

= España @-@ class battleship =

The España class was a series of three dreadnought battleships built for the Spanish Navy between 1909 and 1921 . The construction of the ships , particularly the third vessel , were significantly delayed due to shortages of materiel supplied by Great Britain during World War I , particularly armament . The class comprised España ( Spain ) , Alfonso XIII , and Jaime I. The three ships were the only Spanish dreadnoughts ever built . They were also the smallest battleships of the type constructed , owing to the weak Spanish economy . The ships were armed with eight 12 @-@ inch ( 305 mm ) guns , but their small displacement ? only 15 @,@ 700 metric tons ( 15 @,@ 500 long tons ; 17 @,@ 300 short tons ) ? forced the designers to compromise on armor protection and speed .

España , Alfonso XIII , and Jaime I served in the 1st Squadron of the Spanish Fleet , which became the Training Squadron in the 1920s . They all saw action during the Rif War in the early 1920s supporting Spanish ground forces in North Africa . España ran aground in August 1923 and the Navy could not salvage her ; she instead broke up under tidal forces . Alfonso XIII was renamed España in 1931 after her namesake , King Alfonso XIII was forced into exile . The two surviving ships served on opposite sides of the Spanish Civil War , and both were destroyed during the conflict . España struck a naval mine laid by her own side in on 30 April 1937 and sank , and Jaime I was destroyed by an internal explosion in June 1937 .

= = Development = =

The Spanish public blamed the disastrous losses in the Spanish ? American War of 1898 on the Navy , but recognized the need to modernize and rebuild it . The first attempt to rebuild the Navy came in the Fleet Plan of 1903 , which called for a fleet centered on seven 15 @,@ 000 @-@ metric @-@ ton ( 15 @,@ 000 @-@ long @-@ ton ) battleships and three 10 @,@ 000 @-@ metric @-@ ton ( 9 @,@ 800 @-@ long @-@ ton ) cruisers . This plan proved to be far too ambitious for the weak Spanish economy , and an unstable Spanish parliament proved unable to provide funding . It was followed by the Fleet Plan of 1905 , which proposed a fleet of eight 14 @,@ 000 t ( 14 @,@ 000 long tons ) battleships along with a number of torpedo boats and submarines . It too fell victim to the weaknesses of the Spanish government . It was not until early 1907 that a strong cabinet led by Antonio Maura came to power that the question of naval construction was settled . The Fleet Plan of 1907 proposed three 15 @,@ 000 MT battleships along with several destroyers , torpedo boats , and other craft . The construction plan was to last for eight years . Debates over the plan took place in the Cortes Generales ( General Courts ? the Spanish legislature ) through November , with a final approval vote on 2 December . The Fleet Plan was formally signed into law on 7 January 1908 .

The delay enabled Spain to take advantage of experience gained by Britain with the world 's first commissioned all @-@ big @-@ gun battleship , HMS Dreadnought , and by the United States with its own new battleship , USS South Carolina . The Spanish Navy was principally concerned with defending its three main naval bases : Ferrol , Cádiz , and Cartagena . Of secondary importance was the need to keep the new battleship design tightly constrained due to the frail Spanish economy and industrial sector . A third constraint was the need to build ships small enough to fit in existing dockyard facilities , since there were insufficient funds to both build larger battleships and to enlarge the navy 's dockyards . As a result , the design requirements called for relatively heavy offensive power with minimal range and armor protection . The Navy began discussing the design requirements with Armstrong Whitworth and Vickers in 1907 well before the law was actually passed . On 5 September 1907 , Vickers provided a proposed design for a 15 @,@ 000 @-@ ton battleship armed with eight 12 @-@ inch guns . This design was the basis for the requirements for the design competition , which was issued on 21 April 1908 .

Four shipbuilders submitted bids : the Italian Gio . Ansaldo & C. led a group that also included the Austro @-@ Hungarian ?koda Works and the French Marrel Freres Forges de La Loire et du Midi ; the French Schneider @-@ Creusot firm partnered with Société Nouvelle des Forges et Chantiers

de la Méditerranée and Forges et Chantiers de la Gironde ; the Spanish Sociedad Española de Construcción Naval ( SECN ) , which was formed by Vickers , Armstrong Whitworth , and John Brown & Company ; and a group of Spanish industrialists backed by Palmers Shipbuilding and Iron Company and William Beardmore and Company . Only the first three proposals were seriously considered , as the fourth was considered to be too vague . The Junta Superior de la Armada ( the Navy Staff ) and the Navy Minister were responsible for reviewing the three proposals . Ansaldo prepared two design variants ; the first called for four twin gun turrets for the main battery , with one forward , one aft , and two offset amidships . The second proposal had two triple turrets , fore and aft , with a twin turret on the centerline amidships . Artillery experts in the Navy rejected the second variant . The SECN and Schneider designs also featured the same arrangement as the first Ansaldo proposal .

In October 1908 , the Artillery Committee met to make its recommendations to the Junta Superior . The Committee concluded the SECN and Schneider proposals were superior to the Ansaldo version , but neither had a marked advantage over the other . The following month , the Naval Construction Committee met to evaluate the proposals . It recommended the SECN design first , followed by Schneider , with Ansaldo last . The Office of the Navy Controller also evaluated the proposals in November , and advised the Junta Superior that only the SECN bid met the design requirements without any legal , administrative , or cost problems . In February 1909 , the Navy requested a revised design from SECN to incorporate several alterations , including an increased freeboard to improve seakeeping , an increased height and length of the main belt armor , and the addition of individual rangefinders for each gun turret . SECN agreed to make the changes on 20 March , and the company received the contract on 14 April . Due to the constraints imposed by the Spanish economy , the resulting design produced the smallest dreadnought @-@ type battleships ever built . They were also obsolescent before completion due to rapid technological change ? most significantly the rise of the superdreadnought battleships ? and lengthy delays in completion of the later units of the class .

#### == General characteristics ==

The ships of the class were 132 @.@ 6 m ( 435 ft ) long at the waterline and 140 m ( 460 ft ) long overall . They had a beam of 24 m ( 79 ft ) and a draft of 7 @.@ 8 m ( 26 ft ) ; their freeboard was 4 @.@ 6 m ( 15 ft ) amidships , much lower than was normal for battleships of the period . They displaced 15 @, @ 700 metric tons ( 15 @, @ 500 long tons ) as designed and up to 16 @, @ 450 t ( 16 @, @ 190 long tons ) at combat load . The vessels had two tripod masts and a small superstructure . They were equipped with six 75 cm ( 30 in ) searchlights . The ships were reasonably stable compared to foreign designs , but they had a low metacentric height of 1 @.@ 56 m ( 5 ft 1 in ) at full loading . This caused them to have very low stability when damaged .

Each ship had a crew of 854 officers and enlisted men . The enlisted crew spaces were located forward in the upper deck , and were cramped and unhygienic . The cabins for non @-@ commissioned officers were also located here . The superstructure included several cabins for senior officers . The ships were initially painted black but in the 1920s they were repainted gray . Alfonso XIII wore a white identification band on her funnel and Jaime I wore two , though both ships had them removed after the start of the Civil War . Jaime I was also repainted dark gray at this time .

#### == Machinery ==

Their propulsion system consisted of four @-@ shaft Parsons steam turbines and twelve coal @-@ fired water @-@ tube Yarrow boilers . The turbines drove three @-@ bladed screw propellers that were 2 @.@ 4 m ( 7 ft 10 in ) wide in diameter . Two spare screws were kept aboard each ship . The boilers were trunked into a single funnel that was placed amidships ; the location of the funnel , far from the foremast , kept the latter 's spotting top free from smoke interference , but still rendered the spotting top on the mainmast essentially useless .

The engines were rated at 15 @, @ 500 shaft horsepower ( 11 @, @ 600 kW ) and produced a top speed of 19 @. @ 5 knots ( 36 @. @ 1 km / h ; 22 @. @ 4 mph ) . According to the design contract , the engines were to be capable of a normal maximum of 22 @, @ 000 shp ( 16 @, @ 000 kW ) with a top speed of 19 @. @ 9 knots ( 36 @. @ 9 km / h ; 22 @. @ 9 mph ) and up to 26 @, @ 000 shp ( 19 @, @ 000 kW ) and 20 @. @ 2 knots ( 37 @. @ 4 km / h ; 23 @. @ 2 mph ) at forced draft . All three ships exceeded 20 knots ( 37 km / h ; 23 mph ) on speed trials . Each ship could store up to 1 @, @ 900 t ( 1 @, @ 900 long tons ) of coal , which permitted a cruising radius of 5 @, @ 000 nautical miles ( 9 @, @ 300 km ; 5 @, @ 800 mi ) at a speed of 10 knots ( 19 km / h ; 12 mph ) .

= = = Armament = = =

Their main armament consisted of eight 12 @-@ inch ( 305 mm ) 50 @-@ caliber guns manufactured by Vickers . Each weighed 65 @. @ 646 metric tons ( 64 @. @ 609 long tons ) and fired an 850 @-@ pound ( 385 kg ) shell at a muzzle velocity of 3 @, @ 000 ft / s ( 914 m / s ) . The guns had a maximum range of 23 @, @ 500 yards ( 21 @, @ 500 m ) and a rate of fire of one round per minute . These guns were housed in four twin turrets , arranged with two on the centerline fore and aft , the others en echelon on the wings . The turrets were hydraulically operated , and could be loaded at any angle of elevation . The en echelon arrangement was chosen over superfiring turrets ? such as those used in the American dreadnoughts ? to save weight and cost . All four turrets could in theory fire on the broadside , and three could fire ahead or astern . However , blast effects from the wing turrets generally prohibited firing them across the deck or directly ahead and astern .

The secondary battery comprised twenty 4 in ( 102 mm ) 50 @-@ caliber guns mounted individually in casemates along the length of the hull . They fired a 31 @-@ pound ( 14 kg ) shell . The guns were too close to the waterline , however , and were unusable in heavy seas ; they also suffered from insufficient elevation , which limited their range . The guns were also too weak to be effective against contemporary destroyers , which were becoming increasingly powerful . The ships also carried four 3 @-@ pounder guns , two machine guns , and two landing guns that could be taken ashore .

= = = Armor = = =

The armor layout for the España class was essentially a scaled down version of that used in the British Bellerophon class . The reductions were due primarily to the heavy armament in a vessel of such limited displacement . The main belt armor was only 8 in ( 203 mm ) thick , and tapered to 4 in ( 102 mm ) on either end of the central citadel . The upper belt that protected the casemate guns was 6 in ( 152 mm ) thick . Each turret , which had 8 in sides , sat on a barbette that was protected with 10 in ( 254 mm ) thick plating . The conning tower also had 10 @-@ inch thick sides . Both the armored deck and the torpedo bulkhead were 1 @. @ 5 in ( 38 mm ) thick . The ships ' heavy armor plating consisted of Krupp cemented steel , with Krupp homogeneous steel used for armor thinner than 4 in ( 100 mm ) ; both types were manufactured in Britain .

Though the ships were poorly armored compared to foreign designs in general , the ships ' underwater protection was the greatest weakness in the armor scheme . The torpedo bulkhead was placed too close to the outer hull , which reduced its ability to absorb damage . This weakness played a central role in the loss of both España to grounding in 1923 and the sinking of Alfonso XIII by a single mine in 1937 .

= = = Modifications = = =

Only limited modifications were possible due to technical constraints imposed by the need to keep displacement low and insufficient funds to effect a major reconstruction to free up tonnage for other uses . The Navy considered proposals to modernize the three battleships in the early 1920s , but the Spanish military budget was being consumed by the costs of the Rif War in North Africa and so nothing came of the proposed modernization . These plans called for installing new fire control

equipment with more effective rangefinders , along with additional , newer anti @-@ aircraft guns , and building anti @-@ torpedo bulges into the hull to improve underwater protection for a loss of one knot of speed . Deck armor was also to be strengthened .

Ultimately , only minor modifications were possible . In 1926 , both Jaime I and Alfonso XII had a pair of Vickers 76 @.@ 2 @-@ millimeter ( 3 @.@ 00 in ) anti @-@ aircraft guns installed , one each on top of turret numbers 1 and 2 . And in the 1930s , the foremast was reduced slightly on the two surviving ships . After she was seized by the Nationalists in 1936 , España ( ex @-@ Alfonso XIII ) had these two guns removed for use ashore . They were replaced with four German 8 @.@ 8 cm ( 3 @.@ 5 in ) SK C / 30 flak guns and two 2 cm ( 0 @.@ 79 in ) C / 30 anti @-@ aircraft guns . Jaime I , which remained with the Republicans , was reequipped with two Vickers 47 mm ( 1 @.@ 9 in ) 50 @-@ caliber anti @-@ aircraft guns and a twin 25 mm ( 0 @.@ 98 in ) Hotchkiss mounting .

= = Construction = =

A new 184 by 35 m ( 604 by 115 ft ) drydock and two 180 by 35 m ( 591 by 115 ft ) slipways were built at Ferrol to accommodate the construction of the three battleships . All material , save the armor plate , heavy guns , and fire control equipment , was manufactured in Spain . The contract specified a build time of four years for the first ship , five years for the second , and seven years for the third . Despite the allowance for longer construction times for the later units , their completion , and particularly the third unit , Jaime I , was held up by a lack of materials from Britain as a result of the outbreak of World War I. Most importantly , the main guns for Jaime I were not delivered until 1919 .

= = History = =

España was the only member of the class completed by the outbreak of World War I in August 1914 , though she did not see action , as Spain remained neutral for the duration of the war . In August 1914 , she participated in the opening ceremonies for the Panama Canal . Alfonso XIII joined her in August 1915 in the 1st Squadron of the Spanish fleet . In late 1921 , Jaime I was finally completed . Throughout the early 1920s , the three ships served in the Training Squadron . During this period , Spain became involved in the Rif War in Morocco ; all three ships saw action during the conflict , primarily by providing artillery support to Spanish ground forces engaging the Rif rebels . In August 1923 , while bombarding Rif positions , España ran aground off Cape Tres Forcas . A lengthy salvage operation failed to free the ship , and in November 1924 , the stress of repeated tidal battering broke the wreck in half .

In 1931 , after the overthrow of King Alfonso XIII , his namesake battleship was renamed España . In the mid @-@ 1930s , the Spanish Navy considered modernization programs for the two surviving battleships , but none came to fruition , primarily as a result of the outbreak of the Spanish Civil War in 1936 . The two ships found themselves on opposite sides during the conflict ; España served on the side of Francisco Franco 's Nationalists , and Jaime I fought for the Republicans . España was used for coastal bombardment and to enforce the blockade of Republican ports , while Jaime I unsuccessfully attempted to disrupt the blockade , though neither ship engaged the other . In August 1936 , Jaime I was attacked and moderately damaged by Nationalist bombers ; while undergoing repairs in Cartagena , she was destroyed by an internal explosion in June 1937 . España was sunk on 30 April 1937 after striking a mine laid by her own side off the coast of Santander in northern Spain .

Many of the guns from the first España were recovered and employed in coastal fortifications , some of which remained in service until 1999 . Six of Jaime I 's 12 @-@ inch guns were also salvaged and similarly employed after she was broken up in the 1940s ? they too remained in service until they were decommissioned in the mid @-@ 1990s . The second España was never raised , and her wreck was discovered in the early 1980s . Several expeditions to survey the wreck took place between February and May 1984 .