

Donkey 1

List of Spare Gear for the machinery of
Twin Screw Motor Vessel "CHRISTIAN" of Copenhagen.

Burmeister & Wain's Yard No. 348.

Burmeister & Wain's Eng. No. 1310 & 1311.

Copenhagen Report No.

Main Diesel Oil Engines:-

- 1 cylinder cover complete with studs and nuts for fastening of valves, cylinder liner and water jacket etc.
- One complete set of studs and nuts for one cylinder cover.
- One piston with packing rings complete and piston rod connected on, with telescope pipes etc. complete ready for fitting.
- 16 piston rings.
- 2 piston scraping-rings.
- 2 sets of coupling bolts with nuts for the crank shafts.
- 1 set of coupling bolts with nuts for the tunnel shafting.
- 1 pair of main bearing brasses.
- 2 main bearing studs and nuts.
- 1 pair of connecting rod bottom-end brasses.
- 2 connecting rod bottom-end bolts and nuts.
- 1 pair of connecting rod top-end brasses.
- 2 connecting rod top-end bolts and nuts.
- 2 air inlet valves complete with springs etc. ready for fitting.
- 2 starting air valves complete with springs etc. ready for fitting.
- 12 exhaust valves complete with springs etc. ready for fitting.
- 3 exhaust valve discs and spindles.
- 6 oil fuel injection valves complete with springs etc. ready for fitting.
- 2 oil fuel injection valve discs and spindles.



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- 6 bottom parts for the oil fuel injection valves.
- 1 guide roller with bolt for the air inlet valves.
- 1 guide roller with bolt for the starting air valves.
- 1 guide roller with bolt for the exhaust valves.
- 1 guide roller with bolt for the oil fuel injection valves.
- 15 packing rings for the oil fuel injection valves.
- 3 safety caps for the oil fuel injection valves.
- 1 shield cap for safety caps to the oil fuel injection valves.
- 1 plunger piston for the oil fuel pressure pump.
- 5 stuffing box packing rings to oil fuel pump pistons.
- 1 suction valve disc to the oil fuel pressure pump.
- 1 delivery valve disc to the oil fuel pressure pump.

Main air compressor:-

- 1 pair of main bearing brasses.
 - 4 main bearing studs and nuts.
 - 7 H.P. piston rings.
 - 5 M.P. piston rings.
 - 4 L.P. piston rings.
 - 1 H.P. piston scraping ring.
 - 1 M.P. piston scraping ring.
 - 1 H.P. suction valve complete with seat, spring etc.
 - 1 H.P. delivery valve complete with seat, spring etc.
 - 1 M.P. suction valve complete with seat, spring etc.
 - 1 M.P. delivery valve complete with seat, spring etc.
 - 5 L.P. suction valves complete with seats, springs etc.
 - 4 L.P. delivery valves complete with seats, springs etc.
 - 2 H.P. copper air cooling coils with flanges and unions ready for fitting.
 - 2 safety caps for the starting air pipes.
- A number of springs suitable for all sizes used at the main engines and main air compressors.



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Auxiliary Diesel oil engines:-

- 1 pair of main bearing brasses.
- 2 main bearing studs and nuts.
- 2 pair of connecting rod bottom-end brasses.
- 2 connecting rod bottom-end bolts and nuts.
- 1 crosshead gudgeon bush.
- 1 set of studs and nuts for one cylinder cover for fastening of valves etc.
- 1 set of piston rings for one piston.
- 1 piston scraping ring.
- 1 exhaust valve complete with springs etc. ready for fitting.
- 1 oil fuel injection valve complete with springs etc. ready for fitting.
- 1 oil fuel injection valve disc and spindle.
- 1 overflow valve for oil fuel injection valves.
- 3 packing rings for oil fuel injection valves.
- 2 safety caps for oil fuel injection valves.
- 1 shield cap for safety caps to the oil fuel injection valves.
- 1 plunger piston for the oil fuel pressure pumps.
- 3 packing rings to piston for the oil fuel pressure pumps.
- 1 suction valve " " " " " " "
- 1 delivery valve " " " " " " "

Auxiliary Air Compressor:-

- 7 H.P. piston rings.
- 1 H.P. piston scraping ring.
- 5 M.P. piston rings.
- 2 M.P. piston scraping rings.
- 4 L.P. piston rings.
- 1 H.P. suction valve complete with seat, spring etc.
- 1 H.P. delivery valve " " " " "
- 1 M.P. suction valve " " " " "
- 1 M.P. delivery valve " " " " "
- 3 L.P. suction valves " " " " "
- 2 L.P. delivery valves " " " " "



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A number of springs suitable for all sizes used at the auxiliary engine and auxiliary air compressors.

7 valve spindles for the valves on the high pressure air receivers.

A number of assorted india rubber rings and packings suitable for each size used at the engines and air compressors.

Various lengths of copper and steel pipes for the fuel delivery and the blast pipes to the cylinders, and the air delivery from the main and auxiliary compressors to the receivers, with unions, cone-ends and flanges suitable for each size used.

A quantity of "Krupp"s and "Palmetto" packing material.

12 main engine holding down bolts and nuts.

A quantity of assorted bolts and nuts.

One suction and one delivery valve disc and springs for the main engine bilge pump.

One wing with guide blocks for the rotary ballast pump.

2 suction valves and 2 delivery valve discs, seats and springs for the bilge and sanitary pumps.

1 ball bearing for the bilge and sanitary pumps.

1 escape valve spring for the bilge and sanitary pumps.

2 ball bearings and one roller bearing for the cooling water and lubricating oil pumps.

1 escape valve spring for the cooling water pump, and one do. for the lubricating oil pump.

1 spring for the safety valve at the lubricating oil cooler.

1 spring for the safety valve at the starting air receiver.

1 spring for the safety valve at the oil fuel transfer pump.

† set of valve discs and springs for the steam driven oil fuel transfer pump.

† set of valve discs and springs for the duplex circulating and air pumps to the auxiliary condenser.

Steam engine for auxiliary dynamo:-

1 set of piston rings.

1 pair of connecting rod bottom-end brasses.



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- 2 connecting rod bottom-end bolts and nuts.
- 1 pair of connecting rod top-end brasses.
- 2 connecting rod top-end bolts and nuts.
- 1 propeller shaft and nut.
- 2 cast iron propeller blades.

Donkey Boilers:-

- 2 springs for safety valves.
- 2 feed check valve discs.
- 2 per cent of boiler tubes.
- 5 water gauge glasses.
- 1 set of valve discs and springs for one feed pump.
- 4 oil fuel burners complete.
- 1 set of atomizers for the oil fuel burners.
- 1 spring for the safety valves on the oil fuel pressure pipes.

Dynamos and Electro motors.

- 1 set of brushes for one of the 66 K.W. dynamos.
- 1 set of brush holders for one of the 66 K.W. dynamos.
- 1 set of brushes for the 15 K.W. dynamo.
- 1 set of brush holders for do. do.
- 1 set of carbon brushes for the 35 H.P. electro motors to the cooling water and lubricating oil pumps.
- 1 set of brush holders for do. do.
- 1 set of carbon brushes for the 15 H.P. electro motor to the ballast pump.
- 1 set of brush holders for do. do.
- 1 set of carbon brushes for the 9 H.P. electro motor to the bilge and sanitary pump.
- 1 set of brush holders for do. do.
- 1 set of carbon brushes for the 5 H.P. electro motor to the oil fuel transfer pump.
- 1 set of brush holders for do. do.



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set of carbon brushes for each of the 3 H.P. electro motors
to the oil fuel and lubricating oil purifiers.

set of brush holders for do. do.

set of carbon brushes for the 5 H.P. electro motor to the
turning gear for main engines.

set of brush holders for do. do.

one ball bearing suitable for each size of electro motors used.

set of carbon brushes for the transformer.

set of brush holders for do.

quantity of fuses, switches, lamps, lampholders, contact

fingers etc. suitable for electric installation.

Machine
set of carbon brushes for 3 H.P. electro motors
for oil fuel and lubricating oil purifiers.
12 CHAIRMAN



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