

SUN PRINCESS – Largest cruise ship built in Italy



Shipbuilder:..... **Fincantieri S.p.A**
 – **Monfalcone Shipyard**
 Designer:..... **Fincantieri S.p.A**
 – **Merchant Ship Business Unit**
 Vessel's name:..... **Sun Princess**
 Owner/Operator:..... **Princess Cruise Lines**
 Country:..... **US**
 Flag:..... **Bermuda**
 Total number of sister ships
 already completed:..... **0**
 Total number of sister ships
 still on order:..... **1 (to be delivered
 in September 2025)**
 Contract date:..... **March 2019**
 Delivery date:..... **February 2024**

Sun Princess is the largest cruise ship ever built in Italy, measuring 345m in length and with a gross tonnage of 177,882gt. It is the first cruise ship built by the Italian shipbuilder and the first commissioned by Princess Cruises to be powered not only by conventional marine gas oil (MGO) but also by liquefied natural gas (LNG).

As such, the design features several new systems compared to the previous vessels. These include: five Wärtsilä dual-fuel engines; two dual-fuel boilers; two cryogenic tanks, each containing 2,000m³ of LNG; an LNG re-gasification and distribution system; and two boil-off gas compressors. The latter, specifically, are designed to recover the gas naturally generated within the LNG tanks and employ it in the dual-fuel boilers, minimising natural gas waste.

The vessel is also equipped with an air lubrication system, designed to create a curtain of bubbles below the hull and thus reduce the hull's hydrodynamic resistance, plus a cold-ironing system, to connect to shore power and avoid the use of its engines when quayside, for emission-free port visits.

Sun Princess is the first of the Sphere class, referring to the dominant presence of two large glass spheres on board. The first, placed around amidships and spanning eight decks in height – the first three of which encompass the entire main atrium, known as 'The Piazza' – allows vast amounts of natural light to enter this area. The second sphere, placed on deck 17 and developed over two decks in

height, is known as 'The Dome' and can be viewed as a modern reinterpretation of the more traditional covered pool area.

TECHNICAL PARTICULARS

Length, oa 345.28m
 Length, bp 316.11m
 Breadth, moulded 42.47m
 Depth, moulded 12.1m
 Gross tonnage 177,882
 Displacement 89,448.2tonnes
 (at design draught)
 Design, draught 8.6m
 Design, deadweight 12,200tonnes
 Lightweight 74,415tonnes
 Deck space (total) approx. 47,000m²
 of public areas
 Service speed 18.3knots@53% MCR
 Max speed 22.6knots@100% MCR
 Range 3,900nm with LNG

Propulsion
 Main engine(s):
 Number of engines 5
 (2 x 14V, 2 x 12V, 1 x 8L)
 Make Wärtsilä
 Model 46DF
 Output of each engine 16,030kW (14V),
 13,740kW (12V),
 9,160kW (8L)

Propeller(s):
 Number of propellers 2
 Make ABB
 Diameter 6m
 Material Ni-Al-Bronze
 Number of blades 6
 Speed 133rpm (nominal);
 150rpm (max)
 Fixed/controllable pitch Fixed
 Open/nozzled Open
 Special adaptations POD-mounted

Deck Machinery
 Crane/Davit(s):
 Number of cranes 18 stored power
 hinged davits (10 for
 lifeboats + 6 for tender/
 lifeboats + 2 for fast rescue craft)
 Make Navalimpianti
 Capacities/SWL 510kN (for lifeboats);
 460kN (for tender/lifeboats);
 25kN (for fast rescue craft)

Winch(es):
 Number of winches 2 x combined
 anchor windlass/winches
 + 8 mooring winches (3 fwd + 5 aft)
 Make NOV-BLM
 Capacities 430kN

Roller(s):
 Number of rollers 53 (19 pedestal
 guide rollers + 26 Turner-type
 multi-roller fairleads + 8 external rollers)
 Make Techmarine
 Capacities 1,930kN (SWL)

Bridge electronics:
 Radar(s) 2 Wärtsilä 14ft S-band radars
 + 2 Wärtsilä 8ft X-band radars
 + 2 Wärtsilä 5ft X-band radars
 Autopilot Wärtsilä NACOS Multipilot
 GMDSS Sailor Inmarsat Mini-C
 GPS SAAB R5 Supreme
 Gyro Anschütz Standard 22NX System
 Chart plotter Wärtsilä
 ECDISPILOT Platinum

Engine monitoring
 system Managed directly
 via the Wärtsilä Integrated Ship
 Fire detection system Martec
 Fire Detection System

Onboard capacities:
 MGO 2,839.6m³
 Fresh water 4,222m³
 Sullage 4,407.4m³
 Ballast water 5,951.4m³
 LNG 4,004m³

Complement:
 Number of crew 1,549
 Number of passengers 4,322 (lower berths)
 5,451 (maximum based
 on LSA capacity and max. crew)
 Number of cabins 3,003
 (2,157 pax + 846 crew)

Other significant or special
 items of equipment:
 - Silverstream air lubrication system

Classification
 Classification society Lloyd's Register

Other important international
 regulations complied with ADA 2010

