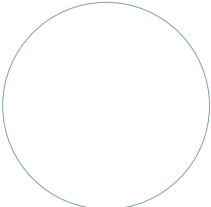
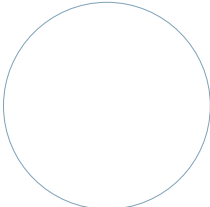


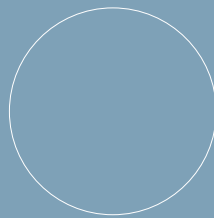
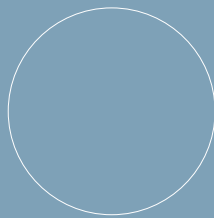
bluewater

# Munin FPSO



Munin at Lufeng Field, South China Sea





# Munin FPSO

The FPSO Munin is unique in being equipped with two position keeping systems. Munin has an STP buoy mooring system with 4 riser/umbilical slots and 6 mooring lines. Alternatively the Munin can operate on its DP2 system, whereby well fluids can be imported via 2 risers supported by a disconnectable buoy and outrigger system. Both position keeping systems have been extensively and successfully used.

From 1997 till 2009 the Munin has produced oil from the Lufeng Field operated by Statoil Orient using the STP buoy mooring system. In 2004 the Munin had an interim assignment of 6 months to the Xijiang Field operated by ConocoPhillips, producing a maximum of 80,000 BOPD, operating on full DP. In 2010/2011 the Munin produced oil at the Huizhou Field operated by CACT for 18 months, also operating on full DP.

## Main functionality

- Receipt of fluids from subsea wells
- Control of the subsea wells
- Processing of the incoming fluids for separation into crude, water and gas
- Storage of the stabilised crude oil and maintaining it at the required temperature
- Treatment of effluent for discharge to the sea
- Diesel well bullheading /riser flushing facilities
- Pigging facilities
- Chemical injection
- Offloading of crude into “tandem moored” shuttle tankers
- Power generation for subsea well pumps, process, offloading, utilities and ship systems
- Accommodation for operating and maintenance personnel
- Helideck for helicopter operations
- Disconnection facilities incl DP

## Vessel data

Length	253 m
Breadth moulded	42 m
Depth moulded	23.2 m
Dead weight tonnage	103,000 mt
Deck area	7,280 m <sup>2</sup>
Accommodation	55 persons (expandable to 75)

## Processing capacities

Fluid capacity	125,000 bpd
Crude	60,000 bopd
Produced water (max)	119,700 bwpd
Gas lift/injection	N/A
Water injection	N/A
Oil content water discharged	≤ 30 ppm

## Storage capacities

Exportable crude	94,763m <sup>3</sup> (596,348 bbls)
Slop tanks	3,315 m <sup>3</sup> (20,851 bbls)
Fuel oil	3,158 m <sup>3</sup> (19,868 bbls)

## Stabilised crude

RVP	10-12 psi
H <sub>2</sub> S	0 ppm
BS&W	≤ 0.5%

## Power

Main generators	2x crude/diesel/HFO 2x diesel/HFO
Capacity	4x 5.2 MW
Emergency generator	1x 0.46 MW diesel

## Offloading

Parcel size	600,000 bbls
-------------	--------------

Angola    Brazil    China    Malaysia    Nigeria    Russia    The Netherlands    United Kingdom    United States