

# REVER TOPAZ

MULTI-ROLE DIVING SUPPORT VESSEL



## OVERVIEW

- Saturation & Air Diving Support
- Structure Installation
- Flexible Flowline & Umbilical Installation
- Inspection, Repair & Maintenance
- Well Abandonment
- Riser Installation
- Spoolpiece Installation



# REVER TOPAZ SPECIFICATIONS

## GENERAL SPECIFICATIONS

<b>Classification</b>	DNV + 1A1 SF, COMF-V(3)C(3), HELDK-SH, EO DYNPOS-AUTR, CLEAN, DSV-SAT, DSV-SURFACE
<b>Build Location</b>	Fosen Mekaniske Verksteder AS, NORWAY
<b>Yard Number</b>	6
<b>Design</b>	ST-256-L
<b>Delivered</b>	2007
<b>Classification</b>	Det Norske Veritas (DNV)
<b>Call sign</b>	3EHY8
<b>IMO Number</b>	9382815
<b>Flag State Authority</b>	Panama
<b>Port of Registry</b>	Panama

## MAIN PARTICULARS

<b>Overall Length</b>	106.60m
<b>Breadth</b>	22.00m
<b>Depth</b>	9.60m
<b>Draught</b>	7.30m
<b>Deadweight</b>	5337 tonnes
<b>Gross Tonnage</b>	8009 tonnes
<b>Net Tonnage</b>	2403 tonnes

## ENGINE POWER & PROPULSION

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#### MAIN ENGINES

<b>4 x Wartsila 6L32B2 diesel engines (Marine gas oil, MGO)</b>	Rated power each 2880kW @ 720rpm each Total: 11520 kW
	NOx emissions Value: 11,7 g/kWh
	MGO consumption@100% load: 186g/kWh
	Coupled with 4 x Marelli MJR 710 LB 10 Alternators each rated at 3420 kVA
<b>Harbour Engine</b>	Mitsubishi S12A2, 803kW/1800rpm driving Newage Stamford HCM634K2, 963kVA alternator
<b>Emergency Generator</b>	Mitsubishi MHI S6Bk, 276 kW @ 1800 R.P.M driving Stamford HCM434E1, 325 kVA alternator

### PROPULSION

<b>Main Azimuth Thrusters</b>	2 x Wartsila type CS2510/2500 WN each rated at 3000 kW
<b>Retractable Azimuth Thrusters</b>	2 x Wartsila type CS1510-350/1530 MNR each rated at 2200kW
<b>Tunnel Thrusters (1 fwd &amp; 1 aft)</b>	2 x Wartsila type CT275Z-D each rated at 2000 kW

## DYNAMIC POSITIONING SYSTEMS

<b>DP System</b>	Kongsberg K-POS DP 31
<b>DP Classification</b>	AUTR DP II
<b>Reference Systems</b>	2 x DGPS; Kongsberg 200 & 132
	2 x HIPAP; Kongsberg 500
	2 x Light Taut Wire; Bandak Mk2
	1 x RadaScan; V115

## DP OPERATIONS

DSV operations with port and starboard moon pools and twin diving bells
ROV operations
Subsea installation works (Manifolds, Plets, Plems etc)
Spoolpiece tie ins
Umbilical and Flexible flowline Installation
Geotechnical and worksite survey
Module handling
Subsea Crane operations

## APPROXIMATE FUEL CONSUMPTIONS

<b>Transit speed</b>	24m <sup>3</sup> / 24 hours (11 knot - economical transit speed)
<b>Full speed</b>	36m <sup>3</sup> / 24 hours (12.5 knot - full speed)
<b>DP Rough</b>	18m <sup>3</sup> / 24 hours
<b>DP Moderate</b>	17m <sup>3</sup> / 24 hours
<b>DP Calm</b>	16m <sup>3</sup> / 24 hours
<b>Harbour</b>	8m <sup>3</sup> / 24 hours (including main crane operations)

## TANK CAPACITIES (100%)

<b>Fuel Oil</b>	2240m <sup>3</sup>
<b>Ballast Water</b>	2400m <sup>3</sup>
<b>Anti Rolling Tank</b>	4 x 843m <sup>3</sup>
<b>Portable Water</b>	551m <sup>3</sup>
<b>Lubricating Oil</b>	81m <sup>3</sup>

## CARGO DECK

<b>Deck Area</b>	860m <sup>2</sup>
<b>Deck Strength</b>	5.0-10.0t/m <sup>2</sup>
<b>Maximum Deck Load</b>	~2000 tonnes depending on loading conditions and operations
<b>Main Moonpool</b>	7.2m x 7.2m, situated on the centre line, main deck, 15.6m aft from amidships

## DECK CRANES

<b>Main Crane</b>	Hydramarine crane, active heave compensated (AHC) 150 tonnes (@10m radius)
<b>Auxiliary Deck Crane I</b>	Dreggen crane 10 tonnes (@18m radius)
<b>Auxiliary Deck Crane II</b>	Provision crane 1.05 tonnes (@14.7m radius)

## ROV SYSTEMS

Permanently installed garaged Observation class ROV, Seaeye Lynx 48, supplied with Techsafe Mk2 zoned LARS. Lynx 48 is depth rated to 1500m and carries 200m of tether. With a fibre optic mux and 2 cameras permanently installed there is additional capability to carry survey sensors plus manip skid and water jetting skids are supplied as standard. Control room is integrated into vessel adjacent to dive control and full stocked stores room and workshop is located on main deck adjacent to ROV LARS.

Note: All details believed correct but not guaranteed and are subject to alteration

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## DIVE SYSTEM

<b>Saturation System</b>	Dräger 18 persons
<b>Maximum Operating Depth</b>	300m
<b>Single lock Main Living Chambers</b>	2 x 6 persons living chambers (25.7m3)
<b>Triple lock De-Compression Chamber</b>	1 x 6 person living chamber (29.2m3)
<b>Twin lock transfer Chamber</b>	21.5m3
<b>SPHL Evacuation System</b>	1 x 18 person (10.5m3) Ocean wide hyperbaric lifeboat
<b>Port Bell</b>	1 x 3 person (5.7m3)
<b>Starboard Bell</b>	1 x 3 person (5.7m3)
<b>Gas Storage</b>	23 x 2.0m3 & 23 x 2.4m3 tubes, (total capacity 20240m3 @ 200bar)
<b>HP Gas Transfer Compressor</b>	2 x Compair H 5437.1 HP Heliox compressors
<b>LP Air</b>	1 x Boge SD40-2 screw compressor
<b>HP Air</b>	1 x Bauer V5-HP V150-11-5 compressor
<b>Diver Gas Reclaim</b>	2 x Divex Gasmizer gas reclaim compressors
<b>Air Diving</b>	1 x Air dive chamber, twin basket deployment skid
<b>Dive Moonpool</b>	2 x Moonpool (port /starboard)
<b>Dive System Classified to:</b>	DNV

## COMMUNICATION SYSTEMS

<b>GMDSS AREA</b>	A3
<b>VHF DSC/Radiotelephony x 4</b>	SAILOR RT5022
<b>VHF Emergency</b>	Jotron, Tron TR20
<b>UHF Handheld Radios</b>	10 x Motorola GP340
<b>MF/HF DSC/Radiotelephony</b>	SAILOR HC4500/HT4520
<b>INMARSAT C with built in EGC receiver x 2</b>	SAILOR TT-3000E
<b>INMARSAT F</b>	NERA F77
<b>NAVTEX receiver</b>	MCMURDO NAV-7
<b>AIS</b>	SAM Electronics, DEBEG 3400
<b>COSPAS-SARSAT free float EPIRB</b>	JOTRON TRON 40S
<b>SART x 2</b>	TRONSART
<b>GMDSS VHF x 3</b>	JOTRON TR20
<b>SAT TV</b>	British (Sky) & Norwegian (Canal +, NRK, TV2)
<b>Data Transfer</b>	512 kbps

## ACCOMMODATION

<b>Total</b>	105 + 18 divers in SAT
<b>Single Cabins</b>	20
<b>Double Cabins</b>	39
<b>4 Bed Cabins</b>	2
<b>Hospital</b>	1 + Examination table
<b>Messroom</b>	Seats 66
<b>Recreation Room</b>	TV Lounge, seats 16
<b>Recreation Room</b>	Internet Lounge, seats 17, TV, 2 x internet workstations
<b>Smokers lounge</b>	TV, seats 12
<b>Gymnasium</b>	Equipped
<b>Client Office 1</b>	4 x Workstations
<b>Client Office 2</b>	5 x Workstations
<b>Photo Copier Room</b>	Photocopier, filing cabinets
<b>Project Office</b>	6 x workstations, photocopier, survey desk
<b>Ships Office</b>	2 x workstations
<b>Offshore Project Managers Office</b>	Workstation
<b>Field Engineers Office</b>	Workstation
<b>Heliport Reception</b>	Reception desk and seating area
<b>Dive Technicians Office</b>	3 x workstations
<b>Conference Room</b>	Wall mounted TV connected to workstation with remote keyboard and mouse, seats 14
<b>Dive Control (port /starboard)</b>	Dive control Centre, Dive coordinators office + 2 x workstations stbd/ROV control port
<b>Saturation Control</b>	
<b>Saturation Control Kitchen</b>	Kitchen for diver's needs + washing machine and dryer
<b>Dive Technicians Workshop</b>	Bench, vice, pillar drill, compressed air, tools etc...
<b>Engine Room Workshop</b>	Bench, vice, pillar drill, lathe, bench grinder, compressed air, tools etc...

## DOCUMENTATION AVAILABLE ON REQUEST

Dive System Design Audit
Dive System FMECA
Vessel FMEA
DP Trials Report
Response amplitude operators (RAO's)
Stability Booklet

# REVER TOPAZ SPECIFICATIONS

## HELIDECK

Sikorsky S92

Maximum "D" value: 20.88m

Maximum take-off weight: 12.8te

DNV Classed and complies with the requirements of CAA CAP437

Heli-beacon Tele supply A.S., type TS-20B

**Table 1**

D-Value, 't' value and other Helicopter Type Criteria

Type	D Value (Metres)	Perimeter 'D' Marking	Rotor Diameter (Metres)	Max Weight (kg)	't' value	Landing Net Size
Bolkow Bo 105D	12.00	12	9.90	2400	2.4t	Not required
EC 135 T2+	12.20	12	10.20	2910	2.9t	Not required
Bolkow 117	13.00	13	11.00	3200	3.2t	Not required
Augusta A109	13.05	13	11.00	2600	2.6t	Small
Dauphin AS365 N2	13.68	14	11.93	4250	4.3t	Small
Dauphin AS365 N3	13.73	14	11.94	4300	4.3t	Small
EC 155B1	14.30	14	12.60	4850	4.9t	Medium
Sikorsky S76	16.00	16	13.40	5307	5.3t	Medium
Augusta/Westland AW139	16.66	17	13.80	6400	6.4t	Medium
Bell 412	17.13	17	14.02	5397	5.4t	Not Required
Bell 212	17.46	17	14.63	5080	5.1t	Not Required
Super Puma AS332L	18.70	19	15.60	8599	8.6t	Medium
Bell 214ST	18.95	19	15.85	7936	8.0t	Medium
Super Puma AS332L2	19.50	20	16.20	9300	9.3t	Medium
EC 225	19.50	20	16.20	11000	11.0t	Medium
Sikorsky S92	20.88	21	17.17	12020	12.0t	Large

Helideck Monitoring System (HMS)

Kongsberg HMS 100

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