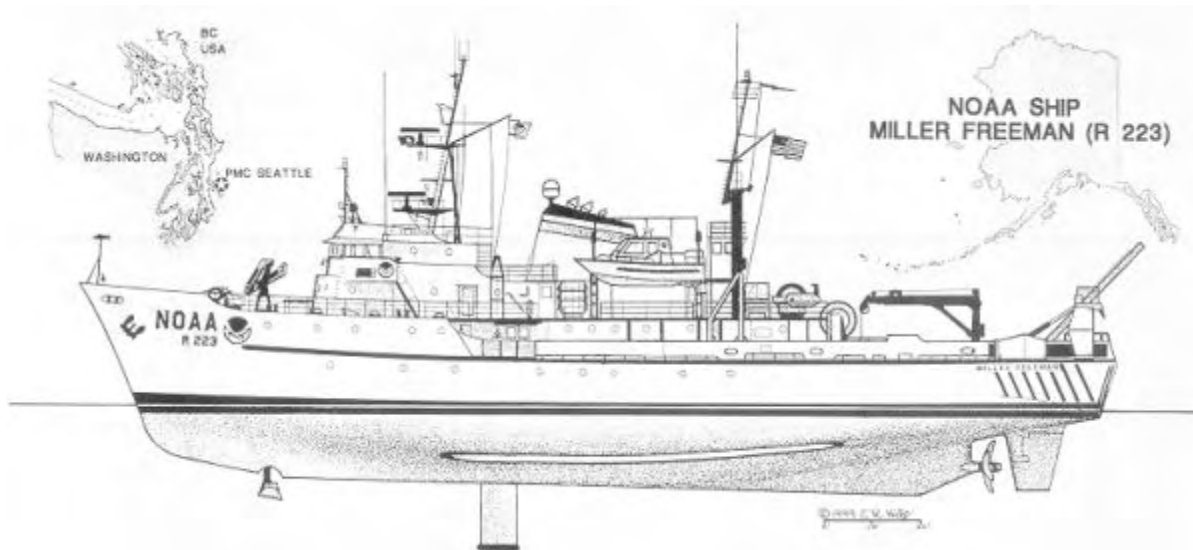


MILLER FREEMAN

MILLER FREEMAN is a 215-foot fisheries and oceanographic research vessel and is one of the largest research trawlers in the United States. **MILLER FREEMAN's** primary mission is to provide a working platform for the study of the ocean's living resources. The ship is named for Miller Freeman (1875-1955), a publisher who was actively involved in the international management of fish harvests. The ship was launched in 1967, but not fully rigged until 1975. The vessel was again re-rigged in 1982. **MILLER FREEMAN** is homeported in Seattle, Washington, at the Marine Operations Center.



Line Drawing by Bob Hitz

Design

- Designer: Philip F. Spaulding
- Builder: American Shipbuilding, Toledo, OH
- Launched: 1967
- Delivered: June, 1967
- Laid up 5 years; recommissioned: 1974
- Hull Number: R223
- Call Letters: WTDM
- Home Port: Seattle, Washington
- Length (LOA): 65.5m (215 ft.)
- Breadth (moulded): 12.8m (42 ft.)
- Draft, Maximum: 6.4m (21.0 ft.)(with Centerboard up)
- Draft, Maximum: 9.8m (32.0 ft.)(with Centerboard down)
- Hull: Welded steel
- Displacement: 1,920 tons
- Gross Tonnage: 1,515
- Net Tonnage: 680

Speed & Endurance

- Cruising Speed: 11 knots
 - Range: 12,582 nmi
 - Endurance: 31 days
 - Endurance Constraint: Fuel
-

Complement

- Commissioned officers: 7
 - Crew: 23
 - Licensed Engineers: 4
 - Scientists: 11 (max)
-

Food Service Seating

- Wardroom: 16
- Crew's mess: 16

Berthing

- Single Person Staterooms: 4
- Four Person Staterooms: 1
- Two Person Staterooms: 21
- Total Berths: 50

Medical Facilities

- Emergency and first-aid equipment aboard administered by an EMT.
-

Scientific Laboratory Facilities

- Fish Processing Lab 300 sq. ft.
 - Data Plot 220 sq. ft.
 - Rough Lab 240 sq. ft.
 - Autosalinometer Room 50 sq. ft.
 - Ocean Chemistry Lab 170 sq. ft.
 - Acoustics Lab 152 sq.
 - Wet Lab 300 sq. ft.
-

Winches

- Type: Markey
 - Location: 1 each, port strb
 - Safe Working Load: 1,150 lbs
 - Type: Rapp-Hydema Trawl Winch
 - Quantity: 2
 - Safe Working Load: 22,000 lbs
 - Type: Marco
 - Location: aft
 - Safe Working Load: 3,550 lbs
 - Type: Net Reels
 - Quantity: 2
 - Safe Working Load: 18,000 lbs
 - Type: Rowe
 - Location: aft
 - Safe Working Load: 3,300 lbs
 - Type: Lantec
 - Location: 1 each, port, strb
 - Safe Working Load: 23,000 lbs
 - Type: Sea-Mac
 - Location: aft
 - Safe Working Load: 3,300 lbs
 - Type: Haulout
 - Safe Working Load: 40,700 lbs
-

Cranes

- Appleton Crane
 - Quantity: 2
 - Lift: 8,500 lbs
 - Wire size: 5/8"
 - Range: 50' max, 360 degree range
 - Location: 1 each, Port and Starboard
 - HAIB Crane
 - Quantity: 1
 - Lift: 2,750 lbs
 - Wire size: 1/2"
 - Range: 27 feet
 - Location: Bow
-

A-Frames

- Trawl Gantry
 - Location: Aft
 - Height: 29'
 - Extension: 4.5' aft, 6.0' fwd
 - Oceo
 - Quantity: 2
 - Location: Port, Starboard
 - Height: 14.5'
 - Extension: 4.5' outboard
-

Boats

- Ambar Rescue Boat
 - RHIB, 5 person capacity
 - Cummins 130 hp diesel engine
 - Hamilton jet inboard (40mph)
 - Munison Launch
 - 26' Hammerhead, 9 person capacity
 - CAT 3208, 185 HP engine (21 kts)
 - Zodiac 15' inflatable
 - 25 hp Outboard motor
-

Engineering

General

- Cruising Speed: 11 knots
 - Range: 12,582 nmi
 - Power: 1,950 SHP
 - Fuel Capacity: 142,000 gallons at 95%
 - Fuel Consumption: 2,200 gallons/day average
 - Fuel Type: #2 Diesel
 - Endurance: 31 days
 - Endurance Constraint: Fuel
-

Propulsion Plant

- Main Propulsion
 - Type: Geared diesel
 - Quantity: 1
 - Manufacturer: General Motors
 - Rated power: 2,200 hp
 - Propeller
 - Type: Controllable Pitch
 - Quantity: 1
 - Manufacturer: Bird Johnson
 - Diameter: 10.1 ft.
 - Blades: 4
 - Auxiliary Propulsion
 - Type: Lowerable Omnidirectional Bow Thruster
 - Quantity: 1
 - Manufacturer: Schottle
 - Drive: Electric
 - Rated Power: 400 hp
-

Fresh Water System

- Storage capacity: 7,350 gal
 - Normal consumption: 2,000 gal./day
 - Maximum production: 2,400 gal./day
 - Evaporators
 - Type: Maxim Heat Recovery
 - Quantity: 2
 - Manufacturer: Beaird Industries, Inc.
-

Pollution Control

- Sewage Waste Control
 - Type: Electrocatalytic
 - Manufacturer: Sigma-Chapman, Inc.
 - Holding Capacity: 6178 gallons
 - Grey Water Holding Capacity: 7216 gallons
 - Oily Waste Control
 - Type: Oily Water Separator
 - Manufacturer: SRS
 - Holding Capacity: 6440 gallons
 - Incinerator (dry trash)
 - Type: DG-120 (diesel)
 - Manufacturer: Kbaerner-Gloar
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Electrical System

- Ship Service Generators
 - Quantity: 2
 - Manufacturer: Caterpillar
 - Output Voltage: 450 VAC, 60 Hz, 3Ø
 - Power Rating: 600 kW
- Emergency Generator
 - Quantity: 1
 - Manufacturer: Caterpillar/GE
 - Output Voltage: 450 VAC, 60 Hz, 3Ø
 - Power Rating: 100 kW
- Electrical Service
 - 450 VAC, 3Ø
 - 220 VAC, 1Ø (limited availability)
 - 120 VAC, 1Ø
 - 120 VAC, 1Ø clean, uninterruptible power for scientific equipment

Communications

- Satellite Systems:
 - INMARSAT-B: Magnaphone MX-2464 INMARSAT-B, Voice, Data at 56/64 Kbytes
 - INMARSAT Mini M: Nera Worldphone Mini M, voice or 2400 baud data
 - INMARSAT Standard C: Trimble Galaxy, Telex type 500 baud data.
- Cell Phone
- High Frequency SSB Radio (SEA 330): Two 300 watt high frequency (HF, 2 to 30 mhz)
- Global Maritime Distress and Safety System (GMDSS)
- E-mail (E-mail Address: Noaa.Ship.Miller.Freeman@noaa.gov)

Navigation

- Gyro compass: Sperry MK 37 Gyrocompass
- GPS
 - Two Leica MX412 DGPS
 - Trimble P-Code receiver
 - Northstar 941X 12-channel DGPS receiver
- Backup GPS
 - Trimble INMARSAT-C unit
 - Northstar 941 6-channel DPGS
- Navigation Nobeltec's Visual Navigation Suite
- Traditional paper charts
- Radar:
 - Raytheon X-ban (3 cm) radar with ARPA display
 - S-band (10 cm) radar that incorporates gyro information.
- Ametek Doppler Speed Log
- NAVTEX GMDSS 518 KHz
- Weather fax