R/V SEWARD JOHNSON

R/V SEWARD JOHNSON, namesake of Harbor Branch Oceanographic founder, J. Seward Johnson, Sr., is a 204-foot oceanographic and submersible support research vessel. Built in 1984 and commissioned in 1985, it was extensively rebuilt and lengthened in 1994. With a 6,000 nautical mile range and a cruising speed of 12 knots, the vessel is capable of traveling to, and working in, any of the world's ice-free oceans while accommodating up to 40 people.

R/V SEWARD JOHNSON is operated by experienced personnel expert in surface oceanographic procedures and submersible launch and recovery. All operations are supported by in-house ocean engineers.

With 360 degree bow and stern thrusters, twin propellers and rudders, dynamic position and state-of-the-art precision navigation, this vessel has the ability to maneuver and position easily and efficiently to station-keep with the accuracy required by today's undersea and surface oceanography research missions. Typical applications include HOV/ROV support, large towed systems support, deployment and retrieval of moored devices, surface oceanographic/hydrographic applications, and diving support.

R/V SEWARD JOHNSON is a member of the University-National Oceanographic Laboratory System (UNOLS) fleet.

Length overall	204 feet
Length between perpendiculars	183 feet
Beam, overall	36 feet
Draft	12 feet
Displacement (weight)	
Nominal Full Load	1,282 Tons
Gross Tonnage	285 GRT
Fuel Capacity	63,000 Gal.
Fuel consumption	70 Gal./hour, normal cruise
Potable water	18,000 Gal. with RO Unit
RO unit capacity	4,000 Gal./day
Galley messing	14
Speed	12 knots
Range	6,000 nautical miles
Year built	1984
Year converted	1994

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Classification:
American Bureau of Shipping: Hull and Machinery

Normal Complement:
11 ship's crew
29 other (including technicians & sub crew, if required)

Berthing Accommodations:
40 air conditioned berths

Propulsion:
2 Caterpillar 3512 TI engines, 850 hp @ 1200 rpm each driving fixed-pitch props through Lufkin reverse-reduction gearboxes.

Bow and Stern Thrusters and Dynamic Positioning:
2 360° Rotatable Elliott White-Gill 32 T3 Thrusters, 7,000 lbs. thrust each, powered by General Electric 325 hp DC/SCR-drive motors
Simrad/Robertson Dynamic Positioning System/Autopilot with position and attitude hold on submersible vehicle or pinger, wind direction or Differential GPS fix.

Generators:
3 295 kW. Generators driven by Cat. 3406 engines 480V, 3ph, 60hz
1 110 kW Emergency set driven by Cat. 3304 engine (with auto-starting)

Flume anti-roll tank, capacity 15,000 gallons

Navigation Equipment:
Integrated Mission Profiler/Navigation System on stand-alone PC or in conjunction with mainframe server system; provides differential GPS track for any ship and submersible vehicles deployed.
Sperry Mark 37 Gyrocompass (stepper output)-on bridge
Sperry Mark 37 Gyrocompass (synchro output)-in Data Acquisition/ROV Lab.
Magnetic Compass with sensor pick-up
Raytheon Pathfinder ST A.R.P.A. S-band (10 cm) Radar
(2) Magnavox MX300 DGPS sets
(1) Magnavox MX200 (differential) GPS set
Sperry SRD 331 Doppler Speed/Distance Log
Raytheon Pathfinder ST Alpha X band 3cm Radar

Communications Equipment:
NERA Satellite Communications System (with Inmarsat "B" voice, fax, data)
Inmarsat "C" (data only)
Harris – RF 230M SSB HF transceiver
SEA 330 SSB HF transceiver
NECODE Model 321 AR selcall system
(2) bridge-to-bridge radiotelephones
(5) hand-held VHF radiotelephones
Intra-ship PBX type telephone and intercom system
Sound-powered telephone system
NAVTEX receiver
Cortex Weatherfax for Windows
Simrad model 1550 VHF – ADF
HiSeasNet C-band satellite full time data link

Acoustical and Sounding Systems:
ORE-Trackpoint Model 4410C Acoustic Position System
Straza UQC Model ATM 504-15/TIP underwater telephone/transponder
Simrad EQ50 video echosounder, dual freq., 38-50 kHz
Data Marine 1000 digital depth finder
12 kHz transducer (for PDR)
3.5 kHz transducer (for sub-bottom profiler)
RDI 150, 38 kHz ADCP

Computer and Data Processing:
Network server computers with multiple remote terminals
Mission-required workstations at various points throughout ship
Ethernet LAN
Fiber-optic LAN
Video/coax inter-lab distribution

Deck Equipment:
A-frame on stern, 18 ton capacity (ABS certified) for towed systems or submersible vehicles
A-frame on side, with forward (1.5 tons), center (10 tons), and after (5 tons) lift points
Appleton crane, 10 ton capacity @ 38 foot outreach
Appleton lightweight crane 3.5 ton capacity with 21 ft. outreach, installed if required
(2) capstans at stern
New England Trawler anchor windlass (2) anchors and (2) rope heads at bow
Various trawl, hydrographic, conductor, CTD and constant tension tow winches available
Various small boats available

Laboratories:
Dry Lab (468 sq. ft.)
Wet Lab (288 sq. ft.)
Environmental Lab (85 sq. ft.)
Mechanical Maintenance, with mill drill, lathe, sanders, band saw, vise, etc. (272 sq. ft.)
Electronics Lab, with test equipment, spares, etc. (224
Video & Computer Lab (136 sq. ft.)
Data Acquisition and R.O.V. Lab (152 sq. ft.)
Briefing room with 27" monitor stereo (192 sq. ft.)
Compressor room with two Mako 5,000 PSI compressors, McElroy 90 cu. ft./min @ 150 PSI Ship's compressor
208V 1ph. 60 hz. and UPS receptacles available in labs
Haskell Oxygen and Helium pumps
Mako air filters, four T-cylinders (scuba air bank) and 12,000 cu. ft. air and oxygen storage.

Optional Mission Support Equipment:
Seabird 911CTD/Carousel
MOCNESS (1 meter or 10 meter)
Real-time, continuous flow uncontaminated seawater sampling system with fluorometry, salinity and temperature measurements, with supply of products to the laboratories.
Complete meteorological sensor and data logging system; wet and dry bulb temps., rel. humidity, heat index, true and relative wind position, wind chill, solar radiation.