

SuperYacht

i n d u s t r y

Turkey Issue

NOTABLE YARDS & DESTINATIONS

2013: Year of the Dutch?

TOP YARDS WEIGH IN

NASSIMA
MINX OF THE SEA

Rainbow

FIRST J-CLASS WITH HYBRID PROPULSION

Although today's replica built by Holland Jachtbouw (HJB) shares the original Rainbow's classic lines and racing boat pedigree, the new Rainbow has a very different character. Inside her racing boat hull, this spectacular yacht features a high-end superyacht interior and a unique hybrid propulsion and power system, all topped off by a grand prix racing deck and rig.

WORDS BY JOHN GAULDIE
PHOTOS BY HOLLAND JACHTBOUW



The legendary J-Class Rainbow, the America's Cup winner in 1934, was a rockstar of her day. The 40m yacht was built in just 100 days – an empty boat as fast and as light as technology of the day could achieve. She lived six short years in the fast lane before the J-Class fleet lost the steel and aluminium build to World War Two's arsenal manufacturers.

Turn the clock forward close to 80 years – HJB launched the replica J-Class yacht Rainbow at its yard in the Netherlands in 2012. Following Rainbow's launch,



the editors here at SYI had the chance to admire her sumptuously thirties-inspired outfittings and seamless technology at the latest Monaco Yacht Show.

While superbly suited to luxury charter, Rainbow certainly shares her previous incarnation's love for speed. Sailing under the number JH-2, she competed against Velsheda, Ranger and Lionheart only four months after her launch in the J-Class regattas last summer in Falmouth and the Solent, resulting in some very spectacular and close racing.

Fleet Revival

In the early 1930s William Starling Burgess drew the original Rainbow. For the replica Rainbow, the owner (the former owner of Windrose of Amsterdam) showed his trust in Dutch firm Dykstra Naval Architects. Gerard Dykstra has been at the forefront of the J-Class revival for 25 years. He was behind the complete refit of the resurrected Endeavour – relaunched at Royal Huisman Shipyards in the Netherlands in 1989. Dykstra Naval Architects's J-Class yachts include Shamrock V, Velsheda, >>

Builder	Holland Jachtbouw (HJB)
Hull	Bloemsma
Naval Architect	Dykstra Naval Architects
Interior Designer	Dykstra Naval Architects
Co-designer	deVos deVries



Endeavour, refit of Ranger and the new build Hanuman.

Dykstra Naval Architects and the Wolfson Unit in Southampton developed new J-Class Association (JCA) maximum performance rules to keep the J-Class fleet and races alive and to encourage new build yachts to enter the field.

The first J-Class yacht built in aluminium under the new JCA regulations was Lionheart, designed by Hoek Design and launched in 2010. Lionheart's, as well as Rainbow's, hulls were built by Bloemsma Aluminiumbouw, a Dutch yard specialised in the construction of aluminium hulls for luxury superyachts, including several of the new generation of J-Class boats.

Reflection of Sophistication

"It is such a thrill to be able to fully appreciate a design that was last seen in the open almost eighty years ago," says HJB's Commercial Director Tako van Ineveld. "This 'new' Rainbow took us over two years to build while her predecessor was completed in just one hundred days. This does not mean we are slower... It is

All modern functional requirements have been integrated with full respect for Rainbow's heritage, while the decks have been kept as clean and flush as possible featuring only a mahogany doghouse and skylight.



Revival Continues

One of the legendary J-Class architects of the 1930s, Frank C. Paine drew blueprints for a never completed vessel. His experiences in designing the 1930 J-Class Yankee had been poured into this new project, but it never saw the light of day. Nearly a century later, his vision is finally becoming reality. HJB is building the J-Class project, J8, following Hoek Design's plans based on the original drawings.

Mr Van Ineveld noted: "Having worked with Gerry Dijkstra on Rainbow, it is an honour for us as a yard to now partner with the other great J-Class designer of the modern era. It will also be an incredible moment in maritime history when J8 is launched." J8 is set for launch in 2014.



a reflection of the incredible degree of sophistication that is now contained within these timeless lines. The original Rainbow was an empty boat with a deck of sailing gear and a powerful aluminium rig. This Rainbow is a different proposition altogether."

With the latest computer modelling, Mr Dijkstra and his team optimised Rainbow's performance with a lightweight construction and a high degree of overall stiffness. The rig includes a Southern Spars high-modulus carbon mast, boom and spinnaker pole, continuous carbon fibre rigging, North Sails 3Di racing sails and Lewmar high-speed hydraulic winches. All are entirely customised to Rainbow's specific requirements and, like everything metallic on deck, anodised to create a light grey look.

Mahogany Doghouse

All the new generation of Js need to have a fully functioning interior under JCA rules, and Rainbow's owner spared no expense when it comes to premium equipment, including full air conditioning, and a luxurious

interior designed by deVosdeVries and exquisitely constructed by Ruitter Quality Interiors from front to back. She was built to Lloyds Register and MCA classification so that the owner could use her for racing and chartering.

In terms of styling, Rainbow's interior features raised and fielded mahogany panelling with art deco details. The owner's stateroom is aft and there are two ensuite twin guest cabins, each with a Pullman berth.

In addition to offering accommodation to up to eight guests, Rainbow will have a permanent crew of seven led by Captain Nick Haley who has previously skippered two other members of the Holland Jachtbouw fleet, namely Windrose of Amsterdam and Athos.

All modern functional requirements have been integrated with full respect for Rainbow's heritage, while the decks have been kept as clean and flush as possible featuring only a mahogany doghouse and skylight. The latter offers a quite spectacular contrast with the superb jet black-coloured hull and gold leaf cove stripe. "We believe that Rainbow is the most beautiful J on the water >>

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The innovative propulsion dramatically reduces Rainbow's ecological footprint.



today," says Mr Van Ineveld. "But more importantly, she is built to win races!"

Hushed Sailing

The original Rainbow did not have an engine room so there was not a great deal of space to accommodate one within the lines plan. HJB's Technical Director Arjen Zijlmans says the solution, developed in partnership with WhisperPower, was to create an ingenious hybrid propulsion and power system especially for this project. The system generates a huge amount of power under batteries alone, enabling the Rainbow to cruise silently and race for a day without running a generator. The system makes her the first full hybrid pleasure sailing yacht of its kind.

Mr Zijlmans: "I am proud to be the first superyacht builder launching a full hybrid propulsion and auxiliary power system, which is really engineered as a total system and not a combination of components supplied by various companies."

As a result, Rainbow can be operated entirely on her Hy-Store Li-ion batteries, including sailing, navigation and hotel load. This also meets the owner's request for silent periods onboard, without generators running, from 11 pm to 7 am. And that in >>



SPECS

Principal Particulars

Length o.a.	40 m
Length waterline	27.10 m
Beam	6.37 m
Draught	4.80 m
Displacement	175 t
Hull	Aluminium
Superstructure	Mahogany
Spars	Carbon
Class	LRS
Rig Type	Sloop
Upwind	950 m ²
Running	1,500 m ²

turn promises much for those who enjoy cruising and, potentially, chartering Rainbow.

This hybrid solution replaces the conventional main engine and two generator configuration found on other Js, which have a larger engine room than the comparatively lighter Rainbow. The main engine replaces the second generator, while the remaining generator is a variable speed electric unit. The main engine generator can also act as an electric motor running the propeller. This solution is smaller in size and saves on fuel. The batteries can be charged while sailing without losing more than 1.5 knots of speed.

The innovative propulsion dramatically reduces

Rainbow's ecological footprint, with 30 percent less fuel required to generate the hotel load, and a similar reduction in the maintenance costs for the power plant in hotel load. There is also a substantial reduction in audible noise levels both inside the yacht and out.

Martijn Favot, CTO of WhisperPower and leader of the Hybrid project: "Together with a team of high end specialists we worked two years to complete the components of the system. The permanent magnet alternators and other system components have been in-house designed and outsourced to leading Dutch and German co-makers."

www.rainbow-jh2.com



WhisperPower's 50kW Genverter offers a new way of generating power – a variable-speed, ultra-compact and lightweight diesel generator (cont. power 50 kW/ 1200-3600 rpm/ fly wheel integrated AC alternator, based on Steyr 4 cyl engine).