms, mud pump room, cement unit room, workshops, sack storage, warehouse, galley stores etc.		
MARINE SYSTEMS			
Main power / emergency power	Seven (7) diesel engines, each with 1,833 kW capacity. Total installed power 12,831 kW. One (1) main engine in each engine room available for emergency power.		
Power distribution	AC power propulsion and VMC system. 690V AC alternators..		
Mooring system	Four (4) double drum traction winches with 1830 meters of 90 mm wire and eight (8) fairleads for connection to pre-set mooring system.		
DRILLING SYSTEMS			
Derrick equipment set (DES) & BOP	To be supplied by owner or fabricated by yard at owners request as part of turn key delivery.		
Drill string, spares, tools etc	To be supplied by owner.		
DRILLING FLUID SYSTEMS			
Mud pumps	Four (4) main triplex mud pumps, 1,600 HP, 7,500 psi wp.		
Shakers	Four (4) shale shakers.		
Mud treatment module	Rig is equipped with modular mud treatment plant for location either at semi or wellhead platform.		
OTHER			
Helicopter deck capacity	Sikorsky S-92, S-61, Superpuma A332, M18 or EH101 helicopters. Max 15.6 t.		
Life-saving equipment	Four (4) lifeboats, each with capacity of 80 persons. Fourteen (14) inflatable life rafts with capacity of 25 persons each. 360 lifejackets. Twelve (12) life buoys. Three (3) line throwing apparatus. Smoke signal and distress as per rules and regulations. One (1) rescue boat.		

Note: The details included in this specification are subject to change without prior notification doc no 1000-FEL-SA10-0001 - rev 1

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Frigstad T70™



HULL DESIGN

T70 Drilling Tender is Frigstad's proprietary design providing a superb motion, huge payload, and stability.

MODERN SQUARE HULL WITH 4 COLUMNS

Double Symmetry Hull, providing stability in all axis, improving rig efficiency and increasing rig operability window.

PAYLOAD

Providing the 10,200 MT Payload, reducing drilling operation cost. Survival Payload is similar with Operating Payload, providing easy management on the logistics.

STABILITY

Allowing single pre-ballast heavy lifting operation for 200 MT DES Module, improving heavy lifting operability window.

MOTION RESPONSE

Improved heave, roll, and pitch responses. Providing high operability window for operation.

MOORING SYSTEM

Four (4) sets of Double Drum Traction Winches, come with Eight (8) Storage Winches rated for 650 MT MBL wire ropes.

GALLEY AND MESS ROOM

Fully functional Galley and Mess Room for 160 men.

LIVING QUARTERS AND RECREATION AREA

Living Quarters with total Capacity of 160 men, all in 1 and 2 men cabins with individual bathroom. Living Quarters features cinema and gymnasium.

BRIDGE AND OFFICES

Modern design Bridge with a good visibility for a better working environment. Ample Office Spaces for Operators and Company Man.

SUPERB LOGISTICS

One (1) No of Cargo Lifts with six (6) MT capacity providing access to all decks. Dedicated and spacious Forklift Path with three (3) MT rating all around rig allowing convenient access for logistics.

PIPE RACK DECK STORAGE

T70 Drilling Tender provides 2,800 m² Pipe Rack Deck Storage Area, the largest in her class. Plenty of storage spaces for both DES and Tubular.

MUD MIXING SYSTEM

Modern Mud Mixing System for easy and efficient operation and minimize chemical hazard for operators.

HIGH PRESSURE MUD SYSTEM

Four (4) Triplex Mud Pumps, 1700 HP, 7500 psi.

MUD TREATMENT MODULE

Space Provision for Mud Treatment Module, hanged on the forward side of the rig, reducing the weight on the DES, providing flexibility on the small capacity wellheads/jackets.

RESERVE AND ACTIVE MUD

Large capacity for reserve and active mud for deeper drilling depth and mixing while drilling operation.

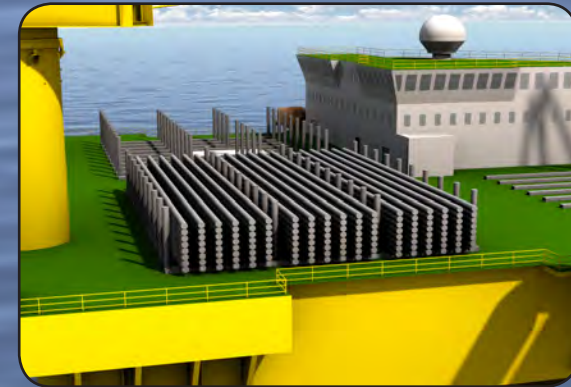
MUD TANK CLEANING SYSTEM

Dedicated fixed, automatic Mud Tank Cleaning System, minimizing occupational hazard during mud tanks cleaning operation.

SACK STORAGE CAPACITY

Huge Sack Store-Room for 9,000 sacks fully accessible by forklift for easy and efficient handling.

T70™ DESIGN FEATURES



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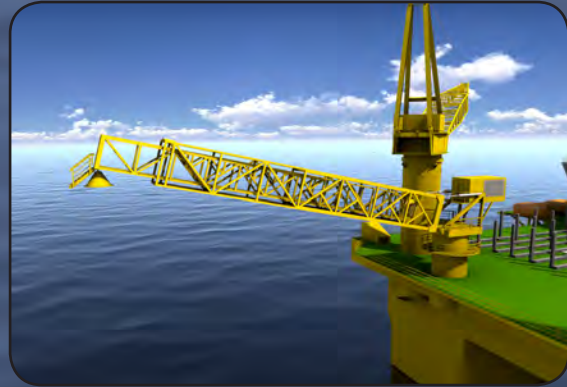
SUPERB LOGISTICS

One (1) No of Large Crane with 400 MT capacity for DES Handling.



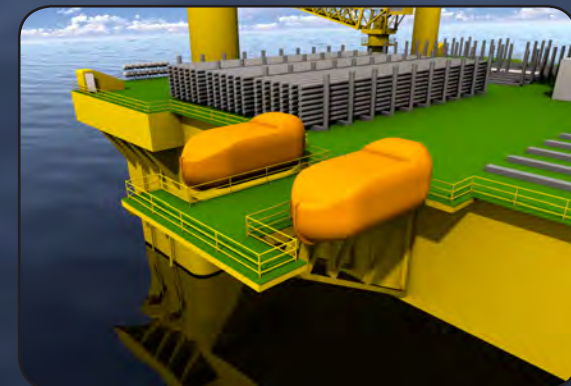
SUPERB LOGISTICS

Two (2) 50 MT Deck Cranes with 45.8m boom covering most of the deck space and good coverage on the wellheads/jackets.



PERSONNEL TRANSFER BRIDGE

Telescopic Bridge with maximum reach of 33.3 m comes with adjustable pedestals for different wellheads/jackets installation. Telescopic Bridge is accessible by Large Crane for easy handling.



LIFE SAVING EQUIPMENT

Four (4) Lifeboats, total capacity for 320 persons. Fourteen (14) Inflatable Rafts, 25 persons each. One (1) fast Rescue Boat.



HELIDECK

Helideck complying with CAP437 with 14.6 MT landing weight, suitable for S61, S92, M18, Super Puma A322.