

Air-Cooled Heat Exchanger Specification Sheet

1	Client: AEC Denver												
2	Location: Douglas, WY												
3	Service of Unit: Cooling Water												
4	Item No.: 200840												
5	Date: 12/14/2023												
6	Size & Type	34	/	13	ft	Type	Forced	Number of Bays	1				
7	Surf/Unit-Finned Tube	44,673 ft ²			Bare area/bundle	2,083	ft ²	Ratio (Total	21.45				
8	Heat exchanged	6453598 BTU/h			MTD, Eff	51.53 °F							
9	Transfer rate	4.99		Bare, Service	60.14	Clean	139.17	BTU/(h-ft ² -F)					
10	PERFORMANCE DATA - TUBE SIDE												
11	Fluid Circulated	Water				In/Out							
12	Total Fluid Entering	lb/h	161,419			Density, Liq	lb/ft ³	60.677	/	61.532			
13		BPD	10,000			Density, Vap	lb/ft ³	0	/	0			
14	Temperature	°F	180	/	140	Specific Heat, Liq	BTU/(lb-F)	1.0003	/	0.9997			
15	Liquid	lb/h	161419	/	161419	Specific Heat, Vap	BTU/(lb-F)	0	/	0			
16	Vapor	lb/h	0	/	0	Therm. Cond, Liq	BTU/(ft-h-F)	0.384	/	0.372			
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	0.3443	/	0.4743	Pres Drop, Allow/Calc	psi	10	/	3.55			
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	1,010,500	lb/h				Altitude	4,836	ft				
26	Air Quantity/Fan	142,477	ft ³ /min				Temperature In	95	°F				
27	Static Pressure	0.55	inH2O				Temperature Out	121	°F				
28	Face Velocity	12.28	ft/s	Bundle velocity	2,612	lb/h/ft ²	Design Ambient	95	°F				
29	DESIGN-MATERIALS-CONSTRUCTION												
30	Design/Vac./Test Pres	150	/	0	/	0	psi	Design temperature	250	°F			
31	TUBE BUNDLE			Header			Tube						
32	Size	34	ft	Type	Box	Material	Carbon Steel						
33	Number/bay	1		Material	Carbon Steel	Specifications							
34	Tube Rows	4		Passes	4	OD	1	Min Thk.	0.065	in			
35	Arrangement				Plug Mat.	No./Bun	258	Lng	32	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	3	in	Type	L-finned			
39	MISCELLANEOUS						Outlet nozzle	2	3	in	Material	Aluminum 1060	
40	Struct. Mount.				Special Nozzles	OD	2.25	Tks	0.011	in			
41	Surf. Prep				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	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	20	hp	MinAmb	V/Phase/Hz	Support							
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	18,080	Wt. Unit	18,080	lb				
55	Notes:												
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57													
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