



## **FOR SALE OR LEASE**

### **CBK-06-5007 (4) USED X SF6 145kV 3000AMP 40kA 50/60HZ. CIRCUIT BREAKER**

**REF. NO. CBK-06-5007**

#### **TECHNICAL SPECIFICATIONS:**

Type: **HS145B**

Mfg. HVB AE Power Systems, Inc.

Rated Max. Voltage: **145kV**

Rate Power Frequency: **50/60Hz.**

Rated Voltage Range Factor, **K: 1.0**

Rate Short-Circuit Current: **40kA**

Percent DC Component: **55%**

Rated Interrupting Time: **3 Cycles**

Rated Continuous Current: **3000AMP**

Rated Full Wave Lighting Impulse Withstand Voltage <Bil>:

- Terminal To Ground Circuit Breaker Closed: **650kV**
- Terminal To Ground Circuit Breaker Open: **650kV**

Total Weight of Breaker w/Gas - 7000Lbs. (3175) kg

Total Weight of SF6 Gas - 44Lbs. (20) kg

Short Time Duration: 3 Seconds

Operating Mechanism: HVB S1

#### **TRIP CIRCUIT**

Coil Part No. 24-1285-125    Number of Coils: 2

Voltage Range: 70 To 140VDC

Current 9.0 A. AT 125VDC

Motor Control Voltage Range: 125VDC

Rated Closing Switching Surge Factor: N/A

Rated Transient Overvoltage Factor: 2.0

Rated Overhead Line Charging Current: 80 A

Rated Isolated Cable/Shunt Capacitor Bank Current: 600 A

Rated Back-to-Back Cable'/ Shunt Capacitor Bank 315A

Rated Transient Inrush Current Peak: 20000A

Rated Transient Inrush Current Frequency: 4250 Hz.

Assigned Out-of-Phase Switching Current: 10kA



Rated Operating Duty Cycle: 0-0.3s-CO-15s-CO

Normal SF6 Gas Pressure AT 20° C 75 PSIG (0.52) MPaG

- Minimum SF6 Gas Pressure 67 PSIG (0.46) MPaG
- Minimum SF6 Gas Pressure 64 PSIG (0.44) MPaG

Internal Pre-Insertion Resistor N/A

Internal Capacitor Across Contacts N/a

### **CLOSING CIRCUIT**

Coil Part No. 24-1285-125 Number of Coils: 1

Voltage Range: 90 TO 140 VDC

Current: 9.0 A AT 125VDC

Motor Current: 11.67 A



### **Reference Addendums:**

A: Nameplate

B: CTG~HVCB126\_Hitachi 145KV 3000A OEM Specs Drawings

C: CTG~Hitachi SF6 Breaker - Modified Fabrication



Condition: Tested, Excellent

Warranty: Sold As Is/Where Is

Availability: Immediately upon full Payment

FOB: Your Truck/Warehouse USA

Price: Call For Quotation

CTG Power Systems Intl., LLC (CTG) is the seller of this equipment and will facilitate all aspects of the equipment transaction. CTG's Terms and Conditions governing used surplus equipment will apply. Additional services such as shipping and insurance, engineering and installation are available through CTG and will be performed under a separate contract, if requested.

A non-revocable purchase order accompanied by verification of the availability of funds is required. Inspection is encouraged and will be arranged within 72 hours advance notice. Buyer will be required to render a non-refundable deposit of up to 50% of the total purchase price to secure the option to purchase with balance due 50% within 30 days of inspection and no later than 5 days prior to load out, whichever event occurs earlier. There is no inspection without remitting a fully refundable deposit.

**For more information and firm proposal, please contact CTG:**

**CTG POWER SYSTEMS INTNL., LLC (CTG)**

401 E. Jackson St. Ste. 2340-F12 Tampa, Florida 33602 USA

Tel: +1 (813) 920-3500 | Fax: +1 (941) 220-6612 | WhatsApp: +1 (813) 918-0762

Email: [Sales@CTGPowerSystems.com](mailto:Sales@CTGPowerSystems.com) Website: [www.CTGPowerSystems.com](http://www.CTGPowerSystems.com)

REVOLUTIONS

REV	DESCRIPTION	DATE	APPROVED
1	CHANGED CT ACCURACY TO 2.5L400 & HVB 50#	10/26/05	<i>[Signature]</i>



HVB AE Power Systems, Inc.

TYPE	HS145 B	S/N	H145A2640-201-204
RATED MAXIMUM VOLTAGE	145 kV	RATED LINE CLOSING SWITCHING SURGE FACTOR	N/A
RATED POWER FREQUENCY	50/60 HZ	RATED TRANSIENT OVERVOLTAGE FACTOR	2.0
RATED VOLTAGE RANGE FACTOR, K	1.0	RATED OVERHEAD LINE CHARGING CURRENT	80 A
RATED SHORT-CIRCUIT CURRENT	40 KA	RATED ISOLATED CABLE/SHUNT CAPACITOR BANK CURRENT	600 A
PERCENT DC COMPONENT	55%	RATED BACK-TO-BACK CABLE/SHUNT CAPACITOR BANK	315 A
RATED INTERRUPTING TIME	3 CYCLES	RATED TRANSIENT INRUSH CURRENT PEAK	20000 A
RATED CONTINUOUS CURRENT	3000 A	RATED TRANSIENT INRUSH CURRENT FREQUENCY	4250 HZ
RATED FULL WAVE LIGHTING IMPULSE WITHSTAND VOLTAGE (CBIL)	650 kV	ASSIGNED OUT-OF-PHASE SWITCHING CURRENT	10 KA
TERMINAL TO GROUND-CIRCUIT BREAKER CLOSED	650 kV	RATED OPERATING DUTY CYCLE	0.0.3s-CO-15s-CO
TERMINAL TO TERMINAL CIRCUIT BREAKER OPEN	7000 LBS. (3175) kg	NORMAL SF6 GAS PRESSURE AT 20°C	75 PSIG (0.52) MPaG
TOTAL WEIGHT OF BREAKER w/GAS	44 LBS. (20) kg	MINIMUM SF6 GAS PRESSURE	67 PSIG (0.46) MPaG
		MINIMUM SF6 GAS PRESSURE	64 PSIG (0.44) MPaG
SHORT TIME CURRENT DURATION	3 SECONDS	INTERNAL PRE-INSERTION RESISTOR	N/A Ω
OPERATING MECHANISM TYPE	HVB S1	INTERNAL CAPACITOR ACROSS CONTACTS	N/A Ω
TRIP CIRCUIT		CLOSING CIRCUIT	
COIL PART NO. 24-1285-125	NUMBER OF COILS 2	COIL PART NO. 24-1285-125	NUMBER OF COILS 1
VOLTAGE RANGE	70 TO 140 VDC	VOLTAGE RANGE	90 TO 140 VDC
CURRENT	9.0 A. AT 125 VDC	CURRENT	9.0 A. AT 125 VDC
MOTOR CONTROL VOLTAGE RANGE	125VDC	MOTOR CURRENT	11.67 A
AIR COMPRESSOR GOVERNOR SWITCH	N/A AT N/A AT N/A PSIG	N/A MPaG	
AIR LOW PRESSURE LEVEL 1	N/A AT N/A AT N/A PSIG	N/A MPaG	
AIR LOW PRESSURE LEVEL 2	N/A AT N/A AT N/A PSIG	N/A MPaG	
AIR LOW PRESSURE LEVEL 3	N/A AT N/A AT N/A PSIG	N/A MPaG	
CIRCUIT BREAKER INSTRUCTION BOOK	99-0145-40HSE	PARTS BULLETIN	HVB-300
WIRING DIAGRAM	H145B1640	CUSTOMER P.O.	9480-60374-HVB
CAUTION: BEFORE INSTALLING, OPERATING OR SERVICING READ INSTRUCTIONS.		MFG DATE	

P/N 13-0072-E REV. 5

SUWANEE, GEORGIA



**HVB AE Power Systems, Inc.**  
**BUSHING CURRENT TRANSFORMERS**

CAUTION!  
BEFORE INSTALLING, OPERATING OR SERVICING READ INST.

NOMINAL SEC. RATING **5** AMPERES

TRF = 2.0

CYCLES **60**

LOCATION OF TRANSFORMERS IN BREAKERS RATINGS AND TURNS

COL. NO.	1	2	3	4	5
TYPE		*			
TAPS	600A	1200A	2000A	3000A	
X2-X3	10	20	160	240	
X1-X2	20	40	80	200	
X1-X3	30	60	240	440	
X4-X5	40	80	100	100	
X3-X4	50	100	60	60	
X2-X4	60	120	220	300	
X1-X4	80	160	300	500	
X3-X5	90	180	160	160	
X2-X5	100	200	320	400	
X1-X5	120	240	400	600	

TYPICAL MULTI RATIO BCT

X5 X1 X3 X2 X4

SINGLE RATIO BCT

X2 X1 X3 X4

LOCATION	MANUF. REFERENCE & NOM. PRIL RATE	CLASS	SEE COOL. NO.
1-6X	1200	2.5L400	2
1-6Y	1200	2.5L400	2

P/N 13-0083-00 REV 3

SIGNATURES	DATE
DRAWN BY: W. WADSWORTH	9/7/05
CHECKED:	
DESIGNED BY:	
APPROVALS: <i>[Signature]</i>	10/26/05
SIZE: P&S NO.	
SCALE: NTS	
REV. NO.	1
REV.	1


**HVB AE Power Systems, Inc.**  
Suwanee, Ga.  
TITLE: NAMEPLATE DRAWING  
145KV/40KA/3000A



# CTG

Power Systems Intl. LLC


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



**HVB AE Power Systems, Inc.**

TYPE <b>HS170 B 40</b>		S/N <b>HS170B4A2101-201-203</b>	
RATED MAXIMUM VOLTAGE	<b>170 kV</b>	RATED LINE CLOSING SWITCHING SURGE FACTOR	<b>N/A</b>
RATED POWER FREQUENCY	<b>50/60 Hz</b>	RATED TRANSIENT OVERVOLTAGE FACTOR	<b>2.0</b>
RATED VOLTAGE RANGE FACTOR, K	<b>1.0</b>	RATED OVERHEAD LINE CHARGING CURRENT	<b>160 A</b>
RATED SHORT-CIRCUIT CURRENT	<b>40 kA</b>	RATED ISOLATED CABLE/SHUNT CAPACITOR BANK CURRENT	<b>400 A</b>
PERCENT DC COMPONENT	<b>&gt;40%</b>	RATED BACK-TO-BACK CABLE/SHUNT CAPACITOR BANK	<b>400 A</b>
RATED INTERRUPTING TIME	<b>3 CYCLES</b>	RATED TRANSIENT INRUSH CURRENT PEAK	<b>16000 A</b>
RATED CONTINUOUS CURRENT	<b>3000 A</b>	RATED TRANSIENT INRUSH CURRENT FREQUENCY	<b>4250 Hz</b>
RATED FULL WAVE LIGHTING IMPULSE WITHSTAND VOLTAGE (BIL)		ASSIGNED OUT-OF-PHASE SWITCHING CURRENT	<b>10 kA</b>
TERMINAL TO GROUND-CIRCUIT BREAKER CLOSED	<b>750 kV</b>	RATED OPERATING DUTY CYCLE	<b>0-0.3s-C0-15s-C0</b>
TERMINAL TO TERMINAL CIRCUIT BREAKER OPEN	<b>750 kV</b>	NORMAL SF6 GAS PRESSURE AT 20°C	<b>80 PSIG 0.55 MPaG</b>
TOTAL WEIGHT OF BREAKER W/GAS	<b>7000 LBS. 3175 kg</b>	ALARM SF6 GAS PRESSURE	<b>75.5 PSIG 0.52 MPaG</b>
TOTAL WEIGHT OF SF6 GAS	<b>65 LBS. 30 kg</b>	MINIMUM SF6 GAS PRESSURE	<b>72.5 PSIG 0.50 MPaG</b>
<b>CWW @ 2uSEC 968kV</b>			
SHORT TIME CURRENT DURATION	<b>3 SECONDS</b>	INTERNAL PRE-INSERTION RESISTOR	<b>N/A Ω</b>
OPERATING MECHANISM TYPE	<b>HVB S1 C</b>	INTERNAL CAPACITOR ACROSS CONTACTS	<b>N/A pf</b>
TRIP CIRCUIT		CLOSING CIRCUIT	
COIL PART NO. <b>24-1285-125</b>	NUMBER OF COILS <b>2</b>	COIL PART NO. <b>24-1285-125</b>	NUMBER OF COILS <b>1</b>
VOLTAGE RANGE <b>70 TO 140 VDC</b>		VOLTAGE RANGE <b>90 TO 140 VDC</b>	
CURRENT <b>8.5 A AT 125 VDC</b>		CURRENT <b>8.5 A AT 125 VDC</b>	
MOTOR CONTROL VOLTAGE RANGE	<b>125VAC/125VDC +/- 10%</b>	MOTOR CURRENT	<b>11.67 AMPS</b>
AIR COMPRESSOR GOVERNOR SWITCH	<b>N/A AT</b>	<b>N/A PSIG</b>	<b>N/A MPaG</b>
AIR LOW PRESSURE LEVEL 1	<b>N/A AT</b>	<b>N/A PSIG</b>	<b>N/A MPaG</b>
AIR LOW PRESSURE LEVEL 2	<b>N/A AT</b>	<b>N/A PSIG</b>	<b>N/A MPaG</b>
AIR LOW PRESSURE LEVEL 3	<b>N/A AT</b>	<b>N/A PSIG</b>	<b>N/A MPaG</b>
CIRCUIT BREAKER INSTRUCTION BOOK	<b>99-0170-40HSE</b>	PARTS BULLETIN	<b>HVB-300</b>
WIRING DIAGRAM	<b>AEPGB126HS3</b>	CUSTOMER P.O.	<b>508097</b>
CAUTION: BEFORE INSTALLING, OPERATING OR SERVICING READ INSTRUCTIONS.		MFG DATE	

P/N 13-0072-E REV. 9      SUWANEE, GEORGIA



**HVB AE Power Systems, Inc.**  
BUSHING CURRENT TRANSFORMERS

CAUTION! BEFORE INSTALLING OR OPERATING READ INST.

NOMINAL SEC. RATING **5** AMPERES      **60** CYCLES

**TRF = 2.0**

LOCATION OF TRANSFORMERS IN BREAKERS

COL. NO.	1	2	3	4	5
TYPE			*		
TAPS	600A	1200A	2000A	3000A	
X1-X2	20	40	80	200	
X1-X3	30	60	240	440	
X4-X5	40	80	100	100	
X2-X4	60	120	220	300	
X1-X4	80	160	300	500	
X3-X5	90	180	160	160	
X2-X5	100	200	320	400	
X1-X5	120	240	400	600	

P/N 13-0063-03 REV 4

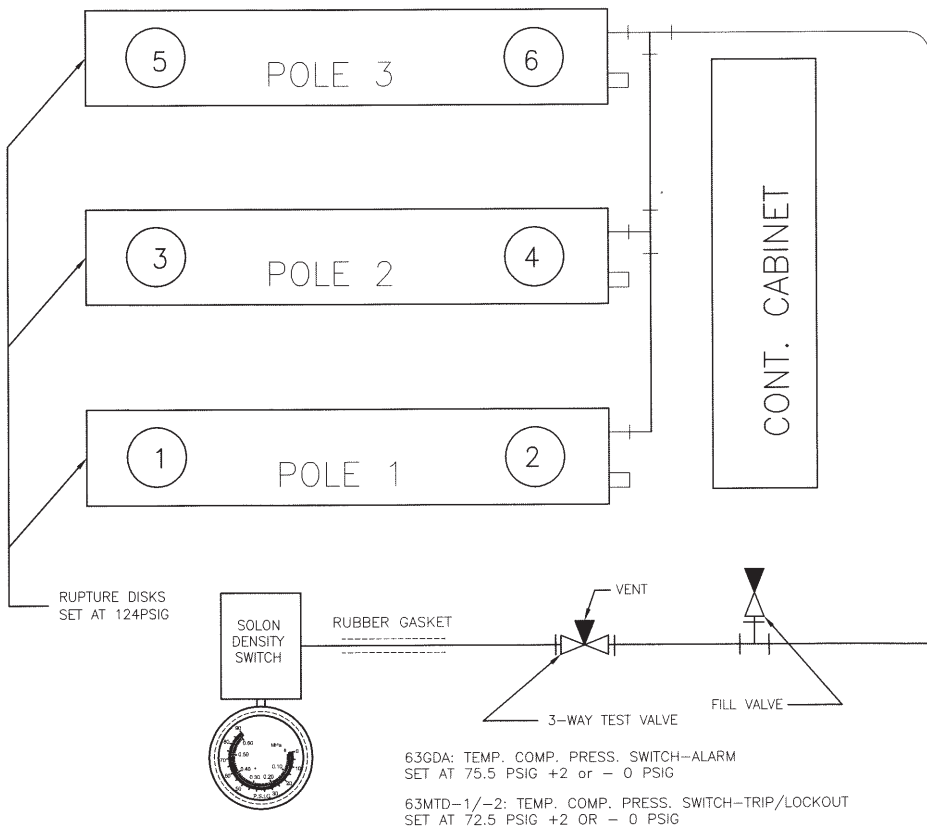
SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: A.BARDELY	4/26/12	TITLE:	NAMEPLATE DRAWING
CHECKED:			145-170kV/40kA/3000A
ENG'D BY:		SIZE	B
APPROVALS:		FIG. NO.	HS170B4B4101
		DWG. NO.	0
		SCALE:	NTS
		CONT. ON SHIT. END	SHT NO. 1



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## SF6 DIAGRAM



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	

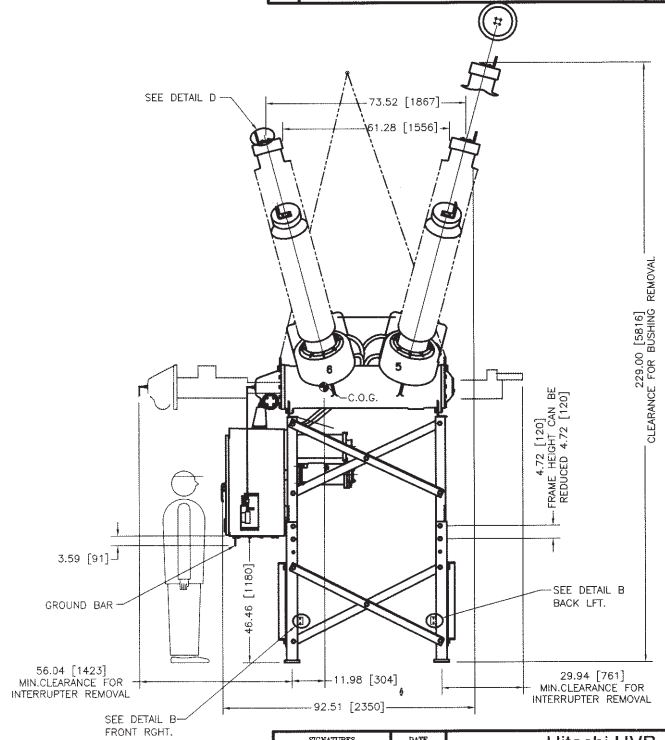
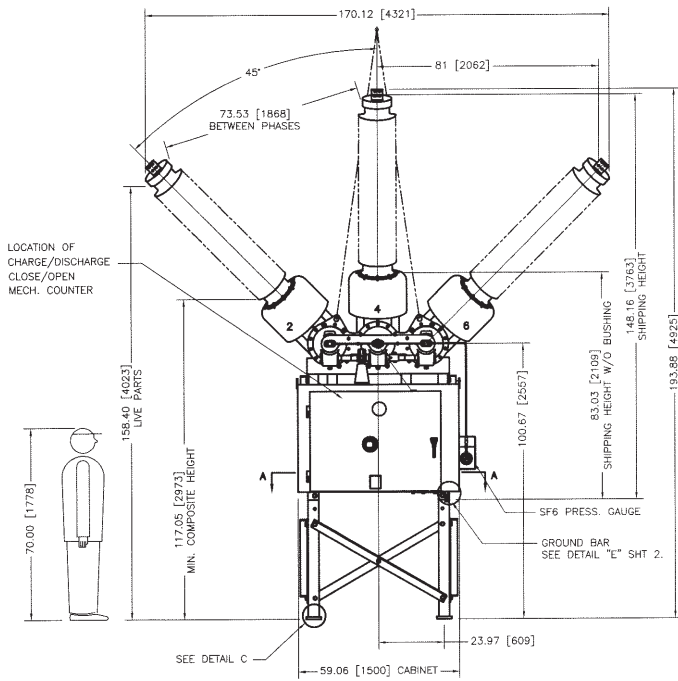
SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH	7/21/09	TITLE: SF6 SCHEMATIC	
CHECKED:		145-170kV/40kA/3000A	
DESIGNED BY:			
APPROVALS:			
		SIZE: B	REV: 1
		DWG. NO.: AEPCB170HS2	
		SCALE: NTS	CONT. ON SET: 1 SHEET NO. 1



# CTG

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	



HS 170 B 40  
 SPRING /SPRING MECHANISM  
 EXTRA HIGH CREEP BUSHING

SIGNATURES		DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH		7/21/09	TITLE:	OUTLINE
CHECKED:				145-170kV/40kA/3000A
ENGRD BY:				
APPROVALS:				
			SIZE: PSCH NO.	DWG. NO.
			B	AEPCB170HS6
			SCALE: NTS	REV. 1
			CONT. ON SH. 1, SH. NO. 2	



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**NOTES**

1. TOTAL BREAKER WEIGHT = 7000 LBS. [3175 kg]
2. TOTAL SF6 WEIGHT = 65 LBS. [30 kg]
3. N/A
4. ● INDICATES CENTER OF GRAVITY .
5. RATINGS

RATED MAXIMUM VOLTAGE: 170 kV  
 RATED CONTINUOUS CURRENT: 3000 A  
 RATED SHORT-CIRCUIT CURRENT: 40 kA  
 RATED LOW FREQUENCY WITHSTAND VOLTAGE (60-50 Hz): 365 kV  
 RATED FULL WAVE IMPULSE WITHSTAND VOLTAGE: 750 kV  
 RATED GAS PRESSURE AT 20°C [68°F]: 552 kPa [80 psig]

**6. BUSHING DATA:**

CREEPAGE = MIN. 207.50 IN [5270 MM]  
 STRIKE = 60.23 IN [1530 MM]  
 HEIGHT = 66.93 IN [1700 MM]

**7. SURFACE TREATMENTS**

SUPPORT STRUCTURE: HOT DIP GALVANIZED PER ASTM A123  
 CONTROL HOUSING: UNFINISHED ALUMINIUM  
 MECHANISM COMPONENTS: PAINT ANSI 70 LIGHT GRAY  
 SF<sub>6</sub> GAS ENCLOSURE: UNFINISHED ALUMINIUM  
 BCT COVER: UNFINISHED ALUMINIUM  
 COMPOSITE: ANSI NO.70 LIGHT GRAY

**8. MECHANICAL LOADING**

WIND LOAD: ≤ 150 miles/hr [67 m/s]  
 ICE LOAD: ≤ 0.79 INCHES [20 mm]  
 SEISMIC LOAD: ≤ 0.5 G HORIZONTAL  
 HIGH SEISMIC QUALIFICATION LEVEL (0.5g) PER IEEE 693, D6.2, 1997  
 TERMINAL LOAD:  
 STATIC HORIZONTAL LONGITUDINAL FORCE: ≤ 280 LBS. [1250N]  
 STATIC HORIZONTAL TRANSVERSE FORCE: ≤ 169 LBS. [750N]  
 STATIC VERTICAL FORCE: ≤ 225 LBS. [1000N]

**9. FOUNDATION LOADS**

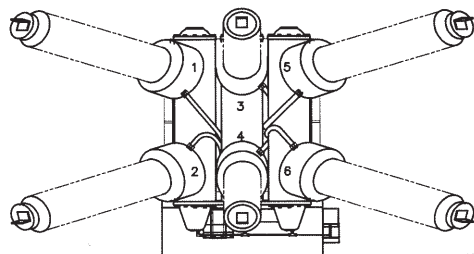
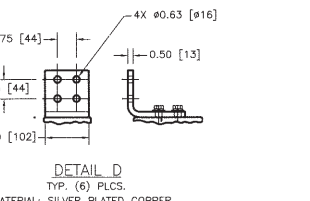
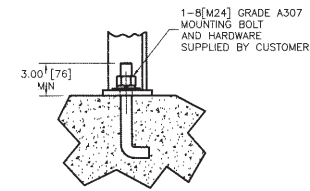
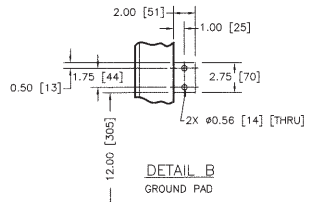
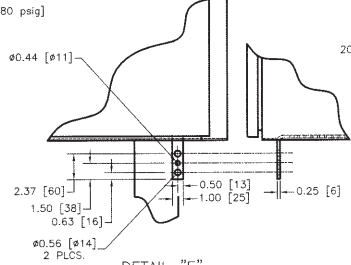
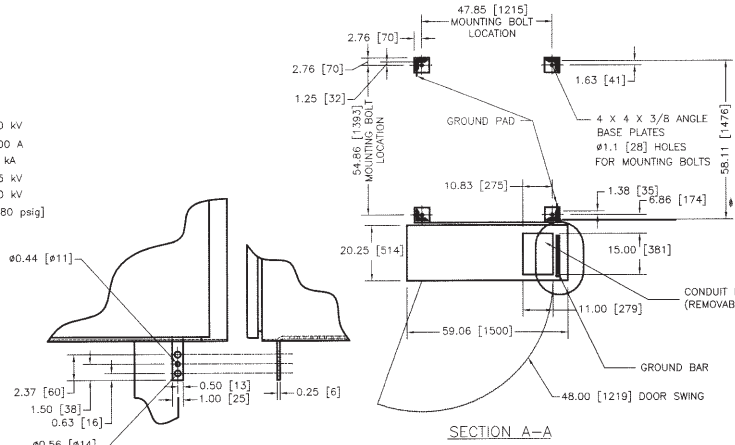
TOTAL WEIGHT: 7000 LBS. [3175 kg]  
 NATURAL FREQUENCIES: 16.3 Hz @ 2% DAMPING (X-AXIS)  
 WITH DAMPING: 11.1 Hz @ 2% DAMPING (Y-AXIS)  
 MAXIMUM DEFLECTION: 0.23 INCHES [5.84 mm] @ CONDUCT ATTACHMENT POINT  
 QUALIFIED BY: 0.5 g DYNAMIC ANALYSIS (HIGH SEISMIC)  
 MAXIMUM REACTION: 0.82K [3.65kN] SHEAR(X) 1.52K [6.76kN] SHEAR(Y)  
 PER LEG @ BASE: 10.7K [47.60kN] UPLIFT 14.2K [63.17kN] DOWN(Y)

**10. DIMENSIONS IN [ ] ARE IN MILLIMETERS**

11. CIRCUIT BREAKER PARTS LIST & MECHANISM PARTS LIST CAN BE FOUND IN INSTRUCTION BOOK NUMBER 99-0170-40HSE

THIS GCB MEETS THE REQUIREMENTS OF IEEE, ANSI, IEC, NEMA AND NESC

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	



SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH	7/22/09	TITLE: OUTLINE	
CHECKED:		145-170kV/40kA/3000A	
ENG'D BY:			
APPROVALS:			
		SIZE FROM NO. B	FIG. NO. AEPCB170HS6
		SCALE: NTS	REV. 1

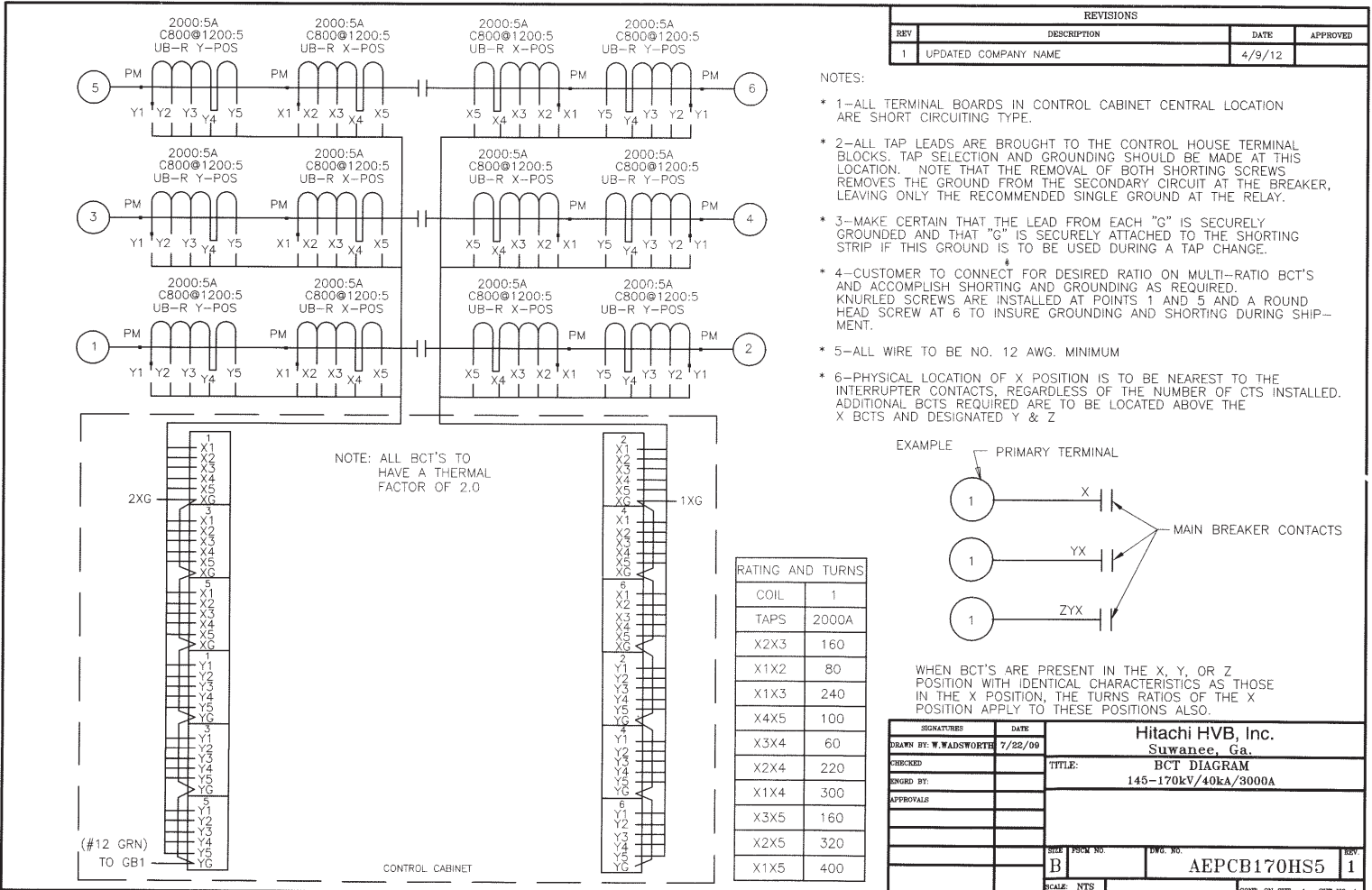
CONT. ON SHET. 2 SHY NO. 2





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**ABBREVIATIONS:**

- ACB - AUTO CIRCUIT BREAKERS
- AC - ALTERNATING CURRENT
- ADJ - ADJUSTABLE
- AL - ALARM
- AUX. - AUXILIARY
- BCTS - BUSHING CURRENT TRANSFORMERS
- BKR. - BREAKER
- BLK. - BLACK
- CAP. - CAPACITOR
- CC - CLOSING COIL
- CIR. - CIRCUIT
- COMP. - COMPRESSOR
- CONN. - CONNECTION
- CONT. - CONTROL
- DC - DIRECT CURRENT
- DIA. - DIAGRAM
- DIFF. - DIFFERENTIAL
- DROP. - DROP OUT
- DWG. - DRAWING
- ELEM. - ELEMENTARY
- FU. - FUSE
- FRONT VIEW - FRONT VIEW
- GL. - GREEN INDICATING LIGHT
- GND. - GROUND
- HTR. - HEATER
- HSE. - HOUSE
- INTLK. - INTERLOCK
- LN. - LINE
- LT. - LIGHT
- MCH. - MECHANISM
- MOT. - MOTOR
- N.C. - NORMALLY CLOSED
- N.O. - NORMALLY OPEN
- PB. - PUSH BUTTON
- PD. - PROTECTIVE DEVICE
- PH. - PHASE
- PNEU. - PNEUMATIC
- PNL. - PANEL
- P.U. - PICK UP
- PWR. - POWER
- REC. - RECEPTACLE
- RL. - RED INDICATING LIGHT
- SH. - SHEET
- SW. - SWITCH
- TB. - TERMINAL BOARD
- T.D.O. - TIME DELAY DROP-OUT
- T.D.P.U. - TIME DELAY PICK-UP

NO	DEVICE FUNCTION	PART NO OR CATALOG NO	DEV IDENT	DESCRIPTION
1	63GDA 63M1D-1/-2	14-2008-07 SBLDN 21C/407	EGA	ALARM SET=75.5 +/- 2 PSIG BLOCK SET=72.5 +/- 2 PSIG SETPOINTS FOR ALARM TO BE GREATER THAN SETTINGS FOR BLOCK BY 2.0 PSI MIN

NO	DEVICE FUNCTION	PART NO OR CATALOG NO	DEV IDENT	DESCRIPTION
1	52/CC	24-1285-125 MANUF. HBB, KOREA	MB	CLOSE COIL - 12 OHMS 90A PEAK
2	52/T-1B1-2	24-1265-125 MANUF. HBB, KOREA	MC/MD	TRIP COIL 1 & 2 - 12 OHMS 90A PEAK
3	23T	21-0610-01 STEGE-SK1011409NC	MG	CABINET HEATER THERMISTAT 30-140F
4				
5		08-0000-04 GE EB-1 (2 POINTS)	Q/W	POWER SOURCE TERMINAL BLOCKS (3 TOTAL)
6		08-0000-01 GE EB2596 (1x6 PTS) 08-0000-00-02 GE EB2582 (1x12 PTS) GE EB2584 (1x4 PTS)	P K	POWER TERMINAL BLOCK CONTROL TERMINAL BLOCKS
7		08-0000-05 GE EB-27 (6 POINTS)		CT SHORT CIRCUITING TERMINAL BLOCKS
8		08-0023-00 YOSHIDA WJCKS15-25C0KUL	T	CLOSE AND TRIP COILS & MOTOR TERMINAL BLOCK 25 POINTS SUPPLIED ON MECHANISM
9		08-0011-00 GE CR15 (7 POINTS)	S	GAS DENSITY SWITCH TERMINAL POINTS
10		08-0011-00 GE CR15 (60 POINTS)	M	SPARE MA SWITCH AND SPARE TERMINAL POINTS
11		08-0011-00 GE CR15 (12 POINTS)	AL	ALARM TERMINAL POINTS
12	52/a & 52/b	JACP #1V20957C	MA	AUXILIARY SWITCH CONT. CURR. 30A - INTERRUPT 10A
13		21-0324-01	HG/HJ	CABINET HEATER 160W @ 120V (640W @ 240V)
14		40-0020-03	EY	CABINET LIGHT ASSEMBLY
15		19-0901-00 FUJII # TLB-01C3A	EX	DOOR SWITCH
16		40-0033-01	EZ	EXTERNALLY ACCESSIBLE GFI RECEPTACLE
17	44/SD-1/-2	DMRN #XAA2-4L	MHS	SPRING POSITION LIMIT SWITCH
18	52CS/CLOSE	21-0408-00 FUJII#PSA-F11C	PBC	BLACK PUSHBUTTON LEGEND "CLOSE"
19	52CS/TRIP-1/-2	21-0408-00 FUJII#PSA-F11C	PBT1/PBT2	RED PUSHBUTTON LEGEND "OPEN"
20	69	08-0100-20 TEST SW. W3TS-01-AK	SA	1 POLE KNIFE SWITCH
21		21-0210-00 HUBBELL#3771	EZZ	RECEPTACLE TWIST LOCK 250VAC 50A 1 PH COVER 21-1210-00 - HUBBELL#7770
22	52M	24-1239-00 BALDOR #32769		SPRING MECHANISM CHARGING MOTOR UNIVERSAL 120VAC/125VDC FLA 1167A - INRUSH CURRENT 5835A

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	EGA DESCRIPTION UPDATED	2/1/12	
2	UPDATED COMPANY NAME	4/9/12	

NO	DEVICE FUNCTION	PART NO OR CATALOG NO	DEV IDENT	DESCRIPTION
1	44X	15-1006-00 FUJII #SC-3-1/G	DU	MOTOR CONTACTOR/IND-INC AUX.
2	63M1D-1/-2	15-0065-00 GENERAL40C22RK 15-306-00 GE#BL110	EA/EB	GAS PRESSURE AUXILIARY RELAY 1 NO ADD-ON CONTACT
3	52Y	15-0002-18 P&B# KPPA-11DG-125	ES	ANTI-PUMP RELAY
4	44ER	15-0025-00 DMRN#L4-110	EG	MOTOR OVER RUN RELAY
5	44X1	15-0025-00 DMRN#WCCR-AB	EK	TIMING RELAY - MODE A SET AT 0.5 MINUTES T.D.P.U.
6	42	15-0002-00 GENERAL40C22RK	DUT	AC-DC TRANSFER RELAY
7	27L	15-0002-05 P&B# KPPA-11AG-120	EL	LOSS OF MOTOR CIRCUIT VOLTAGE RELAY 120VAC
8	27C/27N	15-0002-18 P&B# KPPA-11DG-125	EC/EN	LOSS OF DC VOLTAGE, CLOSE, TRIP & MOTOR CIRCUITS - 125VDC

NO	DEVICE FUNCTION	PART NO OR CATALOG NO	DEV IDENT	DESCRIPTION
1	BT1	08-0100-19 TEST SW. W3TS-02-BK	SB	2 POLE KNIFE SWITCH CLOSE/TRIP/1 CIRCUIT
2	8H/8R	08-0100-20 TEST SW. W3TS-01-AK 08-0400-00 BUSSMANN H25030-1S	SH/SR UH/UR	KNIFE SWITCH CAB HEATER, LIGHT & REC. FUSE HOLDER & LITTLE FUSE NLN 15 15A - 08-0500-01
3	8MA	08-0100-20 TEST SW. W3TS-01-AK 08-0400-00 BUSSMANN H25030-1S	SMA UMA	KNIFE SWITCH AC MOTOR CIRCUIT FUSE HOLDER & LITTLE FUSE NLN 15 15A - 08-0500-01
4	8MB	08-0100-19 TEST SW. W3TS-02-BK 08-0400-00 BUSSMANN H25030-2S	SMB UMB	KNIFE SWITCH DC MOTOR CIRCUIT FUSE HOLDER & LITTLE FUSE NLN 15 15A - 08-0500-01

SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH	11/9/06	TITLE: DEVICE SHEET	
CHECKED:		145-170kV/40kA/3000A	
ENG'D BY:			
APPROVAL:			
		REV: B	REV: AEPCEB125HS4
		SCALE: NTS	CONT. ON SHEET 1 SHEET NO. 1

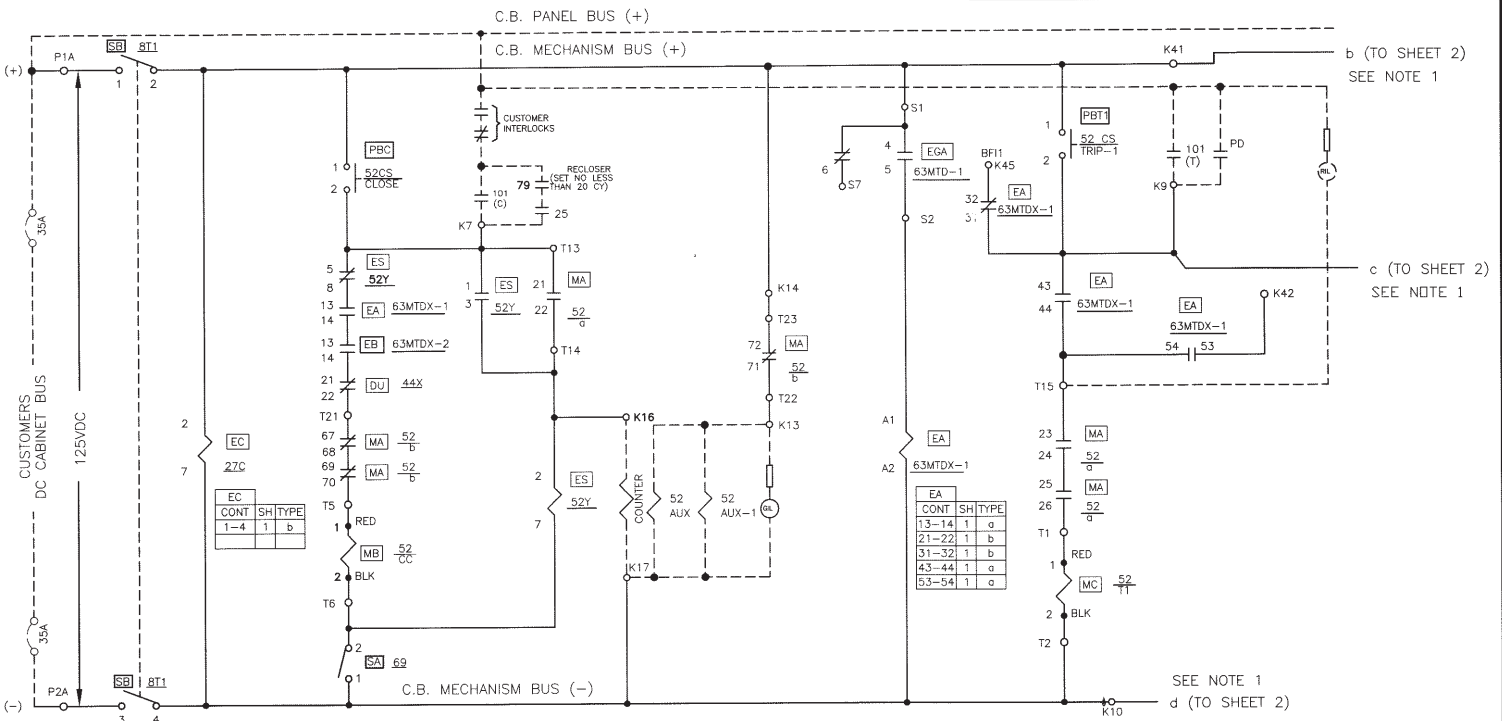


# CTG

Power Systems Intl. LLC

- NOTES: 1) CUSTOMER TO REMOVE JUMPERS WHEN 2ND DC SUPPLY OR WHEN 2ND BATTERY IS USED  
 2) RELAYS ARE SHOWN DE-ENERGIZED, WITH THE BREAKER IN THE OPEN POSITION, SPRINGS DISCHARGED AND WITH NO GAS.

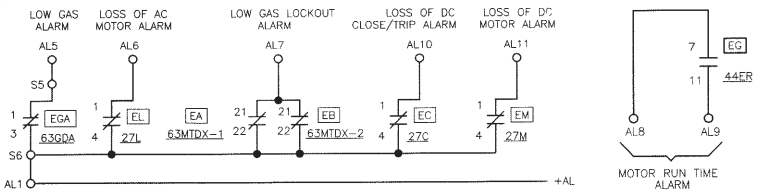
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	



b (TO SHEET 2)  
SEE NOTE 1

c (TO SHEET 2)  
SEE NOTE 1

SEE NOTE 1  
d (TO SHEET 2)



SIGNATURES		DATE
DRAWN BY: W.WADSWORTH		11/9/09
CHECKED BY:		
DESIGNED BY:		
APPROVALS:		
SCALE: NTS		
SIZE FROM NO. B		DWG. NO. AEP-PCB125HS3
CONT. ON SHEET 1		SHEET NO. 1

Hitachi HVB, Inc.  
Suwanee, Ga.

TITLE: ELECTRICAL SCHEMATIC  
145-170kV/40kA/3000A



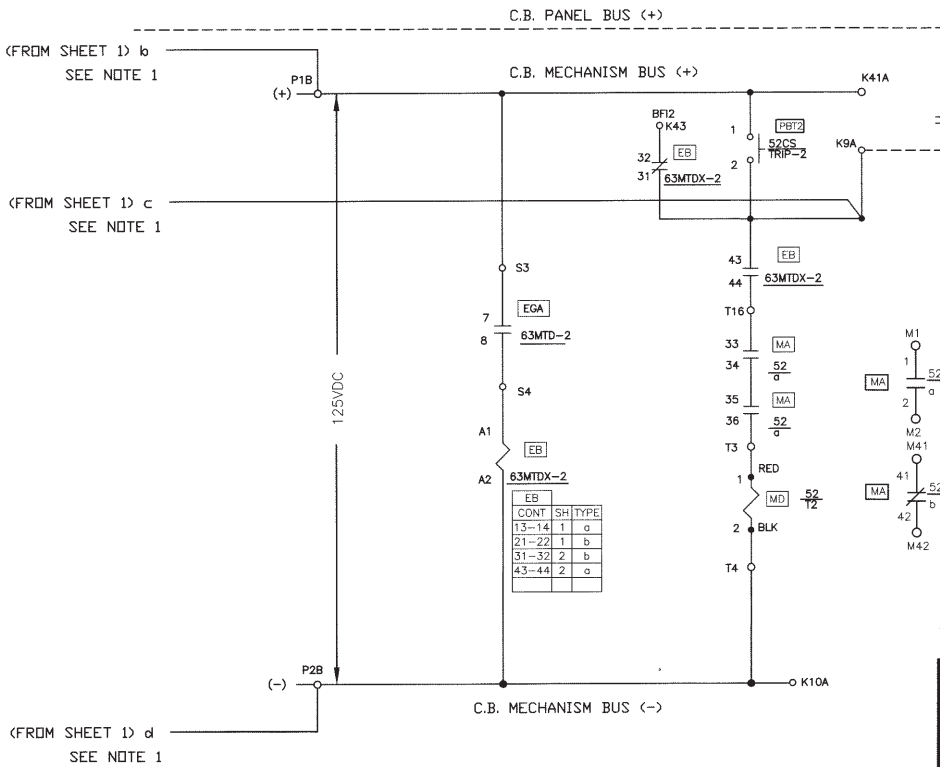
# CTG

Power Systems Intl. LLC

- NOTES: 1) CUSTOMER TO REMOVE JUMPERS WHEN 2ND DC SUPPLY OR WHEN 2ND BATTERY IS USED  
 2) RELAYS ARE SHOWN DE-ENERGIZED, WITH THE BREAKER IN THE OPEN POSITION, SPRINGS DISCHARGED AND WITH NO GAS.

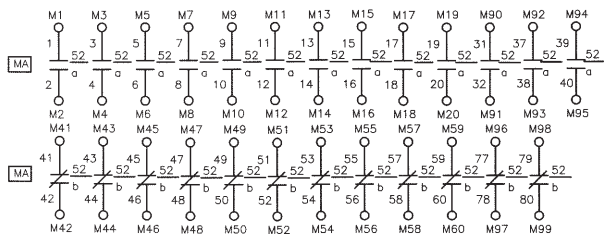
### TRIP #2 CIRCUIT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	



EB	CONT	SH	TYPE
	13-14	1	a
	21-22	1	b
	31-32	2	b
	43-44	2	a

### SPARE AUX. SW. CONTACTS



SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH	11/9/08	TITLE:	ELECTRICAL SCHEMATIC
CHECKED BY:			145-170kV/40kA/3000A
ENG'D BY:			
APPROVALS			
		SIZE: B	FRM NO. AEP125HS3
		SCALE: NTS	REV. 1

CONT. ON SHEET 2 SHEET NO. 4

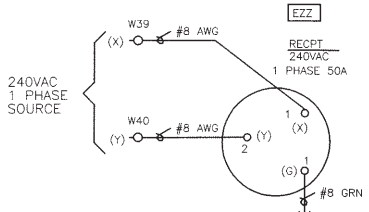
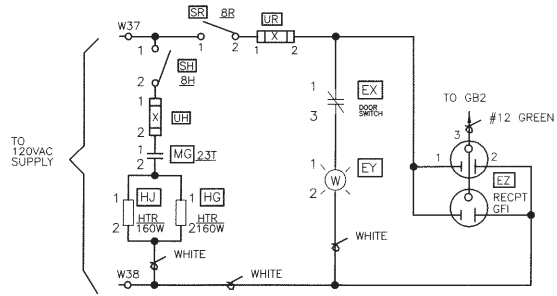
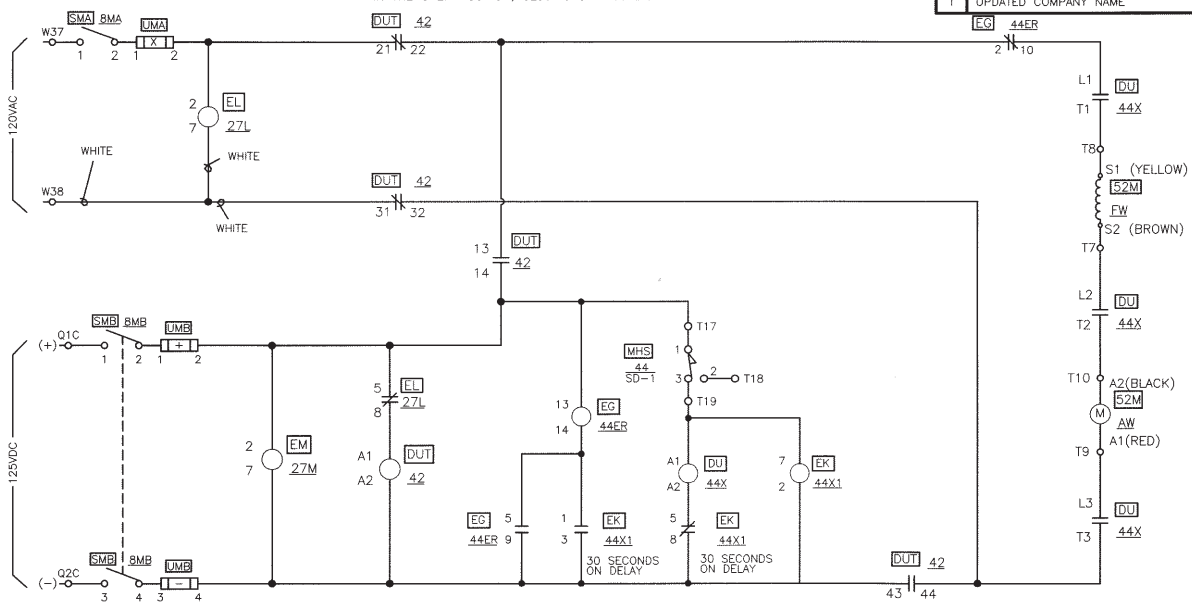


# CTG

Power Systems Intl. LLC

NOTES: 1) RELAYS ARE SHOWN DE-ENERGIZED, WITH THE BREAKER IN THE OPEN POSITION, CLOSING SPRINGS DISCHARGED AND WITH NO GAS.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	



SIGNATURES		DATE	
DRAWN BY: W.WADSWORTH		11/9/08	
CHECKED BY:			
DESIGNED BY:			
APPROVALS			
Hitachi HVB, Inc. Suwanee, Ga.			
TITLE: ELECTRICAL SCHEMATIC 145-170kV/40kA/3000A			
SIZE	PSUM NO.	DWG. NO.	REV.
B		AEPCB125HS3	1
SCALE	NTS	CONT. ON SHEET 9 SHEET NO. 6	

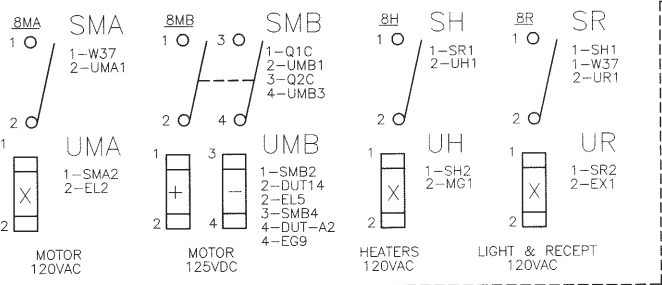
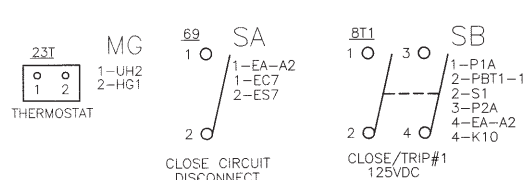
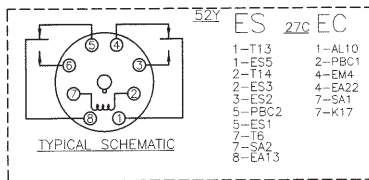
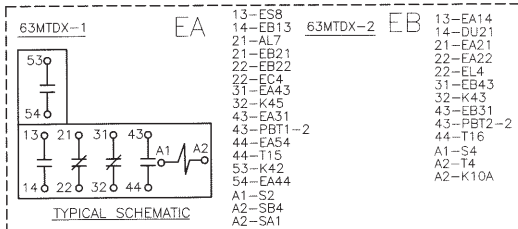


# CTG

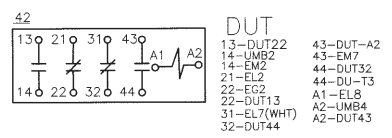
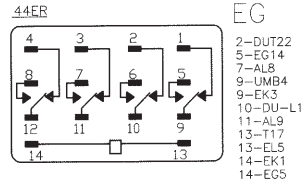
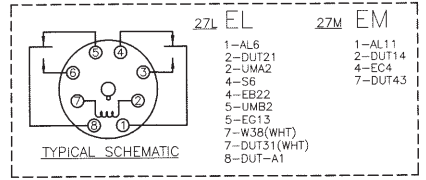
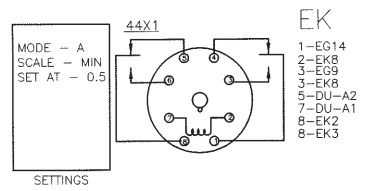
Power Systems Intl. LLC

## BACK PANEL

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	

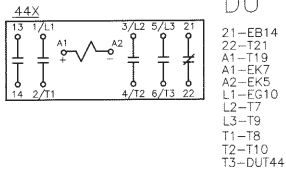


## LEFT SIDE PANEL



UNLESS OTHERWISE NOTED:

TERMINAL LUGS	BARE AMP
CONTROL WIRE	# 14 SIS
BCT WIRE	# 12 THHN
GROUND WIRE	#12 GREEN
NEUTRAL WIRE	#14 WHITE



SIGNATURES	DATE	Hitachi HVB, Inc. Suwanee, Ga.	
DRAWN BY: W.WADSWORTH	11/9/08	TITLE: ELECTRICAL SCHEMATIC 145-170kV/40kA/3000A	
CHECKED BY:			
DESIGNED BY:			
APPROVALS:			
		SIZE: B	FIG. NO. AEPCEB125HS3
		SCALE: NTS	REV. 1
		CONT. ON SHEET 4 OF 6	

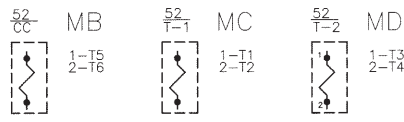


# CTG

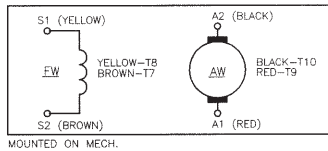
Power Systems Intl. LLC

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	UPDATED COMPANY NAME	4/9/12	

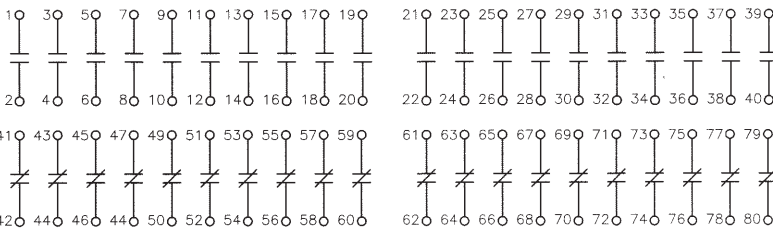
MOUNTED ON MECHANISM



52M



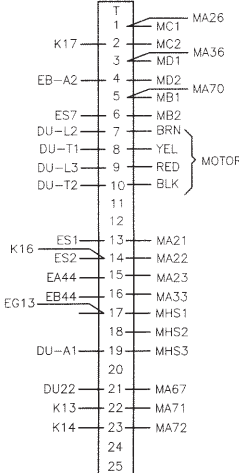
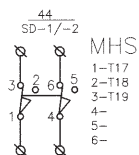
52 AUX SWITCH



BASE #1 (NEAREST TO MECH)

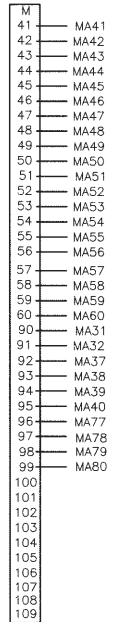
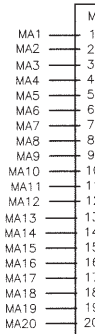
MA

CHARGE INDICATOR	1-M1	21-T13	41-M41	61-BLANK
	2-M2	22-T14	42-M42	62-BLANK
	3-M3	23-T15	43-M43	63-BLANK
	4-M4	24-MA25	44-M44	64-BLANK
	5-M5	25-MA24	45-M45	65-BLANK
	6-M6	26-T1	46-M46	66-BLANK
	7-M7	27-BLANK	47-M47	67-T21
	8-M8	28-BLANK	48-M48	68-MA69
	9-M9	29-BLANK	49-M49	69-MA68
	10-M10	30-BLANK	50-M50	70-T5
	11-M11	31-M90	51-M51	71-T22
	12-M12	32-M91	52-M52	72-T23
	13-M13	33-T16	53-M53	73-BLANK
	14-M14	34-MA35	54-M54	74-BLANK
	15-M15	35-MA34	55-M55	75-BLANK
	16-M16	36-T3	56-M56	76-BLANK
	17-M17	37-M92	57-M57	77-M96
	18-M18	38-M93	58-M58	78-M97
	19-M19	39-M94	59-M59	79-M98
COUNTER	20-M20	40-M95	60-M60	80-M99



LEFT SIDE OF CABINET

SPARE AUX CONTACTS



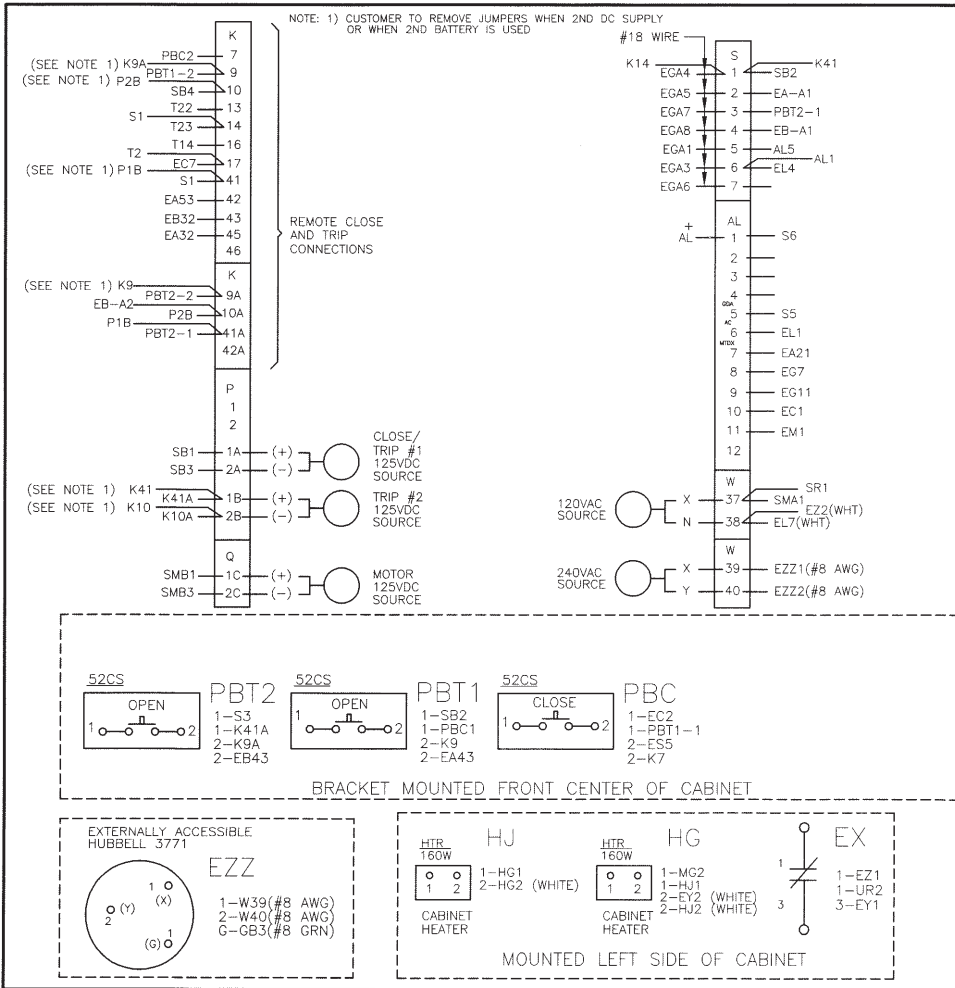
SPARE AUX CONTACTS

SIGNATURES		DATE	Hitachi HVB, Inc.	
DRAWN BY: W.WADSWORTH		11/9/08	Suwanee, Ga.	
CHECKED BY:			TITLE: ELECTRICAL SCHEMATIC	
DESIGNED BY:			145-170kV/40kA/3000A	
APPROVALS				
			SIZE FROM NO.	DWG. NO.
			B	AEPCB125HS3
			SCALE: NTS	REV. 1
			CONT. ON SHE. 5 SHE. NO. 6	

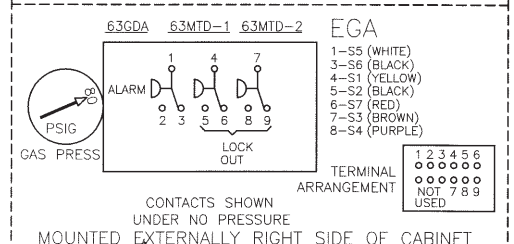
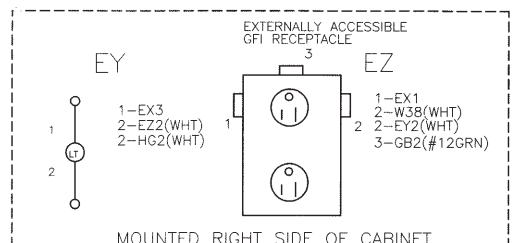


# CTG

Power Systems Intl. LLC

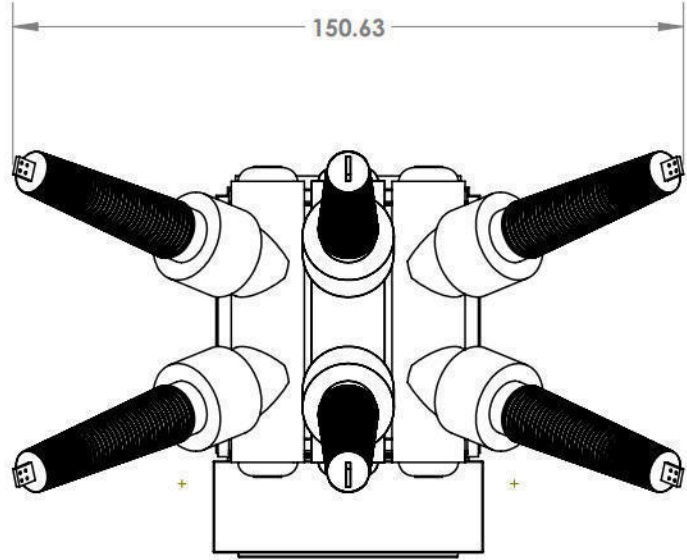


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	ADDED WIRE COLOR & TERMINAL ARRANGEMENT TO EGA	6/24/11	
2	UPDATED COMPANY NAME	4/9/12	

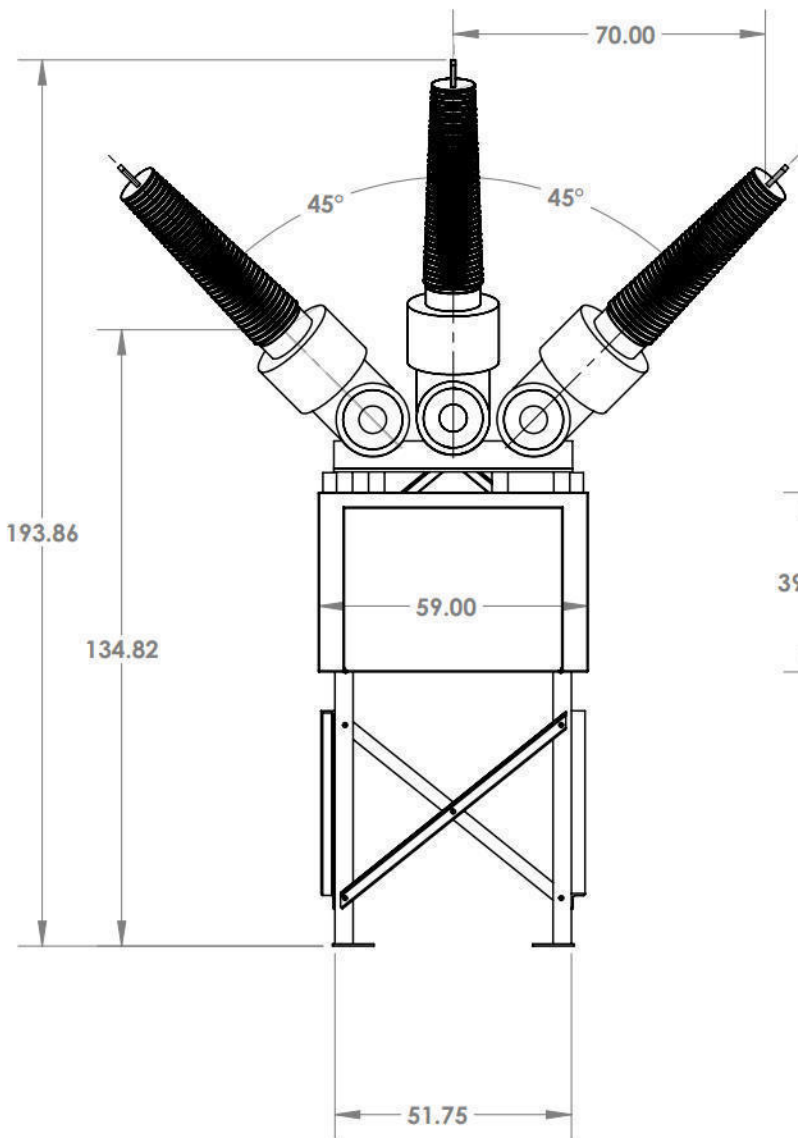


SIGNATURES	DATE	Hitachi HVB, Inc.	
DRAWN BY: W.WADSWORTH	11/9/09	Suwanee, Ga.	
CHECKED BY:		TITLE: ELECTRICAL SCHEMATIC	
ENG'D BY:		145-170kV/40kA/3000A	
APPROVALS:			
		SHEET FROM NO. B	DWG. NO. AEPCEB125HS3
		SCALE: NTS	CONT. ON SHEET 8 OF SET NO. 6

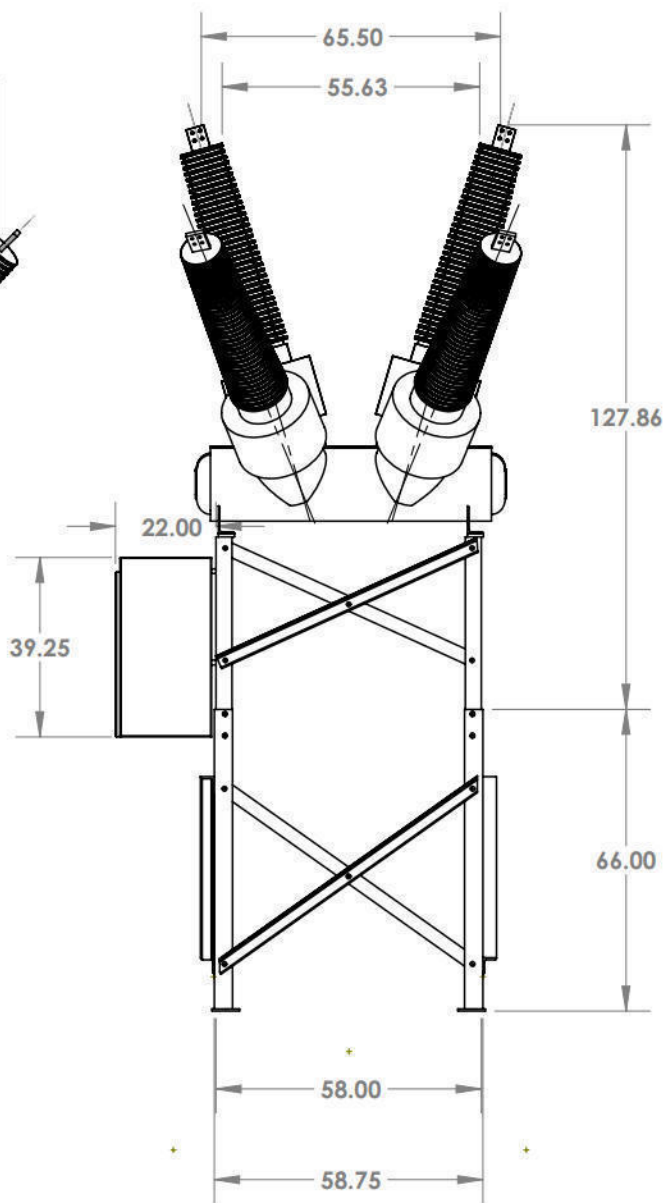




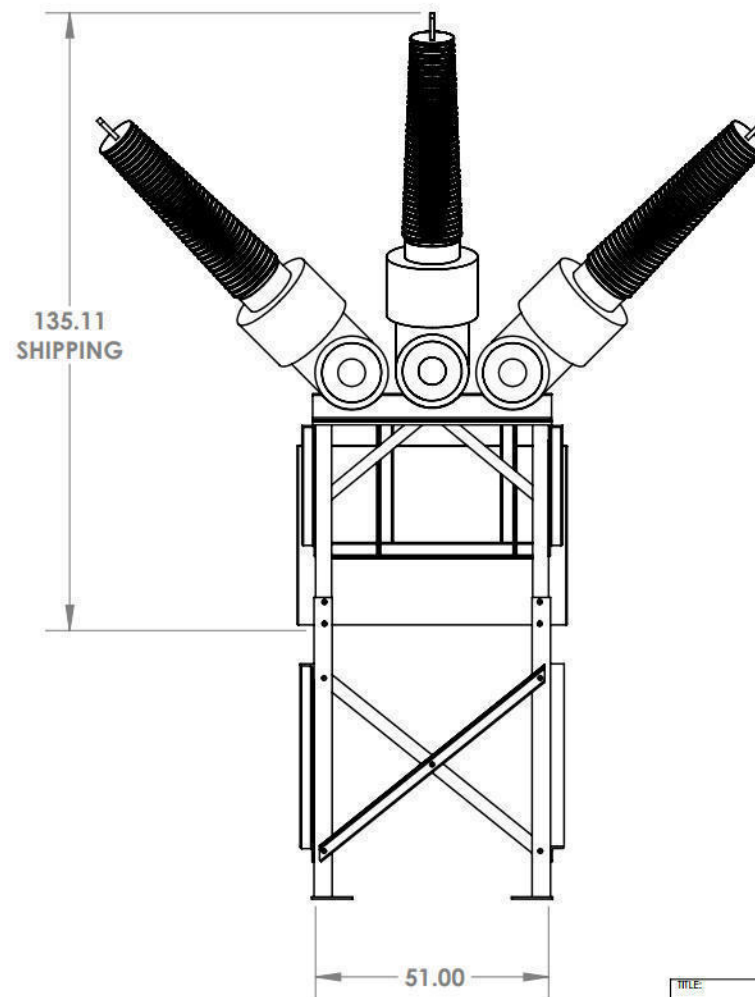
TOP VIEW



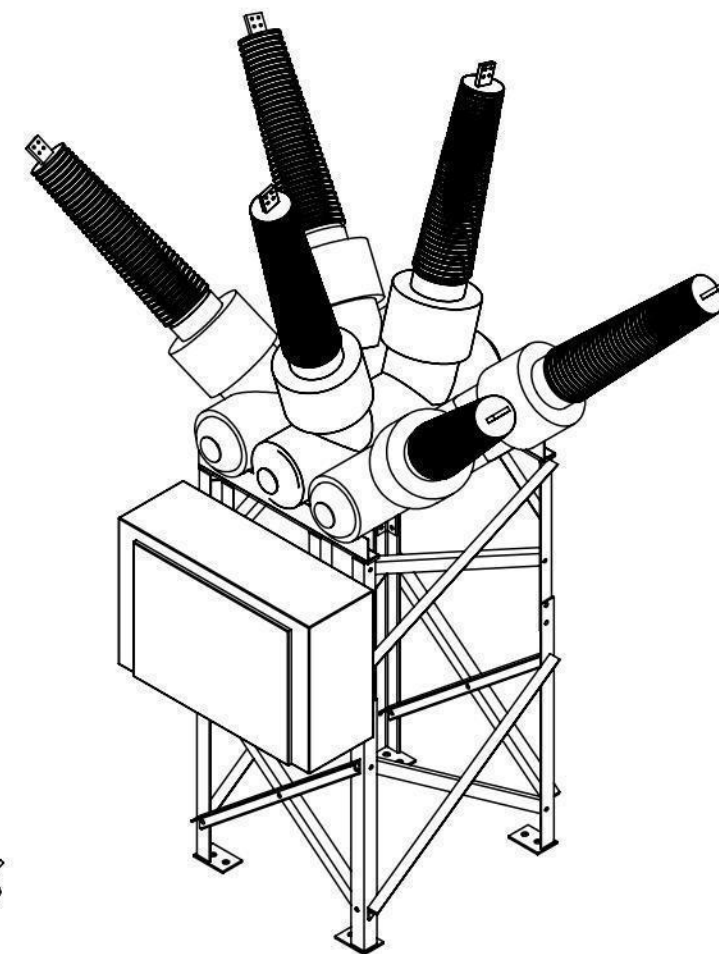
FRONT VIEW



RIGHT VIEW

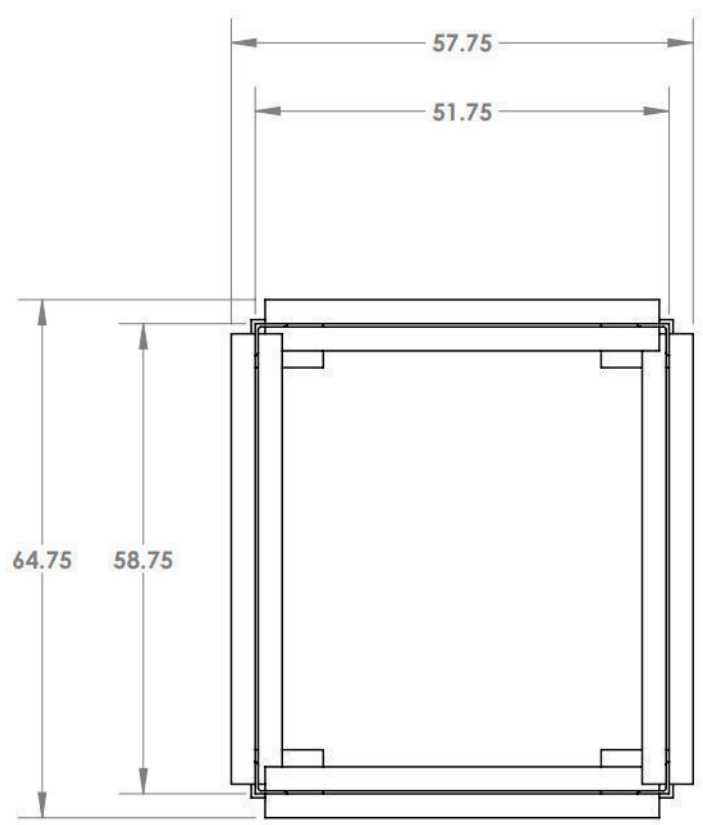


BACK VIEW

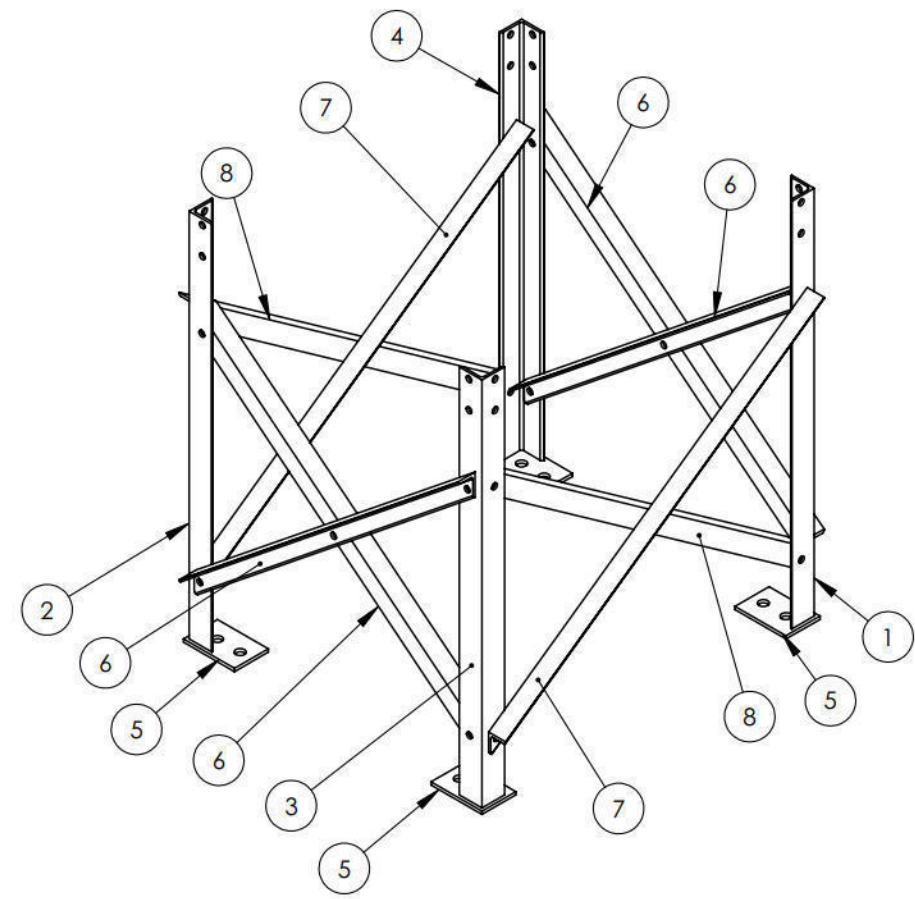


ISOMETRIC VIEW

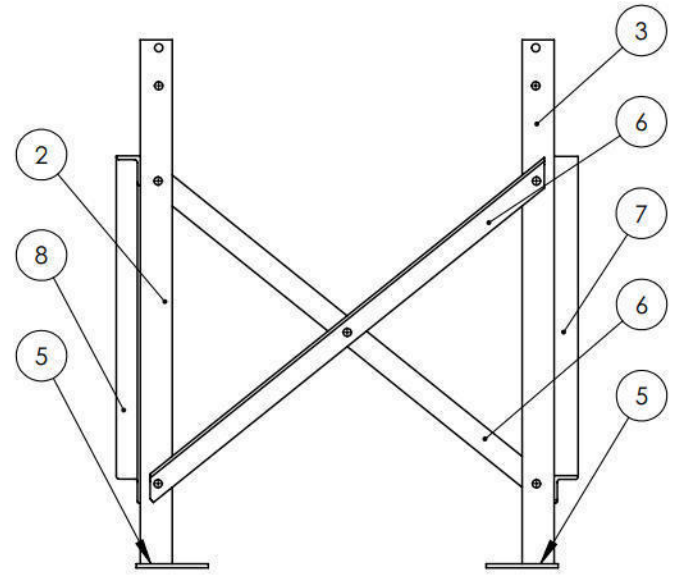
TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:		REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	SALES ORDER #		<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:	DRAWING TYPE:
SHEET 1 OF 6				



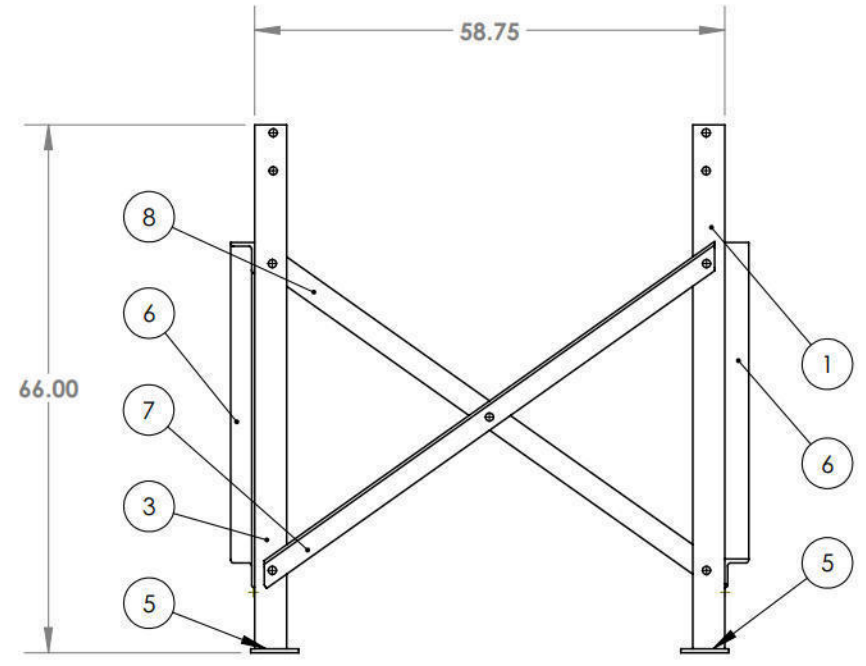
TOP VIEW



ISOMETRIC VIEW



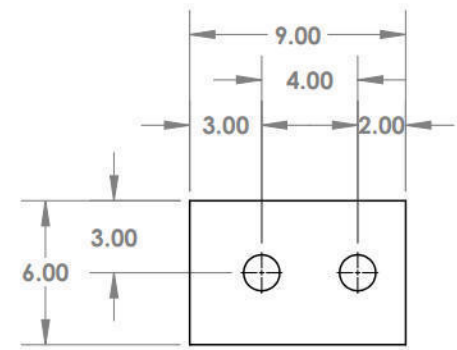
FRONT VIEW



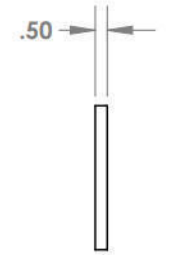
RIGHT VIEW

ITEM NO.	QTY.	DESCRIPTION	LENGTH
1	1	L4X4X0.375	65.5
2	1	L4X4X0.375	65.5
3	1	L4X4X0.375	65.5
4	1	L4X4X0.375	65.5
5	4	WELDED ANGLE PLATE	SEE DETAIL
6	4	L3X3X0.375	65.113
7	2	L3X3X0.375	70.788
8	2	L3X3X0.375	70.864

**ITEM #5**  
**4 - QTY NEEDED**

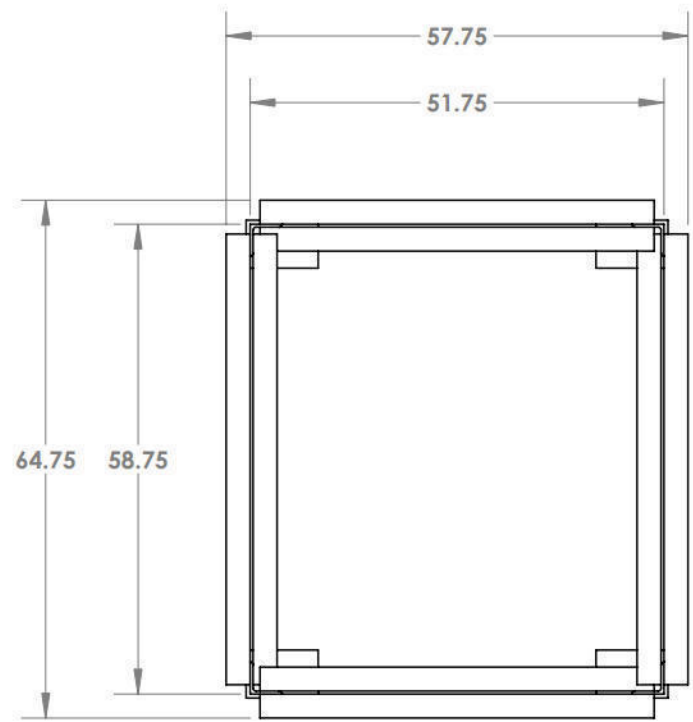


FRONT VIEW

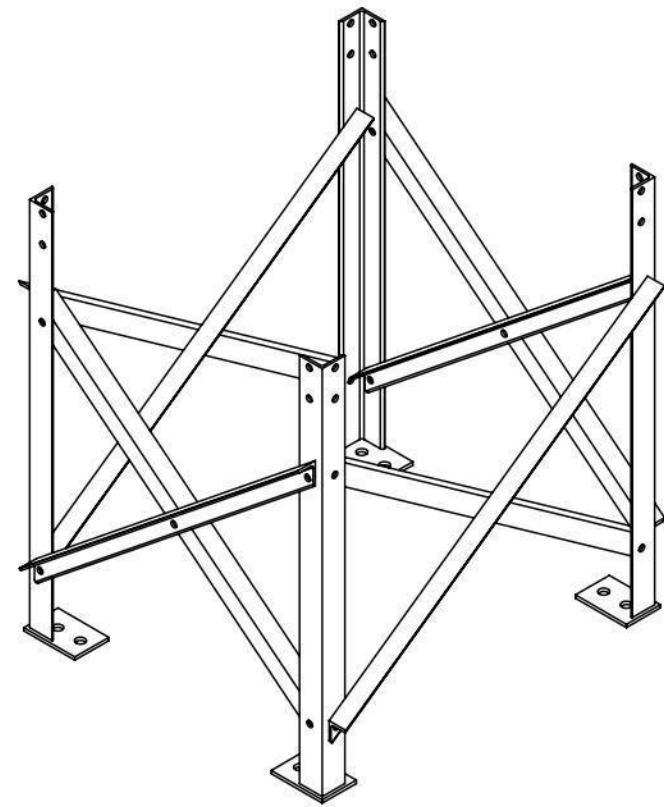


RIGHT VIEW

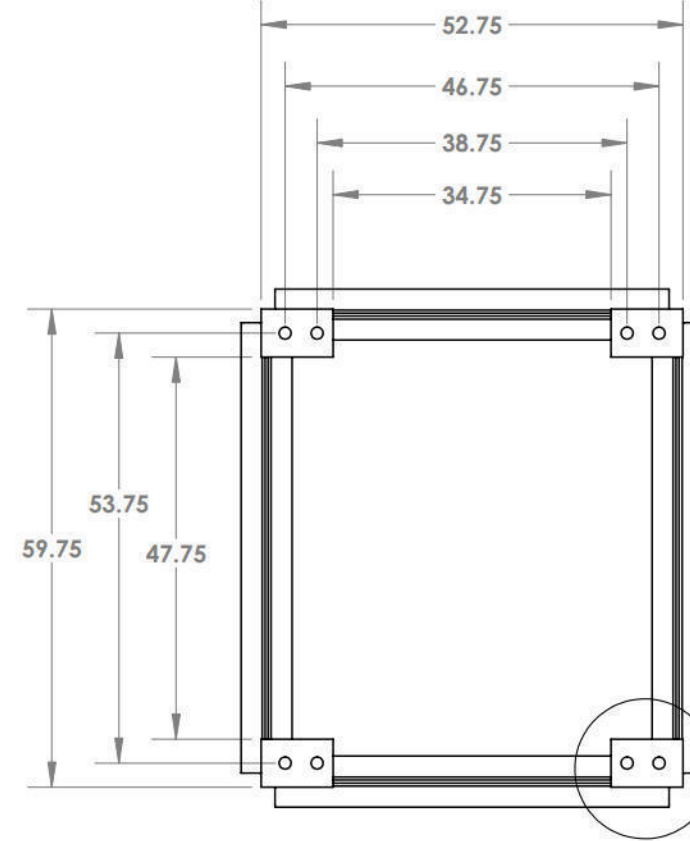
TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:		REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	<b>TBD</b>	SALES ORDER #	<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:	DRAWING TYPE:
UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES				
SHEET 2 OF 6				



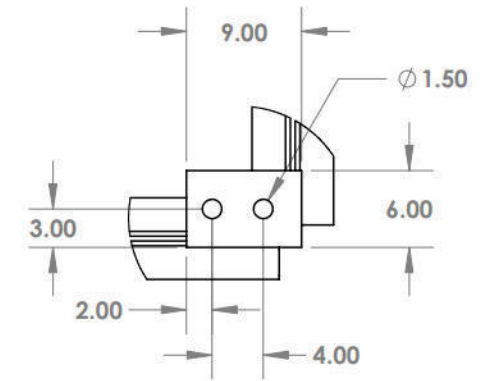
TOP VIEW



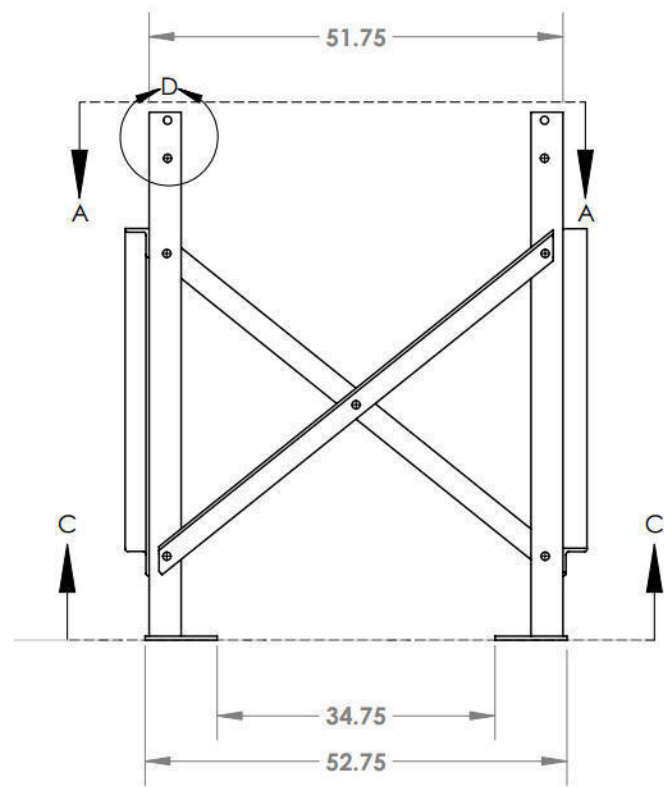
ISOMETRIC VIEW



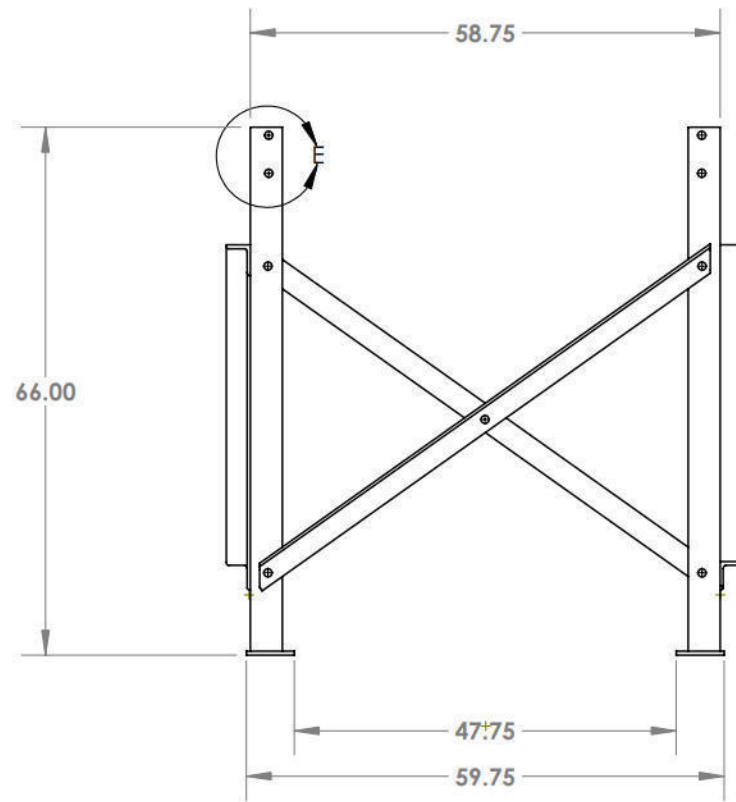
SECTION C-C



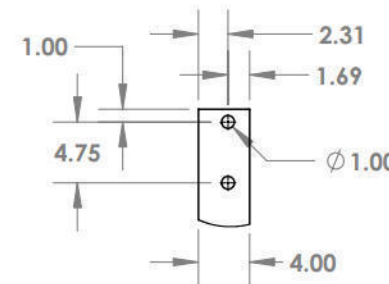
DETAIL N  
SCALE 1 : 15



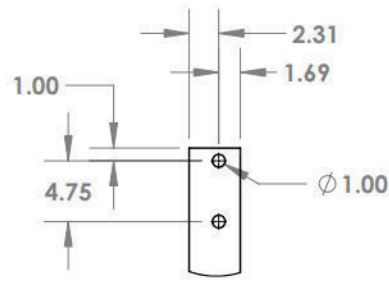
FRONT VIEW



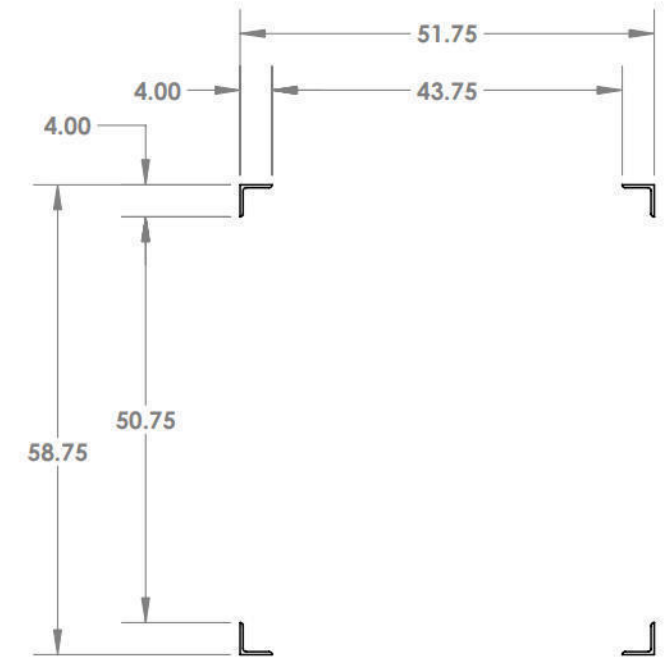
RIGHT VIEW



DETAIL D  
SCALE 1 : 15



DETAIL E  
SCALE 1 : 15

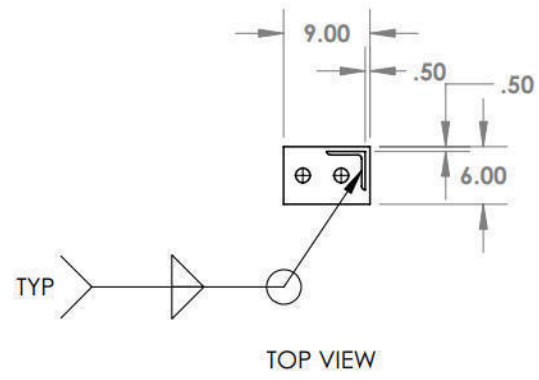


SECTION A-A

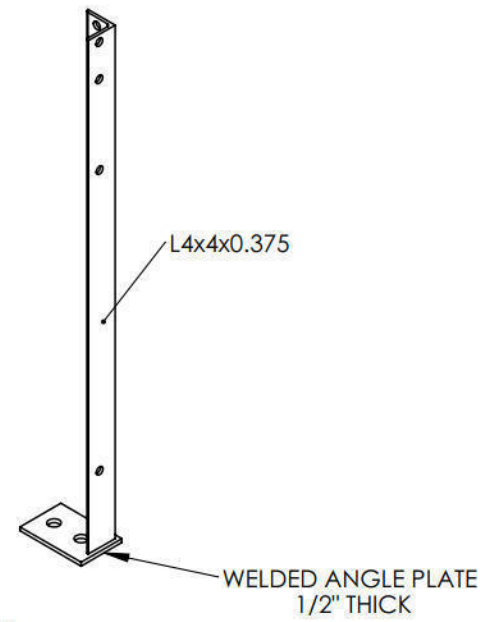
TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:		REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	<b>TBD</b>	SALES ORDER #	<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:	DRAWING TYPE:

UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES

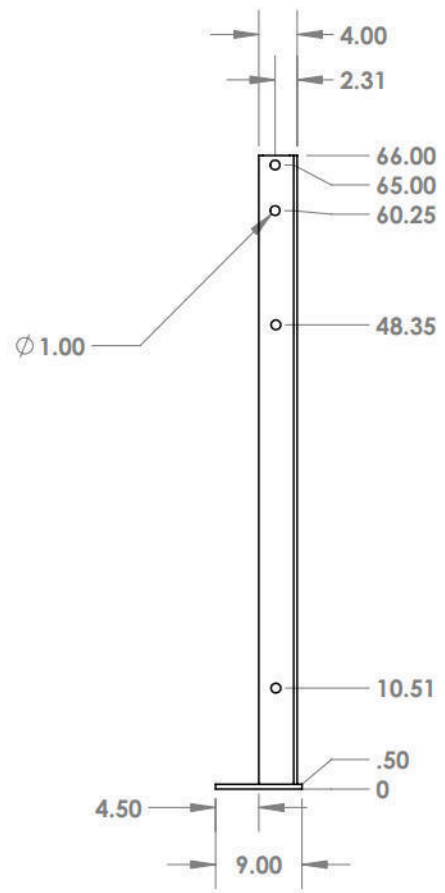
**ITEM #1 & ITEM #5**  
**1 - QTY NEEDED**



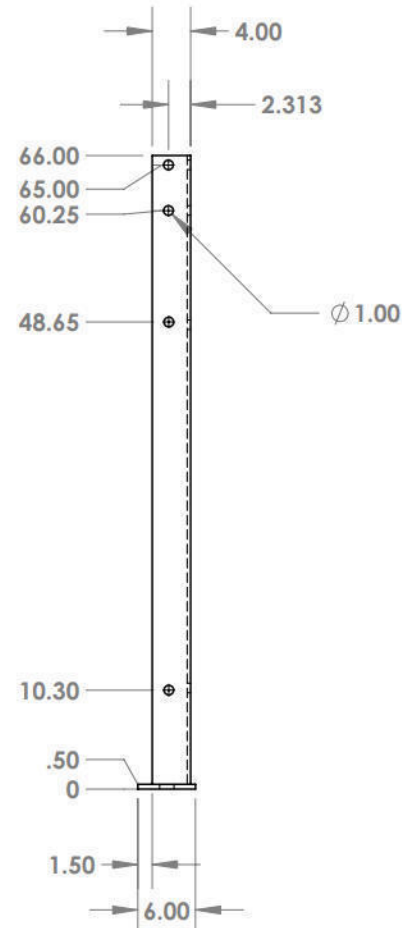
TOP VIEW



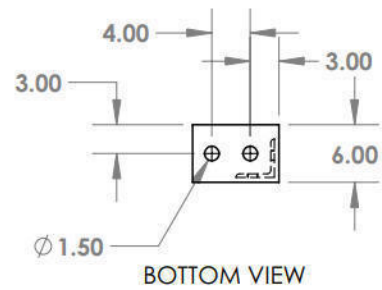
ISOMETRIC VIEW



FRONT VIEW

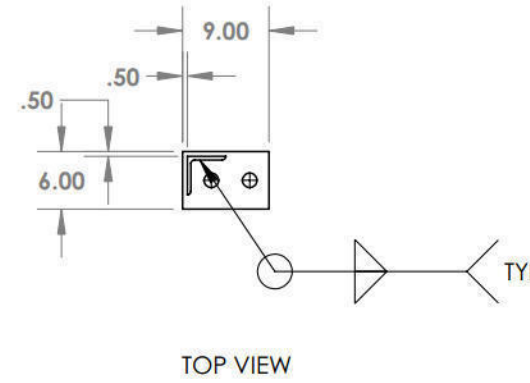


RIGHT VIEW

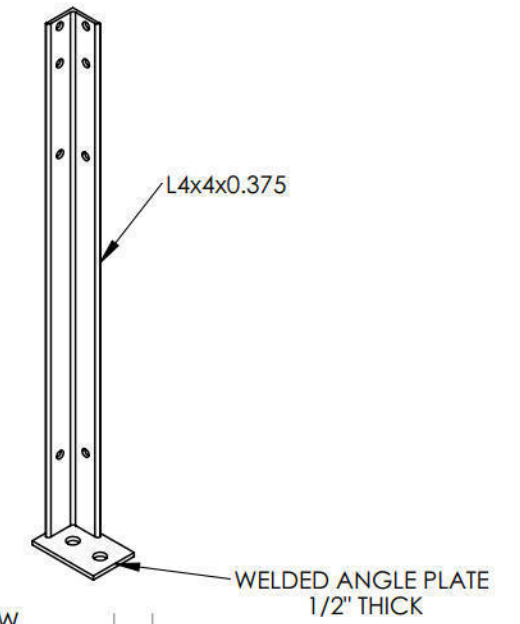


BOTTOM VIEW

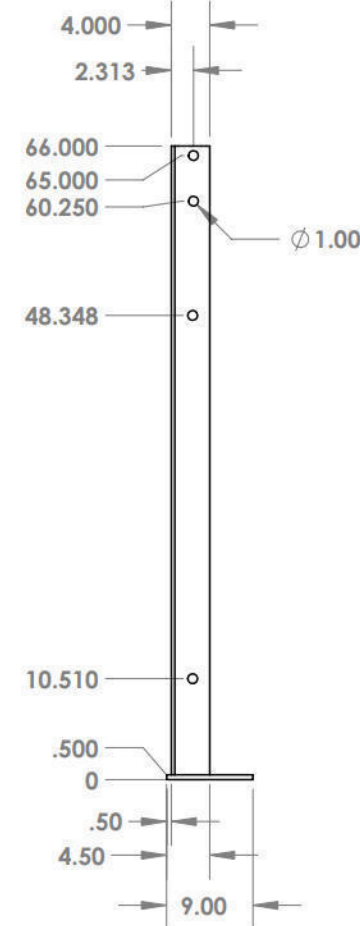
**ITEM #4 & ITEM #5**  
**1 - QTY NEEDED**



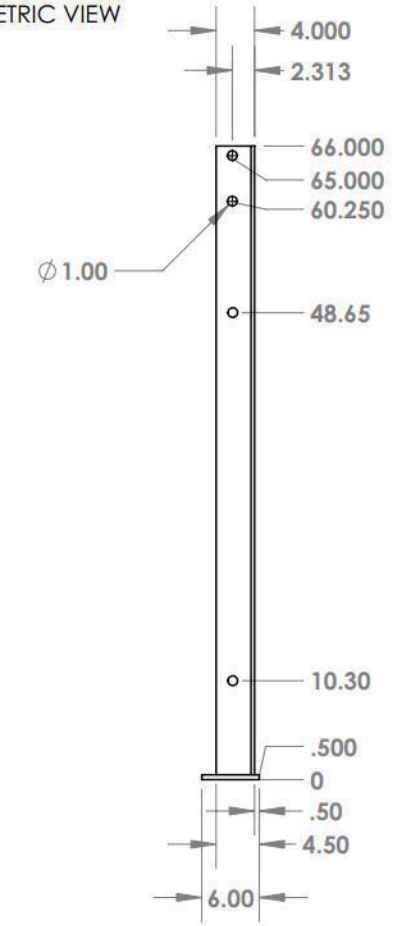
TOP VIEW



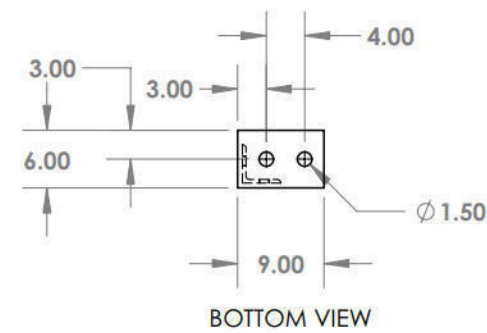
ISOMETRIC VIEW



FRONT VIEW



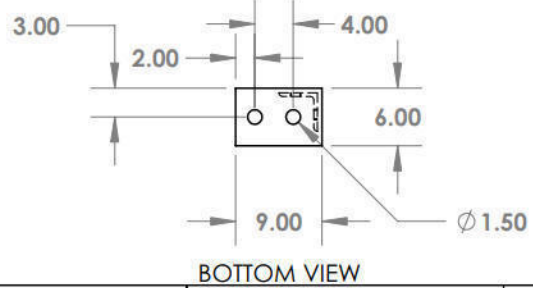
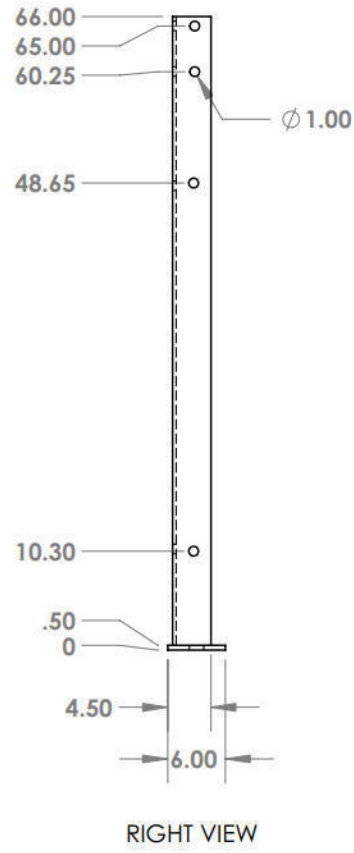
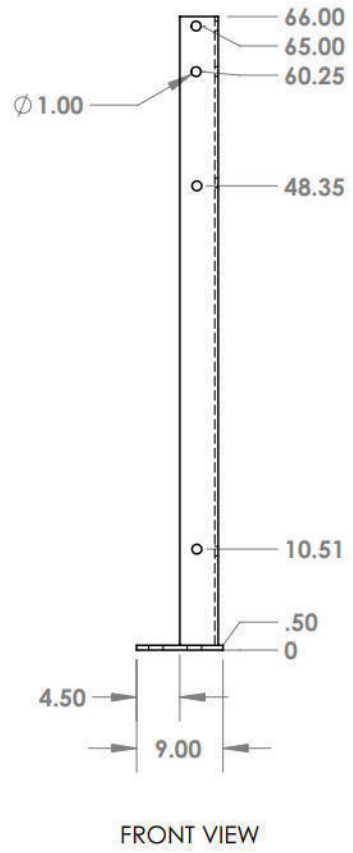
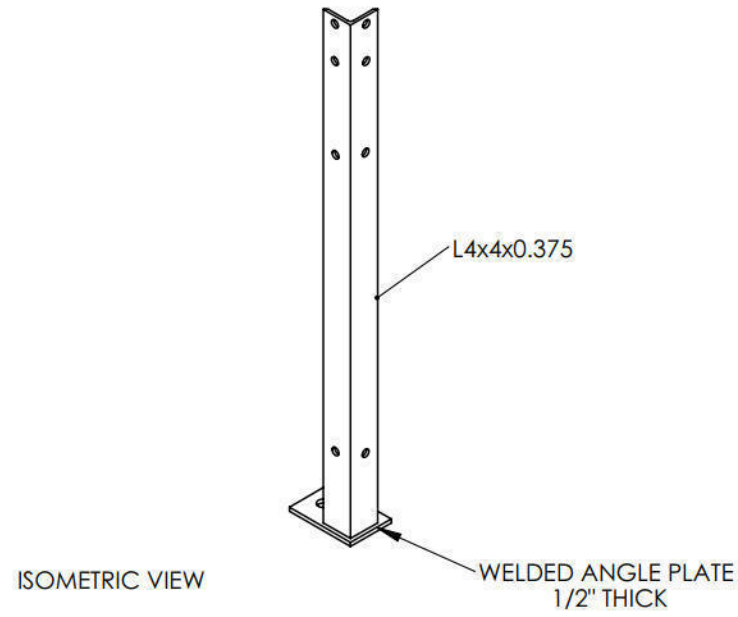
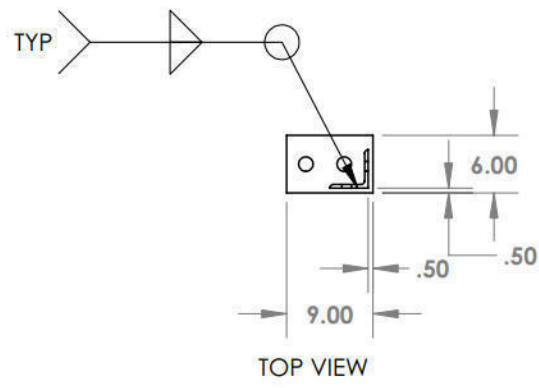
RIGHT VIEW



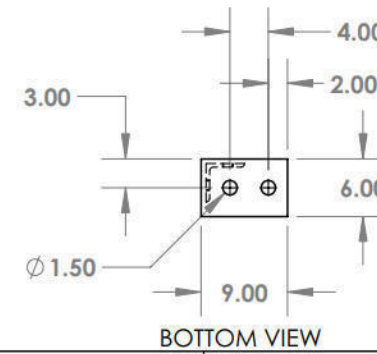
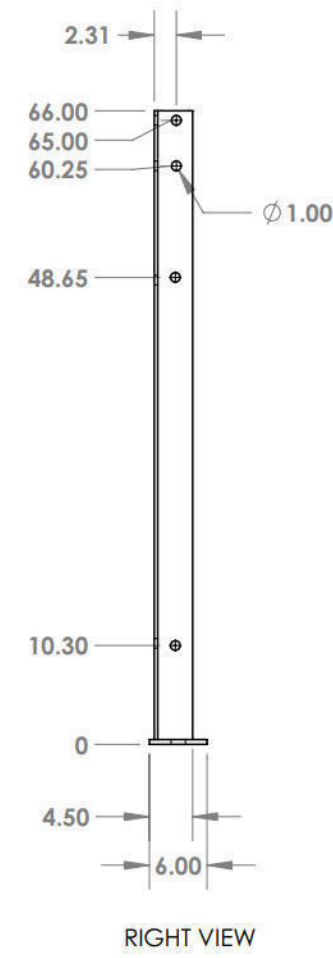
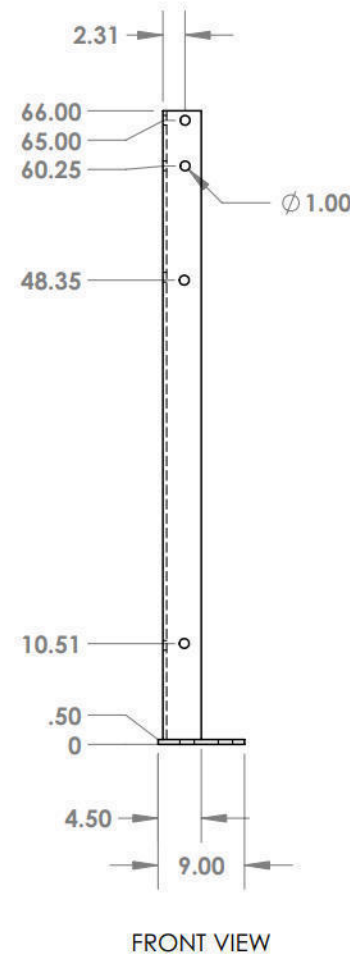
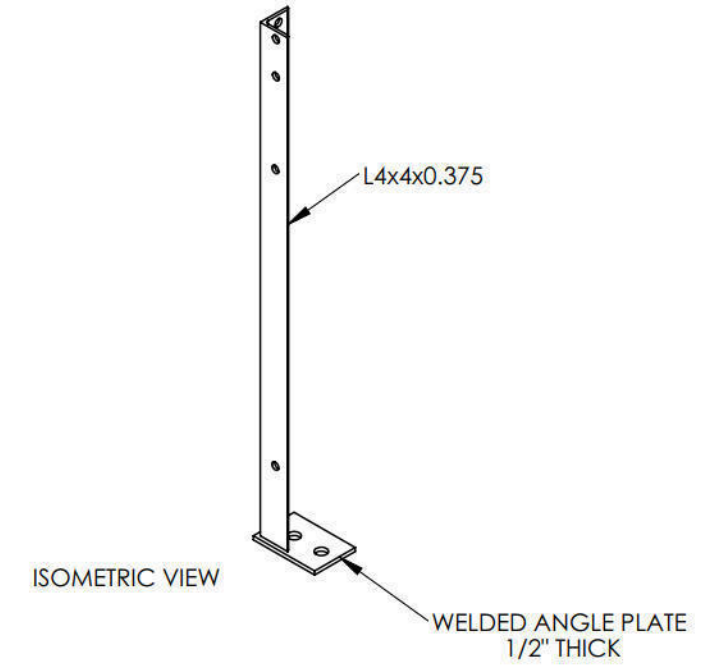
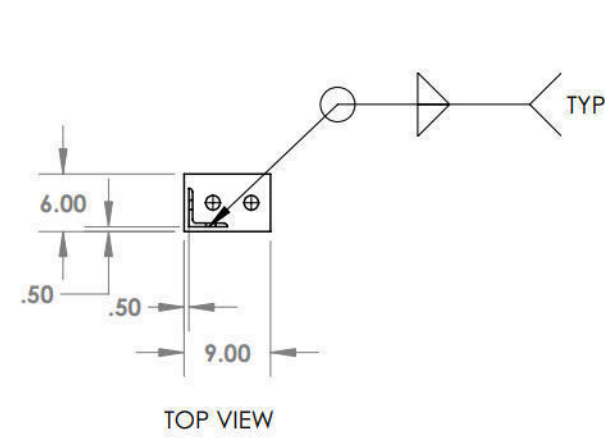
BOTTOM VIEW

TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:		REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	<b>TBD</b>	SALES ORDER #	<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:	DRAWING TYPE:
UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES				
SHEET 4 OF 6				

**ITEM #3 & ITEM #5  
1 - QTY NEEDED**

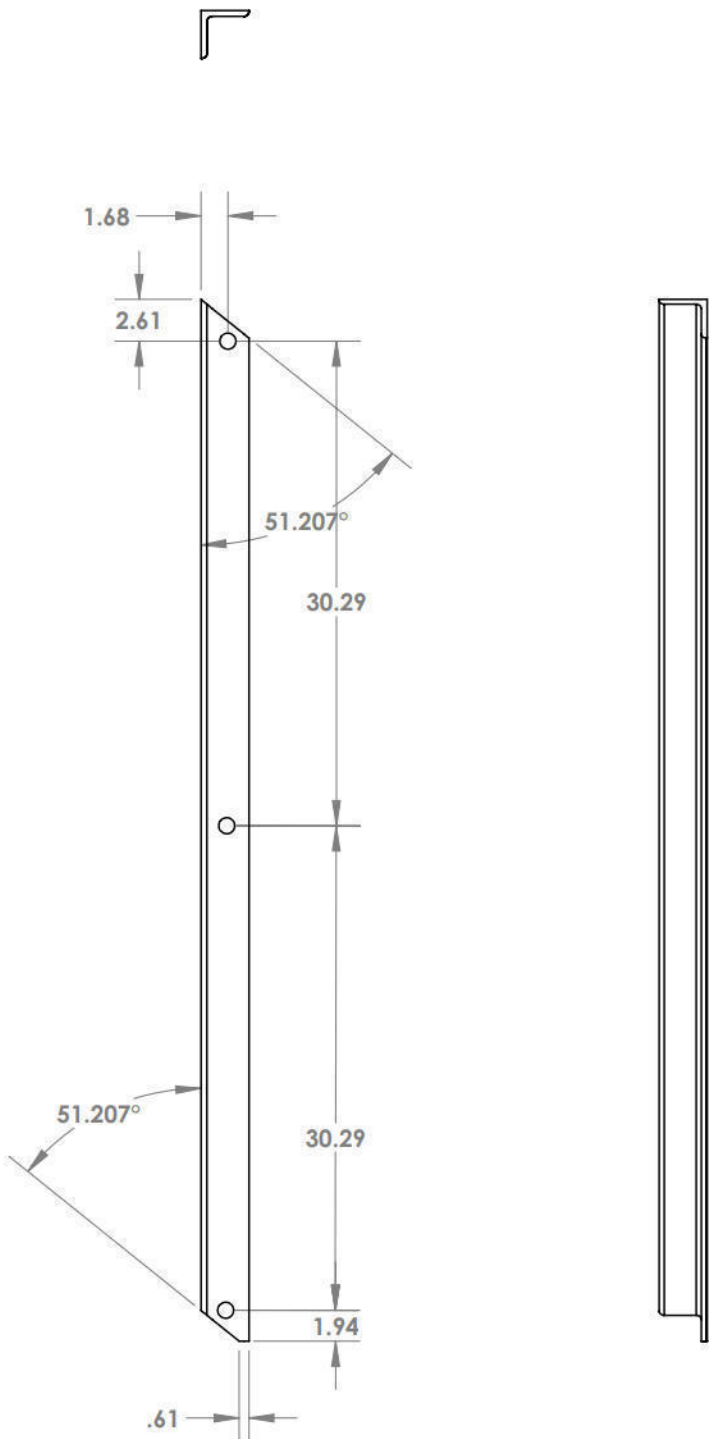


**ITEM #2 & ITEM #5  
1 - QTY NEEDED**



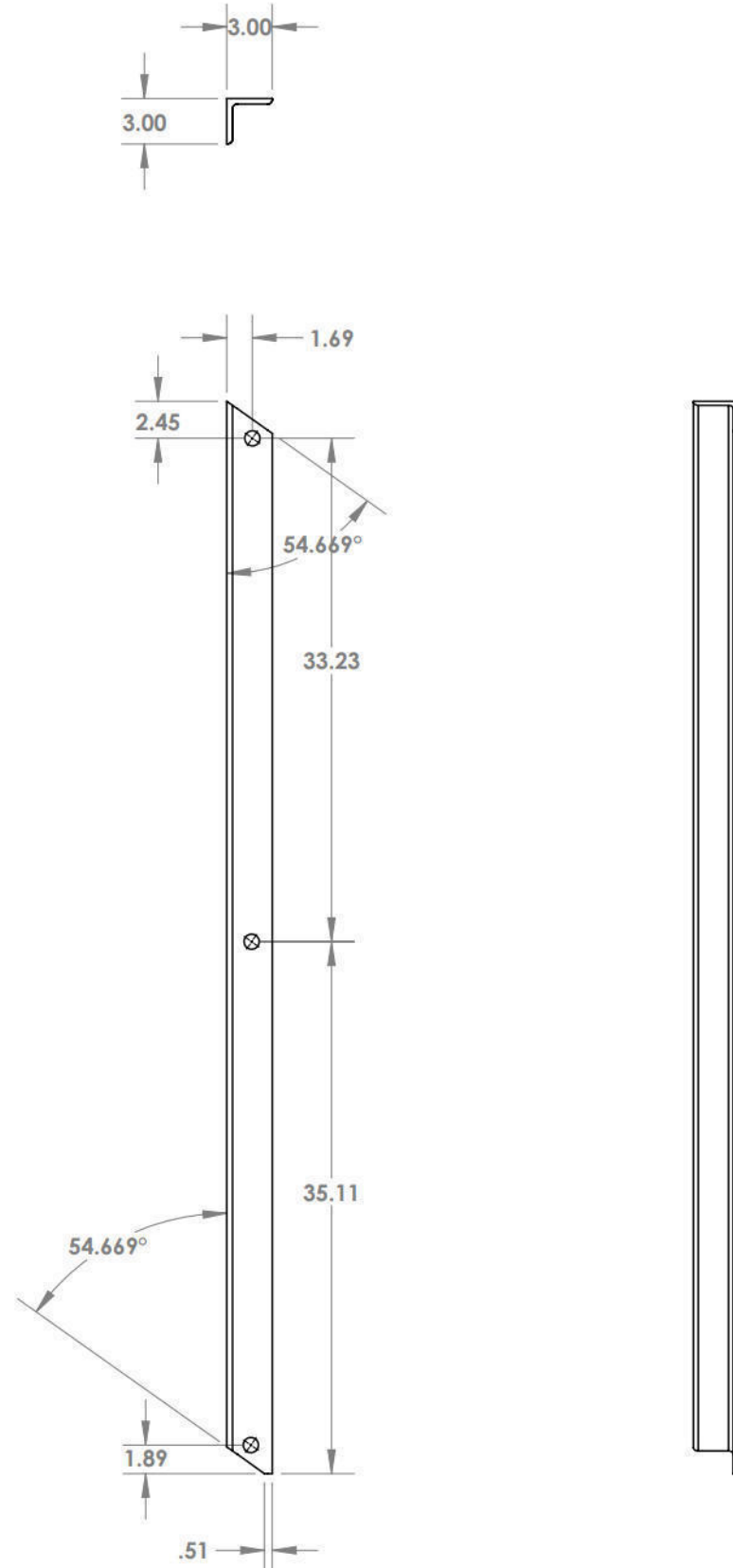
TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:	REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	SALES ORDER # <b>TBD</b>	<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:
UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES			
SHEET 5 OF 6			

**ITEM #6**  
4 - QTY NEEDED



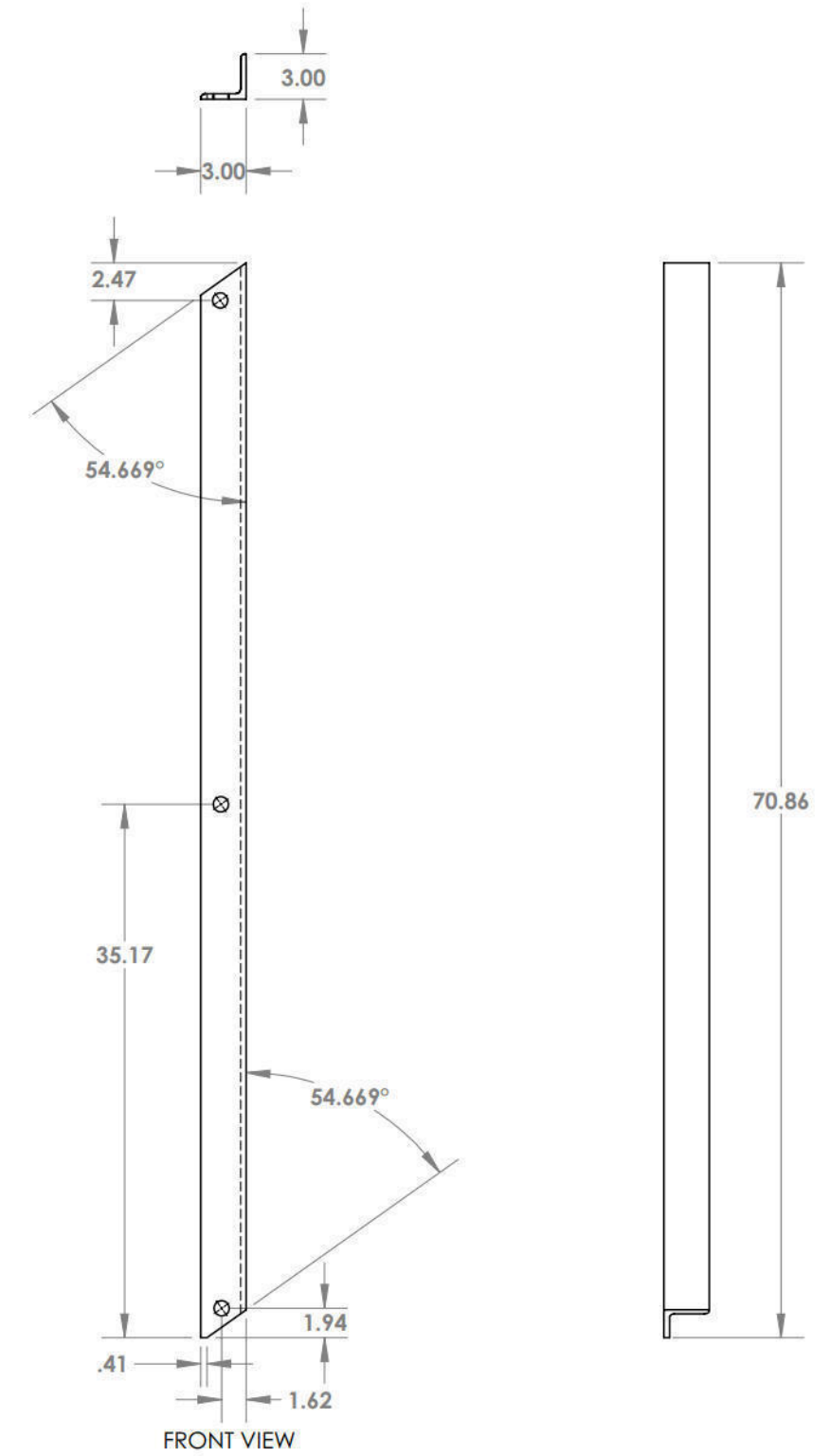
FRONT VIEW

**ITEM #7**  
2 - QTY NEEDED



FRONT VIEW

**ITEM #8**  
2 - QTY NEEDED



FRONT VIEW

TITLE: <b>Hitachi SF6 Breaker</b>		CUSTOMER:		REVISION:
UNIT # <b>Hitachi SF6 Breaker</b>	WORK ORDER #	<b>TBD</b>	SALES ORDER #	<b>TBD</b>
DRAWN BY:	DATE:	CHECKED BY:	DATE:	DRAWING TYPE:
UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES				
SHEET 6 OF 6				