



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP – 0511 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH

Manufacturer's Technical Representative: Dr. Damian Kopyto

Mailing Address: Siemensstr. 3, D-91301 Forchheim, Germany

Telephone: +49 9191 18 8778 Email: damian.kopyto@siemens-healthineers.com

Product Information

Product Name: Luminos dRF Max

Product Type: Radiography and Fluoroscopy general medical diagnostic imaging system

Product Model Number: See Attachment

(List all unique product identification numbers and/or part numbers)

General Description: Single component system for producing Radiography and Fluoroscopy medical images for a wide variety of medical diagnostic results.

Mounting Description: Rigid floor mounted.

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe, SE

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

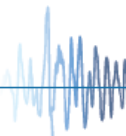
Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

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: 02-28-2017

Title: Vice President Company Name: W.E. Gundy & Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 205 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM-
(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): _____

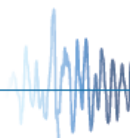
Testing Laboratory

Company Name: IABG mbH

Contact Name: Dr. Steffen Roedling

Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521

Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de





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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) = 2.4 ($S_{DS} = 2.00g$ @ $z/h = 1$); 1.13 ($S_{DS} = 2.50g$ @ $z/h = 0$)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 ($z/h = 1.0$); 2.50 ($z/h = 0$)

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

R_p (Equipment or component response modification factor) = 1.5

Ω_0 (System overstrength factor) = 1.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 ($S_{DS} = 2.00g$); 0 ($S_{DS} = 2.50g$)

Equipment or Component Natural Frequencies (Hz) = See attachment

Overall dimensions and weight (or range thereof) = See attachment

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) = _____

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): Certified System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

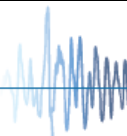
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: April 7, 2017

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): Approval is limited to units identical to tested units.



**SIEMENS HEALTHCARE GmbH
SPECIAL SEISMIC CERTIFICATION
CERTIFIED SYSTEM AND COMPONENTS**



Manufacturer: Siemens Healthcare GmbH

System: Luminos dRF Max Radiography and Fluoroscopy System

System Component	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Length	Height			
Luminos dRF max	11252300-12	101.0	69.9	106.1	3250 ²	floor	UUT-1A/B ³

- 1) All components are manufactured by Siemens Healthcare GmbH unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.
- 2) Luminos dRF max weight listed does not include 528lb simulated patient weight included during the horizontal position seismic test.
- 3) The integrated patient table / detector of the Luminos dRF max system is designed to operate in both the vertical and horizontal positions. The system was tested with the patient table and the Max wi-D, SN:10762402 detector in both the vertical (UUT-1A) and horizontal (UUT-1B) positions.

SEISMIC CERTIFICATION LIMITS

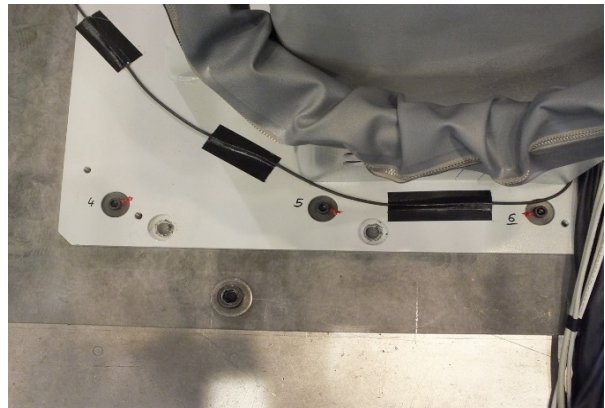
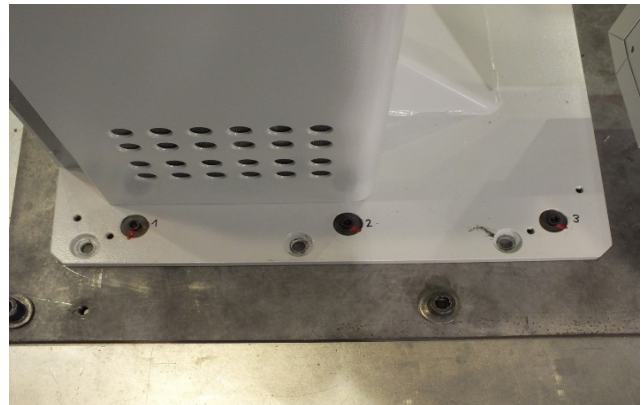
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
Luminos dRF max	CBC	2.0	1.0	1.50	1.0	1.5	1.5	2.40
	2016	2.5	0					1.13

UUT-1A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with 6 - M12 bolts



Manufacturer: Siemens Healthcare GmbH

Component: Luminos dRF Max - Vertical Position | **Model / Serial Number:** 11252300 / 12

UUT Function: Device used to visualize anatomical structures by converting a pattern of X-ray into a visible image.

UUT Description: Luminos dRF max System with patient table / detector in vertical position
Installed Dectector: Max wi-D, SN:10762402

Test Location: IABG mbH, Germany

Test Date: October 2016

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
3,250	101.0"	69.9"	106.1"	5.0	5.1	5.9

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

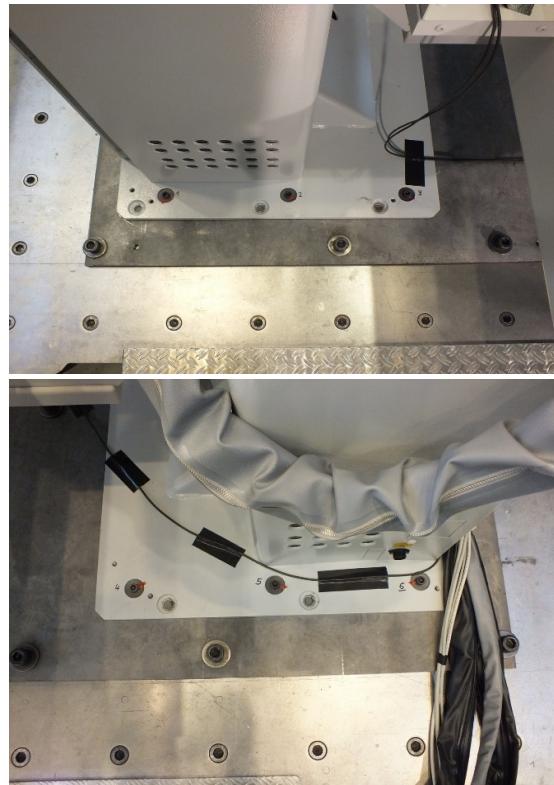
Note: The unit was full of contents during testing and remained fuctional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-1B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with 6 - M12 bolts



Manufacturer: Siemens Healthcare GmbH

Component: Luminos dRF max - Horizontal Position | **Model / Serial Number:** 11252300 / 12

UUT Function: Device used to visualize anatomical structures by converting a pattern of X-ray into a visible image.

UUT Description: Luminos dRF Max System with patient table / detector in horizontal position
Installed Dectector: Max wi-D, SN:10762402

Test Location: IABG mbH, Germany

Test Date: October 2016

UUT PROPERTIES

Weight (lb) with Patient	Overall Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
3780	101.0"	69.9"	106.1"	4.5	4.0	4.0

The patient table in the horizontal position moves vertically (18.9" to 38.5") to accommodate different patients and procedures. The system was tested in the normal vertical operating position of 29.5" and with a total simulated patient weight of 528lbs.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.