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LZ 127 Graf Zeppelin

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This article is about the famous airship (the first Graf Zeppelin). For other uses, see [Graf Zeppelin \(disambiguation\)](#).

LZ 127 Graf Zeppelin (Deutsches Luftschiff Zeppelin #127; Registration: **D-LZ 127**) was a [German](#)-built and -operated, passenger-carrying, [hydrogen](#)-filled, [rigid airship](#) which operated commercially from 1928 to 1937. It was named after the German pioneer of airships, [Ferdinand von Zeppelin](#), who was a [Graf](#) or Count in the German nobility. During its operating life, the airship made 590 flights covering more than a million miles (1.6 million km). It was designed to be operated by a crew of 36 officers and men.

LZ 127 Graf Zeppelin



| | |
|------------------------|--|
| Role | Passenger airship |
| National origin | Germany |
| Manufacturer | Luftschiffbau Zeppelin |
| Designer | Ludwig Dür |
| First flight | 18 September 1928 |
| Retired | 18 June 1937 |
| Status | Scrapped March 1940 |
| Number built | 1 |

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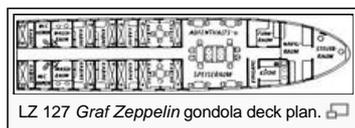
Design and development [[edit](#)]

Built at the Zeppelin Company works (*Luftschiffbau Zeppelin*) in [Friedrichshafen am Bodensee](#), Germany, between 1926 and 1928, the design of the LZ-127 was patterned on that of the LZ-126 which the company had delivered as a [war reparation](#) to the [U.S. Navy](#) at [NAS Lakehurst, NJ](#) in October 1924 where it was commissioned as the [USS Los Angeles \(ZR-3\)](#).^[1] With that project completed, the Zeppelin company's chairman [Dr. Hugo Eckener](#) promptly began a two-year campaign of lobbying the German Government for funds and permission to proceed with construction of a new airship for Germany.^[2] Construction began in 1926 with the aid of a government grant although the majority of the necessary 2,000,000 [Reichsmarks](#) (RM) in funding would eventually be raised by public subscription.^[3] The LZ 127 was completed and launched in September 1928.

At 236.6 m (776 ft) and a total gas volume of 105,000 m³ (3,707,550 ft³) of which 75,000 m³ (2,648,585 ft³) was hydrogen carried in 17 "lift gas" cells (*Traggaszelle*) and 30,000 m³ (1,059,435 ft³) was [Blau gas](#) in 12 "power gas" cells (*Kraftgaszelle*), the *Graf* was the largest airship in the world at the time. It was powered by five [Maybach](#) VL-2 12-cylinder 550 hp engines that could burn either [Blau gas](#) or gasoline.^[4]

Although the *Graf* could achieve a top airspeed of 128 km/h (80 mph, 70 knots) at its maximum thrust of 2,650 horsepower (1,980 kW), its normal operational airspeed was 117 km/h (73 mph, 63 knots) at a thrust of 2,150 horsepower (1,600 kW).^[4] Some flights were made using only [Blau gas](#) carried in the dozen power gas cells which enabled the airship to cruise for up to 100 hours. Using gasoline alone it was able to cruise for 67 hours, and up to 118 hours using both. The *Graf Zeppelin* had a total lift capacity of 87,000 kilograms (191,800 lbs) with a usable [payload](#) of 15,000 kg (33,000 lbs) on a 10,000 km (6,200 mi) flight.^[4]

Gondola layout [[edit](#)]



The flight deck and operational spaces, common areas, passenger cabins, and public toilet facilities on the *Graf Zeppelin* were all contained in a single contiguous "gondola" structure built into the forward third of the airship's ventral surface. The forward operational spaces consisted of the flight deck, a map/navigation room with two large open access hatches to allow the command crew to communicate with the navigators, radio room, galley, and a short passage to the main entrance-exit door space. An ascending ladder located in the map room allowed access to a keel corridor inside

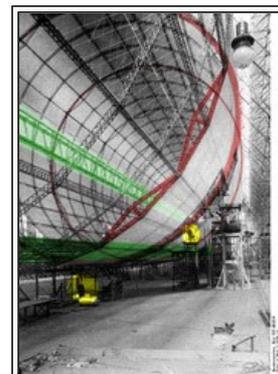
the hull. The map room also had two large windows, one on each side, which permitted navigators to shoot the horizon and sky with a [sextant](#).

Behind the operational spaces were the main dining and sitting room with four large windows which connected via a long corridor to ten passenger cabins capable of sleeping 24, a pair of washrooms, and dual toilet facilities.^[5] The passenger cabins were set by day with a sofa which converted to two beds, one above the other, at night.^[6] The crew's quarters were located inside the hull and were reached by a catwalk. The galley was equipped with a single electric oven with two compartments and hot plates on top for cooking.^[6]

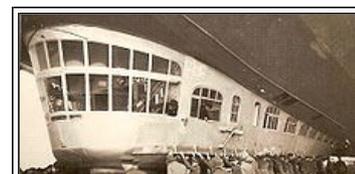
Electrical and communications systems [[edit](#)]

The main generating plant was inside the hull and consisted of two fuel-burning generators.^[6] Two small [ram air turbines](#) attached to the main gondola on swinging arms supplemented electrical power for the radio room, internal lighting, the galley, and acted as a reserve. Batteries stored the electrical energy so that radio operation was independent of airspeed.^[7] The gondola also had a gasoline generator for emergency power.

The *Graf* was outfitted with the most modern radio equipment then available.^[7] A staff of three radio



Construction of the *Graf Zeppelin* in Friedrichshafen: the lower and middle gangways are highlighted green with main rings in red; two people are shown in yellow.



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day of the flight when a large section of the linen covering was ripped loose while passing through a mid-ocean squall line at night about 1,500 miles (2,400 km) east of Bermuda (35N, 42W).^[20] With the engines stopped, the ship's riggers did their best to tie down the torn fabric to the framework and sew blankets to the ship's envelope while attempting not to fall to the raging seas just below. In the interest of safety, the riggers (including Dr. Eckener's son, Knut) retreated back into the ship whenever it dropped to within a couple of hundred feet of the ocean's surface. This allowed the engines to be restarted to maintain lift.^[21]

The *Graf* crossed the U.S. coast at [Cape Charles, Virginia](#), around 10 am on October 15, passed over Washington, D.C., at 12:20 pm, [Baltimore](#) at 1 pm, [Philadelphia](#) at 2:40 pm, New York City at 4 pm, and landed at the [Lakehurst Naval Air Station](#) at 5:38 pm.^[22] After an almost two-week stay in the United States, during which time its damaged tail was repaired, the *Graf* left Lakehurst for Germany at 1:24 am on October 29 and arrived back in Friedrichshafen shortly before dawn on November 1.^[23]



A portion of the damaged fabric covering removed from the *Graf Zeppelin* in October 1928, after its first transatlantic flight from Germany to NAS Lakehurst, New Jersey.

Mediterranean flights (1929) [edit]



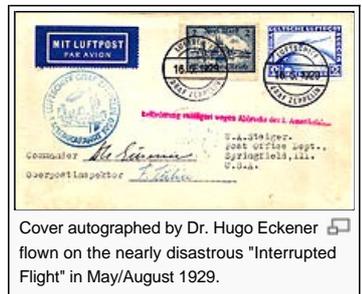
Flown ppc carried by the *Graf Zeppelin* to Syria on the "Mittelmeerfahrt 1929"

In early 1929 the airship made two trips over the Mediterranean. On the first trip to the eastern Mediterranean in late March 1929, it carried 25 passengers and 16,000 letters to make four mail drops at Jaffa, Athens, Budapest and Vienna.^[24] The airship flew over Palestine, Egypt and Athens before returning to Friedrichshafen after completing a journey of 5,000 miles (8,000 km) in 81 hours.^[25] The second Mediterranean cruise took place in late April, flying over France, Spain, Portugal and Tangier.^[26] The airship returned to Friedrichshafen after flying north over Cannes and Lyons in a flight of 57 hours.^[27]

The "interrupted flight" (1929) [edit]

Although the *Graf Zeppelin* ultimately had a safe and highly successful active career lasting nearly nine years, it also came close to being lost just seven months after

its maiden flight while attempting to make its second trip to the United States in May 1929. Shortly after dark on May 16, the first night of the flight ("1. Amerikafahrt 1929"), the airship lost power in two of its five engines while over the Mediterranean off the southwest coast of Spain forcing Eckener to abandon the trip and turn back toward Friedrichshafen. Flying against a stiff headwind up the [Rhône Valley](#) in France the next afternoon, two of the remaining three engines also failed resulting in a loss of headway and the *Graf* being pushed backwards toward the sea.



Cover autographed by Dr. Hugo Eckener flown on the nearly disastrous "Interrupted Flight" in May/August 1929.

With Eckener desperately looking for a suitable place to force-land the airship, the French Air Ministry reluctantly advised him that he would be permitted to land at the Naval Airship Base at [Cuers-Pierrefeu](#) about 10 miles (16 km) from [Toulon](#).^[28] There the *Graf Zeppelin* would be kept in the hangar which had once housed the *Dixmude*, the former German Navy Zeppelin LZ 114^[29] and later the LZ-121, *Nordstern*, a small commercial airship which the Allies had awarded to France and operated until 1926 as the "Mediterranee."^[30] Although barely able to control the *Graf* on its one remaining engine, Eckener managed to make a difficult but successful emergency night landing at Cuers.^[31]

After temporary repairs, the *Graf* finally returned to Friedrichshafen on May 24 where the engines were completely overhauled. Mails carried on the flight received a one-line rubber stamped notice in German reading "*Beförderung verzögert wegen Abbruchs der 1. Amerikafahrt.*" ("Delivery delayed due to cancellation of the 1st America trip") and were held at Friedrichshafen until August 1, 1929, when the airship made another attempt to cross the Atlantic for Lakehurst, arriving on August 4. Four days later, the *Graf Zeppelin* departed Lakehurst for its most daring and famous trip — a four-leg complete circumnavigation of the globe.

Round-the-world flight (1929) [edit]



Flown \$3.55 U.S. franked *Weltrundfahrt* 1929 Lakehurst to Lakehurst US Airmail cover.

At the behest of American newspaper publisher [William Randolph Hearst](#), whose media empire was the major commercial backer of the project with four staffers among the flight's nine passengers, the *Graf's* "Round-the-World" (*Weltrundfahrt* 1929) flight in August 1929 officially began and ended at [Lakehurst Naval Air Station](#) in [New Jersey](#).^[32] As with many of the airship's other flights, however, its expenses were also heavily offset by the carriage of souvenir mails to and/or from Lakehurst, Friedrichshafen, Tokyo, and Los Angeles. A U.S. franked letter flown on the whole trip from Lakehurst to Lakehurst, for instance, required US\$3.55 in postage or the equivalent of roughly \$45 in current dollars if based on the [CPI](#).^[N 3] The \$200,000^[32] Hearst paid for exclusive media rights would currently be the equivalent of \$2.5 million if figured on the same basis.

As with the October, 1928 flight to New York, Hearst correspondent [Lady Grace Drummond-Hay](#) was on board making her the first woman to circumnavigate the globe by air. Also representing Hearst among the passenger complement were correspondents Karl von Wiegand and Australian Arctic explorer [Sir Hubert Wilkins](#), and photographer/newsreel cameraman Robert Hartmann. The US Government was represented by Naval airshipmen LCDR Charles Rosendahl and LT Jack C. Richardson who flew as official observers.^{[32][34]} A semi-documentary film entitled "*Farewell*" was released in 2009 which featured much of the newsreel footage of Lady Drummond-Hay shot by Hartmann during the flight. The film was later aired on the BBC under the title "*Around The World by Zeppelin*".^[35]



Route of *Graf Zeppelin's* round-the-world flight.
Built in Friedrichshafen, Germany (47.654°N 9.479°E)
Started at Lakehurst NAS, USA (40.033°N 74.3536°W)
Eastward to Germany (47.654°N 9.479°E)
Eastward to Kasumigaura Naval Air Base,

The *Graf Zeppelin* flew back across the Atlantic to Friedrichshafen to refuel before continuing across Eastern Europe, Russia, and the vastness of [Siberia](#) to Tokyo (Kasumigaura Naval Air Station) on a 101 hour, 49 minute nonstop leg covering 7,297 miles (11,743 km).^[34] Although the Soviet government had formally requested by radio to the "*Graf*" for the airship to overfly its capital, [Moscow](#), Dr. Eckener declined because of the necessity "to take advantage of the tailwinds and remain on the straight airline without deviation or halt" necessary in order to reach Tokyo nonstop, a decision which resulted in considerable disappointment and annoyance on the part of the Russians.^[36] (To make amends for this perceived slight, a year later the "*Graf*" made a special two-day round

trip flight from Friedrichshafen to Moscow on September 9–10, 1930 landing briefly to collect souvenir mail at Moscow's "October Field" (Октябрьское поле) where it was greeted by a crowd of some 100,000 people.^[37] Crossing the inadequately mapped Stanovoy Mountains in Siberia proved to be a precarious venture with the *Graf* eventually being forced to climb to 6,000 feet in order to clear the range through a high mountain canyon with barely 150 feet to spare.^[38] After five days in Tokyo, the *Graf* continued across the Pacific to California crossing the coast at San Francisco before landing at Mines Field in Los Angeles thus completing the first ever nonstop flight of any kind across the Pacific Ocean, covering 5,986 miles (9,634 km) in 79 hours and 54 minutes.^{[34][39]}

Japan (36.05°N 140.217°E)
Eastward to Los Angeles (33.9425°N 118.408°W), then back to Lakehurst (40.033°N 74.3536°W).
Returned to Germany (47.654°N 9.479°E)

The 2,996-mile (4,822 km), 51 hour 13 minute transcontinental flight across the United States took the *Graf* over 13 states and such cities as El Paso, Kansas City, Chicago, Cleveland, and Detroit before arriving back at Lakehurst from the west on the morning of August 29, three weeks after it had departed to the east on August 8. Flying time for the four Lakehurst to Lakehurst legs was 12 days, 12 hours and 13 minutes while the entire circumnavigation (including stops) took 21 days, 5 hours and 31 minutes and covered 33,234 km (20,651 mi).^[34]



3RM Weltflug coin (1930A)

Germany issued a special commemorative silver 3RM coin in 1930 in recognition of the *Graf Zeppelin's* historic flight. Dr. Eckener's personal accomplishment received acclaim as well when he became just the tenth recipient (third aviator) in 42 years to be awarded the Gold Medal of the National Geographic Society which was presented to him on March 27, 1930 before a crowd of 5,000 at the Washington Auditorium in Washington, DC. The citation read that Eckener received the award "for his work in furthering the progress of airships, and to commemorate the first around-the-world flight of the *Graf Zeppelin*."^[40] Before returning to Germany Eckener also met with President Herbert Hoover as well as the US Postmaster General whom he successfully lobbied for a special three stamp issue (C-13, 14 & 15) for use on mails to be carried on the Europe-PanAmerican Flight

scheduled to leave Germany seven weeks later in mid-May.^{[41][42]}

The Europe-Pan American flight (1930) [edit]



Graf Zeppelin flying over the Baía de Guanabara, Rio de Janeiro, May 25, 1930

In May, 1930 the LZ 127 made its first visit to South America as part of a triangular flight between Spain, Brazil, and the United States. Providing passenger, express freight, and air mail service between Germany, Spain and South America was one function which was an early consideration in the design of LZ-127.^[43] It was intended in 1928 to offer passage between Friedrichshafen, Germany, and Rio de Janeiro, Brazil, for 1,500 RM (\$356).^[44] The 1930 flight originated in Friedrichshafen on May 18 and stopped first in Seville before leaving Europe. The *Graf* arrived in Brazil first at Recife (Pernambuco) docking at Campo do Jiquiá on May 22 where it was greeted by a crowd of more than 15,000 before preceding on to Rio de Janeiro. The airship then flew back north to Lakehurst, NJ, before heading east over the Atlantic on June 2 to return to Germany with another stop in Seville. This flight led to the establishment two years later of the *Graf's* regularly scheduled commercial passenger, mail, and freight service between Germany and Brazil which operated from 1932 to May 1937.

As with so many of its major journeys, the Europe-Pan American flight was largely funded by souvenir mails franked with special stamps issued by Spain, Brazil, and the United States good only for franking mails carried on one or more legs of the trip.^[45] The US issued stamps in three denominations: 65¢ (C-13: 1,135,000 printed; approx 20,000 sold/distributed), \$1.30 (C-14: 1,005,000; 30,000), and \$2.60 (C-14: 1,070,000; 5,000) all three of which were issued on April 19, 1930.



\$2.60 Europe-Pan American issue (C-15) [edit]
April 24, 1930

With the US already in the depths of the Great Depression, however, only about 7% of the very expensive stamps that had been produced had been distributed when the issue was withdrawn from sale on June 30. The more than three million unsold stamps were promptly destroyed by the Post Office thus making the three *Graf Zeppelin* issues by far the USPOD's smallest of the 20th Century. Despite the poor sales of these issues, the Post Office Department nevertheless paid the Zeppelin Company \$100,000 for the carriage of US franked mails on the flight.^[46]

The Middle East flight (1931) [edit]

The *Graf Zeppelin* had visited Palestine in April 1929 and the second flight to the Middle East took place in 1931 beginning on April 9 with a flight to Cairo, Egypt, where the airship landed less than two days later. After a brief stop, the *Graf Zeppelin* proceeded on to Palestine before returning to Friedrichshafen on April 23, just an hour over four days after departure. The trip took 97 hours, covered 9,000 km (5,600 mi) and crossed 14 countries on three continents.

The polar flight (1931) [edit]



Blue 2RM "Zepp" overprint for the 1931 Polar Flight

The *Graf Zeppelin* made another groundbreaking flight in July 1931 with a research trip to the Arctic (*Polarfahrt* 1931). This adventure had been a dream of Count Zeppelin 20 years earlier but could not be realized at the time due to the outbreak of World War I.^[47] The idea of using an airship to explore the Arctic was one reason used to justify both the building of *Graf Zeppelin*, and the restoration of Germany's right to build airships for commercial purposes.^[48] A year earlier Dr. Eckener had piloted the *Graf* on a three-day trip to Norway and Spitsbergen in July 1930 in order to determine its performance in this region. This was followed shortly thereafter by a three-day flight to Iceland. Both trips were completed without technical problems.

The initial idea was to rendezvous with the ill-fated *Nautilus*, the submarine of polar researcher George Hubert Wilkins, who was attempting a trip under the ice. This plan was abandoned when the submarine encountered recurring technical problems leading to its eventual scuttling in a Bergen fjord.^[N 4]

Plans were then altered to make a rendezvous with a surface vessel to be funded by exchanging souvenir mails to the ship. Around fifty thousand cards and letters were collected from around the world weighing a total of about 300 kg (661 lbs). The rendezvous vessel, the Russian icebreaker *Malygin*, on which the Italian airshipman and polar explorer Umberto Nobile was a guest, carried another 120 kg (265 lbs) of mails to exchange. The major costs of the expedition were met largely by



sale of special postage stamps issued by both Germany (as overprints) and the Soviet Union to frank the mails carried on the flight. The rest of the funding came from **Aeroarctic** and the Ullstein-Verlag in exchange for exclusive reporting rights.^[*citation needed*]

The polar flight took one week from July 24–31, 1931. The *Graf Zeppelin* traveled about 10,600 km (6,600 mi) with the longest leg without refueling being 8,600 km (5,345 miles). The average speed was 88 km/h (55 mph).

Route:

- Friedrichshafen–Berlin – 600 km (370 mi) in 8 hours (75 km/h; 47 mph)
- Berlin–Leningrad – 1,400 km (870 mi) in 16 hours (87 km/h; 54 mph)
- Leningrad–Kanin – 1,300 km (810 mi) in 12 hours (108 km/h; 67 mph)
- Kanin–Franz-Joseph-Land – 1,200 km (750 mi) in 18 hours (67 km/h; 42 mph)
- Franz-Joseph-Land–Nordland–Taimyr–Novaya Zemlya – 2,400 km (1,500 mi) in 32 hours (75 km/h; 47 mph)
- Novaya Zemlya–Leningrad – 2,300 km (1,400 mi) in 25 hours (92 km/h; 57 mph)
- Leningrad–Berlin – 1,400 km (870 mi) in 13 hours (108 km/h; 67 mph)
- Berlin–Friedrichshafen – 600 km (370 mi) in 8 hours (75 km/h; 47 mph)

Goals:

- Test the *Graf Zeppelin* under Arctic conditions
- scientific and geographic research of large areas of the Arctic
 - measurement of magnetic field changes
 - meteorological measurements (including weather balloon launches)
 - geo-photographic recording of large areas with a panoramic camera (that would take years if by ship or by land)

All participants were satisfied after the trip: the airship demonstrated its usefulness in the Arctic.

Century of Progress flight (1933) ^[*edit*]



Century of Progress flown cover franked with C-18.

While returning to Germany from Brazil in October 1933, the *Graf Zeppelin* stopped at Miami (NAS Opa Locka) and then in Akron, Ohio where it visited the Goodyear-Zeppelin Company's massive airdock before proceeding to the **Century of Progress** World's Fair in Chicago. After circling over the fair^[N5] and landing for a brief 25-minute visit there, the *Graf* then returned to Akron for two days before leaving for Friedrichshafen with an overnight stop in Sevilla, Spain. The **United States Post Office Department** issued a special 50 cent airmail stamp (C-18) to commemorate the visit. Many of these stamps were used to frank souvenir mails carried on the *Graf* on its return flight to Germany. The visit was also to be the fifth and final one that the LZ 127 would make to the United States.

Regular airline service (1932-1937) ^[*edit*]



Zeppelin hangar in Rio de Janeiro, Brazil.

It was in its last five years of service that *Graf Zeppelin* proved that an intercontinental commercial airship service was possible.^[51] For those five years it operated regular scheduled services during the summer season between Germany and South America.^[52] The Zeppelin Company built a large hangar in Rio de Janeiro, then Brazil's capital city, the construction of which was subsidized by the Brazilian government. Designed and assembled with parts brought from Germany, the hangar was used only nine times: four by the *Graf* and five by the LZ-129 Hindenburg.

The *Graf Zeppelin* was too small and slow for the North Atlantic service,^[53] yet because of the blue gas fuel, was just capable of carrying out the South Atlantic route.^[54] The onset of regular airline service also led to a drastic reduction in the number of flights being made by the airship which, having logged almost 200 flights in 1930-31, made fewer than 60 in 1932.^[55]

Die Deutschlandfahrt (1936) ^[*edit*]

In March 1936 the *Graf Zeppelin* and the newly launched LZ 129 *Hindenburg* were impressed by the **Reich Ministry for Public Enlightenment and Propaganda** (*Reichsministerium für Volksaufklärung und Propaganda* or *Propagandaministerium*), as vehicles for the delivery of Nazi propaganda.^[56]

On March 7, 1936, ground forces of the **German Reich** had entered and occupied the **Rhineland**, a region bordering the Netherlands, Luxembourg, Belgium, and France, which had been designated in the 1920 **Treaty of Versailles** as a de-militarized zone established to provide a buffer between Germany and those neighboring countries. In order to justify its **remilitarization** — which was also a violation of the 1925 **Locarno Pact**,^[57] — a "post hoc" **plebiscite** (or referendum) was quickly called by Hitler for March 29 to "ask the German people" to both ratify the Rhineland's occupation by the German Army, and to approve a single party list composed exclusively of Nazi candidates to sit in the new **Reichstag**.

The two airships were designated by the government as a key part of the process by Propaganda Minister **Joseph Goebbels** who demanded that the Zeppelin Company make both available to fly "in tandem" around Germany over the four-day period prior to the voting with a joint departure from Löwenthal on the morning of March 26.^{[58][59]} As millions of Germans watched from below, the *Graf* and *Hindenburg* sailed over Germany for four days and three nights, dropping propaganda leaflets, blaring martial music and slogans from large loudspeakers, and broadcasting political speeches from a makeshift radio studio on board the *Hindenburg*.^[60]

The end of the LZ 127 and commercial airship service ^[*edit*]

The loss of the D-LZ 129 *Hindenburg* at Lakehurst on May 6, 1937 shattered public faith in the safety of hydrogen-filled airships making the continuation of their commercial passenger operations unsustainable unless the *Graf Zeppelin* and the still under construction LZ 130 *Graf Zeppelin II* could convert to non-flammable **helium**, the only alternative **lifting gas** for airships. Unlike the relatively inexpensive and universally available hydrogen, however, the vast majority of the world's available supplies of the much more costly, less buoyant, and harder to produce helium (it is an extracted byproduct of mined natural gas) were controlled by the United States. Since 1925, the exportation of helium had also



USSR franked Polar Flight ppc delivered to the Malygin.



Deutschlandfahrt propaganda leaflet.

been tightly restricted by Congress although there is no record that the German Government had ever applied for an export license for helium to use in its airships prior to the *Hindenburg's* crash and fire.^[61]

Although much safer than hydrogen, the greatly added expense, lack of availability, and overall degradation in lifting performance that converting to helium would impose on the *Graf Zeppelin* made its continued operation no longer commercially viable. That being the case, one day after the "Hindenburg" crashed in Lakehurst the nine-year-old LZ 127 was promptly grounded and withdrawn from service upon its arrival in Friedrichshafen on a flight from Brazil on May 8, 1937. Six weeks later on June 18 the airship was ferried to Frankfurt am Main on what would prove to be its 590th and final flight. Upon arrival at its massive hangar at the Frankfurt airport, the airship was deflated and opened to the public as a museum.^[62]

While the *Graf Zeppelin* had already been decommissioned and retired, shortly after the *Hindenburg* disaster President [Roosevelt](#) approved and forwarded a Cabinet report to Congress that supported the export to Germany of enough helium to permit the soon to be launched *Hindenburg Class* LZ-130 *Graf Zeppelin II* (which unlike the LZ 127 was designed to use either hydrogen or helium) to resume commercial transatlantic passenger service by 1939.^[63] By early 1938, however, firm opposition by [Interior Secretary Harold Ickes](#), formally made in his capacity of one of the six statutory members of the National Munitions Control Board, to a German request to purchase up to 10,000,000 cubic feet (280,000 m³) of helium would prove to make that impossible.^[64]

Established by §5(a) of the *Neutrality Act of May 1, 1937* (22 U.S.C. 441), the Board (which consisted of the Secretaries of [State](#), [War](#), [Navy](#), [Treasury](#), [Commerce](#), and [Interior](#)), was vested by the Act with the ultimate authority to both prohibit the export to "belligerent states, or to a state wherein civil strife exists" of any type of "arms, ammunition, and implements of war" as well as restrict the transfer of any *other* "articles or materials" such as helium which the Government classified as having "military importance."^[65]

At a [White House](#) press briefing on May 11, 1938, President Roosevelt's press secretary Stephen Early announced that as the Act required the "unanimous" consent of the Control Board to approve the export of helium to Germany, the President had concluded that he was "without legal power to override the judgment of any one of the six [members] and direct the sale of helium for export." In response to this statement, Dr. Eckener commented later that same day that "should this decision be final, I am afraid it means the death sentence for commercial lighter-than-air craft."^[66]

Although the *Graf Zeppelin II* made 30 test, promotional, propaganda and military surveillance flights around Europe between the airship's launch in mid-September 1938 and its last flight 11 months later on August 20, made just 10 days before the formal [start of World War II](#) in Europe with the German [invasion of Poland](#) on September 1, 1939, the LZ 130 never entered the commercial passenger service for which it was built. The ultimate fates of both the original *Graf Zeppelin* (LZ 127) and the *Graf Zeppelin II* (LZ 130) were formally sealed on March 4, 1940, when German Air Minister [Hermann Göring](#) issued a decree ordering both to be immediately scrapped for salvage and their [duralumin](#) airframes and other structures to be melted down for reuse by the German military aircraft industry.^[67]

Specifications [[edit](#)]

General characteristics

- **Crew:** 40
- **Capacity:** 20 passengers
- **Length:** 236.53 m (776 ft 0 in)
- **Diameter:** 30.48 m (100 ft 0 in)
- **Volume:** 105,000 m³ (3,707,550 ft³)
- **Useful lift:** 60,000 kg (132,000 lb)
- **Powerplant:** 5 × [Maybach](#) engines, 410 kW (550 hp) each

Performance

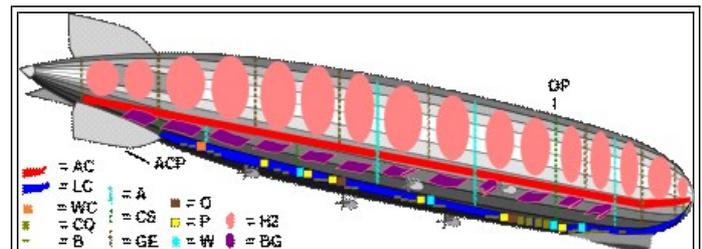
- **Maximum speed:** 128 km/h (80 mph)

See also [[edit](#)]

- [Buoyancy compensator \(aviation\)](#)
- [LZ 129 Hindenburg](#)
- [LZ 130 Graf Zeppelin II](#)
- [List of Zeppelins](#)



Moving images of the Graf Zeppelin flying over the Netherlands in 1929. [[edit](#)]



Internal components and gas cell locations shown schematically, excluding passenger and engine gondolas. Key:

ACP = Auxiliary control post

red = AC = axial corridor running from main ring -2 to the front mooring hub

blue = LC = lower corridor running from main ring 20 to ring 211 ending at ladder to axial corridor

orange = WC = crew's toilet

beige = CQ = crew's quarters with tables, chairs and berths

beige = B = berths or cargo space

blue stripes = A = ventilation shaft

green stripes = CS = climbing shaft

brown stripes = GE = exhaust gas shaft

brown box = O = oil tanks

yellow box = P = petrol tanks

light blue box = W = water tank

OP = Observation post on top of hull

pink cell = H2 = hydrogen gas cell

magenta cell = BG = Blaugas cell

References [[edit](#)]

Notes [[edit](#)]

- ↑ "Flying down to Rio" on board the giant liner of the skies, the Graf-Zeppelin.^[16]
- ↑ Images and movies on mail and cargo handling with the Graf.^[17]

- 26, 1937, p. 2
64. ↑ "Ickes Stand Halts Helium Gas Sale: His Opposition, Under Law, Prevents Roosevelt Action to Aid Dirgible." *The New York Times*, May 12, 1938, p. 9.
 65. ↑ "(Text of the) Neutrality Act of May 1, 1937, (22 U.S.C. 441)." *Ashbrook Center for Public Affairs at Ashland University* via *TeachingAmericanHistory.org*, 2008.
 66. ↑ "Ickes Stand Halts Helium Gas Sale: His Opposition, Under Law, Prevents Roosevelt Action to Aid Dirgible." *The New York Times*, May 12, 1938, p. 9.
 67. ↑ *Bauer and Duggan 1994*, pp. 173, 189–195.

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External links [edit]

- Airships.net *LZ-127 Graf Zeppelin* ↗
- "With The Graf Zeppelin", *Popular Mechanics*, November 1929, a 16 page article with photos and drawings
- Graf Zeppelin Floats Over U.S. Capitol ↗
- Photographs of interior and exterior of Graf Zeppelin ↗
- Private photographs of Graf Zeppelin over Chicago's World's Fair, 1933 ↗
- The Graf Zeppelin ↗
- "The history and building of the Zeppelin" (Dutch) (youtube video, 5 minutes). *Nyo Visuals [Elsbeth van Noppen]*. Retrieved: February 20, 2009. ↗
- "Graf Zeppelin ends world flight." (1 minute 17 seconds video: aeroplane escort, Lakehurst hangar). *Universal Newspaper Newsreel*. Retrieved: February 20, 2009.
- Four pictures from Graf Zeppelin's flight over Bergen Norway on flickr commons ↗
- Photographs of Graf Zeppelin at Hanworth Air Field watched by local scouts ↗



| VTE | | Aircraft produced or designed by Luftschiffbau Zeppelin |
|---|--|--|
| Lighter-than-air | | LZ1 LZ2 LZ3 LZ4 LZ5 LZ6 LZ7 LZ8 LZ9 LZ10 LZ11 LZ12 LZ13 LZ14 LZ15 LZ16 LZ17 LZ18 LZ19 LZ20 LZ21 LZ22 LZ23 LZ24 LZ25 LZ26 LZ27 LZ28 LZ29 LZ30 LZ31 LZ32 LZ33 LZ34 LZ35 LZ36 LZ37 LZ38 LZ39 LZ40 LZ41 LZ42 LZ43 LZ44 LZ45 LZ46 LZ47 LZ48 LZ49 LZ50 LZ51 LZ52 LZ53 LZ54 LZ55 LZ56 LZ57 LZ58 LZ59 LZ60 LZ61 LZ62 LZ63 LZ64 LZ65 LZ66 LZ67 LZ68 LZ69 (LZ70 not built) LZ71 LZ72 LZ73 LZ74 LZ75 LZ76 LZ77 LZ78 LZ79 LZ80 LZ81 LZ82 LZ83 LZ84 LZ85 LZ86 LZ87 LZ88 LZ89 LZ90 LZ91 LZ92 LZ93 LZ94 LZ95 LZ96 LZ97 LZ98 LZ99 LZ100 LZ101 LZ102 LZ103 LZ104 LZ105 LZ106 LZ107 LZ108 LZ109 LZ110 LZ111 LZ112 LZ113 LZ114 (LZ115–LZ119 not built) LZ120 LZ121 (LZ122–LZ125 not built) LZ126 LZ 127 Graf Zeppelin (LZ128 not built) LZ 129 Hindenburg LZ130 (LZ131–LZ132 not built) |
| Heavier-than-air | | C.I C.II L 1 Rammer Fliegende Panzerfaust ZSO 523 |
| ↗ List of Zeppelins | | |

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