

REPORT ON OIL ENGINE MACHINERY.

No. 44814.

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No. in Survey held at Glasgow Date, First Survey 29 Aug: 1949 Last Survey 6 October 1951
Reg. Book. Number of Visits 66

Single on the Triple Screw vessel. "BOLLSTA" Tons Gross Net

Built at Glasgow By whom built Harland & Wolff Ltd Yard No. 1419G When built 1951

Engines made at Glasgow By whom made Harland & Wolff Ltd Engine No. 1419G When made 1951

Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. When made 1951

Brake Horse Power 4,500 @ 110 rpm Owners Fred Olsen & Co Port belonging to Oslo

M.N. Power as per Rule 1809 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Ocean Going Oil Tanker.

OIL ENGINES, &c. — Type of Engines *Oil Engine, Overhead mechanical* or 4 stroke cycle *2* Single or double acting *Single*

Maximum pressure in cylinders *400 lbf/in²* Diameter of cylinders *29 1/2" 450 mm* Length of stroke *1500 mm 59 1/16"* No. of cylinders *4* No. of cranks *4*

Mean Indicated Pressure *6.5 kg/cm²* Ahead Firing Order in Cylinders *1, 6, 3, 4, 5, 2, 7* Span of bearings, adjacent to the crank, measured from inner edge to inner edge *11192 mm* Is there a bearing between each crank *Yes* Revolutions per minute *110*

Flywheel dia. *2800 mm* Weight *13030 kg* Moment of inertia of flywheel (lbs. in² or Kg.cm²) *57000* Means of ignition *Camless* Kind of fuel used *DIESEL OIL*

Crank Shaft, *Solid forged* dia. of journals *as per Rule* Crank pin dia. *575 mm* Crank webs *Mid. length breadth 1340 mm* Thickness parallel to axis *765 mm*
Semi built *as fitted 575 mm* *185 centrad hole* *Mid. length thickness 300 mm* Thickness around eye hole *307 mm*
All built

Flywheel Shaft, diameter *as per Rule* Intermediate Shafts, diameter *as per Rule* Thrust Shaft, diameter at collars *as fitted 550 mm*
as fitted 550 mm *as fitted 17 1/4"* *as per Rule*

Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as per Rule* Is the *tube* shaft fitted with a continuous liner *Yes*
as fitted *as fitted 21"* *screw*

Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *as per Rule* Is the after end of the liner made watertight in the propeller boss *Yes* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *Solid*

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 *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Is an approved Oil Gland or other appliances fitted at the after end of tube shaft *Yes* If so, state type *Oil Gland* Length of bearing in Stern Bush next to and supporting propeller *7' 3"*

Propeller, dia. *18' 3"* Pitch *15 1/4"* No. of blades *4* Material *Bronze* whether moveable *No* Total developed surface *130* sq. feet

Moment of inertia of propeller (lbs. in² or Kg.cm²) *27600* Kind of damper, if fitted *Water*

Method of reversing Engines *Direct* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *—* Means of lubrication *Pressure* Thickness of cylinder liners *59 mm* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with non-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 *Tunnel* Cooling Water Pumps, No. *3* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes*

Bilge Pumps worked from the Main Engines, No. *None* Diameter *—* Stroke *—* Can one be overhauled while the other is at work *—*

Pumps connected to the Main Bilge Line (No. and size *Ballast 320T/hr. G.S. 150T/hr. Bilge 150T/hr.* How driven *Steam Driven*

Is 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 arrangements *—*

Ballast Pumps, No. and size *One - 320T/hr.* Power Driven Lubricating Oil Pumps, including spare pump, No. and size *2 @ 943 gal/min* *ENG DRIVEN* *Steam*

Are two independent means arranged for circulating water through the Oil Cooler *Yes* Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces *1 @ 10", 2 @ 8" 3 @ 4" Cofferdam 1 @ 4" Sludge 1 @ 3"* In pump room *—*

In holds, &c. *—*

Independent Power Pump Direct Suctions to the engine room bilges, No. and size *1 @ 10" 2 @ 8"*

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes *Yes* Are the bilge suction pipes in the machinery spaces led from easily accessible 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 *Values* Are they fixed sufficiently 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 *Cofferdam 3" bilge suction* How are they protected *Pipe thickness increased*

What pipes pass through the deep tanks *—* 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 *None* Is it fitted with a watertight door *—* worked from *—*

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *Steel ship*

Main Air Compressors, No. *113909/113910* No. of stages *Two* diameters *11 1/4" 4 3/4"* stroke *8* driven by *Steam Engine*

Auxiliary Air Compressors, No. *—* No. of stages *—* diameters *—* stroke *—* driven by *—*

Small Auxiliary Air Compressors, No. *79423* No. of stages *2 3 2 3/4" 1 1/8"* diameters *3"* stroke *3"* driven by *Electric Motor*

What provision is made for first charging the air receivers *Steam driven dynamo supplying current to compressor*

Scavenging Air Pumps, No. *Rooter Blowers* diameter *908.5 mm* stroke *ROTARY* driven by *Main Engine*

Auxiliary Engines crank shafts, diameter *as per Rule* *as fitted* No. *—* Position *—*

Have the auxiliary engines been constructed under special survey *Yes* Is a report sent herewith *Yes* Not 936

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