

17th. April, 1925.

M.V. "RABY CASTLE". C.2557.

LIST OF SPARE GEAR FOR AUXILIARY MACHINERY ORDERED BY  
MESSRS THE NORTH EASTERN MARINE ENGINEERING CO. LTD.,  
WALLSEND FOR THE ABOVE VESSEL.

1. TWO 150 B.H.P. 3 CYLINDER AND ONE 100 B.H.P. 2 CYLINDER  
AUXILIARY DIESEL ENGINES.

2 Inlet valves with springs.

2 Exhaust valves complete with housings, springs and valves.

3 Additional exhaust valve spindles and valves combined.

1 Fuel valve complete with housing, spring, valve, atomiser and diaphragm.

2 Additional fuel valve needles with nuts.

1 Additional atomiser and diaphragm.

1 Starting valve complete with housing, spring & valve.

4 Additional starting valve spindles and valves combined.

3 Cylinder relief valves complete with housings and springs.

1 Spare spring in addition.

6 Suction and 7 delivery valves, also 15 springs, 6 cages and 8 plungers for fuel pumps.

5 Sets of piston rings for the working pistons, i.e. 25 plain rings and 5 scraper rings.

FOR AIR COMPRESSORS OF 150 B.H.P. 3 CYLINDER ENGINES.

Suction valve cages and seats, 2 L.P., 2 M.P. and 1 H.P.

Delivery valves cages and seats, 2 L.P., 2 M.P. & 1 H.P.

Disc valves for above, 54 in all.

Mechanically operated poppet valve with housing & spring for M.P. compressor.

2 Sets of piston rings, i.e. 10 L.P., 10 M.P. & 12 H.P.

FOR AIR COMPRESSOR OF 100 B.H.P. 2 CYLINDER ENGINE.

Suction valve cages & seats 1 L.P. and 1 H.P.

Delivery valve cages & seats, 1 L.P. & 1 H.P.

Valve discs for above, 16 in all.

1 Set of piston rings, i.e. 3 L.P. and 5 H.P.

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1 Complete set of springs for valves and valve rockers to suit one 150 B.H.P. 3 Cylinder engine, i.e. 12 for cylinder head valves, 6 for valve rockers and 2 for compressor.

8 Additional springs for exhaust valves.

1 Set of two springs for one Governor motor.

1 Set of copper joint rings for all valve housings, relief valves etc., for one 150 B.H.P. 3 Cylinder engine.

One set of rubber joint rings for one 150 B.H.P. 3 cylinder engine.

1 Set of rubber joint rings for one 100 B.H.P. 2 Cylinder engine.

2 Coupling bolts for each size used.

2 Connecting rod top end bolts with nuts.

2 Connecting rod bottom end bolts with nuts.

2 Main bearing bolts with nuts.

1 Bottom end bearing, i.e. 2 halves.

1 Top end bearing, i.e. 2 halves.

1 Set of rollers and pins for rocking levers for one cylinder.

1 Set of cylinder head studs and nuts for one cylinder.

1 Set of valve cage studs and nuts for one cylinder.

2. TWO 100 K.W. & ONE 65 K.W. DYNAMOS.

1 Set of bushes for one bearing at commutator end, suitable for either the 65 or 100 K.W. machines.

One set of bushes for one bearing at flywheel end, suitable for either of the 100 K.W. machines.

One set of bushes for one bearing at flywheel end,  
 suitable for the 65 K.W. machine.

42 Carbon brushes.

2 Brush Holders.

3. 6" SIZE "CENTREX" TYPE BALLAST PUMP OF 150 TONS PER HOUR  
 CAPACITY, DRIVEN BY 18 B.H.P. MOTOR.

One set of brushes.

One line of brush holders.

2 Journal ball bearings.

One double thrust bearing.

4. 6" SIZE "UPRIGHT" TYPE COOLING WATER PUMP OF 150 TONS PER  
 HOUR CAPACITY DRIVEN BY 18 B.H.P. MOTOR.

One set of brushes.

One line of brush holders.

2 Journal ball bearings.

One double thrust bearing.

5. ONE 6" x 6" TWO THROW GENERAL SERVICE PUMP 30 TONS PER HOUR  
 CAPACITY DRIVEN BY 10 B.H.P. MOTOR.

One set of pump bucket packing rings for each bucket.

One Manganese bronze pump rod with nuts complete.

One set of suction and discharge valve seats with valves,  
 guards and springs for each pump barrel.

One set of brushes for motor.

One brush holder for each line.

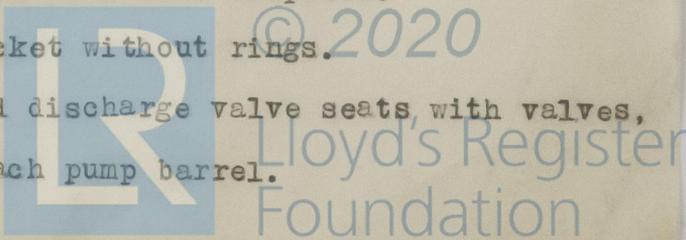
One set of bearings for motor.

6. ONE 6" x 6" TWO THROW AUXILIARY LUBRICATION OIL PUMP OF 30  
 TONS PER HOUR CAPACITY DRIVEN BY 10 B.H.P. MOTOR.

One mild steel pump rod with nuts complete.

One cast iron pump bucket without rings.

One set of suction and discharge valve seats with valves,  
 and springs complete for each pump barrel.



- One set of brushes for motor.  
 One brush holder for one line.  
 One set of bearings for motor.  
 One armature suitable for either of the above 10 B.H.P. motors.
7. ONE 4" x 4 $\frac{1}{2}$ " TWO THROW OIL FUEL TRANSFER PUMP OF 10 TONS PER HOUR CAPACITY, DRIVEN BY 4 B.H.P. MOTOR.  
 One mild steel pump rod with nuts complete.  
 One cast iron pump bucket without rings.  
 One set of suction and discharge valve seats with valves and springs for each pump barrel.  
 One set of brushes for motor.  
 One brush holder for one line.  
 One set of bearings for motor.
8. TWO ~~THE~~ 4" x 2 $\frac{1}{4}$ " x 5" VERTICAL DUPLEX FEED AND OIL FUEL TRANSFER PUMPS.  
 One pump rod. )  
 One set of piston rings. ) To suit either  
 One set of bucket rings. ) pump.  
 One set of bucket valves & seats. )
9. "VICKCEN" TYPE LUBRICATION OIL PURIFIER DRIVEN BY 1 $\frac{1}{4}$  B.H.P. MOTOR.  
 Full set of brushes.  
 One brush holder.  
 2 Bearing bushes.
10. TWO NO.600 SIZE "DE LAVAL" PURIFIERS FOR FUEL OIL, DRIVEN BY 2 B.H.P. MOTORS.  
 2 Main rubber rings. )  
 1 Paper packing for gravity lock ring. ) For each  
 1 Gravity rubber ring. ) Machine.  
 3 Springs for top bearings. )  
 1 Spring for steel point. )

One steel thrust point. )  
 One pair of tread wheels with shaft. ) For each Machine.  
 One set of brushes for motor. )

One spare bowel complete with cones.  
 One brush holder for motors.  
 2 Bearing bushes for motors.

11. 10 B.H.P. TURNING GEAR MOTOR.

One full set of brushes.  
 One brush holder.  
 One set of roller bearings.

12. 4 B.H.P. WORKSHOP MOTOR.

One set of brushes.  
 One brush holder.  
 2 Ball bearing bearing journal bushes.

13. MOTOR CONTROL PANELS.

One fuse carrier of each size to suit each control panel.

14. OIL BURNING INSTALLATION FOR VERTICAL DONKEY BOILER.

One oil burner complete.  
 4 Burner nozzles.  
 2 Burner caps.

15. SWITCHBOARD.

One fuse holder for each size of fuse used on main switchboard.

16. WIRING.

25 Yards of cable suitable for the largest distribution circuit.

6 Portable lamps with wire guards and  $\pm$  30 ft. of flexible cable for each.

6 additional bulbs for portable lamps.

6 Bulbs for engine room lights.

3 Bulbs for emergency engine room lights.