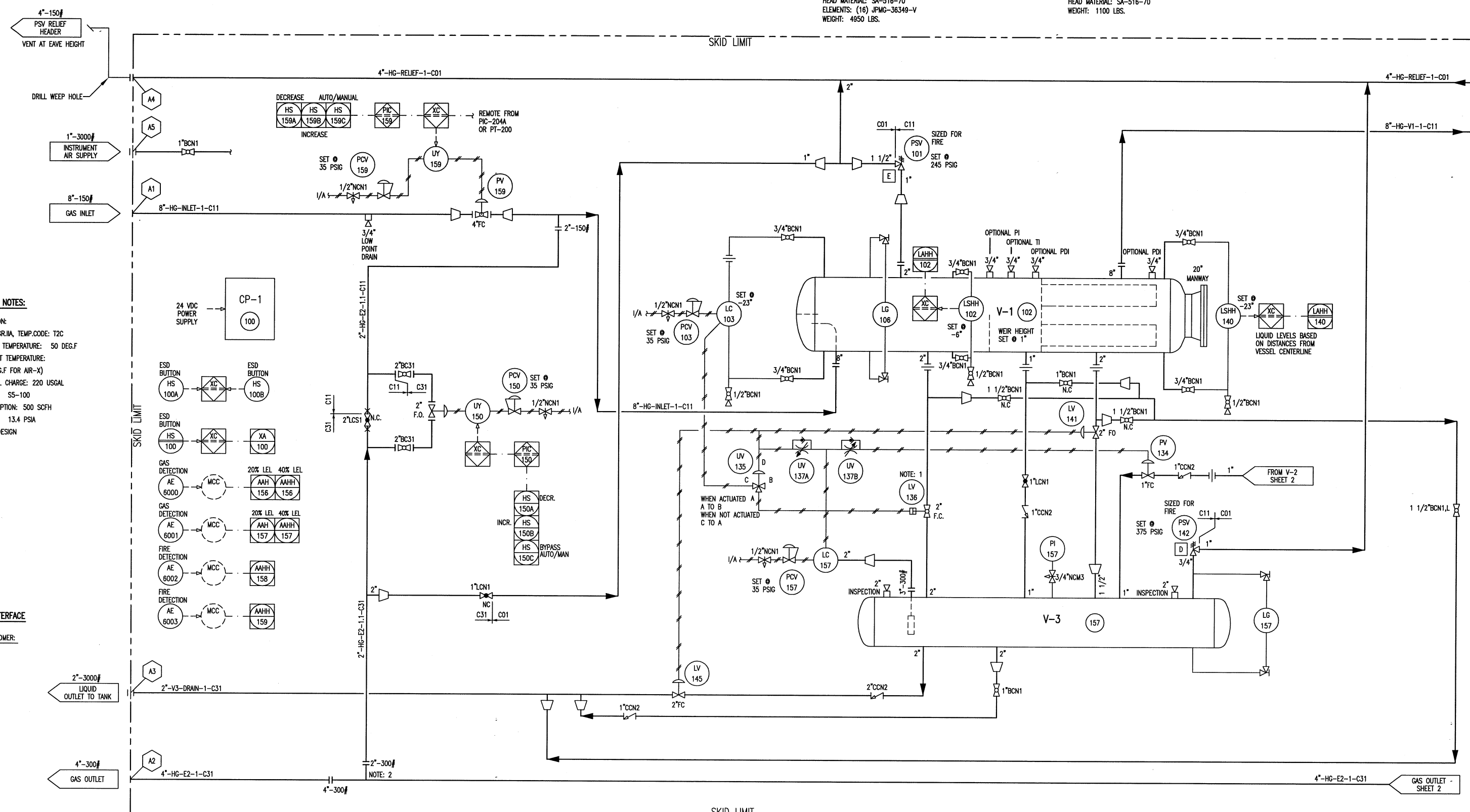


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**CP-1  
CONTROL PANEL**  
MAKE: ALLEN BRADLEY  
MODEL: SLC-504  
POWER SUPPLY: 24 VDC

**V-1  
COMPRESSOR SUCTION FILTER**  
SIZE: 48" ID X 120" S/S  
M.A.W.P.: -15/245 PSIG @ 250 DEG.F  
M.D.M.T.: -20 DEG.F @ -15/245 PSIG  
C.A.: 0.0625"  
SHELL MATERIAL: SA-516-70  
HEAD MATERIAL: SA-516-70  
ELEMENTS: (16) JPMG-36349-V  
WEIGHT: 4950 LBS.

**V-3  
BLOWCASE**  
SIZE: 20" OD X 96" S/S  
M.A.W.P.: -15/400 PSIG @ 250 DEG.F  
M.D.M.T.: -20 DEG.F @ -15/400 PSIG  
C.A.: 0.0625"  
SHELL MATERIAL: SA-106-B  
HEAD MATERIAL: SA-516-70  
WEIGHT: 1100 LBS.



**SKID GENERAL NOTES:**

- ELECTRICAL CLASSIFICATION:  
CLASS 1, ZONE 2, GRIIA, TEMP.CODE: T2C
- MINIMUM DESIGN INDOOR TEMPERATURE: 50 DEG.F
- MAXIMUM DESIGN AMBIENT TEMPERATURE:  
100 DEG.F (105 DEG.F FOR AIR-X)
- COMPRESSOR SYSTEM OIL CHARGE: 220 USGAL
- COMPRESSOR OIL TYPE: SS-100
- INSTRUMENT AIR CONSUMPTION: 500 SCFH
- ATMOSPHERIC PRESSURE: 13.4 PSIA
- ELEVATION: 2500 FT. DESIGN

**CUSTOMER INTERFACE**

DISCRETE INPUTS FROM CUSTOMER:  
REMOTE ESD (N.C.)

OUTPUTS TO CUSTOMER:  
RUN STATUS

NOTE: 1 LOCATE LV-136 AS CLOSE AS POSSIBLE TO BLOWCASE  
NOTE: 2 TAKE CONNECTION FROM THE TOP OF PIPE.

2	AS BUILT	SEP 27/06	RH	RC
1	ISSUED FOR CONSTRUCTION	JUN 22/06	BLL	RC

<b>TOROMONT</b>		<b>TOROMONT PROCESS SYSTEMS</b>		TITLE: <b>P &amp; I FLOW DIAGRAM</b>
DRAWN BY: B. LAMMERS	DATE: JUNE 14, 2006	FOR: PENN WEST 350 HP ELECTRIC BOOSTER		
CHKD. BY: R. CALBUREAN	SCALE: N/A			
APPR. BY: R. CALBUREAN	W.D. No: 12235101			
CUST. PO No:	DWG. No: 12235-101	SHEET No: 1 OF 4	REV: 2	

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**C-1**  
**GAS COMPRESSOR**  
 FRICK: TDSH 233L  
 OPERATING SPEED: 3550 RPM  
 SUCTION PRESSURE: 3-25 PSIG  
 DISCHARGE PRESSURE: 150 PSIG  
 OIL TEMPERATURE: 160 DEG. F  
 DESIGN OIL FLOW RATE: 76 GPM (MAX.)  
 POWER DRAW: 350 HP  
 WEIGHT: 2950 LBS

**CM-1**  
**COMPRESSOR MOTOR**  
 MAKE: TECO-WESTINGHOUSE  
 RPM: 3600  
 3 / 60 / 460 VAC  
 SERVICE FACTOR: 1.15  
 CLASS 'F' INSULATION, CLASS 'B' RISE  
 FULL LOAD AMPS: TBC  
 LOCKED ROTOR AMPS: TBC  
 ENCLOSURE: TEFC

FRAME SIZE: 5009A  
 POWER OUTPUT: 350 HP  
 WEIGHT: 3300 LBS

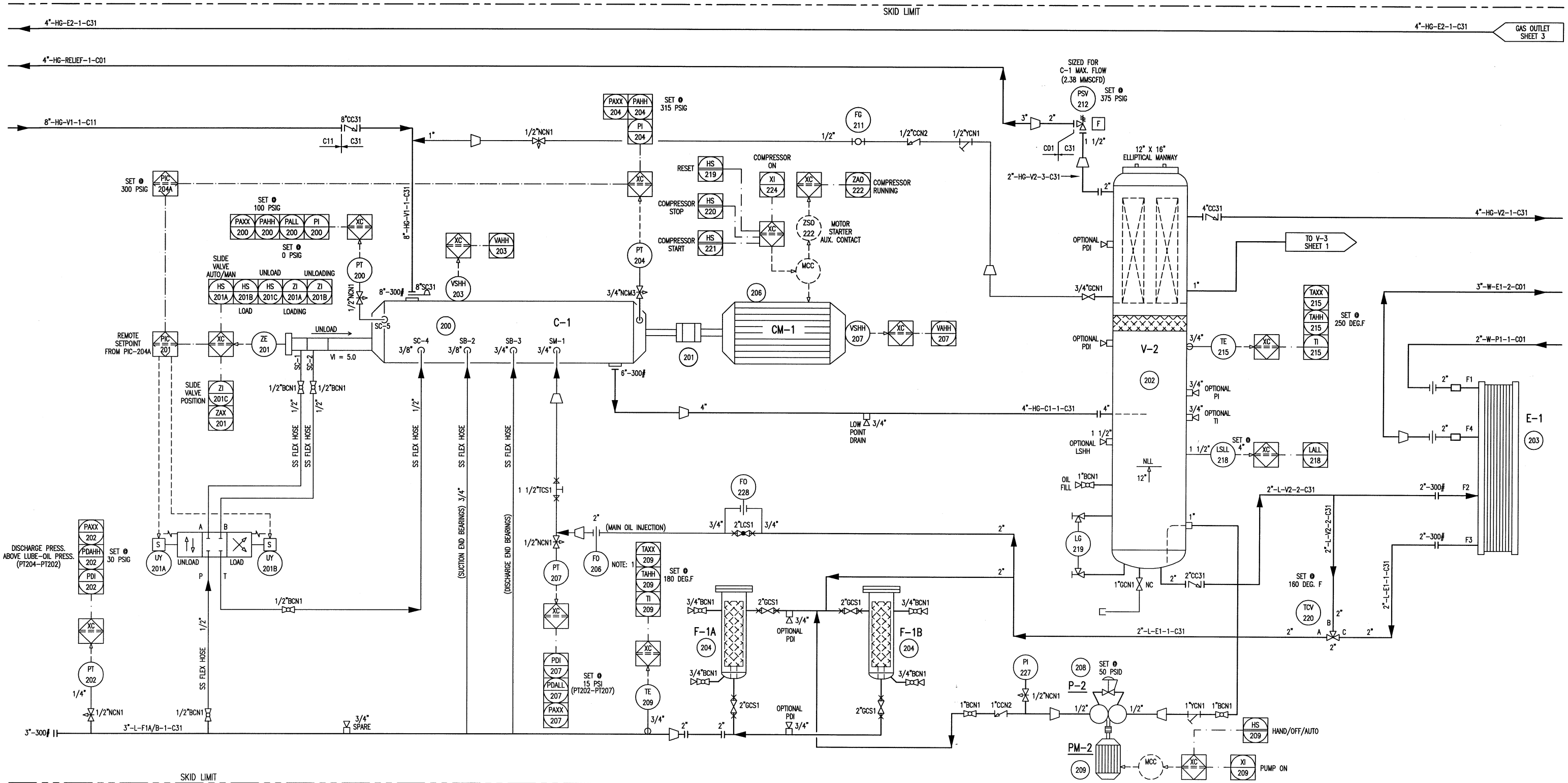
**F-1A/B**  
**OIL FILTER**  
 SIZE: 8.6" O.D. X 26" S/F  
 MAWP: 400 PSIG @ 250 DEG.F  
 MDMT: -20 DEG.F @ 400 PSIG  
 0.0625" CA  
 SHELL MATERIAL: SA-106B  
 HEAD MATERIAL: SA-516-70  
 ELEMENT: (1) MODEL 1833C  
 WEIGHT: 286 LBS.

**P-2**  
**COMPRESSOR PRE-LUBE PUMP**  
 MAKE: TUTHILL  
 MODEL: 4105V-C-7  
 FLOW: 5 GPM  
 FLUID: S5-100 COMPRESSOR OIL

**PM-2**  
**COMPRESSOR PRE-LUBE PUMP MOTOR**  
 MAKE: BALDOR  
 MODEL: CM7006A  
 POWER OUTPUT: 1/2 HP @ 1750 RPM  
 POWER SUPPLY: 3/60/230-460 VAC

**V-2**  
**OIL SEPARATOR**  
 SIZE: 30" O.D. X 102" S/S  
 MAWP: 400 PSIG @ 250 DEG.F  
 MDMT: -20 DEG.F @ 400 PSIG  
 0.0625" CA  
 SHELL MATERIAL: SA-516-70  
 HEAD MATERIAL: SA-516-70  
 ELEMENT: (4) RSC1175-3  
 WEIGHT: 2650 LBS.

**E-1**  
**OIL COOLER**  
 MODEL: VIEX VX-20-SS-FML-2-100  
 PLATES: 85  
 MAWP OIL SIDE: 400 PSIG @ 250 DEG.F  
 MDMT OIL SIDE: -20 DEG.F @ 400 PSIG  
 MAWP GLYCOL SIDE: 400 PSIG @ 250 DEG.F  
 DESIGN DUTY: 665,465 BTU/H  
 SURFACE AREA: 178.68 FT2  
 WEIGHT: 1032 LBS.



NOTE:1  
 ORIFICE SUPPLIED WITH COMPRESSOR

REV.	DESCRIPTION	DATE	BY	APPR.
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1	ISSUED FOR CONSTRUCTION	JUN 22/06	BLL	RC

		TITLE: P & I FLOW DIAGRAM	
DRAWN BY: B.LAMMERS	DATE: JUNE 14, 2006	FOR: PENN WEST 350 HP ELECTRIC BOOSTER	
CHKD. BY: R. CALBUREAN	SCALE: N/A	W.D. No: 12235101	
APPR. BY: R. CALBUREAN	W.D. No: 12235101	DWG. No: 12235-101	SHEET No: 2 OF 4

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**H-1 A/B**  
**BUILDING HEATER**  
 MAKE: RUFFNECK ELECTRIC  
 MODEL: FX 416-480360-15  
 OUTPUT: 15 KW  
 POWER SUPPLY: 3/60/480 VAC  
 ENCLOSURE: EXPLOSION PROOF  
 CLASS I DIV II GROUPS C & D

**P-1**  
**GLYCOL CIRCULATION PUMP**  
 MAKE: PRICE  
 MODEL: CD150AN-1 1/2 X 2  
 IMPELLER SIZE: 4.5"  
 PRESSURE: 45 FT. HEAD  
 FLOW: 130 GPM  
 FLUID: 50/50 GLYCOL  
 OPERATING SPEED: 3550 RPM  
 POWER DRAW: 2.5 HP

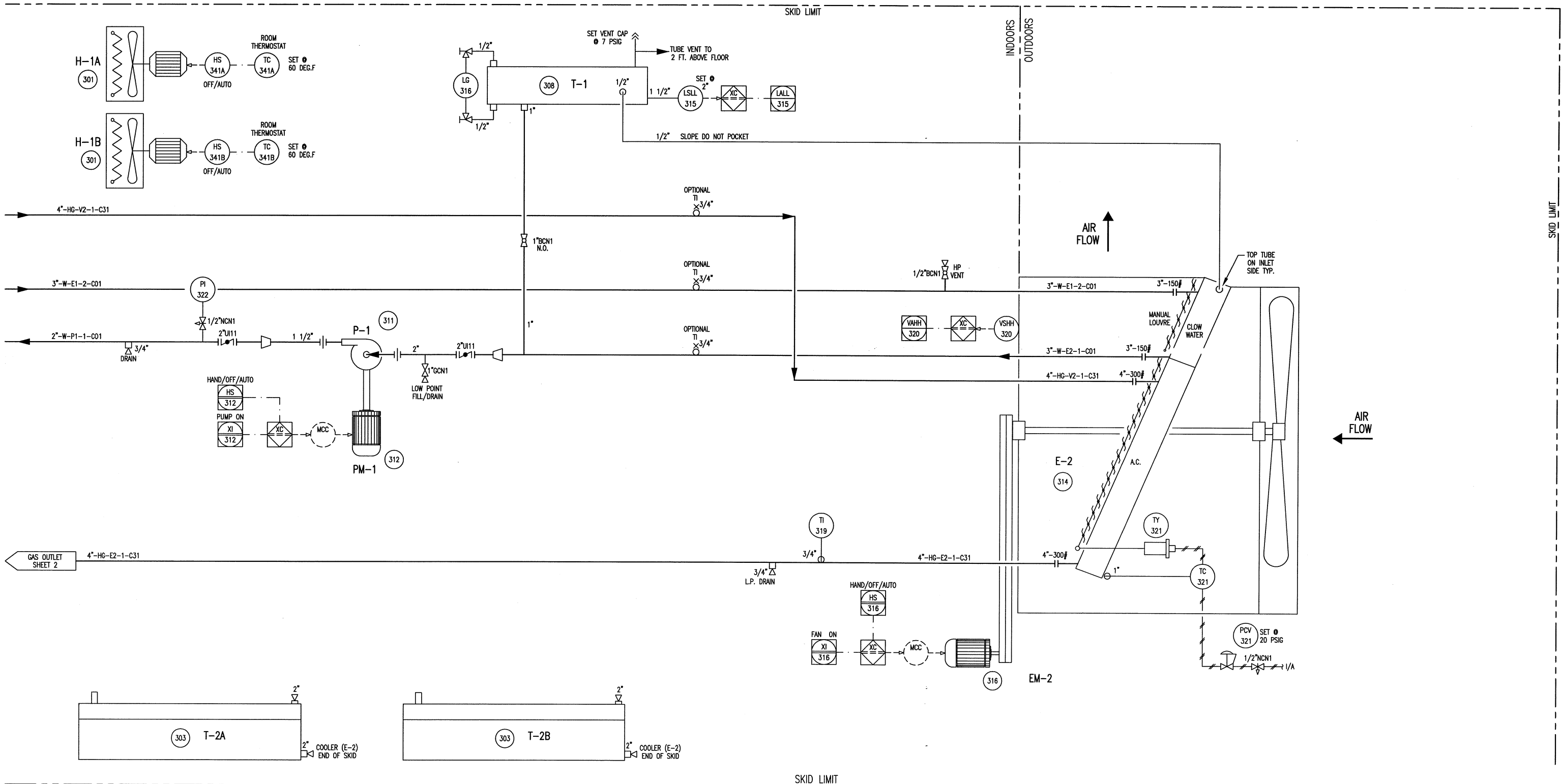
**PM-1**  
**GLYCOL CIRCULATION PUMP MOTOR**  
 RPM: 3550  
 SUPPLY: 3/60/230-460 VAC  
 ENCLOSURE: XP  
 POWER OUTPUT: 3 HP  
 CLOSE COUPLED TO PUMP

**T-1**  
**AUX. GLYCOL SURGE TANK**  
 SIZE: HSS 1/4" THK X  
 12" X 12" X TBC" LG  
 VOLUME: TBC USGAL

**T-2A/B**  
**WASTE TANKS**  
 SIZE: HSS 3/8" THK X 8" X 8" X TBC" LG  
 HSS 3/8" THK X 8" X 8" X TBC" LG  
 WELDED TOGETHER  
 LOCATION: SIDE OF SKID  
 VOLUME: TBC USGAL / EACH

**EM-2**  
**COOLER MOTOR**  
 MAKE: COMP. MOTOR  
 RPM: 1800  
 3/60/460 VAC  
 ENCLOSURE: TEFC  
 POWER OUTPUT: 10 HP

**E-2**  
**COMPRESSOR AFTERCOOLER/GLYCOL COOLER**  
 TYPE: ACE  
 MODEL: A60M-8  
 AFTERCOOLER COIL: MAWP: 400 PSI @ 350 DEG.F  
 MDMT: -20 DEG.F @ 400 PSIG  
 DUTY: 231,133 BTU/HR  
 GLYCOL COIL: MAWP: 14 PSI @ 350 DEG.F  
 (OIL COOLER GLYCOL) DUTY: 659,400 BTU/HR  
 FAN: MOORE SERIES 24  
 FAN SPEED: 658 RPM  
 TOTAL AIR FLOW: 30096 SCFM  
 POWER DRAW: 7.9 HP  
 WEIGHT: 4288 LBS.



REV.	DESCRIPTION	DATE	BY	APPR.
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1	ISSUED FOR CONSTRUCTION	JUN 22/06	BLL	RC

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<b>DRAWN BY:</b> B.LAMMERS	<b>DATE:</b> JUNE 14, 2006	<b>FOR:</b> PENN WEST 350 HP ELECTRIC BOOSTER	
<b>CHKD. BY:</b> R. CALBUREAN	<b>SCALE:</b> N/A	<b>W.O. No.:</b> 12235101	
<b>APPR. BY:</b> R. CALBUREAN	<b>W.O. No.:</b> 12235101	<b>DWG. No.:</b> 12235-101	<b>SHEET No.:</b> 3 OF 4
<b>CUST. PO No.:</b>			<b>REV.:</b> 2

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**LINE IDENTIFICATION**  
A<sup>n</sup>-B-CD-E-FGH-IJ,K

- A :** NOMINAL LINE SIZE IN INCHES
- B :** FLUID  
 FG FUEL GAS  
 G GLYCOL  
 HG HYDROCARBON GAS  
 HL HYDROCARBON LIQUID  
 I/A INSTRUMENT AIR  
 I/A INSTRUMENT GAS  
 L LUBE OIL (COMPRESSOR)  
 W COOLING WATER
- C :** EQUIPMENT TYPE  
 C COMPRESSOR  
 E EXCHANGER  
 F FILTER  
 G GENERATOR  
 H HEATER  
 P PUMP  
 S SPEED INCREASER  
 T TANK  
 V PRESSURE VESSEL
- MODIFIER**  
 E ENGINE  
 M MOTOR
- D :** EQUIPMENT NUMBER:  
 1 TO 9 SEQUENTIAL NUMBERS
- E :** LINE NUMBER:  
 1 TO 9 SEQUENTIAL NUMBERS FROM EQUIPMENT
- FGH :** PIPING SPECIFICATION
- F :** MATERIAL GROUP  
 C CARBON STEEL  
 L LOW TEMPERATURE CARBON STEEL  
 S STAINLESS STEEL
- G :** ANSI 16.5 FLANGE CLASS  
 0 NON CODE  
 1 150#  
 3 300#  
 6 600#  
 9 900#  
 15 1500#  
 25 2500#
- H :** LINE MATERIAL SPECIFICATION REFERENCE:  
 1 TO 9 SEQUENTIAL NUMBERS
- I :** INSULATION TYPE (IF REQUIRED)  
 C COLD  
 H HOT  
 HC HOT/COLD  
 HT HEAT TRACING  
 PP PERSONAL PROTECTION
- J :** INSULATION THICKNESS (IF REQUIRED)  
 THICKNESS IN MILLIMETERS OR INCHES
- K :** TRACING (IF REQUIRED)  
 ET ELECTRICAL TRACING  
 GT GLYCOL TRACING  
 ST STEAM TRACING

**EXAMPLE:** 3<sup>n</sup>-HG-V1-2-C11-HTXX,ET

3<sup>n</sup> - LINE SIZE  
 HG - HYDROCARBON GAS  
 V1 - PRESSURE VESSEL TAG NUMBER (V-1)  
 2 - SECOND LINE FROM VESSEL  
 C11 - C CARBON STEEL LINE  
 1 150# ANSI FLANGE RATING  
 1 LINE MATERIAL SPECIFICATION REFERENCE

HT - HEAT TRACING INSULATION  
 XX - THICKNESS IN MILLIMETERS OR INCHES (\*)  
 ET - ELECTRICAL TRACING

**VALVE IDENTIFICATION**  
A<sup>n</sup>BCDE,F

- A :** NOMINAL VALVE SIZE IN INCHES
- B :** TYPE  
 A ANGLE GLOBE N NEEDLE  
 B BALL P PLUG  
 C CHECK S START-UP STRAINER  
 G GATE T TEE STRAINER  
 L GLOBE U BUTTERFLY  
 M MANIFOLD Y Y PATTERN STRAINER
- C :** BODY MATERIAL  
 B BRONZE L LOW TEMP. CARBON STEEL  
 C CARBON STEEL S STAINLESS STEEL  
 I CAST IRON
- D :** END CONNECTIONS  
 1 FLANGED 150# B BUTT WELD  
 3 FLANGED 300# C SW BY NPT  
 6 FLANGED 600# F NPT BY-FLANGE (MANIFOLD)  
 9 FLANGED 900# M NPT MALE BY NPT FEMALE  
 15 FLANGED 1500# N NPT (THREADED)  
 25 FLANGED 2500# S SW (SOCKETWELD)  
 T TUBE (SWAGELOCK)
- E :** UNIQUE DESCRIPTION  
 REFER TO VALVE DATA SHEETS
- F :** MODIFIER  
 C CHAIN OPERATOR O OXYGEN SERVICE/CLEANING  
 E EXTENDED BONNET P FULL PORT DESIGN  
 G GEAR OPERATOR R RTJ FLANGED  
 L LOCKING DEVICE S SPRING HANDLE (CLOSE)  
 N NACE TRIM X SPECIAL SPECIFICATIONS
- EXAMPLE:** 6<sup>n</sup>GC11,C  
 6<sup>n</sup> VALVE SIZE 1 150#  
 G GATE 1 API-600  
 C CARBON STEEL C CHAIN OPERATOR

**VALVE TYPES**

- ANGLE GLOBE VALVE  
 BALL VALVE  
 BUTTERFLY VALVE  
 CHECK VALVE  
 GATE VALVE  
 GLOBE VALVE
- NEEDLE VALVE  
 PLUG VALVE  
 3-WAY VALVE  
 4-WAY VALVE  
 VALVE W/BLEED  
 VALVE W/PLUG

**VALVE CONNECTIONS**

- THREADED  
 WELDED (BUTT OR SOCKET)  
 THREADED BY WELDED  
 FLANGED

**LINE CODE**

- PRIMARY PROCESS LINE  
 SECONDARY PROCESS LINE  
 INSTRUMENT PROCESS LINE (TUBING)  
 BY OTHERS  
 SKID LIMIT  
 PNEUMATIC SIGNAL  
 ELECTRIC SIGNAL  
 CAPILLARY TUBING  
 INSTRUMENT SYSTEM LINK (ELECTRONIC MEMORY SHARING)

**CONTROL VALVES**

- POSITIONER DIAPHRAGM CONTROL VALVE  
 OUTLET PRESSURE REGULATOR (SELF-CONTAINED)  
 INLET PRESSURE REGULATOR (SELF-CONTAINED)  
 PRESSURE DIFFERENTIAL CONTROL VALVE (SELF-CONTAINED)
- TWO-WAY SOLENOID VALVE  
 THREE-WAY SOLENOID VALVE  
 MOTOR ACTUATOR  
 HYDRAULIC/PNEUMATIC PISTON OPERATED

**MISCELLANEOUS**

- FLEXIBLE CONNECTION  
 CONTINUOUS LIQUID DRAINER OR STEAM TRAP  
 RUPTURE DISC FOR PRESSURE RELIEF  
 RUPTURE DISC FOR VACUUM RELIEF  
 SPECTACLE BLIND (LINE OPEN)  
 SPECTACLE BLIND (LINE CLOSED)  
 CONE START-UP STRAINER  
 BASKET START-UP STRAINER  
 Y-PATTERN STRAINER  
 TEE STRAINER
- VORTEX BREAKER  
 DIAPHRAM SEAL  
 SKID TIE-POINTS  
 OPEN DRAIN  
 INSULATION TYPE  
 ELECTRIC HEAT TRACE  
 GLYCOL OR STEAM HEAT TRACE

	(MODIFIER)	INSTRUMENT IDENTIFICATION GENERAL REFERENCE (ISA - S5.1)														
		FIRST LETTER	SUCCEEDING LETTERS	PRIMARY ELEMENT	INDICATOR	RECORDER	CONTROLLER			TRANS-MITTER	CONTROL		CONTROL VALVE OR REGULATOR	SELF-ACTIVATED VALVE	RELAY OR CONVERTOR	
							BLIND	INDICATING	RECORDING		SWITCH	ALARM				
A	ANALYSIS	ALARM	AE	AI	AR	AC	AIC	ARC	AT	AS( )	AA( )	AV				AY
B	USER'S CHOICE															
C	CONDUCTIVITY	CONTROL OR CLOSE	CE	CI	CR	CC	CIC	CRC	CT	CS( )	CA( )	CV				CY
D	DENSITY OR MASS (DIFFERENTIAL)	DIFFERENTIAL	DE	DI	DR	DC	DIC	DRC	DT	DS( )	DA( )	DV				DY
E	VOLTAGE	PRIMARY ELEMENT	EE	EI	ER	EC	EIC	ERC	ET	ES( )	EA( )	EV				EY
F	FLOW (RATIO OR FRACTION)	SHUTDOWN FIRST OUT	FE	FI	FR	FC	FIC	FRC	FT	FS( )	FA( )	FV	FCV			FY
G	GAUGING	GLASS	GE	GI	GR	GC	GIC	GRC	GT	GS( )	GA( )	GV				
H	HAND	HIGH				HC	HIC	HRC	HT	HS( )		HV	HCV			HY
I	CURRENT	INDICATE	IE	II	IR	IC	IIC	IRC	IT	IS( )	IA( )					IY
J	POWER (SCAN)		JE	JI	JR	JC	JIC	JRC	JT	JS( )	JA( )					JY
K	TIME	CONTROL STATION		KI	KR	KC	KIC	KRC	KT	KS( )	KA( )	KV				KY
L	LEVEL	LOW	LE	LI	LR	LC	LIC	LRC	LT	LS( )	LA( )	LV	LCV			LY
M	MOISTURE, HUMIDITY	MIDDLE OR INTERMEDIATE	ME	MI	MR	MC	MIC	MRC	MT	MS( )	MA( )	MV				MY
N	USER'S CHOICE															
O	USER'S CHOICE	ORIFICE OR OPEN														
P	PRESSURE OR VACUUM		PE	PI	PR	PC	PIC	PRC	PT	PS( )	PA( )	PV	PCV			PY
Q	QUANTITY OR EVENT (INTEGRATE/TOTALIZE)			QI	QR	QC	QIC	QRC	QT	QS( )	QA( )	QV				QY
R	RELIEF OR RESTRICTION	RECORD OR PRINT	RE	RI	RR	RC	RIC	RRC	RT	RS( )	RA( )					RY
S	SPEED OR FREQUENCY	SWITCH OR SAFETY		SI	SR	SC	SIC	SRC	ST	SS( )	SA( )					SY
T	TEMPERATURE	TRANSMIT	TE	TI	TR	TC	TIC	TRC	TT	TS( )	TA( )	TV	TCV			TY
U	MULTI-VARIABLE	MULTIFUNCTION		UI	UR	UC	UIC	URC				UV				
V	VIBRATION	VALVE OR DAMPER	VE	VI	VR	VC	VIC	VRC	VT	VS( )	VA( )	VW				VY
W	WEIGHT OR FORCE	WELL	WE	WI	WR	WC	WIC	WRC	WT	WS( )	WA( )	VW				WY
X	LIGHT	UNCLASSIFIED (DIAGNOSTIC)	XE	XI	XR	XC	XIC	XRC	XT	XS( )	XA( )	XV				XY
Y	USER'S CHOICE	RELAY OR COMPUTE														YY
Z	POSITION	DRIVE OR ACTUATE	ZE	ZI	ZR	ZC	ZIC	ZRC	ZT	ZS( )	ZA( )					ZY

**INSTRUMENTS**

- LOCAL MOUNTED  
 LOCAL PANEL MOUNTED  
 MOUNTED BEHIND OR IN LOCAL PANEL  
 MAIN PANEL MOUNTED  
 MOUNTED BEHIND OR IN MAIN PANEL  
 MAN MACHINE INTERFACE IN MAIN PANEL  
 BY OTHERS  
 PILOT LIGHT \* COLOUR  
 (A) AMBER (B) BLUE  
 (G) GREEN (O) ORANGE  
 (R) RED (W) WHITE
- RELAY OR CONVERTER  
 \* FOR INPUT/OUTPUT SEQUENCES  
 DESIGNATION: SIGNAL:  
 I CURRENT (ELECTRICAL)  
 P PNEUMATIC
- PROGRAMMABLE LOGIC CONTROLLER (PLC)  
 XC REPRESENTS GENERAL LOGIC
- INTERLOCK  
 ELECTRICAL (HARD WIRE) INTERLOCK
- THERMOWELL (THREADED)  
 THERMOWELL (WELDED)

- (C) -CLOSE (O) -OPEN  
 (H) -HIGH ALARM (L) -LOW ALARM  
 (HH) -HIGH SHUTDOWN (LL) -LOW SHUTDOWN  
 (XX) -DIAGNOSTIC SHUTDOWN (USED TO INDICATE THE DIAGNOSTIC CHECK REQ'D ON THE ANALOG INPUT)

**ABBREVIATIONS**

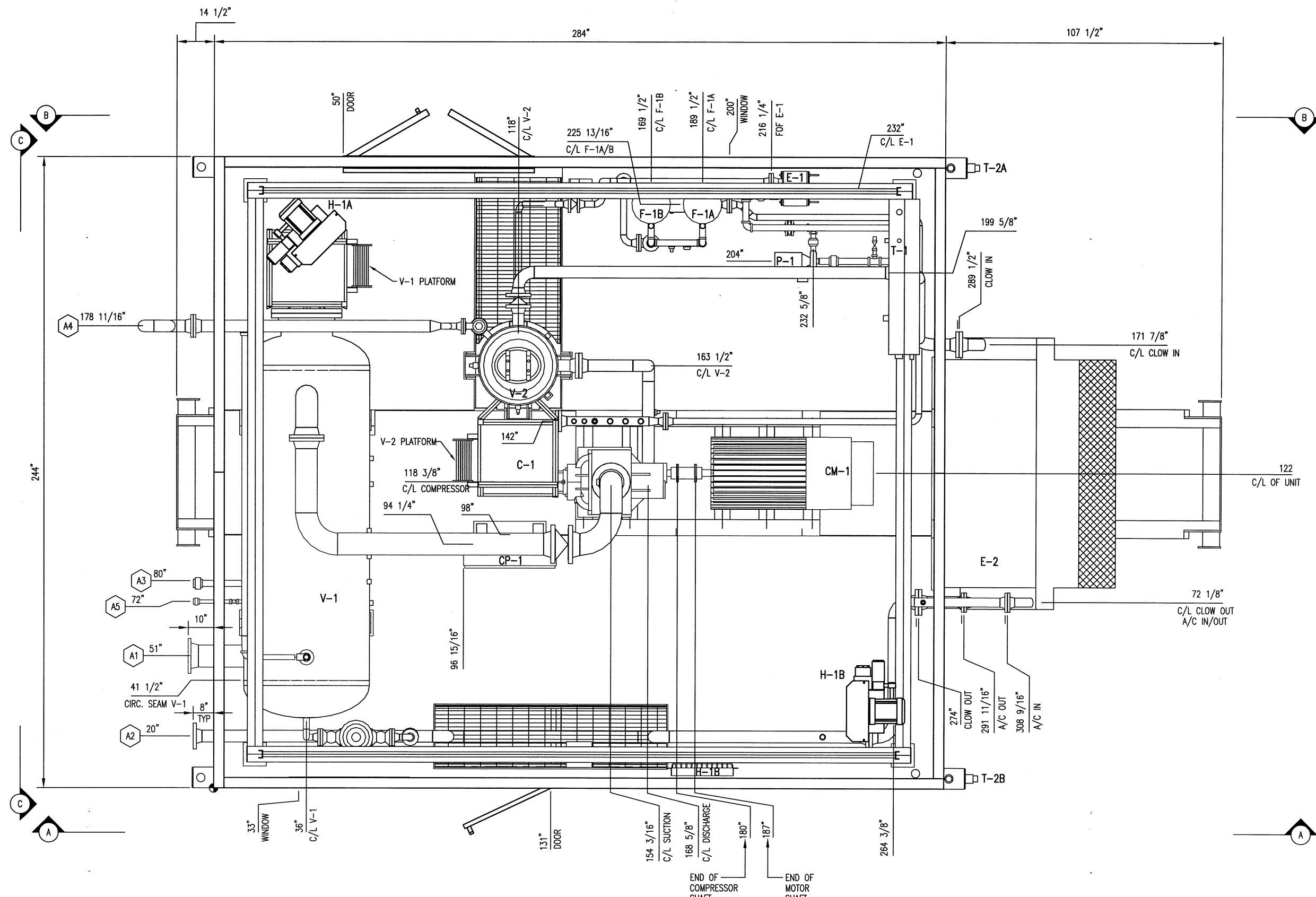
- AOUT AUTOMATIC OUTPUT  
 CA CORROSION ALLOWANCE  
 CSO CAR SEAL OPEN  
 CUST CUSTOMER  
 DEG.C DEGREES CELSIUS  
 DEG.F DEGREES FARENHEIT  
 DIR DIRECT ACTING  
 DB DEADBAND  
 Δ DELTA (DIFFERENTIAL)  
 ESD EMERGENCY SHUTDOWN  
 FC FAIL CLOSED  
 FO FAIL OPEN  
 FOT FLAT ON TOP  
 FLP FAIL LAST POSITION  
 FT2 SQUARE FEET  
 FT3 CUBIC FEET  
 HI HIGH  
 HLL HIGH LIQUID LEVEL  
 HR HOUR  
 HTR HEATER  
 I/A INSTRUMENT AIR  
 I/A INSTRUMENT GAS  
 I/O INPUT / OUTPUT  
 I.D. INSIDE DIAMETER  
 KGS KILOGRAMS  
 KPAA KILOPASCAL ABSOLUTE  
 KPAD KILOPASCAL DIFFERENTIAL  
 KPAG KILOPASCAL GAUGE  
 KW KILOWATTS  
 LBS POUNDS  
 LC LOCKED CLOSED  
 LO LOCKED OPEN  
 LP LOCKED IN POSITION
- M2 SQUARE METERS  
 M3 CUBIC METERS  
 MAX MAXIMUM  
 MAWP MAXIMUM ALLOWABLE WORKING PRESSURE  
 MCC MOTOR CONTROL CENTER  
 MDMT MINIMUM DESIGN METAL TEMPERATURE  
 MIN MINIMUM  
 MM MILLIMETER  
 MOUT MANUAL OUTPUT  
 MS MOTOR STARTER  
 NC NORMALLY CLOSED  
 NLL NORMAL LIQUID LEVEL  
 NO NORMALLY OPEN  
 NPT NATIONAL PIPE THREAD  
 OIC OPERATOR INTERFACE COMPUTER  
 O.D. OUTSIDE DIAMETER  
 PB PUSH BUTTON  
 PSIA POUNDS / SQUARE INCH ABSOLUTE  
 PSID POUNDS / SQUARE INCH DIFFERENTIAL  
 PSIG POUNDS / SQUARE INCH GAUGE  
 PLC PROGRAMMABLE LOGIC CONTROLLER  
 REV REVERSE ACTING  
 RST RESET (INTEGRAL)  
 SCR SILICON CONTROLLED RECTIFIER  
 S/F SEAM TO FACE OF FLANGE  
 SP SETPOINT  
 SPC CALCULATED SETPOINT  
 SS SELECTOR SWITCH  
 S/S SEAM TO SEAM  
 T/T TANGENT TO TANGENT  
 TS/TS TUBESHEET TO TUBESHEET  
 T/L TUBE LENGTH  
 V/H VENT HEADER

REV.	DESCRIPTION	DATE	BY	APPR.
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1	ISSUED FOR CONSTRUCTION	JUN 22/06	BLL	RC

<b>TOROMONT</b>		<b>TOROMONT PROCESS SYSTEMS</b>		TITLE: P & I FLOW DIAGRAM
DRAWN BY: B.LAMMERS	DATE: JUNE 14, 2006	FOR: PENN WEST 350 HP ELECTRIC BOOSTER		
CHKD. BY: R. CALBUREAN	SCALE: N/A			
APPR. BY: R. CALBUREAN	W.O. No: 12235101			
CUST. PO No:	DWG. No: 12235-101	SHEET No: 4 OF 4	REV: 2	

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NOZZLE SCHEDULE				
MARK	SERVICE	SIZE	RATING	TYPE
A1	GAS INLET	8"	150#	RFWN
A2	GAS OUTLET	4"	300#	RFWN
A3	LIQUID DRAIN	2"	3000#	NPT
A4	PSV RELIEF VENT	4"	-	PIPE
A5	INSTRUMENT AIR SUPPLY	1"	3000#	NPT



- GENERAL NOTES:**
- ALL TAIL DIMENSIONS FROM REFERENCE POINT.
  - SHIPPING LENGTH: 406"  
SHIPPING WIDTH: 244"  
SHIPPING HEIGHT: 138"
  - SHIPPING WEIGHT: 57,000 LBS
  - OPERATING WEIGHT: 59,500 LBS
  - OVERALL SKID DEPTH: 16"
  - NOZZLE ELEVATIONS ARE FROM CENTERLINE OF PIPE TO TOP OF BASE (REFERENCE POINT).
  - (\*) DENOTES ELEVATION FROM FACE OF FLANGE TO TOP OF BASE (REFERENCE POINT).
  - CENTER OF GRAVITY:  
 'X' FROM REFERENCE POINT: 162"  
 'Y' FROM REFERENCE POINT: 128"  
 'Z' FROM REFERENCE POINT: 30"  
 'Z' DIMENSION FROM TOP OF BASE

PLAN VIEW

REV.	DESCRIPTION	DATE	BY	APPR.
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1	ISSUED FOR CONSTRUCTION	JUL 10/06	BLL	RC


ENGINEER STAMP

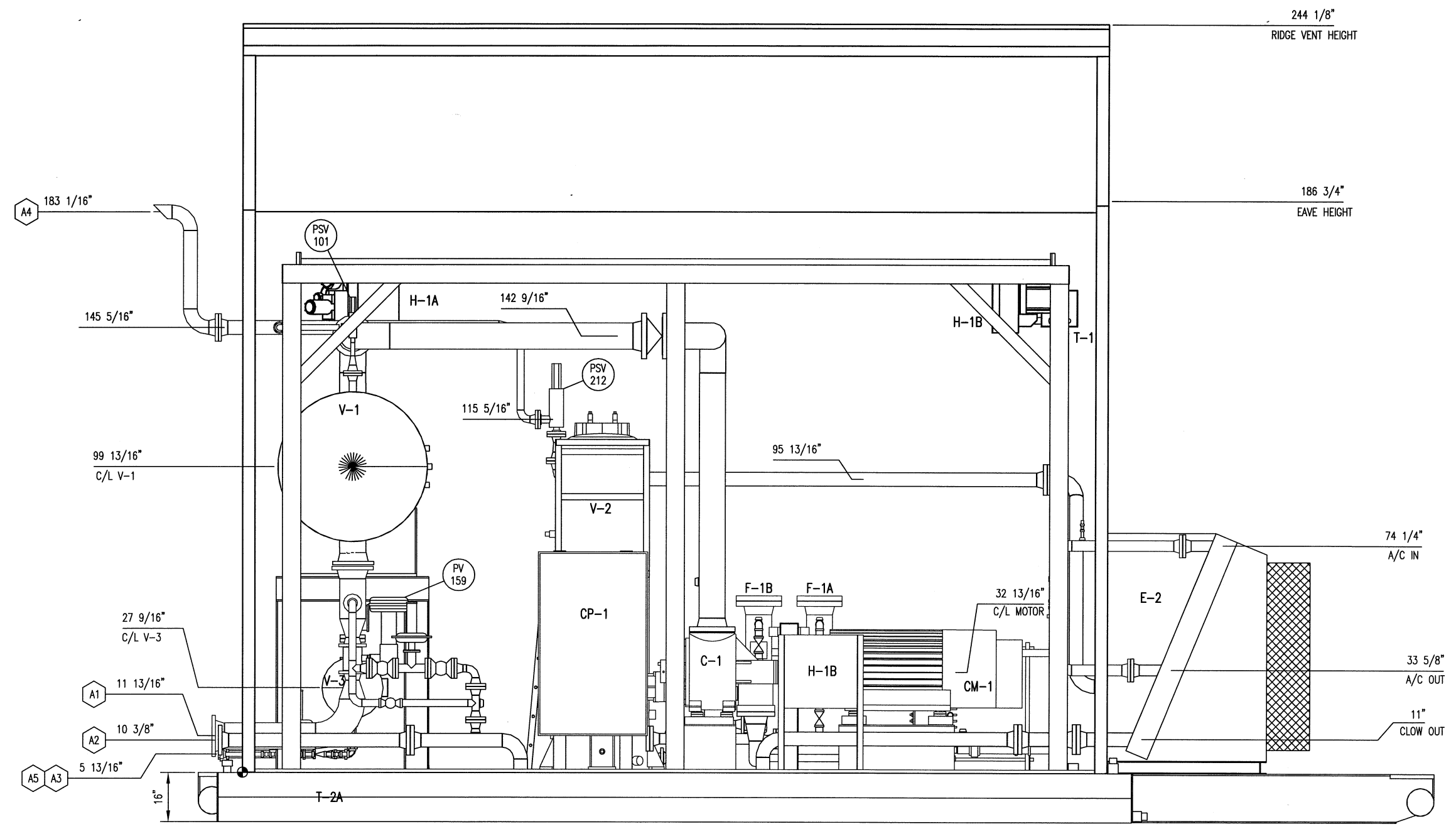
**TOROMONT ENERGY SYSTEMS**

DRAWN BY: B.LAMMERS  
 CHKD. BY: R.CALBUREAN  
 APPR. BY: R.CALBUREAN

DATE: JUNE 29, 2006  
 SCALE: 3/4"=1'-0"  
 W.O. No: 12235201

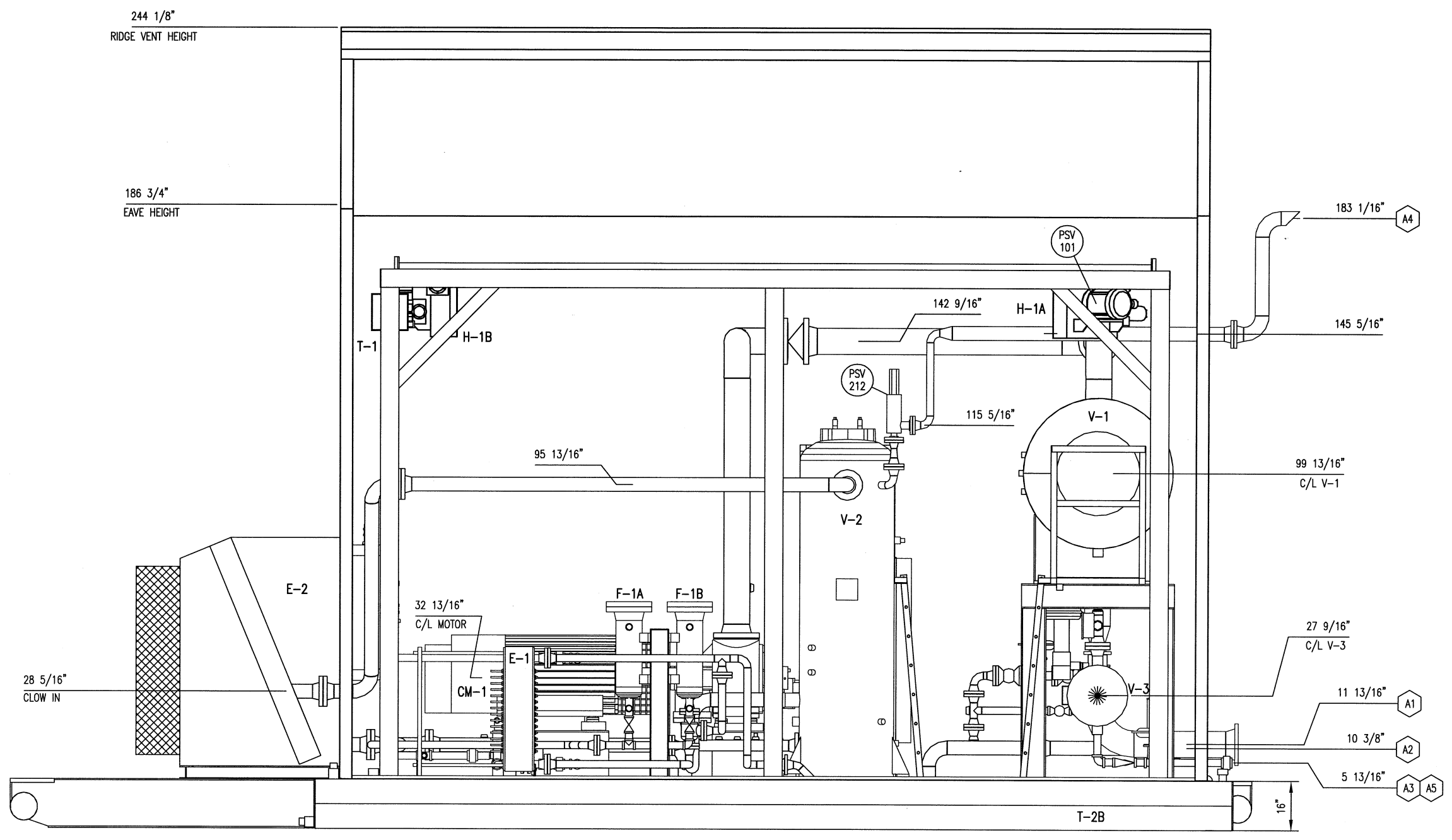
TITLE: GENERAL ARRANGEMENT
FOR: PENN WEST 350 HP ELECTRIC BOOSTER
DWG. No: 12235-201
SHEET No: 1 OF 4
REV: 2

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				ENGINEER STAMP				TITLE: ELEVATION VIEW 'A-A'	
						DRAWN BY: B.LAMMERS DATE: JUNE 29, 2006		FOR: PENN WEST 350 HP ELECTRIC BOOSTER	
						CHKD. BY: R.CALBUREAN SCALE: 3/4"=1'-0"			
						APPR. BY: R.CALBUREAN W.O. No: 12235201			
						CUST. PO No:		DWG. No: 12235-201 SHEET No: 2 OF 4 REV: 2	
REV.	DESCRIPTION	DATE	BY	APPR.					
2	AS BUILT	SEP 27/06	RH	RC					
1	ISSUED FOR CONSTRUCTION	JUL 10/06	BL	RC					

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REV.	DESCRIPTION	DATE	BY	APPR.
2	AS BUILT	SEP 27/06	RH	RC
1	ISSUED FOR CONSTRUCTION	JUL 10/06	BL	RC

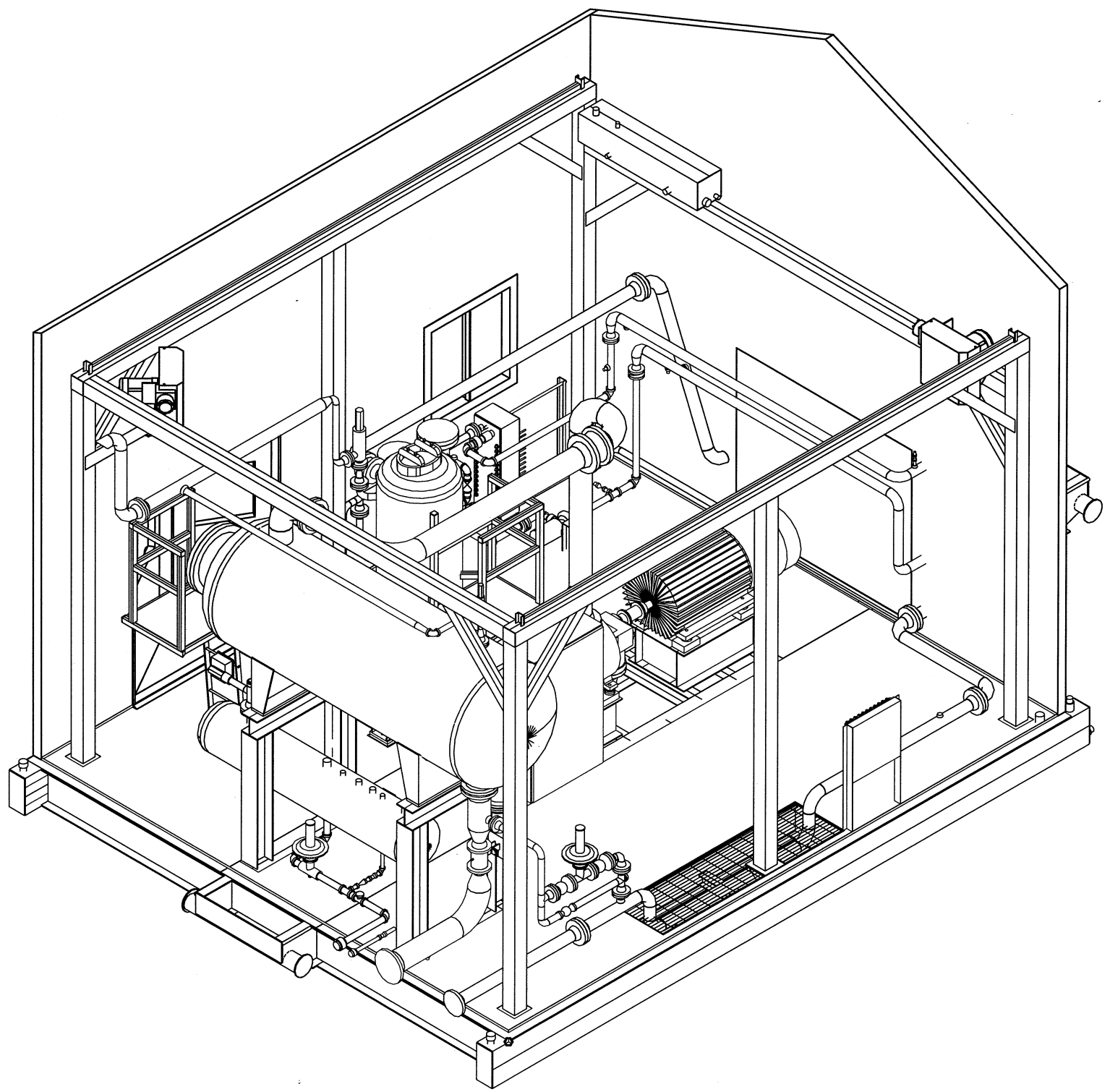
ENGINEER STAMP

DRAWN BY: B.LAMMERS CHKD. BY: R.CALBUREAN APPR. BY: R.CALBUREAN CUST. PO No:	DATE: JUNE 29, 2006 SCALE: 3/4"=1'-0" W.O. No: 12235201
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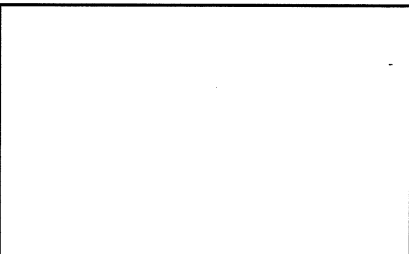
**TOROMONT**  
ENERGY SYSTEMS

TITLE:	ELEVATION VIEW 'B-B'
FOR:	PENN WEST 350 HP ELECTRIC BOOSTER
DWG. No:	12235-201
SHEET No:	3 OF 4
REV:	2

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REV.	DESCRIPTION	DATE	BY	APPR.
2	AS BUILT	SEP 27/06	RH	RC
1	ISSUED FOR CONSTRUCTION	JUL 10/06	BLL	RC



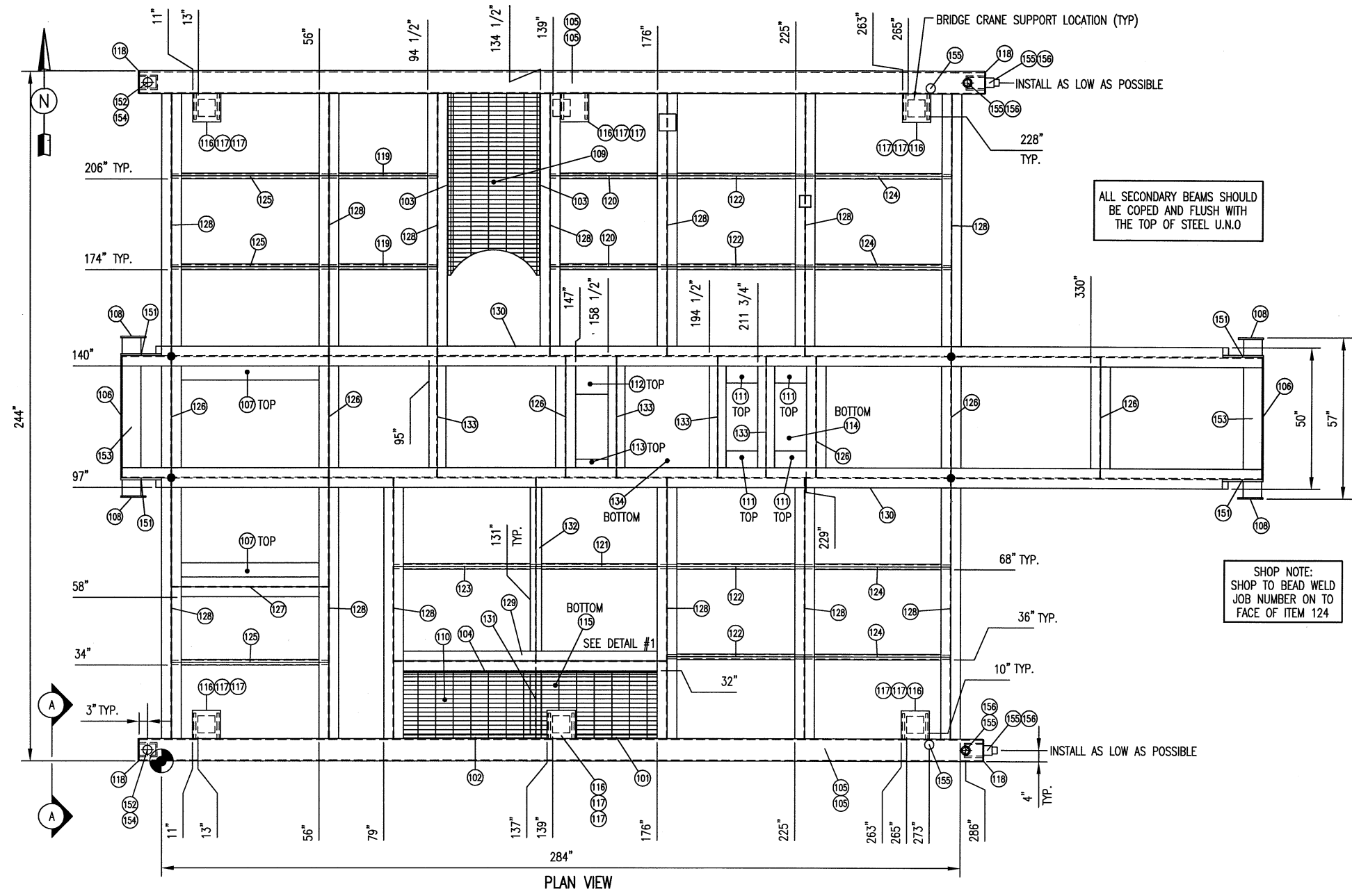
ENGINEER STAMP	
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<b>TOROMONT</b> ENERGY SYSTEMS	
DRAWN BY: B.LAMMERS	DATE: JUNE 29, 2006
CHKD. BY: R.CALBUREAN	SCALE: 3/4"=1'-0"
APPR. BY: R.CALBUREAN	W.O. No: 12235201
CUST. PO No:	

TITLE:	ISOMETRIC VIEW
FOR:	PENN WEST 350 HP ELECTRIC BOOSTER
DWG. No:	12235-201
SHEET No:	4 OF 4
REV:	2



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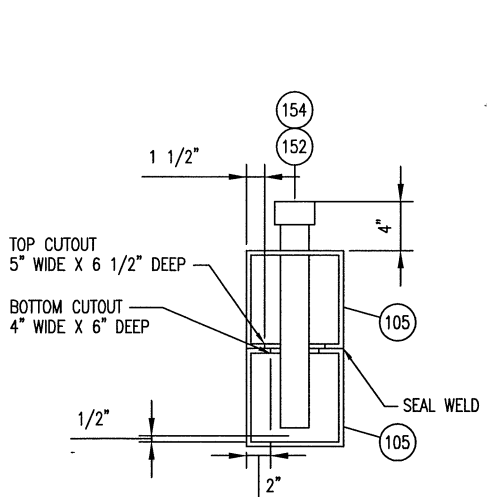


PLAN VIEW

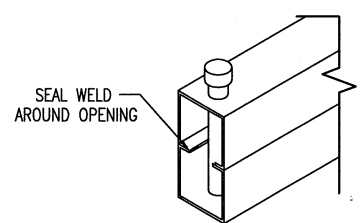
BILL OF MATERIAL					
ITEM	QTY	DESCRIPTION	MATERIAL	LENGTH	PART NUMBER
101	1	ANGLE, 1-1/4" X 1-1/4", 1/4" THK	G40.2144W	29	005-HA-0125-0125-0025
102	1	ANGLE, 1-1/4" X 1-1/4", 1/4" THK	G40.2144W	51	005-HA-0125-0125-0025
103	2	ANGLE, 1-1/4" X 1-1/4", 1/4" THK	G40.2144W	64	005-HA-0125-0125-0025
104	1	ANGLE, 1-1/4" X 1-1/4", 1/4" THK	G40.2144W	90	005-HA-0125-0125-0025
105	4	H.S.S.: 8" X 8" X 3/8"	G40.21350W	300	020-PQ-0800-0800-0037
106	2	PLATE, 1/2", SMOOTH X 43 1/4 X 9	G40.2144W	43 1/4	040-HA-0050
107	2	PLATE, 1/2", SMOOTH X 47 X 5	G40.2144W	47	040-HA-0050
108	4	PLATE, 1/2", SMOOTH X 9 X 9	G40.2144W	9	040-HA-0050
109	1	GRATING, 1-3/16 X 64 X 32 1/2	G40.2144W	64	NPN
110	1	GRATING, 1-3/16 X 90 X 23 1/2	G40.2144W	90	NPN
111	4	PLATE, 3/8", SMOOTH X 6 X 11 1/4"	G40.2144W	11 1/4	040-HA-0037
112	1	PLATE, 3/16", SMOOTH X 10 X 10	G40.2144W	10	040-HA-0018
113	1	PLATE, 3/16", SMOOTH X 11 1/2 X 3	G40.2144W	11 1/2	040-HA-0018
114	1	PLATE, 3/16", SMOOTH X 82 X 36	G40.2144W	82	040-HA-0018
115	1	PLATE, 3/16", SMOOTH X 90 X 24	G40.2144W	90	040-HA-0018
116	6	PLATE, 3/4", SMOOTH X 10 X 10	G40.2144W	10	040-HA-0075
117	12	PLATE, 3/4", SMOOTH X 9 X 9	G40.2144W	9	040-HA-0075
118	4	PLATE, 3/8", SMOOTH X 15 3/4 X 7 3/4	G40.2144W	15 3/4	040-HA-0037
119	2	TUBING, 2"x2", 1/4" THK	G40.21350W	38 3/16	020-PQ-0200-0200-0025
120	2	TUBING, 2"x2", 1/4" THK	G40.21350W	41 3/16	020-PQ-0200-0200-0025
121	1	TUBING, 2"x2", 1/4" THK	G40.21350W	46 3/16	020-PQ-0200-0200-0025
122	4	TUBING, 2"x2", 1/4" THK	G40.21350W	48 11/16	020-PQ-0200-0200-0025
123	1	TUBING, 2"x2", 1/4" THK	G40.21350W	50 1/4	020-PQ-0200-0200-0025
124	4	TUBING, 2"x2", 1/4" THK	G40.21350W	51 3/4	020-PQ-0200-0200-0025
125	3	TUBING, 2"x2", 1/4" THK	G40.21350W	55 11/16	020-PQ-0200-0200-0025
126	6	WIDE FLANGE, 16" X 36#	G40.2150W	42 11/16	034-HA-1600-0360
127	1	WIDE FLANGE, 16" X 36#	G40.2150W	55 11/16	034-HA-1600-0360
128	13	WIDE FLANGE, 16" X 36#	G40.2150W	92 3/8	034-HA-1600-0360
129	1	WIDE FLANGE, 16" X 36#	G40.2150W	96 11/16	034-HA-1600-0360
130	2	WIDE FLANGE, 16" X 36#	G40.2150W	405	034-HA-1600-0360
131	1	WIDE FLANGE, 4" X 13#	G40.2150W	27 3/8	034-HA-0400-0130
132	1	WIDE FLANGE, 4" X 13#	G40.2150W	64 11/16	034-HA-0400-0130
133	4	WIDE FLANGE, 6" X 15#	G40.2150W	42 11/16	034-HA-0600-0150
134	SHOP	CONCRETE, 34 FT3	-	-	-

BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	SIZE	LENGTH
151	2	PIPE, XS WT, SMLS SA-106-B (CUT IN HALF)	1"	14 1/2"
152	2	PIPE, STD WT, SMLS SA-106-B	2"	18"
153	2	PIPE, STD WT, SMLS SA-106-B	6"	56"
154	2	CAP, THD, 3000#, SA-105	2"	
155	6	COUPLING, THD, 3000#, SA-105	2"	
156	4	HEX HEAD PLUG, THD, 3000#, SA-105	2"	

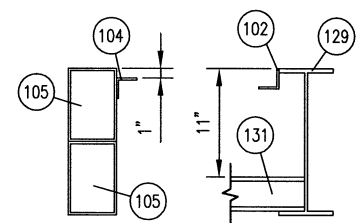
- GENERAL NOTES:**
- ALL TAIL DIMENSIONS FROM REFERENCE POINT.
  - WEIGHT OF SKID STEEL BASE: 13,300 LBS  
WEIGHT OF CHECKER PLATE: 2,900 LBS  
WEIGHT OF CONCRETE: 4,850 LBS  
TOTAL WEIGHT: 21,050 LBS
  - NOTE: MILL TOLERANCE AND SAFETY FACTORS NOT APPLIED
  - COPE FLANGES WHERE REQUIRED.
  - ALL WELDS TO BE 1/4" FILLETS ALL AROUND, UNLESS OTHERWISE NOTED.
  - ALL CUT LENGTHS ARE EXACT TOL +0.0"/-0.125" (+0 MM/-3 MM)
  - SURFACE PREP: SANDBLAST TO SSPC-SP6.  
PRIMER: ONE COAT OF PRI-1, RED OXIDE  
PAINT: ONE COAT OF FIN-1
  - FULL PENETRATION STRENGTH WELD IS REQ'D AT THESE LOCATIONS.
  - PERIMETER AND ALL PANEL JOINTS OF CHECKER PLATE ARE TO BE SEAL WELDED. SKID MEMBERS TO UNDERSIDE OF CHECKER PLATE TO BE STITCH WELDED AT 2"(50 MM) OF FILLET ON 16"(406 MM) CENTERS.



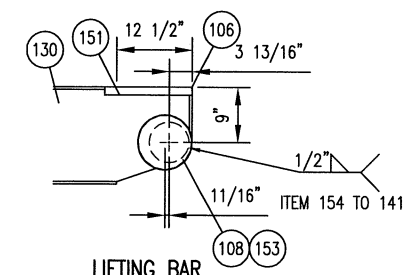
SECTION 'A-A'  
TYPICAL 2 PLACES  
SCALE: 1 1/2" = 1'-0"



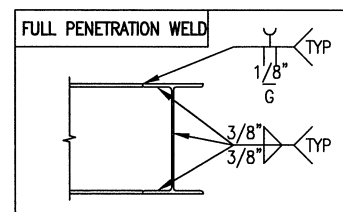
PUMP OUT DETAIL  
TYPICAL 2 PLACES  
SCALE: 1" = 1'-0"



DETAIL #1  
GRATING SUPPORT DETAILS  
SCALE: NOT TO SCALE



LIFTING BAR  
TYPICAL 2 PLACES  
SCALE: 3/4" = 1'-0"



- NOTES:**
- FULL PENETRATION WELD ON FLANGE.
  - BACK GOUGE TO SOUND METAL AFTER WELDING SQUARE WELD
  - USE SMAW (7018 WELDING ROD) ON BOTH SIDES.

REV.	DESCRIPTION	DATE	BY	APPR.
2	AS BUILT	SEP 27/06	RH	RC
1	ISSUED FOR CONSTRUCTION	JUN 19/06	BLL	RC

ENGINEER STAMP

**TOROMONT ENERGY SYSTEMS**

DRAWN BY: B.LAMMERS  
DATE: JUNE 19, 2006  
CHKD. BY: R.CALBUREAN  
SCALE: 1/2" = 1'-0"  
APPR. BY: R.CALBUREAN  
W.O. No: 12235301  
CUST. PO No:

TITLE: SKID STEEL LAYOUT

FOR: PENN WEST  
350 HP ELECTRIC BOOSTER

DWG. No: 12235-301  
SHEET No: 1 OF 5  
REV: 2