I'm not a robot

Costa Cruises has officially taken delivery of Costa Firenze. The new ship is inspired by the Florentine Renaissance and was built and designed at the Fincantieri Marghera shipyard. Costa Cruises' new ship Costa Firenze is inspired by the Florentine Renaissance at its height, and embodies the taste for beauty, finding its exaltation in the city of Florence. Costa Firenze's interior design is a celebration of the Tuscan city, cradle of Renaissance art and culture. The common spaces reflect the harmony of a stroll through a Florentine street or square, even in the choice of colors. The charming atrium of the ship "Piazza della Signoria", for example honors the Florentine square. The colors, patterns and shapes of the interior design evoke those of the architecture of the Florentine Renaissance, as seen in the Palazzo Vecchio Restaurant or the Medici Restaurant. Costa Firenze offers a total of 13 bars and seven restaurants. Costa Firenze represents a perfect vacation, especially for families. Many new areas are dedicated to children and teenagers so they can enjoy unforgettable experiences with their parents. An example is 'La Laguna Water Park', a real water park with 3 slides and a pool with water games for the little ones. The 'Rope Garden Adventure Park' – an adventure park suspended over the sea – is guaranteed to bring loads of fun for teenagers. They will also enjoy the 'Teen Playground' with 'Foot Billiard', a billiard table to play with your feet, and the five-a-side football field. Not only families will find Costa Firenze a truly unique ship. Many offers are designed for couples, especially for foodies. On board, guests can choose from a wide selection of restaurants that satisfy the most demanding palates, such as La Fiorentina Steak House .Here guests can taste the famous Florentine steak. The Palazzo Vecchio and Dei Medici restaurants offer menus dedicated to Mediterranean cuisine. The Frutti di Mare restaurant and the Seafood Shack offer special seafood snacks to enjoy outdoors. Those who prefer to experience more exotic tastes can try Teppanyaki, Dim Sum or Hot Pot restaurants. For lunch or dinner with the family guests can choose between the Pizzeria, the Burger Bar an the Lanai BBQ – an open-air barbecue. For a quick but tasty break there's the Gelateria, with authentic Italian ice cream made on board every day. Costa Firenze also offers many spaces for intimate moments, such as a couple's happy hour at sunset at the Aperol Spritz Bar in the Rose Garden. This large open-air balcony features swing chairs and soft lighting creating a romantic atmosphere in the middle of the sea. The 9 bars on board offer a truly quality choice, thanks to partnerships with prestigious Italian brands. In addition to the Aperol Spritz Bar, guests will enjoy the brand-new Frescobaldi Wine Experience, where they can enjoy a truly unique wine tasting experience. While custom build for the Asian market, Costa Firenze will spend 2021 exploring the Mediterranean offering two different 8-day and 7-night itineraries in the Western Mediterranean. The first itinerary, available from February 28, 2021, includes three magnificent Italian destinations: Genoa, La Spezia, from which excursions also depart to visit Florence and admire its artistic beauty that inspired the ship, and Naples. Then, the ship cruises to Valencia, a city of arts and science characterized by futuristic structures and beautiful beaches, and Barcelona, a city of art known for its unique and symbolic buildings designed by Antoni Gaudí. The itinerary continues towards the south of France to stop in Marseille, another pearl of the Mediterranean, and then return to Genoa. The second itinerary, available from May to October 2021, stops in Genoa, Civitavecchia, from which excursions depart to visit Rome, and Naples. The navigation then continues towards the coasts of Spain, with calls at the vibrant island of Ibiza and Barcelona, to visit its artistic and architectural beauties. The last stop before returning to Italy is Marseille. Following her maiden season in Europe, the ship will sail towards China to sail the Eastern seas. With 135,500 gross tonnage and a capacity of more than 5,200 guests, Costa Firenze is part of the development plan that includes seven new ships to be delivered for the Costa Group by 2023, for a total investment of more than €6 billion. Costa Firenze is the fourth of these new ships to be delivered with three more to come. Of the 14 ships currently operating in the Costa Cruises fleet, 11 were built by Fincantieri. Gross Registered Tonnage Guest Capacity (Lower Berths) Ship Gallery View Sailings Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Kefalonitis94 license: CC BY-SA 4.0 Costa Firenze current position is as follows: 25.65859 N / -113.66393 W during the course of a journey to MXLCB>MXESE Her current 6 days cruise started on 20 Dec, 2024 and is to end on 26 Dec, 2024 Current Cruise Itinerary Date Destination 20 Dec 16:00 Los Angeles 22 Dec 10:00 - 23 Dec 16:00 Cabo San Lucas 25 Dec 08:00 - 17:00 Ensenada 26 Dec 08:00 Los Angeles Built at Fincantieri's Marghera shipyard, Costa Firenze is the second ship of Costa Asia, Costa Crociere's brand. At a length of 323 meters and measuring 135,500 gross tons can entertain more than 5,200 guests. SI derived unit of power This article is about the unit of power. For other uses, see Watt (disambiguation). "KW" redirects here. For other uses, see KW (disambiguation). "Joules per second" redirects here. For the unit of angular momentum, see Joule-second. "MWT" redirects here. For the former Australian theatre company, see Melbourne Workers Theatre. wattA 420-watt power supplyGeneral informationUnit systemSIUnit ofpowerSymbolWNamed afterJames WattConversions 1 W in ..... is equal to ... SI base units 1 kg·m2·s−3 CGS units 107 erg·s−1 English Engineering Units 0.7375621 ft·lbf/s = 0.001341022 hp Electromagnetism Electricity Magnetism Optics History Computational Textbooks Phenomena Electrostatics Charge density Conductor Coulomb law Electret Electric charge Electric dipole Electric field Electric flux Electric potential Electrostatic discharge Electrostatic induction Gauss's law Insulator Permittivity Polarization Potential energy Static electricity Triboelectricity Magnetostatics Ampère's law Biot–Savart law Gauss's law for magnetism Magnetic dipole Magnetic field Magnetic flux Magnetic scalar potential Magnetic vector potential Magnetization Permeability Right-hand rule Electrodynamics Bremsstrahlung Cyclotron radiation Displacement current Eddy current Electromagnetic field Electromagnetic induction Electromagnetic pulse Electromagnetic radiation Faraday's law Jefimenko equations Larmor formula Lenz's law Liénard–Wiechert potential London equations Lorentz force Maxwell's equations Maxwell tensor Poynting vector Synchrotron radiation Electrical network Alternating current Capacitance Current density Direct current Electric current Electric power Electrolysis Electromotive force Impedance Inductance Joule heating Kirchhoff's laws Network analysis Ohm's law Parallel circuit Resistance Resonant circuits Series circuit Voltage Watt Waveguides Magnetic circuit AC motor DC motor Electric machine Electric motor Gyrator–capacitor Induction motor Linear motor Magnetomotive force Permeance Reluctance (complex) Reluctance (real) Rotor Stator Transformer Covariant formulation Electromagnetic tensor Electromagnetism and special relativity Four-current Four-potential Mathematical descriptions Maxwell equations in curved spacetime Relativistic electromagnetism Stress–energy tensor Scientists Ampère Biot Coulomb Davy Einstein Faraday Fizeau Gauss Heaviside Helmholtz Henry Hertz Hopkinson Jefimenko Joule Kelvin Kirchhoff Larmor Lenz Liénard Lorentz Maxwell Neumann Ohm Ørsted Poisson Poynting Ritchie Savart Singer Steinmetz Tesla Thomson Volta Weber Wiechert vte The watt (symbol: W) is the unit of power or radiant flux in the International System of Units (SI), equal to 1 joule per second or 1 kg·m2·s−3.[1][2][3] It is used to quantify the rate of energy transfer. The watt is named in honor of James Watt (1736–1819), an 18th-century Scottish inventor, mechanical engineer, and chemist who improved the Newcomen engine with his own steam engine in 1776, which became fundamental for the Industrial Revolution. When an object's velocity is held constant at one meter per second against a constant opposing force of one newton, the rate at which work is done is one watt. 1 W = 1 J / s = 1 N · m / s = 1 k g · m 2 · s − 3 . {\displaystyle \mathrm {1~W=1~J{/}s=1~N{\cdot }m{/}s=1~kg{\cdot }m^{2}{\cdot }s^{-3}} .} In terms of electromagnetism, one watt is the rate at which electrical work is performed when a current of one ampere (A) flows across an electrical potential difference of one volt (V), meaning the watt is equivalent to the volt-ampere (the latter unit, however, is used for a different quantity from the real power of an electrical circuit). 1 W = 1 V · A . {\displaystyle \mathrm {1~W=1~V{\cdot }A} .} Two additional unit conversions for watt can be found using the above equation and Ohm's law. 1 W = 1 V 2 / Ω = 1 A 2 · Ω , {\displaystyle \mathrm {1~W=1~V^{2}/\Omega =1~A^{2}{\cdot }\Omega } ,} where ohm (Ω {\displaystyle \Omega }) is the SI derived unit of electrical resistance. A person having a mass of 100 kg who climbs a 3-meter-high ladder in 5 seconds is doing work at a rate of about 600 watts. Mass times acceleration due to gravity times height divided by the time it takes to lift the object to the given height gives the rate of doing work or power.[i] A laborer over the course of an eight-hour day can sustain an average output of about 75 watts; higher power levels can be achieved for short intervals and by athletes.[4] The watt is named after the Scottish inventor James Watt.[5] The unit name was proposed by C. William Siemens in August 1882 in his President's Address to the Fifty-Second Congress of the British Association for the Advancement of Science.[6] Noting that units in the practical system of units were named after leading physicists, Siemens proposed that watt might be an appropriate name for a unit of power.[7] Siemens defined the unit within the existing system of practical units as "the power conveyed by a current of an Ampère through the difference of potential of a Volt".[8] In October 1908, at the International Conference on Electric Units and Standards in London,[9] so-called international definitions were established for practical electrical units.[10] Siemens' definition was adopted as the international watt. (Also used: 1 A2 × 1 Ω.)[5] The watt was defined as equal to 107 units of power in the practical system of units.[10] The "international units" were dominant from 1909 until 1948. After the 9th General Conference on Weights and Measures in 1948, the international watt was redefined from practical units to absolute units (i.e., using only length, mass, and time). Concretely, this meant that 1 watt was defined as the quantity of energy transferred in a unit of time, namely 1 J/s. In this new definition, 1 absolute watt = 1.00019 international watts. Texts written before 1948 are likely to be using the international watt, which implies caution when comparing numerical values from this period with the post-1948 watt.[5] In 1960, the 11th General Conference on Weights and Measures adopted the absolute watt into the International System of Units (SI) as the unit of power.[11] For additional examples of magnitude for multiples and submultiples of the watt, see Orders of magnitude (power). SI multiples of watt (W) Submultiples Multiples Value SI symbol Name Value SI symbol Name 10−1 W dW deciwatt 101 W daW decawatt 10−2 W cW centiwatt 102 W hW hectowatt 10−3 W mW milliwatt 103 W kW kilowatt 10−6 W µW microwatt 106 W MW megawatt 10−9 W nW nanowatt 109 W GW gigawatt 10−12 W pW picowatt 1012 W TW terawatt 10−15 W fW femtowatt 1015 W PW petawatt 10−18 W aW attowatt 1018 W EW exawatt 10−21 W zW zeptowatt 1021 W ZW zettawatt 10−24 W yW yoctowatt 1024 W YW yottawatt 10−27 W rW rontowatt 1027 W RW ronnawatt 10−30 W qW quectowatt 1030 W QW quettawatt Common multiples are in bold face Attowatt The sound intensity in water corresponding to the international standard reference sound pressure of 1 µPa is approximately 0.65 aW/m2.[12] Femtowatt Powers measured in femtowatts are typically found in references to radio and radar receivers. For example, meaningful FM tuner performance figures for sensitivity, quieting and signal-to-noise require that the RF energy applied to the antenna input be specified. These input levels are often stated in dBf (decibels referenced to 1 femtowatt). This is 0.2739 microvolts across a 75-ohm load or 0.5477 microvolt across a 300-ohm load; the specification takes into account the RF input impedance of the tuner. Picowatt Powers measured in picowatts are typically used in reference to radio and radar receivers, acoustics and in the science of radio astronomy. One picowatt is the international standard reference value of sound power when this quantity is expressed in decibels.[13] Nanowatt Powers measured in nanowatts are also typically used in reference to radio and radar receivers. Microwatt Powers measured in microwatts are typically stated in medical instrumentation systems such as the electroencephalograph (EEG) and the electrocardiograph (ECG), in a wide variety of scientific and engineering instruments, and in reference to radio and radar receivers. Compact solar cells for devices such as calculators and watches are typically measured in microwatts.[14] Milliwatt A typical laser pointer outputs about five milliwatts of light power, whereas a typical hearing aid uses less than one milliwatt.[15] Audio signals and other electronic signal levels are often measured in dBm, referenced to one milliwatt. Kilowatt "Kilowatt" and "Kilowatts" redirect here. For the musician James Watts, see KiloWatts (musician). "kW" redirects here. For other uses, see kW (disambiguation). The kilowatt is typically used to express the output power of engines and the power of electric motors, tools, machines, and heaters. It is also a common unit used to express the electromagnetic power output of broadcast radio and television transmitters. One kilowatt is approximately equal to 1.34 horsepower. A small electric heater with one heating element can use 1 kilowatt. The average electric power consumption of a household in the United States is about 1 kilowatt.[ii] A surface area of 1 square meter on Earth receives typically about one kilowatt of sunlight from the Sun (the solar irradiance) (on a clear day at midday, close to the equator).[17] Megawatt Many events or machines produce or sustain the conversion of energy on this scale, including large electric motors; large warships such as aircraft carriers, cruisers, and submarines; large server farms or data centers; and some scientific research equipment, such as supercolliders, and the output pulses of very large lasers. A large residential or commercial building may use several megawatts in electric power and heat. On railways, modern high-powered electric locomotives typically have a peak power output of 5 or 6 MW, while some produce much more. The Eurostar e300, for example, uses more than 12 MW, while heavy diesel-electric locomotives typically produce and use 3 and 5 MW. U.S. nuclear power plants have net summer capacities between about 500 and 1300 MW.[18]:84–101 The earliest citing of the megawatt in the Oxford English Dictionary (OED) is a reference in the 1900 Webster's International Dictionary of the English Language. The OED also states that megawatt appeared in a November 28, 1947, article in the journal Science (506:2). A United States Department of Energy video explaining gigawatts Gigawatt A gigawatt is typical average power for an industrial city of one million habitants, and is the output of a large power station. The GW unit is thus used for large power plants and power grids. For example, by the end of 2010, power shortages in China's Shanxi province were expected to increase to 5–6 GW[19] and the installation capacity of wind power in Germany was 25.8 GW.[20] The largest unit (out of four) of the Belgian Doel Nuclear Power Station has a peak output of 1.04 GW.[21] HVDC converters have been built with power ratings of up to 2 GW.[22] Terawatt The primary energy used by humans worldwide was about 160,000 terawatt-hours in 2019, corresponding to an average continuous power consumption of 18 TW that year.[23] Earth itself emits 47±2 TW,[24] far less than the energy received from solar radiation. The most powerful lasers from the mid-1960s to the mid-1990s produced power in terawatts, but only for nanosecond intervals. The average lightning strike peaks at 1 TW, but these strikes only last for 30 microseconds. Petawatt See also: List of petawatt lasers A petawatt can be produced by the current generation of lasers for time scales on the order of picoseconds. One such laser is Lawrence Livermore's Nova laser, which achieved a power output of 1.25 PW by a process called chirped pulse amplification. The duration of the pulse was roughly 0.5 ps, giving a total energy of 600 J.[25] Another example is the Laser for Fast Ignition Experiments (LFEX) at the Institute of Laser Engineering (ILE), Osaka University, which achieved a power output of 2 PW for a duration of approximately 1 ps.[26][27] Based on the average total solar irradiance of 1.361 kW/m2,[28] the total power of sunlight striking Earth's atmosphere is estimated at 174 PW. The planet's average rate of global warming, measured as Earth's energy imbalance, reached about 0.5 PW (0.3% of incident solar power) by 2019.[29] Yottawatt The power output of the Sun is 382.8 YW, about 2 billion times the power estimated to reach Earth's atmosphere.[30] In the electric power industry, megawatt electrical (MWe[31] or MWe)[32] refers by convention to the electric power produced by a generator, while megawatt thermal or thermal megawatt[33] (MWt, MWt, or MWth, MWth) refers to thermal power produced by the plant. For example, the Embalse nuclear power plant in Argentina uses a fission reactor to generate 2,109 MWt (i.e. heat), which creates steam to drive a turbine, which generates 648 MWe (i.e. electricity). Other SI prefixes are sometimes used, for example gigawatt electrical (GWe). The International Bureau of Weights and Measures, which maintains the SI-standard, states that further information about a quantity should not be attached to the unit symbol but instead to the quantity symbol (e.g., Pth = 270 W rather than P = 270 Wth) and so these unit symbols are non-SI.[34] In compliance with SI, the energy company Ørsted A/S uses the unit megawatt for produced electrical power and the equivalent unit megajoule per second for delivered heating power in a combined heat and power station such as Avedøre Power Station.[35] When describing alternating current (AC) electricity, another distinction is made between the watt and the volt-ampere. While these units are equivalent for simple resistive circuits, they differ when loads exhibit electrical reactance. Main article: Effective radiated power Radio stations usually report the power of their transmitters in units of watts, referring to the effective radiated power. This refers to the power that a half-wave dipole antenna would need to radiate to match the intensity of the transmitter's main lobe. The terms power and energy are closely related but distinct physical quantities. Power is the rate at which energy is generated or consumed and hence is measured in units (e.g. watts) that represent energy per unit time. For example, when a light bulb with a power rating of 100W is turned on for one hour, the energy used is 100 watt hours (W·h), 0.1 kilowatt hour, or 360 kJ. This same amount of energy would light a 40-watt bulb for 2.5 hours, or a 50-watt bulb for 2 hours. Power stations are rated using units of power, typically megawatts or gigawatts (for example, the Three Gorges Dam in China is rated at approximately 22 gigawatts). This reflects the maximum power output it can achieve at any point in time. A power station's annual energy output, however, would be recorded using units of energy (not power), typically gigawatt hours. Major energy production or consumption is often expressed as terawatt hours for a given period; often a calendar year or financial year. One terawatt hour of energy is equal to a sustained power delivery of one terawatt for one hour, or approximately 114 megawatts for a period of one year: Power output = energy / time 1 terawatt hour per year = 1×1012 W·h / (365 days × 24 hours per day) ≈ 114 million watts, equivalent to approximately 114 megawatts of constant power output. The watt-second is a unit of energy, equal to the joule. One kilowatt hour is 3,600,000 watt seconds. While a watt per hour is a unit of rate of change of power with time,[iii] it is not correct to refer to a watt (or watt-hour) as a watt per hour.[36] Energy portalEngineering portalPhysics portal Kibble balance (formerly known as a watt balance) Nominal power (photovoltaic) One Watt Initiative Power factor Solar constant Wattage conversion factors Wattmeter ^ The energy in climbing the stairs is given by mgh. Setting m = 100 kg, g = 9.8 m/s2 and h = 3 m gives 2940 J. Dividing this by the time taken (5 s) gives a power of 588 W. ^ Average household electric power consumption is 1.19 kW in the US, 0.53 kW in the UK. In India it is 0.13 kW (urban) and 0.03 kW (rural) – computed from GJ figures quoted by Nakagami, Murakoshi and Iwafune.[16] ^ Watts per hour refers to the rate of change of power being used (or generated). For example, a power plant that changes its power output from 100 MW to 200 MW in 15 minutes would have a ramp-up rate of 400 MW/h. Gigawatts per hour are used to characterize the ramp-up required of the power plants on an electric grid to compensate for loss of output from other sources, such as when solar power generation drops to zero as the sun sets. See duck curve. ^ Newell, David B; Tiesinga, Eite (2019). The international system of units (SI) (PDF) (Report). Gaithersburg, MD: National Institute of Standards and Technology. doi:10.6028/nist.sp.330-2019. §2.3.4, Table 4. ^ Yildiz, I.; Liu, Y. (2018). "Energy units, conversions, and dimensional analysis". In Dincer, I. (ed.). Comprehensive energy systems. Vol 1: Energy fundamentals. Elsevier. pp. 12–13. ISBN 9780128149256. ^ International Bureau of Weights and Measures (2006), The International System of Units (SI) (PDF) (8th ed.), pp. 118, 144, ISBN 92-822-2213-6, archived (PDF) from the original on June 4, 2021, retrieved December 16, 2021 ^ Avallone, Eugene A; et al., eds. (2007), Marks' Standard Handbook for Mechanical Engineers (11th ed.), New York: Mc-Graw Hill, pp. 9–4, ISBN 978-0-07-142867-5. ^ a b c Klein, Herbert Arthur (1988) [1974]. The Science of measurement: A historical survey. New York: Dover. p. 239. ISBN 9780486144979. ^ "Address by C. William Siemens". Report of the Fifty-Second meeting of the British Association for the Advancement of Science. Vol. 52. London: John Murray. 1883. pp. 1–33. ^ Siemens supported his proposal by asserting that Watt was the first who "had a clear physical conception of power, and gave a rational method for measuring it". "Siemens, 1883, p. 6" ^ Report of the British Association for the Advancement of Science. Vol. 52nd Meeting (1882). April 3, 1883. ^ Tunbridge, P. (1992). Lord Kelvin: His Influence on Electrical Measurements and Units. Peter Peregrinus: London. p. 51. ISBN 0-86341-237-8. ^ a b Fleming, John Ambrose (1911). "Units, Physical" . In Chisholm, Hugh (ed.). Encyclopædia Britannica. Vol. 27 (11th ed.). Cambridge University Press. pp. 738–745, see page 742. ^ "Resolution 12 of the 11th CGPM (1960)". Bureau International des Poids et Mesures (BIPM). Archived from the original on April 20, 2020. Retrieved April 9, 2018. ^ Ainslie, M. A. (2015). A century of sonar: Planetary oceanography, underwater noise monitoring, and the terminology of underwater sound. Acoustics Today. ^ Morfey, C.L. (2001). Dictionary of Acoustics. ^ "Bye-Bye Batteries: Radio Waves as a Low-Power Source", The New York Times, July 18, 2010, archived from the original on March 21, 2017. ^ Stetzler, Trudy; Magotra, Neeraj; Gelabert, Pedro; Kasthuri, Preethi; Bangalore, Sridevi. "Low-Power Real-Time Programmable DSP Development Platform for Digital Hearing Aids". Datasheet Archive. Archived from the original on March 3, 2011. Retrieved February 8, 2010. ^ Nakagami, Hidetoshi; Murakoshi, Chiharu; Iwafune, Yumiko (2008). International Comparison of Household Energy Consumption and Its Indicator (PDF). ACEEE Summer Study on Energy Efficiency in Buildings. Pacific Grove, California: American Council for an Energy-Efficient Economy. Figure 3. Energy Consumption per Household by Fuel Type. 8:214–8:224. Archived (PDF) from the original on January 9, 2015. Retrieved February 14, 2013. ^ Elena Papadopoulou, Photovoltaic Industrial Systems: An Environmental Approach, Springer 2011 ISBN 3642163017, p.153 ^ "Appendix A | U.S. Commercial Nuclear Power Reactors" (PDF). 2007–2008 Information Digest (Report). Vol. 19. United States Nuclear Regulatory Commission. 1 August 2007. pp. 84–101. Archived from the original (PDF) on 16 February 2008. Retrieved 27 December 2021. ^ Bai, Jim; Chen, Aizhu (November 11, 2010). Lewis, Chris (ed.). "China's Shanxi to face 5–6 GW power shortage by yr-end – paper". Peking: Reuters. Archived from the original on November 21, 2020. ^ "Not on my beach, please". The Economist. August 19, 2010. Archived from the original on August 24, 2010. ^ "Chiffres clés" [Key numbers]. Electrabel. Who are we: Nuclear (in French). 2011. Archived from the original on July 10, 2011. ^ Davidson, CC; Preedy, RM; Cao, J; Zhou, C; Fu, J (October 2010), "Ultra-High-Power Thyristor Valves for HVDC in Developing Countries", 9th International Conference on AC/DC Power Transmission, London: IET. ^ Hannah Ritchie; Max Roser (2020). "Global Direct Primary Energy Consumption". Our World in Data. Published online at OurWorldInData.org. Retrieved February 9, 2020. ^ Davies, J. H.; Davies, D. R. (February 22, 2010). "Earth's surface heat flux". Solid Earth. 1 (1): 5–24. Bibcode:2010SolE....1....5D. doi:10.5194/se-1-5-2010. ISSN 1869-9510. ^ "Crossing the Petawatt threshold". Livermore, CA: Lawrence Livermore National Laboratory. Archived from the original on September 15, 2012. Retrieved June 19, 2012. ^ World's most powerful laser: 2 000 trillion watts. What's it?, IFL Science, August 12, 2015, archived from the original on August 22, 2015. ^ Eureka alert (publicity release), August 2015, archived from the original on August 8, 2015. ^ "Construction of a Composite Total Solar Irradiance (TSI) Time Series from 1978 to present". CH: PMODWRC. Archived from the original on August 30, 2011. Retrieved October 5, 2005. ^ Loeb, Norman G.; Johnson, Gregory C.; Thorsen, Tyler J.; Lyman, John M.; et al. (June 15, 2021). "Satellite and Ocean Data Reveal Marked Increase in Earth's Heating Rate". Geophysical Research Letters. 48 (13). Bibcode:2021GeoRL..4893047L. doi:10.1029/2021GL093047. ^ Williams, David R. "Sun Fact Sheet". nasa.gov. NASA. Retrieved February 26, 2022. ^ Rowlett, Russ. "How Many? A Dictionary of Units of Measurement. M". University of North Carolina at Chapel Hill. Archived from the original on September 4, 2011. Retrieved March 4, 2017. ^ Cleveland, CJ (2007). "Watt". Encyclopedia of Earth. ^ "Solar Energy Grew at a Record Pace in 2008 (excerpt from EERE Network News". US: Department of Energy). March 25, 2009. Archived from the original on October 18, 2011. ^ International Bureau of Weights and Measures (2006), The International System of Units (SI) (PDF) (8th ed.), p. 132, ISBN 92-822-2213-6, archived (PDF) from the original on June 4, 2021, retrieved December 16, 2021 ^ "Avedøre Power Station (Avedøre værket)". DONG Energy. Archived from the original on March 17, 2014. Retrieved March 17, 2014. ^ "Inverter Selection". Northern Arizona Wind and Sun. Archived from the original on May 1, 2009. Retrieved March 27, 2009. Listen to this article (14 minutes) This audio file was created from a revision of this article dated 18 July 2023 (2023-07-18), and does not reflect subsequent edits.(Audio help · More spoken articles) Media related to Watt at Wikimedia Commons The dictionary definition of watt at Wiktionary Borvon, Gérard. "History of the electrical units". Nelson, Robert A. (February 2000). The International System of Units: Its History and Use in Science and Industry. Via Satellite. ATI courses. Retrieved from " Cruise ship Carnival Firenze Carnival Firenze in Puerto Vallarta on October 29, 2024 History Panama NameCosta Firenze (2020–2024)Carnival Firenze (2024–present) NamesakeFlorence, Italy Owner Carnival Corporation & plc Operator Costa Cruises (2020–2024) Carnival Cruise Line (2024–present) Port of registry Genoa, Italy[1] (2020–2024) Panama (2024–present) Ordered1 April 2016[1] BuilderFincantieri, Marghera, Italy Yard number6273 Laid down22 December 2015[1] Launched6 November 2019 Sponsored byJonathan Bennett (Carnival Firenze) Christened24 April 2024 (Carnival Firenze) Completed22 December 2020[1] Acquired 22 December 2020 (Costa Firenze) 2 February 2024 (Carnival Firenze) Maiden voyage 4 July 2021 (Costa Firenze) 25 April 2024 (Carnival Firenze) In service2021–present Identification IMO number: 9801691 Call sign: 3E5193 (from 2024) MMSI number: 352003546 (from 2024) StatusIn service General characteristics Class & typeVista-class cruise ship Tonnage135,156 GT[1] Length323.63 m (1,061 ft 9 in) Beam37.2 m (122 ft 1 in)[1] Draught8.25 m (27 ft 1 in) Depth11.2 m (36 ft 9 in)[1] Decks18[1] Installed power 2 × MAN 14V48/60 CR kW + 3 × MAN 8L48/60 CR kW Total Installed Power: 62,400 kW (83,700 hp) Propulsion33,000 kW (44,000 hp) Speed18 knots (33 km/h; 21 mph) (service) Capacity 4,208 (double occupancy) 5,260 (max) Crew1,278 crew Carnival Firenze is a Vista-class cruise ship operated by Carnival Cruise Line, a subsidiary of Carnival Corporation & plc. Originally debuting as Costa Firenze for sister brand Costa Cruises, she was initially commissioned for the Chinese market but was never deployed to Asia following the impact of the COVID-19 pandemic on cruise travel in China. Named after Florence, the 135,156 gross tonnage (GT)-vessel was constructed by Italian shipbuilder Fincantieri in Marghera and delivered in December 2020. In 2023, amid a corporate fleet reshuffling in the wake of the pandemic, Carnival Corporation announced Costa Firenze would be transferred to Carnival under a new sub-brand named "Costa as Carnival" operating as "Carnival Fun Italian Style". The new concept was designed to integrate Costa Firenze and sister ship Costa Venezia into Carnival in a bid to boost domestic American capacity after the cruise line had sold numerous older vessels, and while Costa contended with operational challenges in its core markets. In February 2024, she was officially renamed Carnival Firenze during her pre-delivery renovation and debuted for Carnival in April 2024 in the new sub-fleet of Venice-class ships. Carnival Corporation entered into a strategic agreement with Italian shipbuilder Fincantieri in March 2015 for five cruise ships to be delivered between 2019 and 2022.[2] On 30 December 2015, Carnival Corporation and Fincantieri signed a memorandum of agreement for four cruise ships, with two then-unnamed ships for Costa Asia among the four.[3] The announcement coincided with Carnival Corporation's unveiling of its plans for the expansion of the Costa Asia fleet, which would consist of two vessels at 135,500 GT each, with a capacity of approximately 4,200 passengers per vessel.[4] The contracts for the two newbuild vessels were finalized in April 2016.[5] The two ships, comprising a new class of vessels in Costa's fleet, were designed to be sister ships and be outfitted with Costa's Italian-inspired decor.[4] In June 2018, it was revealed that construction on the ship had begun with the steel cutting that was performed earlier that year.[6] On 6 May 2019, Costa Cruises announced that the second of the two vessels built specifically for the Chinese market would be named Costa Firenze, after the Italian city of Florence, and have interior features inspired by Florentine history and culture.[7] The ship was floated out from the building dock at Marghera on 6 November 2019.[8] Delivery for Costa Firenze was originally scheduled for 30 September 2020[8] but, amid the COVID-19 pandemic, it was later postponed to 22 December.[9][10][11] Carnival Firenze measures 135,156 gross tonnage (GT), has a length of 323.63 metres (1,061 ft 9 in), a draught of 8.25 metres (27 ft 1 in), and a beam of 37.2 metres (122 ft 1 in). She is powered by a diesel-electric system, with two MAN 14V48 engines and three MAN 8L48 gensets, all of which run on a common rail system and produce a total output of 62,400 kilowatts (83,700 hp).[12][13][14] The propulsion system produces a total of 33,000 kilowatts (44,000 hp).[12] The combination gives the vessel a service speed of 18 knots (33 km/h; 21 mph) and a maximum speed of 22.6 knots (41.9 km/h; 26.0 mph).[12] The ship houses 2,136 passenger cabins and 701 crew cabins and has a maximum capacity of 6,538 passengers and crew.[12] Decor in the dining spaces onboard the ship was inspired by Florentine landmarks, such as the Piazza del Duomo. Costa commissioned design firm YSA Design for the vessel's Florentine-inspired interior decor. The firm focused on the history of Florence in the ship's dining spaces, with influences including the Piazza del Duomo, Florence Cathedral, Palazzo Vecchio, and Palazzo Pitti, in addition to the use of velvet, marble flooring, and gilding work for further emphasis. Lounges were inspired by the Tuscan countryside setting and styles of Italian fashion.[13][15] Costa Firenze was deployed in the Mediterranean during her maiden season in summer 2021 and visited ports including Ibiza. Costa Firenze had her debut postponed from 2020 to 2021 after Costa was forced to revise the ship's inaugural plans on numerous occasions as a result of the pandemic-induced delivery delay and operational challenges. Costa first announced on 6 May 2019 that the ship would initially spend her first month sailing in the Mediterranean and call at ports in Italy, Spain, and France. Her original maiden voyage was scheduled for 1 October 2020, departing from Trieste and calling at Bari, Barcelona, and Marseille, before arriving in Savona. Then, she was to depart from Savona on 2 November to begin a 51-day cruise to Hong Kong, arriving on 22 December.[16] But in August 2019, Costa cancelled her maiden voyage and first month of sailings in favor of repositioning the vessel to Singapore immediately following her delivery, after which she would debut in the Chinese market on 20 October 2020.[17][18] In July 2020, it was reported that Costa had considered reverting her Asia deployment plans to reschedule her for weekly Mediterranean sailings previously arranged for Costa Toscana due to the latter's delayed delivery.[19] In September, Costa announced a new seven-day maiden voyage in the Mediterranean commencing on 27 December.[20] Then, in October, Costa further delayed the ship's debut in the Mediterranean with a new maiden voyage set for 28 February 2021,[11][21][22] which was later annulled by cancellations announced in January 2021.[23][24] Costa Firenze is leaving Kiel on June 2, 2023 After repeated delays, Costa Firenze sailed on her inaugural voyage on 4 July 2021 on an all-Italian itinerary that called at Savona, Civitavecchia, Palermo, Naples, Messina, and Cagliari; she also began calling at ports in Spain and France in September 2021.[25][26][27] She then followed her summer debut season with her maiden circuit in the Persian Gulf, where she operated week-long voyages from Dubai between December 2021 and March 2022.[28][29] She returned to the Mediterranean in April 2022, where she operated week-long sailings through to November,[30][31] which were followed by a repositioning to Brazil for her maiden South America season, where she operated until April 2023.[32][33] Costa Firenze operated her last summer with Costa through a Northern Europe deployment between May and September 2023[34][35] and sailed her final winter season for the cruise line, calling at ports in the Mediterranean, Atlantic Europe, and Macaronesia prior to leaving the fleet in February 2024.[36][34][37] On 22 June 2022, Carnival Corporation announced that sister ship Costa Venezia and Costa Firenze would be transferred to Costa's sister brand, Carnival Cruise Line, in 2023 and 2024, respectively, under a new sub-brand, "Costa by Carnival" operating as "Carnival Fun Italian Style". Both ships would be renamed with the Carnival prefix, painted in a hybrid Costa and Carnival livery, and staffed and operated by Carnival.[38] It was a project aimed at boosting Carnival's capacity in the American market during its recovery following the pandemic and came after Carnival had sold numerous older vessels in its fleet while Costa faced operational challenges in its core markets, including Europe and China.[39] In December 2022, Carnival revealed that Carnival Venezia and Carnival Firenze would be slotted into its fleet as a sub-class of its existing Vista-class, known as the Venice-class. It also revealed that the two ships would combine many of the staples found on existing Carnival ships with new features and amenities inspired by Italian design and tastes, including new menu items across their bars and restaurants.[40] In January 2024, the ship began her 42-day refit and rebranding at the Navantia shipyard in Cádiz, where she was officially transferred into the Carnival fleet on 2 February and renamed Carnival Firenze.[41][42] The ship left the shipyard on 22 March and sailed to her new homeport of Long Beach, California, after which she was christened by her godfather, American actor Jonathan Bennett, on 24 April.[43][44][45] Originally scheduled to sail her inaugural voyage on 2 May 2024,[46] Carnival Firenze commenced operations one week earlier, on 25 April, to the Mexican Riviera, a region to which she is deployed on a year-round basis.[42][43][47] ^ a b c d e f g h "Costa Firenze (9801691)". LeonardoInfo. Registro Italiano Navale. Retrieved 22 December 2020. ^ "Fincantieri: Five Next-Generation Ships for Carnival Corporation" (Press release). Fincantieri. 27 March 2015. Retrieved 8 February 2020. ^ "Fincantieri: 4 Cruise Ships for Carnival" (Press release). Fincantieri. 30 December 2015. Retrieved 8 February 2020. ^ a b Leppert, Jason (4 January 2016). "Carnival Corp. Announces Four New Cruise Ships for Three Brands". TravelPulse. ^ Leppert, Jason (4 April 2016). "Carnival Corp. Celebrates Koningsdam and Finalizes New Ship Orders for Costa, P&O and Princess". TravelPulse. ^ "Costa Cruises Celebrates Float-out of Costa Venezia -- Its First Ship Being Built for China Market" (Press release). Carnival Corporation & plc. 22 June 2018. Retrieved 11 April 2024. ^ "Costa Names 2020 Newbuild for China Costa Firenze". Cruise Industry News. 6 May 2019. Retrieved 9 November 2019. ^ a b "Costa Firenze Floats Out at Fincantieri". Cruise Industry News. 6 November 2019. Retrieved 9 November 2019. ^ "Carnival to Delay New Ship Introductions". Cruise Industry News. 11 July 2020. Retrieved 7 April 2024. ^ Dolven, Taylor (8 July 2020). "COVID-19 construction delays push cruise ship deliveries into 2021". Miami Herald. Retrieved 7 April 2024. ^ a b Jainchill, Johanna (22 December 2020). "Costa takes delivery of the Firenze". Travel Weekly. Retrieved 7 April 2024. ^ a b c d "Costa Firenze" (PDF). Fincantieri. ^ a b "Costa Firenze - Massive 5,200-Guest Ship to Serve Chinese Cruise Market". Baird Maritime. 7 July 2021. Retrieved 7 April 2024. ^ Bond, Mary (9 November 2016). "MAN Diesel & Turbo signs eng