

= Admiral Hipper @-@ class cruiser =

The Admiral Hipper class was a group of five heavy cruisers built by Nazi Germany's Kriegsmarine in the mid @-@ 1930s . The class comprised Admiral Hipper , the lead ship , Blücher , Prinz Eugen , Seydlitz , and Lützow . Only the first three ships of the class saw action during World War II . Work on Seydlitz stopped when she was approximately 95 percent complete ; it was decided to convert her into an aircraft carrier , but this was not completed either . Lützow was sold incomplete to the Soviet Union in 1940 .

Admiral Hipper and Blücher took part in Operation Weserübung , the invasion of Norway in April 1940 . Blücher was sunk by Norwegian coastal defenses outside Oslo while Admiral Hipper led the attack on Trondheim . She then conducted sorties into the Atlantic to attack Allied merchant shipping . In 1942 , she was deployed to northern Norway to attack shipping to the Soviet Union , culminating in the Battle of the Barents Sea in December 1942 , where she was damaged by British cruisers . Prinz Eugen saw her first action during Operation Rheinübung with the battleship Bismarck . She eventually returned to Germany during the Channel Dash in 1942 , after which she too went to Norway . After being torpedoed by a British submarine , she returned to Germany for repairs . Admiral Hipper while decommissioned after returning to Germany in early 1943 , was partially repaired and recommissioned in the fall of 1944 for a refugee transport mission in 1945 . Only Prinz Eugen continued to serve in full commission and stayed in the Baltic until the end of the war .

Admiral Hipper was scuttled in Kiel in May 1945 , leaving Prinz Eugen as the only member of the class to survive the war . She was ceded to the US Navy , which ultimately expended the ship in the Operation Crossroads nuclear tests in 1946 . Seydlitz was towed to Königsberg and scuttled before the advancing Soviet Army could seize the ship . She was ultimately raised and broken up for scrap . Lützow , renamed Petropavlovsk , remained unfinished when the Germans invaded the Soviet Union . The ship provided artillery support against advancing German forces until she was sunk in September 1941 . She was raised a year later and repaired enough to participate in the campaign to relieve the Siege of Leningrad in 1944 . She served on in secondary roles until the 1950s , when she was broken up .

= = Design = =

= = = Development = = =

Article 181 of the Treaty of Versailles limited the German Reichsmarine to six battleships of the " Deutschland or Lothringen types " and six old light cruisers . These obsolete ships could not be replaced until they were at least twenty years old , and their replacements could displace no more than 10 @,@ 000 long tons (10 @,@ 000 t) and 6 @,@ 000 long tons (6 @,@ 100 t) , respectively . In February 1922 , the major naval powers signed the Washington Naval Treaty ; Germany was not invited to attend , but she would be held to the same qualitative limitations as the signatories . By the early 1920s , the cruisers of the Reichsmarine were old enough to permit replacement ; the three Königsberg @-@ class cruisers and Leipzig were built in the middle of the decade .

The 1930 London Naval Treaty formally divided cruiser types into two categories : heavy cruisers , armed with 20 @.@ 3 cm (8 @.@ 0 in) guns , and light cruisers , armed with 15 @.@ 5 cm (6 @.@ 1 in) guns . The Treaty of Versailles still prohibited Germany from building heavy cruisers , but the rise of Adolf Hitler 's Nazi Party to power in 1933 led to the formal rejection of the Treaty of Versailles . After pulling out of the Geneva Conference in 1933 , Hitler argued that if the other European powers did not disarm to parity with Germany , they should accept German rearmament . The German navy , renamed the Kriegsmarine on 21 May 1935 , was now free to pursue rearmament . Germany concluded the Anglo @-@ German Naval Agreement with Great Britain , which set German naval strength at 35 % of the size of the Royal Navy . This permitted Germany to

build 50 @, @ 000 long tons (51 @, @ 000 t) of heavy cruisers , enough for five 10 @, @ 000 @-@ ton ships .

The design for the first three of the five Admiral Hipper @-@ class ships was prepared in 1934 ? 1935 . Seydlitz and Lützow were initially designed as light cruisers ; their design was prepared in 1934 ? 1936 . These last two ships were to be armed with four triple turrets housing 15 cm (5 @. @ 9 in) guns , as opposed to the four twin 20 @. @ 3 cm (8 @. @ 0 in) guns on the first three ships . The " light cruisers " were otherwise planned to follow the same particulars as their three " heavy " half @-@ sisters . On 14 November 1936 , the Navy decided to complete the final two ships identically to the other members of the class .

= = = General characteristics = = =

The ships of the Admiral Hipper class varied slightly in size . Admiral Hipper was 195 @. @ 5 meters (641 ft) long at the waterline and 202 @. @ 8 m (665 ft) overall . After the installation of a clipper bow during fitting out , her overall length increased to 205 m (673 ft) . The ship had a beam of 21 @. @ 3 m (70 ft) . Blücher was 195 m (640 ft) long at the waterline and 203 @. @ 2 m (667 ft) overall ; with the clipper bow , her overall length was 205 @. @ 9 m (676 ft) . Her beam was 22 m (72 ft) . Both ships had a designed draft of 6 @. @ 5 m (21 ft) and a full load draft of 7 @. @ 2 m (24 ft) . Prinz Eugen was 199 @. @ 5 m (655 ft) at the waterline and 207 @. @ 7 m (681 ft) long overall ; with the clipper bow , her overall length was 212 @. @ 5 m (697 ft) . Her beam was 21 @. @ 7 m (71 ft) and a draft of 6 @. @ 6 m (22 ft) standard and 7 @. @ 2 m at full load . Seydlitz and Lützow were 210 m (690 ft) long overall , with beams of 21 @. @ 8 m (72 ft) and drafts of 6 @. @ 9 m (23 ft) standard and 7 @. @ 9 m (26 ft) at full load . Admiral Hipper and Blücher had a designed displacement of 16 @, @ 170 metric tons (15 @, @ 910 long tons ; 17 @, @ 820 short tons) and a full load displacement of 18 @, @ 200 long tons (18 @, @ 500 t) . Prinz Eugen 's displacement increased slightly , to 16 @, @ 970 t (16 @, @ 700 long tons ; 18 @, @ 710 short tons) designed and 18 @, @ 750 long tons (19 @, @ 050 t) full load . Seydlitz and Lützow grew heavier still , at 17 @, @ 600 t (17 @, @ 300 long tons ; 19 @, @ 400 short tons) designed and 19 @, @ 800 long tons (20 @, @ 100 t) full load .

The ships ' hulls were constructed from longitudinal steel frames . The hulls were divided into fourteen watertight compartments and a double bottom that extended for 72 percent of the length of the keel . The Kriegsmarine regarded the ships as good sea boats , with gentle motion . At low speed , however , they were affected unpredictably by wind and currents . The ships heeled up to fourteen degrees and lost up to 50 % speed with the rudder hard over at high speed . The ships had a standard complement of 42 officers and 1 @, @ 340 enlisted men . Wartime modifications increased the crew to 51 officers and 1 @, @ 548 sailors . The ships carried several smaller vessels , including two picket boats , two barges , one launch , one pinnace , and two dinghies .

= = = Machinery = = =

The Admiral Hipper @-@ class ships were powered by three sets of geared steam turbines . Admiral Hipper 's and Blücher 's engines were built by Blohm & Voss , while Prinz Eugen 's turbines were built by Germaniawerft . The turbines installed on Seydlitz 's and Lützow 's engines were manufactured by Deschimag . Steam was provided in the first three ships by twelve ultra @-@ high pressure boilers . Seydlitz and Lützow were equipped with nine double @-@ ended high @-@ pressure boilers . Admiral Hipper 's and Prinz Eugen 's boilers were manufactured by Wagner , while the boilers for the other three ships were built by La Mont .

Each turbine drove a three @-@ bladed screw 4 @. @ 1 m (13 ft) in diameter . The ships ' engines were rated at 132 @, @ 000 shaft horsepower (98 @, @ 000 kW) for a top speed of 32 knots (59 km / h ; 37 mph) . They carried 1 @, @ 420 to 1 @, @ 460 t (1 @, @ 400 to 1 @, @ 440 long tons ; 1 @, @ 570 to 1 @, @ 610 short tons) of fuel oil as designed , though the ships could carry up to 3 @, @ 050 to 3 @, @ 250 t (3 @, @ 000 to 3 @, @ 200 long tons ; 3 @, @ 360 to 3 @, @ 580 short tons) . At a cruising speed of 20 kn (37 km / h ; 23 mph) , the ships had a maximum range of 6

@, @ 800 nautical miles (12 @, @ 600 km ; 7 @, @ 800 mi) .

Steering was controlled by a single rudder . Admiral Hipper and Blücher were equipped with three electricity plants with four diesel generators and six turbo @-@ generators each ; the diesel generators supplied 150 kW apiece , four of the six turbo @-@ generators provided 460 kW , and the final pair provided 230 kW . Total electrical output was 2900 kW . Prinz Eugen , Seydlitz , and Lützow were equipped with three 150 kW diesel generators , four 460 kW turbo @-@ generators , one 230 kW turbo @-@ generator , and one 150 kW AC generator , for a total of 2870 kW . All five ships ' electrical plants operated at 220 volts .

= = = Armament = = =

The three completed ships were armed with eight 20 @. @ 3 cm (8 @. @ 0 in) SK C / 34 guns in four twin turrets . The ships were supplied with between 960 and 1 @, @ 280 rounds of ammunition , or 120 to 160 rounds per gun . The guns were mounted in Drh LC / 34 turrets , which enabled depression to ? 10 ° and elevation to 37 ° . At maximum elevation , the gun could reach out to 33 @, @ 540 m (110 @, @ 040 ft) . It fired a 122 kg (269 lb) projectile at a muzzle velocity of 925 meters per second (3 @, @ 030 ft / s) . The projectiles included armor @-@ piercing shells , base @-@ fuzed and nose @-@ fuzed high @-@ explosive (HE) warheads . Each ship was also supplied with 40 illumination rounds that weighed 103 kg (227 lb) and had a muzzle velocity of 700 m / s (2 @, @ 300 ft / s) . The four gun turrets built for Seydlitz were emplaced as coastal artillery pieces in the Atlantic Wall . Only the two forward turrets had been installed on Lützow when she was delivered to the Soviet Union .

The ships ' heavy anti @-@ aircraft battery consisted of twelve 10 @. @ 5 cm (4 @. @ 1 in) SK C / 33 guns in twin mountings . These guns were supplied with a total of 4 @, @ 800 rounds of ammunition . The mounts were the Dopp LC / 31 type , originally designed for earlier 8 @. @ 8 cm (3 @. @ 5 in) SK C / 31 guns . The LC / 31 mounting was triaxially @-@ stabilized and capable of elevating to 80 ° . This enabled the guns to engage targets up to a ceiling of 12 @, @ 500 m (41 @, @ 000 ft) . Against surface targets , the guns had a maximum range of 17 @, @ 700 m (58 @, @ 100 ft) . The guns fired fixed ammunition weighing 15 @. @ 1 kg (33 lb) ; the guns could fire HE and HE incendiary rounds , as well as illumination shells .

Close @-@ range anti @-@ aircraft weaponry initially consisted of twelve 3 @. @ 7 cm (1 @. @ 5 in) SK C / 30 guns and eight 2 cm (0 @. @ 79 in) Flak 38 guns . The 3 @. @ 7 cm gun was a single @-@ shot gun , with a rate of fire of around 30 rounds per minute . At its maximum elevation of 85 ° , the gun had a ceiling of 6 @, @ 800 m (22 @, @ 300 ft) . The 2 cm gun was a magazine @-@ fed automatic weapon , firing at up to 500 rounds per minute . Twenty and forty @-@ round magazines were supplied for the guns ; The guns were supplied with 16 @, @ 000 rounds of ammunition . Later in the war , the light anti @-@ aircraft batteries for Admiral Hipper and Prinz Eugen were modified . Four 3 @. @ 7 cm guns were removed and the number of 2 cm guns had increased to twenty @-@ eight . In 1944 , Prinz Eugen 's 3 @. @ 7 cm guns were replaced by fifteen 4 cm (1 @. @ 6 in) Flak 28 guns . By 1945 , the ship 's light anti @-@ aircraft battery comprised twenty 4 cm guns and eighteen 2 cm guns ; Admiral Hipper mounted sixteen 4 cm guns and fourteen 2 cm guns .

The ships ' armament was rounded out by twelve torpedo tubes ; they were mounted in four triple launchers on the ships ' main deck . The ships carried twenty @-@ four G7a torpedoes , twelve loaded in the tubes and one reload for each . The G7a torpedo carried a 300 kg (660 lb) warhead . It had three speed settings ; in 1939 , it could reach 12 @, @ 500 m (41 @, @ 000 ft) at 30 kn (56 km / h ; 35 mph) , 7 @, @ 500 m (24 @, @ 600 ft) at 40 kn (74 km / h ; 46 mph) , and 5 @, @ 000 m (16 @, @ 000 ft) at 44 kn (81 km / h ; 51 mph) , its maximum speed setting . The 340 horsepower (250 kW) radial engine was improved during the war , which improved performance . The ranges increased to 14 @, @ 000 m (46 @, @ 000 ft) , 8 @, @ 000 m (26 @, @ 000 ft) , and 6 @, @ 000 m (20 @, @ 000 ft) , respectively . Admiral Hipper also carried 96 EMC mines ; these mines were contact mines and had a 300 kg explosive charge .

== = Armor = = =

The five Admiral Hipper @-@ class ships were protected by Krupp steel armor , of both Wotan Hart and Wotan Weich types . The ships had two armored decks to protect the ship from vertical attacks . The upper deck was 30 mm (1 @.@ 2 in) thick amidships to protect the ships ' vitals . At either end , the deck was reduced to 12 mm (0 @.@ 47 in) thickness . The bow and stern was not protected by deck armor . The main armored deck was 20 to 50 mm (0 @.@ 79 to 1 @.@ 97 in) thick . Both decks were Wotan Hart steel . The main armored belt was 80 mm (3 @.@ 1 in) thick amidships and reduced to 70 mm (2 @.@ 8 in) thick aft . An interior 20 mm thick torpedo bulkhead protected the ships ' vitals from underwater attack .

The ships ' main battery turrets were protected with 105 mm (4 @.@ 1 in) thick faces and 70 mm thick sides . Their roofs were also 70 mm thick . The 10 @.@ 5 cm guns were equipped with 10 to 15 mm (0 @.@ 39 to 0 @.@ 59 in) thick gun shields . The forward conning tower had 150 mm (5 @.@ 9 in) thick sides and a 50 mm (2 @.@ 0 in) thick roof . The rear conning tower was significantly less well armored , with only splinter protection . Their sides were 30 mm thick with a 20 mm thick roof . The anti @-@ aircraft fire directors were also given splinter protection , with 17 mm (0 @.@ 67 in) thick shields .

== Construction ==

Admiral Hipper ordered as " H " , as a replacement for the light cruiser Hamburg . She was laid down at the Blohm & Voss shipyard in Hamburg under construction number 501 , on 6 July 1935 . She was launched on 6 February 1937 and fitting out work was completed two years later in April 1939 ; the ship was commissioned into the Kriegsmarine on 29 April 1939 . Blücher , ordered as " G " to replace Berlin , was built by the Deutsche Werke shipyard in Kiel , under construction number 246 . Her keel was laid on 15 August 1936 and launched 8 June 1937 . Work on the ship was finished by 20 September 1939 , the day she was commissioned into the Kriegsmarine . Prinz Eugen , the last ship of the class to be completed , was ordered from the Germaniawerft shipyard in Kiel as " J " under construction number 564 . She was laid down on 23 April 1936 and launched on 22 August 1938 . She was commissioned into the Kriegsmarine on 1 August 1940 .

Seydlitz and Lützow were both built by the Deutsche Schiff- und Maschinenbau shipyard in Bremen ; Seydlitz was ordered as " K " , under construction number 940 , and Lützow was ordered as " L " under construction number 941 . Seydlitz was laid down on 29 December 1936 and Lützow followed her on 2 August 1937 . The ships were launched on 19 January 1939 and 1 July 1939 , respectively . Work ceased on Seydlitz when she was approximately 95 percent complete . In October 1939 , the Soviet Union approached Germany with a request to purchase the then unfinished Prinz Eugen , Seydlitz , and Lützow , along with plans for German capital ships , naval artillery , and other naval technology . The Kriegsmarine denied the request for Seydlitz and Prinz Eugen , but agreed to sell Lützow .

== Service history ==

== = Admiral Hipper = = =

Admiral Hipper led the assault on Trondheim during Operation Weserübung ; while en route to her objective , she sank the British destroyer HMS Glowworm . In December 1940 , she broke out into the Atlantic Ocean to operate against Allied merchant shipping , though this operation ended without significant success . In February 1941 , Admiral Hipper sortied again , sinking several merchant vessels before eventually returning to Germany via the Denmark Strait . The ship was then transferred to northern Norway to participate in operations against convoys to the Soviet Union , culminating in the Battle of the Barents Sea on 31 December 1942 , where she was damaged and forced to withdraw by the light cruisers HMS Sheffield and HMS Jamaica .

Enraged by the defeat at the battle , Adolf Hitler ordered the majority of the surface warships scrapped , though Admiral Karl Dönitz was able to convince Hitler to retain the surface fleet . As a result , Admiral Hipper was returned to Germany and decommissioned for repairs . The ship was never restored to operational status , however , and on 3 May 1945 , Royal Air Force bombers severely damaged Admiral Hipper while she was in Kiel . Her crew scuttled the ship at her moorings , and in July 1945 , she was raised and towed to Heikendorfer Bay . She was ultimately broken up for scrap in 1948 ? 1952 ; her bell resides in the National Maritime Museum in Greenwich .

= = = Blücher = = =

Following her commissioning in November 1939 , Blücher conducted a series of sea trials and training exercises in the Baltic , which lasted until March 1940 . She was pronounced ready for service with the fleet on 5 April 1940 . Assigned to Group 5 during the invasion of Norway in April 1940 , the ship served as Konteradmiral Oskar Kummetz 's flagship . The ship led the flotilla of warships into the Oslofjord on the night of 8 April , to seize Oslo , the capital of Norway . Two old 28 cm (11 in) coastal guns in the Oscarsborg Fortress engaged the ship at very close range , scoring two damaging hits . Two torpedoes fired by land @-@ based torpedo batteries struck the ship , causing serious damage . A major fire broke out aboard Blücher , which could not be contained . After a magazine explosion , the ship slowly capsized and sank , with major loss of life .

The wreck remains on the bottom of the Oslofjord ; several salvage attempts were considered after 1963 , but none were carried out . The ship 's screws were removed in 1953 and divers removed over 1 @,@ 000 t (980 long tons ; 1 @,@ 100 short tons) of fuel oil from the ship 's bunkers in 1994 , though oil from inaccessible fuel tanks is still leaking from the sunken ship . At the time the divers removed the oil , they also recovered one of her Ar 196 floatplanes , which is preserved in Stavanger .

= = = Prinz Eugen = = =

Prinz Eugen saw extensive action during Operation Rheinübung , an attempted breakout into the Atlantic Ocean with the battleship Bismarck in May 1941 . The two ships engaged the British battlecruiser Hood and battleship Prince of Wales in the Battle of Denmark Strait , during which Hood was destroyed and Prince of Wales was severely damaged . Prinz Eugen was detached from Bismarck during the operation to raid Allied merchant shipping , but this was cut short due to engine troubles . After putting into occupied France and undergoing repairs , the ship participated in Operation Cerberus , a daring daylight dash through the English Channel back to Germany . In February 1942 , Prinz Eugen was deployed to Norway , although her time stationed there was cut short when she was torpedoed by the British submarine Trident days after arriving in Norwegian waters . The torpedo severely damaged the ship 's stern , which necessitated repairs in Germany .

Upon returning to active service , the ship spent several months training new officer cadets in the Baltic before serving as artillery support to the retreating German Army on the Eastern Front . After the German collapse in May 1945 , the ship was surrendered to the British Royal Navy before being transferred to the US Navy as a war prize . After examining the ship in the United States , the US Navy assigned the cruiser to the Operation Crossroads nuclear tests in the Bikini Atoll . After surviving both atomic blasts , Prinz Eugen was towed to Kwajalein Atoll where she ultimately capsized and sank in December 1946 . The wreck remains partially visible above the water ; one of her screws was salvaged and is on display at the Laboe Naval Memorial in Germany .

= = = Seydlitz = = =

At the time construction on Seydlitz was halted , she was approximately 95 percent complete . The unfinished ship remained inactive until March 1942 , when the Kriegsmarine decided to pursue aircraft carriers over surface combatants . Seydlitz was among the vessels chosen for conversion into auxiliary aircraft carriers . Renamed Weser , conversion work began on the ship in May 1942 .

The majority of the superstructure was cut away , with the exception of the funnel , to prepare for the installation of a flight deck and an aircraft hangar . In total , approximately 2 @, @ 400 t (2 @, @ 400 long tons ; 2 @, @ 600 short tons) of material from the ship was removed .

As a carrier , the ship was to have had a complement of ten Bf 109 fighters and ten Ju 87 dive @-@ bombers . She would have been armed with an anti @-@ aircraft battery of ten 10 @. @ 5 cm SK C / 33 guns in dual mounts , ten 3 @. @ 7 cm SK C / 30 guns in dual mounts , and twenty @-@ four 2 cm Flak 38 guns in quadruple mounts . Conversion work was halted in June 1943 , however , and the incomplete vessel was towed to Königsberg where she was eventually scuttled on 29 January 1945 . The ship was seized by the advancing Soviet Army and was briefly considered for cannibalization for spare parts to complete her sister ship Lützow , which had been purchased by the Soviet Navy before the war . This plan was also abandoned , and the ship was broken up for scrap .

= = = Lützow = = =

In October 1939 , the Soviet Union requested the purchase of the incomplete Lützow . After a series of negotiations , the Kriegsmarine agreed to the sale in February 1940 , at the price of 150 million Reichsmarks . The transfer was completed on 15 April . The vessel was still incomplete when sold to the Soviet Union , with only half of her main battery of eight 20 @. @ 3 cm (8 @. @ 0 in) guns installed and much of the superstructure missing . Renamed Petropavlovsk in September 1940 , work on the ship was effected by a German @-@ advised Soviet shipyard in Leningrad . Still unfinished when Germany invaded the Soviet Union in June 1941 , the ship briefly took part in the defense of Leningrad by providing artillery support to the Soviet defenders . She was sunk by German artillery in September 1941 and raised a year later in September 1942 . After repairs were effected , the ship was renamed Tallinn and used in the Soviet counter @-@ offensive that relieved Leningrad in 1944 . After the end of the war , the ship was used as a stationary training platform and as a floating barracks before being broken up for scrap sometime between 1953 and 1960 .

= = See Also = =

List of ships of the Second World War
List of ship classes of the Second World War