

Air-Cooled Heat Exchanger Specification Sheet

1	Client: AEC Denver										
2	Location: Douglas, WY										
3	Service of Unit: Cooling Water										
4	Item No.: 230926-7										
5	Date: 1/8/2024										
6	Size & Type	34	/	11	ft	Type	Forced	Number of Bays	1		
7	Surf/Unit-Finned Tube	38,439 ft ²			Bare area/bundle	1,792	ft ²	Ratio (Total	21.45		
8	Heat exchanged	6458283 BTU/h			MTD, Eff	50.45 °F					
9	Transfer rate	5.19	Bare, Service		71.44	Clean	146.45 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	/	61.533	
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					
21	Molecular wt, NC	/			Inlet pressure (abs)	psi	114.7				
22	Viscosity, Liq	cp	0.3443	/	0.4744	Pres Drop, Allow/Calc	psi	10	/	4.36	
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	930,500	lb/h	Altitude			4,836	ft			
26	Air Quantity/Fan	131,197	ft ³ /min	Temperature In			95	°F			
27	Static Pressure	0.59	inH2O	Temperature Out			123	°F			
28	Face Velocity	13.12	ft/s	Bundle velocity	2,791	lb/h/ft ²	Design Ambient	95	°F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	225	/	0	/	0	psi	Design temperature	400	°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	222	Lng	32	ft	
36	Bundles	1	par	Gasket Mat.				Pitch	2.313	/	2.003
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.Prepare				Rating	300	ANSI	No.	10	#/in	
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.	10	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	15,827	Wt. Unit	15,827 lb			
55	Notes:										
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