

Chart Cooler Service Company

P.O. Box 581928 Tulsa, Ok 74158 Ph 918.834.0002 Fax 918.834.0128

AIR COOLED HEAT EXCHANGER SPECIFICATION SHEET

1					Date:	1/3/2015	Rev. 2
2	Customer	Ventech XTL Oklahoma City, LLC			Item No.	AE-301	
3	Plant Location	OKlahoma City, Ok	Ref.No	003622	Job. No.	45514	
4	Service	Syngas Trim Cooler #1			P.O. No.	477010-14-03121	
5	Size and Type	Model: H120	FORCED	No. Bays	1		
6	Surface/Unit - Finned Tube	39519 ft ²		;Bare Tube	1838.1 ft ²		
7	Heat Exchanged	1.23E+07 Btu/h		MTD, Eff.	79 °F		
8	Transfer Rate-Finned Tube	3.938 ;Bare Tube, Service		84.66	Clean	121.73 Btu/h.ft ² .F	
PERFORMANCE DATA - TUBE SIDE							
10	Fluid Name	302 Syngas		Vapor Ref. Temp.	°F	276.96 / 119.98	
11	Total Fluid In	lb/h	31654	Specific Heat	Btu/lb.F	0.5044 / 0.5072	
12	Vapor	lb/h	31654	Viscosity	cP	0.0150 / 0.0130	
13	Liquid	lb/h		Conductivity	Btu/h.ft.F	0.0453 / 0.0482	
14	Noncond	lb/h		Molecular Weight			
15	Steam	lb/h		Liquid Ref. Temp.	°F	276.96 / 119.98	
16	Water	lb/h		Specific Heat	Btu/lb.F	1.0769 / 1.0317	
17	Fluid Cond./Vapzd.	lb/h	9679.9 / 21974	Viscosity	cP	0.2015 / 0.5546	
18	Temperature In/Out	°F	276.96 / 119.98	Conductivity	Btu/h.ft.F	0.3976 / 0.3711	
19	Pressure	psia	184.7	Density	lb/ft ³	57.255 / 61.763	
20	Velocity In/Out	ft/s	43.53 / 43.53				
21	Press. Drop Allow/C	psi	5.000 / 4.07	Fouling resistance	h.ft ² .F/Btu	0.003	
PERFORMANCE DATA - AIR SIDE (Air)							
23	Air Quantity, Total	lb/h	939635	Altitude above Sea Level	ft	1155	
24	Air Quantity/Fan	acfm	115199	Temperature In (Dry Bulb)	°F	100	
25	Actual Static Press	in H2O	0.539	Temperature Out	°F	154.55	
26	Face Velocity	sfm	599	Min. Design Ambient	°F	0	
27	Max Mass Velocity	lb/h.ft ²	5662.8	Fan Air Temperature	°F	100	
DESIGN - MATERIALS - CONSTRUCTION							
29	Design Pressure	FV / 220.00	psig	Test Pressure	294	Design Temperature	350.00 / -20 °F
30	TUBE BUNDLE		HEADER, Type	Plug Box	TUBE, Material	SA-249 TP304L	
31	Size	11.620 X 30.000		Material	SA-240 304L		
32	No./Bay 1	No./Rows	4	No. Passes	2		
33	Arrangement			Slope	0.03125	in/ft	
34	Bundles	Parallel		Plug Material	SA-182 F304L		
35	Bays	Parallel		Gasket Material	SS		
36	MISCELLANEOUS			Corrosion Allow.	0.125	in	Fin, Type TWF
37	Struct. Mount	Grade c/c		No. Size In Nozz.	1 - 8" 300# RF-WN		
38	Surf Prep	SSPC-2		No. Size Out Nozz.	1 - 6" 300# RF-WN		
39	Surf Finish	Galvanize		Vent and Drain	1" 6000#		
40	Hail Guards	None		TI	PI	Code -	Stamp Yes
41	Louvres / Actuators Manual			Header Prep	None		
42	Vibration Switches	Metrix 5550-121-021		Header Finish	None		
MECHANICAL EQUIPMENT							
44	Fan Mfg			Driver		Speed Reducer	
45	Model Class	10000 Series 36 SC		Type	NEMA-1.15SF-Premium Eff.		
46	No./ Bay	2	Rev/Min	301	Mfg.	Baldor or Equal	
47	Dia. ft	10	No. Blades	6	No/Bay	2	Frame 256T
48	Pitch	20.54	Manual		hp /Driver	20	
49	Mat'l:Blade	AL	Hub	AL	Rev/Min	1750	
50	hp/Fan, Design	16.31		Enclosure	TEFC Ins F TR B		
51	hp/Fan, Min Amb	19.86		Volt;Phase;Cycle	460/3/60		
52	Plot Area	30 x 11.625		ft ²	Total Weight (per bay)	23870	Dry
53	Walkways	Width	Type		Recirculation	Wind Load	30 PSF
54	Inlet					Seismic Zone	0
55	Outlet						
56	Drive						
57	Design includes 20% margin on flow and duty						
58							
60							