

# [Airships. bag containing a gas such as helium](https://assignbuster.com/airships-bag-containing-a-gas-such-as-helium/)

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Airships. In the early years of War, these beasts were known for their majesticpresence in the sky and were icons of a country’s power and prestige. Theyreigned mostly as reconnaissance and transport utility aircraft but there wassomething about this “ lighter-than-air” ship that made it far more than a mereutility workhorse. In this essay, I will discuss the ever-popular and ever-living king of the sky; the Airship. Airships, or dirigibles, were developed from the free balloon. Three classes ofairships are recognized: the non-rigid, commonly called blimp, in which the formof the bag is maintained by pressure of the gas; the semi-rigid airship, inwhich, to maintain the form, gas pressure acts in conjunction with alongitudinal keel; and the rigid airship, or zeppelin, in which the form isdetermined by a rigid structure.

Technically all three classes may be calleddirigible (Latin dirigere, “ to direct, to steer”) balloons. Equipped with a bagcontaining a gas such as helium or hydrogen which is elongated or streamlined toenable easy passage through the air, these Airships could reach speeds up to10mph with a 5hp steam engine propeller. The first successful airship was that of the French engineer and inventor HenriGiffard, who constructed in 1852 a cigar-shaped, non-rigid gas bag 44 m (143 ft)long, driven by a screw propeller rotated by a 2. 2-kw (3-hp) steam engine.

Heflew over Paris at a speed of about 10 km/hr (about 6 mph). Giffard’s airshipcould be steered only in calm or nearly calm weather. The first airship todemonstrate its ability to return to its starting place in a light wind was theLa France, developed in 1884 by the French inventors Charles Renard and ArthurKrebs. It was driven by an electrically rotated propeller.

The Brazilianaeronaut Alberto Santos-Dumont developed a series of 14 airships in France. Inhis No. 6, in 1901, he circled the Eiffel Tower. Count Ferdinand von Zeppelin, the German inventor, completed his first airshipin 1900; this ship had a rigid frame and served as the prototype of manysubsequent models. The first zeppelin airship consisted of a row of 17 gas cellsindividually covered in rubberized cloth; the whole was confined in acylindrical framework covered with smooth-surfaced cotton cloth.

It was about128 m (about 420 ft) long and 12 m (38 ft) in diameter; the hydrogen-gascapacity totaled 1, 129, 842 liters (399, 000 cu ft). The ship was steered byforward and aft rudders and was driven by two 11-kw (15-hp) Daimler internal-combustion engines, each rotating two propellers. Passengers, crew, and enginewere carried in two aluminum gondolas suspended forward and aft.

At its firsttrial, on July 2, 1900, the airship carried five persons; it attained analtitude of 396 m (1300 ft) and flew a distance of 6 km (3. 75 mi) in 17 min. The first commercial means of regular passenger air travel was supplied by thezeppelin airships Deutschland in 1910 and Sachsen in 1913. At the beginning ofWorld War I, 10 zeppelins were in service in Germany, and others were built forthe military services. By 1918 the total number of zeppelins constructed was 67, of which 16 survived the war. Those not captured were surrendered to the Alliesby the terms of the Treaty of Versailles in 1919. At the outbreak of the war, France had a fleet of semi-rigid airships, developed by officers of the Frencharmy. The experience of the war, however, in disclosing the vulnerability ofairships to airplane attack, caused the abandonment of the dirigible foroffensive military purposes.

Non-rigid airships became useful for aerialobservation, coastal patrol, convoying, and locating enemy submarines and mines, because of their abilities to hover over a given location and to remain in theair for longer periods than the airplane. Toward the end of World War I, theBritish began intensive development of rigid airships, stimulated by theprospect that nonflammable helium gas would soon be available in quantitiessufficient to inflate large ships. The R34, with a length of 196 m (643 ft) anda gas capacity of 56, 067, 355 liters (1, 980, 000 cu ft), was commissioned in 1919. It made the first transatlantic flight of an airship, flying by way ofNewfoundland, Canada, from East Fortune, Scotland, to Mineola, New York, andreturning to Pulham, England. The total flying time for the round trip was 183hr and 15 min and the aggregate distance traveled about 11, 200 km (about 7000mi). In 1921 the R38, some 25 percent larger than the R34, was completed; bothwere wrecked that same year. The famous German-built Hindenburg had a length of 245 m (804 ft) and a gascapacity of 190, 006, 030 liters (6, 710, 000 cu ft). After making ten transatlanticcrossings in regular commercial service in 1936, it was destroyed by fire in1937 when it was landing at Lakehurst, New Jersey; 36 of its 92 passengers andcrew were killed.

Since the destruction of the Hindenburg, airship activity hasbeen confined to the non-rigid type of craft. In 1938 all military blimps in theU. S. were placed under navy jurisdiction, with the Naval Air Station atLakehurst as center of operations. During World War II, blimps were employed forpatrol, scouting, convoy, and antisubmarine work.

A private commercial firm inthe U. S. developed several small, non-rigid airships that have been used toprovide aerial television views of sports events, to take people on rides, andfor advertising purposes. After World War II the U. S. Navy continued to developthe airship for such purposes as antisubmarine warfare, intermediate searchmissions, and early-warning missions. The largest of navy airships, the ZPG-2type, was 99 m (324 ft) long and had a capacity of 24, 777, 240 liters (875, 000 cuft) of helium.

An airship of this type stayed aloft without refueling for morethan 200 hr. The navy discontinued the use of airships in 1961; however, duringthe later-1980s there was a renewal of military interest in airships, and boththe U. S.

Coast Guard and Navy began to study the feasibility of using airshipsfor airborne early warning and electronic warfare as well as antisubmarinewarfare. Some countries were also showing an equal interest in airships forcivil aviation and advertising purposes. In present day, airships may beobserved at any given football game as the “ Goodyear Blimp” hovers high abovethe stadium and transfers live video feed to the viewers at home. In conclusion, ever since man has learned to fly, there have been airships. These seemingly harmless giants can pack an enormous punch now-a-days eitherwith heavy weaponry (not common) or through data transfer and electronic warfare.

These masters of the sky may always be valuable to the human race as theydeliver an advantage that no other aircraft can deliver: a walk in the cloudswith a giant chunk of world history.