

Chart Cooler Service Company

AIR COOLED HEAT EXCHANGER SPECIFICATION SHEET

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1				Date:	12/22/2015 Rev. 1
2	Customer	KP Engineering		Item No.	010-EA-141 E/F/G/H
3	Plant Location	Tulsa, OK	Job No.	31015	Ref. No. 31015
4	Service	NSU Splitter Overhead Condenser - West Bank			P.O. No. J1422-B-006
5	Size and Type	Model: H132	FORCED	No. Bays	4
6	Surface/Unit - Finned Tube	294569 ft2	:Bare Tube	13974 ft2	
7	Heat Exchanged	35,506,392 Btu/h	MTD, Eff.	46.7 °F	
8	Transfer Rate-Finned Tube	2.622 ;Bare Tube, Service	55.28	Clean	63.92 Btu/h.ft2.F

PERFORMANCE DATA - TUBE SIDE

10	Fluid Name	OVHD VAPOR		Vapor Ref. Temp.	°F	188.88 / 120.00
11	Total Fluid In	lb/h	201188	Specific Heat	Btu/lb.F	0.4507 / 0.4436
12	Vapor	lb/h	201188	Viscosity	cP	0.0078 / 0.0077
13	Liquid	lb/h	0	Conductivity	Btu/h.ft.F	0.0106 / 0.0102
14	Noncond	lb/h		Molecular Weight		80.1608 / 75.4
15	Steam	lb/h		Liquid Ref. Temp.	°F	188.88 / 120.00
16	Water	lb/h		Specific Heat	Btu/lb.F	0.5720 / 0.5315
17	Fluid Cond./Vapzd.	lb/h	201188	Viscosity	cP	0.1949 / 0.2397
18	Temperature In/Out	°F	188.88 / 120.00	Conductivity	Btu/h.ft.F	0.0560 / 0.0602
19	Pressure	psia	32.7	Density	lb/ft3	38.813 / 40.027
20	Velocity In/Out	ft/s	21.90 / 21.90			
21	Press. Drop Allow/Cal	psi	5.000 / 0.731	Fouling resistance	h.ft2.F/Btu	0.002

PERFORMANCE DATA - AIR SIDE (Air)

23	Air Quantity, Total	lb/h	4052968	Altitude above Sea Level	ft	670
24	Air Quantity/Fan	acfm	122487	Temperature In (Dry Bulb)	°F	102
25	Actual Static Press	in H2O	0.625	Temperature Out	°F	138.42
26	Face Velocity	sfm	520	Min. Design Ambient	°F	-20
27	Max Mass Velocity	lb/h.ft2	4921.2	Fan Air Temperature	°F	102

DESIGN - MATERIALS - CONSTRUCTION

29	Design Pressure	75.000 / 15 (ext) psig	Test Pressure	98	Design Temperature	250.00 / 300F (ext) / -20
30	TUBE BUNDLE		HEADER, Type	Plug Box	TUBE, Material	SA-214
31	Size	13.547 X 32.000	Material	SA-516 70		Welded
32	No./Bay 4	No./Rows 6	No. Passes 2		OD	1 Thick 0.083 in
33	Arrangement		Slope 0.03125	in/ft	No./Bundle	417
34	Bundles	Parallel	Plug Material	SA-105	Length	32 ft
35	Bays	Parallel	Gasket Material	CS	Pitch	2.3125 in
36	MISCELLANEOUS		Corrosion Allow.	.125 in	Fin, Type	TWF
37	Struct. Mount	Grade c/c	No. Size In Nozz.	2 - 8" 150# RF-WN	Material	Aluminum 1100-annealed
38	Surf Prep	SSPC-2	No. Size Out Nozz.	2 - 4" 150# RF-WN	OD	2.25 Thk. 0.015 in
39	Surf Finish	Galvanize	Vent and Drain	1" 150# RF-WN	No./in	10 Fin Design Temp 250.00
40	Hail Guards	Integral	TI:	PI: 1" 150# RF-WN	Code - ASME	Stamp Yes
41	Louvres / Actuators	Manual	Header Prep	SSPC-SP-5	X-RAY API Spot	PWHT Yes
42	Vibration Switches	Murphy VS2EX	Header Finish	Metalized	SPECS.	API-661 Yes

MECHANICAL EQUIPMENT

44	Fan Mfg		Driver		Speed Reducer	
45	Model Class 10000	Series 42 SC VT	Type	NEMA-1.15SF-IEEE-841 Eff.	Type	V-Belt
46	No./ Bay 2	Rev/Min 275	Mfg.	Siemens	Mfg.	Gates
47	Dia. ft 11	No. Blades 7	No/Bay 2	Frame 284T	Model	6/3VX1250 QD6/3V33.50
48	Pitch 17.7	Manual	hp /Driver	25	No/Bay	2 QD6/3V5.30
49	Mat'l:Blade	AL Hub AL	Rev/Min	1750	AGMA Rating, hp	1.4
50	hp/Fan, Design	19.82	Enclosure	TEFC Ins F TR B	Ratio	6.364
51	hp/Fan, Min Amb	25.31	Volt;Phase;Cycle	460/3/60	Support	Structure
52	Plot Area	32 x 13.55208 ft2	Total Weight (per bay)	37730	Dry	Coil Vol 519 Gal
53	Walkways	Width	Type	Recirculation: None	Wind Load	31 PSF / 90 mph
54	Inlet	30"	Serrated Grate		Seismic Zone	In Accordance with J-1422 Design Basis
55	Outlet	30"	Serrated Grate			
56	Drive					

Existing units EA-141 A/B/C/D design is suitable for process conditions on this data sheet.

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