

# Outline description Exmar 1.5 MM bbl FSO



## General

### Main Dimensions

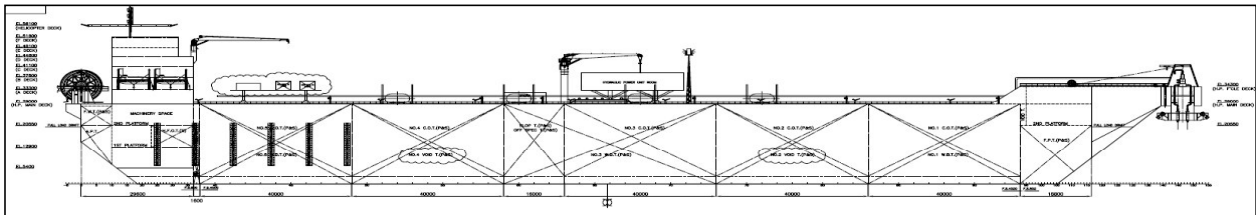
|             |             |
|-------------|-------------|
| LOA         | 300 m       |
| LPP         | 277 m       |
| Beam        | 54 m        |
| Depth       | 28 m        |
| Laden draft | 20 m        |
| DWT         | 230000 tons |

### Classification

BV I ✕ HULL, Offshore Service Barge, Oil Storage, VeriSTAR-HULL,  
POSA, HEL, MACH, IG, AUTO

### Tank Capacities

|                               |                                      |
|-------------------------------|--------------------------------------|
| Cargo tanks (5 pairs)         | 241600 m <sup>3</sup><br>1520000 bbl |
| Off spec tanks (1 pair)       | 12800 m <sup>3</sup>                 |
| Slop tanks (1 pair)           | 6400 m <sup>3</sup>                  |
| Ballast tanks (3 pairs+AP/FP) | 61200 m <sup>3</sup>                 |
| HFO tanks                     | 2100 m <sup>3</sup>                  |
| MDO tanks                     | 1000 m <sup>3</sup>                  |
| FW tanks                      | 960 m <sup>3</sup>                   |



## Hull

- Bow moored with external turret
- Double bottom and double side hull
- Segregated cargo and ballast tanks
- Service life of 35 years with 20 years dry-dock interval
- Any tank can be emptied and maintained irrespective the filling level of adjacent tanks
- Topsides with total weight of 4400 tons can be retrofitted
- Moderate environment

## Accommodation

### Complement and cabins

- 90 persons + 16 temporary refuge
- 14 single person cabins with private shower/toilet
- 16 single person cabins with private shower/toilet and space for additional bed
- 30 double person cabins with private shower/toilet

## Cargo Handling System

### Loading system

Three path swivel - two working & one spare - each 75,000 bopd  
Maximum loading rate 150,000 bopd (appx. 1000 m<sup>3</sup>/h)  
Two segregated loading lines on deck (simultaneous loading of two different cargoes)

### Cargo pumps

FRAMO hydraulic distributed pump system with submerged pumps arranged in sump

|                     |                              |            |
|---------------------|------------------------------|------------|
| Cargo storage tank: | 1250m <sup>3</sup> x 150 mlc | (ten sets) |
| Offspec tank        | 800m <sup>3</sup> x 150 mlc  | (two sets) |
| Slop tank           | 500m <sup>3</sup> x 150 mlc  | (two sets) |
| em'cy portable pump | 200m <sup>3</sup> x 50 mlc   | (two sets) |

### Offloading

Capacity 7500 m<sup>3</sup>/h  
Stern offloading system via 150m hose on reel to shuttle tankers with bow loading system  
Side by side offloading via starboard manifold and hoses to shuttle tanker up to 50,000t DWT

### Inert gas system

Two (2) sets (fan, burner, scrubber) - 2 x 100% capacity  
Capacity (each) 9400 m<sup>3</sup>/h  
One (1) deck water seal unit supplied by two (2) seawater pumps (one standby)  
One (1) P/V breaker on IG main line on deck

### Nitrogen system

provided for: cargo pumps stripping  
offloading hose flushing  
metering outlet flushing

Capacity: 220 Nm<sup>3</sup>/h

### Thermal oil heating system

Two (2) sets of Crude/HFO/MDO burning thermal oil heaters

Heating coils arranged in crude oil tanks

### Stern offloading system

|                       |   |
|-----------------------|---|
| Hose storage reel     | One layer storage of 24" x 150m double carcass hose<br>Quick release flange |
| Mooring hawser system | Tension monitoring and operation locally and from CCR<br>Quick release hook |

## Power Generator

### Power generating plant

Three (3) sets four-stroke engines burning Crude Oil/HFO  
MDO burning for start-up

|                     |                      |
|---------------------|----------------------|
| Engine rating (EA): | 4320 kW              |
| Engine speed:       | 720 rpm              |
| Alternator          | Brushless, FW cooled |
| Output              | 5180 kVA (4144kW)    |
| Voltage             | 6300V                |
| Frequency           | 60 Hz                |

### Emergency generator

One (1) set four-stroke diesel engine burning MDO

|                |          |
|----------------|----------|
| Engine rating: | 1300 kW  |
| Engine speed:  | 1800 rpm |
| Voltage        | 450V     |
| Frequency      | 60 Hz    |