

REPORT ON MACHINERY.

No. 3713

Port of Rotterdam

Received at London Office MON. 24 AUG 1903

No. in Survey held at *Flushing & Rotterdam* Date, first Survey *9 Sept 02* Last Survey *6 August 1903*
 Reg. Book. *447* on the *Steel S.S. "Dorothea"* (Number of Visits *18*)
 Master *P. de Goede* Built at *Rotterdam* By whom built *Bonn & Mees* Tons { Gross *2035.03*
 Engines made at *Flushing* By whom made *Kon. M^r. de Schelde* when made *1903*
 Boilers made at *Flushing* By whom made *Kon. M^r. de Schelde* when made *1903*
 Registered Horse Power *✓* Owners *Maats. Stoomschip Dorothea* Port belonging to *Rotterdam*
 Nom. Horse Power as per Section 28 *220* Is Refrigerating Machinery fitted *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Inverted, triple, surf. condens.* No. of Cylinders *three* No. of Cranks *three*
 Dia. of Cylinders *24", 35" & 54"* Length of Stroke *39"* Revs. per minute *70* Dia. of Screw shaft as per rule *12 1/16"* Material of *steel*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *2 liners* Is the after end of the liner made water tight
 in the propeller boss *yes* 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 *no* Length of stern bush *60"*
 Dia. of Tunnel shaft as per rule *10 5/32"* Dia. of Crank shaft journals as per rule *10 24/32"* Dia. of Crank pin *11 1/2"* Size of Crank webs *7 1/2" x 16"* Dia. of thrust shaft under
 collars *11 1/2"* Dia. of screw *15'-6"* Pitch of screw *15'-6"* No. of blades *4* State whether moveable *no* Total surface *70 sq. ft.*
 No. of Feed pumps *2* Diameter of ditto *3 1/2"* Stroke *20"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* Diameter of ditto *5"* Stroke *20"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *2* *Watson's* Sizes of Pumps *8 1/2" x 4 1/2" x 8"-10" x 9" x 10"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *1-3" centre & 1-3" in each wing.* In Holds, &c. *N^o 1 hold a 2 3/4" suction in each wing;*
N^o 2 hold a 2 3/4" suck in each wing; a 2 1/4" holdwell & a 2 1/4" tunnelwell suction.
 No. of bilge injections *1* sizes *5"* Connected to condenser, or to circulating pump *•* Is a separate donkey suction fitted in Engine room & size *yes 3"*
 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 *none*
 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 *none* How are they protected *✓*
 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, non return*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launch* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *above deep leadline*.

OILERS, &c.— (Letter for record *3*) Total Heating Surface of Boilers *3540 sq. ft.* Is forced draft fitted *no*
 No. and Description of Boilers *2 single ended marine* Working Pressure *160 lb* Tested by hydraulic pressure to *320 lb*
 Date of test *13/3/03* Can each boiler be worked separately *yes* Area of fire grate in each boiler *54 sq. ft.* No. and Description of safety valves to
 each boiler *2. Direct springs* Area of each valve *10.4 sq. in.* Pressure to which they are adjusted *160 lb* Are they fitted with easing gear *yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *20"* Mean dia. of boilers *13'-6 7/8"* Length *10'-6 1/2"* Material of shell plates *steel*
 Thickness *1 1/16"* Range of tensile strength *27-30 T* Are they welded or flanged *no* Descrip. of riveting: cir. seams *lap, 2 x riv* long. seams *all butt 5 x riv*
 Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *7 1/2"* Lap of plates or width of butt straps *17 1/8"*
 Per centages of strength of longitudinal joint rivets *92* Working pressure of shell by rules *164 lb* Size of manhole in shell *12" x 16"*
 Size of compensating ring *M^r. Neil's* No. and Description of Furnaces in each boiler *3 Morrison's* Material *steel* Outside diameter *44 3/4"*
 Length of plain part top *✓* Thickness of plates crown *3 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *168 lb* Combustion chamber plates: Material *steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *7/8"*
 Pitch of stays to ditto: Sides *7 1/2"* Back *7 1/2" x 8"* Top *7 1/2" x 8"* If stays are fitted with nuts or riveted heads *riv. heads* Working pressure by rules *166 lb*
 Material of stays *steel* Diameter at smallest part *1.22* Area supported by each stay *60.12* Working pressure by rules *162* End plates in steam space:
screwed in plates & doubler
 Material *steel* Thickness *3/4"* Pitch of stays *19"* How are stays secured *3 nuts* Working pressure by rules *166 lb* Material of stays *steel*
 Diameter at smallest part *2 3/4"* Area supported by each stay *361 sq. in.* Working pressure by rules *164* Material of Front plates at bottom *steel*
 Thickness *15/16"* Material of Lower back plate *steel* Thickness *15/16"* Greatest pitch of stays *12 1/2"* Working pressure of plate by rules *195*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *steel* Thickness: Front *15/16"* Back *3/4"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *15 1/2"* Working pressures by rules *176 lb* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *8" (2 x 3/4")* Length as per rule *30"* Distance apart *8"* Number and pitch of Stays in each *3 - 7 1/2"*
 Working pressure by rules *160 lb* Superheater or Steam chest; how connected to boiler *✓* Can the superheater be shut off and the boiler worked
 separately *✓* Diameter *✓* Length *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet
 holes *✓* Pitch of rivets *✓* Working pressure of shell by rules *✓* Diameter of flue *✓* Material of flue plates *✓* Thickness *✓*
 If stiffened with rings *✓* Distance between rings *✓* Working pressure by rules *✓* End plates: Thickness *✓* How stayed *✓*
 Working pressure of end plates *✓* Area of safety valves to superheater *✓* Are they fitted with easing gear *✓*

W872-0037

DONKEY BOILER— No. *one* Description *Cochran's patent.*
 Made at *Annan* By whom made *Cochran & Co.* When made *1903* Where fixed *in Stokehold*
 Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *6588* Fire grate area *19.6* Description of safety valves *Direct spring*
 No. of safety valves *2* Area of each *7 sq* Pressure to which they are adjusted *80 lb* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *-* Length *-* Material of shell plates *-* Thickness *-* Range of tensile strength *-* Descrip. of riveting long. seams *-* Dia. of rivet holes *-* Whether punched or drilled *-* Pitch of rivets *-*
 Lap of plating *-* Per centage of strength of joint *-* Rivets *-* Thickness of shell crown plates *-* Radius of do. *-* No. of Stays to do. *-*
 Dia. of stays *-* Diameter of furnace Top *-* Bottom *-* Length of furnace *-* Thickness of furnace plates *-* Description of joint *-* Thickness of furnace crown plates *-* Stayed by *-* Working pressure of shell by rules *-*
 Working pressure of furnace by rules *-* Diameter of uptake *-* Thickness of uptake plates *-* Thickness of water tubes *-*

SPARE GEAR. State the articles supplied:— *1 Propeller; 2 Connecting rod top end and 2 bottom end bolts & nuts; 2 main bearing bolts; 1 set of coupling bolts; 1 set of feed and belp pumps valves; 1 set of H.P. piston springs; 2 quantities of assorted bolts & nuts and iron of various sizes.*

The foregoing is a correct description,

SCHEEPSBOUW- EN WERKTUIGENFABRIEK. Manufacturer.

R. PROC. J. van der Poort

Dates of Survey while building { During progress of work in shops - *9/9; 28/10; 2.11/12/02. 13, 24/1; 26/2; 4, 13, 14/3; 26, 30/5; 4/6/03.*
 During erection on board vessel - *10/6; 16, 24/7; 3, 6/8/03.*
 Total No. of s *18.*

C.p. post.

Is the approved plan of main boiler forwarded herewith *yes*
 " " " " " " *yes*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The main steam pipes are of seamless steel with flanges in one piece and have been tested by hydraulic pressure to 500 lbs per square inch with satisfactory result. Watson's patent evaporator fitted.

The materials being good and tested as required, the workmanship satisfactory, and the engines and boilers having worked satisfactory under steam we are of opinion that this vessel is eligible to be recorded in the Society's Register Book with L.M.C. 8.03.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 8.03.

Bak. 25.8.03.

RS. 25.8.03

The amount of Entry Fee.. £ *2* : : When applied for,
 Special £ *31* : : *20/8 1903*
 Donkey Boiler Fee £ : : : When received,
 Travelling Expenses (if any) £ *3 : 10* : : *21/8 1903*

Committee's Minute

TUES. 25 AUG 1903

Assigned

+ LMC 8.03

M. F. D. van Ollefen

F. A. Bernack

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

MACHINERY CERTIFICATE WRITTEN.



© 2021

Lloyd's Register Foundation

Certificate (if required) to be sent to the Surveyors Rotterdam