



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP – 0263

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare Diagnostics Inc.

Manufacturer's Technical Representative: Bob Wiedenmann

Mailing Address: Glasgow Business Community, #600 P.O Box 6101 Newark DE 19714-6101

Telephone: 302-631-7539

Email: robert.wiedenmann@siemens-healthineers.com

Product Information

Product Name: Alpha Technologies Pinnacle Plus 6000T UPS & Falcon Electric SG2K-1T UPS

Product Type: Uninterruptable Power Supply (UPS)

Product Model Number: See Attachment 1 for a listing of Seismically Certified models
(List all unique product identification numbers and/or part numbers)

General Description: UPS units for Siemens Healthcare Diagnostics Analyzer.

Approval is limited to units identical to tested units.

Mounting Description: Rigid base mounted

Applicant Information

Applicant Company Name: CYS STRUCTURAL ENGINEERS, INC.

Contact Person: Dieter T. Siebald

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: 916-920-2020

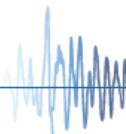
Email: dieters@cyseng.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: 

Date: 2019-12-20

Title: Structural Engineer/Project Mgr Company Name: CYS STRUCTURAL ENGINEERS, INC.





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: CYS Structural Engineers, Inc.

Name: Dieter T. Siebald California License Number: S4346

Mailing Address: 2495 Natomas Park Drive, Suite 650, Sacramento, CA 95833

Telephone: 916-920-2020 Email: dieters@cyseng.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- 0543-13
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

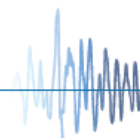
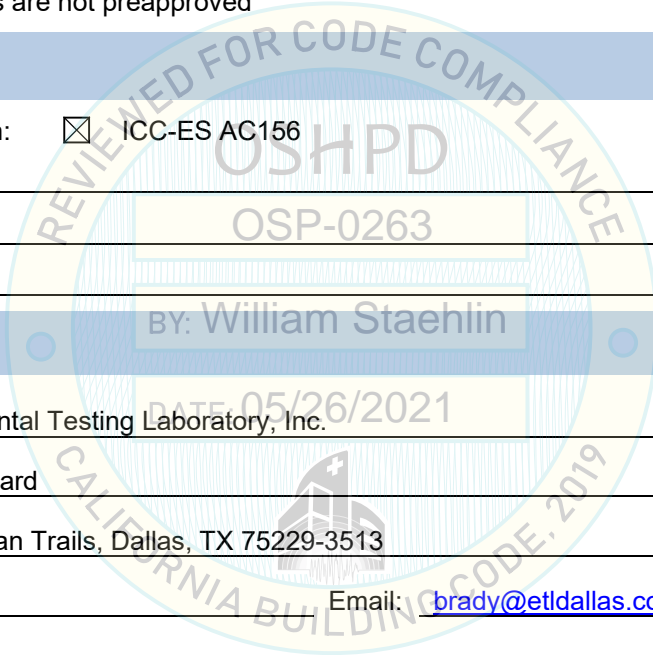
Testing Laboratory

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

Mailing Address: 11034 Indian Trails, Dallas, TX 75229-3513

Telephone: 972-247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.87

S_{DS} (Design spectral response acceleration at short period, g) = 2.60

a_p (In-structure equipment or component amplification factor) = 1.0

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachment 1

Overall dimensions and weight (or range thereof) = See Attachment 1

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = by William Staehlin

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Attachment 1

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: William Staehlin

Date: May 26, 2021

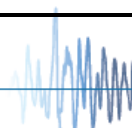
Print Name: William Staehlin

Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.60

z/h = 1

Condition of Approval (if applicable): _____



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

REPORT FOR SEISMIC COMPLIANCE

CYS JOB NO. 19072

TABLE 1: COMPONENT LIST AND DESCRIPTION




Certified Product Construction Summary: Carbon steel enclosures										
Certified Options Summary: There are no certified options or accessories used. Equipment is tested for a single configuration only.										
Mounting Configuration: Rigid base mounted Note: The actual field installed mounting configuration must be similar to the configuration tested and have equivalent strength and stiffness.										
Building Code: CBC 2016			Seismic Parameters				$S_{DS} = 2.6g$		$z/h = 1.0$	$I_p = 1.5$
Product Family:		Uninterruptible Power Systems								
Manufacturer:	Model Name:	Serial # of Tested Unit:	Siemens Part No.	Dimensions (in.)			Weight (lbs)	Notes	UUT	
				Depth	Width	Height				
Alpha Technologies	Pinnacle Plus 6000T	10085951004	1000037971	10.15	27.55	39.44	336.6	6kVA	UUT 1	
Falcon Electric	SG2K-1T	1103009031	10471339	7.60	18.90	13.80	68.4	2kVA	UUT 2	

ATTACHMENT 2: UNIT UNDER TEST SUMMARY SHEET

REPORT FOR SEISMIC COMPLIANCE

CYS JOB NO. 19072

UUT 1 - Pinnacle Plus 6000T




Manufacturer: Alpha Technologies									
Model: Pinnacle Plus 6000T									
Serial Number: 10085951004									
Component Construction Carbon steel enclosure									
Subcomponents: No certified options and accessories.									
UUT Properties:									
Weight (lbs)	Dimensions (in.)	Lowest Natural Frequency (Hz) $S_{DS}=2.6$			Lowest Natural Frequency (Hz) $S_{DS}=2.0$				
	Depth Width Height	Front-Back	Side-Side	Vertical	Front-Back	Side-Side	Vertical		
336.6	10.15 27.55 39.44	23.40	13.55	15.36	30.00	13.14	14.92		
UUT Highest Passed Seismic Test Parameters:									
Building Code	Test Criteria	Lab Report No	S_{DS} (g)	z/h	Ip	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2010 CBC	ICC-ES AC156	ETL Report 11977	2.6	1.0	1.5	4.16	2.90	1.74	0.70
Test Mounting Details									
									
<p>UUT #1, Alpha Pinnacle Plus, was anchored using welded steel brackets (Assembly # 10800360) attached to each side of the UPS with screws that replaced those used to mount the unit side panels. This design originated with Alpha Technologies but the sheet metal thickness was increased to 3/16". It was found that the UPS mounting holes were not properly located to align with the unit and the through holes in the bracket had to be increased to 1/4". Oversize washers with a larger diameter had to be used to reduce the risk of the screw heads pulling through the bracket holes. Each bracket was anchored to the table with four (4) 1/2" - 13 hex bolts with lock washers, and the bolts were torqued to 40 ft-lbs.</p>									
<p>UUT #1 maintained structural integrity and did not exhibit exterior damage. The UUT also remained functional per manufacturer requirements after the completion of shake table testing at 2.6g.</p>									

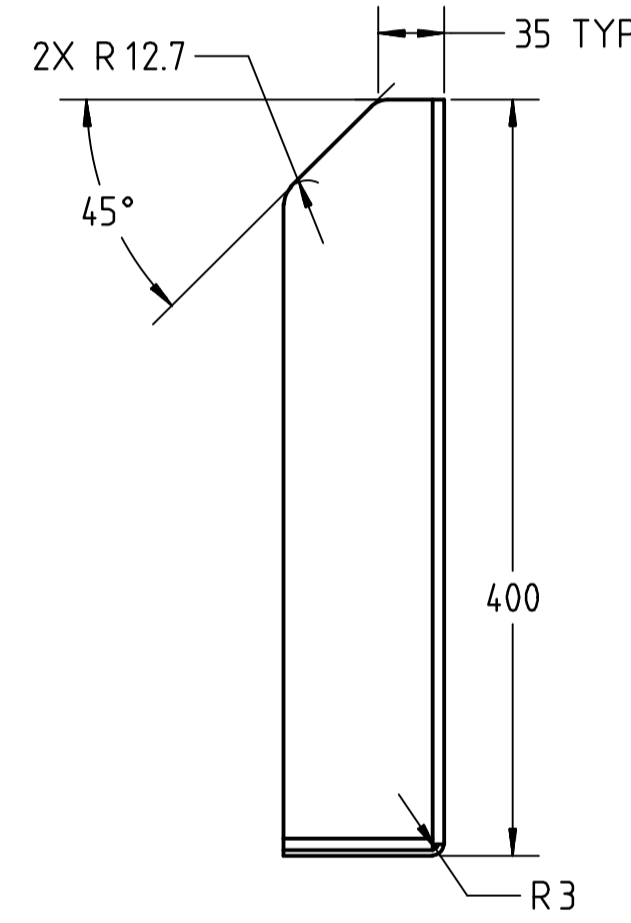
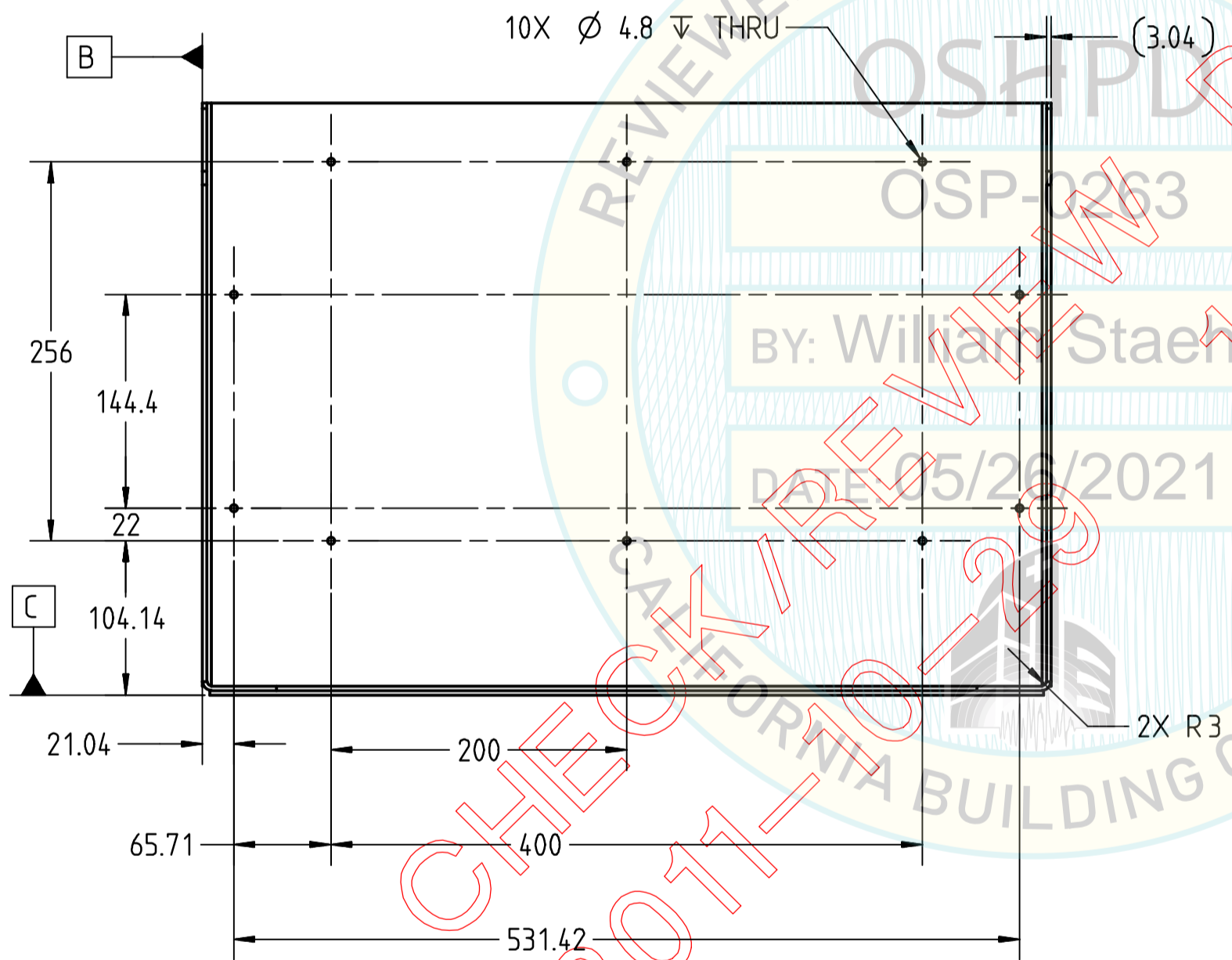
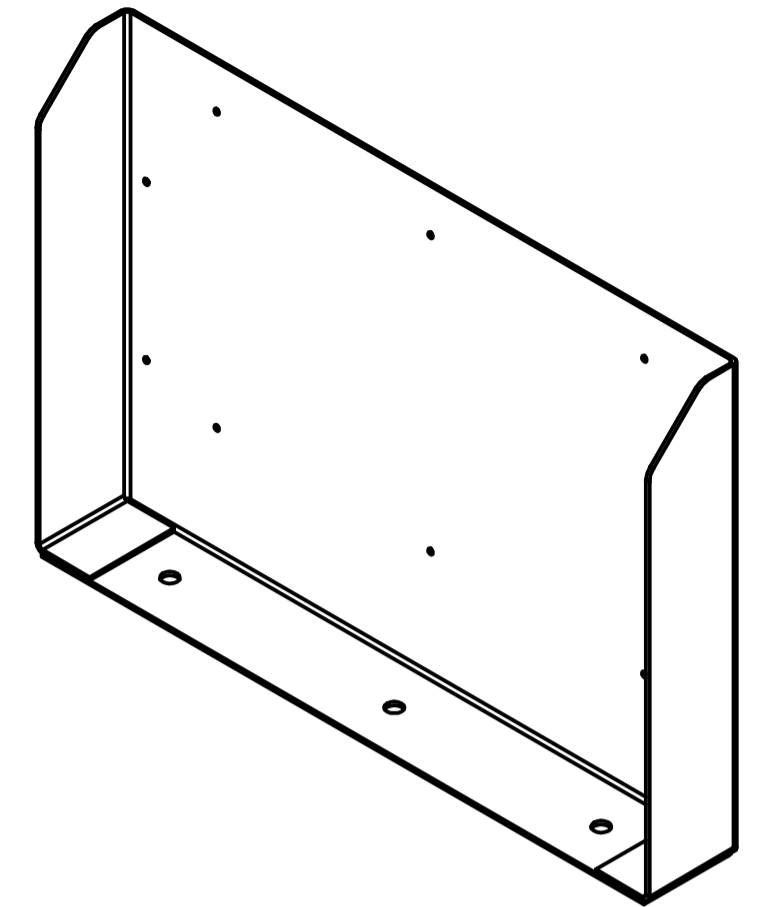
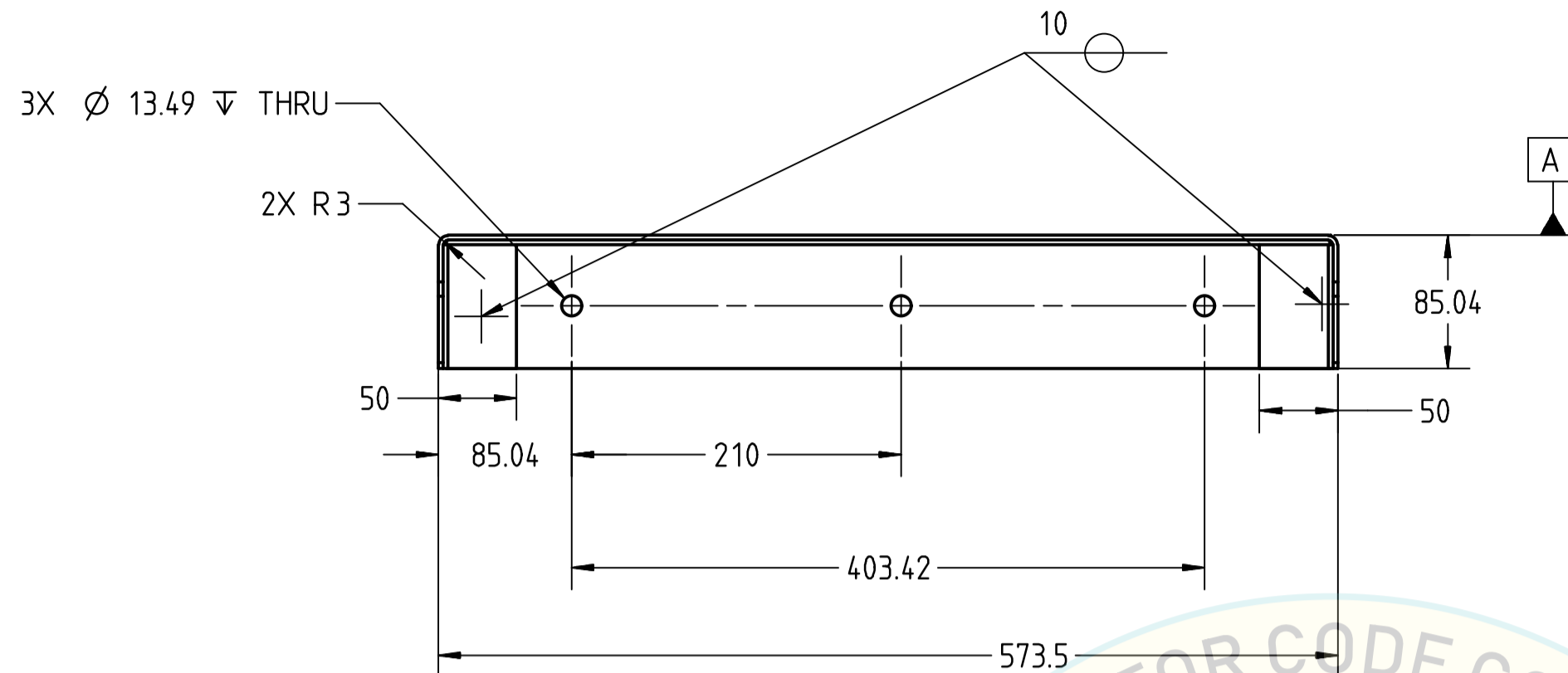
ATTACHMENT 2: UNIT UNDER TEST SUMMARY SHEET

REPORT FOR SEISMIC COMPLIANCE

CYS JOB NO. 19072

UUT 2 - SG2K-1T

Manufacturer: Falcon Electric									
Model: SG2K-1T									
Serial Number: 1103009031									
Component Construction Carbon steel enclosure									
Subcomponents: No certified options and accessories.									
UUT Properties:									
Weight (lbs)	Dimensions (in.)	Lowest Natural Frequency (Hz) $S_{DS}=2.6$			Lowest Natural Frequency (Hz) $S_{DS}=2.0$				
	Depth Width Height	Front-Back	Side-Side	Vertical	Front-Back	Side-Side	Vertical		
68.4	7.60 18.90 13.80	None	13.50	39.61	None	13.42	38.84		
UUT Highest Passed Seismic Test Parameters:									
Building Code	Test Criteria	Lab Report No	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2010 CBC	ICC-ES AC156	ETL Report 11977	2.6	1.0	1.5	4.16	2.90	1.74	0.70
Test Mounting Details									
 <p style="text-align: center;">UUT 2</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Figure 1 - SG2K-1T Testing Configuration</p>		 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Figure 2 - SG2K-1T Bracket</p>				 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Figure 3 - Bracket Hardware</p>			
<p>UUT 2 was anchored to the test plate with stainless steel bands (Assembly # 10800435) attached to angle brackets. The device had not been dimensionally verified prior to this testing and the bands were found to be too long and had to be modified in the field. Pre-manufactured, 1/16" thick shims inserted under the angle brackets were used to take up the slack in the bands and provide a pretension force. The required band tension of 54 lbs was verified with a Hilger U. Kern, "Trummeter" belt tension meter. Each bracket was anchored to the table with one (1) 1/2" - 13 hex bolts with lock washers, and the bolts were torqued to 40 ft-lbs.</p>									
<p>UUT #2 maintained structural integrity and did not exhibit exterior damage. The UUT also remained functional per manufacturer requirements after the completion of shake table testing at 2.6g.</p>									



CHECK REVIEWED 2011-10-29

DESIGN 14.11.EDT

REVIEWED FOR CODE COMPLIANCE

OSP-0263

BY: William Staehlin

DATE: 05/26/2021

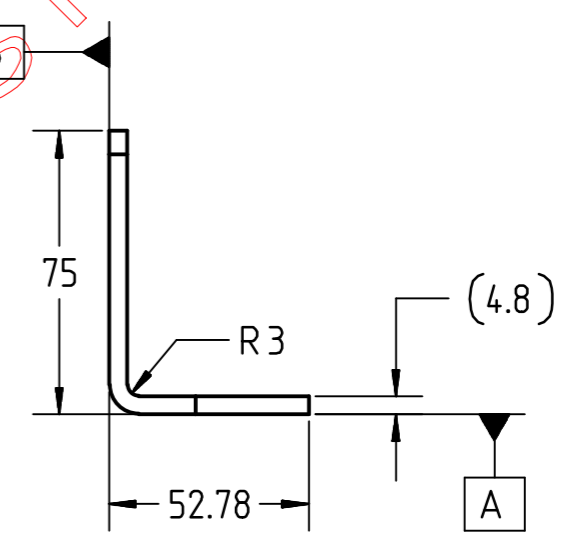
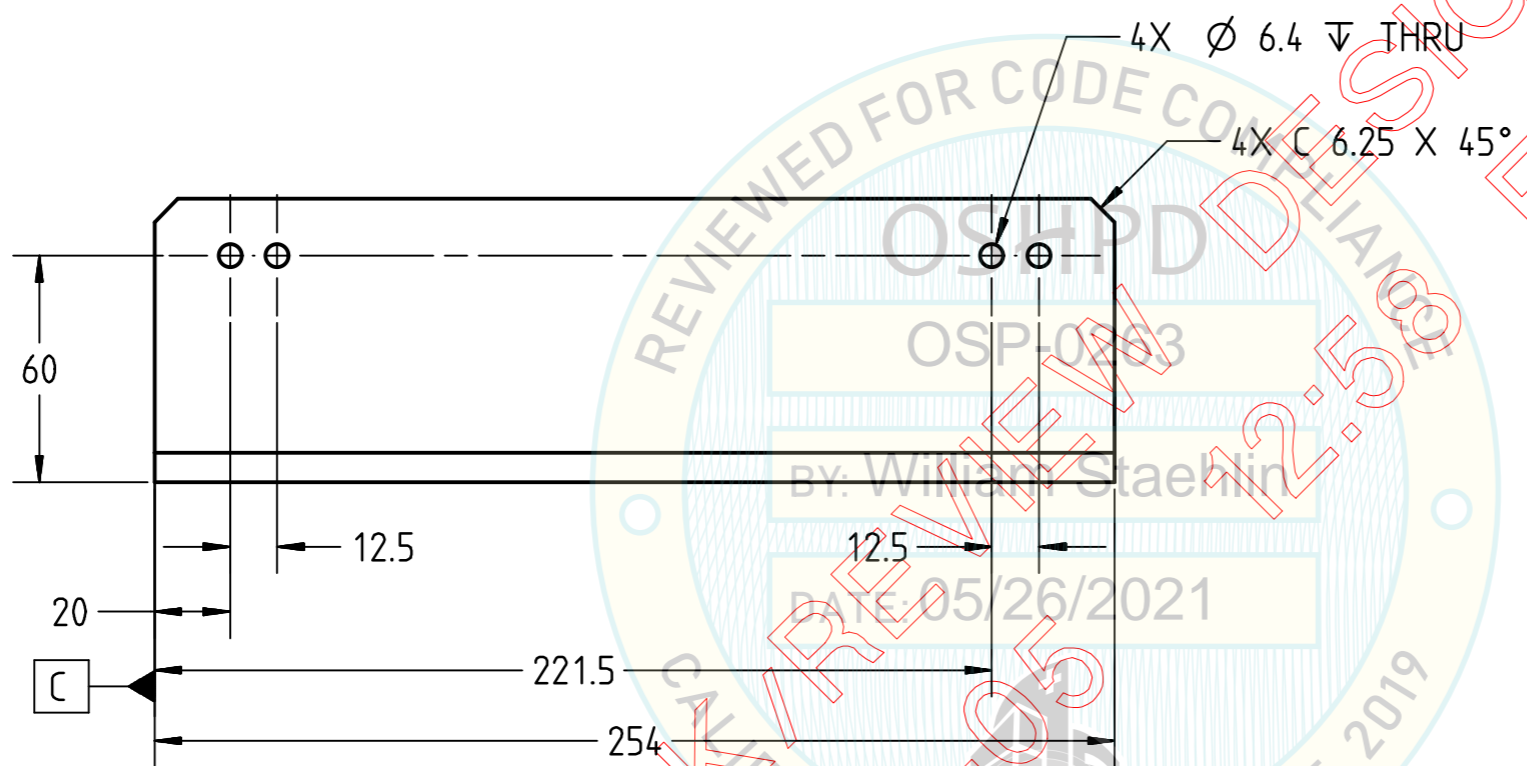
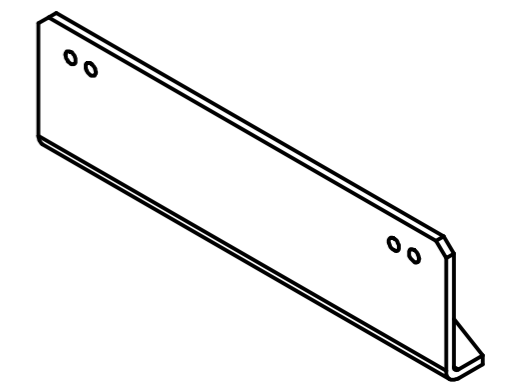
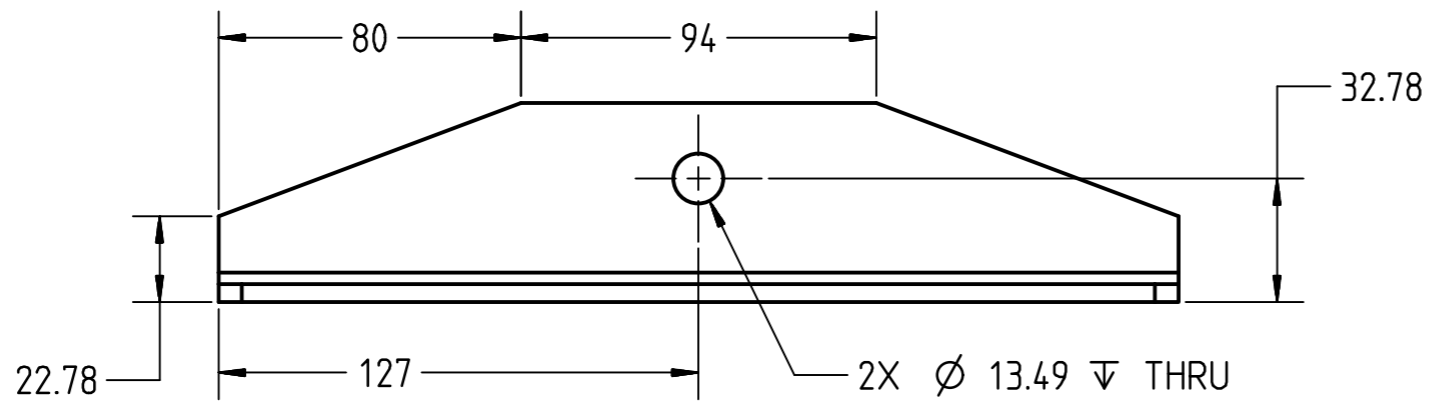
CALIFORNIA BUILDING CODE, 2019

- NOTES:
- MATERIAL: CRS SHEET - GRADE 1018, 0.3 THICKNESS (11 GA THICKNESS)
 - FINISH: PAINT TEXTURED / PRIMARY GRAY (LIGHT GRAY) / POLANE-T / PER 1000026171 / CLASS A SURFACE FINISH REQUIRED
 - TOLERANCES APPLY WITH PART RESTRAINED AGAINST DATUM A, B & C.

MATERIAL	CRS SHEET
FINISH	PAINT

GENERAL SHEET METAL TOLERANCES	
ALL DIMENSIONS IN MM PER ASME Y14.5M-1994	
UNLESS OTHERWISE SPECIFIED, THE TOLERANCES DESIGNATED BELOW APPLY FOR BOTH DIMENSIONS ON DRAWING AND DIMENSIONS DERIVED FROM ELECTRONIC FILE. TOLERANCES ARE AFTER PLATING, BUT BEFORE PAINTING.	
TOLERANCES ACCUMULATIVE PER BEND	
FEATURE SIZE	±0.15
HOLE-TO-HOLE	±0.15
HOLE-TO-EDGE	±0.25
HOLE-TO-BEND	±0.3
ANGLES	±1°
EDGE-TO-EDGE	±0.15
EDGE-TO-BEND	±0.25
BEND-TO-BEND	±0.5
BREAK SHARP EDGES 0.1-0.3	
6.3 $\sqrt{\text{ALL SURFACES}}$	

SIZE	A2	SIEMENS	SIEMENS HEALTHCARE DIAGNOSTICS 1717 DEERFIELD RD. DEERFIELD, IL. 60015	THIRD ANGLE PROJECTION			
DESCRIPTION	VISTA UPS FLOOR MOUNTING - SEISMIC						
CREATED	HORTONRE	DATE	2011-10-17	STATUS	C1	ECN	1009751
APPROVED		SCALE	1:4	SHEET	1 OF 1		
MANUFACTURING		DOCUMENT NO.	10800360	VERSION	A		
REVISED	HORTONRE	DATE	2011-10-29				

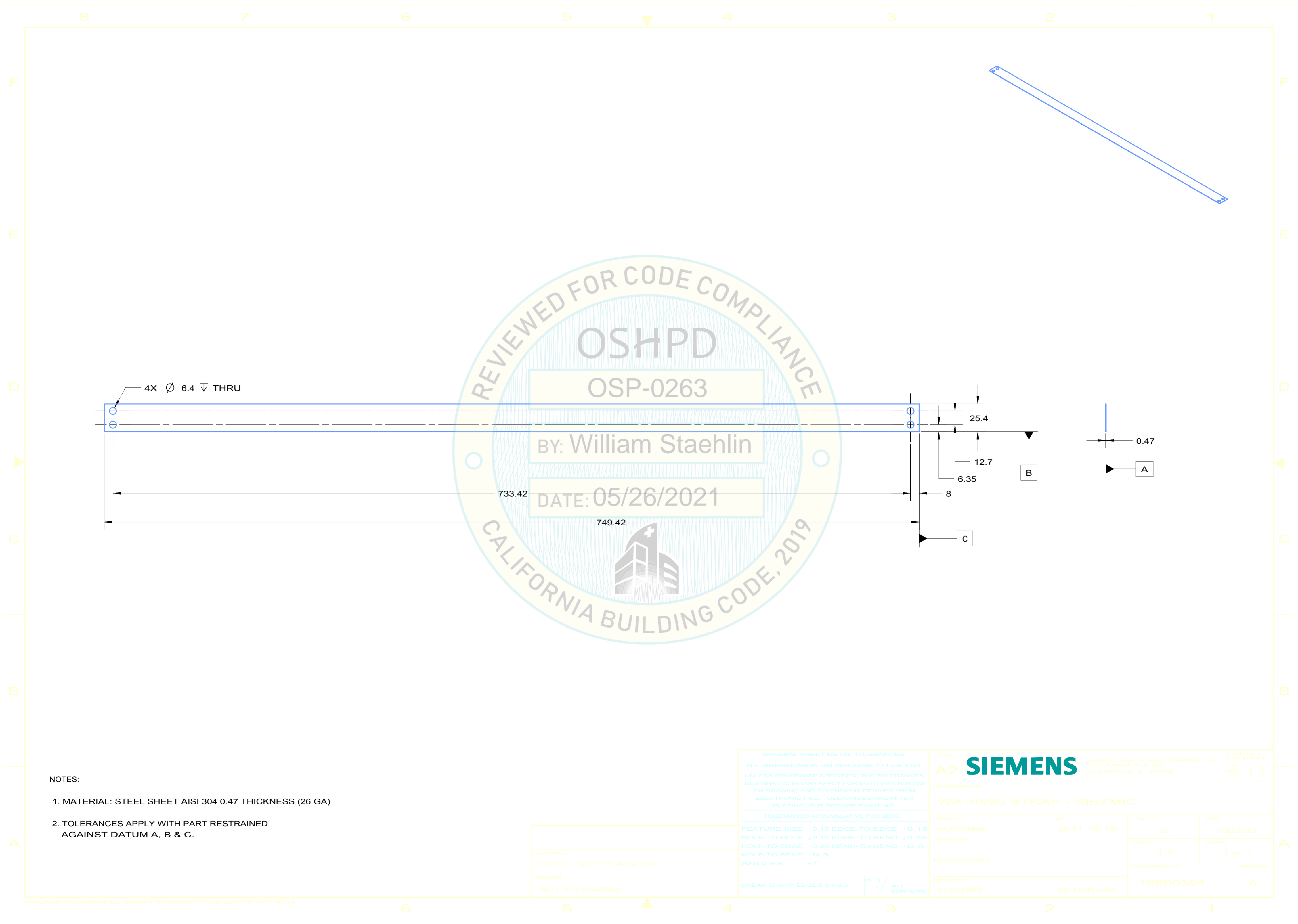


- NOTES:
1. MATERIAL: CRS SHEET - GRADE 1018, 4.8 THICKNESS (0.188 INCH THICKNESS)
 2. FINISH: PAINT TEXTURED / PRIMARY GRAY (LIGHT GRAY) / POLANE-T / PER 1000026171 / CLASS A SURFACE FINISH REQUIRED
 3. TOLERANCES APPLY WITH PART RESTRAINED AGAINST DATUM A, B & C.

GENERAL SHEET METAL TOLERANCES	
ALL DIMENSIONS IN MM PER ASME Y14.5M-1994	
UNLESS OTHERWISE SPECIFIED, THE TOLERANCES DESIGNATED BELOW APPLY FOR BOTH DIMENSIONS ON DRAWING AND DIMENSIONS DERIVED FROM ELECTRONIC FILE. TOLERANCES ARE AFTER PLATING, BUT BEFORE PAINTING.	
TOLERANCES ACCUMULATIVE PER BEND	
FEATURE SIZE	±0.15
HOLE-TO-HOLE	±0.15
HOLE-TO-EDGE	±0.25
HOLE-TO-BEND	±0.3
ANGLES	±1°
EDGE-TO-EDGE	±0.15
EDGE-TO-BEND	±0.25
BEND-TO-BEND	±0.5
BREAK SHARP EDGES 0.1-0.3	
6.3 $\sqrt{\text{ALL SURFACES}}$	

MATERIAL	CRS SHEET
FINISH	PAINT

SIZE	A3	SIEMENS		SIEMENS HEALTHCARE DIAGNOSTICS 1717 DEERFIELD RD. DEERFIELD, IL. 60015	THIRD ANGLE PROJECTION
DESCRIPTION UNIVERSAL FLOOR MOUNTING - SEISMIC					
CREATED	HORTONRE	DATE	2011-10-21	STATUS	C1
APPROVED		ECN	1009751	SCALE	1:2
MANUFACTURING		SHEET	1 OF 1	DOCUMENT NO.	10800406
REVISOR	HORTONRE	DATE	2012-01-05	VERSION	A



NOTES:

1. MATERIAL: STEEL SHEET AISI 304 0.47 THICKNESS (26 GA)
2. TOLERANCES APPLY WITH PART RESTRAINED AGAINST DATUM A, B & C.

MATERIAL	STEEL SHEET AISI 304
FINISH	NOT APPLICABLE

GENERAL SHEET METAL TOLERANCES	
ALL DIMENSIONS IN MM PER ASME Y14.5M-1994	
UNLESS OTHERWISE SPECIFIED, THE TOLERANCES DESIGNATED BELOW APPLY FOR BOTH DIMENSIONS ON DRAWING AND DIMENSIONS DERIVED FROM ELECTRONIC FILE. TOLERANCES ARE AFTER PLATING, BUT BEFORE PAINTING.	
TOLERANCES ACCUMULATIVE PER BEND	
FEATURE SIZE	±0.15
EDGE-TO-EDGE	±0.15
HOLE-TO-HOLE	±0.15
EDGE-TO-BEND	±0.25
HOLE-TO-EDGE	±0.25
BEND-TO-BEND	±0.5
HOLE-TO-BEND	±0.3
ANGLES	±1°
BREAK SHARP EDGES 0.1-0.3	
6.3 ALL SURFACES	

SIZE	A2	SIEMENS	SIEMENS HEALTHCARE DIAGNOSTICS 1717 DEERFIELD RD. DEERFIELD, IL 60015	THIRD ANGLE PROJECTION			
DESCRIPTION WA 40/95 STRAP - SIEZMIC							
CREATED	HORTONRE	DATE	2011-10-18	STATUS	C1	ECN	1009751
APPROVED		SCALE	1:2	SHEET	1 OF 1		
MANUFACTURING		DOCUMENT NO.	10800384	VERSION	A		
REVISED	HORTONRE	DATE	2012-01-04				