

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	0				
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	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.Prepare	Rating			300	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.	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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