= Petropavlovsk @-@ class battleship =

The Petropavlovsk class , sometimes referred to as the Poltava class , was a class of three pre @-@ dreadnought battleships built for the Imperial Russian Navy during the 1890s . They were transferred to the Pacific Squadron upon completion and based at Port Arthur before the start of the Russo @-@ Japanese War of 1904 ? 1905 . All three ships participated in the Battle of Port Arthur on the second day of the war . Petropavlovsk sank two months after the war began after striking one or more mines laid by the Japanese . The remaining two ships participated in the Battle of the Yellow Sea in August 1904 and were sunk or scuttled during the final stages of the Siege of Port Arthur .

Poltava was salvaged after the Japanese captured Port Arthur and incorporated into the Imperial Japanese Navy . The ship , renamed Tango in Japanese service , participated in the Battle of Tsingtao in late 1914 , during World War I. She was sold back to the Russians in 1916 and renamed Chesma as her original name was in use by another battleship . The ship became the flagship of the Russian Arctic Flotilla in 1917 and her crew supported the Bolsheviks later that year . She was seized by the British in early 1918 when they intervened in the Russian Civil War , abandoned by them when they withdrew and scrapped by the Soviets in 1924 .

= = Design and description = =

Design work for the Petropavlovsk class began as an enlarged and improved version of the battleship Imperator Nikolai I , but with her main armament of four 12 @-@ inch (305 mm) guns mounted in barbettes . Based on experience with Imperator Aleksandr II in which the casemate @-@ mounted secondary armament could often not be worked in rough weather , the Naval Technical Committee adopted the layout of the American Indiana @-@ class battleships with the secondary armament of 8 @-@ inch (203 mm) guns mounted in turrets on the upper deck . Use of the lighter barbette mounting allowed for a flush @-@ deck hull which gave the ship high freeboard . The class was designed with a displacement of 10 @,@ 960 long tons (11 @,@ 136 t) , a full @-@ length waterline armor belt , and the upper hull featured a modest amount of tumblehome . It was approved in January 1891 .

The design was intended to have a maximum speed of 17 knots (31 km / h ; 20 mph) using forced draft , but model testing of the hull showed that it could only reach 16 knots (30 km / h ; 18 mph) . Rather than delay construction by redesigning the hull to reach the desired speed , the navy accepted the slower speed . Development of the quick @-@ firing gun meant that an upper belt of armor was necessary and the weight required was gained by shortening the waterline armor belt , which left the ships ' ends protected only by the sloping armor deck . Other changes included the replacement of the barbettes with turrets of the same type as used in the battleship Sissoi Veliky and the substitution of 6 @-@ inch (152 mm) quick @-@ firing guns for the original eight @-@ inch guns . This saved enough weight that four additional six @-@ inch guns could be added .

The Petropavlovsk @-@ class ships were 376 feet (114 @.@ 6 m) long overall , had a beam of 70 feet (21 m) and a draft of 28 feet 3 inches (8 @.@ 6 m) . Designed to displace 10 @,@ 960 long tons (11 @,@ 140 t) , they were 400 ? 800 long tons (410 ? 810 t) overweight and actually displaced 11 @,@ 354 ? 11 @,@ 842 long tons (11 @,@ 536 ? 12 @,@ 032 t) . The ships were the first flush @-@ decked battleships built for the Navy . They had a partial double bottom and the hull was divided by 10 watertight transverse bulkheads ; a centerline bulkhead divided the machinery spaces . The upper part of the hull between the main and upper decks curved inwards (tumblehome) , although the tumblehome on these ships was much less pronounced than that found on French battleships of the time , which began curving inwards at the waterline . They had a designed metacentric height of 5 @.@ 43 feet (1 @.@ 7 m) and were good seagoing ships . Their crew consisted of 26 ? 27 officers and 605 ? 25 enlisted men ; Petropavlovsk had a crew of 750 when serving as a flagship .

The ships were powered by two vertical triple @-@ expansion steam engines , each driving one propeller , using steam generated by 14 cylindrical boilers at a working pressure of 8 @.@ 8 atm (

892 kPa ; 129 psi) . Unlike her sisters , Sevastopol had 16 boilers . The engines were rated at 10 @,@ 600 indicated horsepower (7 @,@ 900 kW) and designed to reach a top speed of 16 knots . The machinery for Poltava and Petropavlovsk was ordered from British companies and slightly exceeded their specifications ; the ships reached maximum speed of 16 @.@ 29 and 16 @.@ 38 knots (30 @.@ 17 and 30 @.@ 34 km / h ; 18 @.@ 75 and 18 @.@ 85 mph) from 11 @,@ 213 and 11 @,@ 255 indicated horsepower (8 @,@ 362 and 8 @,@ 393 kW) , respectively , during their sea trials . Sevastopol , using domestically built machinery , only reached a speed of 15 @.@ 3 knots (28 @.@ 3 km / h ; 17 @.@ 6 mph) from 9 @,@ 368 indicated horsepower (6 @,@ 986 kW) , despite the extra boilers , but the Naval Ministry chose not to exercise the penalty provisions of the contract for failing to attain the design speed because it had specified the machinery to be used . They carried a maximum of 1 @,@ 050 long tons (1 @,@ 070 t) of coal which allowed them to steam for 3 @,@ 750 nautical miles (6 @,@ 940 km ; 4 @,@ 320 mi) at a speed of 10 knots (19 km / h ; 12 mph) .

= = = Armament = = =

The main armament consisted of two pairs of 40 @-@ caliber 12 @-@ inch guns mounted in French @-@ style center @-@ pivot twin @-@ gun turrets fore and aft . They used hydraulic power for loading and traversing , but the ammunition hoists were electrically powered . They were designed to fire one shell every 90 seconds , but the rate of fire in service proved to be one round every three minutes . The structure of the turrets proved to be too weak to withstand extra @-@ strength charges and had to be reinforced . These guns had a maximum elevation of 15 ° and could traverse 270 ° . 58 rounds per gun were carried . They fired a 731 @.@ 3 @-@ pound (331 @.@ 7 kg) shell at a muzzle velocity of 2 @,@ 598 ft / s (792 m / s) to a range of 12 @,@ 010 yards (10 @,@ 980 m) at an elevation of 10 ° .

The secondary armament of the ships consisted of a dozen 45 @-@ caliber Canet Model 1892 six @-@ inch quick @-@ firing (QF) guns , eight mounted in four twin @-@ gun turrets on the upper deck and four pedestal @-@ mounted guns in embrasures on the sides of the hull , one deck below and between the turrets . The turrets were traversed by and the ammunition hoists were worked by electric motors , but the guns were elevated manually . They had an 135 ° arc of fire and the guns could elevate to a maximum of + 15 ° and depress to ? 5 ° . The rate of fire of the turret @-@ mounted guns was generally only about half that (2 ? 3 rounds per minute) of the pedestal @-@ mounted guns . The motors and mechanism of the ammunition hoists were problematic and sometimes reduced the rate of fire down of one round per minute . The guns in the hull could traverse 100 ° and each six @-@ inch gun was provided with 200 rounds . They fired shells that weighed 91 @.@ 27 lb (41 @.@ 40 kg) with a muzzle velocity of 2 @,@ 600 ft / s (790 m / s) . They had a maximum range of 12 @,@ 600 yards (11 @,@ 500 m) when fired at an elevation of + 20 ° .

A number of smaller guns were carried for defense against torpedo boats . These included twelve 47 @-@ millimeter (1 @.@ 9 in) Hotchkiss guns in hull embrasures and on the superstructure . They fired a 3 @.@ 3 @-@ pound (1 @.@ 5 kg) shell at a muzzle velocity of 1 @,@ 476 ft / s (450 m / s) at a rate of 20 rounds per minute to a range of 2 @,@ 020 yards (1 @,@ 850 m) . Twenty smaller 37 @-@ millimeter (1 @.@ 5 in) Hotchkiss guns were positioned in hull embrasures , on the superstructure and in the fighting tops . They fired a 1 @.@ 1 @-@ pound (0 @.@ 50 kg) shell at a muzzle velocity of 1 @,@ 450 ft / s (440 m / s) . They had a rate of fire of 20 rounds per minute and a maximum range of 3 @,@ 038 yards (2 @,@ 778 m) .

The Petropavlovsk @-@ class ships carried four 15 @-@ inch (381 mm) torpedo tubes , all above water , mounted on the broadside and two broadside 18 @-@ inch (457 mm) underwater tubes . The forward 15 @-@ inch tubes were near the forward main gun turret and were unprotected by any armor ; aft , the 15 @-@ inch tubes were protected by the upper armor belt . The underwater tubes were protected underneath the armor deck , forward of the forward 12 @-@ inch magazine . The 15 @-@ inch Type L torpedo carried a 141 @-@ pound (64 kg) warhead of TNT . It had two speed settings which gave it a maximum range of 980 yards (900 m) at 25 knots (46 km / h ; 29 mph) or

660 yards (600 m) at 29 knots (54 km / h ; 33 mph) . No data is available for the 18 @-@ inch torpedo . The ship also carried 50 mines to be laid to protect her anchorage in remote areas .

The ships were fitted with Liuzhol stadiametric rangefinders that used the angle between two vertical points on an enemy ship , usually the waterline and the crow 's nest , to estimate the range . The gunnery officer consulted his references to get the range and calculated the proper elevation and deflection required to hit the target . He transmitted his commands via a Geisler electro @-@ mechanical fire @-@ control transmission system to each gun or turret .

= = = Protection = = =

The Russian armor plate industry had not yet mastered the process for forming thick steel plates so the armor for these ships was ordered from companies in Germany and the United States . Even they could not produce enough of the latest types of armor plate in the quantities required for all three ships . Petropavlovsk had ordinary nickel steel , while Sevastopol used Harvey armor and Poltava used the latest Krupp armor . The thicknesses of the armor plates varied in an attempt to equalize their effectiveness . In Petropavlovsk , the maximum thickness of the waterline armor belt over the machinery spaces was 16 inches (406 mm) which reduced to 12 inches (305 mm) abreast the magazines . The belt tapered to a thickness of 8 inches (203 mm) at its bottom edge . The belt armor in the other two ships was 14 @.@ 5 inches (368 mm) over the machinery spaces and thinned to 10 inches (254 mm) over the magazines . Their belt tapered to a thickness of 7 @.@ 25 inches (184 mm) at its lower edge . The belt covered 240 feet (73 @.@ 2 m) of the ship 's length and was 7 feet 6 inches (2 @.@ 3 m) high , of which the upper 36 inches (914 @.@ 4 mm) was intended to be above the waterline . The belt terminated in a transverse bulkhead 9 inches (229 mm) thick forward and eight inches thick aft , leaving the ends of the ships unprotected . Above the waterline belt was an upper strake of 5 @-@ inch (127 mm) armor that ran between the turret bases , seven and a half feet high . The ends of the upper belt were closed off by five @-@ inch angled transverse bulkheads that connected the ends of the upper belt to the turret support tubes .

The armor of the main gun turrets and their supporting tubes was ten inches thick (Krupp armor in Poltava , nickel steel in the other two) with roofs 2 inches (51 mm) thick . The turrets of the secondary armament had five @-@ inch sides with 1 inch (25 mm) roofs . The six @-@ inch guns in the hull embrasures were unprotected . The sides of the conning tower were nine inches thick while the armor deck in the central citadel was two inches thick . Outside the area covered by the belt armor , the flat portion of the deck was 2 @.@ 5 inches (64 mm) thick , while the sloped portion was 3 inches (76 mm) thick .

= = Ships = =

= = Careers = =

Petropavlovsk was the first of the three ships to enter service ; she departed Kronstadt on 17 October 1899 and reached Port Arthur on 10 May 1900 . She became flagship of the Pacific Squadron commander , Vice Admiral Nikolai I. Skrydlov , upon her arrival . The ship supported international efforts to suppress the Boxer Rebellion in mid @-@ 1900 . Poltava and Sevastopol departed for Port Arthur on 15 October 1900 and arrived on 12 and 13 April 1901 respectively . Petropavlovsk was the flagship of Vice Admiral Oskar Victorovich Stark at the beginning of the Russo @-@ Japanese War in February 1904 .

During the Battle of Port Arthur on the second day of the war , Poltava was hit twice in the aft hull , Petropavlovsk was hit three times in the bow and Sevastopol was hit once . Between them , the three ships lost two men killed and seven wounded and none of them suffered any significant damage . Tsar Nicholas II relieved Stark and he was replaced by Vice Admiral Stepan Makarov who assumed command on 7 March . On 31 March , Petropavlovsk and Poltava sortied to support

Russian cruisers and destroyers engaging their Japanese counterparts , but they headed back to Port Arthur to join the rest of the Pacific Squadron when the main Japanese battlefleet appeared . They ran into a newly laid minefield en route and Petropavlovsk struck at least one of the mines . Observers saw three explosions , one of which appeared to be that of her magazines , and the ship sank in less than two minutes . Casualties included Admiral Makarov and his guest , Russian battle artist Vasily Vereshchagin , 26 officers and 652 enlisted men . Only seven officers and 73 crewmen were rescued .

The new commander , Vice Admiral Wilgelm Vitgeft , made an attempt to lead the Pacific Squadron to Vladivostok on 23 June , but abandoned the sortie when the squadron was discovered and pursued by the Japanese . While returning to Port Arthur , Sevastopol struck a mine and the ship took on an estimated 1 @,@ 000 long tons (1 @,@ 000 t) of water ; despite the flooding she was able to keep up with the fleet and reached port successfully . While under repair , which lasted until 9 July , a fire broke out aboard the ship and killed two crewmen and injured an additional 28 . All of the 47- and 37 @-@ millimeter guns in the lower hull embrasures were removed from Poltava and Sevastopol during this time ; some were remounted on the superstructure , but others were used to reinforce the land defenses of Port Arthur .

Vitgeft made another attempt to break through the Japanese blockade on 10 August in accordance to a direct order from the Tsar . The squadron was spotted relatively quickly and the Japanese main fleet intercepted the Russians in the early afternoon . During the Battle of the Yellow Sea , Poltava and Sevastopol were the last battleships in the Russian column and Poltava , which was slowed by engine problems , became the primary target of the Japanese battleships and armored cruisers when Vitgeft maneuvered the squadron past the Japanese and forced them into a stern chase . Shortly before sunset , a lucky hit killed Vitgeft and threw the squadron into confusion . The squadron second @-@ in @-@ command , Rear Admiral Prince Pavel Ukhtomsky , eventually gained control of the squadron and led most of them back to Port Arthur . Poltava had been hit by 12 ? 14 shells , eight or 12 inches in caliber , and suffered 12 killed and 43 wounded ; Sevastopol was only hit by several shells that killed one crewman and wounded 62 men .

On 23 August , Sevastopol sortied to bombard Japanese troops and struck a mine near her forward magazines while returning to port . She was badly damaged and took on a lot of water . The ship was towed back into Port Arthur and her repairs lasted until 6 November . In the meantime , the new squadron commander , Rear Admiral Robert N. Viren , decided to use the men and guns of the Pacific Squadron to reinforce the defenses of Port Arthur and even more guns were stripped from the squadron 's ships ; by September Poltava had dismounted three 6 @-@ inch , four 47- and twenty @-@ six 37 @-@ millimeter guns . Sevastopol lost one 47- and twenty @-@ six 37 @-@ millimeter guns as well . Both ships were lightly damaged by 28 @-@ centimeter (11 in) shells in October when the Imperial Japanese Army 's siege guns began firing blindly into the harbor . The capture of Hill 203 , which overlooked the harbor , on 5 December allowed them to fire directly at the Russian ships and Poltava was sunk in shallow water that same day by a shell that started a fire in a magazine that eventually exploded . By 7 December all of the Russian battleships except Sevastopol had been sunk and the ship 's captain , Nikolai Essen , anchored her under the guns of the remaining coast defense guns outside the harbor . He rigged torpedo nets and laid a minefield around his ship that thwarted repeated attacks until 16 December when one torpedo struck the ship in the stern during a blinding snowstorm . Badly damaged , Sevastopol was towed to deep water about two weeks later , when Port Arthur surrendered on 2 January 1905 , and scuttled .

Poltava was subsequently raised , repaired and reclassified as a first @-@ class coastal defense ship in the Imperial Japanese Navy . Renamed Tango (??) , she served as a gunnery training ship and the ship participated in the Siege of Tsingtao at the beginning of World War I. She was sold to Russia in March 1916 and arrived in Vladivostok on 2 April 1916 . Renamed Chesma (?????) , the ship arrived in Port Said , Egypt on 19 September and later supported efforts to intimidate the Greek Government into support Allied operations in Macedonia . She arrived at Alexandrovsk on 16 January 1917 after a brief refit in Birkenhead and became flagship of the Arctic Flotilla . Her crew joined the Bolsheviks in October 1917 and Chesma was captured by the British in Murmansk in March 1918 during the Allied intervention in the Russian Civil War . The ship was already in bad

shape and the British immobilized her when they departed Russia in October 1919 . She was stricken on 3 July 1924 and subsequently scrapped .