









# **PRINCIPAL PARTICULARS**

#### FORWARDHELMVERSION

	Metric	Imperial
LOA	16.74 m	54.92 ft
LWL	16.21 m	53.18 ft
BOA	8.10 m	26.57ft
Draft (Board Up)	1.30 m	4.27 ft
Draft (Board Down)	3.30 m	10.83 ft
Mast Clearance	26.90m	88.23 ft
Mast Tube Length	23.30 m	76.42 ft
Displacement Lightship	14,700 Kg	32,408 lb
Displacement Max Load	19,633Kg	43,283 lb
Beam on Waterline/Hull	1.50 m	4.92 ft
Sail Areas		
Mainsail	127.00 m²	1,367.02 ft <sup>2</sup>
Overlapping Solent	68.00 m²	731.95 ft <sup>2</sup>
Fractional Reacher	140.00 m²	1,506.95 ft <sup>2</sup>
Self-tacking Staysail	42.00 m <sup>2</sup>	452.08 ft <sup>2</sup>
Engines	2x Yanmar 57 hp	
Batteries	Lithium Ion	
Speed under Engine	10 knots	
Cruising Range at 6 knots (+1 generator)	700 nm	
Design & Engineering	Morrelli Melvin	
Classification	CE Module B, Category A	

#### **GENERAL NOTE**

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







## GENERALARRANGMENT





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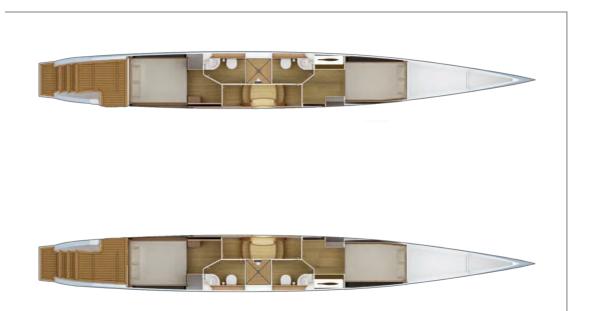




#### STANDARD THREE-CABIN ARRANGEMENT/ OPTIONAL FOUR-CABIN ARRANGEMENT







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# HULLANDDECKSTRUCTURE

- 1) Design and structural engineering by Morrelli& Melvin, builder will construct strictly in accordance to given drawings with in house SOPs and QC monitoring
- 2) Latest 4th generation hull designs from Morrelli& Melvin Constructed into female moulds for minimum construction weight
- 3) Foam core to increase strength and reduce weight
- 4) Composite sandwich construction post-cured in oven, for maximum strength
- 5) Infused carbon with epoxy resin, and Corecell damage tolerant foam sandwich construction with carrying densities and thicknesses as determined by M&M
- 6) Additional carbon fiber reinforcing in highly loaded areas
- 7) Carbon fiber longitudinal stringers and ring frames
- 8) Sacrificial 'false' bow in case of impact
- 9) Watertight bulkheads to seal off bow and stern compartments
- 10) Structural composite hull floors to save weight and add stiffness
- 11) Carbon fiber shroud chain plates

## **APPENDAGES**

- 12) Symmetric curved (Cs) daggerboards, 5.25m long, build from precision female carbon moulds, hollow construction with Sicomin PB600 epoxy foam, all carbon pre-preg is CNC cut and 'kitted' for lamination accuracy, strength performance, and carbon layer count control. Each board is load tested to maximum working load of 13,000kg, deflection is measured to ensure design conformity. Top of the board has a 'safety fence' with dense silicon rubber collision bumpers to avoid losing the board from free falling through the case if the 'Up' control line breaks. Top of the board has a molded lifting hole for halyard hoist, and a water proof air vent for air expansion from sunlight. Boards are finished with a hard polished resin or PU paint, large contrasting painted depth indicator numbers on the upper aft face, and antifoul paint on the permanently immersed tip. Composite structural engineering and laminate specification as determined by M&M.
- 13) Curved daggerboard cases constructed with vacuum bagged, carbon fiber, epoxy, foam sandwich construction
- 14) Fixed CNC cut Vesconite bearings, no metal or moving parts
- 15) High aspect spade rudders, carbon stocks built from carbon pre-preg, and carbon blade construction.
- 16) 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

- 17) 23.3 m standard modulus carbon fiber fractional non-rotating mast, diamonds, lower stays and cap shrouds, single carbon spreaders finished with color coat paint, 2-part paint system.
- 18) Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- 19) Mastfoot and deck mounted sheave strop rack for foot blocks with mast jack
- 20) Carbon fiber gooseneck with stainless steel pin
- 21) Foldaway nylon steps to access gooseneck and masthead
- 22) Halyards led to fwd pit winches
- 23) Halyard locks for reacher halyard and self-tacking staysail halyard
- 24) Solent halyard, lashed off at top when raised
- 25) Solent with single line furler.
- 26) Self-tacking Staysail with single line furler.
- 27) Reacher with continuous line furler.
- 28) Sheave and jammer for self-tacking staysail sheet
- 29) Fixed lazy jacks on mast, adjusted with a lashing to boom, directed through spreader for easier hoist
- 30) 2x spreader lights for coachroof and foredeck
- 31) Hailer (1) on spreader.
- 32) Service halyard/topping lift1:1(max load 500kg)
- 33) Cunningham for full hoist mainsail and reefs led to winch with clutch
- 34) Single track ball bearing battcar system for fat head mainsail with detachable headboard to enable easy lowering into stack pack
- 35) Lightning protection connected to hull DynaPlate

#### BOOM

- 36) Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- 37) Boom tube with stylized boom wing for mainsail stack with sheave boxes and Karver reef hooks for 3 reef lines lead fwd to mast and to winches in fwd pit.
- 38) Padeye and spectra strop for lashing loose footed mainsail clew
- 39) Lazy jacks/ stackpack for mainsail

#### LONGERON& CROSSBEAM

- 40) Standard modulus carbon fiber longeron
- 41) Pre-preg standard modulus carbon fiber autoclave baked for minimum voids
- 42) Custom deep dual tapered section
- 43) 3:1 tack outhaul for reacher tack and self-tacking stay sail tack
- 44) Carbon attachment points for the forestay, self-tacking staysail tack, reacher tack
- 45) Dyneema stays for fwd bikini tramp
- 46) Carbon martingales
- 47) Carbon crossbeam connected to hull tangs

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# **HEATAMARANS** Specifications



#### RUNNING RIGGING

- 48) All running rigging and control lines are included
  - 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
- 49) Halyards and control lines equipped with lashing ends
- 50) 4:1 rope purchase mainsheet
- 51) Tack, Cunningham and reef lines led to fwd pit
- 52) 1xSolent sheet led to fwd pit
- 53) Self-tacking staysail sheet led to fwd pit
- 54) 2x reacher sheets led to fwd pit
- 55) Main halyard 1:1
- 56) Solent halyard 1:1
- 57) Self-tacking staysail halyard 1:1
- 58) Reacher halyard 1:1
- 59) 1x solent furler line
- 60) 1x self-tacking staysail furler line
- 61) 1x reacher furler line

#### STANDING RIGGING

- 62) Custom aramid forestay with 1x furler for solent
- 63) Custom aramid lower (2) and cap (2) shrouds with loops to chain plates
- 64) Custom aramid diamond with integral turnbuckles
- 65) Custom carbon martingale to chain plates
- 66) Aramid reacher torsional stay with furler
- 67) Aramid self-tacking staysail torsional stay with furler





### SAILS

- 68) We offer a complete high performance optional sail package including:
  - Mainsail
  - Solent
  - Reacher
  - Self-tacking staysail
- 69) From 3 different suppliers:
  - Evolution Sails
  - Doyle Sails
  - North Sails
- 70) Details of the packages are part of the options and pricing sheet.

# **DECK GEAR**

- 71) 3x aluminum 2-speed Lewmar EVO65.2EST winches in fwd cockpit for sheets, halyards and control lines.
- 72) 2x aluminum 2-speed Lewmar EVO45.2EST winches on aft beam for davit lines.
- 73) Pontes Trimmer 46 4-speed winch (1) on longeron for tack line.
- 74) 4x winch kill switches
- 75) 3x 8" aluminum winch handles with holders
- 76) Spinlock or Constrictor clutches for control lines where needed
- 77) Reacher sheets led to fwd pit
- 78) 4:1 double-ended rope mainsheet led to fwd pit
- 79) Mainsheet traveler controlled by Antal line driver
- 80) 2x Harken fore and aft jib tracks with adjustable pin cars
- 81) Harken self-tacking staysail track with pin stops
- 82) Harken mastbase blocks
- 83) Forward trampolines, with spectra border line, lashed individually for maximum safety
- 84) Composite stanchions (1m) with three levels of spectra lifelines
- 85) Lewmar Size 10 flush deck hatches, one per head,
- 86) Lewmar Size 44 flush deck hatches, one per stateroom
- 87) Lewmar Size 60 flush deck hatches, forward areas
- 88) 1x large flush carbon foredeck hatch at portside or starboard sail locker
- 89) 4x Lewmar opening port lights, one per heads
- 90) 2x BSI CE certified escape hatches
- 91) Saloon windows, tinted toughened glass
- 92) Topside windows, tinted toughened glass
- 93) Pneumatic struts for engine and sail lockers





# **DOCKING AND ANCHORING**

- 94) 4x 50' x 3/4" Mega Braid docklines with chafe protected eyes
- 95) 4x 30' x 3/4" Mega Braid docklines with chafe protected eyes
- 96) 6x 12"x36"& 2x 17"X60" inflatable fenders with covers
- 97) 4x Nomen clip cleats, 6x padeyes for sail control and spring lines
- 98) Anchor chains and ropes: 197' of 3/8" stainless steel chain with 75' of nylon rope, 49' of 5/16" stainless steel chain with 150' of nylon rope
- 99) Anchor bridle with shackle that clips onto the chain
- 100) Anchor bridle attachment points on inboard hull sides
- 101) Stainless steel anchor roller exit on longeron.
- 102) Salt and fresh water wash down in anchor locker
- 103) Rope/chain automatic gypsy sized for chain and 8 strand nylon anchor rode
- 104) Electric windlass, Lewmar V4 or equivalent, inside forward underwing locker
- 105) Rocna Galvanized anchor size 40kg
- 106) Foldable Fortress anchor size 15kg

### PROPULSION

- 107) 2x Yanmar diesel 57hp with SD60 saildrives
- 108) 3-blade folding props for minimum drag –Gori Varifold with overdrive for fuel efficient passage making.
- 109) Tachometer, fuel, hours, temperature, amp gauges
- 110) Water temperature and oil pressure audio alarms
- 111) 1x engine throttle control/gear shift
- 112) Manual engine room ventilation blower with 3" ventilation hoses
- 113) Custom composite engine silencer, muffler, and water lift with water separator, gas through under wing/chamfer panel and water below waterline
- 114) Reverso oil change pump and engine and generator oil
- 115) 2x 370 L integrated carbon fuel tank.
- 116) FilterBoss fuel and water separators with changeover valve for each fuel system
- 117) Shut-off valve on fuel tanks
- 118) Fuel tank SS deck fills, 1 per hull with Vetus anti-spill and blow back arrester, to incorporate fuel vents if practical.
- 119) Fuel tank transfer from port to starboard and starboard to port

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# **STEERING**

- 120) Fwd helm steering system with pivoting pedestal system for steering on outboard seats
- 121) 1050mm carbon fiber sculptured race boat steering wheel (1 total)
- 122) Spade rudders with carbon fiber shafts designed and engineered by M&M
- 123) Transmission carbon torque tube steering system
- 124) Aluminum torque tube cross bar with low play bevel boxes and hardware to ensure rudder alignment
- 125) 2x JEFA self aligning rudder bearings
- 126) Water containment tube and water tight bulkhead in case of collision
- 127) Emergency steering tiller stowed and secured in fwd locker
- 128) Port side JEFA auto-pilot.



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# **ELECTRICAL**

- 129) Designed to ABYC regulation
- 130) CZone house electric digital switching and monitoring system with 10" control screen in navigation station
- 131) Shore power 220V60Hz. Single 50 amps socket in aft starboard transom, 50 Hz 32 amps socket
- 132) Service in both 12 & 24 VDC and 220VAC/110VAC
- 133) Solbian 944W(118Wx8)
- 134) 2x 110 A engine alternators 24V
- 135) 600 amp-hr Lithium Ion battery bank (3x 200 amp-hour with built in battery management system)
- 136) 2x AGM starting batteries with emergency parallel switching.1XAGM for generator.
- 137) Victron energy combination Inverter/ charger100A 24VDC 5000W

#### ELECTRICAL OUTLETS

- 138) 220 V or 110 V single outlets at:
  - Galley (4)
  - Navigation station (2)
  - Cabins one in each
  - Heads one in each
  - Saloon (2)
  - Aft cockpit (2)
  - Additional USB sockets at all bunks

#### LIGHTS

- 139) LED courtesy lights in:
  - Aft cockpit
  - Transom steps
  - Companionways
- 140) Flush LED warm white spotlights in:
  - Saloon ceiling
  - Heads
  - Cabins
  - Helm station
  - Aft cockpit
  - Forward pit
- 141) LED reading lights in:
  - Navigate station
  - Two at each berth
- 142) LED navigation lights:
  - Running lights at end of longeron
  - Stern light on aft edge of bimini



# **HEATAMARANS** Specifications



- Anchor light at masthead
- Steaming light on front face of mast
- Compass light
- Tri-color light on mast head
- 143) Rope light facing down attached to the underside of toe kicks (not vertical surfaces)
- 144) Along saloon and cabin furniture that is styled with a toe kick
- 145) Along the aft cockpit furniture that is styled with a toe kick
- 146) Rope light facing down attached to the underside of eyebrow.
- 147) Overhead dome lights in engine rooms, and transom and bow locker compartments
- 148) Red overhead lights above navigation station, helm station, and galley

## **ELECTRONICS**

- 149) Base navigation system helm station 1x16", navigation station1x 16"
- 150) B&G Zeus<sup>3</sup>touch screen displays to integrate radar/chart overlay/weather routing/yacht systems/autopilot/performance numbers with iPad/lap top as remote display and control
- 151) 1x B&G ZC2 Zeus remote keypad
- 152) 1x B&G H5000 Hercules performance base pack with GCD
- 153) 1x B&G NAIS-500 Class B AIS system
- 154) 1x B&G ZG100 GPS antenna,10Hz
- 155) 1x B&G vertical masthead unit pack
- 156) 1x VMHU top bracket
- 157) 1x B&G 4G radar broadband system
- 158) 1x B&G H5000 analog expansion module
- 159) 1x B&G H5000 3D motion sensor
- 160) 1x B&G precision-9 compass rate compass, NMEA2000
- 161) 2x B&G DT800 active depth/temp 235kHz transducer
- 162) 2x Hull housing type A, plastic, flush
- 163) 2x B&G speed transducer flush, plastic, H-series
- 164) 1x wind vane
- 165) Auto pilot system Standard- one H5000 autopilot system
- 166) One H5000 autopilot system with one Jefa motor on port rudder
- 167) Integrated into B&G system
- 168) Pilot computer H5000 (1)
- 169) Pilot keypad controller (2)
- 170) Compass Precision 9 (1)
- 171) Pilot Feedback sensor RF300 (1)

### **Communications base system**

172) 1x B&G V90 VHF w/handset and speaker



# **HEATAMARANS** Specifications



- 173) 1x B&G H90 wireless handset
- 174) 1x B&G NSPL-500 AIS/VHF antenna splitter
- 175) 1x Gam, combo VHF/ AIS antenna, SS whip

## **PLUMBING AND TANKS**

- 176) 2x 350 L integrated carbon fresh water tanks
- 177) Water tank stainless steel fillers, one per hull
- 178) Hot and cold pressure water system in each hull
- 179) Hot and cold pressure shower in starboard transom
- 180) 2x Isotemp 11 gals hot/ water heaters 220 V/ 750 W and engine transfer heating, one each port and starboard
- 181) Displacement pumps for steady pressure, less pump wear
- 182) 2x Electronic NMEA 2000 gauges for water tanks, 2x waste tanks, and 2x fuel tanks
- 183) Salt/fresh water wash down for decks
- 184) Electric bilge pump system in each hull
- 185) Portable emergency manual bilge pump
- 186) All sanitation hose odor resistant
- 187) All flush mounted composite thru-hull fittings below waterline
- 188) All plumbing hoses are double clamped below waterline
- 189) ABA hose clamps
- 190) 2x deck pump-out ports for removal of black water
- 191) 2x 130 L HYM made carbon gravity black tanks.
- 192) 2x bilge ventilation system

## VENTILATION

- 193) Manual blinds for each deck hatch and windows in the living spaces
- 194) Custom fixed, glass windows in hull with Lewmar opening ports in each head
- 195) Lewmar flush hatches in fwd salon





# **FINISHES**

- 196) Alexseal exterior/interior paints
- 197) One gloss color from waterline to sheer
- 198) One gloss color across deck between non-skid areas
- 199) Custom mixed non-skid paint on deck surfaces where needed
- 200) Hard semi-ablative antifoul on hull bottoms
- 201) Gloss paint on some bulkheads, interior hull and ceiling surfaces
- 202) Synthetic liner on hull and ceiling surfaces
- 203) Rolled grey barrier paint in bilges
- 204) Exterior storage lockers: carbon surfaces sealed
- 205) Ring frames and stringers in rolled white barrier paint
- 206) All furniture and cabinetry is composite built from 10 or 12 mm lightweight foam core with light weight
- 207) 2mm plywood skins. Real wood veneers are exterior on all surfaces, internal surfaces of cupboards and drawers are of similar realistic wood Formica
- 208) Interior cabin doors are cored and veneered
- 209) Where cabinet geometry allows door hinges will allow for opening of doors
- 210) Wood veneer interior joinery
- 211) Counter solid surfaces finish
- 212) Durable synthetic Amtico flooring
- 213) Rolled matte white paint inside cabinetry
- 214) All vertical joinery surfaces finished in open-grain satin varnish
- 215) Interior floors and table tops finished in gloss filled-grain varnish
- 216) Galley and heads counters finished in lightweight polished solid surface
- 217) Exterior caulked teak delivered newly sanded
- 218) Interior Seating upholstery in Ultraleather, exterior in Sunbrella

### **HELMSTATION**

- 219) 1-person helm seat and back rest with Ultraleather wrapped 4" reticulate open cell foam cushions
- 220) Custom carbon steering wheel
- 221) Fixed glass sunroof above helm seat for clear view of mainsail

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# СОСКРІТ

#### AFT, TRANSOM STEPS

- 222) Port and starboard settee with wrapped 5" reticulate open cell foam cushions
- 223) Storage lockers in settees
- 224) Stainless steel folding swim stairs integrated in starboard transom
- 225) Caulked teak floor
- 226) Table with 2x chairs
- 227) 4x part sliding glass door in anodized alloy frame
- 228) Outdoor hot-cold water shower at starboard transom
- 229) Ample drains directly through wing deck overboard
- 230) Two carbon dinghy davits, seamlessly attached controlled from davit winches with jammers to support an agreed suitable model tender and motor.
- 231) Gas BBQ on aft beam with adjoining sink
- 232) 2x fishing rod holders
- 233) Carbon wash boards across transom steps

### **INTERIOR**

#### SALOON

- 234) Wood and synthetic veneers for composite furniture, floors and tables
- 235) Navigation/communication station on port side; ample room for electronics
- 236) Touch screen electrical controls
- 237) Ceiling covering to be stretched synthetic leather "whisper wall"
- 238) 1x settees with Ultraleather wrapped 5" reticulate open cell foam cushions
- 239) Table in light veneer
- 240) Additional 2-hinged toughened glass doors to access forward cockpit station
- 241) Navigation file folder cabinet

#### GALLEY

- 242) 4-burner gas stove and oven with pot holders
- 243) Ample storage cabinets below counters, pot and pan drawer under stove
- 244) Double stainless steel sink with faucet
- 245) Vitrifrigo fridge with 2x drawers below counter
- 246) Vitrifrigo freezer with 2x drawers below counter
- 247) Galley working surface to be of lightweight solid surface
- 248) Lazy Susan

#### THREE STATEROOMS (ONE MASTER ROOM AND TWO GUEST STATEROOM)

- 249) Queen sized berth in aft cabins, doubles in forward cabins
- 250) Storage shelves

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# HHEATAMARANS Specifications



- 251) Storage cabinets beneath berth
- 252) 2x clothes and towel hooks
- 253) Manual black out blinds

#### EN SUITE HEAD AND SHOWER TO EACH STATEROOM

- 254) Head compartment with door
- 255) Vanity with integral washbasin
- 256) Mirror above sink
- 257) Planus Artic or equivalent electric toilet system
- 258) Separate stand up shower compartment with door access to both cabins
- 259) Wall mounted shower with temperature controlled mixer
- 260) Shower drain with strainer
- 261) 2x hanging hooks

#### STORAGE LOCKERS-FORWARD OF MAST

- 262) Stowage lockers in front of mast with step and Lewmar 60 hatch(2)
- 263) Large watertight locker on forward starboard hull with built in stairs and storage cupboards
- 264) Locker for windlass/chain on center line forward of mast

#### AFT COCKPIT ENTERTAINMENT

265) Marine 2 way speakers, white (2) Fusion4"

#### SALON ENTERTAINMENT

- 266) Fusion RA770 Marine Stereo with FM,AM and Bluetooth inputs (1);Compatible with Apple products
- 267) Anthony Gall A' Diva SE speaker(2)

## sales@hhcatamarans.com

**BUILT BY** 



#### **DESIGNED BY**

MORRELLI & MELVIN

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5. Options might be shown on the images.

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