

Air-Cooled Heat Exchanger Specification Sheet

1	Client: Naurant										
2	Location:										
3	Service of Unit: Cooling Wet Natural Gas										
4	Item No.: 191091										
5	Date: 4/12/2023										
6	Size & Type	38	/	14	ft	Type	Forced	Number of Bays	1		
7	Surf/Unit-Finned Tube			34,659	ft ²	Bare area/bundle	1,076	ft ²	Ratio (Total	16.1	
8	Heat exchanged			6349773	BTU/h		MTD, Eff	40.21	°F		
9	Transfer rate	6.26			Bare, Service	73.36	Clean	135.47	BTU/(h-ft ² -F)		
10	PERFORMANCE DATA - TUBE SIDE										
11	Fluid Circulated	Wet Natural Gas					In/Out				
12	Total Fluid Entering	lb/h		104,388		Density, Liq	lb/ft ³	0	/	58.911	
13		MM SCFD		40		Density, Vap	lb/ft ³	10.373	/	13.444	
14	Temperature	°F		194	/	120	Specific Heat, Liq	BTU/(lb-F)	0	/	1.1421
15	Liquid	lb/h		0	/	134	Specific Heat, Vap	BTU/(lb-F)	0.7702	/	0.854
16	Vapor	lb/h		553	/	419	Therm. Cond, Liq	BTU/(ft-h-F)	0	/	0.783
17	Noncondensable	lb/h		103835	/	103835	Therm. Cond, Vap	BTU/(ft-h-F)	0.035	/	0.037
18	Steam	lb/h					Freeze Point	°F	0		
19	Water	lb/h					Bubble / Dew point	°F	-331.37	/	137.21
20	Molecular wt, Vap			23.60	/	23.60	Latent heat	BTU/lb	0		
21	Molecular wt, NC						Inlet pressure (abs)	psi	2,514.7		
22	Viscosity, Liq	cp		0.0000	/	0.5700	Pres Drop, Allow/Calc	psi	20	/	11.51
23	Viscosity, Vap	cp		0.0210	/	0.0241	Fouling resistance	ft ² -h-F/BTU	0.001		
24	PERFORMANCE DATA - AIR SIDE										
25	Air Quantity, Total	1,528,000	lb/h			Altitude	100	ft			
26	Air Quantity/Fan	182,600	ft ³ /min			Temperature In	100	°F			
27	Static Pressure	0.64	inH2O			Temperature Out	117	°F			
28	Face Velocity	13.5	ft/s	Bundle velocity	3,390	lb/h/ft ²	Design Ambient	100	°F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	3,200	/	0	/	0	psi	Design temperature	300	°F	
31	TUBE BUNDLE			Header			Tube				
32	Size	38	ft	Type	Box	Material	Carbon Steel				
33	Number/bay	2		Material	Carbon Steel	Specifications					
34	Tube Rows	4		Passes	2	OD	0.625	Min Thk.	0.109	in	
35	Arrangement			Plug Mat.		No./Bun	190	Lng	36	ft	
36	Bundles	2	par	Gasket Mat.		Pitch	1.625	/	1.407	30 deg	
37	Bays	1	par	Corr. Allow.	0	in	Fin				
38	Bundle frame			Inlet Nozzle	2	4 in	Type	L-finned			
39	MISCELLANEOUS			Outlet nozzle	2	4 in	Material	Aluminum 1060			
40	Struct. Mount.			Special Nozzles			OD	1.5	Tks	0.016 in	
41	Surf.Prepare			Rating	1500	ANSI	No.	10	#/in	DesTemp	0 °F
42	Louvers			Tl	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.	12	ft	Blade(s)		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 ²	Drawing No.		Wt.Bundle	20,628	Wt. Unit	41,255	lb	
55	Notes:										
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