



**TOR
GROUP**

**TOR BOREAS
HYBRID UTILITY VESSEL**



GENERAL INFO	
Function	Dive support & offshore services, lifting, utility, berthing, towing.
Design	Macduff Ship Design Ltd.
Class Notation	BV I  HULL • MACH, Wind Farm Service Ship – M2 Tug standardized bollard pull 15 tons Unrestricted Navigation, • AUT-UMS, • DYNAPOS AM/AT
MAIN PARTICULARS	
Length Over All (LOA)	26.95 m
Breadth (B)	11.00 m
Depth (D)	4.35 m
Draught (Max)	3.25 m
Air Draught (Max)	18.00 m
Bollard Pull	15.7 TBP
Speed (max)	8.5 Knots
Endurance	21 days (service speed)
Accommodation	6 Crew 12 Passenger

CAPACITIES	
Fuel	75 m ³
Fresh Water	35 m ³
Black Water	15 m ³
Grey Water	11 m ³
Sludge	4 m ³
Lube Oil	4 m ³
Bilge	10 m ³
Clear Deck Area	70 m ²
Deck Loading	5 t/ m ²
FIRE & SAFETY	
Safety Equipment	2 x 20-man inflatable Life raft
Fixed Fire Fighting System	Novec MX 1230 System
Fire & Smoke Detection Systems	For E/R, Accommodation and all compartment monitored from wheelhouse & call (alarm) points at several locations' c/w general alarm system from the central alarm panel
Rescue Boat	3.92m Aluminium Rescue Boat, 6 Persons, 40 HP outboard

ACCOMMODATION & NAVIGATION	
Accommodation	2 x 1-man Cabin (en-suite), 8 x 2-man Cabins (en-suite) Galley & Mess & Lounge Survey/Dive Control Room Embarkation Lobby
Air Condition	15 kW heating capacity 18kW cooling capacity. Fan coil in each cabin
Chairs (Helmsman)	2 x Helmsman
Search Light	2 x 1000 W
Navigation & Communication Equipment	1 x DP1 System 2 x Radar (X & S Band) 1 x ECDIS 1 x Echo Sounder 1 x Speed Log 1 x AIS 1 x Auto Pilot 1 x GPS Receiver 1 x BNWAS 1 x S-VDR 1 x Magnetic Compass 1 x INMARSAT MINI C 1 x NAVTEX 1 x VHF Sets 1 x MF/HF 3 x GMDSS VHF 1 x EPIRB 1 x SART 1 x VHF 1 x VSP Telephone 1 x Talkback system 1 x Internal Telephone 1 x CCTV

MACHINERY	
ASD Propulsion	2 x Schottel SRP 210 FP
ASD Prime Mover	2 x 500 kW, VEM Permanent Magnet e-motor
Main Generators	3 x MAN D2676 3 x 340 kW, 400V, 50Hz
Harbour Generator	1 x Baudouin 4W105 ES 1 x 76 kW 400V, 50Hz
Bow Thruster	1 x Veth VT-90 1 x 99kW
Gyro Stabiliser	1 x VEEM VG140SD
Service Air Compressor	2 x 1.5 kW 10 bar Air Compressor, 1 x 18 m ³ /h dryer, 1 x 300 lt air receiver
Oily Water Separator	1 x 0.5 m ³ /h and 15 ppm.
Sewage Treatment System	1 x for 20 persons
GS & Bilge & Fire Pump	2 x 25 m ³ /h x 4 bar
Oily Water Transfer Pump	1 x 3.5 m ³ /h x 2 bar
Sludge Pump	1 x 3.5 m ³ /h x 2 bar
Fuel Transfer Pump	1 x 10.4 m ³ /h x 2 bar
Fuel Oil Prufier	1 x 1000 l/h

FW Pump	1 x 3 m ³ /h x 2 bar
Black & Grey Water Transfer Pump	1 x 5 m ³ /h x 2 bar
LO Transfer Pump	1 x 2.27 m ³ /h x 2 bar
FW Cooling Pump	2 x 17 m ³ /h x 2.5 bar 2 x 17 m ³ /h x 2.9 bar
Emergency Fire Pump	1 x 25 m ³ /h x 2.5 bar
FW Hydrophore Set	2 x 3.2 m ³ /h - 200 lt with UV, 200 lt 2 x 6 kW heater

DECK MACHINERY	
Anchor & Chain	2 x 825 kg Delta Flipper Anchor (Fore) 2 x 750 kg Delta Flipper Anchor (Aft) 4 x 600m Ø20mm wire rope
4-Point Mooring Winches	Electric driven, deck and bridge controlled. Single Drum, storage capacity 600m for 20mm dia wire rope. Band brake holding load 25 tons. Duty on drum 1st layer nominal pull 4-8 tons @ 7.5-12 m/min. Length Tension Monitoring System. Length, speed monitoring system.
Aft Towing Winch	Electric driven, deck and bridge controlled. Single Drum, storage capacity 600m for 34mm dia steel wire. Duty on drum 1st layer nominal pull 25 tons @ 10m/min, 8 tons @ 20m/min. Length Tension Monitoring System. Tension, length, speed monitoring system.
Offshore Crane	Hydraulic driven, locally and remote controlled. Maximum Outreach 12.7m Lifting capacity SWL @ Sea State 3 13,000 kg @ 4.0 m (7,220 kg) 8,400 kg @ 7.2 m (4,620 kg) 6,500 kg @ 9.0 m (3,830 kg) 5,300 kg @ 10.9 m (3,190 kg) 2,400 kg @ 12.7 m (2,690 kg)
A-Frame	Hydraulic Driven, SWL @ Sea State 3 Onboard 1,000 kg @ 4 m Outboard 5,000 kg @ 3 m
Stern Roller	1 x 30 tons SWL 3000mm x Ø 500 mm



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