

N Type Standard Turbines, gearings
Now stated to have been forwarded to Furness Shipbuilding Co.
Middlesbrough for fitting

REPORT ON MACHINERY.

No. 72581

Pressure to _____
the Boiler _____
Gear fitted _____
of writing Report 17th Feb 1919 When handed in at Local Office _____
Survey held at Newcastle Date, First Survey 22nd May 1918 Last Survey _____
Book _____
on the _____
Built at _____ By whom built _____
By whom made Parsons Marine Steam Turbine Co Ltd when made _____
By whom made _____ when made _____
Registered Horse Power _____
Horse Power at Full Power 2900 Owners The Shipping Controller Port belonging to _____
Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

TURBINE ENGINES, &c.—Description of Engines *Geared Turbines* No. of Turbines 2
Diameter of Rotor Shaft Journals, H.P. 4 1/2" L.P. 4 1/2" Diameter of Pinion Shaft 8 1/2" gear 4 1/2", 2nd gear 9"
Diameter of Journals 1 1/4", 2 1/4", 9" Distance between Centres of Bearings 1 1/2", 3", 2 1/2", 3", 10 1/2" Diameter of Pitch Circles 1 1/4", 1 1/2", 2 1/4", 2 1/2", 13.558"
Diameter of Wheel Shaft 1 1/4", 2 1/4", 14 1/4" Distance between Centres of Bearings 1 1/2", 2", 2 1/2", 3", 9 1/2" Diameter of Pitch Circle of Wheel 3 1/4", 4 1/4", 6 1/4", 7 1/4", 58 1/4"
Diameter of Face 1 1/2", 2 1/2", 2 1/2", 2 1/2", 15" Diameter of Thrust Shaft under Collars _____
Diameter of Tunnel Shaft as per rule _____
Diameter of same as per rule _____ as fitted _____
Diameter of Propeller _____ Pitch of Propeller _____
Blades State whether Moveable _____ Total Surface _____
Diameter of Rotor Body, H.P. 24 1/2", L.P. 22", 30" Astern H.P. 25 1/2", L.P. 23 1/2", 20"
Revs. per Minute at Full Power, Turbine 3500 Propeller 78

Particulars of Blading.

H.P. Impulse				L.P. Reaction				H.P. ASTERN.			
EXPANSION	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.		HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	
1-11-2	1" + 1 1/16"	29 1/4" + 29 15/16"	2	2 1/2"	26 1/4"	2		Impulse 1 1/2"	29 1/2" + 30 1/4"	2	
"	3/4"	29"	1	2 5/8"	27 1/4"	2		L.P. Astern			
"	1"	29 1/4"	1	3 1/4"	28 1/2"	1		1 st Impulse 2 3/4"	30 1/2"	1	
"	1 3/8"	29 5/8"	1	2 3/8"	34 3/4"	1		2 nd do 4 1/8"	32"	1	
"	1 7/8"	30 1/8"	1	2 7/8"	35 3/4"	1		1 st Reaction 1 3/4"	23 1/2"	1	
"	2 1/2"	31 3/4"	1	3 1/2"	37"	1		2 nd do 1 1/2"	25"	1	
"				4 1/4"	38 1/2"	3		3 rd do 3 1/2"	27"	3	

and size of Feed pumps
and size of Bilge pumps
and size of Bilge suction in Engine Room

In Holds, &c.

Bilge Injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine Room & size _____
All the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____
All connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
They fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the Discharge Pipes above or below the deep water line _____
They each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____
Pipes are carried through the bunks _____ How are they protected _____
All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____
The Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____
Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____
BOILERS, &c.—(Letter for record _____) Manufacturers of Steel _____
Heating Surface of Boilers _____ Is Forced Draft fitted _____ No. and Description of Boilers _____
Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
Each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
Least distance between boilers or uptakes and bunks or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
Seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
Entanglements of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
Compensating ring _____ No. and Description of Furnaces in each Boiler _____ Material _____ Outside diameter _____
Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____ End plates in steam space _____
Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of stays _____
Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of Front plates at bottom _____
Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
Thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
Working pressure by rules _____ Steam dome: description of joint to shell _____ % of strength of joint _____ Diameter _____
Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diameter of rivet holes _____ Pitch of rivets _____
Working pressure of shell by rules _____ Crown plates: Thickness _____ How stayed _____

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____

Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____

Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Basing Gear fitted _____

IS A DONKEY BOILER FITTED? _____ If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied:— _____

The foregoing is a correct description,

For *James*
of

Manufacturer.

W. J. Wacker
DIRECTOR

Dates of Survey while building { During progress of work in shops -- May 22, 30, Jun 3, 19, Jul 5, 10, 16, 18, 22, 26, Aug 2, 15, 18, 29, Sep 4, 6, 12, 17, 23, Oct 3, 11, 22, 28, 29
During erection on board vessel --- Nov 14, 25, Dec 2, 12, 17, 1919 Jan 8, 10, 18, 24, 27, Feb 11, Jun 9.
Total No. of visits 36.

Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Casings 25-11-18 Rotors 25-11-18 Blading 12-12-18 Gearing 12-12-18

Rotor shaft 25-11-18 Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fired _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material and tensile strength of Rotor shafts Steel 35-38.2 tons Identification Mark on Do. Y. X 11-18

Material and tensile strength of Pinion shafts Nickel Steel 42.4 to 46 tons Identification Mark on Do. Y. X 12-18

Material of Wheel shafts Steel Identification Mark on Do. Y. X 12-18 Material of Thrust shaft _____ Identification Mark on Do. _____

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____ Test pressure _____

Is an installation fitted for burning oil fuel _____ Is the flash point of the oil to be used over 150°F. _____

Have the requirements of Section 49 of the Rules been complied with _____

Is this machinery a duplicate of a previous case _____ If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c. These turbines & gearing have been constructed under special survey & the materials & workmanship are found & good; they have been tried under steam in the test shop & found satisfactory.

The amount of Entry Fee ... £ 48 = 9 = 8 When applied for, 11/5/20 *Franklin*
Special ... £ _____ When received, 29/5/20 *ABW*
Donkey Boiler Fee ... £ _____
Travelling Expenses (if any) £ _____

Committee's Minute FRI. MAY. 14 1920

Assigned See F.C. report



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