



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0170

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: KKT Chillers – ait-deutschland

Manufacturer's Technical Representative: Markus Zobler

Mailing Address: Industriestrasse 3, Kasendorf, Ge 95359

Telephone: (92289) 906-1580

Email: markus.zobler@ait-deutschland.eu

Product Information

Product Name: Chillers

Product Type: Chillers - CT Scanners

Product Model Number: See Attachment 1

General Description: Air-cooled water cooling systems intended to provide chilled water to Siemens MRI medical Imaging systems.

Mounting Description: See Certified Product Tables

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

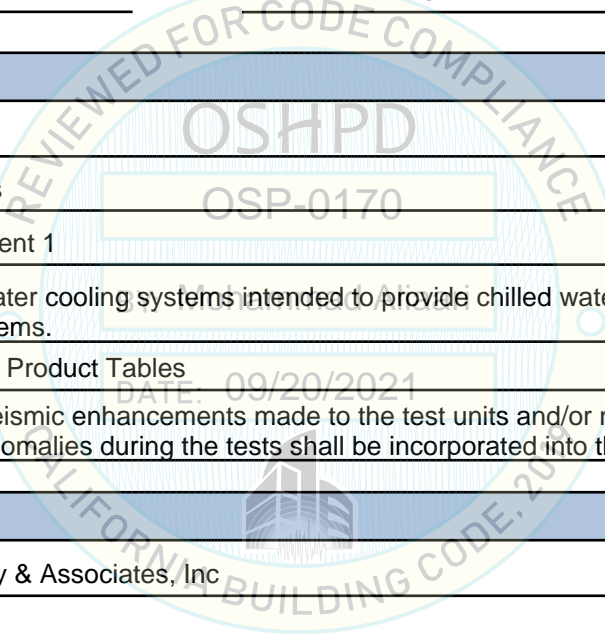
Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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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): _____

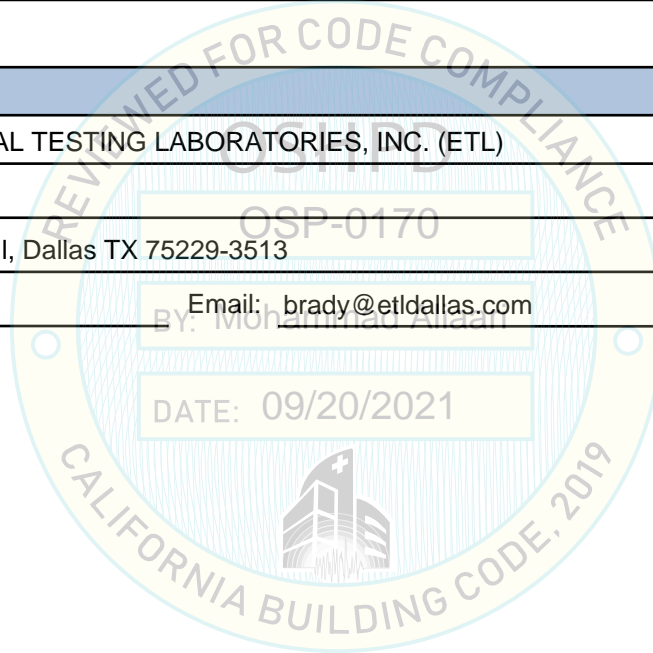
Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Brady Richard

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

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





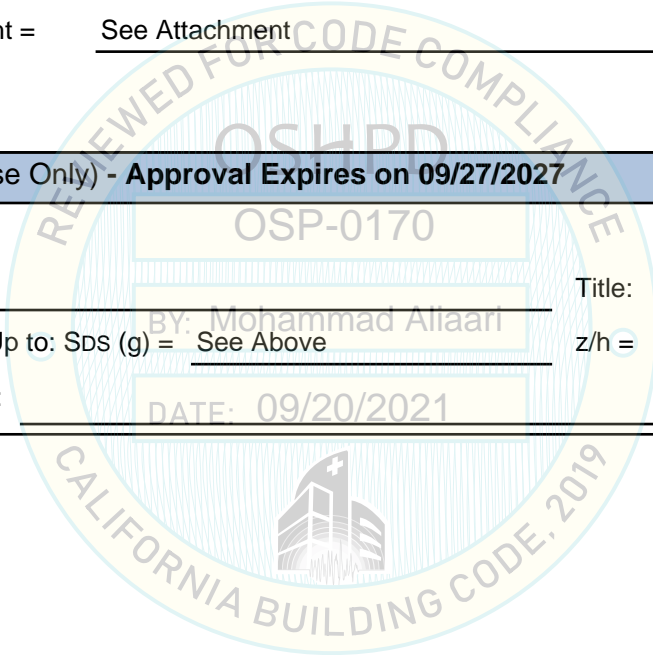
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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) =	See Attachments
SDS (Design spectral response acceleration at short period, g) =	2.0 at z/h = 1 and 2.15 at z/h = 0
a_p (Amplification factor) =	See Attachment
R_p (Response modification factor) =	See Attachment
Ω_0 (System overstrength factor) =	2.0
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

OSHPD Approval (For Office Use Only) - Approval Expires on 09/27/2027

Date:	9/20/2021		
Name:	Mohammad Aliaari	Title:	Senior Structural Engineer
Special Seismic Certification Valid Up to: SDS (g) =	See Above	z/h =	See Above
Condition of Approval (if applicable):			



**KKT Chillers - AIT Deutschland GmbH
SPECIAL SEISMIC CERTIFICATION
CERTIFIED SYSTEM AND COMPONENTS**



Manufacturer: KKT Chillers - AIT Deutschland GmbH

System: KKT Chillers for use with Siemens Medical Equipment

System Component ¹	Type	Dimensions (in)			Weight ² (lb)	Mounting	UUT ³
		Width	Depth	Height			
ECO 133L	Chiller	84.4	43.3	80.7	1651	isolated floor	UUT _x -1
ECO 133L IFP	Interface Panel	45.1	7.1	31.5	148	rigid wall	UUT _x -2
ECO 122L	Chiller	84.5	43.3	68.9	1481	isolated floor	UUT _y -1
ECO 122L IFP	Interface Panel	45.1	7.1	31.5	163	rigid wall	UUT _y -2

¹ All components are manufactured by KKT - AIT Deutschland 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 Weight includes normal operating fluid present during seismic test.

³ Subscript indicates the test report in which the units were qualified:
x - SQ35-11103-01, y - SQ35-1303-01

⁴ ECO 133L and 122L Chillers were tested with factory installed seismic kit see summary sheets for details.

SEISMIC CERTIFICATION LIMITS

System Component	Code	S _{DS} (g)	z / h	I _p	a _p	R _p	Ω ₀	F _p / W _p
Chillers	CBC 2019 ASCE 7-16	2.00	1.0	1.50	2.5	2.0	2.0	4.50
		2.15	0					1.61
Interface Panels		2.00	1.0	1.50	1.0	2.5	2.0	1.44
		2.50	0					1.13

UUT_{x-1}

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



Mounting Details: Isolated floor mounted on 4 – AMC Mecanocaucho Marine Mount isolation devices. Each isolator mounts to the floor with (2) ½” Grade 5 bolts



Manufacturer: KKT Chillers – AIT Deutschland GmbH	Test Location: ETL (Dallas, TX)
Component: ECO 133L Chiller	Test Date: September 2011
Model Number: ECO133L	Report Number: SQ35-11103-01
UUT Function: Component of cooling system for Siemens Medical systems	
UUT Description: Compression refrigerant system to cool liquid with 60kW cooling capacity. The chiller was tested with a “seismic kit” consisting of the following part numbers: K640_SDC10096, K640_SDC10097, K640_P1090137, K640_P1090132, K640_P1090133, and K640_P1090135	

UUT PROPERTIES

Weight with Fluid (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,651	84.4	43.3	80.7	3.6	5.1	7.7

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.15	0.0	1.5	--	--	1.44	0.58

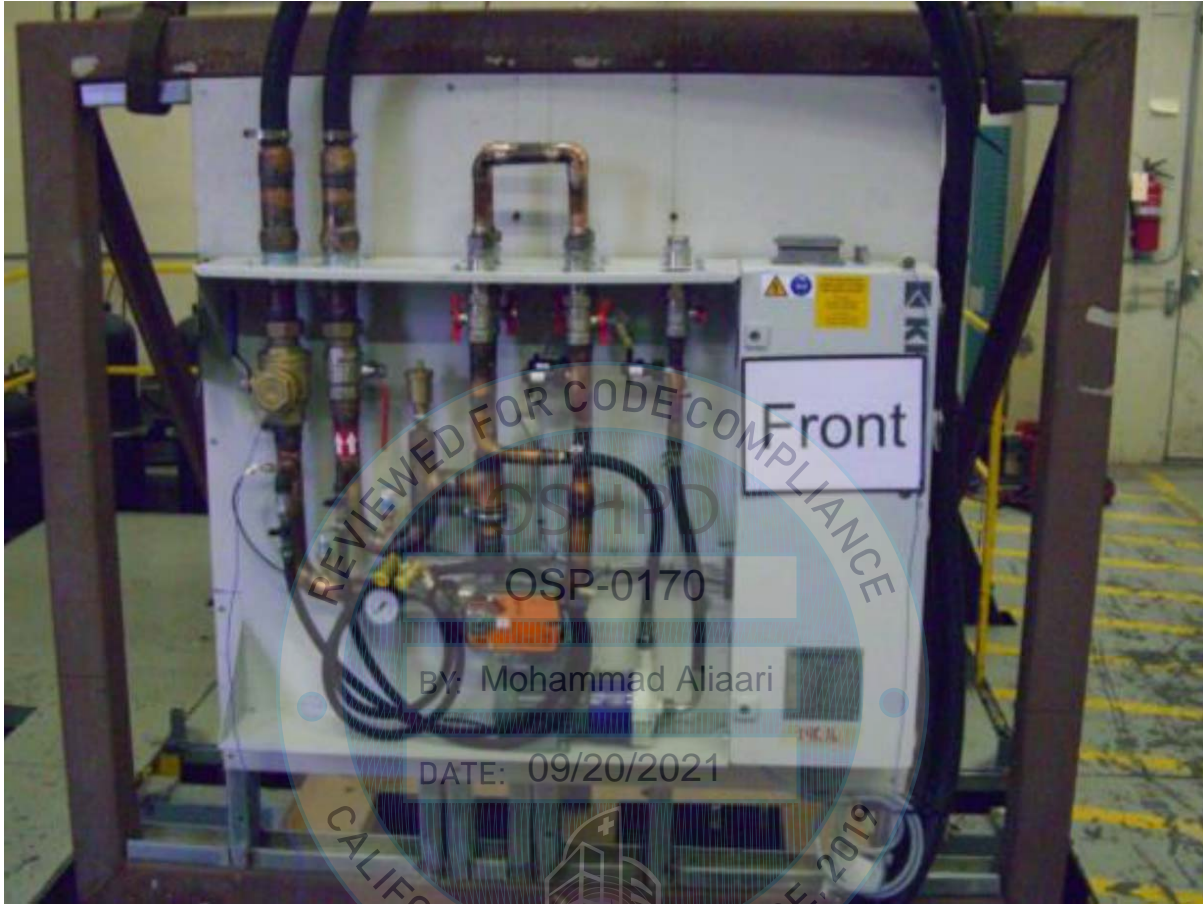
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test. The “seismic kit” described above is a required component for seismic compliance.

UUT_{x-2}

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



Mounting Details: Rigid wall mounted with (4) #12 Tek screws with ½" O.D. washers



Manufacturer: KKT Chillers – AIT Deutschland GmbH	Test Location: ETL (Dallas, TX)
Component: ECO 133L Interface Panel	Test Date: March 2011
Model Number: IFP Transfer Station	Report Number: SQ35-11103-01
UUT Function: Component of cooling system for Siemens Medical systems	
UUT Description: Interface panel for compression refrigerant system	

UUT PROPERTIES

Weight with Fluid (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
148	45.1	7.1	31.5	n/a	n/a	n/a

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2019 / 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_y-1

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



Mounting Details: Isolated floor mounted on 4 – AMC Mecanocaucho Marine Mount isolation devices. Each isolator mounts to the floor with (2) ½” Grade 5 bolts



Manufacturer: KKT Chillers – AIT Deutschland GmbH	Test Location: ETL (Dallas, TX)
Component: ECO 122L Chiller	Test Date: April 2013
Model Number: ECO122L	Report Number: SQ35-1303-01
UUT Function: Component of cooling system for Siemens Medical systems	
UUT Description: Compression refrigerant system to cool liquid with 45kW cooling capacity. The chiller was tested with a “seismic kit” consisting of the following part numbers: K640_SDC10096, K640_SDC10097, K640_P1090137, K640_P1090132, K640_P1090133, and K640_P1090135	

UUT PROPERTIES

Weight with Fluid (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,481	84.5	43.3	68.9	4.3	5.4	4.1

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 2019 / 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. The “seismic kit” described above is a required component for seismic compliance.

UUT_y-2

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



Mounting Details: Rigid wall mounted with (4) 1/4" sheet metal screws with 1-1/2" O.D. washers



DATE: 09/20/2021

Manufacturer: KKT Chillers – AIT Deutschland GmbH	Test Location: ETL (Dallas, TX)
Component: ECO 122L Interface Panel	Test Date: April 2013
Model Number: IFP	Report Number: SQ35-1303-01
UUT Function: Component of cooling system for Siemens Medical systems	
UUT Description: Interface panel for compression refrigerant system	

UUT PROPERTIES

Weight with Fluid (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
163	45.1	7.1	31.5	n/a	n/a	n/a

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 2019 / 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.