DO NOT SCALE THIS DRAWING

NOZZLE SCHEDULE

MK	SIZE	RATING	FACING	PROJ.	SERVICE	REMARKS
N1	12"	150 LB	LJ FLG	6"	ETHANOL VAPOR INLET	FR TW-4102
N2	12"	150 LB	LJ FLG	6"	ETHANOL VAPOR OUTLET	TO TP-4301
N3	4"	150 LB	RFSO	6"	STEAM INLET	
N4	1.5"	150 LB	RFSO	6"	CONDENSATE OUTLET	
N5	1.5"	150 LB	RFSO	6"	PRESSURE RELIEF VALVE	PSV-022

NOTES:

1.) THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN & STRUCTURAL INTEGRITY OF THE TANK.

2.) WIND AND SEISMIC LOAD PER BOCA 1996
SNOW LOAD, P_g = 20 PSF

3.) ALL NON CONTACT SURFACES TO BE CARBON STEEL

4.) FABRICATOR TO SUPPLY BRACKETS FOR VENDOR NAMEPLATE AND THERMAL KINETICS SYSTEMS NAMEPLATE

5.) ALL CARBON STEEL PARTS ATTACHED TO STAINLESS STEEL PARTS SHALL BE ATTACHED USING 304L STAINLESS STEEL. SCAB PLATES SHALL BE USED WITH ATTACHMENTS FOR VESSEL WALL THICKNESS OF 3/16" OR LESS. 304L STAINLESS STEEL PARTS MAY BE USED INSTEAD OF CARBON STEEL AT THE VENDORS OPTION.

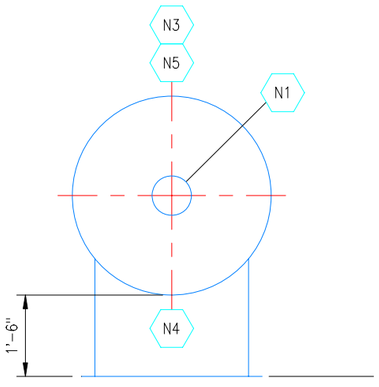
6.) ALL NOZZLES SHALL BE SQUARE, PLUMB, AND ACCURATELY LOCATED TO THE FOLLOWING TOLERANCES:

A) OVERALL DIAMETER AND HEIGHT: ± 1/2"
B) FLATNESS: ± 1/4"
C) NOZZLE LOCATION: ± 1/4" FROM CENTERLINES
D) PROJECTION: ± 1/8" FROM OUTSIDE SHELL TO FACE OF NOZZLE
E) FLANGE FACES: 1/2" IN ANY PLANE

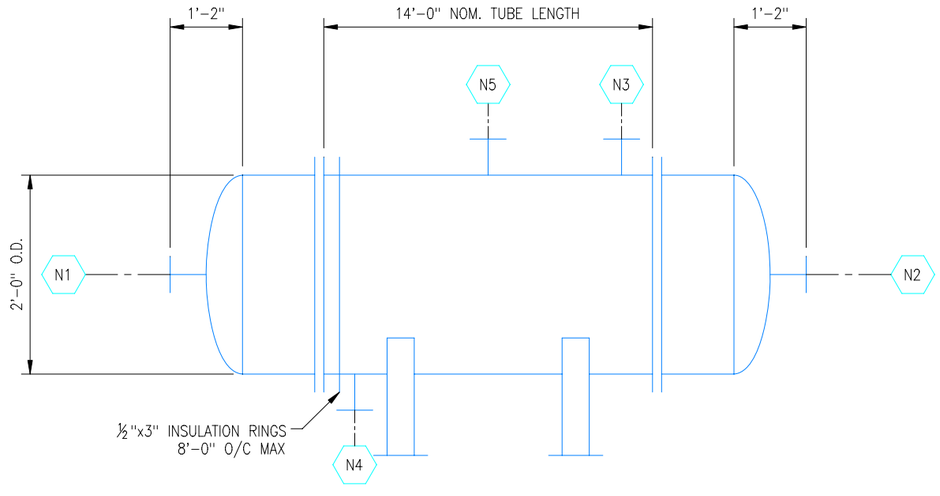
7.) FABRICATOR TO PROVIDE VESSEL COMPLETE WITH LIFTING AND TRAILING LUGS FOR HANDLING AND ERECTION

SPECIFICATIONS:
GF-1-73338: GENERAL FABRICATION STANDARDS FOR PRESSURE VESSELS & HEAT EXCHANGERS

REF. DWG'S:
– 6018-MD-4001
–
–



SIDE ELEVATION



ELEVATION

DESIGN DATA

	SHELL SIDE	TUBE SIDE
ASME CODE:	ASME VIII DIV 1	ASME VIII DIV 1
YEAR:		
STAMP REQ'D.:	YES	YES
NATL. BRD. REG.:	YES	YES
TEMA CLASS:	C	C
SPEC. GR.-CONTENTS:	STEAM	
DESIGN PRESS: psig	150	75
OPER. PRESS: psia	135	48
DESIGN TEMP: °F	360	350
OPER. TEMP: °F	344	325
CORR. ALLOWANCE:		
STRESS RELIEVE:		
TESTS:		

WIND: BASIC WIND SPEED: 80 MPH
WIND IMPORTANCE FACTOR: 1.0

SEISMIC: A_V = 0.05
A_a = 0.05

WEIGHT EMPTY: VENDOR TO PROVIDE (lbs)
WEIGHT FLOODED: VENDOR TO PROVIDE(lbs)
VOLUME: VENDOR TO PROVIDE(gal)
WEIGHT INSULATION:

NOZZLE LOADS

MK	F_R (lbs)	M_R (ft/lbs)	MK	F_R (lbs)	M_R (ft/lbs)
N1	3900	5607	–	–	–
N2	3900	5607			
N3	900	1448			

MATERIALS OF CONSTRUCTION

ITEM	MATERIAL	COMMENTS
SHELL	CS	
HEADS	304L SS	2:1 ELLIPTICAL
JACKET	NONE	
CLADING/LINER	NONE	
INTERNAL SUPPORTS	CS	BAFFLES & TIE RODS
GASKETS	IFG5500	
BOLTING	SPEC GF-1-73338	
LADDER	N/A	
PLATFORMS	N/A	
VESSEL SUPPORTS	CS	SADDLES
PAINT:	SEE SPEC GF-1-73338 CL-1	
SURFACE PREP:	SEE SPEC GF-1-73338 CL-1	
INSULATION:	3" FIBERGLASS	PURCHASER TO PROVIDE

CONFIDENTIAL

REV	REVISION	DATE ISSUED	DWN BY	CHK BY	CLIENT APPD
B	ISSUED FOR REVIEW & COMMENT	7-14-06	KAR	JL	–
A	ISSUED FOR BID	06-23-06	RJS	–	–

RC ETHANOL VAPOR SUPERHEATER

THERMAL KINETICS Engineering, PLLC & Systems, LLC
Evaporation/Distillation/Chemical Reaction/Process Design & Energy Conservation
667 Tifft Street Buffalo, NY 14220

SPEC. No.: GF-1-73338 | SCALE: NONE | SIZE: B
DRAWN BY: JEM | DATE: 5-23-06 | CHECKED BY: – | DATE: –

EQUIPMENT No.: ET-4114
PROJECT No.: 73338
PROJECT NAME: CENTRAL ILLINOIS
SHEET No.: 1 of 1
DRAWING No.: 6018-MQ-4118 | REV.: B

B-SIZE (11x17)