

Air-Cooled Heat Exchanger Specification Sheet

1	Client: Bell Engineering									
2	Location: Corpus Christi, TX									
3	Service of Unit: Cooling Water									
4	Item No.: 181162B									
5	Date: 2/13/2024									
6	Size & Type	27	/	11	ft	Type	Forced	Number of Bays	1	
7	Surf/Unit-Finned Tube	51,734 ft ²			Bare area/bundle	2,412	ft ²	Ratio (Total)	21.45	
8	Heat exchanged	8092371 BTU/h			MTD, Eff	39.75 °F				
9	Transfer rate	4.99	Bare, Service		84.41	Clean	138.37	BTU/(h-ft ² -F)		
10	PERFORMANCE DATA - TUBE SIDE									
11	Fluid Circulated	Water				In/Out				
12	Total Fluid Entering	lb/h	101,062			Density, Liq	lb/ft ³	60.181	/	61.871
13		GPM	175			Density, Vap	lb/ft ³	0	/	0
14	Temperature	°F	200	/	120	Specific Heat, Liq	BTU/(lb-F)	1.0012	/	0.9999
15	Liquid	lb/h	101062	/	101062	Specific Heat, Vap	BTU/(lb-F)	0	/	0
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)	0	/	0
18	Steam	lb/h	/			Freeze Point	°F	0		
19	Water	lb/h	/			Bubble / Dew point	°F	0 / 0		
20	Molecular wt, Vap	/			Latent heat	BTU/lb	0			
21	Molecular wt, NC				Inlet pressure (abs)	psi	114.7			
22	Viscosity, Liq	cp	0.3003	/	0.5615	Pres Drop, Allow/Calc	psi	15	/	2.38
23	Viscosity, Vap	cp	0.0000	/	0.0000	Fouling resistance	ft ² -h-F/BTU	0.001		
24	PERFORMANCE DATA - AIR SIDE									
25	Air Quantity, Total	735,000	lb/h			Altitude	200	ft		
26	Air Quantity/Fan	87,215	ft ³ /min			Temperature In	95	°F		
27	Static Pressure	0.89	inH2O			Temperature Out	140	°F		
28	Face Velocity	11.97	ft/s	Bundle velocity	3,026	lb/h/ft ²	Design Ambient	95	°F	
29	DESIGN-MATERIALS-CONSTRUCTION									
30	Design/Vac./Test Pres	229	/	0	/	0	psi	Design temperature	300	°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.	0.049 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	1	par			Corr. Allow.	0	in		
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	0.011 in		
41	Surf.Prepare	Rating			150	ANSI	No. 10	#/in	DesTemp	0 °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	0	ft ²	Drawing No.	Wt.Bundle	21,860	Wt. Unit	21,860 lb		
55	Notes:									
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