

= SMS Fürst Bismarck ( 1897 ) =

SMS Fürst Bismarck ( Prince Bismarck ) was Germany 's first armored cruiser , built for the Kaiserliche Marine before the turn of the 20th century . The ship was named for the German statesman Otto von Bismarck . The design for Fürst Bismarck was an improvement over the previous Victoria Louise @-@ class protected cruiser ? Fürst Bismarck was significantly larger and better armed than her predecessors .

The ship was primarily intended for colonial duties , and she served in this capacity as part of the East Asia Squadron until she was relieved in 1909 , at which point she returned to Germany . The ship was rebuilt between 1910 and 1914 , and after the start of World War I , she was briefly used as a coastal defense ship . She proved inadequate to this task , and so she was withdrawn from active duty and served as a training ship for engineers until the end of the war . Fürst Bismarck was decommissioned in 1919 and sold for scrap .

= = Design = =

Fürst Bismarck was designed before the naval arms race between Germany and the United Kingdom . Admiral Hollmann was the State Secretary of the Naval Office at the time . Given the dominance of the British Royal Navy and the impossibility , as he saw it , of competing with it , Hollmann envisaged a small fleet consisting of torpedo boats and coastal defense ships to be based in German waters . This would be supplemented by a number of cruisers for overseas duties , including trade protection .

The first armored cruiser to be designed by the German navy , Fürst Bismarck was an enlarged version of the Victoria Louise @-@ class cruisers , at nearly twice the displacement and with a significantly more powerful armament . The ship was intended for overseas use , particularly in support of German colonies in Asia and the Pacific . Despite heavy political opposition , the new ship was approved by the Reichstag , and was laid down as Ersatz Leipzig in April 1896 at the Imperial Dockyard in Kiel . Fürst Bismarck , named after the famous German chancellor Otto von Bismarck , was completed on 1 April 1900 , at a cost of 18 @, @ 945 @, @ 000 Marks .

= = = Dimensions = = =

Fürst Bismarck was 125 @. @ 70 m ( 412 @. @ 4 ft ) at the waterline , with an overall length of 127 m ( 417 ft ) and a beam of 20 @. @ 40 m ( 66 @. @ 9 ft ) . She had a draft of 7 @. @ 80 m ( 25 @. @ 6 ft ) forward and 8 @. @ 46 m ( 27 @. @ 8 ft ) aft . She displaced 10 @, @ 690 tonnes ( 10 @, @ 520 long tons ) at the designed load , and 11 @, @ 461 tonnes ( 11 @, @ 280 long tons ) at full load . Fürst Bismarck was described as being a very good sea @-@ boat , and was highly responsive to commands from the helm . However , the ship suffered from serious roll problems and heavy vibration at higher speeds . Her metacentric height was .72 m .

The ship was of transverse and longitudinal steel frame construction ; the hull was a single layer of wooden planks covered by a Muntz metal sheath that extended up to .95 m ( 3 @. @ 1 ft ) above the waterline . The lower portions of the ship , including the stem and the stern , were covered with bronze plating . The ship had 13 watertight compartments and a double bottom that ran for 59 % of the length of the hull .

= = = Machinery = = =

Fürst Bismarck was propelled by three vertical four @-@ cylinder , triple @-@ expansion reciprocating engines . The engines were powered by four Thornycroft boilers ? which had been built by AG Germania ? and 8 cylindrical boilers . The Thornycroft boilers had two fire boxes apiece , for a total of eight , while the cylindrical boilers each had four fire boxes , for a total of 32 . Each of the three engines drove a three @-@ bladed screw . The center propeller was 4 @. @ 40 m ( 14 @. @ 4 ft ) in diameter , while the two outer screws were slightly larger , at 4 @. @ 80 m ( 15 @. @ 7

ft ) in diameter . The engines produced 13 000 ihp ( 10 000 kW ) and a top speed of 18 knots ( 34 km / h ) . On trials , the engines were pushed to 13 622 ihp ( 10 158 kW ) , but still only provided a top speed of 18 knots ( 34 km / h ) . Electrical power was supplied by five generators that provided 325 kilowatts at 110 volts .

== Armor ==

Fürst Bismarck was protected with Krupp armor , which was in some cases thicker than that of subsequent designs . The armor belt was 20 cm ( 7 9 in ) thick in the central portion of the ship , and tapered down to 10 cm ( 3 9 in ) towards either end of the ship . Set behind the armored belt were 10 cm ( 3 9 in ) thick shields for critical areas of the ship . The main armored deck was 3 cm ( 1 2 in ) thick , with 5 cm ( 2 0 in ) thick slopes . The forward conning tower had 20 cm thick sides and a 4 cm ( 1 6 in ) thick roof , while the aft conning tower had 10 cm sides and a 3 cm roof . The main battery turret sides were 20 cm thick and the roofs were 4 cm thick . The 15 cm turrets had 10 cm sides and 7 cm ( 2 8 in ) gun shields . The casemated guns had 10 cm shields .

By contrast , the following armored cruiser design , Prinz Heinrich , had only had a 10 cm thick armor belt and 15 cm ( 5 9 in ) of armor on the turret sides . Even Blücher , Germany 's last armored cruiser , only had a 18 cm ( 7 1 in ) armored belt and 18 cm thick turret faces , though her overall scale of protection was much more comprehensive than Fürst Bismarck 's .

== Armament ==

Fürst Bismarck 's main armament consisted of four 24 cm ( 9 4 in ) SK L / 40 quick firing guns in two Drh . L . C / 98 twin turrets , fore and aft of the main superstructure . These guns could depress to 4 degrees and elevate to 30 degrees , for a maximum range of 16 000 m ( 18 482 yd ) . The guns fired 140 kg ( 309 lb ) armor piercing shells at a muzzle velocity of 690 meters per second ( 2 300 ft / s ) . The propellant charge weighed 41 35 kg ( 91 lb ) and was stored in a brass case . The ship stored 312 rounds , for a total of 78 shells per gun .

The secondary armament consisted of twelve 15 cm ( 6 in ) SK L / 40 quick firing guns in MPL type casemates , and ten 8 8 cm ( 3 5 in ) SK L / 30 guns in a combination of casemates and shielded mounts . The 15 cm guns could elevate to 20 degrees , and had a range of 13 700 m ( 14 983 yd ) . The 15 cm guns could sustain a rate of fire of 4 to 5 rounds per minute , and stored 120 shells per gun . The 8 8 cm gun fired a 10 kg ( 22 lb ) projectile at a muzzle velocity of 590 m / s ( 1 900 ft / s ) . Each gun was supplied with 250 shells .

Six 17 7 in ( 450 mm ) torpedo tubes were also fitted , with a total of 16 torpedoes . One tube was fitted to a swivel mount on the stern of the ship , four were submerged on the broadside , and the sixth was placed in the bow , also submerged .

== Service history ==

Upon commissioning , Fürst Bismarck was assigned to the German East Asia Squadron . She arrived at Tsingtao in August 1900 , under the command of Konteradmiral ( Rear Admiral ) Curt von Prittwitz und Gaffron , and participated in the suppression of the Boxer Rebellion . The ship won the Kaiser 's gold challenge cup for heavy gun marksmanship in 1901 and 1903 . When the new armored cruiser SMS Scharnhorst arrived at Tsingtao in 1909 to replace Fürst Bismarck as flagship of the East Asia Squadron , she was ordered back to Germany . Upon arriving in Kiel in June 1909 , she was decommissioned and entered a lengthy modernization that lasted until 1914 .

At the outbreak of World War I , the ship was reactivated for coast defense duties , but was quickly withdrawn from active service . Fürst Bismarck spent the remainder of the war as a stationary accommodation and engineering training ship in Kiel . In 1919 , she was used for a short time as an office ship . Fürst Bismarck was struck from the navy register on 17 June 1919 , sold for scrap , and

broken up the following year at Audorf @-@ Rendsburg .