



National Research Vessel

Celtic Explorer

Technical Specifications

General

Multipurpose research vessel designed for fisheries acoustic research, oceanographic, hydrographic and geological investigations as well as buoy/deepwater mooring and ROV operations

Designed to meet the noise requirements of ICES CRR Report 209

The vessel is fitted with:

- Retractable drop keel
- Dynamic positioning (DPI)
- Capacity to carry 7 x 20ft laboratory containers

Main features

Length o.a.	65.5m
Beam	15m
Draught	5.8m
Gross tonnage.....	2425T
Net tonnage	727T
Lloyds classification	D100AI ICE CLASS ID + UMS + SCM DP (CM) Multipurpose Research Vessel
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

Navigation and communication

DP System	Kongsberg SDP-10 (DPI)
Depth measurement	Furuno FCV 1200L Echo sounder
GPS	2 x Trimble 300-D and C-nav
Radar.....	Furuno ARPA "S" band, Furuno ARPA "X" band
Gyro compass.....	Robertson RGC 12/ Anschultz SD20
Fiberoptic gyro with motion reference	IXSEA Octans
Navigation system	Dual Kelvin Hughes ECDIS, Maxsea, OLEX plotters
Data communication	Seatel Satellite Broadband system 1056kbps/256kbps, Fleet 77
Voice	GSM phone/fax x 2, Mini-M, VOIP system utilizing seatel broadband system, GMDSS Radios

Workboat

5.5m heavy duty workboat, 82HP inboard engine
Suitable for inshore research activities, buoy maintenance etc.
Launched with a heave compensated davit

Facilities

Dry laboratory	75m ² . Workstations for EM1002, EA600, Sonardyne Ranger USBL, ADCP, EK60, Seapath 2000, SSU, post-processing. CTD winch controls, 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
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, DVD, VCR. Gymnasium, sauna
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
T-frame, starboard	10T, 3m reach
ROV A-Frame	Removable 10T ROV A Frame with rotating docking head
ROV Winch	Removable ROV Winch with 3000m of 31.7 umbilical
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
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Permanent Scientific Equipment

General

A0 printer	Hewlett Packard, Designjet 1055C, for chart production
Laminar flow fume hood.....	Interflow BV, ST-12 Special
Motion reference system	Kongsberg Simrad Seapath 200
Underway data logging	Kongsberg Simrad MDM400
USBL No. 1	IXSEA GAPS
USBL No.2	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 and 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

General purpose winches (x2)	(1) Starboard side fitted with 2700m of 9.98mm SM Fibre optic and copper cable. Cable Weight: 322kg/km, SWL: 1.5 T (2) Aft Facing 20T winch fitted with 3500m of 14mm Dynex, SWL: 4 T, (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 10m ³
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

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

Acoustic surveying

Color video sounder.....	Furuno FCV 1200L
Low-frequency scanning sonar	Kongsberg Simrad SP70
Multi-beam echo sounder	Kongsberg Simrad EM1002
Survey Navigation planning	QPS QINSy 8.0 with C-Nav
Seabed discrimination system	SEA, ECHOplus
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	SES Probe 5000, 4x4 array (hull mounted) CODA DA2000 acquisition system
Sound velocity profiler	AML SVPlus / smart SV+T (hull mounted)

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