Messerschmitt Me323

Le Messerschmitt Me 323 Gigant (Géant) est un avion de transport allemand utilisé pendant la Seconde Guerre mondiale. Au vu du succès rencontré pendant les campagnes de Hollande et de Belgique par les planeurs légers comme le DFS 230, emportant des unités de Fallschirmjägers (parachutistes) et du projet d'invasion de la Grande –Bretagne, la Luftwaffe, en 1940, lance programme de développement de planeurs lourds.

L'invasion de l'Angleterre est prévue à cette époque en utilisant des planeurs capable d'emporter véhicules, troupes et équipement lourd. Bien que l'opération Seelöwe (Lion de Mer), c'est-à-dire de l'invasion de l'Angleterre, fût annulée, le projet de planeurs lourds suivi son cours. Les planeurs seront utilisés massivement lors de l'invasion de la Crète en 1941, puis sur le front de l'Est à partir de Barbarossa.

Le 18 octobre 1940, la Luftwaffe donne aux firmes Junkers et Messerschmitt un délai de quatorze jours pour proposer un projet de planeur lourd d'assaut. L'appareil devra être capable d'emporter un canon de 88 mm et son tracteur semi-chenillé, ou bien un char Panzer IV. Junkers propose l'aile volante Junkers Ju 322 Mammut mais les prototypes ne donnent pas satisfaction. Messerschmitt propose le Me 261, rebaptisé par la suite Me 263 puis Me 321. Ce dernier devait être remorqué par trois Messerschmitt Bf 110 ou par un He 111 Zwilling bipoutre. Au début de l'année 1941 émerge l'idée de motoriser le planeur Me 321. On envisage désormais d'utiliser ce type d'avion de transport non plus uniquement pour l'assaut (réservé aux planeurs) mais également pour le transport tactique. Pour ce dernier usage, une version motorisée serait bien plus commode.

Après une série d'essais sur un Me 321 équipé de quatre moteurs (prototype Me 323 V1), on décide d'équiper le nouvel avion de six moteurs Gnome et Rhône GR 14N 48/49 de 1 141 ch (prototype Me 323 V2). Quelques autres modifications du planeur étaient nécessaires : renforcement de la structure des ailes, installation d'un espace entre le fuselage et le moteur intérieur pour les ingénieurs de vol chargés de veiller au bon fonctionnement des GR14N. Enfin, un système de train d'atterrissage dernier cri, très performant sur piste sommaire, fut installé. Le prix de ces aménagements était une capacité d'emport de 10 à 12 tonnes inférieure au planeur Me 321. Le nouvel avion comptait sept membres d'équipage. Quelques Me 321 furent donc transformés en Me 323, mais la plupart de ces derniers furent fabriqués en tant que tel. Capable d'emporter 100 hommes avec leur équipement, ou 15 tonnes de fret, le Me 323 a été particulièrement employé sur le théâtre méditerranéen. Il faisait la liaison entre l'Italie, ou la Sicile, et l'Afrique du Nord. Mais, après avoir percé le codage des communications allemandes (opération Ultra), les Alliés purent connaître à l'avance les dates de convoyage de Gigant, de sorte que de nombreux convois ont été perdus, pris en embuscade par des chasseurs anglais et américains bien informés.

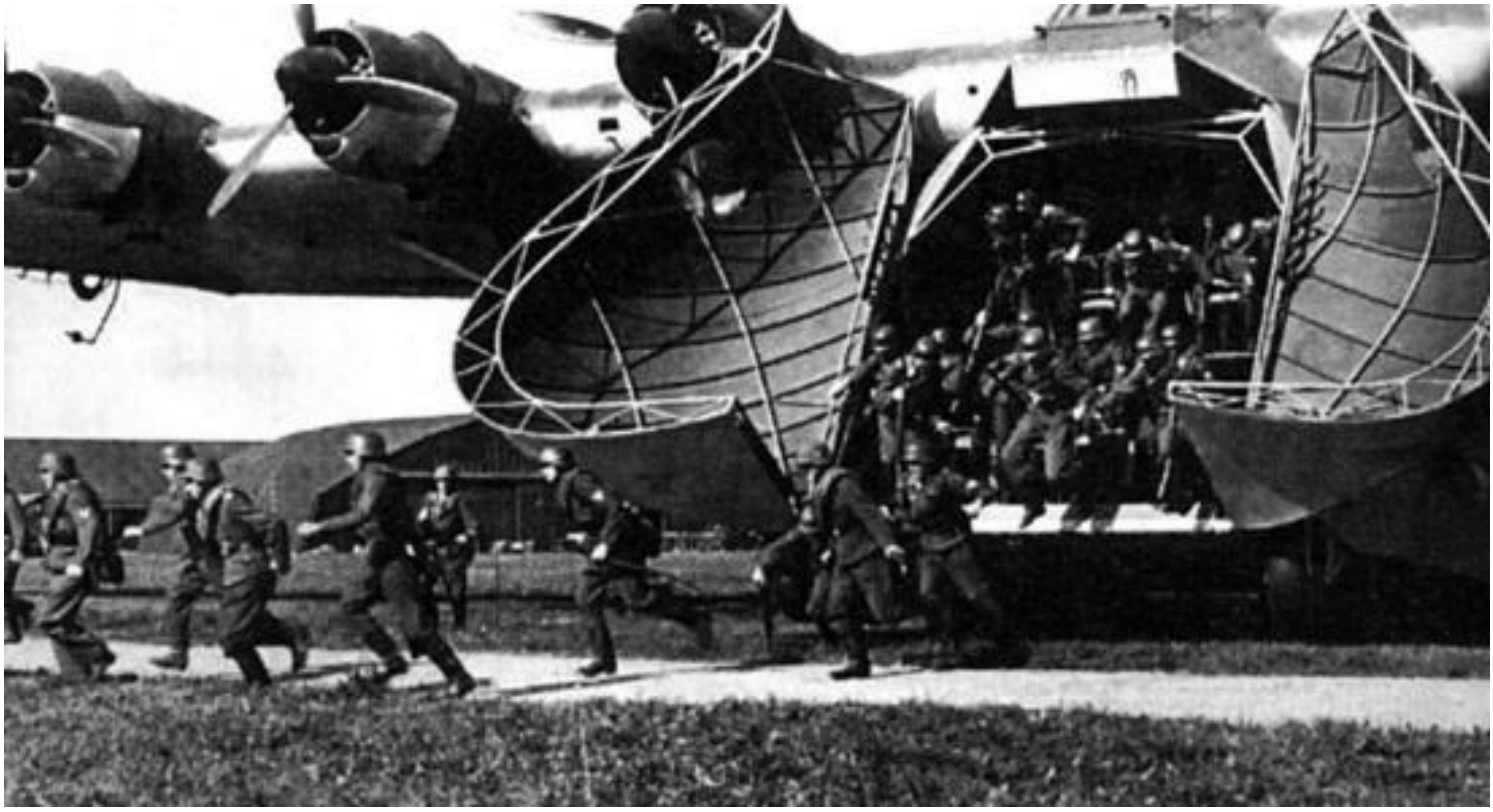
Le 22 avril 1943 par exemple, quatorze Me 323 chargés d'essence ont été pris en embuscade à proximité du Cap Bon (Tunisie). Tous furent abattus. Cela représente la perte de 120 membres d'équipage et 700 barils d'essence. Dans les dernières semaines de l'Afrika Korps, quarante-trois Me 323 furent perdus lors de missions sur la Tunisie. 213 Me 323 ont été construits avant que ne cesse la production en avril 1944. Différentes versions furent produites. Elles diffèrent par l'armement défensif, des modifications de la structure, la capacité des réservoirs de carburant ou le volume de fret maximum. Il a été produit une version d'escorte, le Me 323 E-2/WT, équipé de onze canons MG 151 de 20 mm et de quatre mitrailleuses MG 131 de 13 mm. Le principal défaut de l'avion était sa sous-motorisation. Un projet de remplacement des Gnome et Rhône par des BMW 801 fut proposé mais n'aboutit pas. Ce dernier, qui équipe notamment le Fw 190, développe de 1 400 à 2 400 ch selon les versions. Le Me 323 avait également un rayon d'action limité de 1 000 à 1 200 km en charge (contre 2 500 km pour le bombardier Junkers Ju 88 par exemple). Néanmoins, il rendit de très grands services à la Luftwaffe, qui l'utilisa intensément.

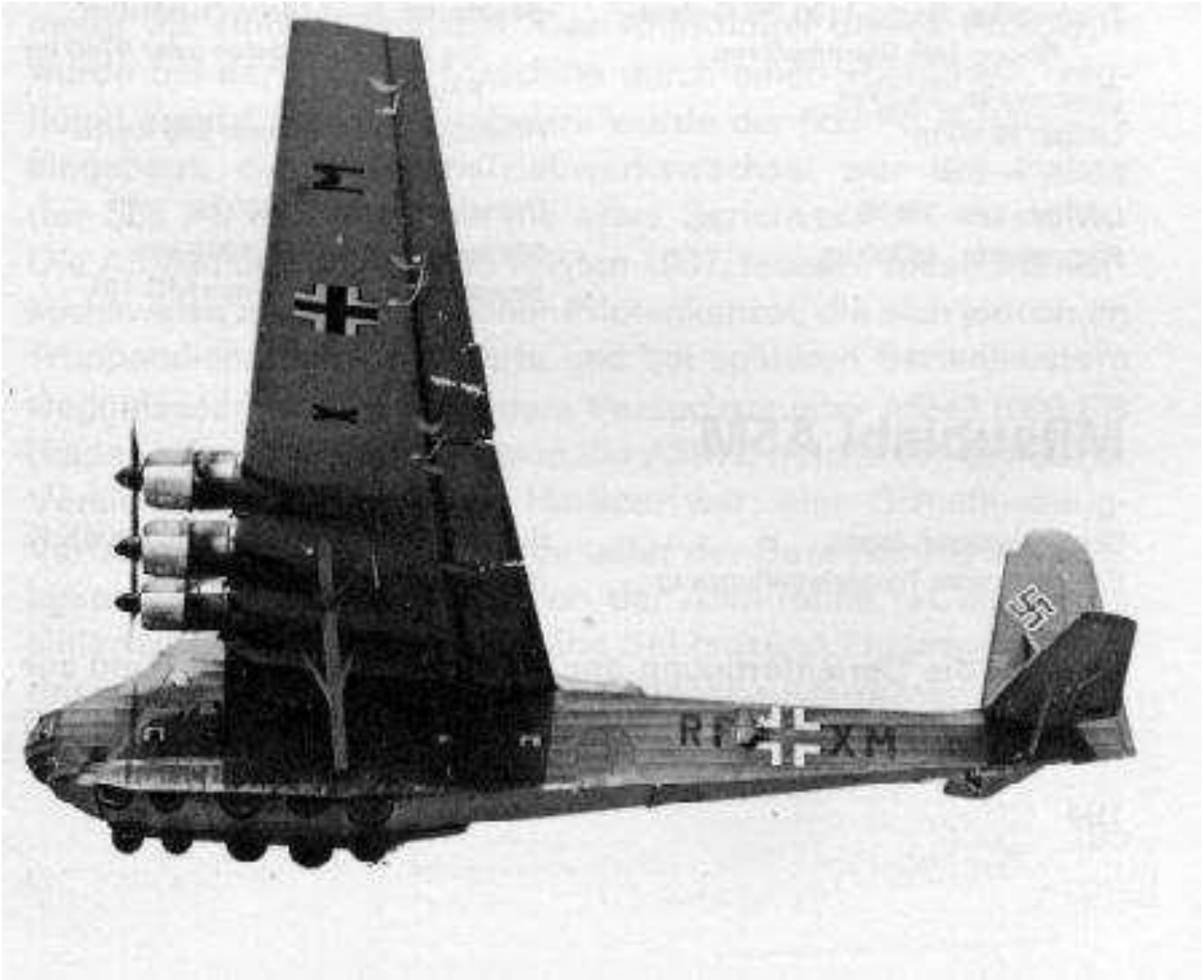
Messerschmitt Me323 :

- 6 Moteurs Gnome Rhône 14R
- 6 X 1200 Ch
- 225 Km/h
- 120 Passagers ou du fret
- 45000 Kg en charge
- 4000 m de plafond pratique
- 1100 Km en distance franchissable
- 5 Equipiers

Bundesarchiv, Bild 1011-559-1085-07
Foto: Reschenberg | 1943

Bundesarchiv, Bild 1011-554-0872-07
Foto: Pirath, Helmuth | Januar 1943 Anfang





Source : http://les-avions-de-legende.e-monsite.com/pages/les-avions-de-transport/les-avions-de-transports-allemands/messerschmitt-me323.html

version anglaise

The **Messerschmitt Me 323 *Gigant*** ("Giant") was a German military transport aircraft of World War II. It was a powered variant of the Me 321 military glider and was the largest land-based transport aircraft to fly during the war. In total, 213 were made, with 15 being converted from the Me 321.

Development

View into the cockpit of the Me 323

The Me 323 was the result of a 1940 German requirement for a large assault glider in preparation for Operation Sea Lion, the projected invasion of Great Britain. The DFS 230 light glider had already proven its worth in the Battle of Fort Eben-Emael in Belgium (the first ever assault by gliderborne troops), and would later be used successfully in the invasion of Crete in 1941.

However, in order to mount an invasion across the English Channel, the Germans would need to be able to airlift vehicles and other heavy equipment as part of an initial assault wave. Although Operation Sea Lion was cancelled, the requirement for a heavy air transport capability remained, with the focus shifting to the forthcoming Operation Barbarossa, the invasion of the Soviet Union.

On 18 October 1940, Junkers and Messerschmitt were given just 14 days to submit a proposal for a large transport glider. The emphasis was still very much on the assault role; the ambitious requirement was to be able to carry either an 88 mm gun and its half-track tractor, or a Panzer IV medium tank. The Junkers Ju 322 *Mammut* reached prototype form, but was eventually scrapped due to difficulties in procuring the necessary high-grade timber for its all-wood construction, and as was discovered during the *Mammut*'s only test flight, an unacceptably high degree of instability inherent in the design. The proposed Messerschmitt aircraft was originally designated **Me 261w**—partly borrowing the designation of the long-range Messerschmitt Me 261—then changed to **Me 263** (later reused for Messerschmitt's improved rocket fighter design), and eventually became the **Me 321**. Although the Me 321 saw considerable service on the Eastern Front as a transport, it was never used for its intended role as an assault glider.

Me 323

Early in 1941, as a result of feedback from Transport Command pilots in Russia, the decision was taken to produce a motorized variant of the Me 321, to be designated Me 323. French Gnome et Rhône GR14N radial engines, rated at 1,180 PS (1,164 hp, 868 kW) for take-off as used in the Bloch MB.175 aircraft were chosen for use. This would reduce the burden on Germany's strained industry. Initial tests were conducted with four Gnome engines attached to a strengthened Me 321 wing, giving modest speed of 210 km/h (130 mph) – 80 km/h (50 mph) slower than the Ju 52 transport aircraft. A fixed undercarriage was fitted, with four small wheels in a bogie at the front of the aircraft and six larger wheels in two lines of three at each side of the fuselage, partly covered by an aerodynamic fairing. The rear wheels were fitted with pneumatic brakes that could stop the aircraft within 200 m (660 ft).

The four-engined Me 323C was considered a stepping-stone to the six-engined D series. It still required the five-engined Heinkel He 111Z *Zwilling* or the highly dangerous "vic-style" *Troika-Schlepp* formation of three Messerschmitt Bf 110 heavy fighters and underwing-mounted Walter HWK 109-500 *Starthilfe* rocket assisted takeoff units to get airborne when fully loaded, but it could return to base under its own power when empty. This was little better than the Me 321, so the V2 prototype became the first to have six engines and flew for the first time in early 1942, becoming the prototype for the D-series aircraft. To reduce torque, the aircraft was fitted with three counterclockwise rotation engines on the port wing and three clockwise rotation engines on the starboard wing, as seen looking forward from behind each engine - resulting in the propellers rotating "away" from each other at the tops of their arcs.

Design

Gigant wing, showing wing gun positions

Like the Me 321, the Me 323 had massive, semicantilever, high-mounted wings, which were braced from the fuselage out to the middle of the wing. To reduce weight and save aluminium, much of the wing was made of plywood and fabric, while the fuselage was of metal-tube construction with wooden spars and covered with doped fabric, with heavy bracing in the floor to support the payload. The "D" series had a crew of five - two pilots, two flight engineers, and a radio operator. Two gunners could also be carried. The flight engineers occupied two small cabins, one in each wing between the inboard and centre engines. The engineers were intended to monitor engine synchronisation and allow the pilot to fly without worrying about engine status, although the pilot could override the engineers' decisions on engine and propeller control.

Maximum payload was around 12 tonnes, although at that weight, the Walter HWK 109-500 *Starthilfe* rocket-assisted takeoff units used on the Me 321 were required for takeoff. These were mounted beneath the wings outboard of the engines, with the wings having underside fittings to take up to four units. The cargo hold was 11 m (36 ft) long, 3 m (10 ft) wide and 3.4 m (11 ft) high. Typical loads were one 15 cm sFH 18 heavy field howitzer (5.5 ton) accompanied by its Sd.Kfz. 7 half-track artillery tractor vehicle (11 ton), two 3.6 tonne (4 ton) trucks, 8,700 loaves of bread, an 88 mm *Flak* gun and accessories, 52 drums of fuel (252 L/45 US gal), 130 men, or 60 stretchers. Some Me 321s were converted to Me 323s, but most were built as six-engined aircraft from the beginning. Early models were fitted with wooden, two-blade propellers, while later versions had metal, three-blade, variable-pitch versions. The Me 323 had a maximum speed of only 219 km/h (136 mph) at sea level. It was armed with five 13 mm (.51 in) MG 131 machine guns firing from a dorsal position behind the wings and from the fuselage. They were manned by the extra gunners, radio operator, and engineers.

Operational history

An Me 323 transporting wounded personnel in Italy, March 1943

A Me 323 unloads a Renault UE in Tunisia, January 1943

By September 1942, Me 323s were being delivered for use in the Tunisian campaign. They entered service in the Mediterranean theatre in November 1942. High losses among Axis shipping required a huge airlift of equipment across the Mediterranean to keep Rommel's Afrika Korps supplied. On 22 April 1943, a formation of 27 fully loaded Me 323s was being escorted across the Sicilian Straits by Messerschmitt Bf 109s of Jagdgeschwader 27 when it was intercepted by seven squadrons — Supermarine Spitfires (No. 1 Squadron SAAF) and Curtiss P-40 Kittyhawks (No. 7 South African Wing). Of the 27 transports, 16 or 17 were shot down. Three or four P-40s were shot down by the escorts.

A total of 198 Me 323s were built before production ceased in April 1944. Several production versions were built, beginning with the **D-1**. Later D- and E- versions differed in the choice of power plant and in defensive armament, with improvements in structural strength, total cargo load, and fuel capacity also being implemented. Nonetheless, the Me 323 remained underpowered. A proposal to install six BMW 801 radials did not occur. The Me 323 was also a short-range aircraft, with a typical range (loaded) of 1,000–1,200 km (620–750 mi). Despite this, the limited numbers of Me 323s in service were an asset to the Germans, and saw extensive use.

Variants

Messerschmitt Me 323D

Photograph of Luftwaffe Me 323 being shot down by a Martin B-26 Marauder of 14 Squadron RAF, Northwest African Coastal Air Force near Cap Corse, Corsica

Me 323 V1
First prototype, powered by four Gnome-Rhône 14N-48/49 engines

Me 323C
Interim production version based on the V1 prototype with four engines

Me 323 V2
Prototype, powered by six Gnome-Rhône 14N engines, became the standard for D production series

Me 323D-1
First production series, powered by six Gnome-Rhône 14N engines originally intended for use in the Bloch 175, two 7.92 mm (.312 in) MG 15 machine guns in cockpit fittings provided, field modifications increased defensive armament, variable-pitch Ratier propellers with three blades

Me 323D-2
Same as D-1 but with engine installation originally intended for use in the LeO 451, fixed-pitch wooden Heine propellers with two blades

Me 323D-6
Same as D-2, but with variable-pitch Ratier propellers with three blades

Me 323 V13
Prototype, powered by six Gnome-Rhône 14N engines, served as a master for the Me 323E production series

Me 323 V14
Prototype, powered by six 1,340 PS *Kraftei* (unitized) Junkers Jumo 211F engines, not proceeded with

Me 323E-1
Second production series, two gun turrets incorporated in the wings

Me 323E-2
Proposed version with heavier armament

Me 323E-2 WT
Proposed 'escort' gunship version, based on the E-1. Classified as a *Waffenträger* ("weapons carrier") by the RLM, which the WT suffix denoted, in a similar role to that of the American Boeing YB-40 Flying Fortress "gunship" conversion for the USAAF. Primary mission was to provide normal 323 cargo formations with heavy defensive protection. No cargo carrying ability. "Solid" nose with 20mm cannon turret, two additional wing turrets plus up to ten other machine guns and cannon of varying calibres firing from standard and new waist/beam positions. 1.3 tonnes of armour plating was added across the entire airframe. To operate the weapons the crew increased to twenty-one. Two prototypes built and tested, but series was cancelled after it was judged that normal single-engined fighters were more effective in the transport escort role. One of the prototypes was briefly assigned to KG 200 for operational evaluation, where it flew armed escort for the small number of captured B-17 Flying Fortresses operated by the *Geschwader*.

Me 323 V16
Prototype, powered by six unitized 1,340 PS Jumo 211R engines, intended to serve as a master for the Me 323F production series

Me 323F
Projected production version of the V16 prototype, instead produced by Luftschiffbau Zeppelin as the **ZMe 323F**

Me 323 V17
Prototype (unfinished), powered by six 1,600 PS (1,578 hp, 1,177 kW) Gnome-Rhône 14R engines, intended to serve as a master for the Me 323G

Me 323G
Projected production version of the V17 prototype

ZMe 323H
Projected version with a load capacity of 18 tons and a range of about 600 miles

Me 323Z
Zwilling ("Twin") variant with two fuselages joined at the wing, one built but lost in an accident

ZMe 423
Proposed six-engined heavy transport aircraft based on the Me 323

Surviving aircraft
No complete aircraft survives, but the *Luftwaffenmuseum der Bundeswehr* (Air Force Museum of the German Federal Armed Forces) in Berlin has a Me 323 main wing spar in its collection. A ruined but complete wreck was found in 2012, in the sea near La Maddalena, an island near Sardinia, Italy. The aircraft lies in around 60 m (200 ft) of water, around 8 nautical miles (15 km) from the coast. It was shot down by a British Bristol Beaufighter long-range fighter on 26 July 1943, while flying from Sardinia to Pistoia in Italy.

Specifications (Me 323D-6)

General characteristics
- **Crew:** 5
- **Capacity:** 130 troops or 10,000–12,000 kg (22,000–26,500 lb) payload
- **Length:** 28.2 m (92 ft 6 in)
- **Wingspan:** 55.2 m (181 ft 1 in)
- **Height:** 10.15 m (33 ft 4 in)
- **Wing area:** 300 m^2 (3,200 sq ft)
- **Airfoil: root:** NACA 2R1 19; **tip:** NACA 2R1 10
- **Empty weight:** 27,330 kg (60,252 lb)
- **Gross weight:** 29,500 kg (65,036 lb)
- **Max takeoff weight:** 43,000 kg (94,799 lb)
- **Powerplant:** 6 × Gnome-Rhône 14N 14-cylinder air-cooled radial piston engines 1,180 PS (1,164 hp; 867.9 kW) take-off power
- **Propellers:** 3-bladed Chauvière variable-pitch propeller

Performance
- **Maximum speed:** 285 km/h (177 mph, 154 kn)
- **Cruise speed:** 218 km/h (135 mph, 118 kn)
- **Range:** 800 km (500 mi, 430 nmi)
- **Ferry range:** 1,100 km (680 mi, 590 nmi)
- **Service ceiling:** 4,000 m (13,000 ft)
- **Rate of climb:** 3.6 m/s (710 ft/min)

Armament
- **Guns:** multiple 7.92 mm MG 15, MG 81 or 13 mm MG 131 machine guns

source : https://en.wikipedia.org/wiki/Messerschmitt_Me_323_Gigant