

19 JUN 1930

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No. in Survey held at Copenhagen Date, First Survey 4<sup>th</sup> November 1929 Last Survey 10<sup>th</sup> June 1930  
Reg. Book. Number of Visits 89.

42562 on the ~~Single~~ Twin ~~Triple~~ Motor Screw vessel "THERMOPYLAE" ~~Quadruple~~

Tons { Gross 6654.93  
Net 4087.98

Built at	Copenhagen	By whom built	Akt. Burmeister & Wain Haskin og Skibbyggeri.	Yard No.	569	When built	1929-30
Engines made at	Copenhagen	By whom made	Akt. Burmeister & Wain Haskin og Skibbyggeri.	Engine No.	<sup>1752</sup> 1753	When made	1929-30
Donkey Boilers made at	Cradley Heath	By whom made	Cradley Boiler Co. Ltd.	Boiler No.	17063	When made	1929
Brake Horse Power	6400.	Owners	Dampskibsselskabet den Norske Afrika og Australielinje. Is tankpart I, IV, V, VI. (H. H. Wilhelmson)	Port belonging to	Sonsberg		
Nom. Horse Power as per Rule	979.	Is Refrigerating Machinery fitted for cargo purposes	no	Is Electric Light fitted	yes		
Trade for which vessel is intended	Ore and Coal Trade, General cargo and passengers.						

OIL ENGINES, &c.—Type of Engines *Vertical Diesel Oil Engines. Crosshead type. Solid injection.* 2 or 4 stroke cycle *4* Single or double acting *Single*

Maximum pressure in cylinders *39 kg./cm<sup>2</sup>* Diameter of cylinders *740 mm = 29 1/8"* Length of stroke *500 mm = 59 1/16"* No. of cylinders *2 x 6* No. of cranks *2 x 6*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *1004 mm* Is there a bearing between each crank *Yes*

Revolutions per minute *125* Flywheel dia. *2196 mm* Weight *3300 kg.* Means of ignition *Air compression* Kind of fuel used *Gas oil flash point above 180°F*

Cranks *Turning*

Crank Shaft, dia. of journals *as fitted 525 mm* Crank pin dia. *525 mm* Crank Webs Mid. length breadth *850 mm* Thickness parallel to axis *310 mm*

*with central hole 170 mm* as fitted *525 mm* *with central hole 235 mm* Mid. length thickness *290 mm* Thickness around eyehole *220 mm*

Flywheel Shaft, diameter *as per Rule 12.78"* Intermediate Shafts, diameter *as fitted 13"* Thrust Shaft, diameter at collars *as per Rule 13.4"*

*as fitted* *as fitted 13 1/2"*

Tube Shaft, diameter *as per Rule 14.03"* Screw Shaft, diameter *as fitted 15 1/2"* Is the { *tube* } shaft fitted with a continuous liner { *Yes* }

*as fitted* *as fitted*

Bronze Liners, thickness in way of bushes *as per Rule 0.77"* Thickness between bushes *as per rule 0.577"* Is the after end of the liner made watertight in the

*as fitted 7/8" and 15/16"* *as fitted 5/8"*

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 *Liners in 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 yes

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 shaft ✓ If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 6'-6"

**Propeller**, dia. *14'-0"* Pitch *14'-0"* No. of blades *3 off* Material *Brass* whether Moveable *no* Total Developed Surface *46.5* sq. feet

**Method of reversing Engines** *Just reversible* Is a governor or other arrangement fitted to prevent racing of the engine ~~when disclutched~~ *yes* Means of lubrication

Forced lubrication Thickness of cylinder liners 53.5 m/m 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 Led up cross the funnel

**Cooling Water Pumps,** No. 2 *off. Centrifugal pumps, 250 tons and* the sea suction provided with an efficient strainer which can be cleared within the vessel *yes*

**Bilge Pumps** worked from the Main Engines, No. 1 off from each Diameter of trunks = 27" Stroke 288" Can one be overhauled while the other is at work Yes

**Pumps connected to the Main Bilge Line** No. and Size 1 off. ballast pump, 15 tons, 1 power & 1 off pumps, 25 tons each, 1 off engine waste pumps, 25 tons each.  
How driven by electro motor, by electro motors, by the main engines.

**Ballast Pumps**, No. and size *1 off, duplex piston pump, 150 tons*..... **Lubricating Oil Pumps**, including Spare Pump, No. and size *4 off Cog wheel pumps, 60 tons each*.

Are two independent means arranged for circulating water through the Oil Cooler *Yes* ✓

[illegible]

**Independent Power Pump Direct Suctions** to the Engine Room Bilges, No. and size of *off 7" diam to ballast pump, 2 off 8" diam to cooling water pumps, 2 off 3" diam to bilge pump*

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes..... yes ..... Are the Bilge Suctions 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.

Are all **Sea Connections** fitted direct on the skin of the ship *yes* Are they fitted with Valves or Cocks *now off cocks*

Are they fired sufficiently high on the ship's side to be seen without lifting the platform plates. *yes* Are the Overboard Discharges above or below the ship water line. *yes*

What mines pass through the bunkers — *no bunkers* How are they protected

What pipes pass through the deep tanks *The suction pipes to the steel mats at flat of wing tanks at sides of the shaft tunnels.* Have they been tested as per Rule *yes.*

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 at the shelter deck level.

**Main Air Compressors.** No. none No. of stages ✓ Diameters B ✓ B Stroke ✓ Driven by ✓ 2nd stage

Auxiliary Air Compressors, No. 3 off No. of stages 2 Diameters 320<sup>m</sup>/<sub>m</sub> - 280<sup>m</sup>/<sub>m</sub> Stroke 170<sup>m</sup>/<sub>m</sub> Driven by Auxiliary Diesel engine

Small Auxiliary Air Compressors, No. 1 *off* No. of stages 2 Diameters 106 " - 34 " Stroke 80 mm Driven by a steam engine.

Scavenging Air Pumps, No. 161 Diameter 8 mm Stroke 350 mm Driven by 1000 RPM

**Auxiliary Engines** crank shafts, diameter as fitted 170 mm The 4 cpl. engines working a 130 K.W. generator each and the 3 cpl. engine a 100 K.W. generator.

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes*

*yes* Is a drain fitted at the lowest part of each receiver *yes*

Can the internal surfaces of the receivers be examined and cleaned yes Is it worth fitted at the lowest part of yes

Emergency Starting 1-11 Cubic capacity of each 300 Litres Internal diameter 418 mm thickness 12 mm

High Pressure Air Receiver, No. 1 off. — Cabin capacity of each .....  
 by Rules 34.8 kg/cm<sup>2</sup>  
 Range of tensile strength 40.0 kg/mm<sup>2</sup> Working pressure Actual 25.4 kg/cm<sup>2</sup>  
 Material S.M. Steel

Seamless, lap welded or riveted longitudinal joint lap welded Internal diameter 6'-0" x 6'-1 15/16" thickness 1 1/4" x 1 5/16 + 1/32  
 Total cubic capacity 1600 cubic feet Spull 1 1/4" x 1 5/16 + 1/32  
Ends 1 3/16"

Starting Air Receivers, No. 2 *Double built straps* Total weight capacity 7500 *Shell 46.4-46.8 kg/mm<sup>2</sup>* by Rules 25.0 kg/cm<sup>2</sup>  
Material *S.M. Steel* Range of tensile strength *41.3-42.1 " " "* Working pressure Actual 25 ATM.

Seamless, lap welded or riveted longitudinal joints *are riveted* *ends 72.0°-76.0°*





Rpt. 9a. Port of *Copenhagen* Continuation of Report No. 8271 dated 12<sup>th</sup> June 1930 on the

Steel Twin Screw Motor Vessel "THERMOPYLÆ" of Tönsberg.

— " — — " — Engines Nos 1752 & 1753.

The auxiliary machinery comprising.

One - 150 tons duplex piston pump for the ballast purpose.

Two off combined bilge and sanitary pumps with 3 separate trunks each - the two trunks of each pump for the bilge purpose and the third off on each pump for sanitary purpose, capacity of each 26 tons

Two - 250 tons centrifugal cooling water pumps.

Four - 60 tons cog wheel lubricating oil pumps.

One - 50 tons cog wheel oil fuel transfer pump.

One - 20 tons cog wheel oil fuel transfer pump.

All worked by electric motors.

One - 5 tons rotary fresh water pump.

Two - 4 Cyl. 4 S.C.S.A. auxiliary Diesel oil engines of 200 B.H.P., each working a 133 K.W. compound wound generator, - and one - 3 Cyl. 4 S.C.S.A. auxiliary Diesel oil engine of 150 B.H.P., working a 100 K.W. compound wound generator, supplying

electric current at 220 Volts pressure for motive power to the following:-  
One - 30 H.P. shunt wound electric motor working the ballast pump.  
Two - 9 H.P. " " " " working the two combined bilge and sanitary pumps.

Two - 35 H.P.	"	"	"	"	working the cooling water pumps.
Two - 35 H.P.	"	"	"	"	working the lubricating oil pumps.
One - 20 H.P.	"	"	"	"	working the oil fuel transfer pump.
One - 2 H.P.	"	"	"	"	working the fresh water pump.

Two-8HP. series	"	"	"	working the turning gear to the main engine.
One-1.65HP. shunt	"	"	"	working the turning lathe.
One-1 HP.	"	"	"	working the drilling machine.

One - 0.5 HP. " " " " working the grinding machine  
One - 13 HP. compound " " " working the refrigerating machinery to the insulated room for provision  
One - 2 HP. shunt " " " working the cooling water pump to the refrigerating machinery - "

One 30 H.P. compound	"	"	"	working the oil pump to electro hydraulic steering gear.
One 48 H.P.	"	"	"	working the winetlass.
Four 33 H.P.	"	"	"	working the four 5 tons cargo winches
One 27 H.P.	"	"	"	overhauling the six 3 tons " " "

Six-25 HP " " " " working the six 5 tons  
Six-16 HP " " " " working the six 1 1/2 tons " "  
One-33 HP " " " " working the 5 tons warping winch.  
One 9.5 HP electric " " " working a 3 alternating current transformer dynamo, 24 amp

190 Vols pressure, for motive power to the 3 phase electro motors for the oil purifiers.  
Three - 3 phase, 3HP. alternating current electro motors working the 3 oil purifiers { 2 off for the oil fuel  
" " " lubricating oil.  
One - 15 K.W. heater for the oil fuel purifiers.

One - 9 K.W. " " " lubricating oil purifier.  
And supplying current for the electric installation with the pressure reduced to 110 Lbts.  
Transformer motor 23 H.P. shunt wound. - Transformer generator 15 K.W. compound wound.

The foregoing is a correct description.

AKTIESELSKABET  
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

Manufactures.

N.O. Engelsen.  
SURVEYOR TO LLOYD'S  
REGISTER OF SHIPPING

5m. 7.28.

AKTIESELSKABET  
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI  
H. Møller

Manufactures.

SURVEYOR TO LLOYD'S  
REGISTER OF SHIPPING

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