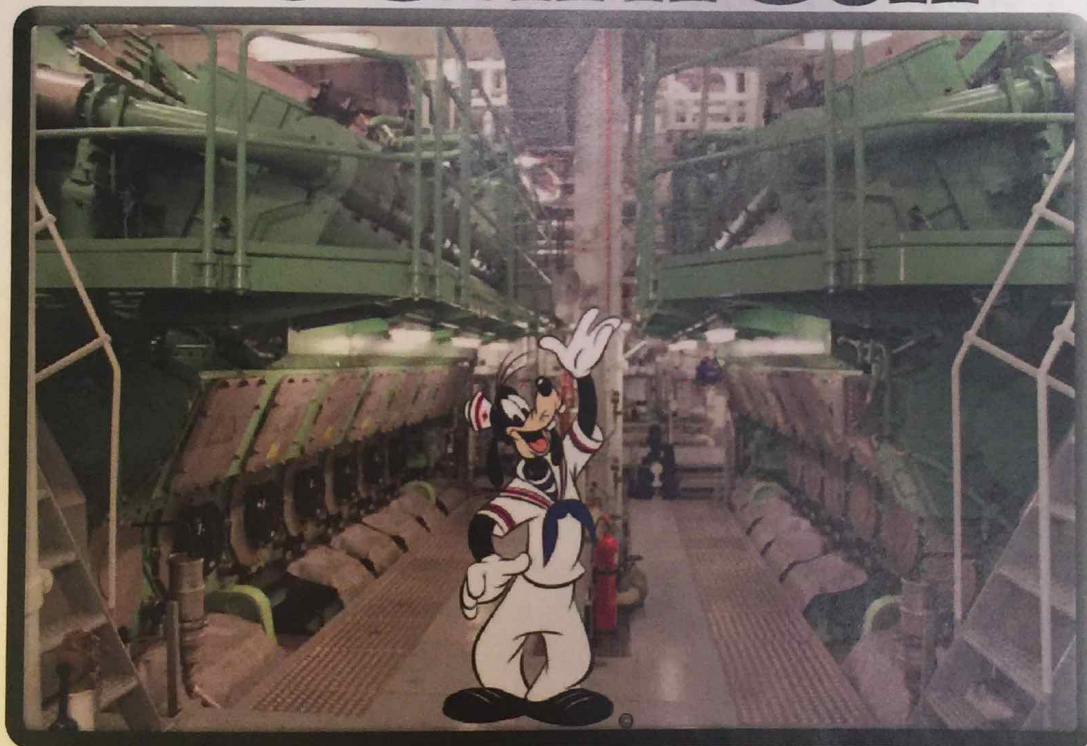


Disney
DREAM

Engineering
Department

Technical



Information

Diesel Generator Engines

The Disney Dream is fitted with five MAN Diesel SE Type V48/60CR Engines, 3 x 12 cylinder engines in the Forward Engine Room and 2 x 14 cylinder engines in the Aft Engine Room. Each engine is turbo-charged, intercooled and connected to a Converteam Alternator and rated as follows:



Maximum Continuous Rating:

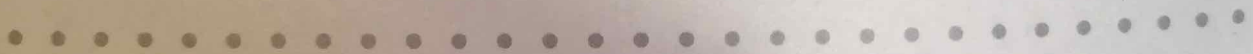
V12	14,400kW or 144 Average Compact Car Engines
V14	16,800kW or 168 Average Compact Car Engines

Speed: 514 rpm

Cylinder Mean Effective Pressure: 25.8 bar

Specific Fuel Consumption:

@100% Load	176g/kWh
@85% Load	173g/kWh



Diesel Generator Engine Accessories

Each Engine is fitted with a single MAN turbo-charger on the free end of the engine as well as two, two-stage intercoolers, one for each bank of cylinders. Governing is by MAN's own electronic system controlling the common rail fuel injection system.



Main Generator Sets

The Five Converteam Alternators are fitted to each of the five MAN Engines. Each is a three phase synchronous type sized for continuous duty and incorporates solid state Automatic Voltage Regulation. All produce 11kV at 60Hz with a power factor of 0.8 and are rated as follows:

Forward Engine Room: 3 x 17,550kVA

Aft Engine Room: 2 x 20,475kVA

Transformers and Converters

From the two main switchboards an 11kV ring main system is fitted which supplies a total of eight Ring Main Units, RMU's, two feeding two transformers and six feeding single ones, each being rated at 1250A.

Also fed from the main switchboards are the four propulsion transformers of the oil filled type, two for each main motor of 1340kVA nominal power.

The synchrodrive is an indirect AC converter system consisting of a controlled input rectifying bridge arrangement that supplies a DC link inductance onto the connected synchronous motor windings. The rated power is up to 11mW at a voltage of 2850V.



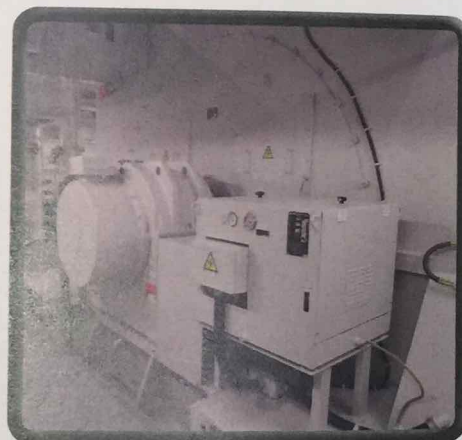


Propulsion Motors

The two main Converteam propulsion motors are of the synchronous, rotating field type sized for continuous duty of 21mW at 135 rpm. They are wound with two independent sets of coils, each fed from its own converter allowing half motor operation of each unit at 55% normal torque with each motor being fed from its own switchboard and Aft Engine Room.

Propulsion Motor Accessories

Each motor is fitted with two Renk sleeve type self lubricated bearings with two jacking pumps per bearing. Space heaters are fitted as well as coolers supplied from the Fresh Water Cooling LT System for Propulsion providing cool air supply via internal fans. All auxiliaries are controlled and monitored via the propulsion control system.



Exhaust Gas Economizers

Each engine uptake is fitted with a Saacke smoke tube Exhaust Gas Economizer, type EME-VST which also acts as a silencer. The two EGE's for the Aft Engine Room have a capacity of 3900kg/h and the three for the Forward Engine Room have a capacity of 3400kg/h. All the EGE's use their corresponding oil fired boiler as a steam separator device.



Oil Fired Boilers

Two Saacke FMB-VM oil fired boilers are fitted, one in each engine room, each with a capacity of 12t/h and a working pressure of 8bar. Each boiler is normally connected to the EGE's within that engine room however cross connection of the EGE's to the alternative boiler is possible.

Fresh Water Generators

The vessel is fitted with two Serck Como MSF 700-8 evaporators, located in each engine room and capable of producing 700 tons of water per day, and two Salt Separation Services reverse osmosis plants, capable of producing 450 tons of water per day.

The evaporator's primary heat source is the High Temperature cooling water system of the relevant engine room with steam being used to subsidise the required heat if insufficient cooling water energy is being produced.



Emergency Diesel Generator Engine

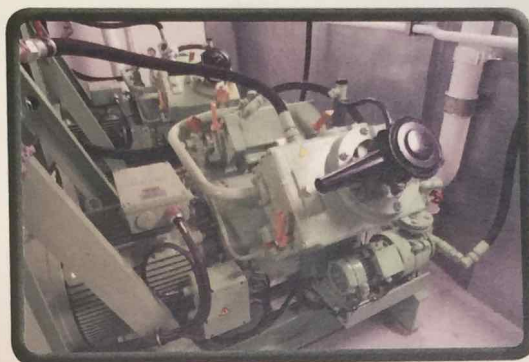
The Lindberg-Anlagen MTU V16 4000 P81 Emergency Diesel Generator is located at the aft end of Deck Four and is arranged to start automatically on loss of power to the Emergency Switchboard and runs on Marine Diesel Oil.

The set is rated at 2mW/2500kVA and has its own self contained cooling system contained within the package.



Starting Air Compressors

The main starting air compressors are manufactured by Sauer, model WP-240, 46kW, 1770 rpm, and are rated at 220 m³/h 30 bar. A third compressor is also installed in the Forward Engine Room to supply air for the main engine 'Jet Assist' starting system.



Lubricating Oil & Fuel Oil Purifiers

Each main engine has its own Lubricating Oil Purifier by Alfa Laval of type SU-846 rated at 5000l/h for SAE 40 grade oil.

The Forward Engine Room and the Aft Engine Room both have their own fuel oil purifier system consisting of a package of two Alfa Laval S 876 purifiers, rated at 8950l/h.



Bilge Water Separators

Bilge water is processed via two Alfa Laval bilge water centrifugal separator packages type BWPX-307TGD-71 of 2.5m³/h capacity.



Thrusters

The vessel is equipped with three bow and two stern thrusters by Wartsila-Lips, type CT300H. The thruster units are fitted with a controllable pitch propeller, which rotate at 890rpm and are rated at 3000kW. So each one is equivalent to the power of 30 compact cars.



Steering Gear and Rudders

The two steering gear and rudder units are fitted as a package by Rolls-Royce AB. The steering gear units are a rotary vane type RV2600-3 working at 80 bar and generating 2409 kNm of torque on the stock. The steering gears are connected via a 620mm diameter stock to the rudders, which are of a high lift design with an active tail flap.

Stabilizers

The retractable fin stabilizer units are manufactured by Blohm + Voss GmbH, type S800, and are of 18m² surface area giving an 85% reduction in roll at 20kts.



Air Conditioning Plant

The Air Conditioning system incorporates four main chillers manufactured by Carrier Transicold of 5100kW capacity generating the chilled water for the primary circuit, which in turn generates Primary Cold Air.

This system is then supported by the Fan Coil system which is an additional and separate Chilled Water system powered from two Carrier Transicold chillers of 2500kW capacity.



Ship's Name: Disney Dream

Flag: Bahamas

Builder: Meyer-Werft, Papenburg, Germany
Hull 687

Date Keel Laid: August 2009

Delivered: December 2010

Bulbous Bow

Fin Stabilizers: One Pair

Length Overall: 339.8 m (1114.7 ft.)

Breadth: 37.0 m (121.4 ft.) Max Breadth
41.8 m (137 ft.) Bridge Wings

Draft: Load Line 8.6 m (28.2 ft.)

Gross Tonnage: 129,690

Deadweight: 12,915 tons

Net Tonnage: 104,345

Displacement: 65,298 tons

Anchor Chain: 1 Shackle = 27.5 m / 90.2 ft. / 15 Fathom

Port: 13 Shackles

Starboard: 14 Shackles

