

# Cooler Service Company Inc.

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## AIR COOLED HEAT EXCHANGER SPECIFICATION SHEET

Customer		Date:	2/15/05	Rev.	
Plant Location		Item No.	AC-8301		
Service		Ref. No.			
Size and Type		Model:	H144	FORCED Draft	No. Bays
Surface/Unit - Finned Tube		76112.5 ft2		:Bare Tube	3,587 ft2
Heat Exchanged		9,705,300 Btu/h		MTD, Eff.	31.56 °F
Transfer Rate-Finned Tube		4.04 :Bare Tube, Service		85.734	Clean 106.537 Btu/h.ft2.F

### PERFORMANCE DATA - TUBE SIDE

Fluid Name	Lean Amine		Vapor Ref. Temp.	°F	0.0 / 0.0
Total Fluid In	lb/h	178640	Specific Heat	Btu/lb.F	0.0 / 0.0
Vapor	lb/h	0	Viscosity	cP	0.0 / 0.0
Liquid	lb/h	178640	Conductivity	Btu/h.ft.F	0.0 / 0.0
Noncond	lb/h		Molecular Weight		0 / 0
Steam	lb/h		Liquid Ref. Temp.	°F	184.0 / 120.0
Water	lb/h		Specific Heat	Btu/lb.F	0.846 / 0.846
Fluid Cond./Vapzd.	lb/h	0	Viscosity	cP	1.4 / 3.7
Temperature In/Out	°F	184.0 / 120.0	Conductivity	Btu/h.ft.F	0.221 / 0.204
Pressure	psia	515	Density	lb/ft3	62.6 / 64.3
Velocity In/Out	ft/s	3.05 / 2.97			
Press. Drop Allow/Calc	psi	10.0 / 6.931	Fouling resistance	h.ft2.F/Btu	0.002

### PERFORMANCE DATA - AIR SIDE (Air)

Air Quantity, Total	lb/h	1927833	Altitude above Sea Level	ft	2290
Air Quantity/Fan	acfm	165232.81	Temperature In (Dry Bulb)	°F	105
Actual Static Press	in H2O	0.600	Temperature Out	°F	125.78
Face Velocity	sfm	645	Min. Design Ambient	°F	-20
Max Mass Velocity	lb/h.ft2	6,121	Fan Air Temperature	°F	105

### DESIGN - MATERIALS - CONSTRUCTION

Design Pressure	720.0 psig	Test Pressure	Per Code	Design Temperature	250 °F
<b>TUBE BUNDLE</b>		<b>HEADER, Type</b>	Plug Box	<b>TUBE, Material</b>	SA-214
Size	13.3 x50.0	Material	SA-516-70		Wld
No./Bay 1	No. Rows 4	No. Passes 4		OD	1 0.083 in
Arrangement		Slope	0 in/ft	No./Bundle	274
Bundles	1 Parallel	Plug Material	SA-105	Length	50 ft
Bays	1 Parallel	Gasket Material	CS	Pitch	2.313 in
Bundle frame		Corrosion Allow.	0.0625 in	<b>Fin, Type</b>	TWF
<b>MISCELLANEOUS</b>		No. Size In Nozz.	2 - 4" 600# RF-WN	Material	Aluminum
Struct. Mount	Grade c/c	No. Size Out Nozz.	2 - 4" 600# RF-WN	OD	2.25 Thk. 0.015 in
(Grade)(Piperack)		Special Nozzles		No./in	10   Fin Design Temp
Surf Prep	Galvanize	Vent and Drain		Code -	ASME
Louvres	Recirc	TI	PI	Stamp	Yes
Vibration Switches	Metrix 5550	Chem. Cleaning		SPECS.	EI Paso

### MECHANICAL EQUIPMENT

<b>Fan Mfg</b>	Moore	<b>Driver</b>		<b>Speed Reducer</b>	
Model Class 5000	Series 49	Type	Electric Motor	Type	HTD
No./ Bay 3	Rev/Min 255	Mfg.	Siemens	Mfg.	Gates
Dia. ft 12	No. Blades 9	No/Bay	3	Model	3150-14MGT-40 P192-14MGT-40
Pitch 10.8	Adj Auto	hp /Driver	30	No/Bay	3 P28-14MGT-40
Mat'l:Blade	AL Hub AL	Rev/Min	1750	AGMA Rating, hp	1.8
hp/Fan, Design	26.75	Enclosure	TEFC	Ratio	6.863
hp/Fan, Min Amb		Volt;Phase;Cycle	460/3/60	Support	Structure
Plot Area	13.8 x51 ft2	Total Weight	39600	Dry	Full H2O
Air Failure Action:	Fan pitch (Min)(Max)(Lock)			Louvres (Open)(Close)(Lock)	
Control of Process Outlet Temperature:	(Max Cooling)(+/- )				
Recirculation:	Over one side			Steam Coil	Hot Oil Coil (option)

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58					
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