



**CERTIFIED
AS BUILT**
BLA 9-9-09



NB 2891

Manufactured & Certified by
HEAT EXCHANGER DESIGN, INC.

Shell Side 350 PSI @ 250 °F

Tube Side 450 PSI @ 250 °F

Maximum Allowable Working Pressure

Serial Number
4015

Shell Side FV PSI @ 350 °F

Tube Side FV PSI @ 350 °F

Maximum Allowable External Working Pressure

Hydro Test Pressure
455 / 585

Shell Side 20 °F @ 350/FV PSI

Tube Side 20 °F @ 450/FV PSI

Minimum Design Metal Temperature

CUSTOMER: RANGE FUELS SOPERTON PLANT, LLC

P.O.#: SOP10605

SERVICE: SOLVENT/HP LIQUID EXCHANGER

ITEM: 31-E-188

Year Built: 2009

NAMEPLATE FACSIMILE (SS316)

MTD ON 4" SA36 STAND OFF BKT

MISC CONSTRUCTION NOTATION

- 1) FOR MECHANICAL CALCULATIONS SEE CC4015 (& RELATED)
- 2) DIMENSIONS ARE IN INCHES & SYMM UNLESS NOTED OTHERWISE
- 3) FOR BOLTING qv BOM4015 (SA193 B7/194 2H)
- 4) FOR GASKETS qv BOM4015 (DJNA/SI/GRAFOIL)
- 5) TUBES SHALL BE SEAL WELDED, DOUBLE GROOVED & ROLL EXPANDED (0.9375 60° PITCH)
- 6) CORROSION ALLOWANCE SHALL NOT BE APPLIED TO TUBES
- 7) NACE MR-0175 - WETTED SURFACES

NOZZLE SCHEDULE			TUBE DATA		DESIGN CONDITIONS		SPECIAL DATA		CUSTOMER DATA	
NOZ.	SIZE / RATING	SERVICE	(#) SIZE	(611) $\phi 3/4 \times 14$ BWG (MIN)		SHELLSIDE	TUBESIDE	A.S.M.E. SECTION VIII, DIV.1, 2007 ED., A08	CUSTOMER: RANGE FUELS SOPERTON PLANT, LLC	P.O.#: SOP10605
A	6" 300# RFWN (S120)	SHELL IN (SA105/106B)		U-TUBES x 285" ST LEGS	DESIGN PRESSURE (PSI)	350/FV	450/FV	T.E.M.A. CLASS	LOCATION: GEORGIA	ITEM: 31-E-188
B	6" 300# RFWN (S120)	SHELL OUT (SA105/106B)	MATERIAL	SA179	DESIGN TEMPERATURE (°F)	250/350	250/350	CLIENT INSPECT	SERVICE: SOLVENT/HP LIQUID EXCHANGER	SIZE: 37-276 BFU (HORIZ)
C	6" 300# RFLWN	TUBE IN (SA105)	LONG BAFF	1/2 SA36 (SS SEALS)	CORROSION ALLOWANCE	1/16	1/16	WEIGHT (lbs)	HEAT EXCHANGER DESIGN, INC.	
D	6" 300# RFLWN	TUBE OUT (SA105)	BAFFLES	40% V CUT, 21.25 PITCH	HYDROTEST PRESSURE (PSI)	455	585	AREA (SQ')	UNIT IS A TEMA TYPE HEAT EXCHANGER	DRAWN BY <i>Chp Shipley</i>
E	1" 300# RFLWN	VENT (SA105)*		3/8 SA36 (13 TOP/BTM)	RT INSPECTION LEVEL	100% CYL PART PLUS SPOT	100%	SURFACE PREP.	2-PASS SHELL SIDE	APPROVED <i>[Signature]</i>
F	1" 300# RFLWN	DRAIN (SA105)*	TUBESHEET	SA350 LF2 CL2	MINIMUM TEMPERATURE (°F)	20	20	PAINTING SPEC.	2-PASS TUBE SIDE	
			CORES	WIRE WRAPPED C STL	WIND	100 MPH		REVISION LOG		
					SEISMIC	SDS 0.181/SD1 0.093		NO. DATE COMMENT		
								3 16-JUN CHG INLET/OUTLET NOZZLE DESIGNATION	ANGULAR ±1/2"	DATE 24-MAR-09
								2 22-APR ADDED INSUL. RINGS & UPPER SUP'TS	DRAWING NUMBER 4015	REV 3
										SHT 1

* SUPPLIED w/BLINDS, STUDS, NUTS & WASHERS

- 1) DIMENSIONS ARE IN INCHES & SYMM
- 2) RADIUS NOZZLE ID PER UG-76(c)
- 3) ALL ROOT PASS WELDS ARE GTAW



A - 1T1
B - 1M1-S

TOLERANCE EXCEPT AS NOTED OTHERWISE
DECIMAL ± 0.010
FRACTIONAL $\pm 1/64$
ANGULAR $\pm 1/2^\circ$

CUSTOMER: RANGE FUELS SOPERTON PLANT, LLC
P.O.#: SOP10605
ITEM: 31-E-188
TITLE

DRAWN BY *Clif Shipley*
APPROVED BY *[Signature]*

SECTIONAL DETAIL/WELD MAP

DATE
24-MAR-09

DRAWING NUMBER
4015

REV 2
SHT 2