B A L T I C 56

CUSTOM

DESIGN SPECIFICATION (PRELIMINARY)

HIGH PERFORMANCE SLOOP

FOR MR.

MAIN DIMENSIONS (PRELIMINARY)

LOA	17.140 m	56.23 FT
DWL	15.000 m	49.21 FT
BEAM	4.594 m	15.07 FT
DRAFT	3.100 m / 2.35 m	10.17 FT
DISPLACEMENT	15.300 kg	33.731 lbs
BALLAST	5.800 kg	12.787 lbs
IM	23.000 m	75.46 FT
J	6.590 m	21.62 FT
LP	7.249 m	23.78 FT
P	22.500 m	73.82 FT
E	7.627 m	25.02 FT

All measurements are approximate

BUILDER

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DESIGNED BY

NAVAL ARCHITECT: Judel/Vrolijk

CONCEPT AND STYLING: R&J Design and BalticYachts

1. HULL

1.10 GENERAL CONSTRUCTION

Hull is built in advanced composite construction using Epoxy vacuum bagged sandwich laminates that are post-cured in order to achieve optimum characteristics and strength. Main reinforcements in all laminates are unidirectional and multi-axial Carbon. Hull outer skin to incorporate layers of Aramid fibers for added impact resistance and safety.

1.11 STRUCTURAL BULKHEADS

Primary internal structure and small furniture panels are made on heated flat-panel laminating table, with vacuum consolidated laminates cured at 80 – 85 ºC.
Sandwich material used is Core-Cell alternatively Divinycell..
Visible surfaces are teak faced.

1.12 CHAIN PLATES

Main chainplates to be fully in composite. Incorporated in to the Bulkheads and hull lay-ups. Composite chainplates to be fitted with bushings and easy removable stainless steel pins. V1 chainplates to be grounded.

1.13 ENGINE BEDS

Incorporated in hull, built up of laminate around a PVC foam core.
Special care is taken to ensure a rigid foundation and correct bonding.

1.14 MAST STEP

Fabricated aluminum alloy mast step bolted to reinforced floors and stringers.
Mast step to be adjustable alongships.

1.15 BILGE

Access provided as practical to the bilge. There are limber holes in the floor frames to allow drainage to the auto-manual bilge pump.

1.16 BALLAST

For the keel there are two basic alternatives. The fixed keel has a stainless steel construction keel fin with a lead bulb. The stainless steel fin will allow for a light but very strong construction resulting in the possibility to place more weight in the bulb giving higher stability alternatively achieving required stability with less weight.
The lifting keel has also a stainless steel keel shaft and a heavy lead keel bulb attached. Twin hydraulic cylinders built in for the lifting function plus a hydraulic keel position locking system This configuration will give the required sailing draft for performance but also allow for reducing draft for harbors and getting into shallow draft areas.

1.17 RUDDER AND RUDDER STOCK

The cantilevered semi-elliptical balanced spade rudder is molded from Carbon and filled with PVC-foam. Foam filling under high pressure in special strengthened mold.

Rudder Stock :
The rudder stock is made of high strength, Carbon - Epoxy construction using "Vacu-Press" manufacturing system. The rudder stock is tapered and dimensioned to the corresponding bending moments in order to minimize weight. The rudder stock passes through self aligning roller bearings and a stuffing box which is strongly bounded to the hull.

2. DECK AND DECK EQUIPMENT

Deck layout according to drawing

2.10 GENERAL CONSTRUCTION

Deck is built in advanced composite construction using Epoxy vacuum bagged sandwich laminates that are post-cured in order to achieve optimum characteristics and strength. Main reinforcements in all laminates are unidirectional and multi-axial Carbon. High loaded areas strengthened with additional laminate or/and C-plates.

A pulpit and pushpit made of Stainless Steel tubes are mounted on the bow and transom. The pulpit is fitted with navigation lights and the pushpit with a stern light.

Double life lines are installed passing through S.S. stanchions.
Double the life lines are of plastic coated stainless steel wire and set up with turnbuckles at the after end.

The height of pulpits, stanchions, spacing distance etc. conforms to O.R.C. requirements.

Lifeline gates P & S

Flag pole in teak. Bracket for flag pole on pushpit SB side.

Stainless Steel handrail for main companionway.

Sprayhoods for main and aft companionways, made of waterproof and sun resistant canvas.

Teak deck on sidedecks, cockpit floors and seats and on the coamings. The teak is epoxy glued to the fiber deck using vacuum bagging technique. No screws and plugs used except for the in the center pieces and the outboard parts. The teak deck is a structural part of the deck hence laminate can be reduced in the teak decked areas in order to minimize weight.

2.11 STEM HEAD FITTINGS

Stem head fitting including anchor roller.

Genoa tack fittings provided.

2.12 FAIRLEADS

Two forward P & S One midships P & S and one aft P & S.

2.13 WINDOWS, HATCHES AND PORTLIGHTS

Fixed Windows:

Windows in cabin trunk are made of tempered glass, securely attached and sealed off to the deck.

Sliding Hatches :

Companionway hatches are custom made, perspex with lock and washboards.
Storage space for washboards.

Hatches and Portlights :

See deck drawing for number and locations.

2.14 MAIN SHEET SYSTEM (Fredriksen or equivalent)

1	TRB-211S. 2.2 m Beam Track, black anodized
1	ECS-201B. Fiddle Control
2	Plastic End-caps for TRB-211
1	BCT-219 Traveller Car
1	ISBA-100 Orbit single block
2	ISFA-W-100 Orbit Footblock

2.15 GENOA SHEETING SYSTEM (Fredriksen or equivalent)

2	2.0 m. TR-201/6 30 mm Genoa track
4	SL-224A Genoa car
2	ESB-200 Endstops
2	TR-S2 Endstops

2.16 SPINNAKER SYSTEM (Fredriksen)

2	ST-UP 75/100 Stand up for dia 100 mm Blocks w. pad-eye
2	ISBA-100 Orbit single block 100 mm
2	ISBA-100B Orbit single block 100 mm
1	ISBA-100B Orbit single block dia 100 mm w. becket

1 PE-75/100 Pad Eyes for 100 mm Series
1 ISBA-075 Orbit single block 75 mm
1 ISFA-075 Orbit Footblock 75 mm

2.17 BLOCKS, JAMMERS AND FITTINGS

FOOTBLOCKS
2 DFA-125 Double footblock

BLOCKS AROUND MAST
6 IPA-60-125 Orbit Uppstanding 125 mm blocks
1 IPA-60-75 Orbit Upstanding 75 mm block

RUNNERS
2 IFAB-100
2 IPA-60-100 Upstanding Block

2 Size 3 Snatch Blocks
10 Jammer for trim lines

- mooring cleats: 4 forward, 2 amidships, 2 aft
- halyard cleats
- primary cleats
- secondary cleats

2.18 WINCH SPECIFICATION

Winch equipment Lewmar or equivalent.

Primaries/	2 x 77-3ST OR Electrical
Secondaries	2 x 66-3ST OR Electrical
Mast winches	2 x 54 AST OR

Winch handles:

5 x double lock-in 10"
4 x lock-in 10"

3. INTERIOR

3.10 GENERAL

Advanced lightweight construction techniques used in construction of the interior. A custom made high technology laminating press is used for the lamination of the main bulkheads and interior panels. The use of this press results in bulkheads and panels with very high laminate quality and surface smoothness enabling application of thin wood veneer on visible surfaces without excessive use of filler.

Joinery work is to the highest standard. Visible surfaces are varnished and handrubbed to obtain a satin type of surface.

All doors are provided with retaining hooks and swing stops. Owners cabin doors and drawers to be closed with single key. Kick plates on steps and chafing pieces on sills are provided. Canvas leecloths provided for berths in owner's stateroom and guest cabins. Curtains are provided for side windows and portlights, quality and color for curtains according to samples. Hanging lockers are provided with rods and hooks. Locker doors are fitted with louvers for ventilation. Teak gratings in head. Special locker door latches, non-visible.

Floorboards with laid teak veneer.
Access to bilge provided where practical.
Dust collector with teak grating in front of main entrance ladder. Ceiling lined with removable soft paneling.

3.11 INTERIOR LAY-OUT

Description refers to preliminary GA drawing.

3.12 OWNERS SUITE

- One king-size berth.
- Two large hanging lockers
- Bookshelf
- Drawers and lockers.
- Toilet compartment.
- Separate shower.
- Berth provided with mattress and leeboards.

3.13 GUEST CABINS

Guest cabins with privacy. Cabins provided with berths, hanging locker, drawers and storage space. Berths have mattresses and leeboards.

3.14 TOILET COMPARTMENTS

Each toilet compartment to include:

Molded FRP basin and liners/lockers painted with AWL-GRIP or equal. Counter unit and lockers with ample provision for stowage.

Marine type toilet with discharge pump. Discharge direct to holding tank.

Mirror, toothbrush, towel, soap and paper holder.

Telephone type shower, water faucet for cold and hot pressurized water, shower sump with sump pump.

3.15 GALLEY AREA

- Galley provided with 4 burner gimbaled propane stove with oven, type Alpes, or equal, Inox. Alphes Inox galley fan above.
- Stowage for propane under helmsman's seat. Remote solenoid valve. The shut-off at the tank is operated from galley, a mechanical shut-off is at the stove.
- A microwave oven is provided.
- Stowage for cooking utensils. Adequate drawers and glass racks for stowage of crockery.
- Two stainless steel thermos bottle.
- Two oven gloves and pot stands.
- Cutting-board.
- Corian-covered work top with deep fiddles.
- Deep stainless steel sink units.
- Drying locker for dishes above, large garbage container under.
- Water faucet for hot and cold pressure water.
- Custom made stainless steel refrigerator and freezer compartments

3.16 NAVIGATION STATION

- Navigation area with stowage for charts, books, pencils etc.
- Additional chart stowage under deck.

- Bulkhead space for mounting electronic instruments, radio equipment, etc.
- Master electric panel with safety circuit breakers and navigator's light.
- Navigator's belt.

3.17 MAIN SALON

- Dining area with dining table and settees.
- Dinner table to be with rounded edges, no fiddles.
- Storage space behind settee backrests.
- Bookshelves and lockers
- Curtains for side windows.
- A bar and entertainment center with lockers and drawers.

4. ENGINE AND POWER TRANSMISSION

4.10 MAIN ENGINE (Preliminary)

The main engine is a YANMAR 4JH3-HTE diesel with following characteristics:

- 74 kW (100 hp) at 3800 rpm
- 4 in-line vertical cylinders, 4-stroke engine. 1.995 Liters.
- Direct injection.
- Electrical starting 12 V DC
- Fresh water cooling for marine application with a heat exchanger and a seawater pump.

4.11 ALTERNATORS

80 A 24 V for starting batteries
150 A 24 V for service batteries

4.12 ENGINE INSTRUMENTS

Engine instrument panel with:

- RPM meter
- Low pressure alarm
- High temp alarm
- Starting switch.
- One engine hour meter is located at the nav. station on the main electrical panel.

4.13 GEAR BOX AND CLUTCH

Gearbox and Clutch (varies depending on interior layout):
Reduction gearbox with reverse gear, KMH 4-A on the engine, reduction is 2.63:1.

4.14 PROPELLER SHAFT

The propeller shaft is made of corrosion resistant steel AISI 329 The outboard end is supported with a stainless steel IOR-type shaft strut including rubber bearings. The

stuffing box has a hose connection to the stern tube. Zinc anodes are installed on the shaft.

Propeller :
Three-blade folding propeller.

5. PLUMBING

5.10 VENTILATION

- Ventilation provided via hatches and port holes.
- Electrical ventilator in toilets.
- Exhaust fan in galley above stove.
- Engine room blower provided.

5.11 WATER SYSTEMS

- Water heater. Heater capacity is 50 L. Heated by engine cooling water and shore power.
- Water pressure system with outlets in heads and galley.
- Telephone type shower, water faucet for cold and hot pressurized water. Deck shower outlet warm & cold.

5.12 BILGE PUMPS

- Two diaphragms type manual bilge pumps with removable handles. Locations, one at main companionway and one in the aft cockpit.
- One self-priming 24 V DC heavy duty bilge pump with automatic switch.

5.13 TANKS

All tanks are Baltic custom made in stainless steel with baffles and inspection covers.

Approximate capacities:

- diesel fuel 400 liters
- fresh water 800 liters
- holding tank

All tanks are pressure tested.

- Tank shut-offs provided.
- A filter/water separator system is installed on the fuel line.

- The fuel tank has a deck fill with a Splash-Stop unit under deck. The fill fitting is grounded via the tank to a keel bolt.
- The fresh water tanks have deck fill marked WATER.
- Tank meter with selector switch on electrical panel.
- The tanks are securely laminated to the hull and foamed in for rigidity and sound insulation.

5.14 PIPING

Seacocks and through hull fittings :
High quality seacocks and through hull fittings of marine standard. All through hull fittings located below the waterline are provided with seacocks.

Sea/fresh water, sanitary and fuel pipes :
Adequate vinyl piping for fresh water and sea water system. Sanitary hose are especially made for toilet application and with a rigid vinyl helix for reinforcement.
Copper tube fuel lines with appropriate valves.

Hydraulic pipes :
Parker type reinforced hose with stainless steel end fittings

6. ELECTRICAL AND ELECTRONICS

6.10 MAIN SWITCHBOARD

Baltic Yachts custom made with automatic safety circuit breakers. Indication diodes, amp.meters, volt meters and tank level meters are provided. A 12 V DC for starting system, 24 V DC for service system.

6.11 BATTERIES

All batteries are Sonnenshine, Dryfit, Sportline, heavy duty deep cycle marine type, Gel-cell maintenance free and has the following capacities:

- main engine starting batteries 24 V DC 2 * 108 Ah
- service batteries 24 V DC 600 Ah

6.12 AC SYSTEM

- Shore connection 230 V/AC 50 Hz
- DC/AC Inverter, Mastervolt Model Mass 24/2500
- Battery charger, Mastervolt 100 A
- System including panel with automatic safety circuit breakers, powering all AC units and outlets in toilets and galley.

6.13 LIGHTING

Following lights are provided:

Interior :

- Navigator's light
- Dome light red/white at nav. Station
- Dome lights white in ceiling
- Fluorescent lights white
- Reading lights white
- Foot lights red (night lights) in all cabins
- Indirect light in saloon with dimmer
- Lights in all hanging lockers

- Lights in refrigerator and freezer compartments

Exterior :

- Pair bow lights red/green
- Stern light white
- Steaming light white
- Tri-color masthead light
- Anchor light
- Deck flood light
- Compass light
- Boom lights

6.14 ELECTRONICS / ENTERTAINMENT

- Sailing electronics not included. To be specified.

- Stereo in owners cabin KEH-M5002B. Compact disc CDX-M40 including remote control.

- Stereo in main salon to be same as in owners but with cockpit speakers.

7. MAST AND RIGGING (SEPARATE QUOTE)

7.10 MAIN MAST

Final mast and rig configuration to be developed together with the client tailor making the specification and concept to suite the clients requirements. The final mast manufacturer and relating price to be decided between the client and Baltic Yachts. Baltic Yachts will obtain and supply a mast comparison including both technical and price information as a base for the decision.

General Preliminary Specification:
The mast to be a four-spreader mast with swept back spreader arrangement, none overlapping headsails with chain plates outboard.
Main mast, boom, spreaders and as much of the fittings as possible to be made in pre-preg carbon Autoclave laminated and cured.

SECTION:
- Approx size 170 x 310 mm
- T300 carbon fiber.
- Unidirectional pre-preg carbon fiber.
- Autoclave cured (85 PSI).
- Section manufactured utilizing male tooling.

MASTHEAD:
- Carbon fiber crane to support backstay loads.
- Provision for topmast backstay.
- Two (2) main halyard sheaves.
- Chafe protection for all halyards.
- Two (2) jib halyard sheaves.
- Two (2) spinnaker halyard sheaves.

LIGHTS AND ELECTRONICS:
- Windex light on extension with wiring.
- Tri-color anchor light.
- Steaming deck light with guard.
- All wiring to be contained in lightweight Dacron conduit.
- “Messenger” line to masthead.
- Spreader light under S1.

SPREADER SYSTEM:
- Four spreader rig. (Swept 18.5°.)
- Adjustable spreader connection.
- Diagonal shrouds terminate in aft hanger pin.
- Carbon spreaders with molded tips to accept discontinuous rod rigging.
- Flag halyard eye plates under first spreaders.

RUNNER TANGS:
- Runner tangs.

CUTTER STAY:
- Provision for Cutter inner stay.

- One (1) staysail halyard sheave.
- One (1) spinnaker pole topping lift sheave.

MAINSAIL TRACK SYSTEMS:
- Fredericksen dual-purpose aluminum track.

SPINNAKER TRACK:
- Harken 1847 "Air Track".
- Harken 783 ball bearing spinnaker car.

CAR LIFT SYSTEM:
- 3:1 Up/ down control system complete with cheek blocks, Spectra line control, Harken cam cleats and fairleads.

HALYARD EXIT SLOTS:
- Seven (7) exit slots with chafe protection.
- Halyards to lead to deck mounted blocks.
- Messengers installed.

BOOM GOOSENECK:
- Molded carbon gooseneck.
- Stainless steel shoulder bushings.
- Machined aluminum “box” toggle.

REACHING STRUT PADEYES:
- Strut receptacles port and starboard for Quick Connect attachment of inboard end.

CUSTOM CARBON INSTRUMENT BRACKET:
- Number of maxi repeaters to be confirmed.
- Special water guard is integral with bracket.
- All cutouts made to accept repeaters.
- Foot steps port and starboard.
- Awlgrip finish to match.

VANG GOOSENECK:
- Molded carbon gooseneck.
- Hard anodized aluminum toggle with s/s bushing.

MAST STEP:
- Hydraulic mast jack.
- Aluminum mast heel and base plate.
- Aluminum lifting bar.
- Screw adjuster for step.
- Aluminum mast shims (bricks).
- All aluminum is hard coat anodized.
- Pump and gauge.

FINISH: Standard Awlgrip, non-metallic color.

7.11 BOOM and SPINNAKER POLE

Autoclaved cured pre preg carbon fiber (T300).
Tapered outboard end.

VANG LUG:
- Carbon attachment point to accept hydraulic vang.

- Stainless steel clamp bushings.

OUTHAUL SYSTEM:

- Hydraulic cylinder attached direct to outhaul car.
- Outhaul track and car.

INBOARD END:

- Two (2) sheaves to lead reef lines to deck.
- Hydraulic hose for outhaul.

OUTBOARD END:

- Three (2) sheave internal type.
- Boom set up for loose footed main.
- Harken High Load Sheaves.

MAINSHEET BAIL:

- Attachment point as required.

TRACK FOR SAIL COVER:

- Bolt rope track port and starboard for sail vocer.

LAZY JACK HARDWARE:

- Hardware installed to match lazy jack system.

FINISH:

- Awlgrip to match mast.
- Measurement bands painted on boom.

SPINNAKER POLE: CARBON FIBER

- Autoclave cured pre preg carbon fiber.
- Kevlar cloth at outboard end for impact and abrasion resistance.
- Double tapered.
- Trip lines.
- Awlgrip finish to match spars.
- Outboard end Quick Trip.
- Inboard end Quick Connect.

REACHING STRUT

- Autoclave cured pre preg carbon fiber.
- Double tapered construction.
- Custom “duck bill” outboard end (carbon) with sheave.
- Quick Connect inboard end.
- Awlgrip finish to match spars.

7.12 STANDING RIGGING

ROD RIGGING:
Series 800 Navtec rod system with micro tip cups and C800 turnbuckles.

	Item	Size	Quantity
-	V1	-48	2
-	V2	-40	2
-	V3	-22	2
-	V4	-12	2
-	D1	-30	2
-	D2	-17	2
-	D3	-12	2
-	D4	-10	2
-	D5	-12	2
-	Headstay	-30	1
-	Backstay	-17	1
-	Inner forestay	7T	1
-	Runners	7T	1

7.13 RUNNING RIGGING

All running rigging to be in Spectra:

Item :

- 1 main halyard w. screw shackle.
- 1 gangway halyard / spare mainsail
- 1 main sheet
- 2 main traveler adjusting sheets
- 2 Genoa halyards, with snap shackles
- 2 Genoa sheets with J lock
- 2 light sheets
- 1 staysail halyard
- 2 staysail sheets
- 2 spin halyards, with snapshackles
- 2 spin sheets, with snapshackles and ring
- 2 spin aft guys, with snapshackles
- 1 spin foreguy, tackle 2: 1 w. boom end block
- 2 reefing lines
- 1 cunningham line
- 1 kicking strap (preventer)
- 1 Roller furling on headstay, Harken type
- Lazy Jacks.

7.14 HYDRAULICS

Following rig functions are provided with Navtec hydraulic cylinders and operated from a central panel in aft cockpit.

- backstay
- boomvang
- outhaul

9. STEERING SYSTEM

The steering is provided by two light weight steering wheels.
Custom made composite steering pedestals.
Steering wheels connected to a composite quadrant by means of Spectra/Kevlar ropes/cables.
One aluminum alloy tube emergency tiller, storage in cockpit locker.

10. MISCELLANEOUS

10.10 EQUIPMENT

Following items will be provided:

- 2 steering compasses, one for each steering wheel
- 6 fenders
- flagstaff
- bosuns chair
- boat hook
- 4 docking lines
- instruction manuals for engine,
- plumbing and electrical system
- tool set for small onboard repairs
- service spare part kit for rig, plumbing, engine and electric's
- ORC safety kit including flares
- Windex
- clinometer

10.09.2003 PG