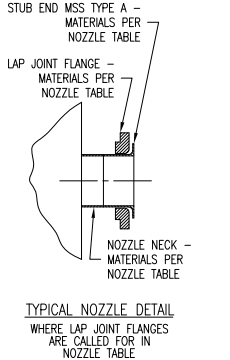
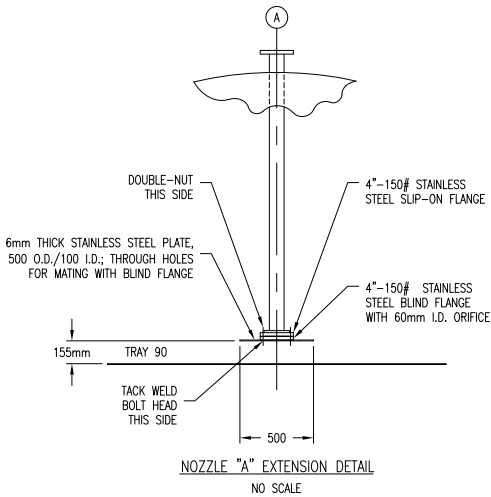
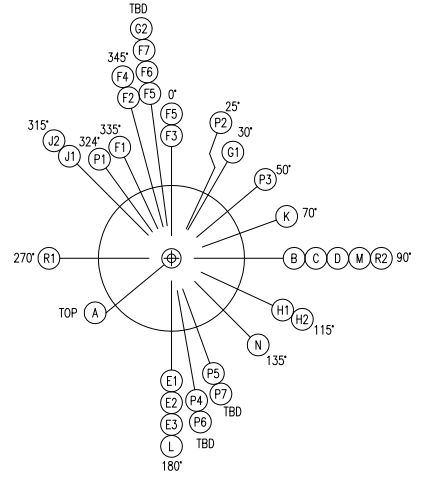


NOZZLE SIZE	NOZZLE ** EXTENSION
1 1/4"-6"	150
8"-24"	200

** - UNLESS OTHERWISE SPECIFIED

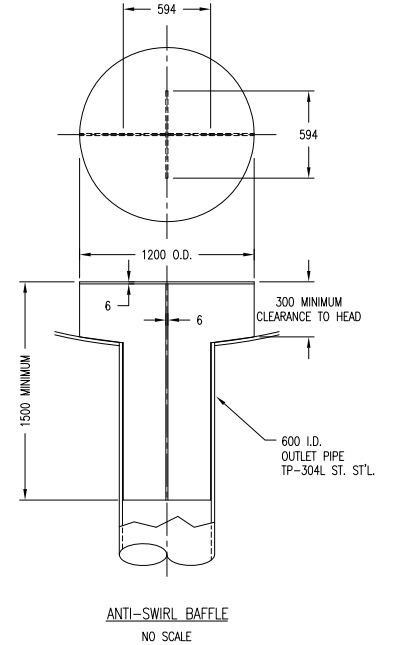
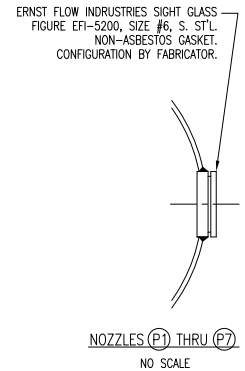
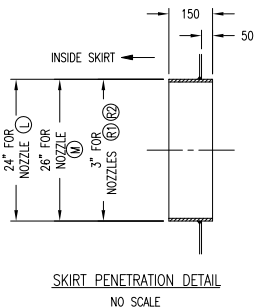


VAPOR INLET NOZZLE INTERNAL PIPING

NOMINAL SIZE	DIM. A	DIM. B	DIM. C
2" - 6"	125	200	150
8" - 10"	150	200	200
12" - 14"	200	250	200
16" - 18"	250	300	200
20" - 24"	275	350	200
30" x 36"	350	400	200

NOTE: SEE NOZZLE INFORMATION FOR NOZZLE TYPE AND MATERIAL SPECIFICATION.

NOZZLES (D)(N)(U)
NO SCALE



SPECIFICATION - TOWER

GENERAL
ITEM NO.: T-516 SERVICE: BEER STRIPPER #2
TYPE: DISC AND DOWNT NO. OF TRAYS: 91 SPACING-IN (mm): AS SHOWN

MECHANICAL DATA
SHELL DIAMETER-IN (mm): AS SHOWN SECTION HEIGHT: AS SHOWN
HEIGHT ABOVE TOP TRAY-IN (mm): AS SHOWN HEIGHT OF BASE SECTION: AS SHOWN
STRAIGHT SIDE HEIGHT-IN (mm): AS SHOWN SKIRT HEIGHT: AS SHOWN
CODE: ASME SECTION VIII STAMP: ASME WELDING: ASME
DESIGN PRESSURE-PSIG (kPa): 30 (207) INTERNAL LIQUID FILL F.V. TEMP.-F (°C): 300 (149)
EST. WT. EMPTY-LB (kg): BY FAB. FULL WATER: BY FAB. OPERATING: BY FAB.
WIND VEL-MPH (km/hr): (SEE NOTE #12) EARTHQUAKE ZONE: BY OWNER

MATERIAL & THICKNESS-IN (mm)
SHELL: A240 TP-304L STAINLESS STEEL
TOP HEAD: A240 TP-304L STAINLESS STEEL
BOT. HEAD: A240 TP-304L STAINLESS STEEL
INSULATION: 80mm INSULATION (BY OTHERS)
SUPPORTS: CARBON STEEL SKIRT
BOLTS: A193 B7 W/A194 2H HEX NUTS GASKETS: 2mm NON-ASBESTOS
NOZZLES: IN (mm)-COUPLINGS FOR 1" (25) & UNDER CONNECTIONS (UNLESS NOTED)
NECK: A312 TP-304L STAINLESS STEEL PIPE
FLANGE: A105 FORGED STEEL 150# LAP JOINT
COUPLING: A182 F-304L STAINLESS STEEL 300# THREADED FULL
CORROSION ALLOWANCE: NONE, EXCEPT CARBON STEEL SURFACES = 2mm

NOZZLES

MARK	SERVICE	IN (mm) SIZE	NOTE
A	FEED	4"	SEE DETAIL
B	VAPOR OUT	14"	W/INTERNAL 90° ELBOW
C	BOTTOM OUT	20"	-
D	VAPOR INLET	16"	W/DEFLECTOR PLATE
E1-E3	MANWAY	24"	(3) REQ'D. - W/DAMT
F1-F7	TEMP. CONN.	1"	(7) REQ'D.
G1,G2	PRESS. CONN.	1"	(2) REQ'D. (G2 PLUGGED)
H1,H2	LEVEL CONN.	3"	(2) REQ'D.
J1,J2	LEVEL GAUGE	1"	(2) REQ'D. (PLUGGED)
K	PRESS. CONN.	3"	(1) REQ'D.
L	SKIRT ACCESS	24"	SEE DETAIL
M	PIPE THROUGH	26"	SEE DETAIL
N	STEAM INLET	4"	W/DEFLECTOR PLATE
P1-P7	SIGHT GLASS	(120)	(7) REQ'D.
R1,R2	SKIRT VENT	3"	(2) REQ'D.

MISCELLANEOUS
LADDER:
PAINT: ALL EXTERNAL CARBON STEEL SURFACES TO BE CLEANED AND OTHERWISE PROPERLY PREPARED PRIOR TO APPLICATION OF ONE COAT OF CORROSION PROTECTION PRIMER PER SHOP STANDARD.

FABRICATION STANDARDS
KATZEN TOWER AND TRAY FABRICATION TOLERANCES
DWG. No. MSD-M1004
DWG. No. MSD-1002

- NOTES:**
- SEE DRAWING 05-211 FOR TRAY DETAILS.
 - ALL BOLT HOLES STRADDLE NATURAL CENTERLINE.
 - FABRICATOR TO PROVIDE VACUUM SUPPORT RINGS AS REQUIRED.
 - FABRICATOR TO PROVIDE INSULATION RINGS.
 - ALL DIMENSIONS MARKED " * " ARE BY OTHERS.
 - OPPOSE SIGHT GLASS PAIRS AT 40° ORIENTATION.
 - FINAL NOZZLE ORIENTATION TO BE DETERMINED UPON COMPLETION OF PIPING DESIGN.
 - FABRICATOR TO PROVIDE LADDERS AND PLATFORMS.
 - FABRICATOR TO PROVIDE PIPE SUPPORT PADS.
 - SUPPLY WITH GROUNDING LUGS.
 - ASME MAWP TO BE STAMPED AT MAXIMUM CALCULATED ALLOWABLE PRESSURE FOR THE THICKNESS OF THE STEEL AT THE STATED TEMPERATURE.
 - 160 Km/h PER URUGUAYAN NORMATIVES: UNIT 50-84.

1. **NOTICE:** The process design and other information contained on this drawing is the confidential property of KATZEN INTERNATIONAL, INC. and is protected by confidentiality agreement, copyright law, and trade secret law, and may not be used, reproduced, discussed with, or disclosed to, any unauthorized persons or organizations in any manner or for any purpose, without prior written approval by an authorized representative of KATZEN INTERNATIONAL, INC.

2. KATZEN INTERNATIONAL, INC. is authorized to practice engineering in the state of Ohio, USA. All code requirements shall be reviewed by a person or persons licensed to practice engineering in the applicable jurisdiction, unless stipulated otherwise.

Rev.	Date	Description	Drawn By	Ckd By	Appd By
0	12/19/12	REV. 0 ISSUE	RLM	JDC	JDC

<p>ALUR ALCOHOL DEL URUGUAY</p>	<p>BIOETANOL PAYSANDÚ</p>	<p>Scale: NONE</p>	<p>211,200 LITERS/DAY MOTOR FUEL GRADE ETHANOL PLANT</p>	<p>ITEM: T-516</p>	<p>Client No.: 1132-01</p>	<p>Sheet No.: 05-210</p>