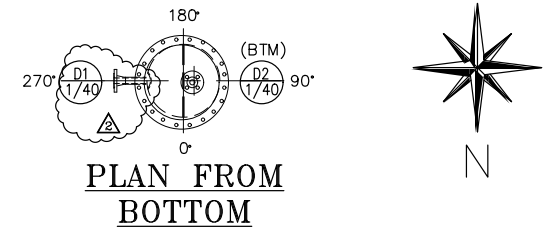
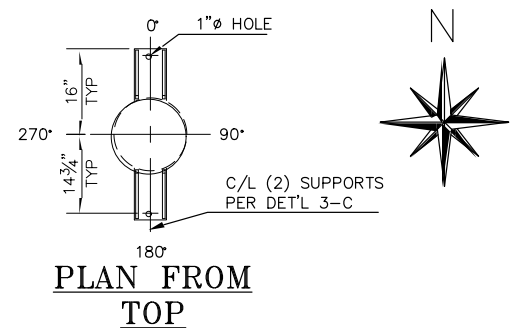
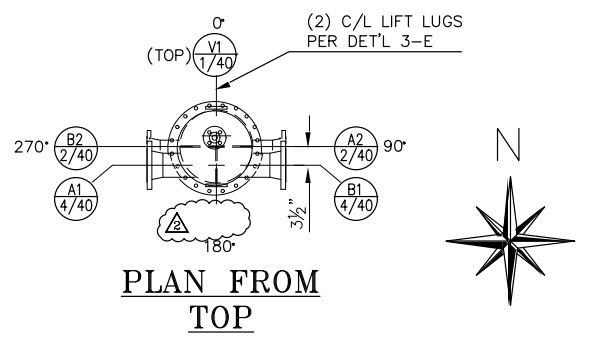


NOZZLE SCHEDULE

| MARK | NOZZLE SIZE | SCH | THK | WELD HT. | FLANGE PRES | FLANGE TYPE | FLANGE FACE | REPAD WIDE | REPAD THK | DETAIL | SERVICE |
|------|-------------|-----|------|----------|-------------|-------------|-------------|------------|-----------|--------|----------------------|
| A1 | 4" | 40 | .237 | 1/4" | 150 | WN | RF | | | 3-A | COOLING WATER INLET |
| A2 | 2" | 40 | .154 | 1/4" | 150 | WN | RF | | | 3-A | PURE ACH INLET |
| B1 | 4" | 40 | .237 | 1/4" | 150 | WN | RF | | | 3-A | COOLING WATER OUTLET |
| B2 | 2" | 40 | .154 | 1/4" | 150 | WN | RF | | | 3-A | PURE ACH OUTLET |
| D1 | 1" | 40 | .133 | 1/4" | 150 | WN | RF | | | 3-A | SHELLSIDE DRAIN |
| D2 | 1" | 40 | .133 | 1/4" | 150 | WN | RF | | | 3-A | TUBESIDE DRAIN |
| V1 | 1" | 40 | .133 | 1/4" | 150 | WN | RF | | | 3-A | TUBESIDE VENT |



- NOTES**
- ALL BOLT HOLES SHALL STRADDLE VESSEL MAJOR C/L. UNLESS SPECIFIED OTHERWISE.
 - ALL S/S. WELDS PER AHE-800 & 807. ALL S/S. TO C/S. WELDS PER AHE-803.
 - ALL DIMENSIONS ARE FROM GASKET FACES. UNLESS SPECIFIED OTHERWISE.
 - TUBE TO TUBESHEET JOINT TO BE DOUBLE GROOVED, STRENGTH WELDED & EXPANDED. WITH 1/16" TUBE PROJECTION. UNLESS SPECIFIED OTHERWISE.
 - ORIENTATION PER PLAN/END VIEW (RESP.) UNLESS SPECIFIED OTHERWISE.
 - PROTECTIVE COVERS TO BE PROVIDED FOR ALL NOZZLE FLANGES PRIOR TO SHIPPING.

MATERIAL SPECIFICATIONS ASME

| | SHELL SIDE | TUBE SIDE |
|--------------------|-------------------------|-------------------|
| SHELL | SA312-316L (SMLS) | SA312-304L (WLD) |
| HEADS | | SA403WP304L |
| SUPPORTS | SA240-304 | |
| FLANGES | SA182F316L | SA182F-304L |
| PIPE | SA312-316L (SMLS) | SA312-304L (WLD) |
| TUBES | | SA213-316L (SMLS) |
| TUBE SHEETS | | SA182F-316L |
| BOLTS/NUTS | SA193-B7/SA194-2H (HDG) | |
| GASKETS | GARLOCK 3500 1/8" T | |
| BODY FLG. | | SA182F-304L |
| BAFFLE / TUBE SUPP | SA240-316L | SA240-316L |
| FITTINGS | SA403WP-316L | |

DESIGN DATA

| DESCRIPTION | SHELL | TUBE |
|---|--|--------------------|
| DESIGN CODE | ASME SEC. VIII, DIV. 1 2004 ED. 2005 AD. | |
| DESIGN PRESSURE | INTERNAL - PSIG | 145 |
| | EXTERNAL - PSIG | 15 |
| DESIGN TEMPERATURE | INTERNAL - °F | 302 |
| | EXTERNAL - °F | 212 |
| MAMP | 212F | 145/FV 145 |
| CORR. ALLOW. | | 0 |
| HYDRO. PRESS. PSIG. | | 188 188 |
| WELD PROCEDURE | | SEE NOTE 2 |
| RADIOGRAPHY PER CODE | | SEE DET'L 3-B |
| VESEL WEIGHT - DRY: 1,314 lbs.; FULL OF WATER: 2,255 lbs. | | |
| HEAT TREATMENT | | NOT REQUIRED |
| INSULATION | | 1.5" PHENOLIC FOAM |

FABRICATION DRAWING

CERTIFIED BY
L-S ALABAMA HEAT EXCHANGERS, INC.
RT-3

SHELL 145/FV PSIG @ 302 °F
MAMP TUBES 145 PSIG @ 212 °F
SHELL -20 °F @ 145/FV PSIG
MDMT TUBES -20 °F @ 145 PSIG

MFG. SERIAL NO. AHE-
YEAR BUILT 2006
ITEM NO. 3044

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 & REL FOR FAB PER CUST DWG DT 4/20/06

2. DELETED NOZ V2. NOZ D2 WAS 1", PER CUST DWG DT 4/26/06

ALABAMA HEAT EXCHANGERS, INC.
MOBILE, ALABAMA

DEGUSSA CORPORATION
PRODUCT COOLER
ITEM NO. 3044

| | | |
|-----------------------|--------------|------------------|
| CUST. ORDER NO. | JOB NO. | DRAWING NO. |
| 4500163851 | 8501-D | ES01D061 |
| DRAWN BY J. BOYINGTON | DATE 3-21-06 | SHT 1 OF 3 |
| APP'VD BY | DATE | SCALE 1/2"=1'-0" |

L I O C L M / S H O H F I T T G L W E L D S E R V I P U R C H