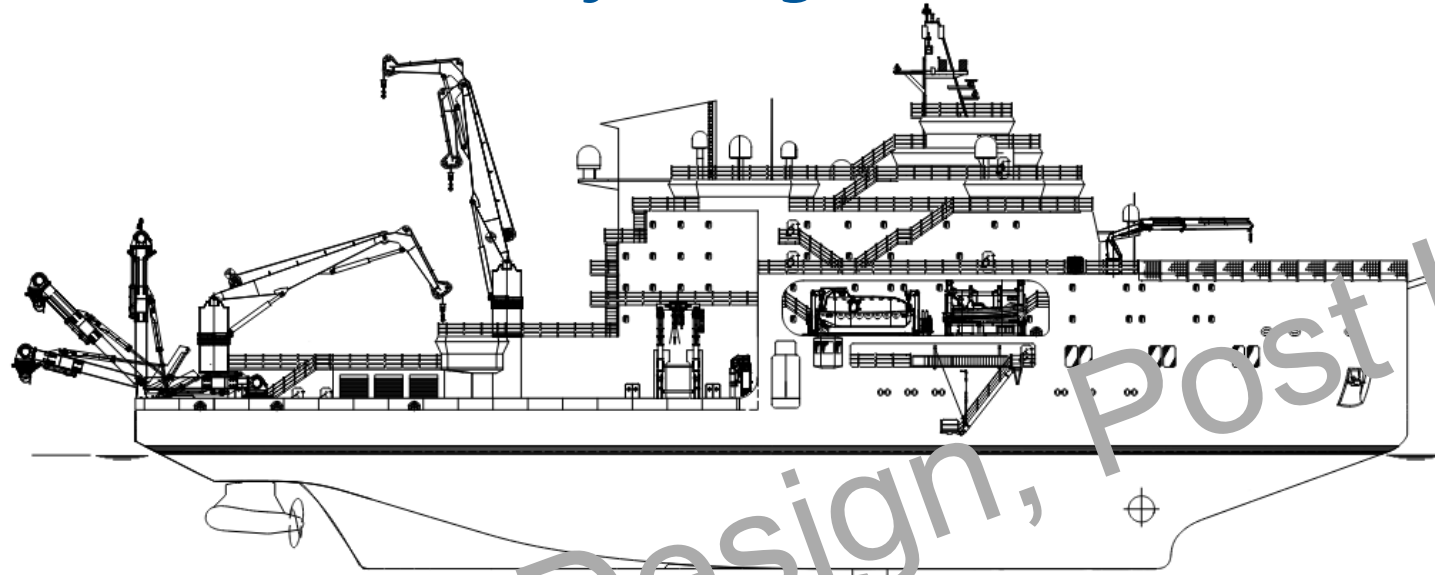


Antarctic Research Vessel (ARV) Preliminary Design Placemat



REFERENCE MISSION

Duration	90 days
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DIMENSIONS

Length, Overall	365.0 ft
Length, BP	349.0 ft
Beam, Overall	80.0 ft
Beam, WL	79.3 ft
Design Draft	32.5 ft
Working Deck	13.0 ft
Freeboard	
Displacement (Design Draft)	13,430 LT
Light Ship Weight (including margins)	9,790 LT
Deadweight	3,640 LT

ACCOMMODATIONS

Ship's Crew	29
Science Complement	55 (Including 2 ADA-accessible berths)

PROVISIONS

Freeze	90 days
Chill	90 days
Dry	90 days

AVIATION

UAV Launch/Recovery	150 lbs
UAV Hangar	1,472 ft ²
Helicopter Landing	Bell 407 Airbus H125

MACHINERY SYSTEMS

Azimuthing Podded Propulsors	2 x 9.5 MW
Bow Thrusters	1 x 1.9 MW
Ship Power Plant	22.5 eMW
Propeller	2 x 16.0 ft FPP

AUXILIARY SYSTEMS

A/C Plants	Qty 3 @ 205t
Fire Suppression	NOVEC and Water Mist
Mission Fuel Capacity	60,000 gal
Ship Service Battery	2.7 MWh
Wastewater Holding	20 days

COMMUNICATIONS

VHF Transmitter and Receive
Su, Ka, C, and UHF SATCOM
ISMDSS
INMARSAT
UHF/VHF LOS Comms
UAS Comms
Fleet Broadband

NAVIGATION

AIS
ECDIS
S & X Band Radar
Ice Radar
DGPS

MISSION EQUIPMENT

2 Main Deck Cranes	Maximum reach: 65ft 70,000 lbs @ 50ft
Portable Utility Crane	4,000 lbs @ 40ft
Forward Crane	4,000 lbs @ 40ft
Stern A-Frame	80,000 lbs slewing
Side A-Frame	
Meteorology Mast	1
Atmospheric Mast	1
CTD Hydroboom	Fast-acting, Reaches water level
Piston Core LARS	40m
Multibeam Sonar Suite	
Sonar Drop Keel	0 ft / 3 ft / 10 ft
Container Quantity	20 TEU

PERFORMANCE

Open Water	
Maximum	> 17 kt
Cruise	11 kt
Outboard	8 kt
Ice	
Continuous 2 kt	> 4.5 ft + 1 ft snow
Continuous 6 kt	> 1.6 ft
Turning out	> 4.5 ft
Range	> 17,000 nm
Towing	
4 kt	25,000 lbs
6 kt	10,000 lbs

CLASSIFICATION

ABS A1 Oceanographic	AMS
CCO-POLAR (-35°C, -45°C)	Ice Class PC3
ACCU	CRC
Unrestricted service	R2
EEDi-PH3	ENVIRO
HAB++(WB)	BWT+
ESS-LIBATTERY	HYBRID IEPS
ILM	UWILD
POT	

MISSION SPACES

Containers	8 in Science Hold 12 on Weather Decks
Lab Area, Total	8,263 ft ²
Aft Work Deck	7,724 ft ²
Science Stores	42,571 ft ³
Side Deck Length	170 ft.
Baltic Room Area	704 ft ²
HAZMAT Storage	214 ft ²
Science Observation Deck	1,163 ft ²

