

HH CATAMARANS

Performance | Luxury | Carbon Construction



HH66
SPECIFICATIONS

PRINCIPAL DIMENSIONS FWD HELM VERSION

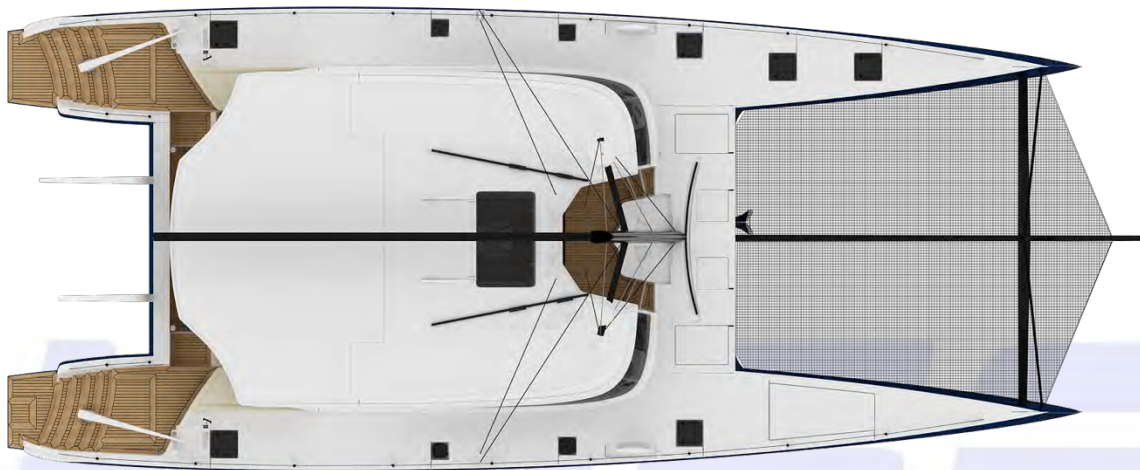
	Metric	Imperial
LOA	20.10m	65.93 ft
LWL	19.80m	64.94 ft
BOA	08.70m	28.54 ft
DRAFT (board up)	01.96m	06.43 ft
DRAFT (board down)	04.00m	13.12 ft
MAST CLEARANCE	30.00m	98.36 ft
MAST TUBE LENGTH	26.26m	86.10 ft
DISPLACEMENT LIGHTSHIP	18,000KG	39,682lb
DISPLACEMENT MAX LOAD	24,750KG	54,564lb
BEAM ON WATERLINE/HULL	1.70m	5.58 ft
SAIL AREAS		
MAINSAIL	144 sqm	1,550 sqft
SOLENT JIB (GENOA)	89 sqm	958 sqft
SELF-TACKING STAYSAIL JIB	59 sqm	635 sqft
FRACTIONAL REACHER	195 sqm	2,099 sqft
FURLING GENNAKER	290 sqm	3,121 sqft
STORM JIB	23 sqm	248 sqft
ENGINES	EPA Tier3 Yanmar80hp (2	
BATTERIES	Lithium	
SPEED UNDER ENGINE	10.2 knots	
CRUISING RANGE AT 6 knots (+1 genset)	790 nm	

GENERAL NOTE:

Where a particular model, type or brand of sailing, electrical, mechanical, audio-visual, IT, or lighting equipment, unit or appliance has been specified, the model supplied shall be the latest model available at the time of order.

GENERAL ARRANGEMENT – FWD HELM

Standard large fixed Sunroof with internal sun shade



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Standard three cabins



Optional four cabins



HULL AND DECK STRUCTURE

- Design and structural engineering by Morrelli & Melvin. Builder will construct strictly in accordance to given drawings with in-house SOPs and QC monitoring
- Latest 4th generation hull designs from Morrelli & Melvin
- Constructed in female tooling for minimum construction weight
- Composite sandwich construction, post-cured in oven, for maximum strength
- Infused carbon fiber with Momentum epoxy resin and damage tolerant foam sandwich construction as determined by M&M
- Additional carbon fiber reinforcing in highly loaded areas
- Carbon fiber longitudinal stringers and ring frames
- Watertight bulkheads to seal off bow and stern compartments
- Structural composite hull floors to save weight and add stiffness
- Carbon fiber chain plates

APPENDAGES

- Symmetric foil shaped curved (C) daggerboards, 6.5m long, built from precision female carbon moulds, hollow construction with internal carbon sheer webs(3), all carbon prepreg is NC computer cut and 'kitted' for lamination accuracy, strength performance, and carbon layer count control. Each board is load tested to maximum working load of 17,000kg, deflection is measured too ensuring design conformity. Top of the board has a 'safety fence' with dense silicon rubber collision bumpers to avoid loosing the board from free falling through the case. Top of the board has a mounted folding padeye for redundant halyard hoist, and a water proof air vent for air expansion from sunlight. Boards are finished with Gloss PU Paint, contrasting large painted depth indicator numbers on the upper aft face, and anti-foul paint on the permanently immersed tip. Composite structural engineering and laminate specification as determined by M&M
- Curved daggerboard cases constructed with vacuum infused carbon fiber, epoxy, foam sandwich construction, with heavily bonded and reinforced lower aft edge for daggerboard rupture resistance from a board collision. In a collision the board is designed to break prior to a hull compromise, however damage to the board bearings, board case and even to the surrounding hull is inevitable in such an overload scenario.
- Fixed CNC Vesconite bearings, no metal or moving parts
- Up and down daggerboard control lines lead to fwd pit winches through jammers..
- High aspect spade rudders, carbon stocks built from carbon pre-preg, and carbon blade construction. Rudders are housed in self aligning JEFA bearings with water tight tube. Each rudder shaft is load tested to maximum working load and deflection is measured for design conformity.

MAST & RIGGING

MAST from Hall Spars

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- 26.26m High Modulus Carbon fiber fractional non-rotating mast, superior diamonds, lower stays and cap shrouds, single carbon spreaders, finished with a colour coat paint 2-part paint system. High aspect forestay position, and staysail position and mast head spinnaker position are standard.
- Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- Mast foot and deck plate with foot blocks
- Internal Mast jack with separate mast pump and dripless quick disconnect fittings.
- Integral shroud terminals at top of mast, loops at bottom
- Carbon fiber gooseneck with stainless steel pin
- Conduit for mast electrical cables
- Foldaway nylon steps to access gooseneck and top of sail stack
- Halyards led to forward pit
- Systemized halyard storage in forward pit
- Halyards locks for:
 - § Main halyard external Harken track lock, 1:1, track reinforcement at the 3 reef locking locations.
 - § Reacher halyard, 1:1, above hounds, separate tack point on longeron, continuous line furler.
 - § Staysail halyard, 1:1 with lock and separate tack on logeron.
- Solent lashed off at top when raised, on single line furler
- Self-tacking Staysail on single line furler.
- Sheave box up high for self-tacking staysail sheet.
- Fixed lazy jacks on mast, adjusted with lashings to boom, directed outboard through spreader for easier hoist.
- Spreader lights (2) for foredeck
- Mast top service halyard 1:1 (500kg SWL)
- 2:1 Cunningham for full hoist mainsail and reefs led to winch with clutch
- Ball bearing Battcar system for fat head mainsail (<40% headboard) with auto detachable headboard to enable easy lowering into stack pack.
- RPG Headboard
- Hoistable cover on minor halyard for solent
- Lightning protection rod connected to hull Copper Plate

BOOM

- Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- Boom tube with stylized racks for mainsail stack with sheave boxes and Karver reef hooks for 3 reef lines led fwd to mast and to winches in fwd pit
- Padeye and Spectra strop for lashing loose footed mainsail clew
- Lazy jack and mainsail cover integrated into boom.
- Boom – gloss PU paint finish

LONGERON

- Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- Custom deep dual tapered section
- 3:1 Tack for Reacher tack/ 3:1 staysail tack/asymmetric spinnaker tack.
- Carbon attachment points for the Solent forestay tack, Staysail tack, Reacher tack, asymmetric tack

- Reacher and staysail tack lines attached to one way Antal track to lock position and free winch.
- Whisker Stays (side stays) made from Aramid to each bow with lashed ends for articulation (4)
- Carbon martingales, lightweight continuous over top of Pelican Striker
- Under longeron stays made from Dyneema attach to sides of Anchor Box or small dolphin striker for vertical support (safety stays support in event of loss of mast then longeron is supported in position)
- Lopolight port/stbd navigation on end of longeron
- Longeron – gloss PU paint finish.

RUNNING RIGGING

- All running rigging and control lines are DYNEEMA SK78 from Maffioli
- Halyard control lines led to fwd pit
- Furling lines led to fwd pit
- Sail control lines led to fwd pit
- Loops or shackles for all blocks
- Halyards and control lines equipped with lashing ends, including:
 - § 4:1 rope purchasing mainsheet led to fwd pit
 - § Tack, cunningham and reef lines led to fwd pit
 - § Solent sheet led to fwd pit
 - § Self-tacking staysail sheet led to fwd pit
 - § Asymmetric sheets (2) led to aft cockpit winches
 - § Reacher sheets (2) led to fwd pit winches
 - § Main halyard 1:1
 - § Solent halyard 1:1
 - § Staysail halyard 1:1
 - § Reacher halyard 1:1
 - § Asymmetric halyard 2:1
 - § Reacher furler line (1)
 - § Solent furler line (1)
 - § Staysail furler line (1)

STANDING RIGGING

- Custom aramid forestay with furler (1) for Solent
- Custom aramid lower (2) and cap shrouds (2) with loops to chain plates
- Custom carbon diamond with integral turnbuckles
- Custom carbon martingales with loops to chain plates
- Carbon chafe guards for capshrouds(2) for diamonds(2)
- Reacher torsional stay “Code 0 style”
- Staysail torsional stay

SAILS

- We offer a complete high performance optional sail package including:
 - § Mainsail
 - § Solent

- § Reacher
- § Asymmetric spinnaker
- § Self-tacking staysail
- § Storm Jib
- from 3 different suppliers:
 - § Evolution
 - § Doyle Sail
 - § North Sail
- Details of the packages are part of the options and pricing sheet.

DECK GEAR

- Aluminium 2-speed LewmarEvo65 (1) and LewmarEvo 80 (2) electric self-tailing alloy 24V winches or equivalent with toe controls for all lines in fwd pit
- Aluminium 2-speed LewmarEvo80electric self-tailing alloy 24V winches (2) or equivalent with toe controls for asymmetric sheets/davits on aft beam.
- Winch kill switch(5)
- 8" aluminium winch handles with holders (3)
- Spinlock or constrictor clutches for control lines where needed
- Harken fore and aft jib tracks with adjustable pin cars (2) on coachroof for overlapping solent.
- Harken curved self-tacking staysail track with pin stops
- Reacher sheet led to fwd pit
- Harken mastbase foot blocks on deck plate.
- Dyneema knotless forward trampolines
- Composite stanchions (1m) with three levels of Spectra lifelines
- Lewmar Size 10 Flush deck hatches, one per head, with bug and privacy screens
- Lewmar Size 44 Flush deck hatches, one per stateroom, with bug and privacy screens
- Large flush carbon foredeck hatch at portside or starboard sail locker(1)
- Lewmar opening portlights (8), one per stateroom and heads with bug and privacy screens
- Opening inwards portlights in saloon fwd bulkheads(2)
- BSI CE certified escape hatches (2)
- Saloon windows, tinted toughened laminated glass
- Topsides windows, tinted toughened laminated glass
- Pneumatic struts for all lift ups



DOCKING AND ANCHORING

- 50' x 3/4" Mega Braid docklines with chafe protected eyes (4)
- 30' x 3/4" Mega Braid docklines with chafe protected eyes (4)
- 12" x 36" (6) and 18" x 60" (2) inflatable fenders with soft covers
- Nomen Clip mooring cleats (4) (bow and stern), mooring cleats (2) midships for mooring aft spring lines, mooring cleats (2) forward of daggerboards for mooring forward spring lines, large padeyes (2) on aft inner transom bulwarks for aft mooring lines (Mediterranean style)
- Carbon chafe pads besides each mooring point
- Anchor rode: 60m of 12mm SS chain with 23m of nylon rode; 15m of 8mm SS chain with 46m of nylon rode
- Anchor bridle with shackle that clips onto the chain
- Anchor bridle padeyes on inboard hull sides forward with backing plates
- SS anchor roller exit fwd end of longeron with salt water wash
- Fresh water wash down in anchor locker
- Rope/chain automatic gypsy sized for chain and 8-strand nylon anchor rode
- Electric windlass, Quick DP3 or equivalent, inside fwd underwing locker
- Rocna anchor 55kg stainless steel
- Foldable Fortress anchor 21kg

PROPULSION

- Yanmar EPA tier 3 diesel 4JH80 (80hp) with SD60 Saildrives (2)
- 3-blade folding Gori Varifold props for minimum drag, size 20" x 16" with overdrive for enhanced fuel efficiency.
- Tachometer, fuel, hours, temperature, amp gauges
- Water temperature and oil pressure audio alarms at helms.
- 2F Engine throttle control/gear shift at helm station,
- Manual engine room ventilation blower with 3" ventilation hoses
- Vetus muffler water lock, and water lift with water separator, gas through under wing/chamfer panel and water below waterline for quiet dry exhaust gas emission
- Reverso oil change pump for easy engine and genset oil changes.
- 375L diesel fuel tanks with cleanout ports and appropriate baffles (2)
- Filterboss fuel and water separators with changeover valve for each fuel system, includes fuel polish capability
- Shut-off valve on fuel tanks
- Fuel tank SS deck fills (2), 1 per hull with Vetus anti-spill and -blow back arrester, to incorporate fuel vents.
- Fuel tank fuel transfer from port to stbd or stbd to port

STEERING

- Large forward cockpit with twin door from saloon to access all sail and sailing control systems.
- Fwd helm steering system with wheel inside and outside
- Central internal helm features large B&G 16" Zeus 3 screens, and throttles, pilot controls, radios, compass, E-stop and quality helm chair.
- 1050mm carbon fiber sculptured race boat steering wheel (2)
- Spade rudders with carbon fiber shafts designed and engineered by M&M
- Direct drive steering system through carbon shafts.
- Carbon crossbar with low play bevel boxes JEFA and hardware to ensure rudder alignment
- Custom self-aligning water tight rudder bearings from JEFA (4)
- Water containment tube and water tight bulkhead in case of collision
- Emergency stainless steel steering tiller stowed and secured in forward locker.
- Port auto-pilot motors from JEFA integrated as direct drives into steering gear boxes.



ELECTRICAL

- Designed to ABYC regulation
- Shore power 220v, 50A, 50 Hz sufficient to run AC house loads at dock
- Service in both 12 & 24 VDC and 220VAC. All loads and switching controlled by digital switching from C-Zone, 10" C-Zone control panel in nav station. C-Zone can be iPad integrated through ships wifi.
- Genset, Fischer-Panda 15000i (1) or similar with sound shield boxes and additional water lift pump and check valve in water feed
- 1.0kW solar panel array, Solbian high efficiency, walkable, 4mm thick panels.
- Standard 70amp engine alternators
- 600 amp/hr Lithium Ion Battery Bank (200 amp hour (3) with built in battery management system)
- AGM starting batteries with 24v battery chargers (3)
- 5kW inverter/charger with 100amp battery charger (1)
- Dometic marine air conditioning, combination units for each area

ELECTRICAL OUTLETS

- 220v or 110v single outlets at:
 - § Galley (4) + 2 USB
 - § Nav Station (2) + 2 USB
 - § Cabins (5) One in each + 1 USB in each
 - § Heads (4) One in each + 2 USB
 - § Saloon (2)+ 2 USB
 - § Aft Cockpit (2)
 - § Helm station 12VDC (2) +2USB



LIGHTS

- LED Courtesy Lights in:
 - § Aft cockpit
 - § Transom steps
 - § Companionways
 - § Hull hallways
 - § Heads
- Flush LED warm white spotlights in:
 - § Saloon ceiling
 - § Heads
 - § Cabins
 - § Helm stations + red light
 - § Aft cockpit
 - § Fwd Pit
- LED reading Lights at:
 - § Nav station + red light
 - § Each berth (2)
- LED navigation lights
 - § Running lights at end of longeron
 - § Stern light on aft edge of bimini
 - § Anchor light at masthead
 - § Steaming light on front face of mast
 - § Compass light
- Overhead dome lights in engine rooms, and transom and bow locker compartments
- Rope lights
 - § Saloon window box
 - § Cabins window box
 - § Aft cockpit furniture with toe kicks.
 - § All saloon furniture with toe kicks.

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ELECTRONICS

Base Navigation System – helm stations 1x 16“, nav. station 1x 16“

- B&G Zeus 2 touch screen displays to integrate radar/chart overlay/weather routing/yacht systems/autopilot/performance numbers – system to integrate with Ipad/laptop as remote display and control
- B&G Zeus class helm black box processor (1)
- B&G ZC2 Zeus remote keypad (1)
- Navico NEP-2 network Expansion port-2 (1)
- B&G H5000 Hercules performance base pack w/GCD (1)
- B&G NAIS-400 Class B AIS system (1)
- B&G ZG100 GPS antenna, 10Hz (1)
- B&G vertical masthead unit pack (1)
- B&G 4G Radar Broadband System (1)
- B&G H5000 analog expansion module (1)
- B&G H5000 3D motion sensor (1)
- B&G RC42N rate compass, NMEA2000 (1)
- B&G DT800 active depth/temp 235kHz transducer (2)
- Hull housing type A, plastic, flush (2)
- B&G speed transducer flush, plastic, H-series (2)
- Wind vane (1)

Auto Pilot System Standard-- One H5000 autopilot system

- One H5000 autopilot system with one Jefa on port rudder
- Integrated into B&G system
- Pilot computer H5000(1)
- Pilot keypad controller(2)
- Compass Precision 9 (1)
- Pilot Feedback sensor RF300 (1)

Communications Base System

- B&G V90 VHF w/handset and speaker (1)
- B&G H50 wireless handset (1)
- B&G NSPL-400 AIS/VHF antenna splitter (1)
- Gam, combo VHF/AIS antenna, SS whip (1)



PLUMBING AND TANKS

- 300L fresh water tanks (2)
- Water tank SS deck fills, one per hull
- Hot and cold pressure water system in each hull
- Hot and cold pressure shower in stbd transom

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- Isotemp 13 gallon hot water heaters 220v/750w (2) and engine transfer heating, one each port and stbd
- Displacement pumps for steady pressure, less pump wear (2)
- Electronic NMEA 2000 gauges for water tanks (2), waste tanks (2), and fuel tanks (2)
- Salt water wash down for decks, anchor rode, and windlass, one in anchor locker, one in aft port transom
- Electric bilge pump system in each hull. Whale pumps (6)
- Portable emergency "crash" manual bilge pump
- All sanitation hose odor resistant
- All flush mounted thru-hull fittings below waterline
- All seacocks labeled
- ABA hoses double clamped below waterline
- Deck pump out for removal of black water from tanks (2)
- 150L black water tanks, each (2) with overboard discharge.

VENTILATION & HVAC

- Manual blinds for each deck hatch and windows in the living spaces
- Air conditioning and reverse cycle heat system, 78,000 BTU
- Zoned air conditioning, saloon (2), stbd cabins (2), port cabins (3) Reverse cycle for heating too.
- Custom fixed windows in hull with Lewmar opening ports in each head and berth

FINISHES

- Alexseal exterior/interior paints:
 - § One gloss colour from waterline to sheer
 - § One gloss colour across deck between non-skid areas
 - § Custom mixed non-skid paint on working deck surfaces where needed
- Hard semi-ablative antifoul on hull bottoms. Vivid refit or internal and for easy cleaning.
- Gloss paint on some bulkheads, in the heads & showers interior hull and ceiling surfaces
- Synthetic liner on hull and ceiling surfaces
- Rolled grey barrier paint in bilges
- Exterior storage lockers: carbon surfaces sealed with grey barrier paint.
- Ring frames and stringers in rolled white barrier paint
- Interior doors foam cored, solid timber edging with veneer finish, with solid timber edging and fiddles.
- Wood veneer interior joinery, table and counter surfaces
- Inside of wardrobes with aromatic cedar.
- Inside of drawers and cabinets finished with wood look a like Formica.
- Rolled matte white paint behind cabinetry
- Standard wood choices include teak, oak and walnut, birch.
- All vertical joinery surfaces finished in filled grain stain varnish.
- Marine use vinyl floors for interior with natural wood look

- Table tops finished in gloss filled-grain varnish
- Galley and head counters finished in lightweight Corian
- Exterior caulked teak
- Seating upholstery in Ultra-Leather or Sunbrella with sculptured foam for bolter rolls on back and seat.

HELMSTATIONS

- 1-person wide helm seat and back rest with Ultra-Leather wrapped 4" reticulate open cell foam cushions
- Custom carbon steering wheel
- Push button controls for hydraulic mainsheet
- Fixed glass sunroof above helm seat for clear view of mainsail

ENTERTAINMENT COCKPIT-AFT, TRANSOM STEPS

- Gas storage in settee
- Exterior dining area with Ultra-Leather or Sunbrella wrapped 5" reticulate open cell foam cushions, sculptured cushions secured in place with tracks.
- Storage lockers in settees and dining area
- Stainless steel folding swim stairs integrated in stbd transom
- Caulked teak floor
- Table with two carbon chairs
- Sliding glass door in powder coated ally frame to create large walk-through saloon access
- Walk-through access to transom steps. Cockpit steps and boarding platforms finished in teak.
- Outdoor hot-cold water shower at stbd transom
- Ample drains directly through wing deck overboard
- Integrated sculpted carbon davits with internal lifting fines to reacher winches. Davits are asymmetric to hold the rib clear of the bridge deck and self draining.
- They are also long enough to span the rib so both tubes are locked in position.
- Carbon wash boards across transom steps

INTERIOR: 3 DIFFERENT INTERIOR COMBINATIONS ARE AVAILBALE, THERE MAY BE SOME PRICE VARIATION FROM STANDARD LAYOUT

SALOON

- Wood veneers for composite furniture, floors and tables, choice of teak, oak birch and walnut
- Navigation/communication station on fwd helm; ample room for electronics

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- Custom manual blinds for the side and forward outboard saloon windows, mounted behind custom ceiling mouldings
- Touch screen electrical controls on C-Zone screen (can be iPad integrated)
- Companionway access to hulls
- Ceiling covering to be stretched synthetic leather “whisper wall”
- Settees (1) with Ultra-Leather or Sunbrella wrapped 5” reticulate open cell foam cushions
- Table in light veneer, approx. 1.50m x 0.75m with fixed height
- Hinged toughened glass door access to fwd cockpit station
- Retractable 40” TV located outboard next to nav station
- Additional hinged toughened glass door to access fwd cockpit station (2)
- Ice maker that produce 3kg per day
- Navigation file folder cabinet

GALLEY

- 4-burner Force 10 gas stove with pot holders and gas oven
- Ample storage cabinets below counters, pot and pan drawer under stove
- Double stainless steel sink with Grohe faucet
- Vitrifrigo fridge drawers below counter
- Vitrifrigo freezer drawers below counter
- Galley working surface to be of sandwich construction with Corian top
- Wine bar capacity for bottles
- Lazy Susan

FOUR GUEST STATEROOMS

- Queen sized (60” x 80” x 6”) berth in cabins, mattresses are split for easy access to storage and systems below.
- Storage lockers shelves
- Clothes and towel hooks (2)
- Oceanair manual black out blinds

EN-SUITE HEAD & SHARED SHOWER TO EACH STATEROOM

- Head compartment with door
- Vanity with stand alone ceramic wash basin 3mm light Corian, vanity top.
- Mirror above sinks
- Planus Artic electric toilet system
- Separate stand up shower compartment with doors acrylic smoke doors and Grohe fixtures.
- Wall mounted shower with temperature controlled mixer
- Shower drain with strainer, showers floors finished in teak.
- Hanging hooks (2)

STORAGE LOCKERS—FORWARD OF MAST (4)

- Large watertight sail and stowage lockers (2)
- Large watertight genset lockers on side of centerline forward of mast (1)

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- Locker for windlass/chain on centerline forward of mast (1)

CREW QUARTERS—PORT BOW

- Finished as per cabins with veneered foam cored cabinetry, wall and ceiling coverings, and air conditions.
- 1-person bunks (2) with mattresses
- Storage shelving in front of berth
- Clothes and towel hooks (2)
- Wet head with electric toilet and basic amenities
- Vanity with Corian top with ceramics wash basin

BOW LOCKER—STB BOW

- Enormous watertight storage in bow for sails, hoses, fenders etc. with cubby hole storage unites that create stairs.

ENTERTAINMENT

Saloon Entertainment

- Fusion Marine Stereo with DVD, FM, AM and Bluetooth inputs
- Speakers (4)

Cockpit Aft Entertainment

- Speakers in aft cockpit (2)

CLASSIFICATION

- CE Module B, Category A
- Owner's manual