

# AL-DOHA Specifications



The Al-Doha (Ex GULF-1 and Ex-Hakuryu 8) was jointly designed by Japan Drilling Company Ltd. and Mitsubishi Heavy Industries. It was built in November 1981 at MHI's Hiroshima shipyard, Japan.

The rugged design permits operations in water depths of up to 250 feet while drilling to a rated drilling depth of 20,000 feet with a minimum draft of 12 ft. The cantilever provides a drilling envelope extending from 10 ft to 40 ft aft of the stern and 12 ft either side of the rig's centerline. The rig was the first member GDI to join the GDI fleet in May 2004.

Spud cans can be fully retracted into the hull allowing easy loading onto dry transport vessels for safer, quicker mobilization.

## DESIGN:

Mitsubishi MD T76J-VIII self-elevating cantilever jackup drilling rig with three triangular trussed independent legs.

## MAIN DIMENSIONS:

Length (molded).....	193'7" (59 m)
Breadth (molded).....	183'8" (56 m)
Hull Depth.....	21'7" (6.58 m)
Leg Length.....	364' (111 m)
Usable Leg Length (below hull).....	304' 5" (92.8 m)
Spud Can Area.....	802 ft <sup>2</sup> (74.5 m <sup>2</sup> )
Drilling Envelope.....	40' aft and 12' from centre line
Gross tonnage.....	3,656.33 tons
Helideck size/rating.....	70' /for a Sikorsky S-61

## DESIGN CRITERIA:

Max. operating water depth.....	250' with 30' air gap & 25' penetration
Max. rated drilling depth.....	20,000'

## STORAGE CAPACITIES:

Fuel oil.....	2,516 bbls (400m <sup>3</sup> )
Drill water.....	4,497 bbls (715m <sup>3</sup> )
Potable water.....	5,037 bbls (801m <sup>3</sup> )
Liquid mud.....	2,266 bbls (360m <sup>3</sup> )
Bulk mud.....	4,660 ft <sup>3</sup> (132m <sup>3</sup> )
Bulk cement.....	4,660 ft <sup>3</sup> (132m <sup>3</sup> )
Sack storage.....	5,000 sacks

## MAXIMUM GROSS VARIABLE LOAD:

While Drilling (including 450 tonnes setback and hook load)	2,150 tonnes at 25' extension
Jacking or Towing	1,990 tonnes at 40' extension
	1,200 tonnes

## CLASSIFICATIONS HELD:

American Bureau of Shipping; ≡ AI Self-elevating Drilling Unit.

Nippon Kaiji Kyokai; NS\* Self-elevating Drilling Unit.

## ACCOMMODATION:

Three floors of air conditioned cabins for 99 personnel.

## POWER EQUIPMENT:

Main Engines:	Four Niigata diesel 12V22AX engines, 1,891 PS (1,865 hp) x 1,200 rpm.
Main Generators:	Four Mitsubishi Electric CFC generators, 1,857 KVA at 1,200 rpm, AC 600V, 60 Hz.
Emergency Use:	One Niigata diesel 6L20AX engine, 600 PS (592 hp) at 900 rpm and one Mitsubishi CFC 500 KVA at 900 rpm, AC 450V, 60 Hz generator.

## MOORING SYSTEM:

Anchor:	Four 5 tonnes Moorfast type anchors.
Anchor Wire:	Four 1-1/2" x 2,130' anchor wire ropes.
Anchor Windlasses:	Four single drum, powered by 40 kW AC motors. Maximum pull 40 tonnes x 4 m/min. (low gear), 10 tonnes x 16 m/min. (high gear).

## DRILLING EQUIPMENT:

Draw works:	National 1320-UE, fitted with an Elmagco 7838 eddy current brake, powered by two 800 hp DC motors.
Derrick:	Emsco-Mitsubishi, 157' high with 30 ft x 30ft base, 1,333,000 lbs static load capacity.
Crown Block:	Emsco-Mitsubishi, 590 tons, 7 x 60" sheaves for 1-3/8" drilling line and 1 x 9/16" sandline sheave.
Traveling Block:	National type 650G500 block with unitized hook, 500 short tons, 6 x 50" sheaves for 1-3/8" drilling line.
Top Drive:	Bowen ES-7 power swivel, 1,000 hp with Varco TDS-3 pipe handler. 500 tons capacity.
Swivel:	National P-500, 500 tons capacity.
Rotary Table:	Continental-Emsco T-3750, driven by one Mitsubishi Electric 800 hp DC motor.

## BOP & DIVERTER EQUIPMENT:

BOPs & Diverter:	One 29-1/2" x 500 psi Hydril MSP diverter. One 21-1/4" x 2,000 psi Hydril MSP annular. Two 21-1/4" x 2,000 psi CIW U single rams. One 13-5/8" x 5,000 psi Hydril GK annular. Two 13-5/8" x 10,000 psi CIW U double ram.
BOP Control System:	Model T-40270-3S Koomey accumulator unit with SU2KB8S "S" series hydraulic control manifold, MGBK8EH master control panel and GERC-9 auxiliary control panel.
BOP Crane:	50 tonnes overhead crane with two 25 tonnes hooks.

## MUD CIRCULATION SYSTEM:

Mud Pumps:	Two National 12-P-160 triplex, each driven by two Mitsubishi Electric 800 hp DC motors.
Shale Shakers:	Three single Flo-Line Cleaner Plus, model 48.
Mud Cleaner:	One Harrisburg Wooley, MC-1280-16-SC with motor 440V, 3P, 60HZ, UL class 1, Group:D.
Desilters:	One Pioneer Siltmaster T-16-4, 800 gpm with Demco Siltrite 4MC16 shaker for a mud cleaner One Harrisburg 4" desilter, 800 gpm with mud cleaner.
Degassers:	One Derrick VACU-FLOE 1,200 gpm

## OTHER EQUIPMENT:

Cementing Unit:	Lease item.
Cranes:	One Mitsubishi deck crane (port side), 30 tonnes at 22.6'-40' (6.9-12 m), 7 tonnes at 105' (32 m). One Mitsubishi deck crane (starboard side), 35 tonnes at 22.6'-40' (6.9-12 m), 7 tonnes at 105' (32 m).
Water Maker:	Two Hisaka-Meco HRD-60EN, 54 tonnes/day.
Anti-pollution Equipment:	One 100 person capacity Sasakura - Hamwarthy Trident ST-10 sewage treatment unit One Taiko Kikai UVK oil and water separator, maximum capacity 5m <sup>3</sup> / hour with 15 ppm oil content or less.