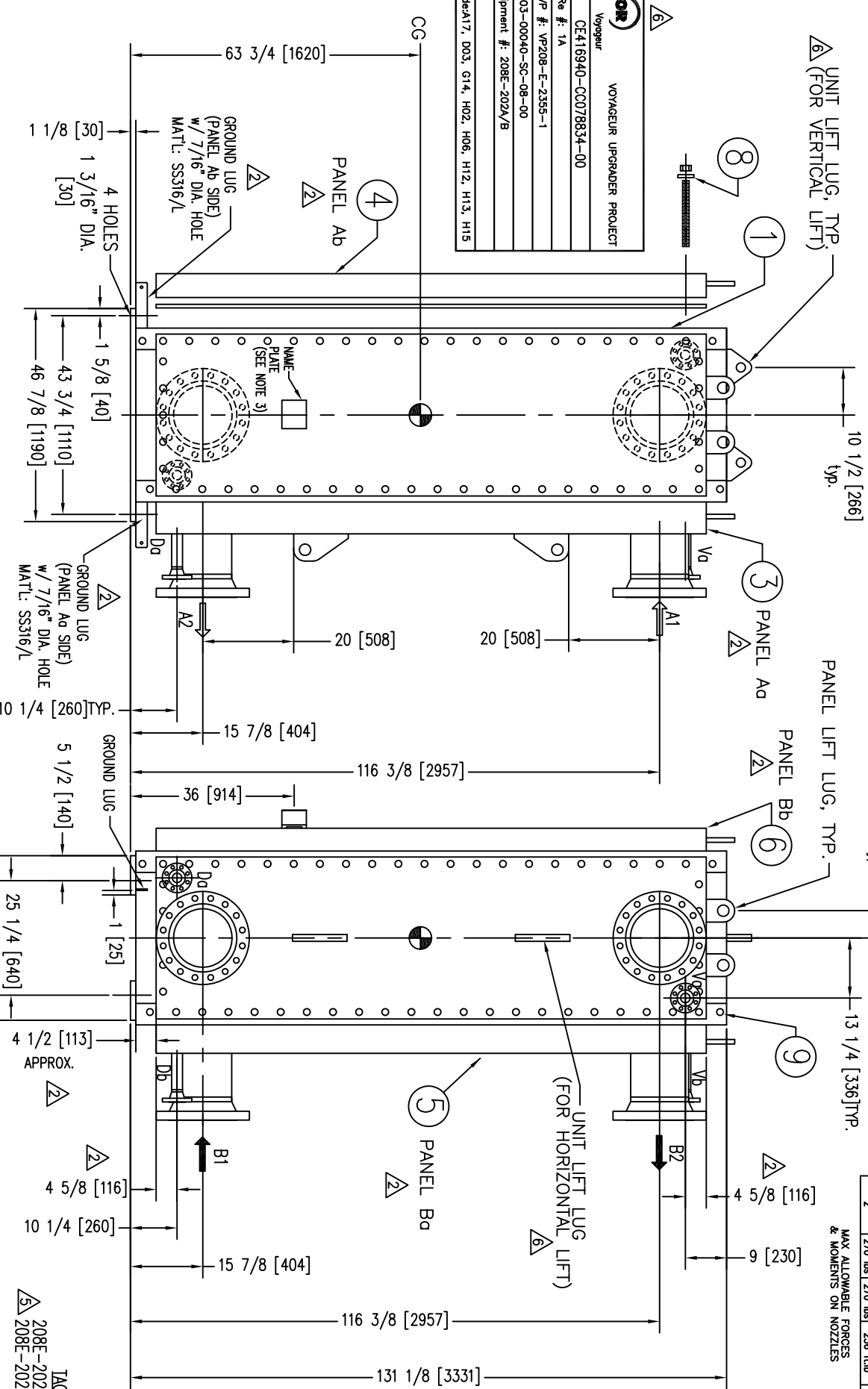


NOZ. SIZE	Fx	Fy/Fz	Mx	My/Mz
12"	3148 lbs	3148 lbs	17202 ft.lb	8851 ft.lb
2"	270 lbs	270 lbs	236 ft.lb	118 ft.lb

MAY ALLOWABLE FORCES & MOMENTS ON NOZZLES

SUNCOR	
VOYAGEUR	
VOYAGEUR UPGRADE PROJECT	
PO #:	CE416940-CC078834-00
Suncor Re #:	1A
Suncor VP #:	VP208-E-2385-1
WBS #:	03-00040-SC-08-00
Tag/Equipment #:	208E-202A/B
TEID #:	
Item Code:	A17, D03, G14, H02, H06, H12, H13, H15



**PRESENT ALFA LAVAL JOB# 799 IS FOR 2 LEAN/RICH EXCHANGERS 208E-202 A/B, IDENTICAL TO 208E-202C COMPLETED IN 2008 UNDER SUNCOR P.O.# CC015354, (ALFA LAVAL JOB# 297463 / MFG. SERIAL# 50767).

- 1. DRAWING NOT TO SCALE
- 2. DESIGNED, CONSTRUCTED AND "U" STAMPED IN ACCORDANCE WITH A.S.M.E CODE SECTION VIII DIV 1, 2010 EDITION, ADDENDA 2011a & NATIONAL BOARD & ABSA REGISTERED.
- 3. LOCATE NAMEPLATE AS SHOWN.
- 4. BOLT HOLES TO STRADDLE SHOWN CENTERLINES ±1/2".
- 5. TOLERANCE ON DIMENSIONS ±1/8" TOLERANCE ON ANGULAR DIMENSIONS ±1/2°.
- 6. IMPACT TESTING ON S.S. COMPONENTS EXEMPT PER UHA-51(d) & (e).
- 7. IMPACT TESTING REQUIRED ON C.S. PANELS, HEADS, LIFT LUGS & SA-540-B21, C11 BOLTS.
- 8. UT PANELS PER SA 578 LEVEL B. WT EDGES, CUT SURFACES & NOZZLE OPENINGS IN PANELS.
- 9. BASELINE UT READINGS ARE REQUIRED AS PER SUNCOR STD. PNM0018A.
- 10. FOR PANEL GASKET DETAILS, SEE DRAWING CP75-33098.
- 11. 300 SERIES S.S. FILLER WELD MATERIAL SHALL HAVE A FERRITE NUMBER BETWEEN 3 & 10.
- 12. FOR INFORMATION ON INSTALLATION, OPERATION & MAINTENANCE OF THE EXCHANGERS, REFER TO IOM MANUAL.

PERFORMANCE/UNIT (FOR ONE EXCHANGER)	CIRCUIT A	CIRCUIT B
FLUID	LEAN AMINE	RICH AMINE
FLOW RATE	1205000 lb/hr	1263000
TEMP. IN/OUT	269.9/192 °F	140.5/220
PRESSURE DROP	10.5 PSI	11.7

EXCHANGER DATA	
PANEL GASKETS	SIGRAFLEX HOCHDRUCK
PANEL LINERS	SS316/316L, 0.118 MIN. THK.
NOZZLES	A1 12"-300# WN-RF SS316/316L* A2 12"-300# WN-RF SS316/316L* Vb/Dc 2"-300# WN-RF SS316/316L* Δ w/ BLIND FLANGES
* DUAL CERTIFIED	B1 12"-300# WN-RF SS316/316L* B2 12"-300# WN-RF SS316/316L* Vb/Dc 2"-300# WN-RF SS316/316L* Δ w/ BLIND FLANGES
NOZZLE LINERS	-
NUMBER OF PASSES	4
DESIGN PRESSURE	PSIG 500/FV
TEST PRESSURE	PSIG 650
DESIGN TEMP.	Min/Max °F -20/350 Δ
SURFACE AREA	sq.ft. 3439.1 (500 PLATES)
WEIGHT	lb EMPTY: 45000 FLOODED: 50000
PAINT: BLAST PER SSPC-SP10 DAMPNEY THURMALOX 2000, 4 MILS DFT. COLOR: A/L BLUE	

ITEM	QTY.	PARTS LIST	MATERIAL
1	1	PLATE PACK	SA 240 316L
2	2	MASSIVE HEAD - 7 3/4"	SA 516-60
3	1	PANEL Aa - 7"	SA 516 Gr 70(N)
4	1	PANEL Ab - 5 1/4"	SA 516 Gr 70(N)
5	1	PANEL Ba - 6 1/4"	SA 516 Gr 70(N)
6	1	PANEL Bb - 5"	SA 516 Gr 70(N)
7	4	COLUMN	SA 516-60
8	52	STUD, M42 DIA x 335 mm LG., NUT, WASHER; PANEL Aa	SA 540 B21 CL1
	52	STUD, M42 DIA x 275 mm LG., NUT, WASHER; PANEL Ab	
	52	STUD, M42 DIA x 305 mm LG., NUT, WASHER; PANEL Ba	
	52	STUD, M42 DIA x 285 mm LG., NUT, WASHER; PANEL Bb	
9	16	STUD, M33 DIA x 215 mm LG., NUT, WASHER; CORNERS	SA 193 B7/194 2H

FINAL "AS BUILT" DRAWINGS & DESIGN CALCULATIONS TO BE STAMPED & SIGNED BY A PROFESSIONAL ENGINEER.

CERTIFIED PRINT
BY: *David Ludwig* DATE: 11/13/12

A/L CANADA
P.O.# CA-PPI-12-0050

REVIEW	DATE	BY
QC		
AI		

REV#	BY	CHECK	REVISION	DATE
1	KG	JB	REVISED TO CERTIFIED PRINT PER CUSTOMER COMMENTS	9/14/07
2	KG	JB	REVISED PER CUSTOMER COMMENTS	11/8/07
3	KG	JB	REVISED PER CUSTOMER COMMENTS	12/12/07
4	KG	JB	REVISED PER CUSTOMER COMMENTS	1/18/08
5	DL	KG	REVISED JOB INFO. TO REFLECT NEW ORDER	8/27/12
6	DL	KG	REVISED PER CUSTOMER COMMENTS	11/13/12

ALFA LAVAL Inc.
Lykens, PA 17048

SUNCOR VOYAGEUR
MODEL CPX75-V-500
CPX75 MODEL REPLACES CPL

CRN#: U3615.2
TAG UNIT 208E-202A (MO# 2600)
208E-202B (MO# 2601)

SCALE: NTS 2/26/07
DATE: 2/26/07
PURCHASE ORDER NO.: CE416940-CC078834-00

ALFA LAVAL JOB NO.: 799
DRAWING NO.: 50765-67-CA
REV. NO.: 6