

### Air-Cooled Heat Exchanger Specification Sheet

1	Client: TWMA												
2	Location: West Texas												
3	Service of Unit: Cooling Water												
4	Item No.: 230455												
5	Date: 6/23/2023												
6	Size & Type	42	/	15	ft	Type	Forced	Number of Bays	1				
7	Surf/Unit-Finned Tube	92,819 ft <sup>2</sup>			Bare area/bundle	4,315	ft <sup>2</sup>	Ratio (Total/	21.51				
8	Heat exchanged	10738640 BTU/h			MTD, Eff	30.54 °F							
9	Transfer rate	3.79		Bare, Service	81.51	Clean	98.82	BTU/(h-ft <sup>2</sup> -F)					
10	<b>PERFORMANCE DATA - TUBE SIDE</b>												
11	Fluid Circulated	Water					In/Out						
12	Total Fluid Entering	lb/h	124,303			Density, Liq	lb/ft <sup>3</sup>	60.051	/	61.89			
13		BPD	8,434			Density, Vap	lb/ft <sup>3</sup>	0	/	0			
14	Temperature	°F	205	/	122	Specific Heat, Liq	BTU/(lb-F)	1.0015	/	0.9999			
15	Liquid	lb/h	124303	/	124303	Specific Heat, Vap	BTU/(lb-F)	0	/	0			
16	Vapor	lb/h	0	/	0	Therm. Cond, Liq	BTU/(ft-h-F)	0.39	/	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	0.2932	/	0.5682	Pres Drop, Allow/Calc	psi	10	/	0.14			
23	Viscosity, Vap	cp	0.0000	/	0.0000	Fouling resistance	ft <sup>2</sup> -h-F/BTU	0.001					
24	<b>PERFORMANCE DATA - AIR SIDE</b>												
25	Air Quantity, Total	1,290,000	lb/h				Altitude	2,000	ft				
26	Air Quantity/Fan	167,183	ft <sup>3</sup> /min				Temperature In	105	°F				
27	Static Pressure	0.69	inH2O				Temperature Out	139	°F				
28	Face Velocity	10.16	ft/s	Bundle velocity	2,353	lb/h/ft <sup>2</sup>	Design Ambient	105	°F				
29	<b>DESIGN-MATERIALS-CONSTRUCTION</b>												
30	Design/Vac./Test Pres	950	/	0	/	0	psi	Design temperature	350 °F				
31	<b>TUBE BUNDLE</b>			<b>Header</b>			<b>Tube</b>						
32	Size	42 ft			Type	Box	Material	Carbon Steel					
33	Number/bay	1			Material	Carbon Steel	Specifications						
34	Tube Rows	6			Passes	2	OD	1	MIn Thk.	0.065	in		
35	Arrangement				Plug Mat.		No./Bun	429	Lng	40	ft		
36	Bundles	1 par			Gasket Mat.		Pitch	2.375	/	2.0568	30 deg		
37	Bays	1 par			Corr. Allow.	0	in	<b>Fin</b>					
38	Bundle frame				Inlet Nozzle	2	8	in	Type	L-finned			
39	<b>MISCELLANEOUS</b>						Outlet nozzle	2	6	in	Material	Aluminum 1060	
40	Struct. Mount.				Special Nozzles			OD	2.25	Tks	0.016	in	
41	Surf.Prepare				Rating	600	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	<b>MECHANICAL EQUIPMENT</b>												
45	Fan,Mfr., Model				Driver, Type	V-belt		Speed Reducer, Type					
46	No./Bay	2	RPM	0	Mfr.	Mfr.&Model							
47	Dia.	12	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 Coil	No					
54	Plot Area	0	ft <sup>2</sup>	Drawing No.	Wt.Bundle		44,881	Wt. Unit	44,881	lb			
55	Notes:												
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57													
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