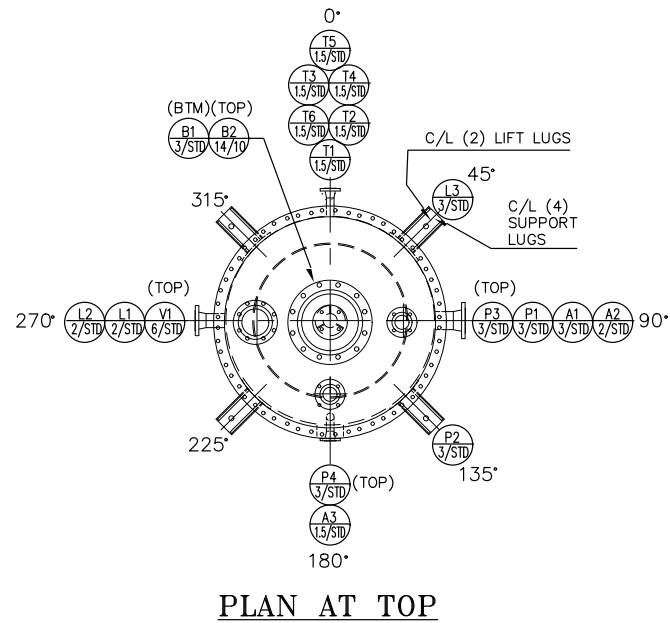


MARK	NOZZLE			WELD HL.			FLANGE		REPAD		DETAIL	SERVICE	
	SIZE	SCH	THK	A	B	C	PRES	TYPE	FACE	WIDE			Thk.
A1	3"	STD	.216	5/16"			150	WN	RF			2-A	PROCESS INLET
A2	2"	STD	.154	5/16"			150	WN	RF			2-A	PROCESS INLET
A3	1.5"	STD	.145	5/16"			150	WN	RF			2-A	RECIRC.
B1	3"	STD	.216	5/16"			150	WN	RF			2-A	PRODUCT OUTLET
B2	14"	10	.250	5/16"			150	WN	RF			2-A	VAPOR OUT
L1	2"	STD	.154	5/16"			150	WN	RF			2-A	LEVEL MEAS.
L2	2"	STD	.154	5/16"			150	WN	RF			2-A	LEVEL MEAS.
L3	3"	STD	.216	5/16"			150	WN	RF			2-A	LEVEL MEAS.
P1	3"	STD	.216	5/16"			150	WN	RF			2-A	PRESSURE MEAS.
P2	3"	STD	.216	5/16"			150	WN	RF			2-A	PRESSURE MEAS.
P3	3"	STD	.216	5/16"			150	WN	RF			2-A	PRESSURE MEAS.
P4	3"	STD	.216	5/16"			150	WN	RF			2-A	PRESSURE MEAS.
T1-6	1.5"	STD	.145	5/16"			150	WN	RF			2-A	THERMOWELL
V1	6"	STD	.280	5/16"			150	WN	RF			2-A	VENT

- NOTES**
- ALL BOLT HOLES SHALL STRADDLE VESSEL MAJOR C/L. UNLESS SPECIFIED OTHERWISE.
 - ALL S/S. WELDS PER AHE-800 & 807.
 - ALL DIMENSIONS ARE FROM GASKET FACES. UNLESS SPECIFIED OTHERWISE.
 - ALL REPADS TO HAVE (1) 1/4" WEEP HOLE AT LOWEST POINT. RADIUS ALL CORNERS 11 MIN. TEST ALL REPADS WITH AIR AT 15 PSIG.
 - ALL NOZZLE TO SHELL/HEAD WELDS SHALL BE PT TESTED AT 1st AND LAST PASS.
 - ORIENTATION PER PLAN/END VIEW (RESP.) UNLESS SPECIFIED OTHERWISE.
 - PROTECTIVE COVERS TO BE PROVIDED FOR ALL NOZZLE FLANGES PRIOR TO SHIPPING.
 - PAD EYES ON 3040 MUST BE DESIGNED SO THAT ONE PADEYE WILL BE ABLE TO TAKE LOAD FOR LIFTING 3040 & 3041 TO A VERTICAL POSITION.
 - CUSTOMER INSPECTION REQUIRED ON INTERNALS BEFORE CLOSING.



MATERIAL SPECIFICATIONS ASME	
DESCRIPTION	COLUMN
SHELL	SA240-316L
HEADS	SA240-316L
SUPPORTS	SA240-316L
FLANGES	SA182F-316L
PIPE	SA312-316L
TUBES	
TUBE SHEETS	
BOLTS/NUTS	SA193-B7/SA194-2H (HDG OR BBM)
GASKETS	GARLOCK 3500 1/8" T
BODY FLG.	SA182F-316L
INTERNALS	SA240-316L
FITTINGS	

DESIGN DATA		
DESCRIPTION	COLUMN	
DESIGN CODE	ASME SEC. VIII, DIV. 1 2004 ED. 2004 AD.	
DESIGN PRESSURE	INTERNAL - PSIG	50
	EXTERNAL - PSIG	-15
DESIGN TEMPERATURE	INTERNAL - °F	320
	EXTERNAL - °F	320
MAWP		320F
CORR. ALLOW.		0
HYDRO. PRESS. PSIG		65
WELD PROCEDURE	SEE NOTE 2	
RADIOGRAPHY PER CODE	SEE DET'L 3-B	
VESSEL WEIGHT - DRY	4,850 lbs.; FULL OF WATER: 19,750 lbs.	
HEAT TREATMENT	NOT REQUIRED	

620
 CERTIFIED BY
 ALABAMA HEAT EXCHANGERS, INC.
 MAWP 50 PSIG @ 320 °F
 MAEWP 15 PSIG @ 320 °F
 MDMT -20 °F @ 50 PSIG
 MFG. SERIAL NO. AHE- 968
 YEAR BUILT 2006
 ITEM NO. 3040
 PROJ. NO. C0150.10002

REF: AHE JOB NO. 6449-A

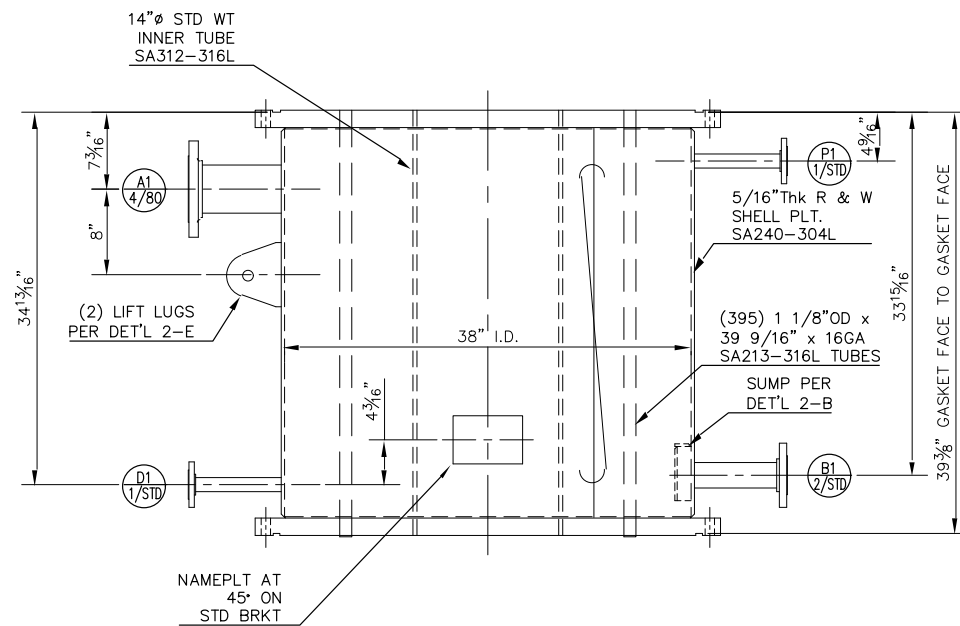
REVISIONS
0. INITIAL ISSUE
1. REV & RESUBMIT PER CUST DNG DT 3/24/06
2. REV & REL FOR FAB PER CUST DNG DT 4/18/06
3. REV & REL FOR FAB PER WELDING W/UST DT 4/20/06
4. AS-BUILT JCL 7/19/06

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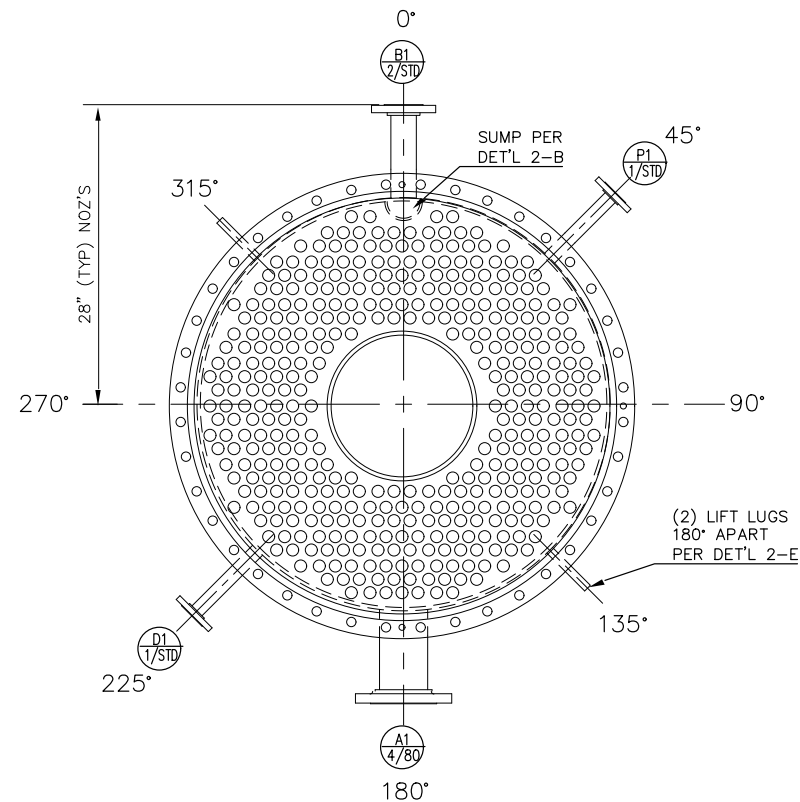
ALABAMA HEAT EXCHANGERS, INC.
MOBILE, ALABAMA

DEGUSSA CORPORATION
ACH COLUMN NO. 3040
PROJ. NO. C0150.10002

CUST. ORDER NO.	JOB NO.	DRAWING NO.
4500154839	6493-A	E-493A-061
DRAWN BY J.C.LIGHTCAP	DATE 1-16-06	SHT 1 OF 3
APP'VD BY	DATE	SCALE 3/8"=1'-0"



ELEVATION VIEW



PLAN AT TOP

NOTES

1. ALL BOLT HOLES SHALL STRADDLE VESSEL MAJOR C/L. UNLESS SPECIFIED OTHERWISE.
2. ALL S/S. WELDS PER AHE-800 & 807.
3. ALL DIMENSIONS ARE FROM GASKET FACES. UNLESS SPECIFIED OTHERWISE.
4. TUBE TO TUBESHEET JOINT TO BE STRENGTH WELDED & EXPANDED. TUBE PROJECTION FLUSH ON TOP AND 21 ON BOTTOM.
5. ORIENTATION PER PLAN/END VIEW (RESP.) UNLESS SPECIFIED OTHERWISE.
6. PROTECTIVE COVERS TO BE PROVIDED FOR ALL NOZZLE FLANGES PRIOR TO SHIPPING.
7. CUSTOMER INSPECTION REQUIRED ON INTERNALS BEFORE CLOSING.

MATERIAL SPECIFICATIONS ASME

		SHELL SIDE		TUBE SIDE		DESCRIPTION		SHELL		TUBE	
SHELL		SA240-304L R & W				DESIGN CODE/ASME SEC. VIII, DIV. 1 2004 ED. 2004 AD.					
HEADS						DESIGN PRESSURE		INTERNAL - PSIG		150 50	
SUPPORTS								EXTERNAL - PSIG		15 15	
FLANGES		SA182F-304L						INTERNAL *F		410 410	
PIPE		SA312-304L WLD				DESIGN TEMPERATURE		EXTERNAL *F		410 410	
TUBES				SA213-316L		MAWP		410/410F		150/FV 50/FV	
TUBE SHEETS				SA240-316L		CORR. ALLOW.				0 0	
BOLTS/NUTS						HYDRO. PRESS. PSIG.				195 65	
P1		1" STD .1335/16"		150 SO RF		2-B SHELL VENT		GASKETS			
D1		1" STD .1335/16"		150 SO RF		2-B SHELL DRAIN		BODY FLG.			
B1		2" STD .1545/16"		150 SO RF		2-B COND. OUTLET		BMTFL / TUBE SUPP.			
A1		4" 80 .3375/16"		150 SO RF		2-B STEAM INLET		FITTINGS			
MARK		SIZE SCH THK		A B C PRES TYPE FACE		WIDE Thk.		DETAIL		SERVICE	
		NOZZLE		WELD HT. FLANGE		REPAD					

NOZZLE SCHEDULE

DESIGN DATA

		SHELL		TUBE	
DESIGN CODE/ASME SEC. VIII, DIV. 1 2004 ED. 2004 AD.					
DESIGN PRESSURE		INTERNAL - PSIG		150 50	
		EXTERNAL - PSIG		15 15	
		INTERNAL *F		410 410	
DESIGN TEMPERATURE		EXTERNAL *F		410 410	
MAWP		410/410F		150/FV 50/FV	
CORR. ALLOW.				0 0	
HYDRO. PRESS. PSIG.				195 65	
WELD PROCEDURE				SEE NOTE 2	
RADIOGRAPHY PER CODE				SEE DET'L 2-C	
VESSEL WEIGHT - DRY: 3,000 lbs.; FULL OF WATER: 5,300 lbs					
HEAT TREATMENT				NOT REQUIRED	



L-T
RT3-S

W
621

ALABAMA HEAT EXCHANGERS, INC.

MAWP TUBES 150 PSIG @ 410°F

MAEWP TUBES 15 PSIG @ 410°F

SHELL -20°F @ 150 PSIG

MDMT TUBES -20°F @ 50 PSIG

MFG. SERIAL NO. AHE-969

YEAR BUILT SHELL

ITEM NO. 3041

PROJ. NO. C0150.10002

CAUTION: The Code required pressures and temperatures marked on the heat exchanger relate to the basic design conditions. The heat exchanger design has been evaluated for specific operating conditions and shall be re-evaluated before it is operated at different operating conditions.

REVISIONS

0. INITIAL ISSUE

1. REV & RESUBMIT PER CUST DWG DT 3/24/06

2. REL FOR FAB PER CUST DWG DT 4/18/06

3. REV & REL FOR FAB PER CUST MEETING DT 4/20/06

4. AS-BUILT

JCL 7/19/06

REF: AHE JOB NO. 6449-B

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ALABAMA HEAT EXCHANGERS, INC.
MOBILE, ALABAMA

DEGUSSA CORPORATION
REBOILER NO. 3041
PROJ. NO. C0150.10002

CUST. ORDER NO. 4500154839 JOB NO. 6493-B DRAWING NO. E-4-9 3E 06 1

APP'D BY J.C. LIGHTCAP DATE 1-16-06 SHT 1 OF 2 SCALE 1"=1'-0"