

# DSV ADAMS CHALLENGE



## Specification Brochure

# VESSEL SPECIFICATION

## ADAMS CHALLENGE

### DESCRIPTION

THE VESSEL IS A DYNAMICALLY POSITIONED DIESEL ELECTRIC POWERED MULTI ROLE OFFSHORE SUPPORT VESSEL WITH RAPID AND EFFICIENT HANDLING CHARACTERISTICS, CAPABLE OF SUPPORTING A WIDE RANGE OF OFFSHORE SUPPORT ACTIVITIES, INCLUDING DIVING SUPPORT, ROV SUPPORT, SURVEY SUPPORT, CABLE LAY AND OFFSHORE CONSTRUCTION AND MAINTENANCE.

THE VESSEL IS OF ALL WELDED MILD STEEL CONSTRUCTION WITH FLARED BULBOUS BOW, TRANSOM STERN AND ROUND BILGE HULL FORM.

A DOUBLE SKINNED MOONPOOL IS ARRANGED NEAR MIDSHIPS OPEN FROM DECK TO BOTTOM.

PROPULSION IS PROVIDED BY TWIN AZIMUTH PROPELLER UNITS AFT, EACH DRIVEN BY AN ELECTRIC MOTOR. TRANSVERSE THRUST IS PROVIDED BY THE TWIN AZIMUTH UNITS AFT AND BY THREE TRANSVERSE THRUSTERS FORWARD, ONE OF WHICH IS A RETRACTABLE AZIMUTH UNIT.

ACCOMODATION IS ARRANGED FORWARD IN THE SUPERSTRUCTURE AND DECKHOUSES ABOVE THE FORECASTLE DECK, SURMOUNTED BY A MAXIMUM ALL ROUND VISION BRIDGE.

A HELIDECK CONFORMING TO CAA CAP437 GUIDELINES AND TO SUIT AN AEROSPATIALE AS332L HELICOPTER IS ARRANGED ABOVE AND FORWARD OF THE BRIDGE.

THE VESSEL IS EQUIPPED WITH A DUAL REDUNDANT DYNAMIC POSITIONING SYSTEM CONFIGURED TO AND SUITABLE FOR THE SUPPORT ACTIVITIES.

### VESSEL PARTICULARS

BUILT:	ASTILLEROS BALENCIAGA S.A. ZUMAIA, SPAIN
YEAR OF BUILD:	2009
FLAG STATE:	UNITED KINGDOM
PORT OF REGISTRY:	ABERDEEN
IMO NO:	9407249
CALL SIGN:	2BQX7
OFFICIAL NO:	915475
MMSI NO:	235068558
CLASSIFICATION:	AMERICAN BUREAU OF SHIPPING
NOTATION:	ABS +A1, CIRCLE E, +AMS, +DPS2

THE VESSEL ALSO COMPLIES WITH THE REQUIREMENTS OF THE FOLLOWING;

- SOLAS 1974, 1978, 2000 CONVENTION WITH SUBSEQUENT PROTOCOLS AND AMENDMENTS
- INTERNATIONAL LOADLINE 1966
- FLAG STATE REQUIREMENTS
- INTERNATIONAL CONVENTIONS FOR:
  - PREVENTION OF POLLUTION AT SEA 1973 WITH AMENDMENTS 1978
  - PREVENTION OF COLLISIONS AT SEA 1972 WITH RESOLUTIONS A464(X11), A676 (15) AND A678 (16)
- INTERNATIONAL TONNAGE MEASUREMENT 1969
- ABS GUIDE FOR CERTIFICATION OF CRANES
- IMO GUIDELINE FOR VESSELS WITH DYNAMIC POSITIONING SYSTEMS
- IMO CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS

### PRINCIPAL DIMENSIONS

THE VESSEL HAS THE FOLLOWING PRINCIPAL DIMENSIONS:

LENGTH (LOA)	85.74M
LENGTH (LBP)	78.00M
BREADTH MLD	18.00M
DEPTH MLD	8.00M
DESIGN DRAFT	5.75M

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## DEADWEIGHT AND CAPACITIES

THE VESSEL IS CAPABLE OF CARRYING A DEADWEIGHT OF 2054 TONNES AT THE DESIGN DRAFT

CAPACITIES:	FUEL OIL TANKS (100% FULL)	994 CU.M (INC. DAILY SERVICE AND SETTLING)
	FRESH WATER TANKS (100% FULL)	480 CU.M
	BALLAST WATER TANKS (100% FULL)	1311 CU.M
	DECK CARGO (MAX)	800 TONNES
	FRESH WATER GENERATION	20 TONNES/DAY
TONNAGE:	GROSS TONNAGE	4098
	NET TONNAGE	1229

## PERFORMANCE

THE VESSEL IS DESIGNED FOR A SPEED OF 15 KNOTS IN A FULLY LOADED CONDITION UNDER TRIALS CONDITIONS WITH THE ELECTRIC MOTORS OPERATING AT 100% POWER.

SERVICE SPEED:	14 KNOTS	FUEL CONSUMPTION:	16.5 TONNES/DAY
ECONOMIC SPEED:	10 KNOTS	FUEL CONSUMPTION:	8.5 TONNES/DAY

FUEL CONSUMPTION (DP): 10-13 TONNES/DAY  
FUEL CONSUMPTION PORT: 2.5 TONNES/DAY

## HULL CONSTRUCTION

THE VESSEL IS DESIGNED AND CONSTRUCTED TO CLASSIFICATION REQUIREMENTS AND INCLUDES CLASS RECOMMENDATIONS FOR SIDE IMPACT. A DOUBLE PLATE SKEG IS FITTED ON CENTRELINE AFT.

THE MAIN DECK CLEAR WORKING AREA IS 30.0M LONG X 17.0M WIDE BETWEEN BULWARKS AND IS LAID WITH 70MM HARDWOOD SECURED IN 'T' BARS.

THE DECK IS DESIGNED FOR A STATIC LOAD OF 5 TONNES/SQ.M, WITH 10 TONNES/SQ.M AT THE MOONPOOL AND STERN AREA.

THE MAIN DECK BULWARK IS 1.08M IN HEIGHT WITH A TOP RAIL FORMED FROM HEAVY BULB SECTION.

THE CONSTRUCTION AND MATERIALS OF THE VESSEL ARE SUITABLE TO THE FOLLOWING SITE CONDITIONS:

SEA WATER TEMPERATURES	5 TO 37 DEGREES CENTIGRADE
AMBIENT SHADE TEMPERATURES	-10 TO 50 DEGREES CENTIGRADE

## HULL OUTFITTING

ANCHORS AND CABLES ARE PROVIDED IN ACCORDANCE WITH CLASS REQUIREMENTS INCLUDING TWO ANCHORS, CHAIN CABLES, TOWLINE AND MOORING LINES.

## DECK MACHINERY

2 X ELECTRO-HYDRAULIC WINDLASS EACH WITH ONE CABLE LIFTER AND ONE WARPING DRUM  
2 X ELECTRO-HYDRAULIC CAPSTANS EACH 5 TONNES PULL  
1 X MOONPOOL DOOR WINCH (AVAILABLE ON REQUEST)  
1 X BEACON DEPLOYMENT WINCH AND DAVIT  
1 X STORES CRANE AT MAIN DECK, DUTY 12.5 TONNES AT 13.4 METRES  
1 X STORES CRANE AT FORECASTLE DECK, DUTY 7 TONNES AT 8 METRES

## DECK CRANE

1 x ELECTRIC HYDRAULIC DECK CRANE COMPLETE WITH ACTIVE HEAVE COMPENSATION AND WITH A STATIC WORKING LOAD OF 100 TONNES AT 8 METRES IN TWIN LINE OPERATION. IN SINGLE LINE OPERATION HOOK TRAVEL IS 600 METRES WITH STATIC SAFE WORKING LOAD OF 50 TONNES AT 10 METRES.

MAXIMUM OUTREACH IS 25 METRES WITH 25 TONNES SAFE WORKING LOAD

A WHIP HOIST IS PROVIDED WITH CAPACITY OF 10 TONNES AT 26 METRES AND TO A DEPTH OF 300 METRES

THE CRANE IS FULLY CERTIFIED AS AN OFFSHORE MARINE CRANE AND HAS MAN RIDING CAPABILITY.

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### PROPULSION AND MACHINERY

MAIN GENERATORS:	4 X WARTSILA 8L26 MEDIUM SPEED IN LINE MARINE DIESEL ENGINES EACH RATED AT 2600 KW FITTED WITH MARINE ALTERNATORS AT 2495 KW, 690 V, 3 PHASE, 60 Hz ARRANGED IN PARALLEL
AZIMUTH UNITS:	2 X WARTSILA/LIPS STEERABLE THRUSTERS RATED AT 2450 KW
TUNNEL THRUSTERS:	2 X WARTSILA/LIPS TUNNEL THRUSTERS EACH RATED AT 990 KW
AZIMUTH UNIT FORWARD:	1 X WARTSILA/LIPS STEERABLE THRUSTER RATED AT 1000 KW
HARBOUR GENERATOR:	1 X DIESEL DRIVEN MARINE ALTERNATOR RATED AT 565 KW
EMERGENCY GENERATOR:	1 X DIESEL DRIVEN MARINE ALTERNATOR RATED AT 450 KW

### DIVING SYSTEMS

THE VESSEL INCORPORATES AN AIR DIVING SYSTEM FOR UP TO 50 METRE WATER DEPTHS AND A SATURATION SYSTEM FOR UP TO 300 METRE WATER DEPTHS.

THE AIR DIVE SYSTEM COMPRISES THE FOLLOWING BELOW DECK MOUNTED EQUIPMENT:

- 2 X HP AIR COMPRESSORS (1- ELECTRIC AND 1- DIESEL DRIVEN)
- 2 X LP AIR COMPRESSORS (1-ELECTRIC AND 1- DIESEL DRIVEN)
- 1 X HP BOTTLE BANK
- 2 X LP AIR RECEIVERS
- 1 X WELD GENERATOR AND TRANSFORMER
- 1 X TOOL AIR COMPRESSOR AND AIR RECEIVER

PLUS 1 X CONTROL CONTAINER WITH DDC CHAMBER AND 1 X DIVER LAUNCH AND RECOVERY SYSTEM MOUNTED ON DECK.

THE SATURATION DIVE SYSTEM COMPRISES THE FOLLOWING EQUIPMENT:

- 2 X TWIN LOCK LIVING CHAMBERS
- 1 X HYPERBARIC RESCUE CHAMBER
- 1 X 3 MAN BELL
- 1 X LAUNCH AND RECOVERY SYSTEM
- 2 X DIVE AND SAT CONTROL STATIONS
- 2 X EQUIPMENT SUPPORT CONTAINERS

ALL NECESSARY LIFE SUPPORT SYSTEMS, SAFETY AND LOOSE EQUIPMENT ARE PROVIDED.

MAINS ELECTRICAL AND EMERGENCY SUPPLY IS PROVIDED FROM THE VESSELS SYSTEMS.

GAS STORAGE IS PROVIDED BELOW DECK IN STORAGE KELLY'S.

### ELECTRICAL SYSTEM

THE ELECTRICAL SYSYTEM IS ARRANGED AS:

- 690 VOLT, 3 PH, 60 Hz- NORMAL
- 440 VOLT, 3 PH, 60 Hz- NORMAL + EMERGENCY
- 220 VOLT, 1 PH, 60 Hz- NORMAL
- 110 VOLT, 1 PH, 60 Hz- NORMAL + EMERGENCY

THE MAIN SWITCHBOARD IS ARANGED WITH SPLIT BUSBARS, TIEBREAKERS AND ALL NECESSARY SAFETY DEVICES.

THE FOLLOWING ARE ARRANGED ON THE MAIN DECK FOR PROJECT USE:

- 300 KW, 3 PH, 690 VOLT DECK SUPPLY VIA CIRCUIT BREAKER
- 400 KW, 3 PH, 440 VOLT DECK SUPPLY VIA CIRCUIT BREAKER
- POWER OUTLETS 2 X 440 VOLT 125 AMP
  - 4 X 440 VOLT 63 AMP
  - 2 X 220 VOLT 32 AMP
  - 4 X 220 VOLT 16 AMP
  - 2 X 110 VOLT 32 AMP
  - 4 X 110 VOLT 16 AMP

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## ACCOMMODATION

ALL ACCOMMODATION SPACES ARE AIRCONDITIONED AND HEATED ALLOWING THE VESSEL TO OPERATE IN CLIMATIC CONDITIONS OF -10 TO +50 DEGREES CELCIUS

A MAXIMUM ALL ROUND VISION WHEELHOUSE AND DP CONTROL CENTRE IS LOCATED ON THE NAVIGATING BRIDGE.

THE VESSEL CAN ACCOMMODATE 98 PERSONNEL IN ONE AND TWO BERTH CABINS ARRANGED ON MAIN, FORECASTLE, LOWER AND UPPER BRIDGE DECKS. EACH CABIN IS FULLY EQUIPPED WITH HIGH QUALITY FURNITURE, FIXTURES AND FITTINGS, AND ALSO EACH ARRANGED WITH EN SUITE TOILET AND SHOWER UNIT.

THE CABINS ARE ARRANGED AS FOLLOWS:

11 X 1 MAN ON UPPER BRIDGE DECK  
5 X 1 MAN AND 8 X 2 MAN ON LOWER BRIDGE DECK  
12 X 2 MAN ON FORECASTLE DECK  
21 X 2 MAN ON MAIN DECK

A TWO BERTH HOSPITAL IS PROVIDED AT MAIN DECK LEVEL WITH ACCESS FROM THE DECK AND ACCOMMODATION ALLEYWAY.

SHIP, CLIENT AND SURVEY OFFICES ARE PROVIDED.

A FULLY EQUIPPED GALLEY IS PROVIDED TO SERVE A SPACIOUS MESS ROOM, AND WITH EASY ACCESS TO FREEZER, CHILL, COLD AND DRY STORES.

RECREATION AND QUIET ROOMS, AND GYMNASIUM ARE PROVIDED.

## DYNAMIC POSITIONING (DP) SYSTEM

THE VESSEL IS FITTED WITH A SIMRAD KONGSBERG DUAL REDUNDANT DYNAMIC POSITIONING SYSTEM KPOS21 TO MEET NMD CONSEQUENCE CLASS II REQUIREMENTS, IMO EQUIPMENT CLASS II AND ABS NOTATION +DPS2.

### PRIMARY EQUIPMENT

1 X KPOS DUAL OPERATORS CONSOLE-FACING AFT  
1 X DPC (WITH 2 x PROCESSING STATIONS)  
1 X cJOY OT (INDEPENDENT JOYSTICK SYSTEM)  
1 X cJOY CONTROL PANEL  
1 X PORTABLE JOYSTICK

### PERIPHERAL EQUIPMENT

3 X UPS (3 KVA)  
1 X EVENT LOGGING PRINTER  
1 X SCREEN PRINTER  
1 X DP ALERT SYSTEM  
2 X RESPONDER DRIVE UNITS

### ENVIRONMENTAL SENSORS

3 X GYRO COMPASSES WITH 6 REPEATERS  
3 X VERTICAL REFERENCE UNITS  
3 X WIND SENSORS, SPEED AND DIRCTION INDICATORS

### REFERENCE SENSORS

2 X DPS122 DGPS SYSTEMS  
1 X HiPaP 500 HYDROACOUSTIC REFERENCE SYSTEM  
1 X HiPaP 350 HYDROACOUSTIC REFERENCE SYSTEM  
1 X MDL FANBEAM LASER  
2 X LIGHTWEIGHT TAUTWIRE UNITS

### REFERENCE DEPLOYMENT

2 X HYDROPHONE DEPLOYMENT SYSTEMS  
1 X ACCOUSTIC DEPLOYMENT SELF SPOOLING WINCH WITH 2000 METRES OF 8MM SS CABLE

### POWER PLANT MANAGEMENT

1 X DUAL REDUNDANT POWER MANAGEMENT SYSTEM  
1 X DUAL REDUNDANT INTEGRATED ALARM SYSTEM

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## DP OPERATING MODES

THE SYSTEM IS COMPLETE WITH THE FOLLOWING OPERATING MODES:

- STANDBY TRAINING
- MANUAL JOYSTICK
- MIXED JOYSTICK/AUTO
- AUTO HEADING
- AUTO POSITION
- FOLLOW TARGET (LOW SPEED)
- AUTO TRACK
- GREEN DP MODE

THE SYSTEM IS THUS SUITABLE FOR DIVING SUPPORT, CABLE AND FLEXIBLE LAYING, ROV FOLLOWING, PIPELINE SURVEY, AND MOST CONCEIVABLE DP OPERATING REQUIREMENTS

## LIFESAVING EQUIPMENT

THE VESSEL IS PROVIDED WITH ALL NECESSARY LIFESAVING EQUIPMENT TO MEET SOLAS AND FLAG STATE REQUIREMENTS FOR THE TOTAL COMPLEMENT AND COMPRISES LIFEBOATS, LIFERAFTS, LIFEJACKETS, IMMERSION SUITS, THERMAL PROTECTION AIDS, EMERGENCY BREATHING AND ESCAPE SETS AND RESCUE BOAT.

## FIRE FIGHTING

THE VESSEL IS PROVIDED WITH FIRE FIGHTING EQUIPMENT TO MEET SOLAS, CLASS AND STATUTORY REQUIREMENTS INCLUDING CO2 FIRE SMOTHERING FOR THE ENGINE ROOMS, PAINT STORE AND GALLEY HOOD.

## ELECTRONICS

THE VESSEL IS FULLY EQUIPPED FOR GMDSS AREA 3 AND NAVIGATION WITH THE FOLLOWING:

- 3 X RADARS
- 2 X ELECTRONIC CHART DISPLAYS
- 2 X ECHO SOUNDER
- 1 X AUTO PILOT LINKED TO 2 GYRO COMPASSES
- 1 X FBB INTERFACED TO THE DP SYSTEM
- 2 X INMARSAT C SATCOM
- 1 X NAVTEX
- 2 X VHF WITH DSC
- 1 X SSB RADIO WITH DSC
- 2 X SART
- 1 X EPIRB
- 6 X PORTABLE VHF'S
- 1 X C-BAND VSAT FOR BROADBAND INTERNET
- 1 X PUBLIC ADDRESS SYSTEM AND INTERCOM
- 1 X SOUND POWER TELEPHONE SYSTEM
- 1 X AUTOMATIC IDENTIFICATION SYSTEM
- 1 X VHF DIRECTION FINDER
- 1 X VDR
- 1 X NAVIGATION GPS
- 1 X HANDHELD GPS
- 1 X INMARSAT MINI M SATCOM (ACTIVATION ON REQUEST)
- 1 X SOUND DIRECTION FINDER

IN ADDITION TO THE STANDARD RADIO FACILITIES, A DEDICATED 24/7 INTERNET AND VOIP INTERNATIONAL TELEPHONE ACCESS NETWORK IS PROVIDED BY A TELENOR C-BAND VSAT TERMINAL OFFERING 256 KBPS DATA THROUGHPUT. BANDWIDTH CAN BE INCREASED UP TO 1 MBPS BASED ON THE CHARTERERS REQUIREMENTS. THE INMARSAT FBB UNIT ACTS AS A BACKUP WHEN REQUIRED AND CAN PROVIDE UPTO 512 KBPS BROADBAND MPDS INTERNET ACCESS.

## HELIDECK

AN ALLOY HELIDECK CONFORMING TO CAA CAP437 GUIDELINES AND TO SUIT AN AEROSPATIALE AS332L HELICOPTER IS ARRANGED ABOVE AND FORWARD OF THE BRIDGE.

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