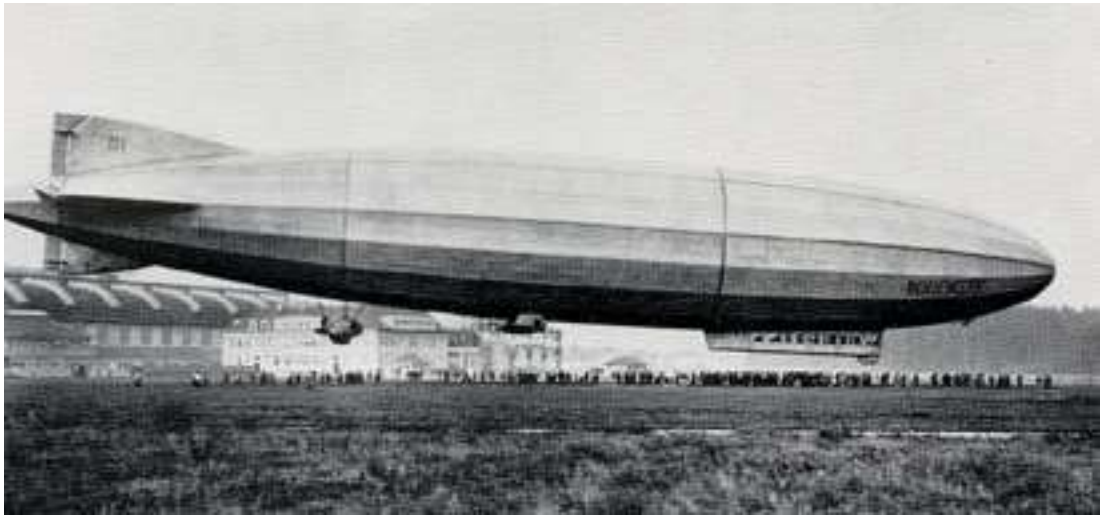
Zeppelin's LZ-120 – *Bodensee*



The Zeppelin LZ 120 Bodensee *was the first airship built in Germany after World War I.*

Since all airships available in Germany at the beginning of the Great War were turned over to the armed forces, the launch of passenger service had to be postponed until after the war. Both the LZ-120, *Bodensee*, and its sister ship, the LZ-121 *Nordstern* were designed for passenger traffic within Europe. Just six months after the decision to build the airship was made, the LZ-120 made its maiden flight on August 20, 1919 with Captain Bernard Lau at the helm.

Model of LZ-120 in Göttingen wind tunnel – ca. 1920

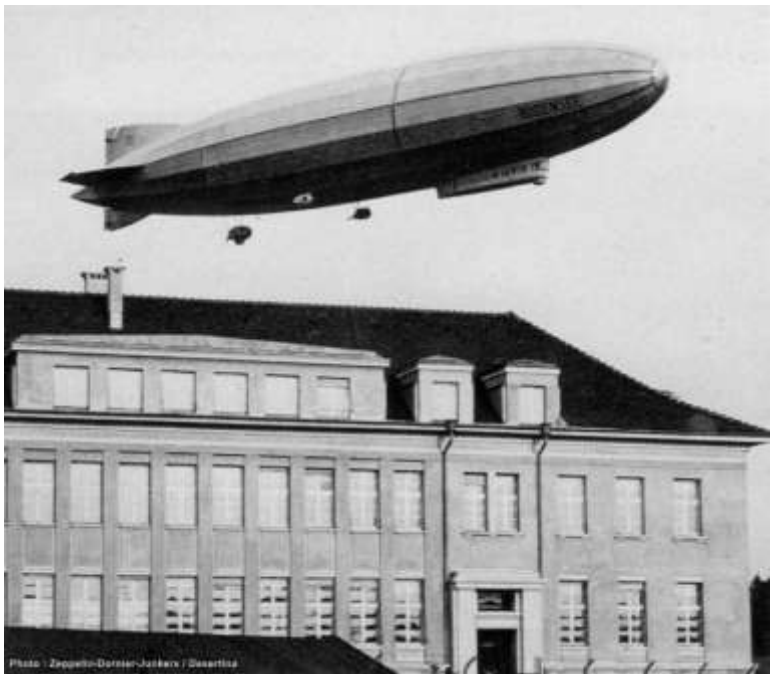
The airship was the first to incorporate aerodynamic advances designed by Paul Jaray, a Zeppelin engineer. Its cross-section was not cylindrical, its fineness (length/diameter ratio) was only 6.5 and the control car/passenger cabin were attached directly to the hull, rather than hung below it.

The control car was 2.5 meters (8 feet) wide. The front end was the bridge, while the passenger cabin, which resembled a luxury railroad coach was aft. It could accommodate 20 passengers, although an additional 10 passengers could be seated on wicker chairs. The ship carried a crew of twelve.

There was an electric stove and refrigerator which allowed a steward to cater to the passengers. The electricity for these, as well as for lighting and radio equipment was supplied by two wind turbines. Another amenity the airship had were toilets. However, they were in rather tight quarters, and using them during rough weather could be an unpleasant experience.

Heinrich Kubis (center) serves passengers aboard the LZ-120 Bodensee*, during the summer of 1919. He later survived the* Hindenburg *catastrophe at Lakehurst, New Jersey.*
Photo courtesy of the Luftschiffbau Zeppelin GmBH Archive

On August 24, 1919 the *Bodensee* made its first scheduled passenger flight from Friedrichshafen to Berlin (Staaken airfield), piloted by Dr. Hugo Eckener. Some of the flights would make a stopover in Munich (Oberwiesenfeld airport). The 600 km (373 miles) flight took an average of six hours (the fastest having been four hours). This was a significant improvement over the 24-hour train ride. The slower train ride was in large part due to the poor condition of the railway, a consequence of damages suffered during the war.



LZ-120 Bodensee

By December 5, 1919 the *Bodensee* had completed 103 trips, logging 532 hours and a total distance of 51,258 km (31,850 mi.). It carried a total of 4050 people, of which 2379 were passengers, 4,500 kg (9,920 lbs) of mail and 30,000 kg (66,140 lbs) of freight (including passengers' baggage).

The LZ-120 flew 38 times from Friedrichshafen to Berlin and back, and on 15 occasions made a stopover in Munich. It made seven flights around Berlin and one round trip to Stockholm. Only one flight had to be aborted (returning to Berlin) due to severe weather.

There was only one emergency landing. On November 2, 1919, while attempting to land in Berlin during a snow storm, the airship was buffeted by strong gusts of wind, causing the ship to hit ground and rebound several times. The bridge portion of the gondola was damaged, the rear propeller was broken and the other two engines shut down. The radio transmitter also failed.

In panic, five crew members and 2 passengers jumped ship. Due to the sudden loss of weight, the airship rose rapidly and flew towards the terminal building, threatening to crash into it. At this point the pilot, Albert Sammt ordered the ground crew that was holding the ropes to release them, allowing the ship to climb and drift aimlessly over the building.

The crew succeeded in restarting first one of the engines and then the other, bringing the airship back under control. The winds were too strong to allow a return to Berlin-Staaken, as it pushed the LZ-120 backward in a westerly direction. As fuel was running out, the crew decided to land without the assistance of a ground crew. Captain Hans Albert Flemming, with Sammt at the

elevator controls and designer Ludwig Dürr manning the rudder set the ship down in Cröchern, near Magdeburg in a forest of pine trees, where it was readily secured.

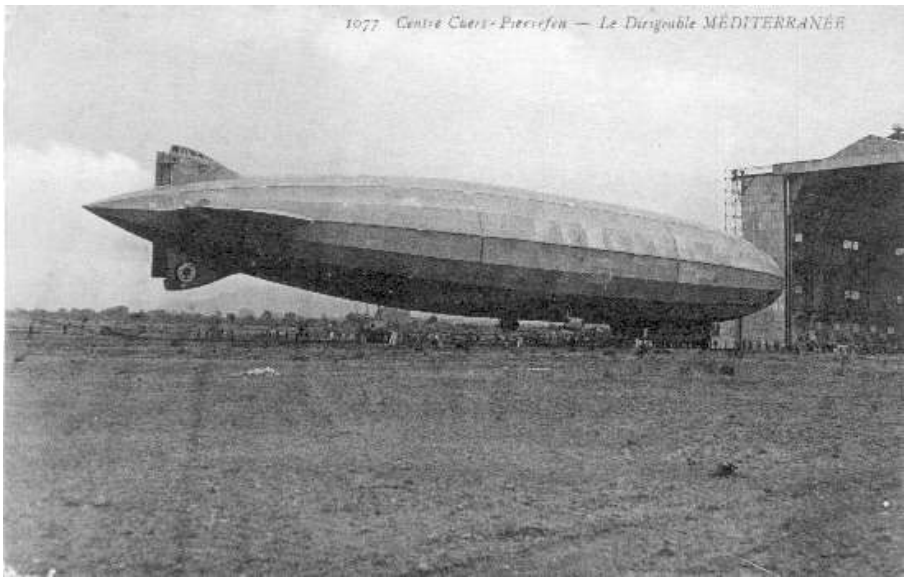
The incident claimed only one casualty. A member of the ground crew did not release the rope he was handling anf then fell to his death. The 29 remaining passengers were transported to Berlin by bus and were said to be unharmed and in high spirits.

Two days later, after it stopped snowing and the engines had been repaired, the Bodensee flew back to Berlin. After three days there undergoing other repairs and inspections, the normal flight schedule was started again.

Plans for passenger travel were ended as the Versailles Treaty ordered Germany to transfer all its airships to the Allies as war reparations. The *Bodensee* was transferred to Italy where it was renamed *Esperia*. The LZ-121 *Nordstern* was transferred to France where it was renamed *Méditerranée.*

Bundesarchiv, Bild 102-05517
Foto: o.Ang. | Februar 1928

The LZ-120 with its Italian markings.
Photo: Bundesarchiv Bild 102-05517



The LZ-121, renamed as the Méditerranée *after being transferred to France*
Photo courtesy of www.aeronavale.org

Technical details

The cross-section of the LZ-120 hull was a 17-sided polygon with a tear-drop shape. The frame consisted of 11 main rings, with an auxiliary ring between each pair of rings. A rigid keel started 20 meters (65.6 ft.) from the bow and ended 10 meters (32.8 ft.) from the stern. The hull was made of coated cotton. Two engines, side by side, were located in the aft engine car. Through a set of gears they drove a 2-blade, propeller with a 5.2 m (17 ft) diameter. There was one engine mounted in a car on each side of the hull. These had reversible gears and each drove a 3.2 m (10.5 ft.) 2-blade propeller.

	Before enlarging		**After enlarging (Winter of 1920-21)**	
Length	120.8 m	396.3 ft	130.8	429.1 ft.
Diameter	18.71 m	61.4 ft.	18.71 m	61.4 ft.
Volume	20,000 m^3 in 12 cells	706,290 cu. ft.	22550 m^3 in 13 gas cells	706,290 cu. ft.
Empty Weight	13,646 kg	30,084 lbs.	14,700 kg	32,408 lbs.
Payload	9,593 kg	21,149 lbs.	11,500 kg	25353 lbs.
Maximum Speed	132.5 km/h	82.3 mph	No Change	
Engines (4)	260 HP Maybach			
Range	1700 km			
Crew	12			