

= Karlsruhe @-@ class cruiser =

The Karlsruhe class of light cruisers was a pair of two ships built for the German Imperial Navy before the start of World War I. The ships ? SMS Karlsruhe and Rostock ? were very similar to the previous Magdeburg @-@ class cruisers , mounting the same armament and similar armor protection , though they were larger and faster than the earlier ships . Both vessels were laid down in 1911 , and launched one day apart , on 11 and 12 November 1912 . Karlsruhe joined the fleet in January 1914 , but fitting out work lasted slightly longer on her sister ; Rostock was commissioned the following month .

Both of the ships had short service careers . Karlsruhe was assigned to overseas duty in the Caribbean , arriving on station in July 1914 , days before the outbreak of World War I. Once the war began , she armed the passenger liner SS Kronprinz Wilhelm so it could raid British shipping . After a moderately successful commerce raiding career , during which Karlsruhe sank sixteen merchant ships and successfully evaded British cruisers , she sank after an accidental internal explosion on 4 November 1914 . Most of her crew were killed in the sinking , but the survivors returned to Germany on one of Karlsruhe 's attendant colliers by December .

Rostock served as a torpedo boat flotilla leader with the High Seas Fleet following her commissioning ; her flotilla frequently screened for the battlecruisers in the I Scouting Group , including during the Battle of Dogger Bank in January 1915 and operations off the British coast in early 1916 . She saw heavy action during the Battle of Jutland on 31 May ? 1 June 1916 as part of the screen for the main battle fleet . In the ferocious night fighting that occurred as the German fleet punched through the British rear @-@ guard , Rostock was torpedoed by a British destroyer , which immobilized the ship . She was taken under tow by several torpedo boats , but early on the morning of 1 June , the cruiser HMS Dublin located the cruiser . To prevent her capture by the British , the Germans scuttled the ship after taking off her crew .

= = Design = =

The design for the Karlsruhe class was prepared in 1910 , and was an incremental improvement over the previous Magdeburg class . Karlsruhe and Rostock were faster and had a larger , more raked hull and greater displacement , but had the same armament and armor protection . Karlsruhe was ordered as Ersatz Seeadler and laid down in 1911 at the Germaniawerft shipyard in Kiel , under construction number 181 . She was launched on 11 November 1912 and commissioned into the fleet on 15 January 1914 . Rostock was ordered as Ersatz Geier and laid down in 1911 at the Howaldtswerke dockyard in Kiel , under construction number 560 . Launching ceremonies took place on 12 November 1912 , a day after her sister . She was completed on 5 February 1914 , the date she joined the fleet .

= = = Dimensions and machinery = = =

The Karlsruhe class ships were 139 meters (456 ft) long at the waterline and 142 @.@ 2 m (467 ft) long overall . They had a beam of 13 @.@ 7 m (45 ft) and a draft of 5 @.@ 38 m (17 @.@ 7 ft) forward and 6 @.@ 2 m (20 ft) aft . They displaced 4 @,@ 900 metric tons (4 @,@ 800 long tons ; 5 @,@ 400 short tons) at designed load and 6 @,@ 191 t (6 @,@ 093 long tons ; 6 @,@ 824 short tons) at full combat loading . The hull was constructed with longitudinal steel frames and incorporated fifteen watertight compartments and a double bottom that extended for 45 percent of the length of the hull . The ships had a crew of eighteen officers and 355 enlisted men . Karlsruhe and Rostock carried a number of smaller vessels , including one picket boat , one barge , one cutter , two yawls , and two dinghies . After 1915 , Rostock had spotting tops installed on her masts . The German Navy regarded the two ships as good sea boats . They suffered from slight weather helm in a swell and made severe leeway . They were maneuverable but were slow steering into a turn . With the rudder hard over , they lost up to 60 percent speed . Their transverse metacentric height was .79 m (2 ft 7 in) .

Karlsruhe and Rostock were powered by two sets of Marine @-@ type steam turbines , each of which drove a three @-@ bladed screw 3 @. @ 5 m (11 ft) in diameter . Each turbine was divided into its own engine room ; steam was supplied by twelve coal @-@ fired water tube boilers and two oil @-@ fired double @-@ ended water tube boilers split into five boiler rooms . The propulsion system was rated at 26 @, @ 000 shaft horsepower (19 @, @ 000 kW) and a top speed of 27 @. @ 8 knots (51 @. @ 5 km / h ; 32 @. @ 0 mph) , but both ships significantly exceeded these figures on speed trials . Karlsruhe made 37 @, @ 885 shp (28 @, @ 251 kW) at 28 @. @ 5 knots (52 @. @ 8 km / h ; 32 @. @ 8 mph) and Rostock reached 43 @, @ 628 shp (32 @, @ 533 kW) and 29 @. @ 3 knots (54 @. @ 3 km / h ; 33 @. @ 7 mph) . Designed coal and oil storage was 400 t (394 long tons ; 441 short tons) and 70 t (69 long tons ; 77 short tons) , respectively , though internal voids could accommodate up to 1 @, @ 300 t (1 @, @ 279 long tons ; 1 @, @ 433 short tons) and 200 t (197 long tons ; 220 short tons) , respectively . Electrical power was supplied by two turbo generators rated at 240 and 200 kilowatts , respectively , at 220 volts .

= = = Armament and armor = = =

Karlsruhe and Rostock were armed identically to the previous Magdeburg @-@ class cruisers . They carried twelve 10 @. @ 5 cm SK L / 45 guns in single pedestal mounts . Two were placed side by side forward on the forecastle , eight were located amidships , four on either side , and two were side by side aft . The guns had a maximum elevation of 30 degrees , which allowed them to engage targets out to 12 @, @ 700 m (41 @, @ 700 ft) . They were supplied with 1 @, @ 800 rounds of ammunition , for 150 shells per gun . The ships were also equipped with a pair of 50 cm (19 @. @ 7 in) torpedo tubes with five torpedoes submerged in the hull on the broadside . They could also carry 120 mines .

The ships ' armor was also identical to the preceding class . They were protected by a waterline armored belt that was 60 mm (2 @. @ 4 in) thick amidships ; the belt was reduced to 18 mm (0 @. @ 71 in) forward . The stern was not armored . The conning tower had 100 mm (3 @. @ 9 in) thick sides and a 20 mm (0 @. @ 79 in) thick roof . The deck was covered with 60 mm thick armor plate forward , 40 mm (1 @. @ 6 in) amidships , and 20 mm aft . Sloped armor 40 mm thick connected the deck to the belt armor .

= = Service history = =

= = = SMS Karlsruhe = = =

After her commissioning , Karlsruhe was assigned to overseas duties in the Caribbean , where she was to relieve the cruiser Dresden . She arrived in the area in July 1914 , days before the outbreak of World War I. Once the war began , she armed the passenger liner SS Kronprinz Wilhelm so it could operate as a commerce raider , but while the ships were transferring equipment , British cruisers located them and pursued Karlsruhe . Her superior speed allowed her to escape , after which she operated off the northeastern coast of Brazil .

Karlsruhe refueled at Puerto Rico , a possession of the then neutral United States before steaming to Brazil . Off the Brazilian coast , she captured or sank sixteen ships totaling 72 @, @ 805 gross register tons (GRT) while eluding her pursuers . The ship 's captain then decided to operate against the shipping lanes to Barbados . While en route on 4 November 1914 , a spontaneous internal explosion destroyed the ship and killed the majority of the crew , including her captain . The survivors used one of Karlsruhe 's colliers to return to Germany in December 1914 .

= = = SMS Rostock = = =

Rostock served with the High Seas Fleet as a leader of torpedo boat flotillas for the duration of her career . She served with the screens for both Rear Admiral Franz von Hipper 's battlecruisers of the

I Scouting Group on operations against the British coast and the Battle of Dogger Bank . During the battle , British battlecruisers ambushed the German squadron and sank the armored cruiser Blücher . In April 1916 , she again screened the battlecruisers during the bombardment of Yarmouth and Lowestoft , during which Rostock and five other cruisers briefly engaged the British Harwich Force .

She was assigned to the screen for the battle fleet during the Battle of Jutland on 31 May ? 1 June 1916 . She saw major action at Jutland and frequently engaged British light forces , including assisting in the destruction of the destroyers HMS Nomad and Nestor . Rostock 's participation in the battle culminated in her torpedoing by destroyers shortly after midnight . She was taken under tow by German torpedo boats , but the following morning the cruiser HMS Dublin came upon the retreating ships . To prevent Rostock 's capture , the Germans set scuttling charges aboard her and took off the crew before firing torpedoes into the disabled cruiser to ensure she sank .