

## REPORT ON MACHINERY

No. 5008.

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Date of writing Report 9th March 1922 When handed in at Local Office 9th March 1922 Port of Gothenburg  
 No. in Survey held at Gothenburg Date, First Survey Dec. 11 - 1918 Last Survey March 3 - 1922  
 Reg. Book Supplement 39617 on the Single Screw Vessel "TOLKEN" (Number of Visits 70)  
 Master ✓ Built at Gothenburg By whom built Aktieb. Lindholmen-Motala Tons { Gross 4471  
 Engines made at Gothenburg By whom made Aktieb. Lindholmen-Motala when made 1922 Net 2722  
 Boilers made at Gothenburg By whom made Aktieb. Lindholmen-Motala when made 1922  
 Registered Horse Power ✓ Owners Rederiaktieb. Transatlantic Port belonging to Gothenburg  
 Nom. Horse Power as per Section 28 450 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines One triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27" 44" 72" Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 16 1/4" Material of Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner fitted Is the after end of the liner made water tight  
 in the propeller boss ✓ If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part  
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If two  
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-7"  
 Dia. of Tunnel shaft as per rule 13 1/4" Dia. of Crank shaft journals as per rule 14 1/8" Dia. of Crank pin 14 3/4" Size of Crank webs 16 1/2" x 9" Dia. of thrust shaft under  
 collars 14 3/8" Dia. of screw 19'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable Yes Total surface 102 sq'  
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps 2 1/2" pumps 10 1/2" x 8" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Four 3 1/2"; One 2 1/2" in tunnel well In Holds, &c. Two 3 1/2" in each hold.  
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"  
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line Above  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes  
 What pipes are carried through the bunkers Bilge suction pipes to No. 1 & 2 holds How are they protected Fitted in bilge below ceiling  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper engine room platform.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Rheinische Stahlwerke, Abteilung Duisburg

Total Heating Surface of Boilers 6150 sq' Is Forced Draft fitted Yes No. and Description of Boilers Three cylindrical multitubular  
 Working Pressure 185 lbs Tested by hydraulic pressure to 330 lbs Date of test 22/10/21, 24/10/21, 9/11/21 No. of Certificate 193, 194 & 195  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 48 sq' No. and Description of Safety Valves to  
 each boiler Two springloaded Area of each valve 15.3" Pressure to which they are adjusted 190 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork At least 3 inches Mean dia. of boilers 14'-1 3/4" Length 11'-7 1/2" Material of shell plates Steel  
 Thickness 1 9/32" Range of tensile strength 28-32 tons/sq" Are the shell plates welded or flanged No Descrip. of riveting: cir. seams ✓  
 long. seams Double butt straps of unequal width Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 22 1/2" & 14"  
 Per centages of strength of longitudinal joint 91.9 Working pressure of shell by rules 195 lbs Size of manhole in shell 12" x 16"  
 Size of compensating ring Dia. 30", 19 1/32" No. and Description of Furnaces in each boiler 3 corrugated Material Steel Outside diameter 42"  
 Length of plain part top 14 1/2" Thickness of plates bottom 1 1/32" Description of longitudinal joint Welded No. of strengthening rings None  
 Working pressure of furnace by the rules 195 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 7/8"  
 Pitch of stays to ditto: Sides 8" x 9 1/4" Back 8" x 9 1/4" Top 7 3/4" x 9 1/4" If stays are fitted with nuts or riveted heads Riveted Working pressure by rules 192.5  
 Material of stays Steel Area at smallest part 1.76 sq" Area supported by each stay 740" Working pressure by rules 214 lbs End plates in steam space:  
 Material Steel Thickness 1 1/16" Pitch of stays 14" x 20" How are stays secured Double nuts and washers outside riveted to the plate Working pressure by rules 194 lbs Material of stays Steel  
 Area at smallest part 6.1 sq" Area supported by each stay 280 sq" Working pressure by rules 225 lbs Material of Front plates at bottom Steel  
 Thickness 1 1/16" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 13 1/8" x 8" Working pressure of plate by rules 193 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 1 1/16" Back 7/8" Mean pitch of stays 11 1/8"  
 Pitch across wide water spaces 14" Working pressures by rules 206 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 6 3/4" x 7 1/8" Length as per rule 29" Distance apart 7 3/4" Number and pitch of stays in each No. 9 1/4"  
 Working pressure by rules 191.5 Steam dome: description of joint to shell None % of strength of joint ✓  
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓  
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

SUPERHEATER. Type Schmidt Date of Approval of Plan No plan submitted Tested by Hydraulic Pressure to 555 lbs  
 Date of Test December 1920 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
 Diameter of Safety Valve 1 3/4" Pressure to which each is adjusted 195 lbs Is Easing Gear fitted Yes



