

The  
 of writing Report *29<sup>th</sup> March 1940* When handed in at Local Office  
 and in Survey held at *Copenhagen and Aarhus*  
 1. Book.

Received at London Office

19 Port of *Copenhagen* APR - 8 1940

Date, First Survey *24<sup>th</sup> April 1939*. Last Survey *17<sup>th</sup> March 1940*

Number of Visits *53*

Single  
on the Twin  
Triple Screw vessel  
Quadruple

all at *Copenhagen*  
orgines made at *Copenhagen*

Monkey Boilers made at *Copenhagen*  
 Brake Horse Power *4550* ✓

am. Horse Power as per Rule 1064

ade for which vessel is intended *Open sea service*

Tons		No	
By whom built	Maskin - g Skibsbyggeri	Yard No.	648
By whom made	Maskin - g Skibsbyggeri	Engine No.	3047
By whom made	Maskin - g Skibsbyggeri	Boiler No.	1966
Owners	Saksakheselskabet "Arizona" Højbjerg Port belonging to Oslo		

Tons } Gross 7714.73  
Net 4729.96

**ENGINES, &c.**—Type of Engines *Vertical heavy oil, crosshead, solid injected 2 or 4 stroke cycle 2* Single or double acting *double*  
 Maximum pressure in cylinders *49 kg/cm<sup>2</sup>* *MAIN PISTON 1200 7/8*  
 Indicated Pressure *6.45 kg/cm<sup>2</sup>* Diameter of cylinders *550 7/8* *TOP & BOTTOM 400 7/8* Length of stroke *1600 7/8* No. of cylinders *5* No. of cranks *5*  
 No. of bearings, adjacent to the Crank, measured from inner edge to inner edge *782 7/8* *1140 mm* Is there a bearing between each crank *yes*  
 Revolutions per minute *110* **TURNING—** *1902 7/8* Weight *1630 kg* Means of ignition *Compression* Kind of fuel used *Crude oil F.P. 150°F*  
 Crankshaft, { *Solid forged* dia. of journals as per Rule *410 7/8* *602 = 4350 3/4* BALANCE WEIGHTS *640 3/4* *Mid. length breadth 1050 7/8* Thickness parallel to axis *255 7/8*  
 { *Semi built* dia. of journals as fitted *440 7/8* Crank pin dia. *440 7/8* Crank Webs *Mid. length thickness 235 7/8* Thickness around eye hole *245 7/8*  
 { *All built* as fitted *440 7/8* Crank pin dia. *440 7/8* Crank Webs *Mid. length thickness 235 7/8* Thickness around eye hole *245 7/8*  
 Wheel Shaft, diameter as per Rule *356 7/8* Intermediate Shafts, diameter as per Rule *359 7/8* Thrust Shaft, diameter at collar as per Rule *377 7/8*  
 as fitted *359 7/8* as fitted *440 7/8*  
 Propeller Shaft, diameter as per Rule *391 7/8* Screw Shaft, diameter as per Rule *394 7/8* Is the { *Hub* { shaft fitted with a continuous liner { *yes*  
 as fitted *394 7/8* as fitted *394 7/8* as fitted *394 7/8*  
 Liners, thickness in way of bushes as per Rule *19.6 7/8* as per Rule *14.7 7/8* Is the after end of the liner made watertight in the  
 as fitted *20.2 7/8* as fitted *15 7/8*

eller boss yes ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner liner is one length  
 he 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 yes.

Two liners are fitted, is the shaft lapped or protected between the liners ☒ Is an approved **Oil Gland** or other appliance fitted at the after end of the tube ☒  
 No If so, state type ☒ Length of Bearing in **Stern Bush** next to and supporting propeller **1750 3/4**

peller, dia.  $5100 \frac{3}{4}$  Pitch  $4310 \frac{3}{4}$  No. of blades 4 Material *Bronze* whether Moveable *No* Total Developed Surface 9.28 sq. feet

Method of reversing Engines *direct reversible* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication

Thickness of cylinder liners  $38 \frac{1}{4}$  Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with

conducting material lagged. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine. <sup>exhaust led to</sup> funnel

ing Water Pumps, No. 1 *FW 2000* on each, centrifugal, is the sea suction provided with an efficient strainer which can be cleared within the vessel *yes*.

ge Pumps worked from the Main Engines, No. 2 1/4 Diameter 160 1/4 Stroke 230 1/4 Can one be overhauled while the other is at work *yes*.

ups connected to the Main Bilge Line

the cooling water led to the bilges. No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping.

gements. 1 1/2 150 5 11 ✓

last Pumps, No. and size 1 off 150 Gals/Hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 210 Gals/Hour

two independent means arranged for circulating water through the **Oil Cooler** *yl.* **Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge**  
 ps. No. and size:—In Machinery Spaces *3" 4 1/2" 3" 4 3/4" 3" 4 1/2" 1" 1 1/2" 1" 1 1/2"* *EP. 1" 3" Tank 1" 3 1/2" T. 2 2 3/2" 2 2 3/2"*

[illegible]

dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2" 4" 6" 2" 4" 3" 11" DEEPT. IV PWS EACH 12" 3" 12" 4" 12" 6"

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes. included above Are the Bilge Suctions in the Machinery Spaces

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *yes.*

all Sea Connections fitted direct on the skin of the ship *yes* ✓ Are they fitted with Valves or Cocks *Valves except boiler blow off cocks*

They each fitted with a Discharge Valve always accessible on the plating of the vessel *yes* Are the Blow Off Cocks fitted with a pint *yes*

Are the Blow Off Cocks fitted with a spigot and brass covering plate *yes*

How are they protected *✓*

How are they protected?

6 pipes pass through the deep tanks. Suction to FP (skel) through No. 1 DEEPT. Have they been tested as per Rule yes.

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times. *Y.S.*

the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

Is the Shaft Tunnel watertight ye Is it fitted with a watertight door ye worked from engine casing

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork..... ✓

No.	No. of stages	Diameters	Stroke	Driven by
3	2	280 <sup>7</sup> / <sub>8</sub> - 250 <sup>7</sup> / <sub>8</sub>	190 <sup>7</sup> / <sub>8</sub>	Electric


all Auxiliary Air Compressors, No. 1	✓	No. of stages 2	Diameters 110 3/4 - 45 3/4	Stroke 70 3/4	Driven by hand
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at provision is made for first Charging the Air Receivers *the hand driven air compressor.* ✓

Venging Air Pumps, No. 2 *4 1/2 rotary* ✓ Diameter *209 1/4* IN EACH Stroke *12 1/2* Driven by *steam engine*

28 Auxiliary Engines crank shafts, diameter as per Rule 130  $\frac{3}{4}$  as fitted 150  $\frac{3}{4}$  ✓ No. 3 ~~4~~ (no 3048-3049-3050) ✓  
Position in the port side of the engine room

28. Have the Auxiliary Engines been constructed under special survey. *Yes* ✓ Position in the fire room of the engine room



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Foundations



AIR RECEIVERS: - Have they been made under survey

State No. of Report or Certificate NO 863.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

EMERGENCY Injection Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Actual

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Actual

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Receivers

Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

BURMEISTER & WALTZ

Manufacturer.

Dates of Survey while building

During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits

Dates of Examination of principal parts - Cylinders

Covers

Pistons

Rods

Connecting rods

Engines holding down bolts

Crank shaft

Flywheel shaft

Thrust shaft

Intermediate shafts

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Screw shaft

Propeller

Stern tube

Engine seatings

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Engines holding down bolts

Completion of fitting sea connections

Completion of pumping arrangements

Engines tried under working conditions

Crank shaft, Material

Identification Mark

Flywheel shaft, Material

Identification Mark

Intermediate shafts, Material

Identification Marks

Identification Marks

Identification Marks

Identification Marks

Thrust shaft, Material

Identification Mark

Intermediate shafts, Material

Identification Marks

Identification Marks

Identification Marks

Identification Marks

Identification Marks

Identification Marks

SCREW Tube shaft, Material

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Marks on Air Receivers

Starting air receiver: Lloyd's Test 41 atw. W.P. 25 atw. L.V. 29.8.39.

Emergency air receiver: No 863 Lloyd's Test 60 atw. W.P. 28 atw. H.L. 23.9.39.

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Description of fire extinguishing apparatus fitted

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case

If so, state name of vessel

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

The machinery has been constructed and installed under Special Survey and in accordance with the Society's Rules, the approved plans and the Secretary's letter E dated 12/12/35, 23/3-20/4-18/5-7/6-1939.

The material has been tested as required by the Rules and the workmanship is good.

On completion and on the trial trip the whole of the machinery was tested under working conditions and the manoeuvring of the main engine was tested and found satisfactory.

An interim certificate issued as per copy enclosed (in duplicate)

Recommend the vessel's machinery to have notation

The amount of Entry Fee

When applied for

Special

When received

STARTING AIR RECEIVER

DONKEY BOILER FEE

LATE & SUNDAY FEE

Travelling Expenses (if any)

Committee's Minute

Assigned

+ Lme 3.40

DB 90 lb.

Oil Eng

cr.

L. Clausen, B. Thorsen

Engineer Surveyor to Lloyd's Register of Shipping



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