

Air-Cooled Heat Exchanger Specification Sheet

1	Client: EOG										
2	Location:										
3	Service of Unit: Cooling Water										
4	Item No.: 181163B & 181164B										
5	Date: 9/27/2022										
6	Size & Type	27	/	22	ft	Type	Forced	Number of Bays	2		
7	Surf/Unit-Finned Tube	103,769 ft ²			Bare area/bundle	2,412	ft ²	Ratio (Total	21.51		
8	Heat exchanged	23805687 BTU/h			MTD, Eff	64.6 °F					
9	Transfer rate	5.32	Bare, Service		76.39	Clean	152.77 BTU/(h-ft ² -F)				
10	PERFORMANCE DATA - TUBE SIDE										
11	Fluid Circulated	Water				In/Out					
12	Total Fluid Entering	lb/h	297,573			Density, Liq	lb/ft ³	60.18	/	61.87	
13		BPD	20,000			Density, Vap	lb/ft ³	/			
14	Temperature	°F	200	/	120	Specific Heat, Liq	BTU/(lb-F)	1.0013	/	0.9999	
15	Liquid	lb/h	297573	/	297573	Specific Heat, Vap	BTU/(lb-F)	/			
16	Vapor	lb/h	0	/	0	Therm. Cond, Liq	BTU/(ft-h-F)	0.389	/	0.364	
17	Noncondensable	lb/h	0	/	0	Therm. Cond, Vap	BTU/(ft-h-F)	/			
18	Steam	lb/h	/			Freeze Point	°F				
19	Water	lb/h	/			Bubble / Dew point	°F				
20	Molecular wt, Vap	/			Latent heat	BTU/lb					
21	Molecular wt, NC	/			Inlet pressure (abs)	psi	124.7				
22	Viscosity, Liq	cp	0.3003	/	0.5612	Pres Drop, Allow/Calc	psi	20	/	6.92	
23	Viscosity, Vap	cp	/			Fouling resistance	ft ² -h-F/BTU	0.001			
24	PERFORMANCE DATA - AIR SIDE										
25	Air Quantity, Total	1,400,000	lb/h	Altitude			2,000	ft			
26	Air Quantity/Fan	82,502	ft ³ /min	Temperature In			60	°F			
27	Static Pressure	0.96	inH2O	Temperature Out			130	°F			
28	Face Velocity	11.32	ft/s	Bundle velocity	2,882	lb/h/ft ²	Design Ambient	60	°F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	260	/	psi			Design temperature	250	°F		
31	TUBE BUNDLE		Header			Tube					
32	Size	27	ft	Type	Box	Material	Admiralty				
33	Number/bay	1	Material			Carbon Steel	Specifications				
34	Tube Rows	8	Passes			8	OD	1	Min Thk.	0.083	in
35	Arrangement	Plug Mat.			No./Bun	400	Lng	24	ft		
36	Bundles	1	par	Gasket Mat.			Pitch	2.5	/	2.165	30 deg
37	Bays	2	par	Corr. Allow.			in	Fin			
38	Bundle frame	Inlet Nozzle			2	4	in	Type	L-finned		
39	MISCELLANEOUS			Outlet nozzle			2	4	in	Material	Aluminum 1060
40	Struct. Mount.	Special Nozzles			OD	2.25	Tks	0.016	in		
41	Surf.Prepare	Rating			150	ANSI	No.	10	#/in	DesTemp	°F
42	Louvers	TI			PI	Code	ASME Code Sec VIII Div 1				
43	Vibration Switches	Chem Cleaning			Stamp	Yes	Specs				
44	MECHANICAL EQUIPMENT										
45	Fan,Mfr., Model	Driver, Type			V-belt	Speed Reducer, Type					
46	No./Bay	2	RPM	Mfr.			Mfr.&Model				
47	Dia.	8	ft	Blade(s)			No./Bay	No./Bay			
48	Pitch	Angle			RPM	Rating					
49	Blade(s)	Hub			Enclosure			Ratio			
50	hp/Fan	20	hp	MinAmb			V/Phase/Hz				
51	Control Action on Air Failure-						Louvers				
52	Degree Control of Outlet Process Temperature										
53	Recirculation						Steam Coil	No			
54	Plot Area	ft ²	Drawing No.		Wt.Bundle	26,907	Wt. Unit	53,815	lb		
55	Notes:										
56											
57											
58											

	40,000 BWPD	35,000 BWPD	30,000 BWPD	25,000 BWPD	20,000 BWPD
181160B x 2	Outlet	Outlet	Outlet	Outlet	Outlet
100°F	162°F	158°F	152°F	144°F	137°F
60°F	146°F	141°F	132°F	123°F	112°F
30°F	135°F	128°F	118°F	107°F	91°F
181160B x 3	Outlet	Outlet	Outlet	Outlet	Outlet
100°F	148°F	143°F	136°F	130°F	121°F
60°F	126°F	119°F	111°F	102°F	88°F
30°F	112°F	102°F	92°F	81°F	65°F
190607 x 2	Outlet	Outlet	Outlet	Outlet	Outlet
100°F	141°F	135°F	129°F	123°F	117°F
60°F	115°F	108°F	101°F	92°F	84°F
30°F	97°F	89°F	80°F	70°F	58°F
190607 x 3	Outlet	Outlet	Outlet	Outlet	Outlet
100°F	125°F	121°F	116°F	112°F	107°F
60°F	96°F	91°F	83°F	77°F	71°F
30°F	73°F	68°F	59°F	51°F	42°F

181160B x 2	QTY	Size	Ambient	Outlet	Pressure Drop	Notes	Monthly Rental	Shipping
40,000 BWPD	2	Medium 4" Nozzles 11' W x 26' L	90°F	160°F	24.64 PSI	None	\$10,400	~\$20,000
			60°F	146°F	24.75 PSI			
			30°F	135°F	24.85 PSI			
181160B x 3	QTY	Size	Ambient	Outlet	Pressure Drop	Notes	Monthly Rental	Shipping
40,000 BWPD	3	Medium 4" Nozzles 11' W x 26' L	90°F	143°F	11.62 PSI	None	\$15,600	~\$30,000
			60°F	126°F	11.71 PSI			
			30°F	112°F	11.79 PSI			
190607 x 2	QTY	Size	Ambient	Outlet	Pressure Drop	Notes	Monthly Rental	Shipping
40,000 BWPD	2	Large 6" Nozzles 15' W x 50' L	90°F	134°F	12.22 PSI	Nozzle Upgrade	\$14,600	~\$32,000
			60°F	115°F	12.36 PSI			
			30°F	97°F	12.51 PSI			
190607 x 3	QTY	Size	Ambient	Outlet	Pressure Drop	Notes	Monthly Rental	Shipping
40,000 BWPD	3	Large 6" Nozzles 15' W x 50' L	90°F	118°F	5.98 PSI	Nozzle Upgrade	\$21,900	~\$48,000

181160B		
Ambient Temp	Max Flow Rate	Pressure Drop
30°F	15,000 BWPD	15.31 PSI
60°F	11,000 BWPD	8.71 PSI
100°F	6,500 BWPD	3.09 PSI
190607		
Ambient Temp	Max Flow Rate	Pressure Drop
30°F	26,500 BWPD	20.81 PSI
60°F	19,000 BWPD	11.37 PSI
100°F	10,000 BWPD	3.31 PSI