RV CELTIC EXPLORER

MULTIPURPOSE RESEARCH VESSEL

FISHERIES ACOUSTIC RESEARCH, OCEANOGRAPHIC,
HYDROGRAPHIC & GEOLOGICAL INVESTIGATIONS,
BUOY/DEEP WATER MOORING & ROV OPERATIONS

Foras na Mara
Marine Institute

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Class Notations:
Lloyd's DI00ai ICE CLASS
ID + UMS + SCM DP (AM)

RV CELTIC EXPLORER

Designed to meet the noise requirements of ICES CRR report 209. The vessel is equipped with:

- Retractable drop keel
- Dynamic positioning (DP1)
- Capacity to carry 7 x 20ft laboratory containers
- Deep water and shallow water Multibeams
- USBL

VESSEL OVERVIEW

Specifications	
Length o.a	65.5m
Beam	15m
Draught	5.8m
Gross tonnage	2425T
Net tonnage	727T
Maximum speed	16 knots
Service speed	≤10 knots
Endurance	35 days
Safety	Complies with IMO, Lloyds, and all national and international requirements
Accommodation	35: 20-22 scientists, 13-15 crew, depending on operational requirements. Scientists' quarters: 9 double berth cabins, 4 single cabins all en-suite

Propulsion (Diesel-electric)	
Engines	2 x Wärtsilä 9l20, 1620kW/1000rpm, 690vac 1 x Wärtsilä 6l20, 1080kW/1000rpm, 690vac DC Drives 2 x Indar DC electric motors (each 1500kW, 0-180rpm)
Bow thruster	700kW Gill Jet, omni-directional
Stern thruster	400kW

Workboat
6.1 Metre rib with 150 hp engine
Suitable for inshore research activities, buoy maintenance etc. launched with a heave compensated davit

Navigation and communication	
DP system	Kongsberg K-POS (DP1)
Depth measurement	Skipper GDs 101, Furuno fcv 1200l Echo sounder
GPS	2 x Simrad MX500 DGPs
Radar	Furuno ARPA "S" band, 2 x ARPA"X" band
Autopilot	Robertson AP9 MK3
Speed Log	Skipper EML224 dual Axis log
AIS	Furuno FA-150
Watch Alarm	Navitron NT991 BNWAS
Gyro compass	Robertson RGC 12
Fiberoptic gyro with motion reference	IXBLUE Octans
Navigation system	Dual kelvin Hughes ECDIS, Maxsea, OLEX plotter
Data communication	Seatel Satellite Broadband system 2056kbps/512kbps, iridium
Voice	GSM phone, VOIP system utilizing seatel broadband system, GMDss radios

Facilities	
Dry laboratory	75m^2. Workstations for EM1002/ EM2040/ EM302, EA600, QINSY Navigation Software, Sonardyne Ranger USBL, ADCP, EK60, C-Nav DGPS, Seapath 330+, k-sync. CTD, CCTV and ECDIS monitors, chart table and storage
Wet laboratory	70m^2: wet/fish lab, chemistry lab and water lab. Conveyor/fish sorting system, freezer room, refrigerators, weighing scales, LAN connections. 6 gas lines, Fume hood, Water Purification system, Glassware dryer
Container laboratories	Capacity to carry 7 x 20ft containerized labs. Support systems: 220vac, 400vac (300kW), LAN, phone, seawater, freshwater, waste drain
Workshop	Lathe, milling & drilling machine, hydraulic press, band saw, welding machine, workbench with vice, portable power tools, comprehensive tool kit.
Communal areas	Scientists' office/meeting room. Two lounges with Sky+ TV. Gymnasium
Medical	Hospital room with hospital bed and basic medical facilities

Deck equipment	
Deck area	165m^2, non-slip painted steel
A-frame, aft	25t SWL, 4m outboard and 4m inboard reach. 10.5m clearance from deck
ROV A-Frame	Removable 10T ROV A Frame with rotating docking head
ROV Winch	Removable ROV Winch with 3000m of 31.7mm umbilical
T-Frame, starboard	10T, 3m reach
Cranes	Midships: 16TM, 2T hook load Forward: 1.5T at 10m / Aft: 6t at 15m

Winches	
CTD winch	6T winch fitted with 7000m of 8.1mm ø wire, SWL: 1.9T Heave compensation system. Cable weight 226kg/km
General purpose winches (x2)	(1) Starboard side fitted with 2700m of 9.98mm SM Fibre optic and copper cable. Cable Weight: 322kg/km, SWL:1.5T (2) Aft Facing 20T winch fitted with 3500m of 14mm Dynex, SWL: 4T, (cable can also be routed via starboard T Frame)
Gilson winches (x2)	13T fitted with 80m of 28mm Dynema SK75 synthetic rope
Hydrographic winch	Fitted with 1500m of ø 12mm Dynex Cable, 3T SWL
Net drum winch	45T on main deck, capacity 10m3
Net sounding winch	6T winch fitted with 4700m 11mm Coax cable SWL:2.4T
Pelagic net drum winches (x2)	17T each, on forecastle deck, capacity 8.75m^3 each
Trawl winches (x2)	Split trawl winches: 34.5t each, fitted with 4900m of 26mm wire

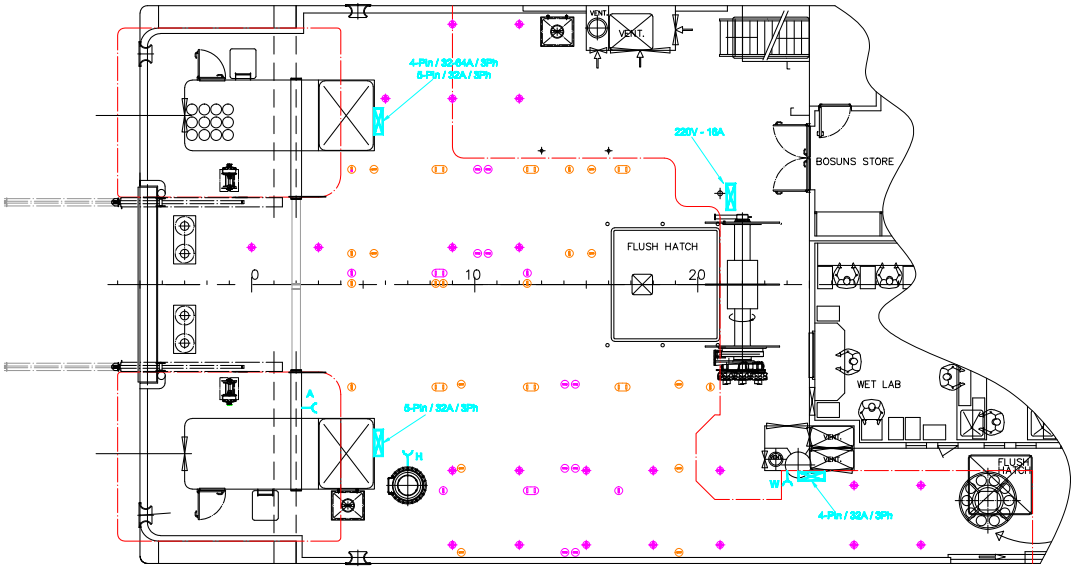
Permanent Scientific Equipment

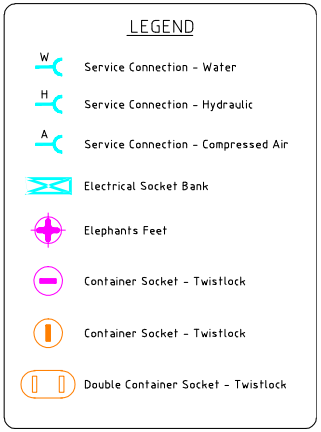
General	
Motion reference system	Kongsberg Simrad Seapath 330+
A0 printer	Hewlett Packard, Designjet 1055c, for chart production
Laminar flow fume hood	Interflow BV, ST-12 Special
Underway data logging	NOAA Scientific Computation system (SCS)
USBL	Sonardyne Ranger 2
Weather system	Batos II
Weighing scales	Pols, P-60, 1 x 60kg
Weighing scales	Pols, P-15, 3 x 15kg
Marine Biology & Fisheries Research	
Fluorometer (underway)	Turner, model 10-AU 005
Net monitoring system	Scanmar ScanBas
Physical/Chemical Oceanography	
ADCP, hull mounted	RDI Ocean Surveyor 486P/50
CTD and rosette sampler	2 x SBE 911 CTD with SBE 32 carousel, 24 position
Water samplers	48 x OceanTest, Niskin type, 10 l
Moving vessel profiler	Brooke Ocean Technology, MVP200, CTD & SVP
Thermosalinograph	Seabird, SBE21, with temperature sensor SBE38 TI 20 Hull mounted temperature probe
Water supply	Smart2Pure water filtration system

Acoustic Surveying	
Headline Color video sounder	Furuno FCV 1100l
Low-frequency scanning sonar	Kongsberg Simrad SU93
Multi-beam echo sounder no 1	Kongsberg EM302 1x2 degree (Full Ocean Depth)
Multi-beam echo sounder no 2	Kongsberg EM 2040 0.7x 0.7 degree
Survey Navigation Package	QPS QINSy 8.0
Primary Positioning	C-Nav 3050 with Z for tidal corrections.
Secondary Positioning	Seapath 330+
Single-beam echo sounder (scientific)	Kongsberg Simrad EK60: 18, 38, 120, 200kHz
Single-beam echo sounder (hydrographic)	Kongsberg Simrad EA600: 12, 38, 200kHz
Sub-bottom profiler	iXBLUe Echoes 3500 t7 Full Ocean Depth, Hull Mounted Delph Acquisition System
Sound velocity profiler	aMl svPlus
Multibeam SV Probes	1 X Valeport for EM302,AMl, AMl SV for EM2040

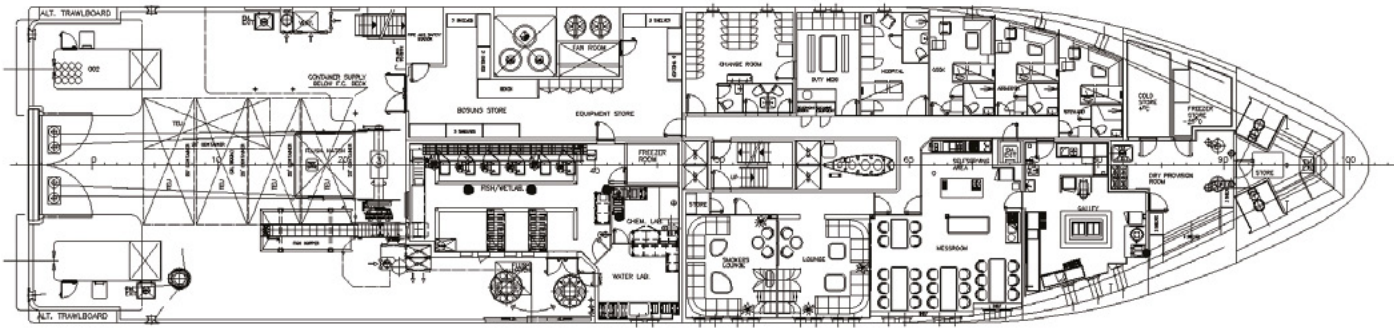
N.B. These specifications are subject to change without prior notice. The details are believed to be correct but cannot be guaranteed

Aft Deck





Main Deck



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