

No. 2575

TRANSFERRED TO:
L. R. SYSTEM

THE BRITISH CORPORATION REGISTER
OF SHIPPING AND AIRCRAFT

2660
Report No. ~~1353~~ No. in Register Book *4220*

TRANSFERRED TO:
L. R. SYSTEM

Ship... *Unitas 5"*

Makers of Engines... *Bremer Vulkan*

Works No. *743*

Makers of Main Boilers... *Bremer Vulkan*

Works No. *812*

Makers of Donkey Boiler... */*

Works No.

MACHINERY



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002385-002400-0137

THE BRITISH CORPORATION REGISTER
OF SHIPPING AND AIRCRAFT

Report No. *1359* No. in Register Book *4220*

Received at Head Office *Sept 24, 1934*

Surveyor's Report on Engines, Boilers, and Auxiliary
Machinery of Single Triple
Twin Quadruple Screw

Official No. Port of Registry *Bremen*
Registered Owners *Jurgens, Van den Bergh Mang.
Berth. Union S. m. b. H., Berlin*
Engines Built by *Bremer Vulkan*
at *Pezesack*
Main Boilers Built by *Bremer Vulkan*
at *Pezesack*
Donkey " " *—*
at
Date of Completion *29.5.37.* © 2020
First Visit *15/8/36* Last Visit *29.5.37.* Total Visits *23.*



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GENERAL DESCRIPTION AND TRIAL PARTICULARS

Works No. **743** No. of Sets **1**
 Description **3 cylinder triple expansion**
 Date of Harbour Trial **22.5.39.**
 „ Trial Trip **29.5.39.**
 Trials run at **Baltic between Kiel and Eckernförde**
 Were Engines tested at full power under Sea-going conditions? **yes**
 Draught of Ship Loaded **11'7"** Draught on Trial **11'5 1/2"**
~~B.H.P.~~ I.H.P. Developed. **1728** Revs. per Min. **180**
 Boiler Pressure = **200** lbs. 1st I.P. Receiver = **5.4** 2nd I.P. = **1.15** at.
 Mean Ind. Pressure = **HP 6.39 dt IP 3.25 LP 1.35** Vacuum = **89%** lbs.
 Speed of Ship on Trial **14.16** Knots.
 Builder's estimated data:—
~~B.H.P.~~ I.H.P. **1560** Revs. per min. **176** Speed **14**

REMARKS

RECIPROCATING STEAM ENGINES

No. of Cylinders each Engine **3** No. of Cranks **3**
 Diars of Cylinders **410 x 660 x 1120** ^{420 see cross section} Stroke **660** mm
 Cubic feet in each L.P. Cylinder **22.96**
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cyl.? **yes**
 „ „ „ each Receiver? **yes**
 Type of H.P. Valves, **piston valve**
 „ 1st I.P. „ „ „
 „ 2nd I.P. „ —
 „ L.P. „ **balanced slide valve**
 „ Valve Gear **Stephenson**
 „ Condenser **surface** Cooling Surface **1500** sq. ft.
 Diar. of Piston Rods (plain part) **115** Screwed part (bottom of thread) **76.48** Material **J.S.**
 „ Connecting Rods (smallest part) **108 φ** Material **„**
 „ Crosshead Gudgeons **120** Length of Bearing **140** Material **„**
 No. of Crosshead Bolts (each) **4** Diar. over Thrd. **48** Thrds. per inch **7** Material **„**
 „ Crank Pin „ „ **2** „ **64** „ **6** „ **„**
 „ Main Bearing „ „ **2** „ **58** „ **6** „ **„**
 „ Main Bearings **6** Length of Bearings **290**
 „ Holding Down Bolts, each Engine **64** Diar. **1 1/4"** No. of Chocks (Metal) **64 P. J.**
 Are Engines bolted to Tank Top or to Built Seat? **to built seat**
 Are Bolts tapped through Tank Top and fitted with Nuts Inside? **—**
 If not, how are Bolts fitted? **with head below shipbuilding foundation**

REMARKS



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STEAM TURBINES

Type of Turbines

Arrangements of Turbines

No. of H.P. Rotors I.P. Rotors L.P. Rotors Astern Rotors

Are the Propeller Shafts driven direct by the Turbines or through Gearing?

Is Single or Double Reduction Gear used?

Revs. per min. of H.P. Turbine at Full Power S.H.P.

" " I.P. " " " "

" " L.P. " " " "

" " 1st Reduction Shaft

" " 2nd " "

Is Nodal Drive fitted? Diar. of Shafts

Are arrangements such that Steam can be led direct to L.P. Turbine?

" " " either H.P. or I.P. Turbine can exhaust direct to the Condenser?

Description of Lubricating Oil System

Diar. and No. Holding Down Bolts H.P. Turbine I.P. Turbine L.P. Turbine

Metal Chocks " " " " " "

Diar. and No. Holding Down Bolts for Gear Cases

REMARKS

RECIPROCATING OIL ENGINES

Description

No. of Cylinders Diar. of Cylinders Stroke No. of Cranks

Span between Bearing Edges No. of Bearings

Maximum Initial Pressure Mean Indicated Pressure B.H.P. Revs.

Flywheel: Diar. Weight

Crankshaft Balance Weights " Radius of Gyration

Fuel Injection System W.P.

Injection Air Compressors, No. Diars. Stroke W.P.

No. of Injection Air Receivers Capacity W.P. Type

Scavenge Air Units, No. Driven by "

Superchargers, No. " " "

Cylinder cooling by No. of Pumps Driven by

Pistons " " " " " " " "

Lubrication Oil System " " " " " "

No. of Coolers Purpose

Material Cylinder Covers Liners Pistons

Are Engines Reversible? Is Gearing used?

How are Engines started?

No. of Starting Air Receivers Capacity W.P. Type

" of Exhaust Gas Boilers W.P. Is Oil Fuel used? Purpose

Diar. of Piston Rods (plain part) Screwed part (bottom of Thread) Material

" " Connecting Rod (smallest part) "

" " Crosshead Gudgeons Length of Bearing "

No. of Crosshead Bolts (each) Diar. over Thread Threads per inch "

" " Crank Pin " " " " " " " "

" " Main Bearing Bolts " " " " " " " "

" " Holding Down Bolts Diar. of Bolts No. of Metal Chocks



RECIPROCATING OIL ENGINES, Contd.

Are Engines Bolted to Tank Top or to Built Seat?

„ Bolts tapped through the Tank Top and fitted with Nuts inside?

If not, how are they fitted?

No. of Auxiliary Engines

Description

No. of Cylinders Diar. Stroke No. of Cranks

Span between Bearing Edges No. of Bearings

Max. Init. Press. Mean Ind. Press. B.H.P. R.P.M.

No. of Aux. Air Compressors Diar. Stroke

W.P. Driven by

„ „ Holding Down Bolts No. of Metal Chocks

REMARKS

ELECTRIC PROPULSION GENERATORS AND MOTORS

Description of Generators

Makers of Generators

No. of Generators How Driven

Capacity of each, Kw. Amps. Volts Revs. per min.

Continuous or Alternating Current Phases Periods

Diar. of Armature Shaft No. and length of Bearings

Type of Circuit Breakers Cut out load

Description of Motors

Makers of Motors

No. of Motors How Driven

Output of Motor (each), H.P. Amps. Volts Revs. per min.

Diar. of Motor Shafts No. and length of Bearings

Description of Boosters

Makers of Boosters

No. of Boosters How Driven

Capacity of each, Kw. Amps. Volts Revs. per min.

Description of Control and Switch Gear

REMARKS



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REDUCTION GEARING

Is Single or Double Reduction Gearing employed?

Diar. of 1st Reduction Pinion

" 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of 1st Red. Shaft

" " " " 2nd " "

Width

Pitch of Teeth

Width

Pitch of Teeth

PROPELLERS

No. of Blades each Propeller

4

Fitted or Solid

solid

Material of Boss

C.S.

Material of Blades

C.S.

Diar. of Propellers

9'9"

Pitch

9'

Surface (each)

40

sq. ft.

No. of Studs for one Blade

Diar. of Studs

FORGINGS

Piston Rods

forged by

Bremer Vulkan

Material

J. S.

Connecting Rods

" "

Th. Kuppermann

"

"

Crossheads

" "

Bremer Vulkan

"

"

Turbine Spindles

" "

"

" Wheels

" "

"

Reduction Gear Shafts

forged by

"

" " Wheel

" "

"

Generator Armature Shafts

" "

"

Motor

" "

"

Crankshaft Pins

forged by

"

" End

" "

"

" Webs

" "

"

Th. Kuppermann

Thrust Shaft

" "

"

Intermediate Shaft

" "

"

Propeller

" "

"

Piston Rods

finished by

Diar.

115 mm

Connecting Rods

" "

Bremer Vulkan

108 "

Crossheads

" "

120 "

Turbine Spindles

" "

"

Reduction Gear Shafts

finished by

"

" " Wheels

" "

"

Generator Armature Shafts

" "

"

Motor

" "

"

Crankshafts

" "

"

220 "

Thrust Shafts

" "

"

216 "

Intermediate

" "

"

216 "

Propeller

" "

"

226 "



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SHAFTING

Are Crankshafts built or solid *built* No. of lengths in each *4* Angle of Cranks *120°*
 Diar. of Shafts (Rule) *220* (Actual) *220* In way of Webs *222* Diar. of Crank Pins *220*
 Span between Webs *304* Width of Webs *416* Thickness of Webs *136*
 Diar. of Dowel in Crank Webs *22* Length and No. *90 lb. 2* Type *round*
 No. of Bolts each Coupling *6* Diar. at Mid Length *54* Diar. of Pitch Circle *320*
 Greatest Distance from Edge of Main Bearing to Crank Web *7 in*
 Diar. of Turbine Shafts (Rule) *—* (Actual) *—* No. and length of Bearings *—*
 " " Gearing " *—* " " " " " *—*
 Type of Thrust Block *1 ring* No. of Rings *1*
 Diar. of Thrust Shafts at bottom of Collars *216* No. of Collars *1*
 " " Forward Coupling *216* At Aft Coupling *216*
 Diar. of Intermediate Shafting (Rule) *216* (Actual) *220* No. of Lengths *1*
 No. of Bolts, each Coupling *6* Diar. at Mid Length *54* Diar. of Pitch Circle *320*
 Diar. of Propeller Shafts (Rule) *226* (Actual) *227/26* At Coupling *220*
 Are Propeller Shafts fitted with Continuous Brass Liners? *yes* Diar. over Liners *256/57*
 Length of After Bearings *1076* Of what Material is After Bearing made? *lignum*
vibax
 Are Means provided for Oil Lubrication of After Bearing? *no*
 What means are adopted to prevent Sea Water entering Stern Tube? *—*

LIST OF MARKS STAMPED ON SHAFTS

S. L. B. 306 on crank-shaft
" " 264, 376 on webs.
" " 642 on thrust-shaft
" " 659 F on intermediate shaft
" " 659 F on tail-shaft
" " 647 R on spare tail-shaft.
The numbers are testing numbers.

SKETCH OF CRANK SHAFTS

See sketch S. S. 723 and plan approved:
29/8/35.



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PUMPS, &c.

No. of Air Pumps 1 Diar. 19" Stroke 15"

Worked by Main or Independent Engines? independent

No. of Circulating Pumps 1 Diar. 700" Stroke —

Type of " centrifugal

Diar. of " Suction from Sea 225"

Has each Pump a Bilge Suction with Non-return Valve? yes Diar. 150

What other Pumps can circulate through Condenser? general service pumps

No. of Feed Pumps on Main Engine — Diar. — Stroke —

Are Spring-loaded Relief Valves fitted to each Pump? yes

Can one Pump be overhauled while the others are at work? yes

No. of Independent Feed Pumps 2 Diar. 160 Stroke 450

What other Pumps can feed the Boilers? general service pumps

No. of Bilge Pumps on Main Engine — Diar. — Stroke —

Can one Pump be overhauled while the others are at work? yes

No. of Independent Bilge Pumps 1

What other Pumps can draw from the Bilges? general service pump
and ejector

Are all Bilge Suctions fitted with Roses? yes

Are the Valves, &c., so arranged as to prevent unintentional connection between Sea and Bilges? yes

Are all Sea Connections made with Valves or Cocks next the Ship's sides? yes

Are they placed so as to be easily accessible? yes

Are the Discharge Chests placed above or below the Deep Load Line? above

Are they fitted direct to the Hull Plating and easily accessible? yes

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges
on the Outside? yes

ETCH OF PROPELLER SHAFTS

See sketch S.S. 723 and plan approved: 9/9/35.



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BOILERS

Works No. *P/2.*

No. of Boilers *1* Type *multitubular*

Single or Double-ended *single*

No. of Furnaces in each *3*

Type of Furnaces *Morrisons*

Date when Plan approved *24/8/35*

Approved Working Pressure *200 lbs.*

Hydraulic Test Pressure *350 "*

Date of Hydraulic Test *9.3.37.*

„ when Safety Valves set *29.5.37.*

Pressure at which Valves were set *200 lbs.*

Date of Accumulation Test *29.5.37.*

Maximum Pressure under Accumulation Test *203 lbs.*

System of Draught and Fuel *forced, c. a., oil*

Can Boilers be worked separately? *—*

Makers of Plates *Deutsche Röhrenwerke A. G.*
Stahl und Walzwerk Thyssen

„ Stay Bars *Klöckner Werke A. G.*

„ Rivets *A. Sternberg, Saest*

„ Furnaces *Deutsche Röhrenwerke A. G.*

Greatest Internal Diam. of Boilers *4800 mm*

„ „ Length „ *3691 "*

Square Feet of Heating Surface each Boiler *3390*

„ „ Grate „ „ *—*

No. of Safety Valves each Boiler *2* Rule Diam. Actual *2 x 100*

Are the Safety Valves fitted with Easing Gear? *yes*

No. of Pressure Gauges, each Boiler *2* No. of Water Gauges *2*

„ Test Cocks „ *3* „ Sallinometer Cocks *1*



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *on pillars*

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? *by pipes*

Are these Pipes connected to Boilers by Cocks or Valves? *by valves*

Are Blow-off Cocks or Valves fitted on Boiler Shells? *yes*

No. of Strakes of Shell Plating in each Boiler *1*

„ Plates in each Strake *1*

Thickness of Shell Plates Approved *34 mm*

„ „ in Boilers *34 "*

Are the Rivets Iron or Steel? *steel*

Are the Longitudinal Seams Butt or Lap Joints? *butt straps*

Are the Butt Straps Single or Double? *double*

Are the Double Butt Straps of equal width? *yes*

Thickness of outside Butt Straps *30 mm*

„ Inside „ *30 "*

Are Longitudinal Seams Hand or Machine Riveted? *machine riveted*

Are they Single, Double, or Treble Riveted? *triple riveted*

No. of Rivets in a Pitch *5*

Diar. of Rivet Holes *38 mm* Pitch *245 mm*

No. of Rows of Rivets in Centre Circumferential Seams *—*

Are these Seams Hand or Machine Riveted? *—*

Diar. of Rivet Holes *—* Pitch *—*

No. of Rows of Rivets in Front End Circumferential Seams *2*

Are these Seams Hand or Machine riveted? *hydraulic riveted*

Diar. of Rivet Holes *35 mm* Pitch *102.5 mm*

No. of Rows of Rivets in Back End Circumferential Seams *2*

Are these Seams Hand or Machine Riveted? *hand riveted*

Diar. of Rivet Holes *35 mm* Pitch *102.5 mm*

Size of Manholes in Shell *320 x 420*

Dimensions of Compensating Rings *960 x 1060*



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Thickness of End Plates in Steam Space Approved 30.5 mm
 " " " " " in Boilers 30.5 "
 Pitch of Steam Space Stays 520 x 500
 Diam. " " " " Approved 80 Threads per Inch 6
 " " " " " in Boilers 80 " 6
 Material of " " " steel
 How are Stays Secured? by nuts
 Diam. and Thickness of Loose Washers on End Plates -
 " " Riveted " " " 350 φ, 22 mm thick.
 Width " " Doubling Strips " " -

Thickness of Middle Back End Plates Approved

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at " " " "

Diam. of Stays Approved Threads per Inch

" " " in Boilers "

Material "

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom Approved 24 mm

" " " " " in Boiler 24 "

Pitch of Stays at Wide Spaces between Fireboxes 240 x 210

Thickness of Doublings in " " -

Thickness of Front End Plates at Bottom Approved 25 mm

" " " " " in Boilers 25 "

No. of Longitudinal Stays in Spaces between Furnaces 2



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Diar. of Stays Approved ~~56.51~~ Threads per Inch ~~6~~
 " " in Boilers ~~56.51~~
 Material " *steel*

Thickness of Front Tube Plates Approved ~~17.5~~ *25*
 " " " " in Boilers ~~17.5~~ *25*
 Pitch of Stay Tubes at Spaces between Stacks of Tubes *188 x 345* "

Thickness of Doublings in " " " "
 " Stay Tubes at " " " *9*
 Are Stay Tubes fitted with Nuts at Front End? *no*

Thickness of Back Tube Plates Approved *22*
 " " " in Boilers *22*
 Pitch of Stay Tubes in Back Tube Plates *188 x 285*
 " Plain " *95 x 94* "
 Thickness of Stay Tubes *7* "
 " Plain " *4.06* "
 External Diar. of Tubes *63.5* "
 Material " *steel*

Thickness of Furnace Plates Approved *16.5* "
 " " " in Boilers *16.5* "
 Smallest outside Diar. of Furnaces *118.3* "
 Length between Tube Plates *2470* "

Width of Combustion Chambers (Front to Back) *900* "
 Thickness of " " Tops Approved *17.5* "
 " " " " in Boilers *17.5* "
 Pitch of Screwed Stays in C.C. Tops *213.7 x 200* "



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Diar. of Screwed Stays Approved *57a.51* Threads per Inch *9*

" " " in Boilers *57.51*

Material " " *steel*

Thickness of Combustion Chamber Sides Approved *17.5 mm*

" " " in Boilers *17.5 "*

Pitch of Screwed Stays in C.C. Sides *210 x 240 "*

Diar. " " Approved *38 mm* Threads per Inch *9*

" " " in Boilers *38 "*

Material " " *steel*

Thickness of Combustion Chamber Backs Approved *16.5 mm*

" " " in Boilers *16.5 "*

Pitch of Screwed Stays in C.C. Backs *213.75 x 200 "*

Diar. " " Approved *53, 47, 41, 35* Threads per Inch *9*

" " " in Boilers " " " "

Material " " *steel*

Are all Screwed Stays fitted with Nuts inside C.C.? *yes*

Thickness of Combustion Chamber Bottoms *22 mm*

No. of Girders over each Wing Chamber *4*

" " " Centre " *4*

Depth and Thickness of Girders *240 x 22.5*

Material of Girders *steel*

No. of Stays in each *3*

No. of Tubes, each Boiler *496*

Size of Lower Manholes *300 x 400*



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VERTICAL DONKEY BOILERS

No. of Boilers / Type

Greatest Int. Diar. Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns Thickness of Plates

No. of Crown Stays Diar. Material

External Diar. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diar. Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler Grate Surface

SUPERHEATERS

Description of Superheaters /

Where situated?

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on each Superheater Diar.

Are ,, ,, fitted with Easing Gear?

Date of Hydraulic Test Test Pressure

Date when Safety Valves set Pressure on Valves



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MAIN PRESSURE PIPES

| | |
|----------------------------|----------|
| No. of Lengths | 3 |
| Material | Steel |
| Brazed, Welded or Seamless | |
| Internal Diam. | 110 mm |
| Thickness | 5 mm |
| How are Flanges secured? | |
| Date of Hydraulic Test | 15.5.39. |
| Test Pressure | 50 atm |

| | |
|----------------------------|--|
| No. of Lengths | |
| Material | |
| Brazed, Welded or Seamless | |
| Internal Diam. | |
| Thickness | |
| How are Flanges secured? | |
| Date of Hydraulic Test | |
| Test Pressure | |

| | |
|----------------------------|--|
| No. of Lengths | |
| Material | |
| Brazed, Welded or Seamless | |
| Internal Diam. | |
| Thickness | |
| How are Flanges secured? | |
| Date of Hydraulic Test | |
| Test Pressure | |

DESCRIPTION OF OIL FUEL INSTALLATION

Oil pumped to burners by simplex pressure pumps.

LIST OF HYDRAULIC TESTS

| | | |
|-----------------------|--------------|----------|
| Feed-pipes. | 35 atm. | 15.5.39. |
| Safety-valve-chests. | 28 atm. | 2.3.39. |
| Feed-heater No 29929. | 3/38.45 atm. | 5.2.39. |
| Air-mass No 194. | 14 atm. | 9.3.39. |
| 2 oil-heaters No 443. | 28 atm. | 9.3.39. |
| H.P. cylinder. | 21 atm. | 9.3.39. |
| M.P. | 4 11 atm. | 12.3.39. |
| L.P. | 2 atm. | " " " |



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EVAPORATORS

No. *—* Type _____ Tons per Day _____
 Makers _____
 Working Pressure _____ Test Pressure _____ Date of Test _____
 Date of Test of Safety Valves under Steam _____

FEED WATER HEATERS

No. *1* Type *surface*
 Makers *Atlas Werke, Bremen*
 Working Pressure *15.5 at.* Test Pressure *38.75 at.* Date of Test _____

FEED WATER FILTERS

No. *2* Type *coke filter* Size *290 φ*
 Makers *Bremer Vulkan*
 Working Pressure *14 at.* Test Pressure *28 at.* Date of Test _____

STEERING ENGINE

No. *1* Type *2 cyl. vertical* Size *N 54/15* Date of Test *29.5.34*
 Makers *M. Schgelis Söhne*

WINDLASS

No. *1* Type *fish winch* Size *N 5504* Date of Test *29.5.34*
 Makers *M. Schgelis Söhne*

LIST OF AUXILIARY MACHINERY

2 feed water pumps
1 air pump
1 bilge pump
1 general service pump
1 circulating pump
1 fan engine
1 bilge ejector
1 fuel transfer pump
2 oil fuel service pumps
1 dynamo



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SPARE GEAR

| No. of Top End Bolts | No. of Bot. End Bolts | No. of Cylinder Cover Studs |
|-----------------------|-----------------------|-----------------------------|
| 2 | 2 | 124 |
| 6 | 2 | Valve Chest 14 |
| 6 | Feed Pump Valves | Bilge Pump Valves |
| H.P. Piston Rings 124 | I.P. Piston Rings 124 | L.P. Piston Rings 124 |
| " " Springs | " " Springs | " " Springs |
| Safety Valve | Fire Bars | Feed Check Valves 2 |
| Piston Rods | Connecting Rods | Valve Spindles |
| Air Pump Rods | Air Pump Buckets | Air Pump Valves 124 |
| Cir. centrifugal | Cir. " | Cir. " |
| Crank Shafts | Crank Pin Bushes 1 | Crosshead Bushes |
| Propeller Shafts 1 | Propellers 1 | Propeller Blades - |
| Boiler Tubes 6+2 | Condenser Tubes 12 | Condenser Ferrules 30. |

OTHER ARTICLES OF SPARE GEAR:—

For further spare gear see attached list of builders.

DETAILS OF FIRE EXTINGUISHING APPARATUS

Minimum fire extinguisher
Hose for deck wash line.



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ELECTRIC INSTALLATION

Installation Fitted by *Allgem. Elektr. Ges.*
 Makers of Dynamos " " "
 Description of Dynamos *compound*
 No. of Dynamos *1* Revs. *400* Amps. *39* Volts *115* Total Capacity *4.5* Kw.
 Current, Alternating or Continuous *continuous* System of Wiring *2 pool*
 Position of Dynamos *Eng. R. stb.*
 Makers of Prime Movers *Bohn & Kähler*
 Description of Prime Movers *1 cyl. steam eng.*
 Position of Main Switch Board *stb aft in Eng. R.*
 No. of Circuits to which Switches are provided on Main Switch Board *9*
 Particulars of these Circuits *for light and wireless*

| Circuit | Number of Lights | Number of Motors | Number of Heaters | Current Required. Amps. | Size of Cable | Rated Maximum Capacity | Insulation Covering | Resistance per Mile Insulation |
|---------|------------------|------------------|-------------------|-------------------------|---------------|------------------------|---------------------|--------------------------------|
| No. 1 | Eng. | - | - | 6 Amps | 1.5 | 2 | Navy | |
| " 2 | Bl. R. | - | - | 6 " | " | " | cable | |
| " 3 | Phys | - | - | 6 " | " | " | " | |
| " 4 | Wireless | - | - | 15 " | 6 | " | " | |
| " 5 | Spare | - | - | 6 " | 1.5 | " | " | |
| " 6 | Sw. board aft | - | - | 10 " | 2.5 | " | " | |
| " 7 | " | " | amidships | 15 " | " | " | " | |
| " 8 | " | " | forward | 10 " | " | " | " | |
| " 9 | 7 Nav. lights | - | - | 10 " | " | " | " | |
| Total | 69 | - | - | | | | | |



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- POSITIONS OF AUXILIARY SWITCH BOARDS

One in messroom amidships
 " " crew's space forward
 " " engine's " aft

No. of Switches
on each

Nature of Insulation, &c., passing through Bunkers and Cargo Spaces

" " " " " " " " Deck Beams and Bulkheads
 Are all Joints in Cables efficiently made, effectively Insulated
 and readily accessible

Have Special Requirements for Ships carrying Low Flash Oil
 been complied with

Has it been ascertained by actual Tests that Compasses are not
 injuriously affected

What is the Insulation Resistance over the whole System?

Have the Governing Trials proved satisfactory?

Date of Trial of complete Installation

Duration of Trial

steel pipe
 bhhd. stuffing
 boxes
 yes
 no
 yes

29.5.33.

2 hours

Are Cut-outs fitted as follows (to both Conductors of Two-Conductor Systems):—

On Main Switch Board to Cables of each Main Circuit?

yes

On Auxiliary Switch Boards to Cables of each Aux. Circuit?

yes

Wherever a Cable is reduced in size?

yes

To each Lamp Circuit?

yes

Are all Cut-outs and Switches easily accessible?

yes

Are Fuses of standard sizes?

yes

Smallest Conductor used

1.5 mm²

Largest single wire Conductor used

—

Nature of Insulation and Protective Covering of Cables in Engine and Boiler Spaces

Rubber with iron armature

"

"

in Saloons, State Rooms, &c.

rubber
with lead

"

"

Insulated Spaces

"

"

Exposed to Heat or Damp



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GENERAL CONSTRUCTION

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *yes* If not, give details. *—*

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and trustworthy? *yes*

Is the Workmanship throughout thoroughly satisfactory? *yes*

The above correctly describes the Machinery of the S.S. "*Unitas 5*"

as ascertained by ^{me} from personal examination

O. H. Johns.

Surveyor to the British Corporation Register
of Shipping and Aircraft.

It is submitted that this Report be approved,

John King

Chief Surveyor.

6 OCT 1937

Approved by the Committee for the Class of M.B.S.* on the *6th Oct 1937*

A. H. Casling
Secretary.



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