

REPORT ON OIL ENGINE MACHINERY.

No. 14697

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of writing Report 19 When handed in at Local Office 19 Port of Copenhagen
Survey held at Copenhagen Date, First Survey 16/4/53 Last Survey 20th May 1954
Book. M/V "INGER SKOU" Number of Visits 49
on the Single Screw vessel Tons Gross 4,430 Net 2,478
Quadruple
at Copenhagen By whom built A/S Burmeister & Wain Yard No. 715 When built 1954
gines made at Copenhagen By whom made A/S Burmeister & Wain Engine No. 5233 When made 1954
nkey Boilers made at Copenhagen By whom made A/S Burmeister & Wain Boiler No. 2160 When made 1954
ke Horse Power 4,000 Owners Ove Skou Port belonging to Copenhagen
Power as per Rule 1,400 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
de for which vessel is intended Open sea service.

ENGINES, &c. —Type of Engines DM.874 VTF-140 Crosshead type Solid injection 2 or 4 stroke cycle 2 Single or double acting Single
imum pressure in cylinders 50 kg/cm² Diameter of cylinders 740 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8
an Indicated Pressure 6.5 kg/cm² Ahead Firing Order in Cylinders 1-8-3-4-7-2-5-6 Span of bearings, adjacent to the crank, measured
m inner edge to inner edge 948 mm Is there a bearing between each crank Yes Revolutions per minute 125
wheel dia. ✓ Weight ✓ Moment of inertia of flywheel (16 lbs. in² or Kg.m.²) 5260 Means of ignition Compr. Kind of fuel used Heavy oil, F.P.
ank Solid forged dia. of journals as per Rule 4.75 mm Crank pin dia. 520 mm Crank webs Mid. length breadth 1180 mm Thickness parallel to axis 270/320 mm
aft, All built Central hole 185 mm Central hole = 185 mm Mid. length thickness 260 mm Thickness around eye-hole 295 mm
wheel Shaft, diameter as per Rule 370 mm Intermediate Shafts, diameter as per Rule 375 mm Thrust Shaft, diameter at collar as per Rule 407 mm
be Shaft, diameter as fitted 424 mm Is the tube shaft fitted with a continuous liner Yes
onze Liners, thickness in way of bushes as per Rule 20.6 mm Thickness between bushes as per Rule 15.5 mm Is the after end of the liner made watertight in the
opeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner One length
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-
rrosive ✓ If 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
d of tube shaft No If so, state type ✓ Length of bearing in Stern Bush next to and supporting propeller 1800 mm
opeller, dia. 5,100 mm Pitch 444.4 mm No. of blades 4 Material Bronze whether moveable No Total developed surface 9.76 sq. metres
oment of inertia of propeller (16 lbs. in² or Kg.m.²) 61,300 incl. water Kind of damper, if fitted ✓
ethod of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of
brication Forced Thickness of cylinder liners 52 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled
lagged with non-conducting materials Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
ck to the engine ✓ Cooling Water Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
ilge Pumps worked from the Main Engines, No. 2 Diameter Each Stroke 20 m³/h Can one be overhauled while the other is at work Yes
umps connected to the Main Bilge Line { No. and size 1 off 150 tons Ballast Pump; 2 off each 20 tons Bilge and Wash DK; 2 off each 20 tons Bilge and Wash DK.
How driven Electric motor Main engine Electric motor
s 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
rrangements ✓
allast Pumps, No. and size 1 off - 150 m³/h Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 off each 260 m³/h
re two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary
ilge pumps, No. and size:—In machinery spaces 3 off 2½"; 3 off 3"; 1 off 3" to tunnel well; 1 off 2½" to Cofferdam In pump room ✓
n holds, &c. Nº 1 - 1 off 3" P&S; Nº 2 & 3 - 1 off 3½" P&S; Deep tank - 1 off 2½" P&S; Nº 4 - 1 off 3" P&S; Nº 5 - 1 off 3" P&S. ✓
ndependent Power Pump Direct Suctions to the engine room bilges, No. and size 2 off 6"; 1 off 4½" ✓
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily
ccessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
Are all Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Valves & boiler blow down cock Are they fixed
ufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Below
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 pass through the bunkers None How are they protected ✓
What pipes pass through the deep tanks None Have they been tested as per Rule ✓
Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
Is 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 compartment to another Yes Is the shaft tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck
f a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓
Main Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓
Auxiliary Air Compressors, No. 2 off - 4 cyl No. of stages 2 diameters 130 mm x 115 mm stroke 120 mm driven by Elec. motor
Small Auxiliary Air Compressors, No. 1 off No. of stages 2 diameters 115 mm x 105 mm stroke 100 mm driven by Emergency eng. Nº 4676
What provision is made for first charging the air receivers Emergency engine is capable of being hand started. A small hand operated
Scavenging Air Pumps, No. 2 off diameter Rotary stroke ✓ driven by Main engine
Auxiliary Engines crank shafts, diameter as per Rule 5234-5-6 Position E. Room, port side, floor level
Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

9d
29/7/54

Pava
E 227
7" bilge
inspection

003581-003590-0192

AIR RECEIVERS:—Have they been made under survey. *Yes* State No. of report or certificate. *1222*
Is each receiver, which can be isolated, fitted with a safety valve as per Rule. *2 Fusible plugs fitted*
Can the internal surfaces of the receivers be examined and cleaned. *Yes* Is a drain fitted at the lowest part of each receiver. *Yes*
Injection Air Receivers, No. *✓* Cubic capacity of each. *✓* Internal diameter. *✓* thickness. *✓*
Seamless, welded or riveted longitudinal joint. *✓* Material. *✓* Range of tensile strength. *✓* Working pressure *by Rules* *✓*
Starting Air Receivers, No. *1* Total cubic capacity. *21 metres³* Internal diameter. *1830 mm* thickness. *Shell—51.1 to 52.4 kg/mm² Ends—30 mm, 33 mm*
Seamless, welded or riveted longitudinal joint. *Riveted* Material. *S.M. Steel* Range of tensile strength. *Ends—46.8 to 47.4 kg/mm²* Working pressure *by Rules* *Actual* *25 kg/cm²*
1-off Exhaust gas fired
IS A DONKEY BOILER FITTED *1-off oil fired* If so, is a report now forwarded. *Yes*
Is the donkey boiler intended to be used for domestic purposes only. *Yes, and for heating fuel oil.*
PLANS. Are approved plans forwarded herewith for shafting. *Yes* Receivers. *✓* Separate fuel tanks. *Yes*
Donkey boilers. *Yes* General pumping arrangements. *Yes* Pumping arrangements in machinery space. *Yes*
Oil fuel burning arrangements. *✓*
Have Torsional Vibration characteristics been approved. *Yes* Date of approval. *20/8/53*
SPARE GEAR.
Has the spare gear required by the Rules been supplied. *Yes*
State the principal additional spare gear supplied. *1- Propeller; 1- Propeller Shaft.*

AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN OG SKIBSBYGGERI

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1953-16/4, 18/4, 21/4, 30/4, 20/11, 24/11, 25/11, 28/11, 8/12, 9/12, 14/12, 18/12, 29/12, 1954-4/1, 9/1, 14/1, 15/1, 16/1, 21/1, 22/1, 26/1, 29/1, 3/2, 10/2, 20/2
During erection on board vessel - 1954-19/1, 20/1, 21/1, 23/1, 30/1, 4/2, 17/2, 3/3, 9/3, 16/3, 17/3, 24/3, 30/3, 8/4, 22/4, 24/4, 26/4, 27/4, 30/4, 4/5, 7/5, 10/5, 19/5, 20/5
Total No. of visits. *49*
Dates of examination of principal parts—Cylinders 15/1/54 Covers 14/1/54 Pistons 15/1/54 Rods 29/12/53 Connecting rods 29/12/53
Crank shaft 9/12/53 Flywheel shaft *✓* Thrust shaft 9/12/53 Intermediate shafts 15/1/54 Tube shaft *✓*
Screw shaft 9/1/54 Propeller 20/1/54 Stern tube 20/1/54 Engine seatings 16/3/54 Engine holding down bolts 16/3/54
Completion of fitting sea connections 20/1/54 Completion of pumping arrangements 30/4/54 Engines tried under working conditions 12/5/54
Crank shaft, material *Webbs—Cast Steel* Identification mark *9821-2* Flywheel shaft, material *✓* Identification mark *✓*
Journals & pins—S.M.I. Steel
Thrust shaft, material *S.M.I. Steel* Identification mark *9823* Intermediate shafts, material *S.M.I. Steel* Identification marks *9876-7-8-9*
Tube shaft, material *✓* Identification mark *✓* Screw shaft, material *S.M.I. Steel* Identification mark *9861, 9860*
Identification marks on air receivers *No. 1222 Lloyds Test 41 kg/cm², W.P. 25 kg/cm²; K.L. 4/2/54*

Welded receivers, state Makers' Name. *✓*
Is the flash point of the oil to be used over 150°F. *Yes. Main engines arranged to burn high viscosity fuel.*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. *Yes*
Description of fire extinguishing apparatus fitted *In Eng. room: 1-45 litres foam; 1-12 litre CO₂; 8-12 litre foam; A battery of 4 sets of 16 CO₂ bottles each containing 30 lbs. CO₂ for holds can also be used in E.R.; Steam smothering in oil fired donkey blr. compartment*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. *Yes* If so, have the requirements of the Rules been complied with. *Yes*
Carrying oil F.P. above 150°F or vegetable oil in midship tank & tanks at sides of tunnel
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. *No* If so, state name of vessel. *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery has been built and installed under Special Survey and in accordance with the Rules, the approved plans, and the Secretary's letters.*
The material has been tested as required by the Rules, and the workmanship is good.
The whole installation has been examined under full power conditions during a sea trial, and found in efficient condition, and is eligible in our opinion to be classed with the Notations \pm LMC 5.54; Oil engine; C. 2 D.B's - 100 lbs.
Interim certificate issued - copy attached.

Construction & installation
The amount of Entry Fee ... *Kr. 7,800⁰⁰*
Special Forgings ... *Kr. 1,395⁰⁰*
Pumps & Cooders ... *Kr. 800⁰⁰*
Donkey Boiler Fee ... *Kr. 200⁰⁰*
Starting Air Vessel No. 1222 *Kr. 200⁰⁰*
Travelling Expenses (if any) *Kr. 25⁰⁰*

When applied for *24.6.54*
When received *19*

Engineer Surveyor to Lloyd's Register of Shipping

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