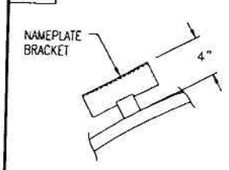
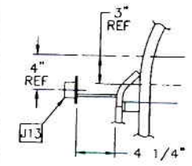
Ex 501

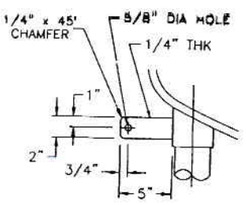
ACAD



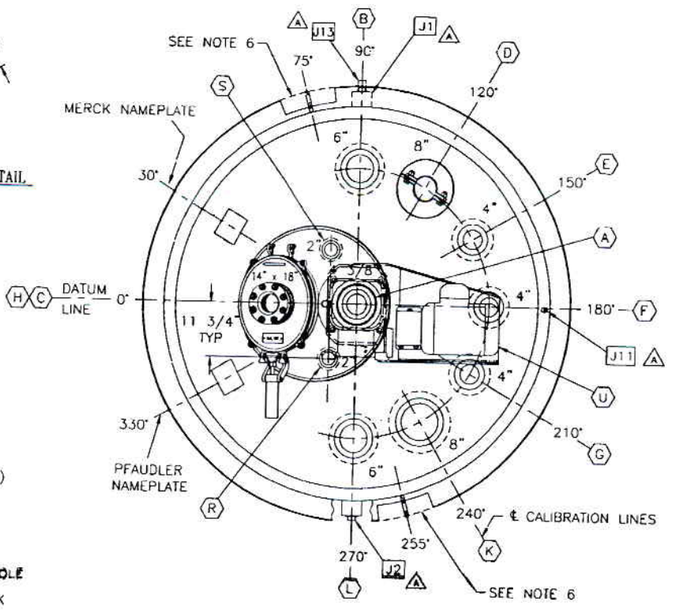
NAMEPLATE STANDOFF DETAIL



DETAIL "A"
(PER MERCK SPEC G-139)

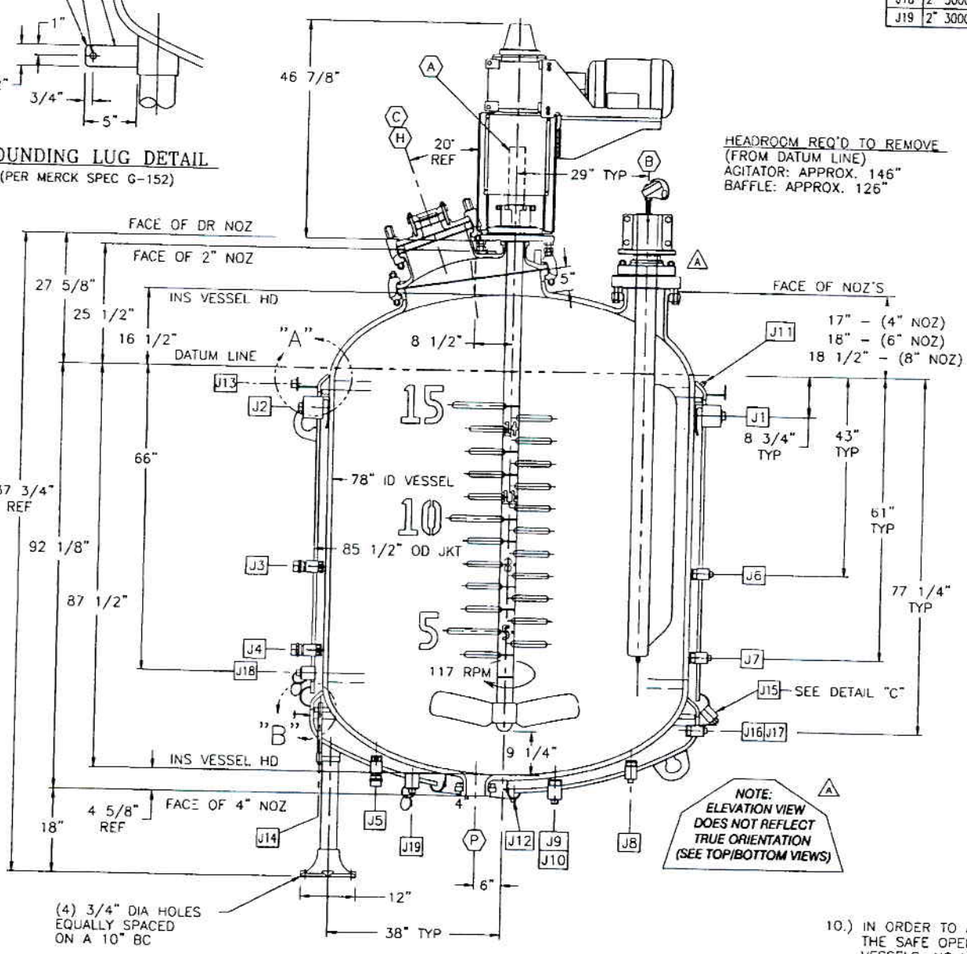


GROUNDING LUG DETAIL
(PER MERCK SPEC G-152)



REF	SIZE	TYPE	DESCRIPTION
A	4 3/8" CL150	SPLIT FLG	AGITATOR, CRYO-LOCK, CBT, 33" DIA SPAN
B	6" CL150	SPLIT FLG	PROCESS INLET
C	30"	"J" BOLT	COVER ASSY
D	8" CL300	SPLIT FLG	BAFFLE, FIN, TMI QUICK RESPONSE, DUAL DIN RTD
E	4" CL150	SPLIT FLG	PROCESS INLET
F	4" CL150	SPLIT FLG	PROCESS INLET
G	4" CL150	SPLIT FLG	PROCESS INLET
H	14" x 18"	"J" BOLT	MANWAY, W/ 4" 150# S.G., PRO-RING, S/STL SPR ASSIST
K	8" CL150	SPLIT FLG	PROCESS INLET
L	6" CL150	SPLIT FLG	PROCESS INLET
P	4" CL150	TH'D SPLIT FLG	BOTTOM OUTLET
R	2" CL150	SPLIT FLG	PROCESS INLET
S	2" CL150	SPLIT FLG	PROCESS INLET
T	-----	-----	DRIVE ASSY, 5035 SRW W/ FLOWSERVE QBW DRY SEAL
U	-----	-----	MOTOR, 10HP
J1	3" 3000#	TH'D COUPLING	JACKET OVERFLOW W/ PLUG
J2	3" 3000#	TH'D COUPLING	JACKET OVERFLOW W/ PLUG
J3	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ AGITATING NOZZLE
J4	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ AGITATING NOZZLE
J5	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ AGITATING NOZZLE
J6	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ PLUG
J7	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ PLUG
J8	1 1/2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ PLUG
J9	2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ PLUG
J10	2" 3000#	TH'D COUPLING	JACKET CONNECTION W/ PLUG
J11	1/2" 3000#	TH'D COUPLING	JACKET VENT W/ PLUG
J12	1/2" 3000#	TH'D COUPLING	JACKET DRAIN W/ PLUG
J13	1" 3000#	TH'D COUPLING	DRAIN, UPPER INSULATION SUPPORT RING
J14	1/2" 3000#	TH'D COUPLING	JACKET VENT W/ PLUG
J15	1 1/2" 3000#	TH'D COUPLING	JACKET DRAIN W/ PLUG
J16	1 1/2" 3000#	TH'D COUPLING	JACKET OVERFLOW W/ PLUG
J17	1 1/2" 3000#	TH'D COUPLING	JACKET OVERFLOW W/ PLUG
J18	2" 3000#	TH'D COUPLING	JACKET INSPECTION PORT W/ PLUG
J19	2" 3000#	TH'D COUPLING	JACKET INSPECTION PORT W/ PLUG

SEE PFAUDLER ORDER SPEC DATA SHEET FOR COMPLETE COMPONENT DESCRIPTION



NOTE: ELEVATION VIEW DOES NOT REFLECT TRUE ORIENTATION (SEE TOP/BOTTOM VIEWS)

NOTES: 1.) 9119 GLASS = 9115 BLUE GLASS W/ 20KV SPARK TEST, PLUG FREE, W/ WHITE CALIB. LINES IN 50 GAL INCR. ON VESSEL. WHITE CALIBRATION LINES IN 100 GAL INCR. ON AGITATOR.

2.) REMOVE LIFTING LOOPS FROM TOP HEAD ONLY BEFORE SHIPPING.

3.) INNER VESSEL HEAD VOLUME = 269 GAL
INNER VESSEL CAPACITY PER INCH OF STRAIGHT SIDE = 20.686 GAL

4.) JACKET IS A TWO ZONE DESIGN
SHELL ZONE APPROX CAPACITY = 146 GAL
HEAD ZONE APPROX CAPACITY = 120 GAL
SHELL ZONE SURFACE AREA = 114 SQ.FT.
HEAD ZONE SURFACE AREA = 48.8 SQ.FT.
MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN ADJACENT JACKET ZONES MUST NOT EXCEED 329°F IF HEAT TRANSFER MEDIUM IS BEING CIRCULATED IN ONE ZONE ONLY. THIS RESTRICTION DOES NOT APPLY

5.) PRESSURE RELIEF DEVICE(S) PER PAR. UG-125 OF ASME CODE, SECT. VIII DIV 1, MUST BE PROVIDED AND INSTALLED BY CUSTOMER.

6.) SHIPPED LOOSE:
- BOTTOM OUTLET FLANGES & GASKETS
- ALL PROCESS NOZZLE GASKETS
- INSULATION RING SEGMENTS
- PIPE LEGS AND BASES
- PFAUDLER GEAR LUBE

7.) SEGMENTS OF THE UPPER INSUL SUPPORT RING IN THE AREA OF THE JACKET HOIST LUGS WILL BE REMOVED AND SHIPPED LOOSE (FOR FIELD WELD BY MERCK) TO PROVIDE PROPER CLEARANCE FOR HOIST LUGS. WELD TO EXISTING INSULATION SUPT RING ONLY. DO NOT WELD TO JACKET SHELL.

8.) THE STRUCTURAL COMPONENTS OF THE JACKET CHAMBER HAVE BEEN DESIGNED WITH 1/16" CORROSION ALLOWANCE. THESE INCLUDE: INNER VESSEL SHELL AND BOTTOM HEAD, JACKET SHELL, SEALERS, BUSTLE, DIAPHRAGM AND BOTTOM HEAD.

9.) OPERATING PRESSURE IS LIMITED TO 135 PSI DUE TO SEAL LIMITATION.

10.) IN ORDER TO AVOID INJURY AND ASSURE THE SAFE OPERATION OF ALL PFAUDLER VESSELS, NO VESSEL SHOULD BE OPERATED WITHOUT ALL OPENINGS AND PASSAGEWAYS SECURELY CLOSED. IN CASES WHERE THE TOP HEAD OF THE VESSEL HAS BEEN REMOVED, THE OPENING SHOULD BE SECURED BY A SUITABLE COVER WHILE THE VESSEL IS IN OPERATION. ALL PERSONS OPERATING A PFAUDLER VESSEL SHOULD HAVE PRIOR INSTRUCTION IN THE PROPER USE OF THE VESSEL DURING OPERATION.

11.) TEMPERATURE PRESSURE CHART

TANK = 150/150* PSI OR FV FROM +7°F TO 450°F
RATINGS BELOW +7°F ARE AS FOLLOWS:

TEMP(°F)	PRESSURE(PSI)
+5	147/147* OR FV
0	139/139* OR FV
-5	132/132* OR FV
-10	124/124* OR FV
-15	117/117* OR FV
-20	109/109* OR FV
-25	102/102* OR FV
-30	94/ 94* OR FV
-35	87/ 87* OR FV
-40	84/ 84* OR FV
-45	81/ 81* OR FV
-50	77/ 77* OR FV

JACKET 150/150** PSI OR FV FROM -20°F TO 450°F
RATINGS BELOW -20°F ARE AS FOLLOWS:

TEMP(°F)	PRESSURE(PSI)
-25	90/ 90** OR FV
-30	86/ 86** OR FV
-35	82/ 82** OR FV
-40	78/ 78** OR FV
-45	75/ 75** OR FV
-50	72/ 72** OR FV

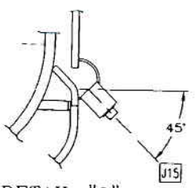
* WITH FULL VACUUM IN JACKET
** WITH FULL VACUUM IN TANK

BASE MATERIAL	VESSEL	JACKET
TOP HEAD	SA-516 GR 65	---
BOTTOM HEAD	SA-516 GR 65	SA-516 GR 70
SHELL	SA-516 GR 65	SA-516 GR 70
SEALER	---	SA-516 GR 70

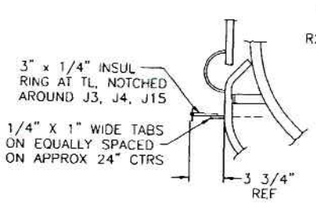
THICKNESS		VESSEL	JACKET
TOP HEAD	(MIN)	1.125" SE	---
BOTTOM HEAD	(MIN)	1.125" SE	.812" F&D
SHELL	(NOM)	1 1/8"	3/4"
SEALER	(MIN)	---	.687"

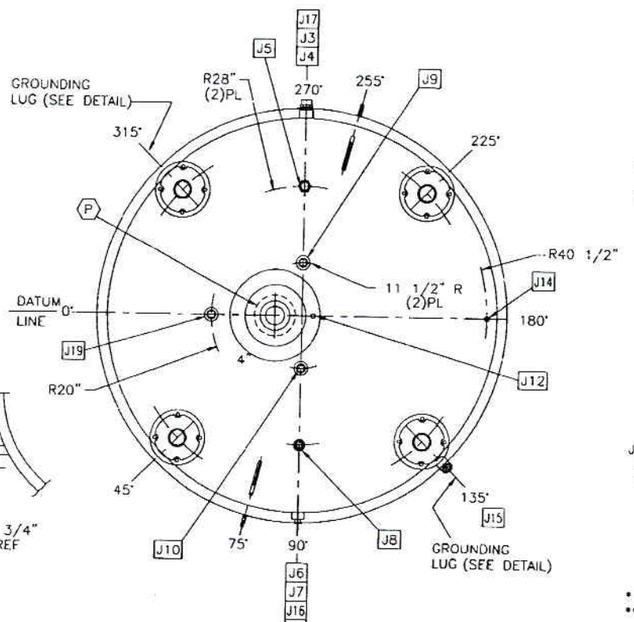
DESIGN & INSPECTION		
SPECIFICATION	VESSEL	JACKET
ASME CODE DESIGN & STAMP	YES	YES
MAWP PSI.	NOTE #11	NOTE #11
DESIGN TEMP. (MAX.) °F.	NOTE #11	NOTE #11
MIN DESIGN METAL TEMP °F	NOTE #11	NOTE #11
HYDROTEST PRESS. PSI.	150	165
RADIOGRAPH	NO	NO
CORROSION ALLOWANCE	NOTE #8	NOTE #8

SEE OPERATING LIMITATIONS, INSTALLATION & MAINTENANCE INSTRUCTIONS IM81-100
FOR INSTALLATION IN AREAS SUBJECT TO 90 MPH WIND AND SEISMIC ZONE 2A (UBC)
SPECIFIC GRAVITY OF VESSEL CONTENTS NOT TO EXCEED 1.2
FV = FULL VACUUM



DETAIL "C"





DETAIL "B"
(PER MERCK SPEC G-139)

CUSTOMER:	MERCK & CO. INC.
ADDRESS:	RAHWAY, NJ
CONSIGNEE:	MERCK & CO. INC.
ADDRESS:	LINDEN, NJ
CUST. ORDER NO.:	PH/40319A
CUST. TAG NO.:	EX501

VESSEL AND/OR JACKET COMPONENTS WELDED IN ACCORDANCE WITH WELD PROCEDURES IN SECTION D-2-1.1 OF THE PSA & ROCHESTER WELDING MANUAL

-GLASS LINED EQUIPMENT- DIMENSIONS MAY VARY DUE TO HIGH TEMPERATURE PROCESSING

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES

DESIGNED IN ACCORDANCE WITH SECTION VIII DIV. 1 OF THE ASME CODE INCLUDING REQUIREMENTS FOR GLASS-LINED VESSELS, & IF APPLICABLE, CUSTOMER SPEC'S, WITH PFAUDLER EXCEPTIONS

UNLESS OTHERWISE SPEC., ALL TANK NOZ. FURNISHED WITH SPLIT FLG'S (ANSI B16.5 BOLTING)

WORK FROM DIMENSIONS - DO NOT SCALE - SEE PLAN VIEW & BOTTOM VIEW FOR ORIENTATION

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LTR	REVISION	APP	DATE
A	JKT CONN & BAF LOC. CHGS. ECN7453	MK	10-05-00

VESSEL FINISH & ACCESSORY MATERIALS	
VESSEL	9119 GLASS (SEE NOTE #1)
ACCESS.	SEE ORDER SPEC DATA SHEET
PLUGS	NONE (PLUG)
CEMENT	NONE
GASKETS	CR STYLE NS
PAINT	STANDARD AMERLOCK EPOXY 400 BL-5 PER DS 61-200 (HORIZON BLUE)
CAP. RATED 1,500 GAL.	WT. UNJKT'D 12,500 LBS.
CAP. FULL 1,880 GAL.	WT. JKT'D 18,850 LBS.
	WT./ACC'S. 21,600 LBS.

DRAWN	VANKERKHOVE	7/16/00
CHECKED	KV/MK	8/8/00
APPROVED	M KEYES	8/10/00
SCALE:	3/4" = 1'-0"	
USED ON:		
REF:	R991279	
REF		
ORDER NO.	R002457	
JOB NO.	J040959	
ITEM NO.	R001225	

TITLE: RA78-1500-150-150
1500 GALLON
78" ID X 65" STR SIDE

Pfaudler Inc. Rochester, NY

DRAWING NO	SHEET	REV
R001225	1	A