

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 21 JAN 1929

Date of writing Report 17.1.1929 When handed in at Local Office 19-1-1929 Port of Malmo

No. in Survey held at Malmo Date, First Survey 24-11-1928 Last Survey 14-1-1929 (Number of Visits 17)

Reg. Book, Suppl. 91106 on the Motor Tanker "MAX ALBRECHT" Tons { Gross 5820 Net 3291

Built at Malmo By whom built Rockums M. V. A.-B. Yard No. 158 When built 1924

Owners Dr Max Albrecht Kommanditges Port belonging to Hamburg

Electric Light Installation fitted by Rockums M. V. Sklieb Malmo Contract No. When fitted 1929

System of Distribution Two wire system Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding overload Yes, are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible and clearly marked Yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited Yes

Position of Generators One on each side at the forward end of the motor space (See also Page 3)

is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

are their axis of rotation fore and aft Yes, are the generators protected from mechanical injury and damage from water, steam or oil Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed On a platform at the forward end of the motor space.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard In the same space.

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes

are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

are they constructed wholly of durable, incombustible non-absorbent materials Marble, is all insulation of high dielectric strength and of

permanently high insulation resistance Yes, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework Insulation for 5-1000 V filled, and is the

frame effectively earthed Yes. Are the following fittings as per Rule, viz.: - spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus

bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches For each generator:-

A double pole circuit breaker with overload and reversed current trips and a single pole equalizer switch. For each outgoing circuit:- A double pole linked switch and a fuse on each pole.

Instruments on main switchboard 7 ammeters 2 voltmeters - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Ohm-meter

and earthing indicators for both poles.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes.



Insulation of Cables, state type of cables, single or twin *Single & twin* are the cables insulated and protected as per *Swedish Standards* Tables III or IV of the Rules.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2 V + 5% for lighting* & *2 V + 5% for power*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets *Yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *Yes*

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes*

Support and Protection of Cables, state how the cables are supported and protected *Secured by metal clips and where exposed to risk of mechanical damage protected by steel sheet plates. Cables steel tape armoured.*

If cables are run in wood casings, are the casings and caps secured by screws *Yes*, are the cap screws of brass *Yes*, are the cables run in separate grooves *No*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI *Cables steel tape armoured Sec. Secretary's letter E of the 9.11.1928.*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *Yes*

Joints in Cables, state if any, and how made, insulated, and protected *No joints in main cables joints of branch cables made by means of watertight joining boxes.*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *Yes*

Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yes* state the material of which the bushes are made *Lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Yes* are their connections made as per Rule *Yes*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *Yes*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *Yes*

Navigation Lamps, are these separately wired *Yes*, controlled by separate switch and separate fuses *Yes*

are the fuses double pole *Yes*, are the switches and fuses grouped in a position accessible only to the officers on watch *Yes*

has each navigation lamp an automatic indicator as per Rule *Yes*, are separate screens provided for the use of oil and electric side lights *No*

are separate oil lanterns provided for the mast head lights and side lights *Yes*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *Yes*

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *Yes*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Lamps contained in gaslight fittings* how are the cables led *In gaslight fittings*

where are the controlling switches situated *Outside the dangerous space.*

Searchlight Lamps, No. of *Yes*, whether fixed or portable *Yes*, are their fittings as per Rule *Yes*

Arc Lamps, other than searchlight lamps, No. of *Yes*, are their line parts insulated from the frame or case *Yes*, are their fittings as per Rule *Yes*

Motors, are their working parts readily accessible *Yes*, are the coils self-contained and readily removable for replacement *Yes*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *Yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yes*

are they protected from mechanical injury and damage from water, steam or oil *Yes* are their axis of rotation fore and aft *Yes*

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *Yes*

if not of this type, state distance of the combustible material horizontally or vertically above the motors *Yes* and *Yes*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule *Yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *Yes*

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *Yes*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *None.*

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	2-75	110	2-682	350	3 cyl. Diesel Engines	Diesel Oil	Above 150° F
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER	1	14	115	195	1200	Steam Engine	Pitted 1.30	Ham 1917

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR		3-185	37	2.52	2-682	2-15	Rubber	Lead covered and steel tape armoured
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	2-10	7	1.35	30	347	"	"
	BOILER ROOM								
	Lighting:-								
	Deck board A	2	2-6	7	1.25	140	2-100	"	"
	" " B	1	2-6	7	1.25	15	2-45	"	"
	" " C	1	2-4	7	0.86	5	2-70	"	"
	" " D	2	2-5	7	1.18	30	2-65	"	"
	" " E	2	1-6	7	1.71	15	2-18	"	"
	" " F	2	1-6	7	1.71	15	2-18	"	"
	Branch circ.	1	2-1.5	7	0.52	6		"	Lead covered in cabins.
	WIRELESS	1	2-10	7	1.35	30	2-70	Rubber	Lead covered and steel tape armoured
	SEARCHLIGHT								
	MASTHEAD LIGHT	1	1-1.5	7	0.52	1.5	2-45	"	Lead covered and steel tape armoured
	SIDE LIGHTS	1	1-1.5	7	0.52	1.5	2-18	"	"
	COMPASS LIGHTS	1	1-1.5	7	0.52	1.5	2-8	"	"
	POOP LIGHTS	1	1-1.5	7	0.52	1.5	2-95	"	"
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS	2	2-5.0	19	1.83	160	2-30	"	"

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY-BILGE PUMP	1	1-1.6	7	1.71	48	2-40	Rubber	Lead covered and steel tape armoured
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	3-2.40	61	2.24	800	2-22	"	"
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	2	1-1.6	7	1.71	48	2-24	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	2-2.5	19	2.52	320	2-32	"	"
	OIL FUEL TRANSFER PUMP	1	1-1.6	7	1.71	40	2-10	"	"
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR		2-2.0	19	2.17	145	2-118	"	"
	WORKSHOP MOTOR	1	2-2.0	7	1.35	24	2-17	"	"
	VENTILATING FANS								
	Subst. oil separator	1	2-2.4	7	0.86	16	2-5	"	"
	Fuel oil separator	1	2-2.4	7	0.86	16	2-4	"	"
	Refrigerator Comp.	1	3-3.5	7	2.53	68	2-15	"	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

W. H. R. ...

Electrical Engineers.

Date 18.1.1929

COMPASSES.

Distance between electric generators or motors and standard compass *Engine room to bridge*

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass feet from steering compass.

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Have the compasses been adjusted with and without the electric installation at work at full power

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

KOCKUMS MEKANISKA VERKSTADS
AKTIE-BOLAG

G. Nilrot

Builder's Signature.

Date 18.1.1929

Is this installation a duplicate of a previous case *No* If so, state name of vessel

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

This Electric Installation has been fitted onboard the vessel under my inspection and has been tested and found satisfactory. The workmanship is good. See Secretary's letter E of the 9.11.1928

It is submitted that this vessel is eligible for THE RECORD. *elec: light*

23/1/29

Total Capacity of Generators *150* Kilowatts

The amount of Fee ... *kr 618:80* : When applied for, *19-1-1929*
Travelling Expenses (if any) £ : : When received, *19-2-29*

Asunden
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *25 JAN 1929*

Assigned *elec light*

50,125B.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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