

Air-Cooled Heat Exchanger Specification Sheet

1	Client: Rover										
2	Location: Pecos, TX										
3	Service of Unit: Cooling Water										
4	Item No.: 201031										
5	Date: 4/12/2023										
6	Size & Type	48	/	14	ft	Type	Forced	Number of Bays	1		
7	Surf/Unit-Finned Tube	71,678 ft ²			Bare area/bundle	3,332	ft ²	Ratio (Total	21.51		
8	Heat exchanged	6550629 BTU/h			MTD, Eff	30.91 °F					
9	Transfer rate	4.68		Bare, Service	63.6	Clean	129.47	BTU/(h-ft ² -F)			
10	PERFORMANCE DATA - TUBE SIDE										
11	Fluid Circulated	Water					In/Out				
12	Total Fluid Entering	lb/h	327,517			Density, Liq	lb/ft ³	61.237	/	61.624	
13		BPD	20,000			Density, Vap	lb/ft ³	0	/	0	
14	Temperature	°F	155	/	135	Specific Heat, Liq	BTU/(lb-F)	0.9998	/	0.9997	
15	Liquid	lb/h	327517	/	327517	Specific Heat, Vap	BTU/(lb-F)	0	/	0	
16	Vapor	lb/h	0	/	0	Therm. Cond, Liq	BTU/(ft-h-F)	0.377	/	0.37	
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	99.7			
22	Viscosity, Liq	cp	0.4207	/	0.4940	Pres Drop, Allow/Calc	psi	10	/	0.3	
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	1,700,000	lb/h				Altitude	2,582	ft		
26	Air Quantity/Fan	150,102	ft ³ /min				Temperature In	105	°F		
27	Static Pressure	0.79	inH2O				Temperature Out	121	°F		
28	Face Velocity	12.14	ft/s	Bundle velocity	2,749	lb/h/ft ²	Design Ambient	105	°F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	185	/	0	/	0	psi	Design temperature	345	°F	
31	TUBE BUNDLE			Header			Tube				
32	Size	48	ft	Type	Box	Material	Carbon Steel				
33	Number/bay	1		Material	Carbon Steel	Specifications					
34	Tube Rows	4		Passes	1	OD	1	Min Thk.	0.083	in	
35	Arrangement				Plug Mat.	No./Bun	286	Lng	46	ft	
36	Bundles	1	par	Gasket Mat.				Pitch	2.313 / 2.003	30 deg	
37	Bays	1	par	Corr. Allow.	0	in	Fin				
38	Bundle frame				Inlet Nozzle	2	10	in	Type	L-finned	
39	MISCELLANEOUS						Outlet nozzle	2	10	in	
40	Struct. Mount.				Special Nozzles	OD	2.25	Tks	0.016	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	3	RPM	0	Mfr.	Mfr.&Model					
47	Dia.	11	ft	Blade(s)	No./Bay	No./Bay					
48	Pitch				Angle	RPM	Rating				
49	Blade(s)	0	Hub	0	Enclosure	Ratio					
50	hp/Fan	30	hp	MinAmb	V/Phase/Hz	Support					
51	Control Action on Air Failure-									Louvers	
52	Degree Control of Outlet Process Temperature										
53	Recirculation				Steam Coll			No			
54	Plot Area	0	ft ²	Drawing No.	Wt.Bundle	32,866	Wt. Unit	32,866 lb			
55	Notes:										
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