

= Victoria Louise @-@ class cruiser =

The Victoria Louise class of protected cruisers was the last class of ships of that type built for the German Imperial Navy . The class design introduced the combined clipper and ram bow and the blocky sides that typified later German armoured cruisers . The class comprised five vessels , Victoria Louise , the lead ship , Hertha , Freya , Vineta , and Hansa . The ships were laid down in 1895 ? 1896 , and were launched in 1897 ? 1898 and commissioned into the fleet over the following year .

The first three ships were 110 @.@ 60 meters ( 362 ft 10 in ) long and displaced 6 @.@ 491 metric tons ( 6 @.@ 388 long tons ) at combat load ; Vineta and Hansa were a slightly modified design . They were 110 @.@ 50 m ( 362 ft 6 in ) long and displaced 6 @.@ 705 t ( 6 @.@ 599 long tons ) at full load . All five ships were armed with a main battery of two 21 @-@ centimeter ( 8 @.@ 3 in ) guns and eight 15 cm ( 5 @.@ 9 in ) guns . The first three ships had a top speed of 19 @.@ 5 knots ( 36 @.@ 1 km / h ; 22 @.@ 4 mph ) ; the last two were slightly slower , at 18 @.@ 5 knots ( 34 @.@ 3 km / h ; 21 @.@ 3 mph ) . Problems with the Niclausse boilers installed on Freya prompted the Navy to standardize boiler types in future warships .

The ships of the class served in various units in the German fleet , including on the America Station , in the East Asia Squadron , and with the home fleet . Hertha and Hansa participated in the suppression of the Boxer Rebellion in China in 1900 , and Vineta was involved in the Venezuela Crisis of 1902 ? 1903 . All five ships were modernized between 1905 and 1911 , after which they served as training ships for naval cadets . They were mobilized into the 5th Scouting Group at the outbreak of World War I in August 1914 , but were quickly withdrawn from front @-@ line service . They served in various secondary roles for the rest of the war . After the end of the conflict , Victoria Louise was converted into a merchant ship , but was broken up in 1923 . The other four ships were scrapped in 1920 ? 1921 .

= = Design = =

= = = General characteristics = = =

The first three ships of the Victoria Louise class ? Victoria Louise , Hertha , and Freya ? were 109 @.@ 10 meters ( 357 ft 11 in ) long at the waterline and 110 @.@ 60 m ( 362 ft 10 in ) long overall . They had a beam of 17 @.@ 40 m ( 57 ft 1 in ) and a draft of 6 @.@ 58 m ( 21 ft 7 in ) forward and 6 @.@ 93 m ( 22 ft 9 in ) . These ships displaced 5 @.@ 660 metric tons ( 5 @.@ 570 long tons ) as designed and 6 @.@ 491 t ( 6 @.@ 388 long tons ) at full combat load . Vineta and Hansa had slightly different dimensions ; they were 109 @.@ 80 m ( 360 ft 3 in ) long at the waterline and 110 @.@ 50 m ( 362 ft 6 in ) overall . Their beam was 17 @.@ 60 m ( 57 ft 9 in ) and drew 7 @.@ 08 m ( 23 ft 3 in ) forward and 7 @.@ 34 m ( 24 ft 1 in ) aft . Their displacement was also higher than the first three ships , at 5 @.@ 885 t ( 5 @.@ 792 long tons ) as designed and 6 @.@ 705 t ( 6 @.@ 599 long tons ) at combat load .

The ships ' hulls were constructed with longitudinal and transverse steel frames ; a single layer of wood planks were used for the hull . A later of Muntz metal sheathing extended up to 1 m ( 3 ft 3 in ) above the waterline to protect against fouling of the hull . This sheathing was later removed from Victoria Louise , Hertha , and Freya . The hull was divided into twelve watertight compartments , which were later reduced to eleven , with the exception of Freya . The hull also incorporated a double bottom that extended for 60 percent of the length of the hull . The ships ' design set a precedent for later armored cruisers , with large , bulky sides and a combined clipper bow and ram .

The ships ' standard crew was 31 officers and 446 enlisted men , with an additional 9 officers and 41 enlisted while serving as a second command flagship . After their reconstruction into training ships , the crew was substantially enlarged to incorporate the trainees , with 26 officers and 658 sailors , 75 of whom were naval cadets and 300 others were cabin boys . The ships carried a number of smaller boats , including three picket boats , one launch , one pinnace , two cutters , two

yawls , and three dinghies . After their modernization , the boats were significantly revised ; the number of picket boats was reduced to one , a barge and a launch were added , the dinghies were removed , and five more cutters were added .

The ships were good sea boats ; they had an easy motion and were dry as a result of their high forecastles . They had a tendency to pitch when steaming downwind , however , and made severe leeway in heavy winds because of their large superstructures . They were difficult to maneuver without the center shaft engaged . They lost only around ten percent speed in a head sea or with the rudder hard over . In addition , as the lower coal bunkers were emptied , the ships became increasingly unstable ; with empty bunkers , the ships could heel over as much as fifteen degrees in a hard turn . The modernization of the ships between 1905 and 1911 rectified this problem . They had a transverse metacentric height of .56 to .73 m ( 1 ft 10 in to 2 ft 5 in ) . As built , the ships were very hot , and ventilation had to be improved before they were commissioned .

#### == Machinery ==

The propulsion system of all five ships consisted of three vertical 4 @-@ cylinder triple expansion engines built by AG Vulcan . Steam was provided by twelve coal @-@ fired boilers from different manufacturers , with the exception of Hansa . Victoria Louise and Vineta had boilers from Dürr AG , Freya had Niclausse boilers , and Hertha had Belleville boilers . Hansa was equipped with eighteen transverse Belleville boilers . The Niclausse boilers in Freya proved to be particularly troublesome , which led the Navy to use only Schulz @-@ Thornycroft or Marine @-@ type boilers in future vessels . In the modernizations between 1905 and 1911 , the ships were re @-@ equipped with transverse Marine @-@ type boilers . The ships originally had three funnels , but after their refits , the boilers were trunked into two funnels .

The ships ' engines were rated at 10 @, @ 000 indicated horsepower ( 7 @, @ 500 kW ) top speed of 19 @. @ 5 knots ( 36 @. @ 1 km / h ; 22 @. @ 4 mph ) for the first three ships and 18 @. @ 5 knots ( 34 @. @ 3 km / h ; 21 @. @ 3 mph ) for the last two vessels . As built , the ships carried up to 950 t ( 930 long tons ; 1 @, @ 050 short tons ) of coal , which gave them a cruising range of 3 @, @ 412 nautical miles ( 6 @, @ 319 km ; 3 @, @ 926 mi ) at a speed of 12 knots ( 22 km / h ; 14 mph ) . The more efficient Marine @-@ type boilers installed in 1905 ? 1911 increased cruising range to 3 @, @ 840 nmi ( 7 @, @ 110 km ; 4 @, @ 420 mi ) at the same speed . Victoria Louise and Hertha were equipped with four electricity generators with a combined output of 224 to 271 kilowatts ( 300 to 363 hp ) at 110 Volts ; the last three ships had three generators with a total output of 169 to 183 kW ( 227 to 245 hp ) at 110 V. Steering was controlled by a single large rudder .

#### == Armament and armor ==

The ships ' primary armament consisted of two 21 cm SK L / 40 guns in single gun turrets , one forward and one aft . The guns were supplied with 58 rounds of ammunition each . They had a range of 16 @, @ 300 m ( 53 @, @ 500 ft ) . Eight 15 cm SK L / 40 guns rounded out the offensive gun armament . Four of these guns were mounted in turrets amidships and the other four were placed in casemates . These guns had a range of 13 @, @ 700 m ( 44 @, @ 900 ft ) . Two of the 15 cm guns were removed in the refit .

The ships also carried ten 8 @. @ 8 cm SK L / 30 guns , and an eleventh was added during the modernization . Three longer @-@ barreled 8 @. @ 8 cm SK L / 35 guns were also added at that time . The gun armament was rounded out by ten machine guns , which were removed during the refit . The ships were also equipped with three 45 cm ( 18 in ) torpedo tubes with eight torpedoes , two launchers were mounted on the broadside and the third was in the bow , all below the waterline . In 1916 , all of the ships of the class were disarmed , with the exception of Freya , which was re @-@ equipped with a single 15 cm gun , four 10 @. @ 5 cm SK L / 45 guns , and fourteen 8 @. @ 8 cm guns of both the L / 30 and L / 35 versions , for use as a gunnery training ship .

Armor protection for the ships was composed of Krupp steel . The main deck was 40 mm ( 1 @. @ 6 in ) thick with 100 mm ( 3 @. @ 9 in ) thick slopes . The forward conning tower had 150 mm ( 5

@. @ 9 in ) thick sides and a 30 mm ( 1 @. @ 2 in ) thick roof . The aft conning tower was given only splinter protection , with just 12 mm ( 0 @. @ 47 in ) thick sides . The 21 cm and 15 cm gun turrets had 100 mm thick sides and 30 mm thick roofs . The casemate guns were also given 100 mm worth of armor protection . The ships were also equipped with cork cofferdams .

= = Construction = =

Victoria Louise was laid down at the AG Weser shipyard in Bremen in 1895 , under construction number 116 . She was launched on 29 March 1897 and was commissioned into the fleet on 20 February 1899 . She cost the Imperial government 10 @, @ 714 @, @ 000 gold marks . Construction of Hertha began in 1895 at the AG Vulcan dockyard in Stettin , under construction number 233 . She was launched on 14 April 1897 and was commissioned on 23 July 1898 , the first ship of the class to enter service . Her construction cost 9 @, @ 932 @, @ 000 marks . The keel @-@ laying of Freya followed in 1895 at the Imperial Dockyard in Danzig . She was launched on 27 April 1897 and was commissioned on 20 October 1898 , at the cost of 11 @, @ 094 @, @ 000 marks .

Vineta was laid down at the Imperial Dockyard in Danzig in 1896 . She was launched on 9 December 1897 and was commissioned into the fleet on 13 September 1899 . She cost 10 @, @ 714 @, @ 000 marks . Hansa , the last ship of the class , was laid down in 1896 at AG Vulcan under construction number 235 . She was launched on 12 March 1898 and was commissioned on 20 April 1899 , at the cost of 10 @, @ 270 @, @ 000 marks . Victoria Louise and Hansa were rebuilt at the Imperial Dockyard in Kiel in 1906 ? 1908 and 1907 ? 1909 , respectively . The other three ships were modernized at the Imperial Dockyard in Danzig : Hertha in 1906 ? 1908 , Freya in 1905 ? 1907 , and Vineta in 1909 ? 1911 . Freya was again modified at the Imperial Dockyard in Danzig in 1911 ? 1913 , and Hansa was rebuilt in 1915 at the Imperial Dockyard in Kiel .

= = Service history = =

= = = Victoria Louise = = =

Victoria Louise served with the fleet for the first seven years of her career . During this time , she represented Germany during the funeral of Queen Victoria in 1901 . In 1906 , she was modernized and after 1908 , used as a training ship for naval cadets . In 1909 , she visited the United States , and at the outbreak of World War I , was mobilized into the 5th Scouting Group . She was attacked unsuccessfully by the British submarine HMS E1 in October 1914 , and at the end of the year she was withdrawn from service . She was used as a minelayer and barracks ship based in Danzig for the rest of the war . Victoria Louise was sold in 1919 and converted into a freighter the following year , though she served in this capacity until 1923 , when she was broken up for scrap .

= = = Hertha = = =

Hertha served abroad in the German East Asia Squadron for the first six years of her career ; she served briefly as the Squadron flagship in 1900 . She contributed a landing party to the force that captured the Taku Forts during the Boxer Rebellion in 1900 . After returning to Germany in 1905 , she was modernized and used as a training ship in 1908 , following the completion of the refit . She conducted a series of training cruises , and several notable officers served aboard the ship as cadets , including Karl Dönitz and Ernst Lindemann . At the outbreak of World War I , Hertha was mobilized into the 5th Scouting Group , but served in front @-@ line duty only briefly . She was used as a barracks ship after 1915 , and ultimately sold for scrapping in 1920 .

= = = Freya = = =

Freya served in the German fleet for the initial years of her career , unlike her sister ships , all of

which served abroad on foreign stations . As a result , she led a fairly uneventful career in the fleet . After a modernization in 1905 ? 1907 , Freya was used as a school ship for cadets , one of whom was Günther Lütjens . While visiting Canada in 1908 , she accidentally rammed and sank a Canadian schooner , killing nine sailors . At the outbreak of World War I , Freya was mobilized into the 5th Scouting Group , but served in front @-@ line duty only briefly . She was used as a barracks ship after 1915 , and ultimately sold for scrapping in 1921 .

= = = Vineta = = =

Vineta served abroad in the American Station for the first several years of her career . While on station in the Americas , she participated in the Venezuela Crisis of 1902 ? 1903 and bombarded several Venezuelan fortresses . She returned to Germany in 1905 and was used as a torpedo training ship in 1908 . She was modernized in 1909 ? 1911 , after which she was used as a school ship for naval cadets . In November 1912 , she participated in an international naval protest of the First Balkan War . At the outbreak of World War I , Vineta was mobilized into the 5th Scouting Group like her sisters , but served in front @-@ line duty only briefly . She was used as a barracks ship after 1915 , and ultimately sold for scrapping in 1920 .

= = = Hansa = = =

Hansa served abroad in the East Asia Squadron for the first six years of her career . Along with Hertha , she contributed a landing party to the force that captured the Taku Forts during the Boxer Rebellion . In August 1904 , she participated in the internment of the Russian battleship Tsesarevich after the Battle of the Yellow Sea during the Russo @-@ Japanese War . After returning to Germany in 1906 , she was modernized and used as a training ship in 1909 , following the completion of the refit . At the outbreak of World War I , Hansa was mobilized into the 5th Scouting Group , but served in front @-@ line duty only briefly . She was used as a barracks ship after 1915 , and ultimately sold for scrapping in 1920 .