

REPORT ON OIL ENGINE MACHINERY.

No. 12336^b

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Date of writing Report 30 June 1931. When handed in at Local Office

Port of AMSTERDAM

No. in Survey held at AMSTERDAM
Reg. Book. 86610

Date, First Survey 25 September 1930 Last Survey 19 June 1931
Number of Visits 58

on the ^{Single Deck} ~~Double Deck~~ Screw vessel "T J I S A D A N E" Tons { Gross 9600
Net -

Built at Amsterdam By whom built Nederl. Scheps. Maats. Yard No. 206 When built 1931
Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. - When made 1931
Donkey Boilers made at - By whom made - Boiler No. - When made -
Brake Horse Power 5350 Owners Java-China-Japan Lijn Port belonging to Amsterdam
Nom. Horse Power as per Rule 7254 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes
Trade for which vessel is intended 1250 29 17/16 52 3/4

IL ENGINES, &c.—Type of Engines *Werkspoor Sulzer* 2 or 4 stroke cycle Single or double acting
Maximum pressure in cylinders 40 atm. Diameter of cylinders 460 mm Length of stroke 1340 mm No. of cylinders 8 No. of cranks 8
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge. 1100 mm Is there a bearing between each crank Yes
Revolutions per minute 110 Flywheel dia. 2400 mm Weight 6200 kg Means of ignition *self ignition* Kind of fuel used *Diesel oil*
Crank Shaft, dia. of journals as per Rule *approved* Crank pin dia. 550 mm Crank Webs Mid. length breadth 450 mm Thickness parallel to axis 360 mm
as fitted 530 mm Mid. length thickness 360 mm shrunk Thickness around eye-hole 245 mm
Flywheel Shaft, diameter as per Rule *approved* Intermediate Shafts, diameter as per Rule *approved* Thrust Shaft, diameter at collars as per Rule *approved*
as fitted 530 mm as fitted 398 mm as fitted 530 mm
Tube Shaft, diameter as per Rule 4 Screw Shaft, diameter as per Rule *approved* Is the { tube } shaft fitted with a continuous liner { screw } Yes
as fitted 4 as fitted 450 mm

Bronze Liners, thickness in way of bushes as per Rule *approved* Thickness between bushes as per rule 23 mm Is the after end of the liner made watertight in the
as fitted 23/25 mm 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 *One length*
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 *tight fit*
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 end of the tube
haft *no* If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 45-1945 mm
Propeller, dia. 5200 mm Pitch 4500 mm No. of blades 4 Material *Bronze* whether Moveable *Solid* Total Developed Surface 8.4 m² sq. feet

Method of reversing Engines *Sulzer System* a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Means of lubrication
forced Thickness of cylinder liners *50 mm* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with
on-conducting material *Yes* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine -
Cooling Water Pumps, No. 2 *main cooler, water pump 270 tons p. hour* Is the suction provided with an efficient strainer which can be cleared within the vessel *Yes*
Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 Stroke 4 Can one be overhauled while the other is at work -

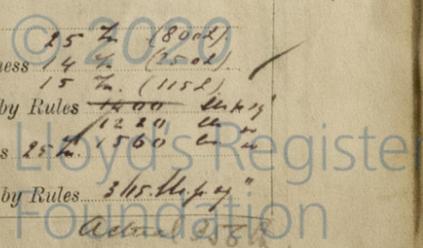
Pumps connected to the Main Bilge Line { No. and Size 2, one of 40 and one of 150 tons p. hour.
How driven *Electrically driven* Lubricating Oil Pumps, including Spare Pump, No. and size 3. *one cap 8 tons, one 35 tons, one 40 tons.*
Are two independent means arranged for circulating water through the Oil Cooler *Yes* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces 2 of 3 1/2" (forward), 2 sections of 3 1/2" aft, 2 of 3 1/2" thrust room.
In Holds, &c. *In No. 1, 2, 3, 4 holds two sections each of 3 1/2"*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *Two 6" 5"*
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes* Are the Bilge Suctions in the Machinery Spaces
fitted 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 *Valves*
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 *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 *none*
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
apartment to another *Yes* Is the Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Main ch.*
On 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. *one* No. of stages *three* Diameters *400-580-180* Stroke *420 mm* Driven by *Main engine*
Auxiliary Air Compressors, No. *two* No. of stages *three* Diameters *cap* Stroke *450 mm* Driven by *electric engine*
All Auxiliary Air Compressors, No. *one* No. of stages *cap* Diameters *13 m³ p. hour* Driven by *Petrol engine*
Reversing Air Pumps, No. *one* Diameter *2 x 1860 mm* Stroke *460 mm* Driven by *Main engine*

Auxiliary Engines crank shafts, diameter as per Rule *approved* 3 auxiliary oil engines fitted; 4 S.C.S.A. Diesel 5 cylinders 320 mm diameter
as fitted 185 mm by 450 mm stroke, span of bearings 435 mm, revolutions 40 p. minute, max pressure 35 kg.
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*
the internal surfaces of the receivers be examined *Yes* What means are provided for cleaning their inner surfaces *man-holes*

Is there a drain arrangement fitted at the lowest part of each receiver *Yes*
High Pressure Air Receivers, No. *8 of 800 Liter* Cubic capacity of each *800/250/1152* Internal diameter *1 x 353 mm* thickness *15 mm (800), 14 mm (250), 15 mm (1152)*
3 x 300 mm Seamless, lap welded or riveted longitudinal joint *Stainless Steel* Range of tensile strength *52/38 tons* Working pressure by Rules *1400 lb/sq. in.*
Starting Air Receivers, No. *one* Total cubic capacity *410 cub. ft.* Internal diameter *45" (1895 mm)* thickness *12 mm (1220), 15 mm (1560)*
Seamless, lap welded or riveted longitudinal joint *riveted* Material *Steel* Range of tensile strength *51.2/35 tons* Working pressure by Rules *310 lb/sq. in.*



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *L*

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval)

Required

Receivers *to London* Separate Tanks

Office

Donkey Boilers

General Pumping Arrangements *Advised*

Oil Fuel Burning Arrangements *5.1.30*

SPARE GEAR

Plan see list attached.

Accessory engine fitted.

2 4 S.C.S.A. Diesel engines, 5 cylinders, 320 in diameter, 450 in stroke (Being dynamo)

1 Duta heavy oil engine 2 x 150 c.s.p. provided for emergency

and harbor dynamo

Water oil engine being auxiliary compressor

Water pump 60 tons p.h.

Cylinder cooling water pumps 2 x 240 tons

Lubrication pump 40 tons

Ball pump 40 tons

Cross head lubrication pump

Ball pump 150 tons

Piston cooling water pump 2 x 50 tons

Sanitary pumps 2 x 60 tons

Secondary cooling water pump 50 tons

Lubrication separator 2 x 5 tons

Fuel separator 2 x 5 tons

L.P. oil fuel pumps 2 x 4 tons

Fresh water pumps 2 x 5 tons

The foregoing is a correct description,

WERKSPOR N.V.

J.P. G. Thuyt

Manufacturer.

Dates of Survey while building	During progress of work in shops	25/11, 6/12, 23/12, 19/29, 28/4, 24/5, 6/6, 14/6, 16/6, 24/6, 4/7, 19/7, 23/7, 7/8, 8/8, 12/8, 3/9, 9/9, 14/9, 21/9, 28/9
	During erection on board vessel	29/9, 14/10, 28/10, 18/11, 24/11, 2/12, 14/12, 19/12, 19/1, 19/1
	Total No. of visits	58

Dates of Examination of principal parts	Cylinders	20/1, 26/1, 31	Covers	4/8, 5/8	Pistons	4/8, 5/8	Rods	19/12, 27/12	Connecting rods	19/12, 27/12
	Crank shaft	19/4-30, 24/12-30	Flywheel shaft	19/4, 24/12-30	Thrust shaft	17/3-24, 3/4-31	Intermediate shafts	19/4-30, 27/12-30	Tube shaft	16/4-31
	Screw shaft	14/4-30	Propeller	14/4-30	Stern tube	18/11-30	Engine seatings	10/1-30	Engines holding down bolts	16/4-31
	Completion of fitting sea connections	18/12-30	Completion of pumping arrangements	18/5-31	Engines tried under working conditions	18/6-31				
	Crank shaft, Material	Steel	Identification Mark	PK 3582, 24.6.30	Flywheel shaft, Material	Steel	Identification Mark	PK 3547, 25.11.2		
	Thrust shaft, Material	Steel	Identification Mark	PK 3548, 25.2.31	Intermediate shafts, Material	Steel	Identification Mark	PK 3549, 22.11.2		
	Tube shaft, Material	C	Identification Mark	C	Screw shaft, Material	Steel	Identification Mark	PK 3550, 22.11.2		

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

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

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with *L*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *M.V. Jember, No. 12172*

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

The engines have been constructed in accordance with the approved plans. Secretary's letter on Rules. All material tested as required and workmanship good. Engines tried under full working conditions and good.

The amount of Entry Fee	£ 42	When applied for,	19
Special air record	£ 1576.20	When received,	29.7.1931
Donkey Boiler Fee	£ 50.40		
Travelling Expenses (if any)	£ 08.-		
Committee's Minute	FRI. 17 JUL 1931		
Assigned	+ L.M.C. 6.31		
	Oil Eng.		

For Berrin
 Engineer Surveyor to Lloyd's Register of Shipping.

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For S.S.O.F. please see F.E. Rpt M.V. "Jember", Ans 12172

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)