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ZER

14/5344/Ba/

D.A.P.G., Hamburg. - Spare Gear for Ships

Nos. 673, 674 & 675 - M.V. "Thalia", "Urania" & "Caliope"

Main Engines.

- ✓ 1 Set of coupling bolts (8eff) for crankshaft.
- ✗ 1½ Set of crankshaft (2 cranks for working cylinder)
- ✗ 3 Cylinder covers for working cylinder, without valves.
- ✗ 6 Combined starting fuel valves.
- 3 Cylinder liners.
- ✗ 4 Working pistons with rings (upper and lower part)
ready for fitting.
- ✗ 2 Sets of piston rings.
- 2 Sets of water cooling pipes.
- ✓ 4 Fuel needles.
- ✓ 4 Complete pulverisers.
- ✓ 36 Spray plates.
- ✓ 36 Distance rings.
- ✓ 4 Pulveriser cones.
- ✓ 16 Spray plates.
- ✓ 2 Starting air valves, without casing.
- 1 Starting valve spindle with spring.
- ✓ 4 Crosshead bearings (8 valves).
- ✓ 1½ Set of bolts for do.
- ✓ 2 Crank pin bearings for working cylinder.
- ✓ 1 Set of bolts for do.
- 2 Crankshaft bearings for working cylinder.
- ✓ 1 Set of bolts for do.
- 1 Crankshaft bearing for compressor.
- 1 Set of bolts for do.

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Lloyd's Register
Foundation

- 1 Set of driving wheels for cam shaft.
- 2 Bearings on cam shaft.
- 1 Thrust bearing for vertical cam shaft.
- 1 Crank pin bearing for air compressor.
- 1 Gudgeon pin bearing for air compressor.
- 1 Set = 2 off bolts for crank bearings of air compressor.
- 1 H.P. piston with rings for air compressor.
- 1 Complete set of valves for air compressor.
- 1 H.P. cylinder head with 5 valve cones for do.
- 1 Set of piston rings for air compressor.
- 2 Complete slippers for one cylinder.
- 2 Cam profiles (sets), for one cylinder.
- 2 Sets of rollers and bolts for one cylinder.
- 1 Scavenge valve casing with valves.
- 1 Valve casing of each size for blast air.
- 4 Drain valves, ready for fitting.
- 1 Set = 2 off oil scraper rings for compressor.
- 2 Sets of oil scraper rings for working cylinder.
- 1 Set of fuel pump valves with springs (for one engine).
- 1 Set of delivery plungers with bushes for fuel pump.
- 1 Set of suction and delivery valves for all auxiliary pumps.
- 1 Piston and rod for all auxiliary pumps.
I.P. and L.P.
- 1 Set of air piping for H.P./air and fuel, according to
the Classification Society's requirements.
- 5 Safety plates of each size.
- 2 Sets of running and stand pipes for the crosshead
lubrication.
- 1 Ball bearing for the cam and vertical shaft.
- 2 Complete safety valves of every size and kind.
- 1 Set of oil filter strainers with gauze.
- 1 Set of fuel oil filter strainers with gauze and felt.

- ✓ 1 Set of studs and nuts for cylinder and compressor cover (holding down); further studs for securing the valves, piston etc., sufficient for one cylinder.
- 10% of all springs (at least 1 spring).
- 1 Nest of every kind for the intercoolers.
- 1 Ball bearing of every kind.
- 1 Set of packing material.

Auxiliary Engines 6RK30.

- 8 Coupling bolts with nuts and splits for crankshaft.
- 8 Cylinder cover bolts.
- ✓ 1 Fuel valve complete.
- 1 Non-return valve for starting air.
- ✓ 1 Safety valve .
- 10 Air suction clappets.
- ✓ 2 Connecting rod bolts with nuts and splits.
- 3 Inner rings for cover of crosshead guides.
- 4 Fuel pump suction and delivery valves.
- 4 Valve seats for cooling water pump.
- 4 Valves for cooling water pump.
- 1 Set of wheels and shafts for oil pump.
- 34 m Steel pipe for air piping.
- 24 Iron cones.
- 24 Nipples for air piping.
- 6 couplings 5/8".
- 1 Steel pipe 32/42 x 2100 mm.
- 1 " " 32/42 x 2500 mm.
- 1 " " 32/42 x 3000 mm.
- 6 Flanges for pipe 32/42 mm.
- 1/3 of all bolts and screws.

- 1 Cylinder cover complete.
- 1 Ignition plug on cylinder cover.
- 1 Non-return valve for starting air.
- 2 Cleaning covers.
- ✓ 12 Fuel needles with guides.
- 2 Governor springs.
- ✓ 28 Piston rings.
- 2 Oil scrapers.
- 8 Fuel pump valves.
- 12 Bushes for fuel pump.
- 12 Fuel pump pistons.
- 12 Spray plates.
- 12 Distributor nozzles.
- 2 Ball bearings,
- 2 Sets of springs.
- 2 Sets of sight glasses.
- 2 Sets of packing material.
- ✓ 1 Main bearing complete with ~~main~~ liners.
- ✓ 1 " " " " " (large).
- 6 Fuel needles.
- 20 Distributor nozzles.
- 8 Spray plates.
- 1 Crank pin bearing complete with liners.
- 2 Gudgeon pin bearings.
- ✓ 1 Piston complete with rings and rod.

Auxiliary Engines 2RH20 and 1RH20.

- ✓ 1 Cylinder cover with valves, ready for fitting.
- ✓ 1 Set of holding down bolts for the cylinder cover.
- ✓ 1 Working piston.

- 2 Pulverizers and distribution nozzles.
- 1 Main bearing.
- 2 Bolts for above.
- 1 Bottom end bearing.
- 2 Bolts for above.
- 1 Gudgeon pin bearing.
- 8 Air suction clappets for crankcase scavenging.
- 1 Set of fuel valve needles.
- 1 Set of piston rings.
- 2 Plungers and bushes for fuel pump.
- 2 Suction and delivery valves for fuel pump.
- 1 Set of valves for the cooling water and oil pumps.
- 1 Set of pipings for fuel oil.
- 1 Set of wheels and shafts for the oil pump.
- 2 Cone couplings of every kind.
- 1 Set of coupling bolts for the crankshaft.
- 1 Ball bearing of every kind.
- 1 Set of packing material.
- 3 Piston rings for the auxiliary air compressor.
- 2 Valves with seats for cooling water pump.
- 3 Fuel needles with bushes.
- 3 Spray plates.
- 3 Distributor nozzles.
- 2 Air suction clappets.
- 2 Working piston rings.
- 3 Fuel pump pistons with bushes.
- 2 Valves for do.
- 8 Compressor piston rings.
- 2 Sets of springs.



- 2 Sets of safety valves.
- 2 Sets of sight glasses.
- 2 Sets of packing material.

Auxiliary Compressor C100.

- 1 Nest for each of the intercoolers.
 - 2 Main bearings of every kind.
 - 4 Bolts for above.
 - 1 Top end bearing.
 - 1 Gudgeon pin.
 - 1 Bottom end bearing.
 - 2 Bolts for above.
 - 1 Set of piston rings for H.P., I.P. and L.P. complete,
 - 1 Set of valves for H.P., I.P. and L.P. complete.
 - 1 Set of wheels for the oil pump.
 - 1 Set of H.P. piping.
 - 1 Set of studs of every kind and size with nuts.
 - 10% of all springs.
 - 2 Cone couplings of every kind.
 - 1 Set of cylinder cover bolts and nuts.
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