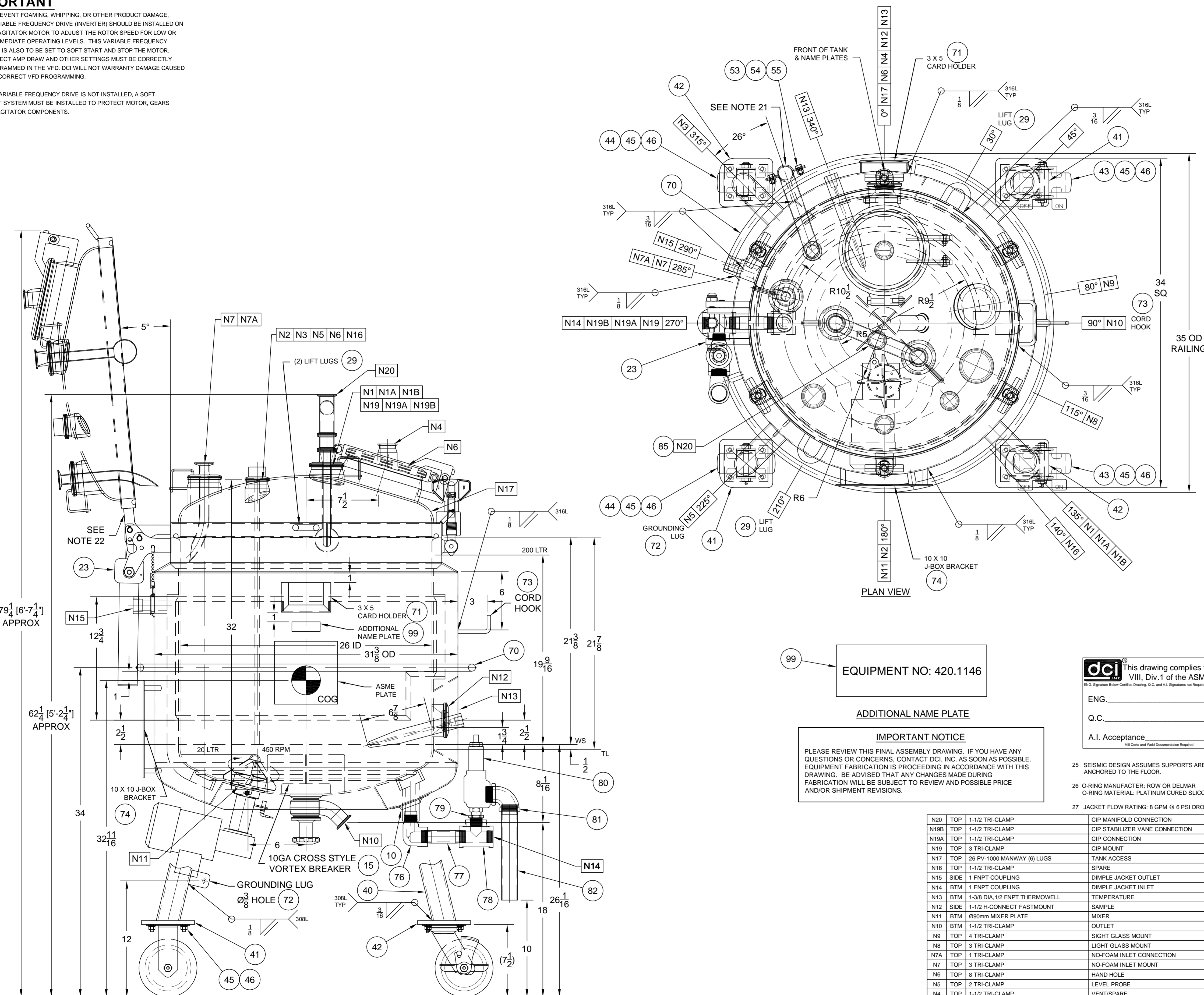


IMPORTANT

- TO PREVENT FOAMING, WHIPPING, OR OTHER PRODUCT DAMAGE, A VARIABLE FREQUENCY DRIVE (INVERTER) SHOULD BE INSTALLED ON THIS AGITATOR MOTOR TO ADJUST THE ROTOR SPEED FOR LOW OR INTERMEDIATE OPERATING LEVELS. THIS VARIABLE FREQUENCY DRIVE IS ALSO TO BE SET TO SOFT START AND STOP THE MOTOR. CORRECT AMP DRAW AND OTHER SETTINGS MUST BE CORRECTLY PROGRAMMED IN THE VFD. DCI WILL NOT WARRANTY DAMAGE CAUSED BY INCORRECT VFD PROGRAMMING.
- IF A VARIABLE FREQUENCY DRIVE IS NOT INSTALLED, A SOFT START SYSTEM MUST BE INSTALLED TO PROTECT MOTOR, GEARS AND AGITATOR COMPONENTS.

- NOTES:
- DCI, INC. SHALL NOT BE RESPONSIBLE FOR THE CORROSION RESISTANCE OF EQUIPMENT OR ANY RESULTING DAMAGES. IT IS THE PURCHASER'S RESPONSIBILITY TO SPECIFY THE CORRECT MATERIAL OF CONSTRUCTION SPECIFICATION FOR THE INTENDED APPLICATION(S). CONSULTATION WITH QUALIFIED PERSONNEL IN MATERIAL SELECTIONS IS HIGHLY RECOMMENDED.
 - WHERE "COMPLETE SEAL WELDS" VS. THE USE OF "EXPANSION ISOLATION SEALS" ON THE OUTER SHEATHING ARE USED, CRACKING WILL BE EXCLUDED FROM THE WARRANTY DUE TO THE EXPECTED THERMAL EXPANSION STRESSES OF THE EQUIPMENT UNDER NORMAL OPERATING CONDITIONS.
 - ALL TOLERANCES ARE IN ACCORDANCE WITH THE LATEST EDITION OF THE "ASME" BOILER AND PRESSURE VESSEL CODE, SECTION VIII, DIVISION 1, 2007 EDITION, 2008 ADDENDA AND DCI STANDARD VESSEL TOLERANCES DRAWING 020000.
 - ALL ASME WELDING TO BE DONE BY ASME QUALIFIED WELDERS.
 - ALL ASME WELDING PROCEDURES ARE IN ACCORDANCE WITH ASME CODE UW-28.
 - ASME CODE JURISDICTION ENDS AT THE FIRST SEALING SURFACE EXCLUDING MANWAY.
 - VESSEL AND/OR HEAT TRANSFER SURFACE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE "ASME" BOILER AND PRESSURE VESSEL CODE, SECTION VIII, DIVISION 1, 2007 EDITION, 2008 ADDENDA.
 - VESSEL AND/OR HEAT TRANSFER SURFACE TO BE HYDROSTATICALLY OR PNEUMATICALLY TESTED PER UG-99. CHECK FOR DEFECTS, REPAIR AND RETEST IF NECESSARY.
 - SUITABLE PRESSURE AND/OR VACUUM RELIEF DEVICES MUST BE INSTALLED BY CUSTOMER FOR OPERATION OF VESSEL AND/OR HEAT TRANSFER SURFACE.
 - ALL FLANGES WILL HAVE BOLT HOLES STRADDLE THE 0°-180° & 90°-270° CENTERLINES, UNLESS SPECIFIED OTHERWISE.
 - NOZZLES AND/OR OPENINGS IN VESSELS, SHALL NOT BE LOCATED IN OR WITHIN 5' OF WELD SEAMS IN HEADS AND/OR SHELLS WITHOUT PRIOR ENGINEERING APPROVAL. IF NOZZLE OR OPENING IS IN OR WITHIN 0.5' OF WELD SEAM, AN ADDITIONAL ENGINEERING CALCULATION AND/OR X-RAY MAY BE REQUIRED TO MEET UW-14 REQUIREMENTS.
 - ALL REINFORCEMENT PADS MUST BE PROVIDED WITH (1) 1/8 DIA. WEEP HOLE LOCATED AT THE LOWEST POINT WHEN THE VESSEL IS IN ITS NORMAL OPERATING POSITION.
 - ALL CUSTOMER SUPPLIED PARTS MUST HAVE PROPER IDENTIFICATION, APPLICABLE CODE/STD INFORMATION (EXAMPLE: PARTIAL DATA), AND MILL TEST REPORTS BEFORE BEING WELDED TO VESSEL.
 - PRODUCTION TO PROVIDE PROTECTION FOR ALL NOZZLES AND FITTINGS PRIOR TO SHIPMENT. VESSEL MUST BE ADEQUATELY VENTED.
 - FINAL BORE OF 25MM INQULD FITTINGS ID TO .985"-.988" AFTER WELDING. (WHEN APPLICABLE)
 - NOZZLE END I.D. SURFACES HAVE A MINIMUM 1/16 RADIUS.
 - DCI SURFACE FINISH DEFINITIONS:
 AS = AS IS WELD OR MATERIAL.
 CC = COLOR CLEANED WELD.
 BB = BEAD BLASTED WELD OR MATERIAL.
 HRAP = HOT ROLLED PLATE MATERIAL.
 2B = COLD ROLLED BRIGHT MILL MATERIAL.
 2D = COLD ROLLED DULL MILL MATERIAL.
 NUMERIC VALUE = RA.
 NUMERIC VALUE + "E" = RA AFTER FINAL ELECTRO-POLISH.
 WELD FINISH SAME AS BASE MATERIAL UNLESS NOTED OTHERWISE, EX. 32/70 (BASE/WELD).
 - DCI TO PERFORM THE FOLLOWING TESTS AND PROCEDURES:
 X-7033-7 - HYDROSTATIC PRESSURE TEST
 X-7039-6 - ELECTROPOLISHING & PASSIVATION
 X-7051-7 - BPE CIP COVERAGE TEST
 X-7065-3 - BPE DRAINAGE TEST PROCEDURE
 X-7086-2 - BPE SURFACE FINISH TEST PROCEDURE
 - MATERIAL CERTS REQUIRED FOR THE FOLLOWING:
 PRESSURE VESSEL COMPONENTS
 REMOVABLE ACCESSORIES/WETTED PARTS
 AGITATOR SEALS
 *ADDITIONAL COSTS APPLY
 - MATERIAL CERTS SUPPLIED, (1) IS A SPARE
 B548 GCR-S RUPTURE DISC, 1.5" TRI-CLAMP
 BURST PRESSURE: 45 PSIG @ 72°F WITH 5% MFG RANGE
 BURST RANGE: 42.75 TO 45 PSIG @ 72°F
 MAX OPERATING PRESSURE IS 38 PSIG @ 72°F
 (1) 1.5" TRI-CLAMP 316L GR-C SAFETY-HEAD INCLUDED (SHIP LOOSE)
 - BLOW DOWN TUBE TO BE 10" ABOVE FLOOR.
 - COVER LOCK-UP PROVIDED AT 95°. 135° LOCK-UP WOULD REQUIRE LIFT ASSIST REMOVAL AND MAY CAUSE VESSEL INSTABILITY.
 - CIP ASSEMBLY TO BE MARKED WITH RESPECTIVE VESSEL ID AND NOZZLE ID NUMBERS.
 - STERIMIXER SMA 85/140 MAGNETIC COUPLED STIRRER FOR PHARMACEUTICAL USE. IMPELLER OF ASEPTIC DESIGN AIMED FOR CIP/SIP. DOUBLE BEARING WITH HYDRODYNAMIC DESIGN FOR PHARMACEUTICAL PROCESS. MATERIAL IMPELLER AND WELDING PLATE AISI 316L. IMPELLER IS TOP ASEPTIC DESIGN WITH FULLY WELDED WINGS. BEARING: TUNGSTEN CARBIDE. GASKET: PTFE. POLISH: IMPELLER AND WELDING PLATE Ra<15 MICRO-INCHES. ELECTROPOLISHING. DRIVE UNIT SM CONSISTING OF 1/4 HP AC MOTOR, 3/60/230-460V, NEMA FRAME, WASHDOWN DUTY, ALL STAINLESS WITH EXTENSION. INSTALLATION/REMOVAL TOOLS INCLUDED.



EQUIPMENT NO: 420.1146

ADDITIONAL NAME PLATE

IMPORTANT NOTICE

PLEASE REVIEW THIS FINAL ASSEMBLY DRAWING. IF YOU HAVE ANY QUESTIONS OR CONCERNS, CONTACT DCI, INC. AS SOON AS POSSIBLE. EQUIPMENT FABRICATION IS PROCEEDING IN ACCORDANCE WITH THIS DRAWING. BE ADVISED THAT ANY CHANGES MADE DURING FABRICATION WILL BE SUBJECT TO REVIEW AND POSSIBLE PRICE AND/OR SHIPMENT REVISIONS.

This drawing complies with Sect. VIII, Div. 1 of the ASME Code

ENG. _____

Q.C. _____

A.I. Acceptance _____

- SEISMIC DESIGN ASSUMES SUPPORTS ARE ANCHORED TO THE FLOOR.
- O-RING MANUFACTURER: ROW OR DELMAR
O-RING MATERIAL: PLATINUM CURED SILICONE FDA USP CL VI
- JACKET FLOW RATING: 8 GPM @ 6 PSI DROP.

MK.	LOC.	DESCRIPTION	SERVICE	QTY.	CLAMP	CAP	GSKT	DESCRIPTION / (ITEM NO.)
NOZZLE SCHEDULE								
ITEM NO. NOZZLE ACCESSORIES								
N20	TOP	1-1/2 TRI-CLAMP	CIP MANIFOLD CONNECTION	1				MANIFOLD ASSY (85)
N19B	TOP	1-1/2 TRI-CLAMP	CIP STABILIZER VANE CONNECTION	1	49		48	STABILIZER VANE (48.49.60)
N19A	TOP	1-1/2 TRI-CLAMP	CIP CONNECTION	1	49		48	MTG TUBE ASSY (59), LOCATING DEVICE (62.63)
N19	TOP	3 TRI-CLAMP	CIP MOUNT	1	58		57	O-RING (22)
N17	TOP	26 PV-1000 MANWAY (6) LUGS	TANK ACCESS	1			22	
N16	TOP	1-1/2 TRI-CLAMP	SPARE	1				
N15	SIDE	1 FNPT COUPLING	DIMPLE JACKET OUTLET	1				
N14	BTM	1 FNPT COUPLING	DIMPLE JACKET INLET	1				KUNKLE RELIEF VALVE #911BEDM6-ALE-0150 (80), DOWN TUBE (82)
N13	BTM	1-3/8 DIA. 1/2 FNPT THERMOWELL	TEMPERATURE	1				SIMILAR TO BURNS #12148-1 (17)
N12	SIDE	1-1/2 H-CONNECT FASTMOUNT	SAMPLE	1				SAMPLE VALVE BY OTHERS
N11	BTM	Ø90mm MIXER PLATE	MIXER	1				STERIDOSE SMA 85/140 (12.84) (SEE NOTE #24)
N10	BTM	1-1/2 TRI-CLAMP	OUTLET	1				STERIDOSE #SV38-BOV/S-TCA5-MAN-SI-EP (11)
N9	TOP	4 TRI-CLAMP	SIGHT GLASS MOUNT	1	65		64	LJ STAR METACLAMP 4S (66)
N8	TOP	3 TRI-CLAMP	LIGHT GLASS MOUNT	1				BY OTHERS
N7A	TOP	1 TRI-CLAMP	NO-FOAM INLET CONNECTION	1				
N7	TOP	3 TRI-CLAMP	NO-FOAM INLET MOUNT	1	58		57	NO-FOAM TUBE (61), LOCATING DEVICE (62.63)
N6	TOP	8 TRI-CLAMP	HAND HOLE	1	68		67	CUSTOMER FURNISHED (SHOWN FOR CLARITY)
N5	TOP	2 TRI-CLAMP	LEVEL PROBE	1				
N4	TOP	1-1/2 TRI-CLAMP	VENT/SPARE	1				
N3	TOP	1-1/2 TRI-CLAMP	RUPTURE DISC	1	49/50		48	B548 GCR-S (51), SAFETY HEAD (52), BLOW DOWN TUBE (53.54.55) (SEE NOTE 20)
N2	TOP	1-1/2 TRI-CLAMP	PRESSURE GAUGE	1	49		48	ANDERSON #ELO3101004111A (56)
N1B	TOP	1-1/2 TRI-CLAMP	CIP STABILIZER VANE CONNECTION	1	49		48	
N1A	TOP	1-1/2 TRI-CLAMP	CIP CONNECTION	1	49		48	STABILIZER VANE (48.49.60)
N1	TOP	3 TRI-CLAMP	CIP MOUNT	1	58		57	MTG TUBE ASSY (59), LOCATING DEVICE (62.63)

ITEM	MATERIAL DESCRIPTION	MATERIAL SPEC.	INTERIOR FINISH	EXTERIOR FINISH
SHELL	SHEET 8 GA	SA240.316/316L	20E	N/A
TOP HEAD	SHEET 7 GA	SA240.316/316L	20E	35
BTM HEAD	SHEET 8 GA	SA240.316/316L	20E	N/A
SHELL HEAT TRANS	SHEET 14 GA	SA240.316/316L	N/A	N/A
HEAD HEAT TRANS	SHEET 14 GA	SA240.316/316L	N/A	N/A
SHELL SHEATHING	SHEET 12 GA	SA240.316/316L	N/A	35
TOP HD SHEATHING	N/A	N/A	N/A	N/A
BTM HD SHEATHING	SHEET 12 GA	SA240.316/316L	N/A	35
BREAST RING	SHEET 10 GA	SA240.316/316L	N/A	35
LEGS	PIPE 2 SCH 40	SA312.304/304L	N/A	35
FITTING GASKETS	FDA CFR 21 USP CLASS VI	PLAT. CURED SILICONE	N/A	N/A
MANWAY GASKET	FDA CFR 21 USP CLASS VI	PLAT. CURED SILICONE	N/A	N/A
ALL OTHER PRODUCT CONTACT SURFACES	N/A	316/316L	20E	20E

CIP DATA: (2) 2-1/2 DCI SPRAY BALL

CIP FLOW RATE: 10 G.P.M. AT 20 P.S.I. (APPROX. EACH)

INSULATION

SHELL: 2" CHLORIDE-FREE CERAMIC FIBER
 BTM HEAD: 2" CHLORIDE-FREE CERAMIC FIBER
 TOP HEAD: N/A

SURFACES COVERED WITH INSULATION TO RECEIVE A 5 MIL. COATING OF THURMALOX - ALL: HEAT TRANSFER: NONE:

PAINT, EXT: N/A

HEAD DIMENSIONAL INFORMATION

TOP INNER HD: 26 ID, 26 DR, 2 KR, 25 SF
 BTM INNER HD: 26 ID, 26 DR, 2 KR, 5 SF
 TOP OUTER HD: N/A
 BTM OUTER HD: 30.93 ID, 30 DR, 2 KR, 5 SF

HEAT TRANSFER SURFACE INFORMATION

DIMPLE JACKET ON THIS JOB IS DESIGNED FOR

NON-THERMAL SHOCK LOADING THERMAL SHOCK LOADING: MODERATE EXTREME

ONE BOX MUST BE CHECKED REFERENCE DCI DOCUMENT #X-7141

SHELL: DIMPLED, PLUG WELD HALF PIPE N/A
 DIMPLED, LASER WELD CONVENTIONAL

HEAD: DIMPLED, PLUG WELD HALF PIPE N/A
 DIMPLED, LASER WELD CONVENTIONAL

AREA SHELL: 4.7 SF HEAD: .9 SF

DIMPLE PATTERN TYPE: 2-1/4 X 2-1/4, TYPE AF

HEATING MEDIUM: HOT GLYCOL

COOLING MEDIUM: CHILLED GLYCOL

NON-DESTRUCTIVE EXAMINATION

RADIOGRAPHY: VESSEL HEAT TRANSFER PER UHA-33 UNF-57

TOP HEAD TO SHELL	TOP HEAD TO LONG SEAM	SHOULDER HEAD	BOTTOM HEAD TO SHELL	BTM HEAD TO SHELL
N/A	N/A	N/A	N/A	N/A

PT (DYE PEN) VESSEL HEAT TRANSFER PER: UHA-34 UNF-58
 SPOT X-RAY T-SEAM(S) 12" IN ALL DIRECTIONS: YES NO
 OTHER:

U W CERTIFIED BY DCI INC ST. CLOUD, MINNESOTA

VESEL MAWP	45 PSI AT 346 °F
MAEWP	15 PSI AT 346 °F
MDMT	-20 °F AT 45 / -15 PSI

VESEL VOLUME: 52.8 GAL (200 LTR)

JACKET MAWP	150 PSI AT 346 °F
MAEWP	15 PSI AT 346 °F
MDMT	-20 °F AT 150 / -15 PSI

JACKET VOLUME: .6 GAL (2.3 LTR)

MFRS SERIAL NO. JS4577

YEAR BUILT _____

VESEL TEST PRESSURE: 60 PSIG

JACKET TEST PRESSURE: 195 PSIG

PRODUCT DATA: AQUEOUS BUFFER SOLUTIONS

VISCOSITY: 1-2 CPS SPECIFIC GRAVITY: 1.1 MAX

EST. EMPTY WEIGHT: 540 LBS

EST. OPERATING WEIGHT: 1,030 LBS (DESIGN)

EST. FULL FLOODED WEIGHT: 1,160 LBS

SEISMIC ZONE: IV (IBC 1997) SEE NOTE #25

REV	REVISION DESCRIPTION	REV BY/DATE
E		
D		
C	CHANGED EQUIPMENT NUMBER TO 420.1146 IN LIEU OF 420.1140	CCH 12/30/09
B	ADDED NOZ N1B & N19B (VANE CONN), ADDED STABILIZER VANE TO SPRAYBALL DETAIL	AWL 11/06/09
A	ADDED DETAIL SHEET 2 OF 2 AND BILL OF MATERIALS FOR PRODUCTION	AWL 09/03/09

TITLE: 200 LITER POTENCY DILUTION TANK #2,T-L

DCI ORDER NO.: CS25625 QTY. REQ.: 1

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DCI INC ST. CLOUD, MN

SCALE: 3/16 DO NOT SCALE DRAWING

PRODUCTION AWL	APPROVAL AWL	PROJ. ENG. B.J.L
DATE 09/03/09	DATE 06/29/09	PROJ. MAN. SAH

PREFIX: 272-04 DRAWING NO.: JS4577 REV: C

SEE PLAN VIEW FOR ORIENTATION