

MÁRIO RUIVO

Deep-sea Research Vessel



MÁRIO RUIVO

Deep-sea Research Vessel

General	
Length	75.6m
Beam	14.8m
Draught	5.8 m (4.5+1.3 from the gondola)
Weight	2290 Ton
Maximum speed	11 knots
Service speed	≤10 knots
Endurance	≥30 days at sea without refueling
Accommodation	47 (27 researchers and technicians and 20 crew members)
Safety	Complies with IMO, Lloyds Register and all national and international requirements

Navigation & Communication	
Dynamic positioning	EMRI, DP1
GPS	2 x Simrad MX510 1 x JRC-JLR 7700MKII
Radar	1 x Furuno FAR-2107 1 x Furuno FAR-2105
AIS	JRC-JHS-182
Navigation System	ECDIS 1: Transas 4000 ECDIS 2: Furuno PCU-3010
Gyro-Compass 1	Raytheon Anschutz STD
Gyro-Compass 2	Simrad MX510
Autopilot	Simrad AP70
Depth Measurement	Hondex HE-7300-DI
Satellite phone	Sailor TT-3738A Sailor SC 4120 Iridium phone

Propulsion & Generators	
Engines	2 X Ruston 8RKCM, 8V25.4, 1492 Kw (2000 Bhp) /900 rpm
Bow Thrust	Engine: Mirrlees Blackstone, 6l22.2, 682 Kw (915 Bhp) / 1000 rpm Thrust Unit: Tees Gill Jet, Omni-Directional, 700 Kw
Stern Thruster	Hundested Dk, 400 Kw
Generators	3 X Mirrlees Blackstone, 6l22.2, 400 Kw (Electric) / 900 rpm

Workboat
5.90 meters length and 1.92 meters width, fiberglass boat with center console, and 37 kW (50 Cv) motor.
Suitable for research activities, buoy maintenance, equipment deployment and recovery, and other marine activities.



Facilities

Dry laboratory with work benches.

Wet laboratory, with walk-in freezing tunnel, 570 Kg/cycle, -40°C final temperature, and walk-in freezer with 10 m³ total volume, -30°C conservation temperature, -18°C fish entry minimum temperature.

Workshop with lathe, pedestal drilling machine, turret milling machine, bench grinder, portable welding unit, oxi-acetylene welding/burning kit, workbench with vice, band saw.

Data processing room with 5 dedicated acoustic survey workstations and desk space for laptops.

Communal areas: lounge with TV and DVD players, gymnasium, sauna and cinema room.

Changing room with 16 lockers and toilet.

Hospital room with hospital bed and basic medical facilities.

Deck Equipment

A-frame, stern: HIDROFERSA SWL 16 ton

A-frame, bow, SB: SWL 10 ton

Cranes stern PT and SB: 2 x GUERRA M230.20A4, 1550 Kg – 11.7 m

Crane, bow, SB: HEILA HLRM 140/4S SWL 8

Space on deck for 6 ship containers at the bow area

120 m² of working area at the Stern

Two side fixing poles to support scientific equipment on the port side.

Two side arms (outriggers), 9 m in length, at the stern, for towing scientific equipment.

Permanent Scientific Equipment

Motion reference system:	Kongsberg Seapath 380
Net monitoring system:	Scanmar
Low frequency scanning sonar:	Kongsberg Simrad SX93
Multi-beam echo sounder 1:	Kongsberg EM712, 0.5 x 1 degree, 2 to 2000 m depth
Multi-beam echo sounder 2:	Kongsberg EM304 MKII, 1 x 1 degree, full ocean depth
Split-beam echo sounder:	Simrad EK80 with ADCP (>400 m), 18, 38, 70, 120, 200 e 333 kHz.
Sub-bottom profiler:	Kongsberg TOPAS18, full ocean depth
Primary positioning:	Kongsberg Seapath 380
Secondary positioning:	Applanix POSMV Ocean Master
Sound velocity profiler:	Valeport miniSVS

Winches

CTD Winch: bow 1500 m, 8.18 mm diameter, heave compensation system, SWL 1.7 ton

Oceanographic winch: stern 6000 m, 12 mm diameter, Dynice synthetic rope, heave compensation system SWL 4.7 ton

GILSON Winches: 2x100 m, 16 mm diameter, SWL 6 ton

Trawl winches: 2x3000 m, 24 mm diameter, 270kW / 25 ton



Plans

