

Shipyard De Hoop delivers second expedition cruise vessel within two years

With the delivery of *Celebrity Flora* in 2019, Shipyard De Hoop was the first shipyard in The Netherlands, since Prinsendam from the Merwede shipyard in 1973, to once again deliver a cruise ship. Intended for cruising the Galápagos Islands, this small cruise ship formulae turned out to be such a big success that soon the Royal Caribbean Group / Celebrity Cruises took an option for a second ship. However, after the takeover of Silversea Cruises by Royal Caribbean (becoming the majority stockholder with almost 67%), the option was handed over to Silversea.

This vessel, to be named *Silver Origin*, was launched on the 30th of December 2019. After recent completion of successful sea trials, the innovative expedition cruise vessel, tailored in design and build to provide high-end luxury cruising in the Galápagos area, has been delivered to Silversea Cruises on the 3rd of June in the Rotterdam harbour area.

The management at De Hoop are certain that more than a decade of participating in smaller seagoing cruise vessel projects, with the associated design development and investment in knowledge, has now paid off. De Hoop's CEO, Patrick Janssens, states that this was the ideal basis for entering the growing market of expedition cruise vessels - their designers were fully prepared when the Galápagos Islands cruises challenge arose. Furthermore, with many Dutch suppliers and subcontractors on the client-approved 'makerslist', this project presented a great opportunity for the Dutch shipbuilding industry as a whole.

Redefining luxury cruises in the Galápagos

Silver Origin is based around 5 pillars: Sustainability, Destination Onboard, Expedition Experience, Authentic Culture and Comfort & Service.

Pillar 1: Sustainability – Protecting the Galápagos, today and tomorrow.

Being aware of the impact of traveling on the planet, *Silver Origin* has the lowest possible carbon footprint. Including state-of-the-art technology, a dynamic positioning system that protects the delicate seabed and an advanced propulsion system is introduced in her design. All suites feature a fresh water purification system that will significantly reduce plastic bottle usage.

Pillar 2: Destination onboard – The passengers' destination begins on board.

No matter where you are on board, you will feel like the Galápagos is right there with you. The ship features 24-hour sweeping views over the Galápagos, thanks to large floor-to-ceiling windows that extend throughout the ship, whilst the Observation & Stargazing Platform offers uninterrupted views.

Pillar 3: Expedition experience – Becoming an expedition expert

All the Silversea guides - more per guest than any other ship – will not only be experts in their field, but also certified by the National Park of the Galápagos. For the same reason, Basecamp, an outdoor explorer lounge in the aft ship, was introduced. Being an innovative "knowledge lounge", Basecamp features materials and tools that provide a wealth of inside knowledge of the cruise environment.

Opening out directly onto the Marina, Basecamp gives easy access to the Zodiac deck with the rigid inflatable boats providing the most personalized on-shore experience possible.

Pillar 4: Authentic local culture - Authenticity is everything

To experience the local customs and cuisine, *Silver Origin* will only provide the most authentic culinary experience possible. In the galley, only truly authentic Ecuadorian recipes will be prepared, using the freshest local ingredients, accompanied by the best regional wine. Furthermore, live gourmet preparation sessions and seminars will be given, to experience how to create and recreate all the flavors Ecuador and the Galápagos have to offer.

Pillar 5: Comfort and service – The luxury you expect, the service you deserve

Silver Origin's crew will host the unparalleled luxury and industry leading personalized service that Silversea is famous for. On top of that, *Silver Origin* is the only ship in the entire Galápagos region to offer butler service in every suite, making the stay on board as enjoyable as the visit to the islands themselves.

Observed from a more technical perspective

Designed and Lloyd's Register classed for worldwide service, *Silver Origin* is built according the latest probabilistic damage stability regulations and therefore complies with the relevant Rules and Regulations for 2020. This is supplemented with the client's constraint to comply with a two-compartment damage stability regulation. Moreover, along with compliance with future international rules and regulations, the vessel also commits to specific Galápagos National Park Directorate Regulations, whereby specific environmentally low-impact features were applied.

As this vessel is expected to be stationary - in a bay or near one of the islands - for 66% of the operational time, considerable thought went into the design and selection of equipment, allowing the ship to perform efficiently under DP (Dynamic Positioning). Combined with a zero-speed stabiliser system, the DP system will choose a heading to minimise the roll and heave motions on the vessel, significantly improving passenger comfort. To achieve a high level of redundancy and to meet the Class requirements (PSMR* and DP1 / DP-AM notation), the power and propulsion plant of *Silver Origin* is duplicated and housed in two separate engine rooms.

Reduced environmental footprint as a result of energy efficiency

The power supply for two rudder propellers, two bow thrusters and other consumers, is supplied by four caterpillar C32 diesel generator sets of 994kW each. The emergency diesel generator is a Scania of 339ekW. The diesel engines are equipped with an SCR (Selective Catalytic Reduction) installation, whereby the emission of nitrogen oxide (NOx) is greatly reduced. The rudder propellers, type 20 CRP of 1450kW each, were supplied by Steerprop from Finland, while the 400kW bow thrusters are provided by Veth from the Netherlands. With this configuration, a 12-knot cruising speed can easily be achieved and a high-maneuvrability is guaranteed.

The introduction of this advanced propulsion system, the hull configuration (improved with CFD calculations) and the specially developed diesel engine arrangement, guarantee an average 25% reduction in hull resistance, 15% reduction in fuel consumption and equivalently fewer exhaust

emissions. These characteristics make this cruise ship one of the most energy-efficient ships in its class, in addition to being IMO Tier III compliant. One glance at the ship's profile reveals the flared bow with an integrated bulb. This bulbous bow both reduces resistance in waves when in transit and saves energy when staying in position, similarly due to the higher efficiency of the bow thruster. The exterior design of this vessel was successfully boosted by the works of Dutch yacht designer Cor D. Rover who worked in close cooperation with De Hoop and Silversea to combine the efficient hull lines with a truly special and highly functional exterior design. The top deck design, especially, now adds a destination to the journey.

To further reduce the environmental footprint, the cruise ship accommodates an enhanced sewage plant to improve the quality and reduce the amount of wastewater. An improved HVAC system and improved thermal insulation, as a result of energy-efficient low-emissive glazing, leads to 50% less energy consumption. It almost speaks for itself that the HVAC equipment, installed by Heinen & Hopman, is capable of handling the challenging environmental parameters, warmer seawater and higher outside air temperatures of the Galápagos. In the electric system, many more energy-saving measures have been taken. All electronics were successfully integrated and installed by Droste Electro, following a multi-year subcontractor relationship with the yard.

Truly built around the passengers' experiences

Aside from its state-of-the-art design and use of eco-friendly technology, the vessel will feature the largest and most luxurious accommodations in the Galápagos region. The raw materials for carpentry, upholstery, finishing and decorations of all eight accommodation decks consist of sustainable, natural, regionally inspired materials. With 51 staterooms divided over decks five and six and a capacity to host a total of 102 passengers, *Silver Origin* transports its guests in spacious all-suite cabins, featuring generous bathrooms and connected to the outside world through outward-facing layouts and integrated balconies. The Owner's suite, Grand suite and Royal suite - the largest in the Galápagos – feature separate indoor and outdoor living areas, whilst all other suites have large, private veranda/balcony arrangements. All of the vessel's luxurious cabins feature full room automation that allows you control everything with just the touch of a button. Designed by Giacomo Mortola and build to the highest standards by MJM from Ireland, *Silver Origin's* all-suite accommodation has been conceived with the unicity of the islands in mind.

Also accommodated onboard, divided over 53 cabins, are the 87 crewmembers and personal suite attendants, to attend to the guests' every need. These crew accommodations were built by the carpenters of De Hoop themselves.

Characteristic for this vessel is the large variety of public areas, to be found on decks 3, 4, 7 and 8. A choice of seven different seating locations includes a floor to ceiling glass-wrapped observation lounge and the open-air hideaway on the forward respectively mid and aft part of deck seven. Guests can relax or enjoy naturalist presentations and excursion information sessions in the Explorer lounges, (one outdoors and one indoors), to the stern of deck four. On deck three, the outdoors and indoors Basecamps are home to the tourist offices and there is also a Stargazing Platform on deck eight. Breakfast, lunch and dinner are served in the restaurant on deck four, while the Barbecue bar area, aft of the Observation lounge on deck seven, offers a more casual dining space, panoramic views and dinner under the stars.

The Marina, the embarkation area located aft on deck three, is the primary point of access to the ship and guests will be brought on-board over water, in one of the available Rigid Inflatable Boats (RIBs). *Silver Origin*'s transom features integrated aft stairs, combined with a foldout stern platform with special boarding facilities, to allow safe and easy boarding for the passengers.

Behind the scenes, the dry/cold/freeze stores, galleys, pantries and eateries, up to and including the scullery and the waste/sewage management, are unique in their layout - allowing seamless service in the restaurants. On deck 2 and 3, a RIB garage with hydraulic hull doors, hatches and dedicated cranes is provided for storage of the tenders. To allow for swift and unseen provisioning logistics by the crew, to starboard side - near the dry, cool and freeze stores in the fore ship - a loading bay is provided for provisioning as well as luggage handling. This unique RIB handling, in combination with the dedicated stern boarding facilities for passengers, is the money-maker of this design.

Shipyard De Hoop has put a lot of effort into minimizing noise and vibrations, the result of which can be seen in floating floors, flexibly mounted equipment and anti-vibration panels in walls and ceilings. The practical implementation of this was supported by theoretical frequency analysis of the ship and its interior construction. With Comfort Class 1 notation achieved (the highest possible Class notation), quiet and comfortable passenger areas are assured. In addition, thorough wind tunnel tests on the vessel's superstructure shape ensure passengers on deck will not be subjected to exhaust gasses.

Built with true dedication - defying the odds

In the first months of 2020, the Corona / Covid-19 virus rapidly developed into a worldwide pandemic. Many countries (and companies) went into lock-down, governments introduced strong measures and just around this time the *Silver Origin* was being prepared for departure to the Rotterdam harbour area. For passing the bridges in the Rhine River, the top deck modules were removed. These would be refitted in Rotterdam, where the final stages, including sea trials and final finishing, were planned to take place.

With rapidly implemented (stringent) virus protection procedures, the transport commenced and the build continued. Delays of materials and equipment (being stuck in warehouses all over the world), unavailability of technical services and other side effects started to interfere with the build planning. Nevertheless, the yard, her suppliers and subcontractors continued to find solutions for the issues which popped up.

Despite limitations on workforce, other limitations and severe side effects, the overall delay on the vessel's readiness remained less than 6 weeks. During the sea trials, the DP tuning was done by IT specialists from Navis of St. Peterburg, who logged on to the ship and with this performed the first remote DP tuning ever.

Principal particulars

Length, over all	: 110.01m
Length, waterline	: 101.50m
Length, between perpendiculars	: 97.72m
Beam, over all	: 18.92m
Beam, moulded	: 17.00m
Depth, moulded (maindeck)	: 6.50m
Draught, design	: 4.50m
Propulsion power	: 2x 1450kW
Bow thruster power	: 2x 400kW
Speed, max	: 15.0kn
Passengers	: 102 persons in 51 suites (in 6 different varieties)
Crew & Personal suite attendants	: 87 persons in 55 cabins

Tank capacities

Fuel oil (MDO)	210 cu.m
Fresh water	160 cu.m
Sewage grey	153 cu.m
Sewage black	45 cu.m
Treated water holding	142 cu.m
Urea	16 cu.m
Water ballast	530 cu.m

Classification

Lloyd Register of Shipping

- ✕100A1, Passenger Ship, *IWS, Shipright (ACS B)
- ECO (BWT, IHM, OW, P, SEEMP),
- ✕LMC, UMS, DP(AM), NAV1, PCAC 1 - 3, PSMR*, BWTS*

About SILVERSEA CRUISES

Since its inception in the early 90s, Silversea Cruises has been recognised as the gold standard in luxury cruising, acclaimed both for its legendary European lifestyle and global reach of destinations. With the debut of luxury cruise ship Silver Explorer in 2008, Silversea introduced expedition cruising — Silversea style, adding yet another unique niche in the luxury cruise market. Along with both polar extremes, Silversea’s expedition ships sail to the islands of Oceania, Southeast Asia, the Russian Far East, Australia’s remote Kimberley Coast, Central and South America (including the Galápagos Islands) and the exotic western coast of Africa.

2018 saw the exciting partnership with Royal Caribbean, with RCL acquiring two-thirds of Silversea. The strength and expertise of Royal Caribbean’s portfolio, coupled with Silversea’s strive for excellence aboard, means superlative sailing for guests, across all four corners of the globe. Today, Silversea Cruises operate a global portfolio of itineraries to all seven continents and over 900 destinations worldwide. The cruise line’s headquarters are based in Monaco and the company maintains branch offices in the United States, United Kingdom, Germany and Australia.

About SHIPYARD DE HOOP

Shipyard De Hoop is a successful Dutch designer, engineer and builder of custom-built vessels. Each and every ship that is built is unique and built in-house, which means no standard processes, but customisation. De Hoop has a positive approach to trends and developments in the industry, allowing them to quickly embrace change and even anticipate future developments.

Shipyard De Hoop is a medium-sized shipyard headquartered in Lobith, in the east of the country, with a workforce of 250 to 500 people depending on the workload. The yard offers slipway facilities for vessels up to 200 metres length and has a combined quay length of 450 metres locally and a further 200m in the Rotterdam harbour area available for outfitting.

Shipyard De Hoop has an impressive track record in designing and constructing custom-built ships. This comprises both seagoing vessels and inland vessels, including river cruise vessels and passenger vessels, as well as high-end work and accommodation vessels for the offshore industry and renewables markets. Having their own design and engineering department, together with all other disciplines (not only hull building, but also prefabrication, carpentry/interior manufacturing, installation facilities, piping, etc.) allows them to build a complete ‘turn-key’ ship. The company is characterised by its flexibility and quality, whilst simultaneously offering fast delivery dates.

Shipyard De Hoop has celebrated its 130th anniversary with the turn of the year from 2018 to 2019.

For further information or photographs, please contact:

Shipyard De Hoop

Jim Holthausen - Marketing

E marketing@dehoop.net

T + 31 (0)6 30949729

W www.dehoop.net

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