= Katori @-@ class battleship =

The Katori class (????? , Katori @-@ gata senkan) was a two @-@ ship class of pre @-@ dreadnought battleships built for the Imperial Japanese Navy (IJN) in the early 1900s . As Japan lacked the industrial capacity to build such warships itself , they were designed and built in the UK . They were the last battleships to be built for Japan at overseas shipyards , and the last to be equipped with a ram . The ships were delivered after the end of the Russo @-@ Japanese War of 1904 ? 05 . They saw no action during World War I , although both were present when Japan joined the Siberian Intervention in 1918 . They were disarmed and scrapped in 1923 ? 25 in accordance with the terms of the Washington Naval Treaty of 1922 .

= = Design and description = =

The Katori @-@ class ships were ordered under the 1903 Third Fleet Extension Program . As with the earlier battleships , Japan lacked the technology and capability to construct its own battleships , and turned again to the United Kingdom , placing orders with Armstrong and Vickers in January 1904 . The next class of battleships , the Satsuma class , were built in Japan .

The design of the Katori class was a modified and improved version of the King Edward VII @-@ class battleships of the Royal Navy . The Vickers @-@ built Katori was slightly smaller than her sister ship , Kashima . They had an overall length of 456 @.@ 25 ? 470 @.@ 6 feet (139 @.@ 1 ? 143 @.@ 4 m) , a beam of 78 ? 78 @.@ 16 feet (23 @.@ 8 ? 23 @.@ 8 m) , and a normal draught of 26 @.@ 6 ? 27 feet (8 @.@ 1 ? 8 @.@ 2 m) . They displaced 15 @,@ 950 ? 16 @,@ 383 long tons (16 @,@ 206 ? 16 @,@ 646 t) at normal load . The crew consisted of 864 officers and enlisted men .

= = = Propulsion = = =

The ships were powered by a pair of four @-@ cylinder vertical triple @-@ expansion steam engines , each driving one propeller , using steam generated by 20 Niclausse boilers using a mixture of coal and fuel oil . The engines were rated at 15 @,@ 600 ? 16 @,@ 600 indicated horsepower (11 @,@ 600 ? 12 @,@ 400 kW) and designed to reach a top speed of 18 @.@ 5 knots (34 @.@ 3 km / h ; 21 @.@ 3 mph) although they proved to be faster during their sea trials . Kashima reached a top speed of 19 @.@ 24 knots (35 @.@ 63 km / h ; 22 @.@ 14 mph) using 17 @,@ 280 ihp (12 @,@ 890 kW) and Katori made 19 @.@ 5 knots (36 @.@ 1 km / h ; 22 @.@ 4 mph) from 18 @,@ 500 ihp (13 @,@ 800 kW) . The ships carried a maximum of 2 @,@ 150 tonnes (2 @,@ 120 long tons) of coal and 377 ? 750 long tons (383 ? 762 t) of fuel oil which allowed them to steam for 12 @,@ 000 nautical miles (22 @,@ 000 km ; 14 @,@ 000 mi) at a speed of 11 knots (20 km / h ; 13 mph) .

= = = Armament = = =

The Katori class were equipped with four 45 @-@ calibre Elswick Ordnance Company 12 @-@ inch (305 mm) Type 41 guns mounted in twin @-@ gun barbettes fore and aft of the superstructure that had armoured hoods to protect the guns and were usually called gun turrets . The barbettes were positioned fore and aft of the superstructure . These were more powerful than the 40 @-@ calibre guns on Mikasa and earlier Japanese battleships . They fired 850 @-@ pound (386 kg) projectiles at a muzzle velocity of 2 @,@ 800 ft / s (850 m / s) .

The King Edward VII class introduced an intermediate calibre of 9 @.@ 2 @-@ inch (234 mm) guns between the primary 12 @-@ inch guns and the secondary six @-@ inch (152 mm) guns and the Japanese upgraded these to 45 @-@ calibre 10 @-@ inch Type 41 guns in four single barbettes mounted at the corners of the superstructure . The guns had a muzzle velocity of 2 @,@ 707 ft / s (825 m / s) when firing 500 @-@ pound (227 kg) shells . The Japanese added an additional pair of quick @-@ firing (QF) 40 @-@ caliber six @-@ inch Type 41 guns , making a

total of 12 guns , compared to the 10 of the King Edward VIIs . Ten of these guns were mounted in the hull and the remaining two were placed in the superstructure between the 10 @-@ inch (254 mm) gun turrets . Their 100 @-@ pound (45 kg) shells had a muzzle velocity of 2 @,@ 300 ft / s (700 m / s) when fired by the Type 41 guns .

Protection against torpedo boat attacks was provided by 12 to 16 QF 12 @-@ pounder 12 @-@ cwt guns and three 47 @-@ millimetre (1 @.@ 9 in) QF three @-@ pounder Hotchkiss guns . The 12 @-@ pounders fired 3 @-@ inch (76 mm) , 12 @.@ 5 @-@ pound (5 @.@ 7 kg) projectiles at a muzzle velocity of 2 @,@ 359 ft / s (719 m / s) . The ships were also equipped with five submerged 18 @-@ inch torpedo tubes , two on each broadside and one in the stern .

= = = Armor = = =

The waterline main belt of the Katori @-@ class vessels consisted of Krupp cemented armour 7 feet 6 inches (2 @.@ 3 m) high , of which 2 feet 6 inches (0 @.@ 8 m) was above the waterline at normal load . It had a maximum thickness of 9 inches (229 mm) amidships . It was only 2 @.@ 5 inches (64 mm) inches thick at the ends of the ship and was surmounted by a six @-@ inch , 15 @-@ foot (4 @.@ 6 m) strake of armour that ran between the main gun barbettes and protected most of the secondary guns . The barbettes for the main guns were 5 ? 12 inches (130 ? 300 mm) thick and those for the intermediate turrets were protected by six inches of armour . The armour of the main gun barbette hoods had a maximum thickness of nine inches and those of the intermediate barbettes were 6 ? 8 inches (150 ? 200 mm) thick . The sides of the superstructure between the intermediate barbettes had 4 inches (102 mm) of armour .

The flat portion of the deck armour was 2 inches (51 mm) thick and 3 inches (76 mm) thick amidships where it sloped down to the bottom of the armour belt . This significantly improved the ships ' protection as any shell that penetrated their vertical armour also had to penetrate the sloping deck before it could reach the machinery compartments or magazines . Outside the central armoured citadel , the sloped deck had a thickness of 2 @.@ 5 inches (64 mm) . The conning tower was protected by nine inches of armour .

= = Ships = =

= = Service = =

Whilst conducting gunnery training in Hiroshima Bay on 16 September 1907 , brown powder propellant in Kashima 's starboard rear 10 @-@ inch gun mount ignited when it came in contact with burning residue from the previous shot . The fire killed seven officers and 27 enlisted men ; wounding two officers and six enlisted men . When World War I began , Kashima was refitting while Katori was assigned to the 1st Battleship Squadron . The former was assigned to the 2nd Battleship Squadron when her refit was completed in 1915 and became the squadron 's flagship in 1916 . Katori began a refit in 1914 that lasted until late 1916 and was assigned to the 5th Battleship Squadron upon its completion . Kashima joined her sister in the 5th Battleship Squadron as its flagship in 1918 and both ships covered the landing of Japanese troops in Siberia in August of that year as Japan decided to intervene in the Russian Civil War .

In 1921 , Katori , escorted by Kashima , carried Crown Prince Hirohito on his tour of Europe where he met King George V. Both ships were disarmed in 1923 and later scrapped to comply with the terms of the Washington Naval Treaty .