

SapuraAcergy March | 2008

SAPURA 3000

DP Heavy Lift and
Pipelay Vessel



SapuraAcergy Sdn Bhd, a joint venture between SapuraCrest Petroleum and Acergy, own and operate the *Sapura 3000*, a Malaysian flagged new-build heavy lift and pipelay vessel.

The company has built a strong engineering base and project management team at its headquarters based in Kuala Lumpur, from where it will run its projects and support its operations.

In addition to deepwater pipelay and subsea construction, the *Sapura 3000* is also ideally suited for conventional shallow water platform installation with a 3000 sht lift capacity and large work deck area. Vessel capabilities include conventional S-Lay for shallow water and steep S-Lay and J-Lay for deepwater and steel catenary riser installation into water depths beyond 2000m.

The *Sapura 3000* is designed to be the most advanced deepwater construction ship in the growing Asia and Middle East market.

Sapura 3000 specifications

Main Particulars

Length between perpendiculars: 151.2 m
 Breadth moulded: 37.8 m
 Depth to work deck, moulded: 15.0 m
 Depth to freeboard deck, moulded: 9.1 m
 Draft, maximum loaded: 6.5 m
 Classification: ✱ A1 (E) AMS DPS-2 heavy lift / pipe laying vessel
 Helideck: Suitable for Sikorsky S61N
 Accommodation capacity: 330
 Transit speed: 8-10 knots (finalisation on speed trial)
 Deck load capacity, work deck: 10MT/m²
 Free deck area: 2000 m²

Accommodation

All cabins have integrated toilet facilities equipped with vacuum system
 10 x 1-person cabins
 50 x 2-person cabins
 55 x 4-person cabins

Fully air-conditioned accommodation equipped with offices for clients, conference room, recreation rooms, gymnasium, video rooms, helicopter arrival/departure room, prayer room etc

Power Generation

Main diesel generators: 6 x 4000 kW
 Emergency diesel generator: 1 x 1000kW

Propulsion & Dynamic Positioning

Non-retractable azimuth thrusters (stern): 2 x 2400 kW
 Retractable azimuth thrusters: 5 x 2400kW
 Kongsberg SDP22 CLASS II system

Auxiliary Equipment

Water makers: 2 x 60T/day capacity
 Sewage treatment system: Suitable for full complement
 Oily water separator

Safety Equipment

Liferaft: 4 x 85 persons capacity
 Life raft: 100% capacity

- Sprinkler system in accommodation
- Fire detection system in accommodation and machinery spaces
- Water mist system in engine room
- CO₂ fire fighting system
- Foam system for helideck

Telecommunication Equipment

VSAT with 256 kbps data link
 GMDSS
 Capsat Fleet 77

Heavy Lift Capability

Heavy lift main crane

Capacity, main hoist ($\pm 25^\circ$ over stern): 3000 S.T at 27m radius
 Capacity, main hoist revolving: 2200 S.T at 31m radius
 Capacity, auxiliary hoist: 800 S.T at 53m radius
 Capacity, whip hoist: 200 S.T at 91m radius

- Whip hoist is suitable for 2000m of hook travel in single part reeving.
- Whip hoist and auxiliary hoist can be reeved together to achieve subsea lifting capability of approx 300 S.T for 1000m hook travel or approx 700 S.T for 500m of hook travel.
- Whip hoist of main crane has manriding capabilities (currently being installed)

Anti-heeling system for crane operations

Dedicated pumps: 1 x 1600 cum/hr
 3 x 1200 cum/hr

Subsea Structure Installation

Using main crane
 Using A&R winch via A-frame over port or starboard side

Pipelay Capability

Pipe size: 6" to 36" diameter plus concrete coating
 No. of work stations: 10 stations total
 6 each welding stations + 2 each NDT/repair station + 1 each stations for corrosion coating/blasting + 1 each field joint coating

Centre-lay firing line S-lay system consisting of:

- Pipe handling cranes on the work deck
- Pipe storage on work deck
- Endo conveyor line to the bevelling station in work deck
- Bevelling station with transverse conveyor and transfer vehicle on work deck
- Pipe elevator loader and elevator for transport of the pipe to the freeboard deck through pipe loading hatch
- Endo conveyor line for transport to the ready rack transverse chain conveyor on the freeboard deck
- Transverse chain conveyor and transfer vehicles on freeboard deck
- Line up station with seam rollers on freeboard deck
- Pipe support rollers in firing line on freeboard deck
- 3 each tensioners and A&R winch
- Movable work stations in firing line
- Stinger and stinger handling system
- Transfer vehicle for transport of rejected joints to the kick out endo conveyor line on freeboard deck and subsequent removal through kick out hatch by pipe handling crane

Tensioners

3 x 80MT

A&R Winch

Line pull, max: 360MT
 Wire capacity: 3000m of 109mm wire

Pipe Davits

6 x 50MT capacity (Can be installed on port or starboard side)

Stinger

Total length: 90m (adjustable geometry in three sections)
 Minimum overbend radius: 70m
 Maximum pipe departure angle: 87°
 Equipped with load cells, underwater cameras etc
 Stinger handling tackle capable of adjustment of the stinger from survival condition to the minimum over bend radius. Handling system is equipped with backup tackle. Stinger can be installed/removed using main crane

Pipe handling cranes: 1 each on port side & 1 each on stbd side
 Capacity - 40 St at 29m radius
 Maximum outreach of 45m
 Both cranes certified of man riding
 Equipped with anti-collision system

Optional Operations

J-Lay system

- System is installed on starboard side when required
- Designed for rapid installation and removal with main crane
- Using 360MT A&R winch
- Pipe size up to 20" diameter
- Double joint installation
- Installation of SCRs and flowlines