Research Vessel *Fulmar*
Specifications and Capabilities

General Specifications

Builder:	All American Marine; Bellingham, WA
Design:	Teknicraft Aluminum Catamaran
Length (overall)	66’ 9”
Beam	24’
Draft	7’
Speed at Cruise Power	22kts @ 70gals per hour
Speed at Full Power	27kts @ 100gals per hour
Max Displacement	49tons
Fuel capacity	2 x 750 gals diesel
Approximate Range at Cruise Power	450 nautical miles
Power	2 x 740 hp MTU S60
Propulsion	Fixed pitch propellers, bow thrusters
Electrical	2 x 20Kw Kohler generators
Waste Capacity	250 Gallons, with MSD type II treatment
Fresh Water Capacity	250 Gallons
Watermaker	400gpd with UV treatment
Max Day Scientists	28
Max Overnight Scientists	6
Crew	2 minimum

Deck Equipment

- Markey COM 7H science winch with 2150 meters of .322" electro-mechanical cable
- 2000lb SWL A-Frame with block for .322" cable. Wire-out readout available in lab.
- Morgan Model 330 knuckle boom crane for boat handling and cargo. 1,400lbs at full extension of 14ft. 4,600lbs at close range.
- Horizontal capstan for hauling traps near anchor winch
- Hydraulic "quick-connects" for use with temporary winches and other tools
- Zodiac Mark II 12'6 inflatable with 25hp 4-stroke Honda outboard
- Flying bridge with 7 seats and two benches.

Dive Air System

- Hydraulically operated Nuvair Element Nitrox membrane dive compressor with deck filling station (9.3 CFM)
- 20 SCUBA bottle holders built-in

Network and Computers

- Cat 6 network drops throughout the vessel. Separate dedicated network for EK60.
- Four computers are currently provided on the vessel
    - Pilothouse Computer with Nobletec
    - Lab Dell Computer with Nobletec and GNAV
    - Lab EK60 Computer
    - Seakeepers1000 control computer with SCS

Scientific Equipment

- Simrad EK60 38, 120, 200khz Scientific Fisheries Sounder (expert knowledge required)
- Coda Octopus F-180 precision attitude positioning system (expert knowledge required)
- Trimble DSM 232 Precision GPS
- Seakeepers 1000 Automated Observing System. Includes surface CTD, dissolved Oxygen, PH and Redox, Air Temp, Barometer, Wind Speed and Direction. Obs info is recorded continuously and automatically transmitted every hour
- Hydraulic hydrophone deployment system originally designed for the onboard Nautronix ATS II ultra-short baseline tracking system. Could be use as a moon pool for other instruments up to 13" in diameter.
- SIMRAD AP-50 autopilot can be controlled from lab
- External mounting pod for multibeam, ADCP or other gear

Communications

- 2 ICOM VHF marine band ship radios
- 3 ICOM VHF marine handheld radios
- 1 VHF aircraft radio (FAA and FCC restrictions on use)
- 1 NERA Fleet 33 INMARSAT
- Digital wireless cell phone booster system
- Internal Intercom System, talkback capable Loudhailer(s)