ROYAL HUISMAN

PRESS RELEASE

ELFJE - Royal Huisman, 2014

With her exterior lines and interior layout by Hoek Design and interior styling by Redman Whiteley Dixon, the 52m / 172ft NextGEN ketch Elfje is not only beautiful to behold with stunning aesthetics and amenities, she also has high-tech systems and sailing performance to match.

NEXT GENERATION

The design brief called for a luxury yacht finessed to deliver across all criteria and remain cutting-edge well into the future. For this reason, Elfje has been called a “NextGEN” ketch to highlight her owner’s focus on maximising innovation, sustainability and energy efficiency.

Usage was a key component of the project planning to identify important “must have” attributes, as well as possible constraints, of Elfje’s detailed specification. In broad terms, the owner wanted a beautiful sailing yacht to go anywhere in the world, from tropical cruising grounds to the higher latitudes as far afield as Antarctica and the Arctic.

To meet the owner’s wide-ranging brief and apart from the obvious requirement for seaworthiness in all conditions, the yacht had to be equipped for remote extended cruising with adequate fuel, provisioning and operational resources. In the interests of operating the yacht safely in exotic regions, the installed systems had to be advanced, but also relatively simple and thoroughly reliable.

From the start there was a strong emphasis on performance. Not just for the enjoyment of swift passage-making, but also because the owner intended to race Elfje. That meant the hydraulic sail handling systems had to be fast and efficient across the full spectrum. Whereas passage-making might require two or three hydraulic functions at one time, a race environment with up to 30 competitive sailors on board could mean upward of 15 power–hungry hydraulic functions being called upon simultaneously.

An opportunity to show her racing pedigree came during the 2015 St. Barths Bucket, an event co-stewarded by Royal Huisman. At the end of a hard-fought battle Elfje shared overall victory in the Elegantes des Mers class — a remarkable podium result in her debut regatta.

“Given the expertise, experience and competence at the yard, we knew we could accomplish anything.”

— Jeremy Pochman, owner’s project director

FOCUS

The owner's aesthetic was always focused on Beauty. Drawing on the timeless appeal and seaworthy lines of a traditional pilot cutter, the owner wanted a yacht on which you could feel close to the water with minimal deck clutter to break up the sightlines or interfere with hands-on sailing. This meant keeping the freeboards and deckhouses as low as possible, which in turn required pushing the boundaries to optimise the available space below deck.

On deck, an expanse of teak decking flows from fore to aft with borderless, flush deck hatches and under-deck hinges to add a final measure of visual simplicity. Further evidence of attentive execution can be seen with the zero maintenance practicality of electro-polished stainless steel hatch gutters and custom designed steering consoles in teak-veneered carbon composite.

Parts of the deckhouse trim were left unvarnished to provide an overall feeling of “lightness”.

To facilitate the loading / unloading of scuba dive tanks, there is a Lloyd's certified hatch recessed into the hull that is accessible from the side bathing platform. The platform and dockside access are both served by a portable, lightweight carbon composite boarding ladder to the main deck.

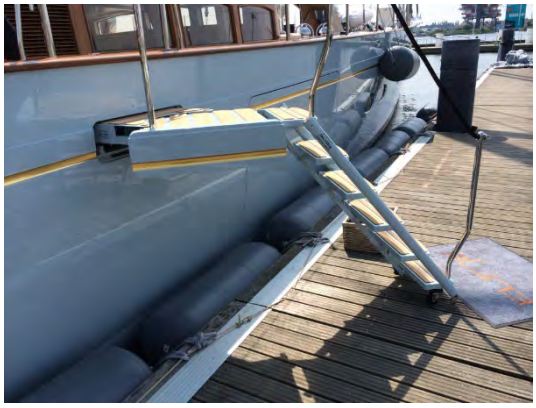
A below waterline anchor system has been custom designed and fitted to neatly disguise the anchors without sacrificing functionality …

… and a carbon hatch on the foredeck can be lowered to conceal the profile of the yacht's main 5.8m / 19ft Novurania tender with deep V-shaped hull form. When the tender is deployed, the recess creates a generous forward lounge area at anchor or may be closed to provide a completely flush foredeck.

THE CLUTTER-FREE FOREDECK HAS PROVED AN AID TO THE CREW IN RACING MODE. THE CARBON HATCH CAN BE LOWERED TO BECOME A LOUNGE AREA OR CONCEAL THE PROFILE OF THE MAIN 5.8M / 19FT TENDER WITH ITS DEEP V-SHAPED HULL FORM

There are no fixed biminis to interrupt the feel of classic simplicity and the clean expanse of clutter-free foredeck invites the eye to explore the far horizon.

The platform and dockside access are both served by a portable, lightweight boarding ladder to the main deck.



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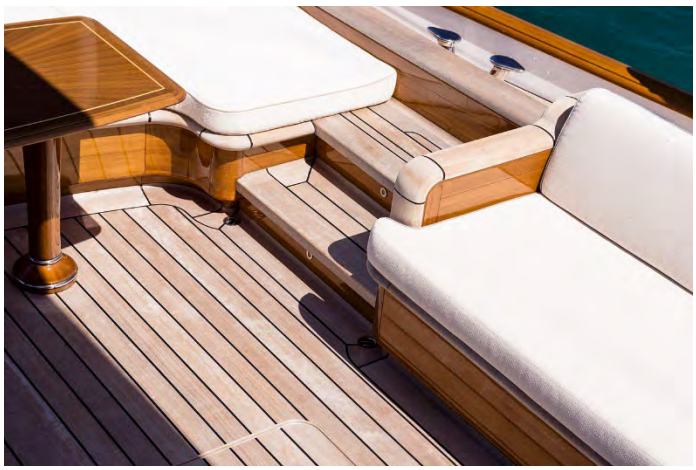
The variety of exterior areas and seating corners become social magnets for people to break off into smaller groups as desired. The main cockpit, rimmed with upholstered cushions, comprises two large seating areas divided by a large folding table for eight guests to dine in comfort.

A beautiful private aft cockpit, accessed directly from the owner's cabin, was designed with an expansive lounge area, also rimmed with upholstered cushions and throw pillows.



Combined with her custom soft grey hull with a hint of blue, gold recessed cove stripe, distinctive sheer line and beautifully proportioned low profile, these elements lend Elfje a very special look to create the NextGEN ketch-rigged sailing yacht.

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“The owner’s aesthetic was always focused on Beauty”

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THE MANY EXTERIOR SOCIAL AREAS
AND SEATING CORNERS
ARE SPECIAL FEATURES OF THE YACHT

EFFICIENCY & THE ENVIRONMENT

“We see operational and environmental considerations as inseparable,” says the owner’s project director, Jeremy Pochman. “An important goal was to minimise our environmental impact; if we gain appreciable operational efficiencies in doing so, so much the better. Translating that into the technologies employed, we were looking for effective gains that would work 100 per cent, but we did not want to push the boundaries so far that reliability would be compromised.”

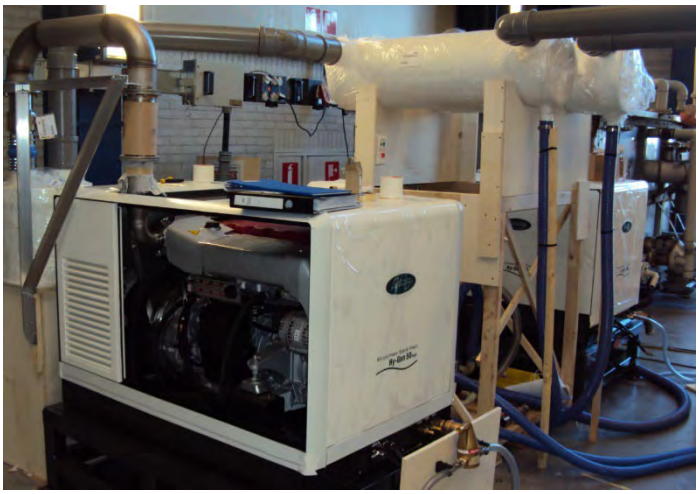
To this end, the systems architecture developed by Royal Huisman’s R&D team in conjunction with Whisper Power was vital. The heart of the design combines a flywheel generator, variable speed generators, fast and flexible hydraulic and electrical power delivery systems, and “intelligent” Li-ion battery banks.

This provided major efficiencies and excellent redundancy. Smaller and up to 2000kg lighter than conventional generators, variable speed generators are also quieter and consume up to 10 per cent less fuel because they can run at a lower rpm to meet actual loads, rather than at a constant speed focused on peak loads.

Backed up by her "smart" peak shaving power storage bank connected to a DC busbar and sophisticated energy conversion and management system – ongoing subjects of research and development at the shipyard – Elfje's "hybrid" solutions are among the most advanced and reliable of any known sailing yacht afloat.

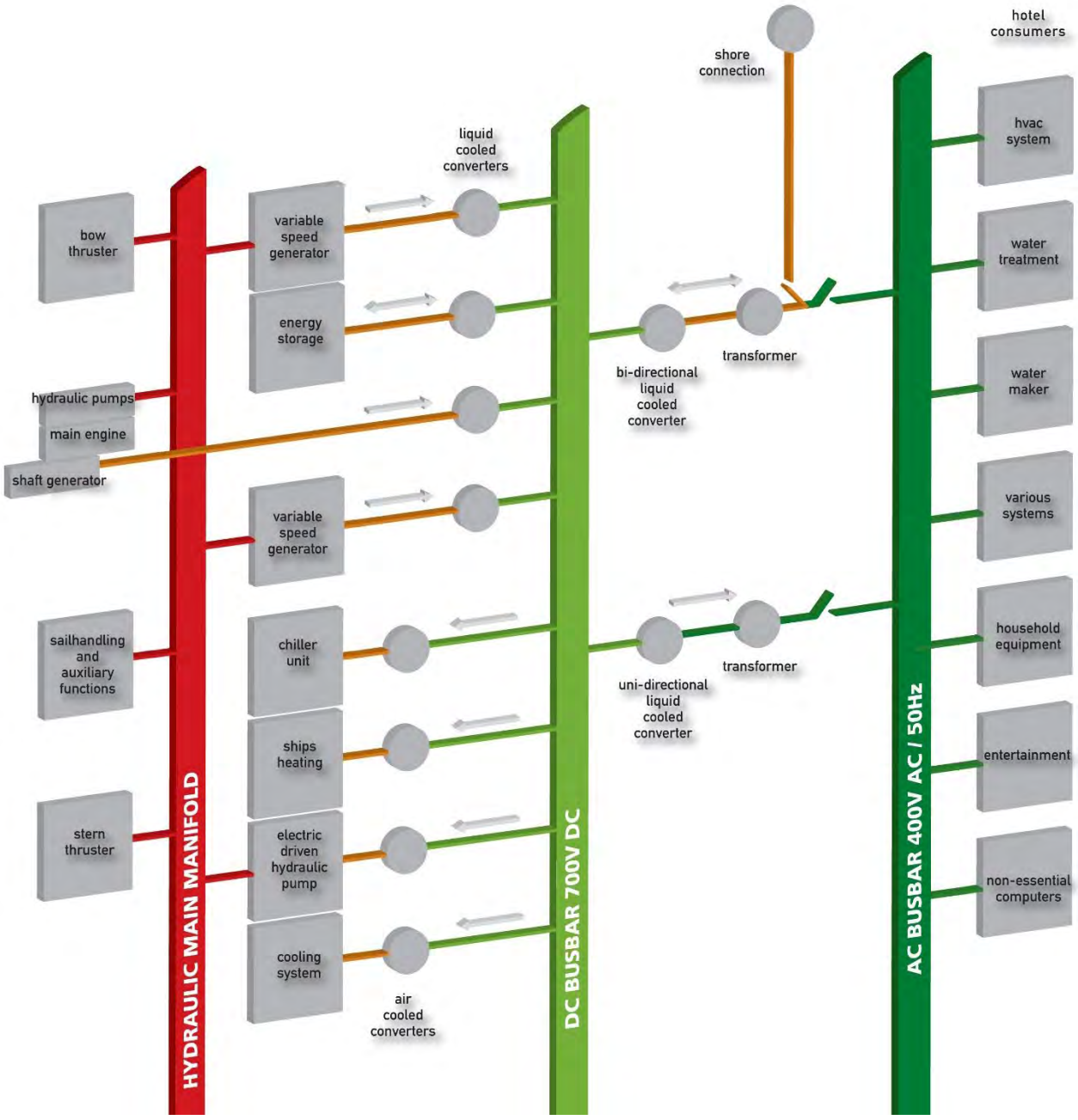
The Class certified systems were tested a year up front to simulate every eventuality before installation. Following studies to enhance sound insulation on previous Royal Huisman projects, very low noise levels were achieved in the accommodations with air-conditioning and gensets running while at anchor.

All these technical achievements have been seamlessly integrated into a design aesthetic that faithfully acknowledges Elfje's sailing forebears.



TESTING OF ELFJE'S SYSTEM ARCHITECTURE, WHICH INCLUDED, FOR EXAMPLE, VARIABLE SPEED GENERATORS, FLEXIBLE HYDRAULIC AND ELECTRICAL POWER DELIVERY SYSTEMS, "SMART" POWER STORAGE, CONVERSION AND MANAGEMENT SYSTEMS

THE SYSTEMS ARCHITECTURE DEVELOPED BY ROYAL HUISMAN'S R&D TEAM IN CONJUNCTION WITH WHISPER POWER WAS VITAL



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“We see operational and environmental considerations as inseparable.”

— Jeremy Pochman, owner’s project director

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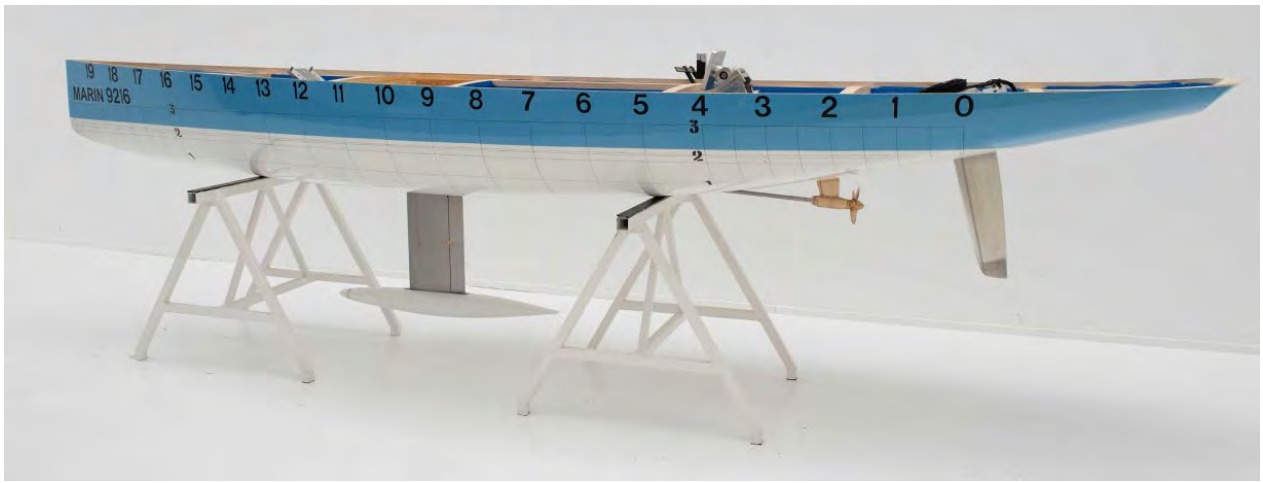

THE NAVAL ARCHITECTURE

“It doesn’t happen very often that we get the opportunity to have a six-month research project for hull development before we really start to design a yacht,” says naval architect André Hoek. “Uniquely for this project, we developed five different hull lines plans with varying prismatic coefficients and volume distribution, although all were based on the same waterline length and displacement.”

These hulls were then calculated upright and under heel using Computational Fluid Dynamics (CFD) software to determine the difference in resistance and side force. Based on the results, a 20-foot model of the best hull was subsequently tested at the Marin laboratory in Holland. The final hull form is relatively deep but streamlined with deep V-shaped sections from the bow to the keel to reduce, or even eliminate, the wave-slamming characteristic of many vertical bows.

To increase stability and performance without a real draught limitation, the yacht was equipped with a T-style hydraulic lifting keel with trim tab and a carbon spade rudder. The trim tab in the keel was specifically chosen to increase the efficiency of the keel and, due to the large area of the ketch sail configuration, to balance the helm in power reaches. The keel chord length, the shape of the beaver-tail bulb, the size of the rudder, the position of the masts, and the sail plan, spars and rigging, were also optimised.

To reduce weight in the bow and improve downwind speed with the gennaker, asymmetric spinnaker or Code 0, the yacht was fitted with a carbon fibre bowsprit rated for 150 tons of compression.

Out of sight but not out of mind, the foresail furling systems are housed inside the carbon fibre sprit, thus lowering the sail's tack and maintaining the classic aesthetics by removing the need for more typical and cumbersome furling units.

A furler was also incorporated for a Code O. Elfje's performance potential is clearly evidenced by the powerful, fully-roached sail plan with sails supplied by Doyle Sails NZ and full-carbon rig package by Southern Spars.

THE INTERIOR DESIGN

With energy-friendliness high on the owner's agenda, the interior design team of Redman Whiteley Dixon and Pod Interior Style were instructed to pay equal attention to sustainability when it came to selecting the materials for the interior design, which had to draw on renewable resources. The choice of materials was further driven by the owner's desire to totally relax on board in a natural, low-key ambience with a hint of tradition.

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Traditional European walnut was used for the wide flooring boards and fiddle rail detailing, along with a modern finish of light oak that was naturally bleached and weathered then finished with citrus wax. These timbers are accented by nickel hardware fixtures and fittings with a warm satin finish.

Sustainable cork flooring detailed with walnut edging trim for the flooring in the crew quarters was chosen for its comfort underfoot.

Described as “transitional between traditional and modern, freshly interpreted for modern living”, the intention behind the interior design was to challenge the traditional physical and physiological boundaries between guests and crew to integrate the crew into the life of the yacht with shared activities.

The owner’s brief, however, also called for a smooth flow throughout the interior and that each space should function efficiently. To this end, life-sized plywood mock-ups of sections of the interior were assembled by the shipyard with a view to optimising aesthetics and efficiency relating to the use of space, ergonomics and the flow between areas.

This was as relevant for the guest areas as for those destined for crew use.

The galley layout, for example, was studied to maximise circulation flow and functionality with a walk-around central island and a large custom decorated drop-down wall panel onto the dining area to provide a breakfast bar with stools for two people.

The galley is fitted out in the same wood as elsewhere and has illuminated glass-fronted cupboards facing the guests.

Particular attention was paid to the upholstery detailing and textiles. A combination of linen, silk, velvet and cashmere was used throughout the yacht with subtle differences in weave and pattern in each guest cabin, resulting in an exquisitely calm and elegant interior. Whether it is a textured walling, a patterned cushion or a hand-embroidered bedspread, each fabric was extensively researched and thought through with the owner and the final look reflects the overall style and refined detailing.

Bespoke seating and chairs were styled and built by independent manufacturers in London following a selection process. All of the tables, for example, were specially designed by Redman Whiteley Dixon and built by Silver Lining. The furniture fittings were personalised with motif inlays in wood, glass and mother-of-pearl, some with leather edges to coordinate with the interior colour scheme.

In response to the owner's requirement for privacy, a large 'duplex apartment' was created aft and the owner's deckhouse serves as a day lounge with direct access to a private cockpit.

For ease of access, the large bathroom, shower and toilet are situated between the deckhouse and the cabin.

The guest cabins benefit from a subtle curved walling effect that helps to open up the spaces, as there are few right-angle corners for reference points to measure with the eye. Electric sliding doors to the bathrooms eliminate the awkward door swing in a yacht of this size, and each bathroom has an enormous shower stall achieved by positioning the seat outboard over the hull curve and separated by a glass wall.

The Flex Cabin, the forward starboard cabin, one of four including the aft owner's suite, is further designed to allow the owner to invite an extra guest, or for a crew / special instructor cabin on other occasions.

In between the guest cabins is a corridor devised with a series of round 'mini lobbies' to create interest and complement the curved nature of the interior layout.

The main salon and dining room are separated by the keel trunk, which is softened with curved and stepped surfaces for the handrails. The curved staircase from the deckhouse allows light and limited views into the salon to keep the spaces separated but not wholly disconnected.

An unusual feature is the glass-topped “oculus” table with a spoked ship’s wheel design in front of a kidney-shaped day sofa with lee cloth in the owner’s suite. Designed for viewing marine life even at night when the underwater lights are on, the table caps an opening in the hull that brings bright sunlit reflections into the space when anchored in shallow water with a sandy bottom. Indeed, natural illumination was a priority for the owner and the cabins have generous elliptical port lights, while the master bathroom features a large overhead skylight.

“The resulting interior is exquisite in all senses, from the craftsmanship and finish to the comfortable yet practical living environment it provides,” says Justin Redman of Redman Whiteley Dixon. “There’s a sense of continuity between all the spaces, both inside and out. Despite their different uses and individual design features, they work together harmoniously.”

“Transitional between traditional and modern,
freshly interpreted for modern living”,
was the brief for the interior design.

PARTNERSHIP & TEAMWORK

Conceptually speaking, Elfje is a project defined by performance in the widest sense. In spite of her classic design references, a modern lightweight Alustar construction coupled with a highly sophisticated systems architecture meant the owner's objectives in terms of innovation, sustainability and energy efficiency could be met without compromise.

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Moreover, Elfje is the first superyacht known to have as her primary steering, approved by Lloyd's, a complete mechanical system free of electric circuitry: physical mechanics at their finest. Working together with Class and Edson Marine, the shipyard developed a practical and sophisticated engineering approach that ensures a balanced and 'true' feel to the helm providing a system that manages human power to accomplish the controlling of force and movement.

Together with the owner's team, including Prior Yacht Management and the Monaco office of Y.CO overseeing contractual and operational matters, the objective was to maintain a strong, clear focus on what had to be accomplished.

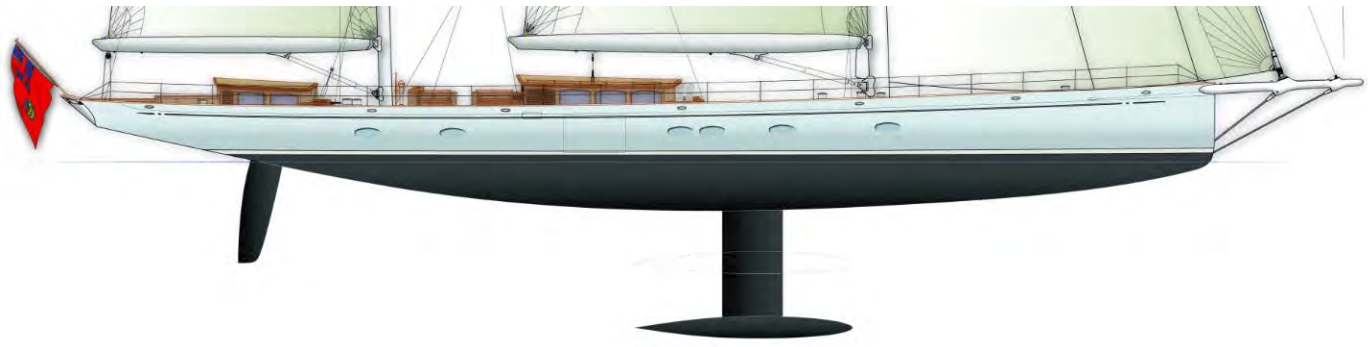
"The outcome is a truly magnificent sailing yacht that was delivered on time and on budget," says Jeremy Pochman on behalf of the owner. "This was achieved thanks to the spirit of partnership and teamwork that prevailed. The aim was to create a fine luxury yacht that would deliver across all our criteria, not just for a few years but, in effect, forever. That takes a lot of commitment and I cannot overstate how impressed we have been with the yard's rigour in developing progressive and reliable solutions for this yacht."

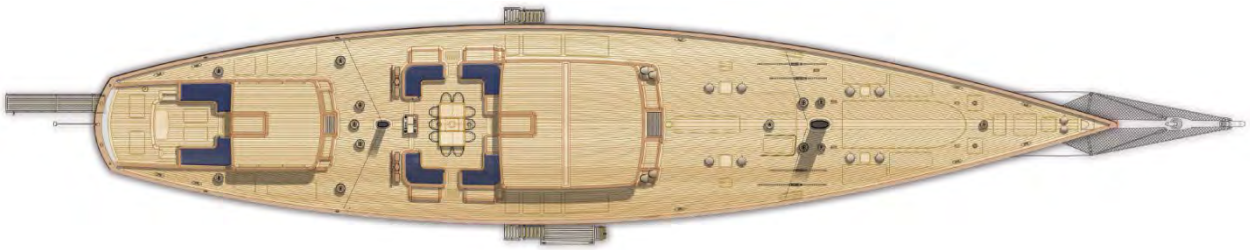
END OF PRESS RELEASE

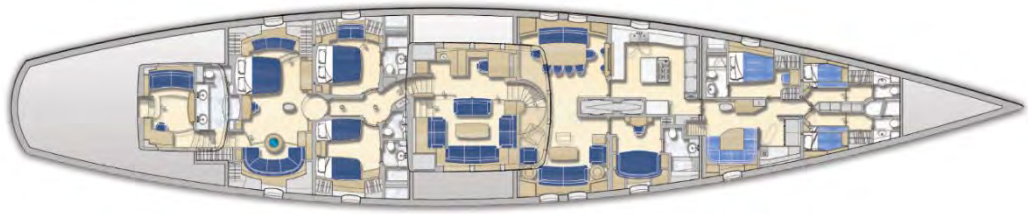
EDITOR'S NOTES

SPECIFICATIONS + GENERAL ARRANGEMENT

Name:	Elfje
Type:	NextGEN Ketch
Length over all:	52m / 172ft
Hull length:	46m / 152ft
Length waterline:	38m / 125ft
Beam	9m / 29ft
Draft (up - down):	4.5 - 7.1m / 15 - 23ft
Shipyard number:	Project 392
Naval architect:	Hoek Design Naval Architects BV
Interior design:	Redman Whiteley Dixon Ltd.
Interior decoration:	Pod Interior Style Ltd.
Project management:	Prior Yacht Management
Builder:	Royal Huisman
Year of delivery:	2014







Accommodation	Owner's suite with deckhouse + 2 guest cabins (double and twin) + 1 flex cabin (for extra guest, crew or special instructor) + 3 crew cabins (captain: double with removable upper bed; 2 twins)

Air draft:	56m / 182ft above CWL
Sail areas (upwind):	1104 m² / 11,883 ft²
Classification:	Built according to the requirements of Lloyd's Register EMEA and MCA (Cayman Islands) and in conformance with LY2: <300 GT ✠ 100A1, SSC, Yacht, Mono, G6, [✠] LMC, UMS
Construction:	“Alustar” Temper H321 (AA 5059-H321) aluminum for hull plating and "Alustar" Temper H112 (AA 5059-H112) for extrusions
Lift keel:	Hydraulically operated T-style lift keel by Brandjes (2.6m / 8.5ft stroke)including trim tab; bulb with beaver tail
Steering system:	Edson manual and power steering system; Segatron autopilot system; 2x outside steering position

Main engine:	Scania DI 16 / 552 kW @ 1800 rpm
Gearbox:	Mekanord 350HS/LS with built-in pitch control system, reduction 4.14:1
Propeller installation:	Korsør Scandinavian CP-18RS controllable pitch propeller system; diameter 1400 mm; 4 blades
Generators:	2x Whisper Power HyGen 50-6 variable speed generators + 1x Whisper Power HyGen 50 shaft generator (integrated with propulsion line)

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Fuel:	22,420 l / 5922 USG (in 4 tanks)
Fresh water:	5,500 l / 1452 USG (in 2 tanks)
Holding:	4,650 l / 1228 USG (in 2 tanks)
Range:	3690 NM at 10 knots cruising speed
Bilge system:	Royal Huisman central bilge system; RWO oily water separator
Bow and stern thrusters:	Hundested, retractable thruster 73 kW (100 HP)

Watermaker:	HEM 30/3400, capacity: 13,000 l / 3434 USG per 24 hrs
Firefighting system:	Royal Huisman seawater fire extinguishing system; Novec engine room fire extinguishing system; Portable fire extinguishers

Fuel system:	Royal Huisman fuel system with trimming capability; Facet fuel separator; Tender fill system
Hydraulic system:	Based on R&D by Royal Huisman and Ward Proctor (M&H); Rexroth (marine hydraulic) manifold system for sail handling functions, thrusters and lift keel; Hydraulic power provided by main engine and generator-driven pumps
Pneumatic system:	Hydrovane working air compressor; Brownie's diving compressor

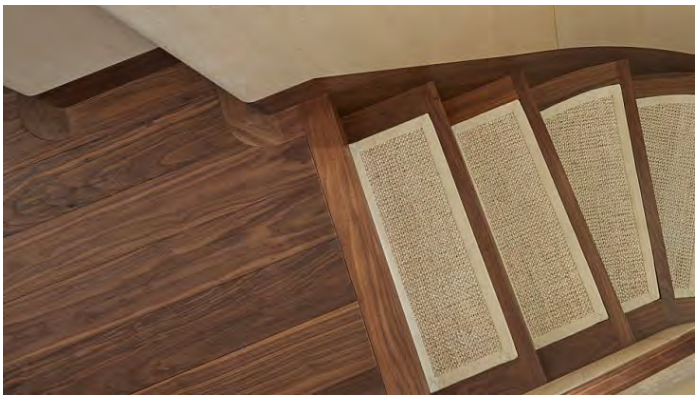
Waste water system:	Hamann HL Plus 02 system, capacity 5,200 l / 1374 USG per day

HVAC:	MAVE climate control system (305,000 BTU) with fancoils and fresh air units
Electrical system:	230/400 VAC - 50Hz, AC bus distribution for hotel consumers; 700 - 750 VDC, DC bus distribution for variable speed generators and high power consumers; Integrated shore power functionality; 50 kW Lithium battery system for peak shaving and power buffering; 2x starter battery system; Radio battery system

Navigation equipment:	Navigation system | B&G WTP 3; Radar/sea charts system | JRC/Transas; GPS/AIS | Simrad; Gyro compass | Alpha Minicourse & 1x Octans Surface; Magnetic compass | C.Plath; Navtex EGC receiver | JRC; Satcom C | Thrane & Thrane
Entertainment:	Apple-based entertainment systems
Control network:	PLC network based on TCP/IP 100 MB/s and Beckhoff CX series PLCs

PC network:	Computer network based on TCP/IP 1 GB/s and Cisco switches, wireless access points; Internet access via WiFi and/or satellite communication
Alarm system:	RH Alarm & Monitoring System; Eltek Fire alarm system; General / Abandon ship and MOB alarm system; Steward call system

Interior:	Manufactured in-house by Royal Huisman as per the design of Redman Whiteley Dixon
Wood work:	By Royal Huisman as per the specifications by Redman Whiteley Dixon; Furniture wood: bleached, oiled and waxed European oak with European walnut detailing; Furniture wood finish by Schotten & Hansen; Wooden floor by Ebony & Co.



Natural stone:	Each area features specially selected stone for the countertops and flooring by Antoni Luigi (supplier) & Lanka Marine (installer)
Upholstery:	Sofas by Dudgeon & Bray design; Navigation chairs by Soane; Carpets by Linney Cooper
Lighting:	Design by Lighting Design International; Specially selected wall and table lamps

Hardware:	Custom door handles by Turnstyle; Satin-nickel hardware finish
Specials:	Painted panels by Rima & McRae; Painted glass panels by Sterling Studios; Art piece above owner's bed by Peter Gorman Studios; Dining table, oculus and various coffee tables by Silver Lining
Refrigerating and freezing system:	Sub-Zero
Household equipment:	Appliances from Miele, Vitrifrigo and Hoshizaki

Insulation:	Synthetic foam and mineral wool insulation package against fire, ambient temperatures, noise and condensation in accordance with Classification Society requirements
Deck hardware:	Harken custom deck hardware

Hatches:	Rondal custom flush deck hatches with stainless steel gutters and borderless teak
Winches:	Rondal hydraulic reel winches & feeders; Harken hydraulic drum winches carbon fibre/black

Anchor system:	Steen hydraulic anchor winch for below the waterline “submarine type” anchor launching system; Main anchor: Manson Pool N anchor, 270 kg; Spare anchor: Manson, Pool N, 140 kg
Passerelle:	Multiplex carbon
Boarding platform:	Royal Huisman
Side gangway / dock boarding stairs:	C-Quip carbon
Tenders:	Main tender: Novurania, Chase 19, diesel 200 HP; Crew tender: Novurania, 430 TR, outboard 30 HP
Safety equipment:	4x 8 person life rafts (SOLAS); Man overboard module
Paint system:	Awlgrip paint system

Spars, masts and rigging:	Southern Spars / Carbon fiber masts, booms and bowsprit
Standing rigging:	Carbon fiber rigging system/EC6
Running rigging:	Rondal / Southern Spars
Rigging hydraulics:	Reckmann furlers integrated in bowsprit; Navtec cylinders
Reefing system:	Southern Spars carbon fiber slab reef booms; Reckmann furlers housed inside the bowsprit
Sails:	Doyle Sails, Stratis

LAST, BUT NOT LEAST

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For any questions, please contact Jurjen van ‘t Verlaat (jurjen@royalhuisman.com or +31 527 243131). Can you please send us a high-res pdf of the final article or link to the website page after publication?