

PARTICULARS OF BLADING.

PARTICULARS OF BLADING.																	
H.P. TURBINE.				I.P. TURBINE.				L.P. TURBINE.				ASTERN TURBINES.					
EXPANSION	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	EXPANSION	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS
1	19 $\frac{1}{2}$ "	18 $\frac{5}{8}$ "	21 $\frac{1}{32}$ "	2	22 $\frac{1}{2}$ "	21 $\frac{1}{16}$ "	27 $\frac{1}{2}$ "	2	52 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	59 $\frac{3}{16}$ "	1	H.P. TURBINE	30 $\frac{15}{16}$ "	1 $\frac{27}{32}$ "	34 $\frac{13}{16}$ "	3
2	18 $\frac{5}{16}$ "	1 $\frac{3}{16}$ "	22 $\frac{3}{4}$ "	2	21"	3 $\frac{3}{4}$ "	28 $\frac{11}{16}$ "	1	53 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	60 $\frac{3}{16}$ "	1		30 $\frac{7}{16}$ "	2 $\frac{15}{32}$ "	35 $\frac{9}{16}$ "	
3	18 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	22 $\frac{1}{2}$ "	2	21 $\frac{1}{2}$ "	3 $\frac{3}{4}$ "	29 $\frac{3}{16}$ "	1	54 $\frac{1}{16}$ "	3 $\frac{1}{16}$ "	61 $\frac{5}{8}$ "	1		29 $\frac{15}{16}$ "	3 $\frac{3}{32}$ "	36 $\frac{5}{16}$ "	
4					21 $\frac{1}{4}$ "	4"	29 $\frac{7}{16}$ "	1	54 $\frac{5}{8}$ "	4 $\frac{1}{8}$ "	63 $\frac{1}{16}$ "	1	L.P. TURBINE	63 $\frac{3}{4}$ "	1 $\frac{29}{32}$ "	67 $\frac{3}{4}$ "	3
5					21 $\frac{5}{8}$ "	4 $\frac{1}{8}$ "	30 $\frac{1}{16}$ "	1	54 $\frac{7}{8}$ "	4 $\frac{7}{8}$ "	64 $\frac{13}{16}$ "	1		63"	2 $\frac{21}{32}$ "	68 $\frac{1}{2}$ "	
6					21 $\frac{3}{8}$ "	4 $\frac{3}{8}$ "	30 $\frac{5}{16}$ "	1	55 $\frac{1}{16}$ "	5 $\frac{11}{16}$ "	66 $\frac{5}{8}$ "	1		62 $\frac{7}{16}$ "	3 $\frac{5}{16}$ "	69 $\frac{1}{4}$ "	
7					21 $\frac{9}{16}$ "	4 $\frac{11}{16}$ "	31 $\frac{1}{8}$ "	1	55"	6 $\frac{3}{4}$ "	68 $\frac{11}{16}$ "	1	L.P. TURBINE	61 $\frac{7}{16}$ "	4 $\frac{3}{32}$ "	69 $\frac{13}{16}$ "	2
8					21 $\frac{1}{4}$ "	5"	31 $\frac{7}{16}$ "	1	54 $\frac{1}{2}$ "	8 $\frac{1}{4}$ "	71 $\frac{3}{16}$ "	1		60 $\frac{5}{8}$ "	5 $\frac{1}{8}$ "	71 $\frac{1}{16}$ "	
9									53 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	74 $\frac{5}{16}$ "	1					
10									52 $\frac{1}{2}$ "	12 $\frac{1}{4}$ "	77 $\frac{3}{16}$ "	1					
11									52"	12 $\frac{3}{4}$ "	77 $\frac{11}{16}$ "	1					



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PARTICULARS OF BLADING

ARTICLE 11. TURBINES OF STEAM																	
H.P. TURBINE.					I.P. TURBINE.				L.P. TURBINE.				ASTERN TURBINES.				
EXPANSION	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS	EXPANSION	DIA. OF WHEEL.	HEIGHT OF BLADES	DIA. AT TIP.	NO. OF ROWS
1	19 $\frac{1}{2}$ "	1 $\frac{1}{32}$ "	22 $\frac{5}{8}$ "	2	22 $\frac{1}{8}$ "	2 $\frac{1}{32}$ "	27 $\frac{1}{4}$ "	2	52 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	59 $\frac{3}{16}$ "	1	H.P. TURBINE	30 $\frac{15}{16}$ "	1 $\frac{27}{32}$ "	34 $\frac{13}{16}$ "	3
2	18 $\frac{5}{8}$ "	1 $\frac{1}{8}$ "	22 $\frac{3}{4}$ "	2	21"	3 $\frac{3}{4}$ "	28 $\frac{11}{16}$ "	1	53 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	60 $\frac{3}{16}$ "	1		30 $\frac{7}{16}$ "	2 $\frac{15}{32}$ "	35 $\frac{9}{16}$ "	
3	18 $\frac{3}{4}$ "	1 $\frac{1}{8}$ "	22 $\frac{1}{2}$ "	2	21 $\frac{1}{2}$ "	3 $\frac{3}{4}$ "	29 $\frac{3}{16}$ "	1	54 $\frac{1}{8}$ "	3 $\frac{1}{8}$ "	61 $\frac{5}{8}$ "	1		29 $\frac{15}{16}$ "	3 $\frac{3}{32}$ "	36 $\frac{5}{16}$ "	
4					21 $\frac{1}{4}$ "	4"	29 $\frac{7}{16}$ "	1	54 $\frac{5}{8}$ "	4 $\frac{1}{8}$ "	63 $\frac{1}{16}$ "	1	L.P. 1st EXP.	63 $\frac{3}{4}$ "	1 $\frac{29}{32}$ "	67 $\frac{3}{4}$ "	3
5					21 $\frac{5}{8}$ "	4 $\frac{1}{8}$ "	30 $\frac{1}{16}$ "	1	54 $\frac{7}{8}$ "	4 $\frac{7}{8}$ "	64 $\frac{13}{16}$ "	1		63"	2 $\frac{21}{32}$ "	68 $\frac{1}{2}$ "	
6					21 $\frac{3}{8}$ "	4 $\frac{3}{8}$ "	30 $\frac{5}{16}$ "	1	55 $\frac{1}{8}$ "	5 $\frac{1}{16}$ "	66 $\frac{5}{8}$ "	1		62 $\frac{7}{16}$ "	3 $\frac{5}{16}$ "	69 $\frac{1}{4}$ "	
7					21 $\frac{1}{16}$ "	4 $\frac{1}{16}$ "	31 $\frac{1}{8}$ "	1	55"	6 $\frac{3}{4}$ "	68 $\frac{11}{16}$ "	1	L.P. 2nd EXP.	61 $\frac{7}{16}$ "	4 $\frac{3}{32}$ "	69 $\frac{13}{16}$ "	2
8					21 $\frac{1}{4}$ "	5"	31 $\frac{7}{16}$ "	1	54 $\frac{1}{2}$ "	8 $\frac{1}{4}$ "	71 $\frac{3}{16}$ "	1		60 $\frac{5}{8}$ "	5 $\frac{1}{8}$ "	71 $\frac{1}{16}$ "	
9									53 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	74 $\frac{5}{16}$ "	1					
10									52 $\frac{1}{2}$ "	12 $\frac{1}{4}$ "	77 $\frac{3}{16}$ "	1					
11									52"	12 $\frac{3}{4}$ "	77 $\frac{11}{16}$ "	1					



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SUPERHEATER. Type *Schmidt* Date of Approval of Plan *See Manufacture Report* ^{C1116} Tested by Hydraulic Pressure to *660*
Date of Test *9/4/20* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler?
Diameter of Safety Valve *2 1/2"* Pressure to which each is adjusted *230 lbs* Is Easing Gear fitted *yes*
IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *see list:*

The foregoing is a correct description,

For **WILLIAM BEARDMORE & CO., LIMITED**

Manufacturers.

W. D. Dwyer
ENGINEERING MANAGER

Dates of Survey while building
During progress of work in shops: 1919 May 26-30 Jun 27 Aug 1-19 Sep 16-23 Oct 2-28 Dec 2-8 22 1920 Jan 12-19 27 Feb 2-5-11-17 24-26 Mar 1-9-17 Apr 4-21-26
During erection on board vessel: May 1-7-11-20-24-25 Jun 12-14-15-22-25-29 Jul 2-8 Aug 3-16-18-25 Sep 2-7-14-15-17 22-29 Oct 8-11 Nov 4-29 Dec 6-26 1921 Jan 18-26 9-14
Total No. of visits *85* Is the approved plan of main boiler forwarded herewith? *yes*

Dates of Examination of principal parts—Casings *23/9/19, 22/2/19* Rotors *27/4/20* Blading *7/9/20* Gearing *29/11/20*
Rotor shaft *26/2/20* Thrust shaft *26/2/20* Tunnel shafts *26/2/20, 16/20* Screw shaft *26/2/20* Propeller *26/2/20, 15/4*
Stern tube *26/2/20, 15/4/20* Steam pipes tested *1/3/20* Engine and boiler seatings *11/5/20* Engines holding down bolts *30/9/21*

Completion of pumping arrangements *12/4/22* Boilers fired *30/9/21* Engines tried under steam *12/4/22*
Main boiler safety valves adjusted *30/5/22* Thickness of adjusting washers *A. 3/16 B. 3/16 C. 3/16 D. 3/16 E. 3/16*

Material and tensile strength of Rotor shaft *SM. Steel* Identification Mark on Do. *See list of numbers*

Material and tensile strength of Pinion shaft *Middle Steel 40 to 45 tons* Identification Mark on Do. *2856, 2853*

Material of Wheel shaft *Steel* Identification Mark on Do. *2856, 2853* Material of Thrust shaft *Steel* Identification Mark on Do. *2856, 2853*

Material of Tunnel shafts *Steel* Identification Marks on Do. *See list of numbers* Material of Screw shafts *Steel* Identification Marks on Do. *2856, 2853*

Material of Steam Pipes *Steel* Test pressure *660*

Is an installation fitted for burning oil fuel? *yes* Is the flash point of the oil to be used over 150°F? *yes*

Have the requirements of Section 49 of the Rules been complied with? *yes*

Is this machinery a duplicate of a previous case? *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, etc.) *These engines and boilers have been built under special survey, the materials and workmanship are of good description, they have been well fitted on board and tried under steam. This machinery is now in my opinion eligible to have notification of +LMC, 6-22, and fitted for oil fuel F.P. 150°F.*

* 2569, 2858, 2864, 2857, 2863, 2865, 2859, 2861, 2870, 2862, 2865, 2866, 2860, 2867

The amount of Entry Fee ... £ *6 : 0 : 0* When applied for.
Special ... £ *163 : 3 : 6* 10/6/22
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : 14. 6. 1922

A. M. McLeand
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 13 JUN 1922

Assigned + LMC 6,22. *FD*
Fitted for oil fuel 6,22 F.P. above 150°F.