

**AXH air-coolers**401 E. Lowry Road
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www.axh.com**Proposal / Job No.** 100326**Date** 9/10/2010**Page** 1 OF 1

1	Purchaser	SIEMENS ENERGY INC.	Ultimate User	SinohydroPhase II
2	Inquiry / PO#		Destination	Venezuela
3	# Units	1	Model	144ZF
4	Assembly	PACKAGED	Draft	FORCED
			Overall Size (WxL), Ft	15' X 20'
			Est Wt	33,000 LBS

THERMAL & MECHANICAL DESIGN

5	Service	RAC
6	Flow	#/HR (#/s) 241,488 (67.080) 4% MARGIN INCLUDED
7	Fluid	AIR
8	Temp. In / Out, °F	787 / 392.0
9	Pressure, PSIA	196.1
10	Pressure Drop, PSI	1.8
11	Heat Load, BTU/HR *	26,404,183
12	True LMTD	333
13	Overall Rate, U BARE/EXT	44.4
14	Fouling Factor	.0010
15	Surface, Tube */ Total, Sq Ft *	1788
16	Sections, #	(1)
17	Design Temp, °F Max / Min	875/-20
18	MWP / Test Press, PSIG	300 / 470
19	Pass Arrangement	CROSSFLOW
20	# Tube Rows	4
21	# Tube Passes	1
22	Tubes, OD x BWG	1-1/4X.083 AW
23	Material	A249TP321 SS
24	# Per Section / Length, Ft	298 / 19 NOMINAL (18.33', CONSIDERED CONSERVATIVE FOR SEI RAC DESIGN)
25		.488 HIGH FINS (.015 STOCK)
26		2.25" TRI SPACING
27	Fins, Type	EMB-HP 10FPI
28	Material	AL
29	Nozzles, Rating / Type	300RF
30	Material	SA182-321
31	#-Inlets / Size In	16
32	#-Outlets / Size In	16
33	Headers, Type	BOX (NO CONSIDERATION FOR HEAT REJECTION PROPERTIES OF HEADERS)
34	Material	SA240-321
35	Corrosion Allow, In	
36	Grooved Tubesheet	DBL
37	Plugs, Type	SHOULDER
38	Plugs Material	T304
39	PWHT	
40	ASME Code & Nat'l Board	YES
41	CRN	
42	Add'l Specs & Options	
43	API	
44	Louvers	NO
45	Inspection / NDT	SX

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FX= 100% X-Ray of all header seam, attachment & nozzle butt welds. **SX=** Spot X-Ray of 1 long seam & 1 end closure, per header
BX= 100% X-Ray of all nozzle butt welds. **UT** = 100% UT of all header seam, attachment & nozzle butt welds. **H** = Hardness testing.

AIR-SIDE PERFORMANCE	FAN DATA	DRIVER DATA	STRUCTURAL
46 Ambient Air Temp, In °F 105+10=115	Fan(s) (1) MOORE-10000HD48EC	Type	Guards
47 Elevation, Ft <=50	Blade Material ALUMINUM	V-BELT DRIVE BY (1) 30HP,	
48 Air Flow, SCFM 123,285	HP / Fan 24.7	1800RPM, 460/60/3, TEFC, VFD	
49 Outlet Air Temp, °F 310	Dia, In / # Blades 144 / 6	COMP. MOTOR	
50 Min Air Temp, °F -20	RPM (100% VFD) 260		
51	Tipspeed, FPM 9801		
52 Est. Noise Data: <85 dBA @1m, <50 dBA @ 200'	Pitch, Deg 9		

53 **Additional Info.** * DUTY AND SURFACE INCLUDE 10% MARGIN + 4% POSITIVE TOLRANCE; AMBIENT AIR MARGIN = +10F

54 1. CONTROLLING CONDITION = 105F AMBIENT, 85% ENGINE LOAD, 392F OUTLET - Ambient T operating range: -20F to 105F

55 2. SS HEADERS UNPAINTED, STRUCTURE IS GALVANIZED

56 3. UNIT SHIPS PARTIALLY ASSEMBLED

57 4. DESIGN AIR FLOW ATTAINABLE AT 94% VFD (APPROX)

58 5. 21T4150 is considered 'not applicable' to this unit