



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0545

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH, Advanced Therapies, HC AT R&D HW

Manufacturer's Technical Representative: Martin Knierim

Mailing Address: Siemensstr. 1, 91301 Forchheim, Germany

Telephone: +49 9191 189539

Email: martin.knierim@siemens-healthineers.com

Product Information

Product Name: Motorized Operating Table Systems

Product Type: NA

Product Model Number: See Attachment

General Description: Multiple component operating table system used for interventional patient procedures.

Mounting Description: Rigid floor mounted and Rigid floor/wall mounted

Tested Seismic Enhancements: None

Applicant Information

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

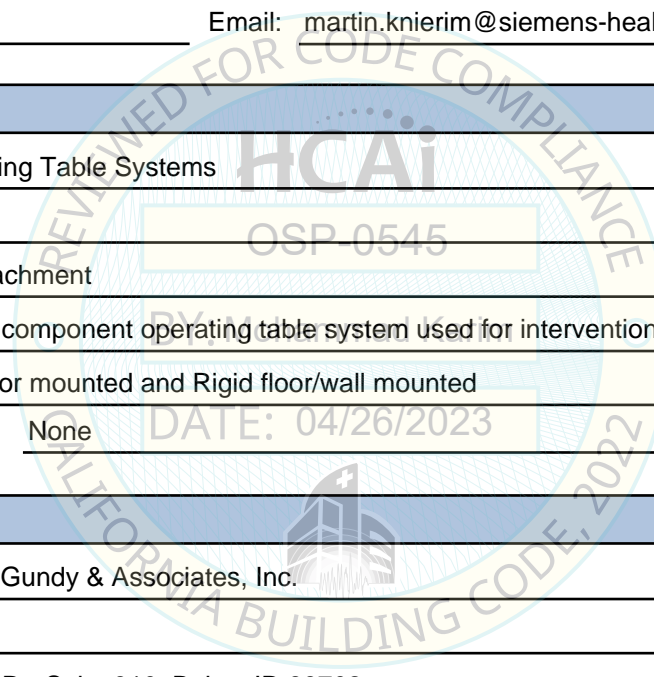
Contact Person: Travis Soppe

Mailing Address: 1199 Shoreline Dr. Suite 310, Boise, ID 83702

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: Vice President





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FACILITIES DEVELOPMENT DIVISION**

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

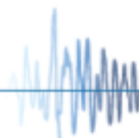
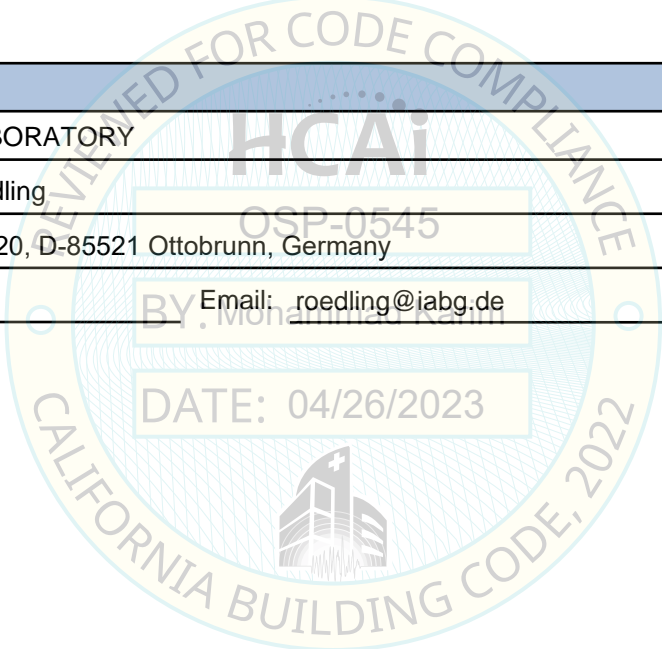
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: IABG TEST LABORATORY
Contact Person: Dr. Steffen Roedling
Mailing Address: Einsteinstrasse 20, D-85521 Ottobrunn, Germany
Telephone: +49 89 6088 2052 Email: roedling@iabg.de





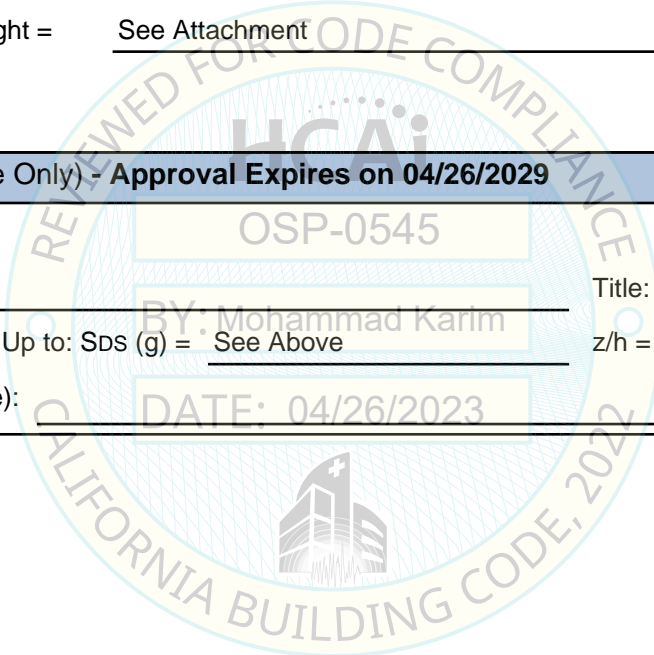
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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) =	See Attachments
SDS (Design spectral response acceleration at short period, g) =	2.00 (z/h = 1.0) and 2.50 (z/h = 0.0)
a_p (Amplification factor) =	See attachments
R_p (Response modification factor) =	See attachments
Ω_0 (System overstrength factor) =	See Attachment
I_p (Importance factor) =	1.5
z/h (Height ratio factor) =	1 and 0
Natural frequencies (Hz) =	See Attachment
Overall dimensions and weight =	See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 04/26/2029

Date:	4/26/2023	OSP-0545	
Name:	Mohammad Karim	BY: Mohammad Karim	Title: Supervisor, Health Facilities
Special Seismic Certification Valid Up to: SDS (g) =	See Above		z/h = See Above
Condition of Approval (if applicable):	DATE: 04/26/2023		



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



Manufacturer: Siemens Healthcare GmbH

System: Artis Interventional System

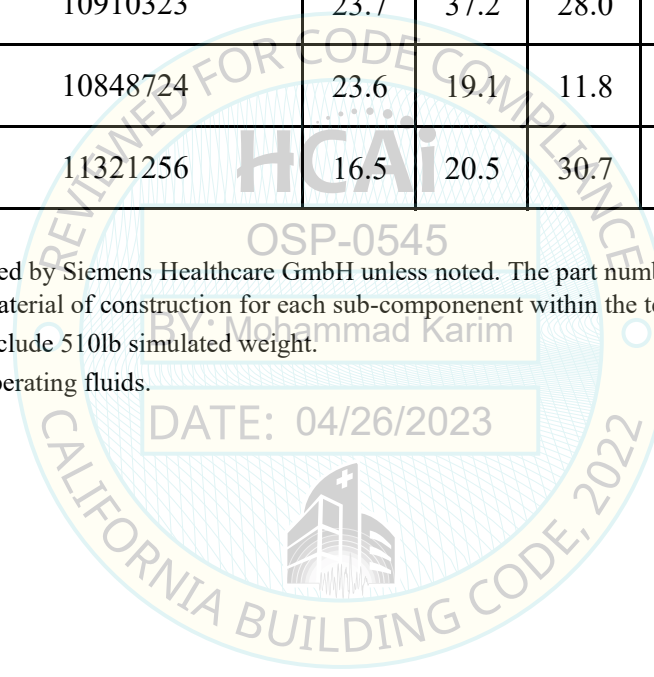
System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Length	Height			
Patient Table OR	10992200	113.6	27.0	38.0	1,200 ²	floor	UUT-1A/B
SC Main VE	11115700	39.4	25.6	74.8	870	floor / wall	UUT-2
AXIS-VE	10910323	23.7	37.2	28.0	290	floor	UUT-3
FD Cooling	10848724	23.6	19.1	11.8	55 ³	floor	UUT-4
Tube Cooling Unit	11321256	16.5	20.5	30.7	80 ³	floor	UUT-5

Notes:

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 Patient table weight does not include 510lb simulated weight.

³ Cooling unit weights include operating fluids.



SEISMIC CERTIFICATION LIMITS

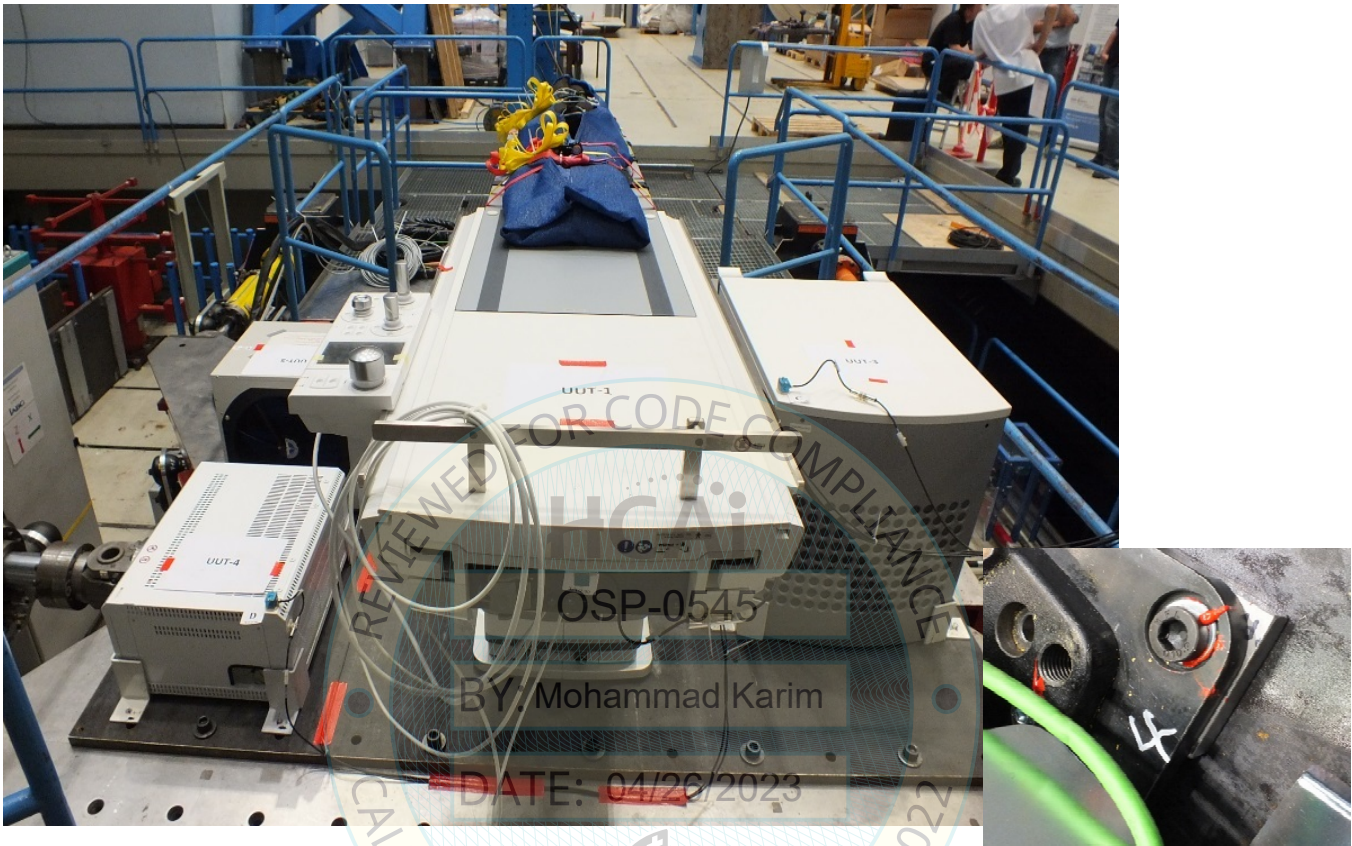
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
Patient Table OR	CBC 2022	2.0	1.0	1.50	1.0	1.5	1.5	2.40
		2.5	0					1.13
SC Main VE	CBC 2022	2.0	1.0	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13
AXIS-VE	CBC 2022	2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
FD Cooling	CBC 2022	2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
Tube Cooling Unit	CBC 2022	2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13

UUT-1A

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



Mounting Details: Rigid floor mounted with 4 - M16 grade 10.9 bolts



Manufacturer: Siemens Healthcare GmbH		
Component: Patient OR Table - 0° Rotation	Model / Serial Number:	10992200 / 1003
UUT Function: Patient Table with integrated x-ray system		
UUT Description: Component of Artis Interventional System		
Test Location: IABG mbH, Germany	Test Date: September 2017	

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,708	113.6" - 162.8"	27.0"	29.5" - 43.3"	8.4	2.7	3.7

The patient table moves vertically, horizontally, and rotates to accommodate different patients and procedures. The system was tested in its normal operating position with 0° rotation, a longitudinal extension of 24.8", and height of 38.0". The system was tested with a total simulated patient weight of 510lbs.

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 2022 / 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.

UUT-1B

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



Mounting Details: Rigid floor mounted with 4 - M16 grade 10.9 bolts



Manufacturer: Siemens Healthcare GmbH		
Component: Patient OR Table - 30° Rotation	Model / Serial Number:	10992200 / 1003
UUT Function: Patient Table with integrated x-ray system		
UUT Description: Component of Artis Interventional System		
Test Location: IABG mbH, Germany	Test Date: September 2017	

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,708	113.6" - 162.8"	27.0"	29.5" - 43.3"	3.6	2.5	3.7

The patient table moves vertically, horizontally, and rotates to accommodate different patients and procedures. The system was tested in its normal operating position with 30° rotation, a longitudinal extension of 24.8", and height of 38.0". The system was tested with a total simulated patient weight of 510lbs.

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 2022 / 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.

UUT-2

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



Mounting Details: Rigid Floor/Wall mount with 2 - M10 grade 8.8 bolts to the floor and 4 - M6 grade 8.8 bolts to the wall fixture. The M6 bolts to the wall fixture are connected to the UUT with 2 - L3x4x0.25x3" A36 angle brackets and 2 - M12 grade 8.8 bolts.



Manufacturer: Siemens Healthcare GmbH	
Component: System Cabinet	Model / Serial Number: 11115700 / 1042
UUT Function: System Cabinet hosting OR Patient Table computers and control components	
UUT Description: Component of Artis Interventional System	
Test Location: IABG mbH, Germany	Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
870	39.4"	25.6"	74.8"	>33	17.0	>33

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

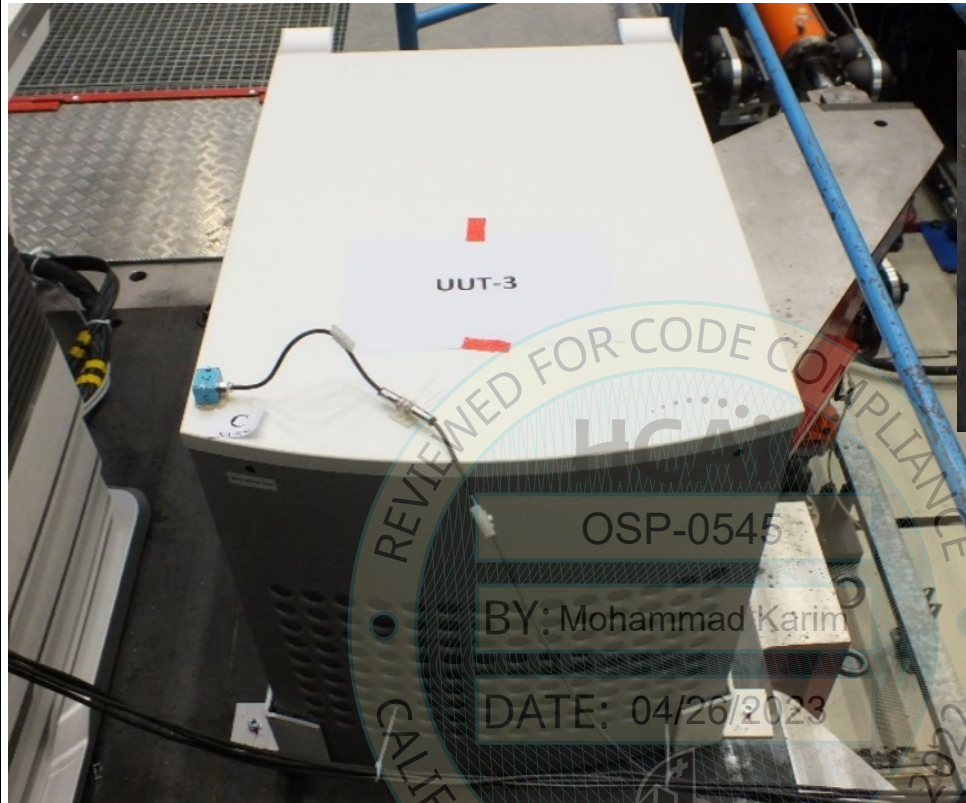
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3

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



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M10 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH	
Component: AXIS-VE	Model / Serial Number: 10910323 / 1046
UUT Function: Houses image system hardware used for interfacing and debugging patient table.	
UUT Description: Component of Artis Interventional System	
Test Location: IABG mbH, Germany	Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
290	23.7"	37.2"	28.0"	23.6	18.1	27.2

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 2022 / 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.

UUT-4

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



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M6 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH

Component: FD Cooling

Model / Serial Number: 10848724 / 2899

UUT Function: Chiller cooling unit for x-ray system

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb) with fluid	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
55	23.6"	19.1"	11.8"	>33	>33	>33

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

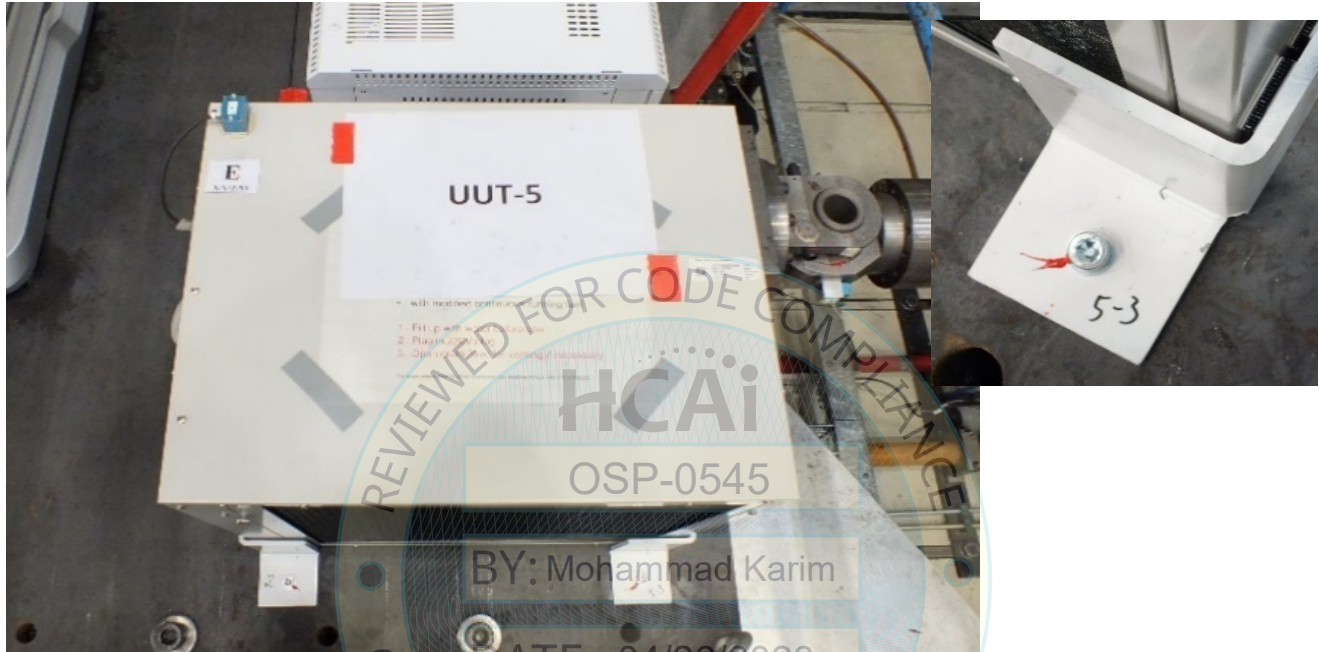
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-5

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



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M10 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH	
Component: Tube Cooling Unit	Model / Serial Number: 11321256 / 00001
UUT Function: Chiller cooling unit for x-ray system	
UUT Description: Component of Artis Interventional System	
Test Location: IABG mbH, Germany	Test Date: September 2017

UUT PROPERTIES

Weight (lb) with fluid	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
80	16.5"	20.5"	30.7"	30.0	30.0	>33

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 2022 / 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.