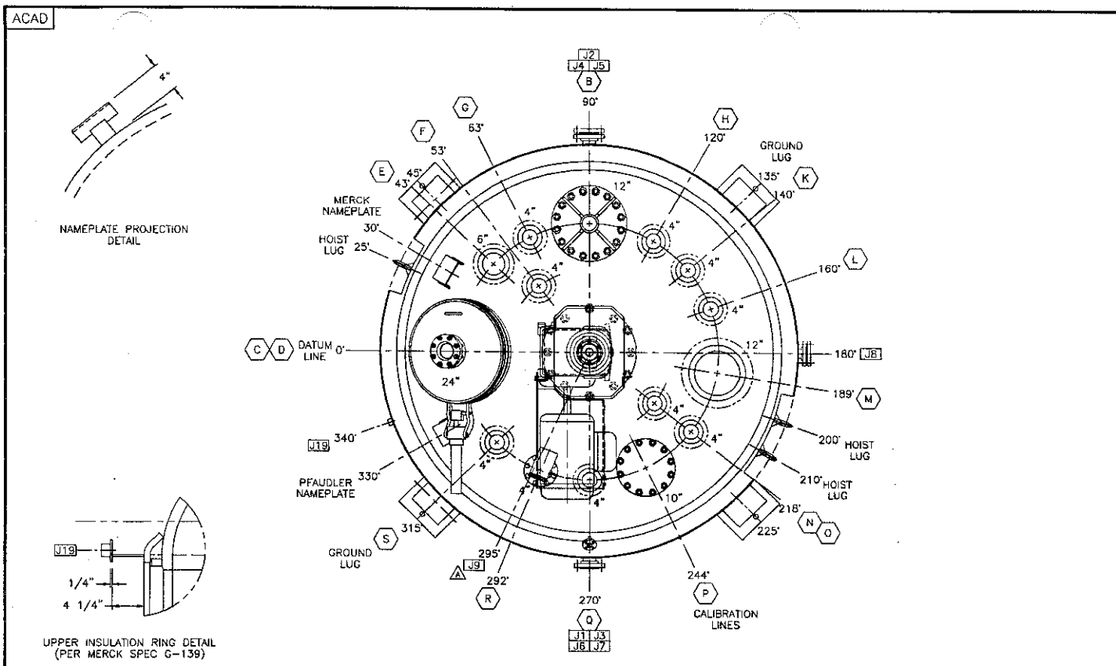
ACAD



REF	SIZE		TYPE	DESCRIPTION
A	6"	CL 300	SPLIT FLANGE	AGITATOR, CRYO-LG SPAN CBT, 48" SPAN TBF
B	12"	CL 300	SPLIT FLANGE	BAFFLE, FIN, FLG-MTD, W/ INTEGRAL DUAL DIN RTD
C	24"		"J" BOLT	MANWAY, W/ PRO-RING, SIGHT GLASS, & SPRING ASSIST
D	4"	CL 150	PAD	SIGHT GLASS ASSEMBLY
E	6"	CL 150	SPLIT FLANGE	PROCESS CONNECTION (ADD SOLIDS CHARGE)
F	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION (SPRAY BALL)
G	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
H	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
K	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
L	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
M	12"	CL 150	SPLIT FLANGE	VENT CONNECTION
N	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION (SPRAY BALL)
O	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
P	10"	CL 150	SPLIT FLANGE	PROCESS CONNECTION (SPARE W/ BLIND FLANGE)
Q	4"	CL 150	SPLIT FLANGE	LEVEL CONNECTION
R	4"	CL 150	SPLIT FLANGE	LIGHT ASSY
S	4"	CL 150	SPLIT FLANGE	PROCESS CONNECTION
T	4"	CL 150	THD'D SPLIT FLG	BOTTOM OUTLET (SPARE W/ BLIND FLANGE)
U	3"	CL 150	THD'D SPLIT FLG	BOTTOM OUTLET
V	---		---	DRIVE ASSY, 6045 SRW (FLOWSERVE DBW DBL DRY SEAL)
W	---		---	MOTOR, 25 HP, 1800 RPM, 230/460V, 3PH, 60HZ, 324T
J1	1/2"	CL 300	LAP JOINT	JACKET CONN - VENT
J2	3"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ BLIND FLANGE
J3	3"	CL 300	LAP JOINT	JACKET CONN - OUTLET
J4	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ 1 1/2" AGITATING NOZZLE
J5	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ 1 1/2" AGITATING NOZZLE
J6	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ BLIND FLANGE
J7	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ BLIND FLANGE
J8	2"	CL 300	LAP JOINT	JACKET CONN - DRAIN W/ BLIND FLANGE
J9	2"	3000#	THD'D COUPLING	JACKET CONN - INSPECTION PORT, W/ PLUG
J10	1/2"	CL 300	LAP JOINT	JACKET CONN - VENT
J11	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ BLIND FLANGE
J12	2"	CL 300	LAP JOINT	JACKET CONN - OUTLET
J13	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ 1 1/2" AGITATING NOZZLE
J14	2"	CL 300	LAP JOINT	JACKET CONN - INLET, W/ BLIND FLANGE
J15	2"	CL 300	LAP JOINT	JACKET CONN - OUTLET, W/ BLIND FLANGE
J16	2"	CL 300	LAP JOINT	JACKET CONN - DRAIN
J17	1/2"	CL 300	LAP JOINT	JACKET CONN - DRAIN
J18	2"	3000#	THD'D COUPLING	JACKET CONN - INSPECTION PORT, W/ PLUG
J19	1"	3000#	THD'D COUPLING	DRAIN, UPPER INSULATION SUPPORT RING

SEE PFAUDLER ORDER SPEC DATA SHEET FOR COMPLETE COMPONENT DESCRIPTION

NOTES:

1.) VESSEL = 150/150* PSIG OF FV FROM +13°F TO 450°F
RATINGS BELOW +13°F ARE AS FOLLOWS:

TEMP (°F)	PRESSURE (PSIG)
10	145/145* OR FV
5	138/138* OR FV
0	130/130* OR FV
-5	123/123* OR FV
-10	115/115* OR FV
-15	108/108* OR FV
-20	100/100* OR FV
-25	93/93* OR FV
-30	87/87* OR FV
-35	84/84* OR FV
-40	79/79* OR FV
-45	76/76* OR FV
-50	72/72* OR FV

JACKET = 150/150** PSIG OF FV FROM -20°F TO 450°F
RATINGS BELOW -20°F ARE AS FOLLOWS:

TEMP (°F)	PRESSURE (PSIG)
-25	90/90** OR FV
-30	84/84** OR FV
-35	81/81** 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 VESSEL

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

3.) 9119 = 9115 DARK BLUE GLASS W/ 20KV SPARK TEST, PLUG FREE, W/ WHITE CALIBRATION LINES IN 100 GALLON INCREMENTS.

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

5.) 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.

6.) VESSEL HEAD CAPACITY = 501 GALS.
VESSEL CAPACITY PER INCH OF STRAIGHT SIDE = 31.334 GALS.

7.) JACKET IS A TWO ZONE DESIGN.
SHELL ZONE CAPACITY = 206 GALS.
HEAD ZONE CAPACITY = 136 GALS.
SHELL ZONE SURFACE AREA = 177 SQ FT.
HEAD ZONE SURFACE AREA = 65 SQ FT.
MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN ADJACENT ZONES MUST NOT EXCEED 355°F. IF HEAT TRANSFER MEDIUM IS BEING CIRCULATED IN ONE ZONE ONLY, THIS RESTRICTION DOES NOT APPLY.

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

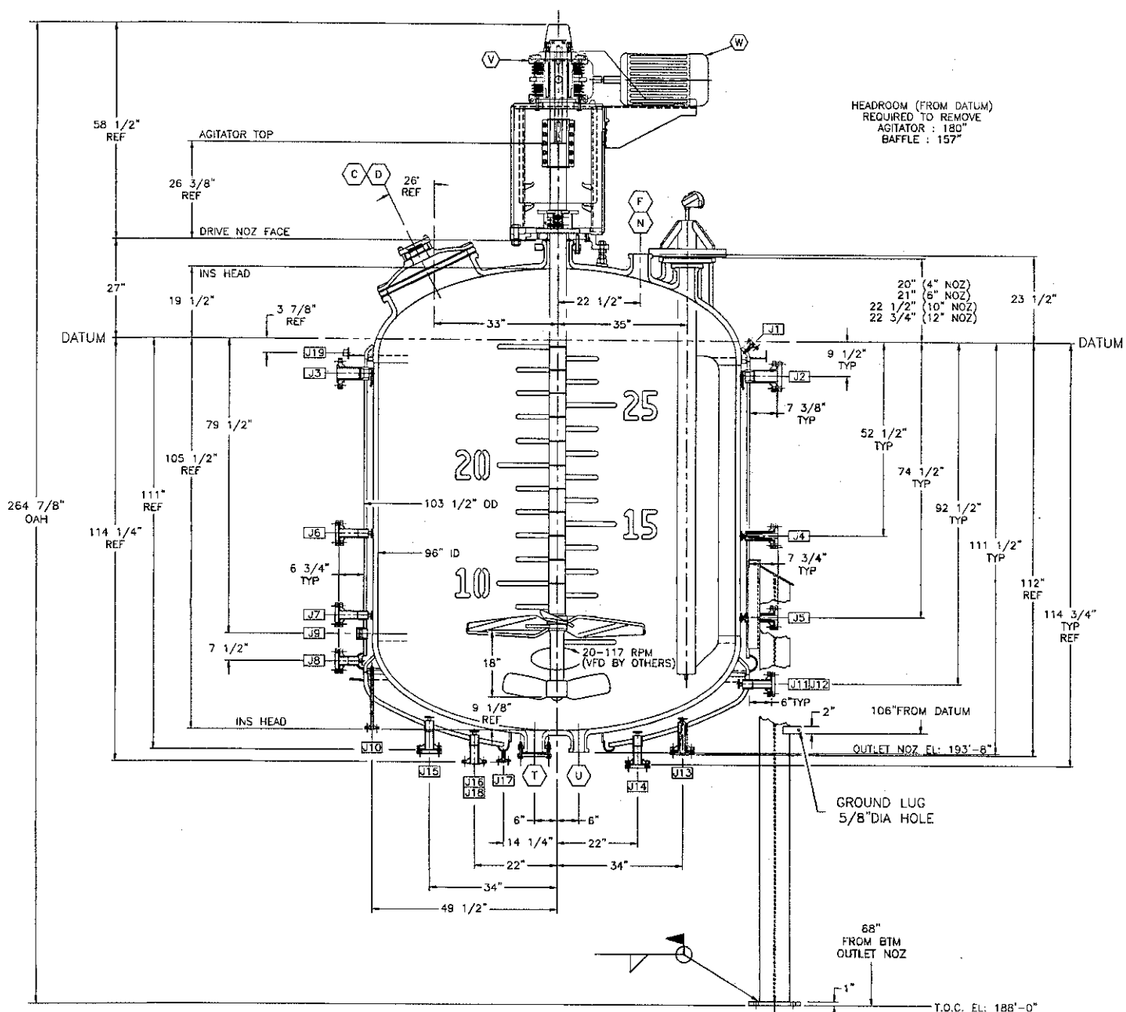
9.) STENCIL ONTO JACKET SHELL WITH 3" HIGH LETTERS:
GLASS-LINED VESSEL - DO NOT WELD - HANDLE WITH CARE
ITEM NO: RE-390, SHIPPING WEIGHT = 35,900 LBS.

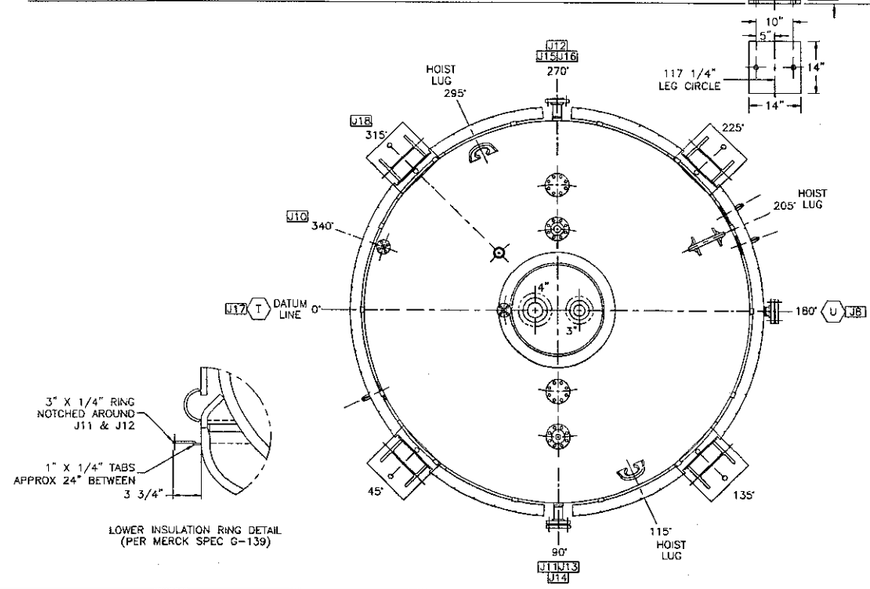
10.) REMOVE HOIST LUGS FROM TOP HEAD ONLY BEFORE SHIPPING.

11.) AGITATOR SEAL LIMITS VESSEL OPERATING PRESSURE TO 135 PSIG.

12.) SHIPPED LOOSE:
- ALL PROCESS NOZZLE GASKETS
- BOTTOM OUTLET FLANGE AND GASKET FOR NOZ "U"
- INSULATION RING SEGMENTS
- GEAR LUBE
- BASE PLATES (FOR BEAM LEGS)

13.) FULL WEIGHT: 81,460 (VESSEL S.G. 1.5; JACKET S.G. 1.0)





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)	1.312"SE	---
BOTTOM HEAD	(MIN)	1.312"SE	1.000"F&D
SHELL	(NOM)	1-1/4"	3/4"
SEALER	(MIN)	---	.742"

DESIGN & INSPECTION		
SPECIFICATION	VESSEL	JACKET
ASME CODE DESIGN & STAMP	YES	YES
MAWP PSI.	NOTE 1	NOTE 1
DESIGN TEMP. (MAX.) °F.	450	450
MIN DESIGN METAL TEMP °F	NOTE 1	NOTE 1
HYDROTEST PRESS. PSI.	150	165
RADIOGRAPH	NO	NO
CORROSION ALLOWANCE	NOTE 2	NOTE 2

SEE OPERATING LIMITATIONS, INSTALLATION & MAINTENANCE INSTRUCTIONS IM81-100

FOR INSTALLATION IN AREAS NOT SUBJECT TO WIND LOADINGS GREATER THAN 215 MPH, OR SEISMIC LOADINGS GREATER THAN UBC ZONE 2A

SPECIFIC GRAVITY OF VESSEL CONTENTS NOT TO EXCEED 1.5

FV = FULL VACUUM

CUSTOMER: MERCK & CO INC
ADDRESS: RAHWAY, NJ
CONSIGNEE: MERCK & CO INC
ADDRESS: ALBANY, GA
CUST. ORDER NO.: PX349783
CUST. TAG NO.: RE-390

VESSEL AND/OR JACKET COMPONENTS WELDED IN ACCORDANCE WITH WELD PROCEDURES IN SECTION D-2-1.2 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 (ASME B16.5 DRILLING)

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

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LTR	REVISION	APP	DATE
A	PER CUSTOMER APPROVAL	MK	11/24/02
B	REMOVE LEG COUPLINGS FROM BOTTOM VIEW; ECN 8674	MK	02/04/02
C	REMOVE BTM AGIT CAL LINE; ECN 8737	MK	05/07/02

VESSEL FINISH & ACCESSORY MATERIALS

VESSEL	9119 NOTE 3
ACCESS.	AS SPECIFIED
PLUGS	NONE (PLUG FREE)
CEMENT	NONE
GASKETS	CR STYLE NS
PAINT	STANDARD AMERLOCK EPOXY 400 BL-5 PER D.S. 61-200 (HORIZON BLUE)

CAP. RATED	3,000 GAL.	WT. UNJKT'D	20,650 LBS.
CAP. FULL	3,415 GAL.	WT. JKT'D	30,850 LBS.
NOTE 13		WT./ACC'S.	35,900 LBS.

DRAWN	B. AVANT	11/29/01
CHECKED	B. AVANT	12/4/01
APPROVED	B. AVANT	12/6/01
SCALE:	1" = 1'-8"	
USED ON:		
REF.	3166547	
ORDER NO.	R002904	
JOB NO.	J048492	
ITEM NO.	R021034	

TITLE: RS96-3000-150-150
3000 GALLON REACTOR
96" ID X 77" STR SIDE

PFAUDLER
Pfaudler Inc. Rochester, NY

DRAWING NO.	SHEET	REV
R021034	1	C