

= Odin @-@ class coastal defense ship =

The Odin class was a pair of coastal defense ships built for the German Kaiserliche Marine in the late 19th century . The class comprised two ships : Odin , named after the Norse god Odin , and Ägir , named after the Norse god of the same name . The ships were very similar to the preceding Siegfried @-@ class coastal defense ships , and are sometimes considered to be one class of ships .

Like the preceding Siegfried @-@ class ships , Odin and Ägir were obsolete by the time World War I had started . Regardless , they were still used in their primary role until 1915 , at which point they were withdrawn from active service . The ships performed a variety of secondary duties until the end of the war . On 17 June 1919 , both ships were struck from the naval register and sold to the A. Bernstein Company in Hamburg . The shipping company had the ships rebuilt as freighters ; Odin served in this capacity until she was scrapped in 1935 , however Ägir accidentally grounded near the Karlsö lighthouse on the island of Gotland in 1929 and proved to be a total loss .

= = Design = =

= = = General characteristics = = =

The Odin @-@ class ships were 76 @. @ 40 meters (250 @. @ 7 ft) long at the waterline and 79 m (259 ft) long overall . They had a beam of 15 @. @ 20 m (49 @. @ 9 ft) and a draft of 5 @. @ 6 m (18 @. @ 4 ft) forward and 5 @. @ 47 m (17 @. @ 9 ft) aft . Like the preceding Siegfried class , Odin and Ägir were substantially rebuilt between 1901 ? 03 and 1903 ? 04 , respectively . The hulls were lengthened somewhat , to 84 @. @ 80 m (278 @. @ 2 ft) at the waterline and 86 @. @ 15 m (282 @. @ 6 ft) overall . The beam was also slightly increased , to 15 @. @ 40 m (50 @. @ 5 ft) . Forward draft decreased slightly , to 5 @. @ 59 m (18 @. @ 3 ft) , while the aft draft increased slightly , to 5 @. @ 49 m (18 @. @ 0 ft) . The two ships had a designed displacement of 3 @, @ 550 metric tons (3 @, @ 490 long tons ; 3 @, @ 910 short tons) and a maximum weight of 2 @, @ 754 t (2 @, @ 711 long tons ; 3 @, @ 036 short tons) . After the reconstruction , displacement was increased to 4 @, @ 100 t (4 @, @ 000 long tons ; 4 @, @ 500 short tons) designed , and a maximum of 4 @, @ 376 t (4 @, @ 307 long tons ; 4 @, @ 824 short tons) for Odin and 4 @, @ 292 t (4 @, @ 224 long tons ; 4 @, @ 731 short tons) for Ägir .

Odin and Ägir used the same transverse and longitudinal steel frame construction as the Siegfried @-@ class ships . The ships had eight watertight compartments and a double bottom for about 60 % of the length of the hull . As in the Siegfrieds , a ninth watertight compartment was added when the ships were lengthened . The ships were described as good sea boats ; they had gentle motion and were very responsive to commands from the helm . The ships lost significant speed in heavy seas , however . The ships had a crew of 20 officers and 256 enlisted men , with an additional 6 officers and 22 men when serving as a flagship . The refit increased crew requirements , to an additional 31 sailors normally , and the extra flagship crew increased to 9 officers and 34 men . The ships carried a number of smaller boats , including one picket boat , one pinnace , two cutters , one yawl , and one dinghy .

= = = Propulsion = = =

Odin and Ägir were equipped with the same propulsion system that was in Siegfried : two sets of 3 @-@ cylinder triple expansion engines , each in its own engine room . These engines drove a pair of three @-@ bladed screws that were 3 @. @ 50 m (11 @. @ 5 ft) in diameter . Odin had eight marine type boilers , while Ägir 's engines were powered by eight Thornycroft boilers . The ships had similar maximum speeds , with Odin , at 14 @. @ 4 knots (26 @. @ 7 km / h ; 16 @. @ 6 mph) , somewhat slower than her design speed of 15 knots (28 km / h ; 17 mph) and Ägir slightly faster at 15 @. @ 1 knots (28 @. @ 0 km / h ; 17 @. @ 4 mph) . Their engines were rated at 4 @, @ 800

indicated horsepower (3 @, @ 600 kW) , though on trials Odin managed only 4 @, @ 650 ihp (3 @, @ 470 kW) while Ägir reached 5 @, @ 129 ihp (3 @, @ 825 kW) .

Odin had three electric generators that provided between 29 ? 26 kilowatts at 67 volts , while Ägir was equipped with six generators that provided between 243 ? 250 kW at 120 V. Because of her increased number of electrical generators , Ägir was nicknamed " Electriscche Anna " (" Electric Anna ") . The ships stored up to 270 t (270 long tons ; 300 short tons) of coal which enabled a range of 2 @, @ 200 nautical miles (4 @, @ 100 km ; 2 @, @ 500 mi) at a cruising speed of 10 knots (19 km / h ; 12 mph) . After the refit , fuel bunkering was increased , to 370 t (360 long tons ; 410 short tons) of coal . This increased the sailing range to 3 @, @ 000 nmi (5 @, @ 600 km ; 3 @, @ 500 mi) at 10 knots . After 1909 , capacity to store 100 t (98 long tons ; 110 short tons) of fuel oil was added .

== = Armament == =

The ships ' primary armament consisted of three 24 @-@ centimeter (9 @.@ 4 in) SK L / 35 guns . In an arrangement that was very unusual for such large guns , two of the guns were mounted in a pair of MPL C / 88 turrets forward side @-@ by @-@ side , while the third was mounted in a single turret aft . The guns could train 150 degrees to either side of the centerline , and depress to -4 degrees and elevate to 25 degrees . This enabled a maximum range of 13 @, @ 000 m (43 @, @ 000 ft) . The guns had an ammunition storage of 174 rounds , or 58 shells per gun . The guns had a rate of fire of around 2 shells per minute . The 1895 design for the armor @-@ piercing shell weighed 140 kg (310 lb) .

The ships also had a secondary battery of ten 8 @.@ 8 cm (3 @.@ 5 in) SK L / 30 guns with 2 @, @ 500 rounds of ammunition . The 8 @.@ 8 cm gun fired a 10 kg (22 lb) projectile at a muzzle velocity of 590 m / s (1 @, @ 900 ft / s) . The guns could sustain a rate of fire of approximately 15 rounds per minute . The ships were also equipped with three 45 cm (18 in) torpedo tubes . Two were placed laterally in above water swivel mounts and the third was submerged in the bow . The torpedo tubes were supplied with a total of 8 torpedoes .

== = Armor == =

The ships used a similar Krupp compound steel and teak armor protection scheme as in the preceding Siegfried class . The upper section of the main armored belt was 220 millimeters (8 @.@ 7 in) thick in the central portion of the ships , where the ships ' vitals were located . Behind this was 180 mm (7 @.@ 1 in) of teak , which gave a total thickness of 400 mm (16 in) . The bow and stern were unprotected . The lower section followed a similar pattern of steel armor distribution , although the thickness of the central portion of the belt was decreased to 120 mm (4 @.@ 7 in) . The main armored deck was between 50 mm (2 @.@ 0 in) and 70 mm (2 @.@ 8 in) thick ; more important areas of the ships were covered by the thicker armor . The conning tower roof was 30 mm (1 @.@ 2 in) thick and the sides were 120 mm (4 @.@ 7 in) . The barbettes for the main battery and cupolas for the secondary guns ranged in thickness between 30 to 200 mm (1 @.@ 2 to 7 @.@ 9 in) , backed by 200 mm (7 @.@ 9 in) of teak .

== = Service history == =

Odin and Ägir saw only limited service in their intended roles . The revolutions in capital ship building in the first decade of the 20th century rapidly made these ships obsolete . The Second Naval Law , passed on 27 March 1908 , reduced the service life of all capital ships from 25 years to 20 years . This meant that the Odin @-@ class ships , along with a number of other vessels , were to be replaced as soon as possible . Odin and Ägir were replaced by the Kaiser @-@ class battleships König Albert and Prinzregent Luitpold respectively .

As the new battleships were intended for offensive operations , the Odin class was still retained for coast defense duties . The ships served in this capacity through the start of World War I , until they

were withdrawn from active service in 1915 , along with their half @-@ sisters of the Siegfried class . After she was pulled from combat duties , Odin served as a tender in Wilhelmshaven . She was struck from the naval register on 6 December 1919 and sold to A. Bernstein Co . , a shipping company based in Hamburg . By 1922 , the ship had been rebuilt as a freighter , and she served in this capacity until she was scrapped in 1935 .

Ägir was also stationed in Wilhelmshaven after she was withdrawn from her coast defense duties , though she served as a barracks ship there . She was stricken from the navy list on 17 June 1919 , and also sold to A. Bernstein Co. for use as a freighter . On 8 December 1929 , the ship grounded off the Karlsö lighthouse on the Swedish island of Gotland . The situation proved to be unsalvageable . Her bow ornament is now on display at the Laboe Naval Memorial .