



SO.PRO. MAR. Sp.A.
SEDE LEGALE ED OPERATIVA: VIA
DEI MILLE,16-80121 NAPOLI
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MINERVA UNO

INTRODUCTION



MAIN FEATURES

Owner	So.Pro.Mar. SpA
Ship-owner	So.Pro.Mar. SpA
Port of registry	Napoli RI482
Call sign	I Z V M
Shipyard	Termoli Shipyard
Year of launch	2003 – renovation 2010
Gross tonnage	615 GT
Net tonnage	184 NT
Suez gross (net) tonnage	700 GT (506 NT)
Dead weight	210 t
Displacement (lightship)	726 t
Length overall	46,60 m
Length between perpendiculars	39,80 m
Width overall	9,00 m
Full load draft	4,60 m
Main Engines	n. 2 Caterpillar model 3508 B Maximum power 2 x 746 kW at 1800 RPM
Propellers	n. 2, variable pitch
Cruising radius (10 knots)	6000 nautical miles



Range	30 days
Maximum speed	13.0 knots
Service speed	10.8 knots
Economic speed	10 knots
Handling speed	Under 1 knot
Fuel consumption at service speed	4,6 Ton/day

The ship is classified RINA (number 79748) with the following Class:

C - Special Service - Research Ship - Unrestricted Navigation - AUT - UMS



Main engines:

- n. 2 diesel Caterpillar model 3508 B, 4 stroke-cycle, irreversible, supercharged
- Revolutions per minute 1800
- Cylinders 8-V
- Bore 170 mm
- Stroke 190 mm

Each engine is coupled to the variable pitch propeller by a reduction gear.

Auxiliary engines:

- n.2 diesel generators SCANIA – MARELLI with alternator 380 kW, 380 V, 50 Hz power output.
- n. 1 emergency diesel generator 65 kW, 380 V, 50 Hz power output.

Onboard power supply is 220 V, CEI 23-16/VII or CEE 7/7 16 A plugs

Steering:

- n. 2 shilling rudders with 70° maximum steering angle.
- n. 1 bow-thrusters 120 kW.



Load:

- Water, ballast 23 t
- Water, fresh 70 t
- Diesel oil (MDO 0.001%S) about 90 t
- n. 2 reverse osmosis desalters for fresh water's total output of 2,5 t/day,.

Accommodations for crew:

- n. 2 single cabins for Master and Chief Engineer
- n. 2 single cabins for Bridge Officers
- n. 1 double cabin for Engineer Officers
- n.1 double cabin for technicians
- n. 3 double cabins for crewmembers

Accommodations for scientific researchers:

- n. 1 single cabin for Party Chief
- n. 6 double cabins

All cabins have private bathroom and air conditioning.

Life-saving equipment:

- n. 4 inflatable liferafts for 25 peoples
- n. 1 rescue boat with emergency davit

Engines Room's auxiliary equipment:

- n. 2 fuel transfer pumps
- n. 1 diesel purifier
- n. 2 self-priming centrifugal pumps for fire, general and bilge services
- n. 1 emergency fire pump
- n. 1 bilge oily water separator
- n. 1 CO₂ fire-fighting fixed system for Engine Room
- n. 1 sewage waters depuration system ISIR 1.5 m³/day
- n. 1 cathodic protection system
- n. 1 antifouling system for sea water intakes

Bridge navigation equipment:

- n.2 radars Furuno model FR 1510 Mak 3
- n. 1 gyrocompass Anschutz
- n. 1 magnetic gyro
- n. 1 auto-pilot model Walzer 3000 Adaptive
- n. 1 doppler log model Atlas Dolog
- n. 1 anemometer Simrad IS 15



- n. 1 echosounder Furuno FE 700
- n. 1 GPS Furuno Navigator
- n. 1 GPS Furuno GP 80
- n. 1 radio GMDSS -Furuno, A1+A2+A3 areas
- n. 1 satellite for communication and data transfer (VSAT)
- n. 1 radio VHF Furuno FM 8500
- n. 1 radio VHS/DSC Sailor RT 5022
- n. 3 hand-held radio VHF/GMDSS
- n. 1 printer NAVTEX NX 500
- n. 1 Automatic Identification System SAAB
- n. 2 radar transponder Rescuer
- n. 1 EPIRB Kannad model 406 WH
- n. 1 engine room telegraph
- n. 1 fire alarm Servoteknikk
- n. 1 automatic telephone system
- n. 1 Intercom system
- n. 1 engine alarm repeater
- n. 1 navigation system repeater





OCEANOGRAPHIC EQUIPMENT

For research activities, the ship has:

- n. 1 stern facing A-frame 10 t
- n. 1 starboard facing A-frame 5 t
- n. 1 stern crane Viscovo 5 t
- n. 1 central crane Viscovo 3 t
- n. 1 bow crane Viscovo 1 t
- n. 1 dredging winch, 4500m steel cable, stern facing
- n. 1 winch, towfishes, 3000m steel coassial cable, stern facing
- n. 1 winch, CTD, 4100m steel coassial cable, starboard facing
- n. 1 winch, grabbing, 3000m Kevlar cable, starboard facing
- n. 1 winch, coring, 4200m cable, starboard facing
- n. 1 dry laboratory 24 m² for data recording and processing
- n. 1 electronic laboratory 6,5m²
- n. 1 wet laboratory 25,5 m² for sample handing and analysis
- n. 2 samples cold storage rooms
- n. 1 samples deep-freeze storage room

Scientific equipment onboard:

Navigation:

- DGPS FUGRO SEASTAR
- Dinamic positioning Kongsberg DP0
- Navigation software Thales PDS2000

Geology/Geophysics:

- Hydrographic singlebeam echosounder SIMRAD 27 khz
- Hydrographic singlebeam echosounder SIMRAD 38 khz
- Hydrographic singlebeam echosounder SIMRAD 200 khz
- Motion Reference Unit IXSEA OCTANS 1000
- Multibeam echosounder RESON 8160 (hull mounted)
- Multibeam echosounder Kongsberg EM3002D (over the side)
- Side scan sonar KLEIN 3000
- Sub bottom profiler GEOACOUSTIC CHIRP II (hull mounted)
- Magnetometer Marine Magnetics Seaspy
- Position, attitude, time & heading sensor Seatex Seapath 200

Hydrology/Meteorology:

- ADCP Teledyne RDI
- CTD Seabird 911 Plus
- Rosette CTD SBE carousel



- N. 12 10l Niskin water sampling bottles
- Automatic Weather Sensor Aanderaa
- Conductivity sensor online SBE 21
- Water purification unit ELAGA ULTRA ANALITIC



Scientific fishery:

- Fishing net catch monitoring system SIMRAD model ITI
- Fishing winch, 2000m cable
- Trawl boards
- Incubator 2 J.P. SELECTA
- n. 2 complete fish nets (trawl and pelagic fishing)

Video survey:

- ROV POLLUX II
- Winch for ROV, 500m cable

Bottom sampling:

- Gravity corer
- van Veen grab, 20, 25 and 50 lt
- Dredges



The upper deck is provided by an area of 90 m² for setting-up 4 modular mobile laboratories, built inside ISO 10' containers, fully equipped and with air conditioning. The layouts are the following:

- chemistry
- geology
- microbiology
- plankton and primary production
- scientific fishery
- cold storage

The ship is also equipped with:

- ship network pc server
- unlimited internet connection by satellite communication
- electronic equipment mounting with n. 4 racks, n. 1 Uninterruptible Power Supply UPS Chloride Linear MkII 20 kW, n. 1 Uninterruptible Power Supply model Xanto 6000, multimeter HP, frequenzimeterHP, n. 2 12V-7A power supplies.