### Specifications

#### The FPSO main features

The Floating Production Storage and Offloading unit (FPSO) was built as a Multi-purpose offshore unit. The hull design, including fatigue life and longitudinal strength, is suitable for operation in harsh environment areas like the North Sea. The disconnectable Turret Mooring System is suitable for operation in areas with hurricanes/typhoons.

The unit also provides a Dynamic Positioning (DP2), and a quick disconnectable external turret, allowing operation without installation of a mooring system. Crude Separation Plant suitable for production of waxy crude at high temperature.

There is ample deck space available for additional modules and large power generation capacity for tie-in of additional consumers.

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### General

- **Port of Registry:** Curaçao, Willemstad
- **Flag state:** Netherlands Antilles
- **Converted to FPSO:** Samsung Heavy Industries Co. Ltd, Korea 1997
- **Classification society:** DNV-GL

### Class Notation

+1A1 Ship-shaped Oil Production and Storage Unit, BOW LOADING (as applicable for stern loading), HELIPORT, CARGO, OFF-C, EPN, EG, FAME, KCS, ZINNIS AUT, PROD

### Principal dimensions

- **Deadweight [Tonnes]:** 101,107
- **Hull type:** Double hull Aframax size suitable for North Sea
- **Dynamic Positioning:** DP2
- **Storage capacity exkl slops:** 595,950 bbls (94,757 m³) in 18 Cargo oil Tanks (98%)
- **Accommodation:** 55 persons (normal operating)
- **Helicopter deck:** EH101 max 14290 kg

### Topsides data

- **Total fluids capacity:** 125,000 bpd
- **Crude production:** 60,000 bpd
- **Produced water:** N/A
- **Gas compression:** N/A
- **Gas treatment:** N/A
- **Material selection:** NACE MR 01-75
- **Power generation:** 4 x 5.2 MW Diesel Generator
- **Topsides motor drives:** Electric

### Turret mooring data

- **Turret type:** Disconnectable Oertel/evens Mooring System
- **Number of riser data including umbilicals:** 4 risers, 3 for outriggers

### References

- Bluewater offices
- FPSO Munin
- turret mooring data
- turret mooring units
The FPSO Munin is a unique FPSO, equipped with DP2 (Fully Redundant Dynamically Positioning) system and external turret to hold a quick disconnectable buoy system for supporting the oil/gas risers. The FPSO is also equipped with a Disconnectable Turret Mooring System to allow conventional mooring. The FPSO has operated successfully in the Lufeng field, Xijiang field and Huizhou field, all located in the South China Sea. The high flexibility of the FPSO is proven at the Xijiang and Huizhou projects, where the FPSO operated for more than 3 years on full Dynamic Positioning with oil production rates exceeding 90,000 bbl/d. Presently, the FPSO is at anchorage near Labuan, Malaysia, directly available for redeployment.

4 diesel engines
The FPSO is equipped with 4 diesel engines with 20 MW power generation, to provide power for diesel-electric propulsion and to provide power for topsides equipment.

Dynamic positioning system
The FPSO is equipped with a DP (dynamic positioning) system. It is self-propelled and suitable to execute an autonomous hook-up to the disconnectable buoy.

Outrigger
The FPSO Munin has an external outrigger construction with quick disconnectable buoy, which allows the FPSO to hook-up, independently, in tough weather conditions (e.g., winter and storm). Within a matter of time a heavy storm or hurricane is approaching. The buoy and the subsea umbilicals, risers, (frozen) configuration can be pre-controlled before the FPSO payout.

Topsides equipment
The FPSO is equipped with a rigid topsides equipment and a rigid riser system. In additional, production equipment to recover an excessive production rate.