Be-200
Multipurpose Amphibious Aircraft

Main / Manufacturing / The Be-200 Multipurpose Amphibious Aircraft

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The Be-200 is a versatile amphibious platform easily configured for a variety of missions including fire fighting, search and rescue, maritime patrol, cargo and passenger transportation. Conceived for littoral and blue water operations, the Be-200 amphibian features impressive maritime characteristics. Moreover, perfected aerodynamics makes the Be-200's flight characteristics similar to those of conventional aircraft.

Programme Status

The first test sample of the Be-200 multipurpose amphibious jet took off on September 24, 1998. After thorough certification tests completed, a type certificate for the firefighting version of the aircraft has been officially entrusted in 2001.

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In 2003 the first serially produced aircraft was delivered to the Customer and starting 2006 already four amphibian aircraft are participating in various exercises and humanitarian missions by the EMERCOM. Besides being operated in Russia the EMERCOM Be-200 aircraft, as well as sometimes the Beriev Company developmental amphibians, upon the requests of other countries' governmental agencies render assistance in fire-fighting abroad: in Italy (2004-2005), Portugal (2005) and Indonesia (2006). The Be-200 has demonstrated considerable dominance of its flight-technical performance over the competitors first and foremost in the efficiency of fire-fighting. The summer 2007 turned out to be especially hot in South Europe; hence the urgent assistance of the Russian EMERCOM was required in order to fight fires with all the means available. Two Be-200Chs are leased to Portugal. Upon the request of the Greek government one more Be-200Chs has arrived to Greece among other fire-fighting crafts.

The Be-200Chs efficient operation abroad has demonstrated the potential customers its advantages and primarily its fire-fighting capabilities. In 2007 the Irkut Corporation has registered a substantially increased number of requests for technical-commercial proposal for the Be-200 type aircraft procurement. The negotiations on acquiring various modifications of the Be-200 and leasing these fire-fighters for the summer season are under way with Portugal, Greece, Italy, Kazakhstan, Turkey, Algeria, Malaysia, Australia, USA and other countries.

The Corporation continues active and fruitful cooperation with the European company EADS and its subsidiaries. On the basis of agreement between EADS and Russian Aviation Register of the International Aviation Committee the experts from Irkut, Beriev Aircraft and Airbus are cooperating to receive the European Type Certificate for the Be-200Chs aircraft with the English cockpit interface. In 2007 it is expected to obtain the Fire-fighting Certificate and in 2008-09 - the Airlift Certificate.

Distinguishing features

The aircraft is a high-wing T-tail monoplane with a high aspect ratio hull and variable lateral deadrise angle.

The aircraft is powered by two pylon-mounted D-436TP by-pass turbojet engines. These are mounted above the wingroot pods on the landing gear fairings to prevent water spraying into the engines during take-off and landing.

The Be-200 is fitted with the state-of-the-art ARIA-200 integrated flight-navigation-communications suite, which ensures reliable piloting and navigation in any weather, in any region of the world. The ARIA-200's open architecture leaves room for reconfiguring the system to fit customer's specific
requirements. Be-200 is easy to fly by a crew of two due to an advanced flight-and-navigation system and built-in automated test equipment.

Deployment options

The Be-200 operates equally well from a Class B airfield with a runway of 1,800 m long, or an open water area not less than 2,300 m long and 2.5 m deep. The Be-200 can take off from and land on water at waves up to 1.3 m high. Additionally a number of anti-corrosion precautions have been taken to protect the aircraft against the caustic effects of seawater. Requiring only a 130 x 70-m paved area ashore with a concrete slope to the water surface for its deployment, the Be-200 is ideal for remote coastal areas lacking adequate ground facilities.

Firefighting capabilities

Although designed as a multipurpose amphibious aircraft, the Be-200 is especially well suited for fire-fighting operations in remote areas. The Be-200 fire fighter suppresses natural and industrial fires by dropping water and/or chemical retardants. Eight water tanks located under the cargo cabin are filled by scooping, and alternatively, from a hydrant or a water duct on the ground. The Be-200 scoops 12 tonnes of water in 14 seconds, while gliding on the water surface at 150-190 km/h. Water can be dropped in a single salvo to cover a large fire spot, or in two to eight consecutive drops (pre-programmed from the cockpit) to extinguish several small fires and to bar fire from spreading to unaffected areas.

To enhance its fire-fighting ability, the aircraft also carries six auxiliary tanks for fire-retarding chemical agents, with a total capacity of 1.2 cubic meters.

Employment versatility

On short notice, the aircraft can be converted for diverse missions with all fire-fighting capabilities retained.

The Be-200 search-and-rescue variant can perform 6.5-h-long patrol missions at a range up to 370 km. Additional equipment includes an inflatable boat, thermal vision and optical surveillance means, and medical equipment. The search-and-rescue aircraft can accommodate up to 45 persons.

On short notice, the aircraft can be reconfigured to perform medical evacuation missions. In this case, it will be capable of accommodating up to 40 stretcher casualties accompanied by medical personnel with in-flight diagnostics and resuscitation equipment.

The cargo variant is fitted with floor-mounted cargo handling equipment to expedite loading, unloading, and fastening of cargo being transported in standard containers, or pallets. The Be-200’s range with a 6.5-t payload and 1-h fuel reserve is 1,250 km.

The passenger version transports up to 72 passengers at 1,400-km distance. The crew is augmented by two flight attendants.

The Be-200 can be converted from cargo to passenger version within one hour, the approximate time required to mount the passenger seats.

Basic characteristics

Dimensions: length / height / wing span, m 32.05 / 8.9 / 32.78

Cruise speed, km/h 560

Maximum speed, km/h 700

Rate of climb, maximum take-off weight, sea level, two engines operative, m/s 12.2

Service ceiling, m 8,000

Ferry range with 1-h fuel reserve, km 3,300

Scooping time of 12,000 kg at 180 km/h 14

Seaworthiness, Sea State 3

Maximum wave height, m 1.3

Minimal depth, m 2.5

Engines D-436TP; 2 x 7,650 kgf

Maximum take-off weight:
- runway, kg 41,000
- water, kg 37,900
<table>
<thead>
<tr>
<th>Weight Category</th>
<th>Value</th>
</tr>
</thead>
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<tr>
<td>Maximum empty weight, kg</td>
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<tr>
<td>Overall empty weight, kg</td>
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<tr>
<td>Max. payload + fuel reserve at takeoff, kg</td>
<td>13,400</td>
</tr>
<tr>
<td></td>
<td>15,400</td>
</tr>
<tr>
<td>Maximum landing weight:</td>
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<tr>
<td>- runway, kg</td>
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<tr>
<td>- water, kg</td>
<td>37,900</td>
</tr>
<tr>
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<tr>
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</tbody>
</table>

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Maximum afterscooping weight, kg  
Overall empty weight, kg  
Max. payload + fuel reserve at takeoff, kg  

Maximum landing weight:  
- runway, kg  
- water, kg  
Maximum water/retardants reserve, kg  
Fuel reserve, l

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