



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

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

OFFICE USE ONLY

**APPLICATION #: OSP-0549**

**HCAI Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: ait-deutschland GmbH (KKT Chillers)

Manufacturer's Technical Representative: Markus Zobler

Mailing Address: Industriestraße 3, 95359 Kasendorf, Germany

Telephone: +49 9228 99060

Email: markus.zobler@ait-deutschland.eu

**Product Information**

Product Name: Chillers

Product Type: Chillers - CT Scanners

Product Model Number: cBoxX 100

General Description: Chiller system for cooling fluid using air cooled refrigerant

Mounting Description: Flexible floor mounted chiller and rigid wall mounting for CIP

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: W.E. Gundy & Associates, Inc.

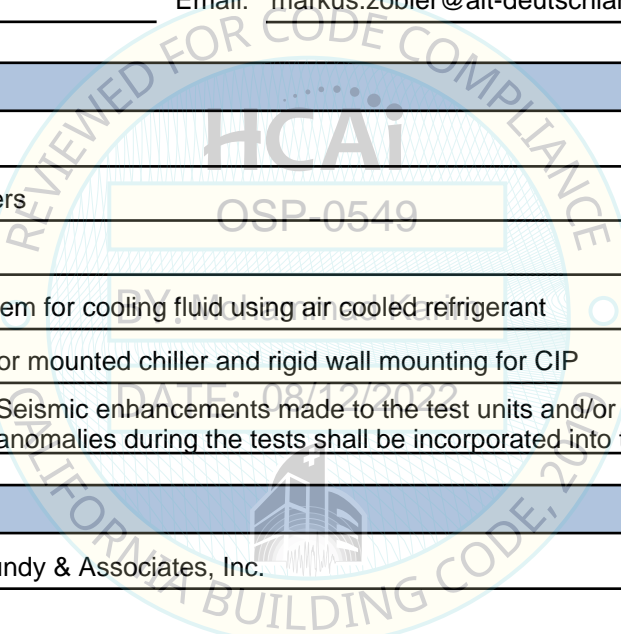
Contact Person: Travis Soppe

Mailing Address: 1199 Shoreline Drive Suite 310, Boise, ID 83702

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
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**

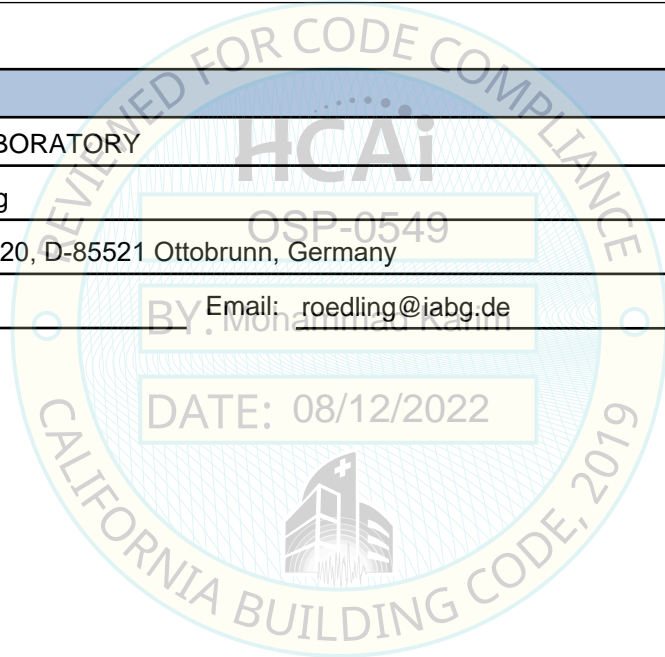
Company Name: IABG TEST LABORATORY

Contact Person: Steffen Roedling

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

Telephone: +49 89 6088 2052

Email: roedling@iabg.de





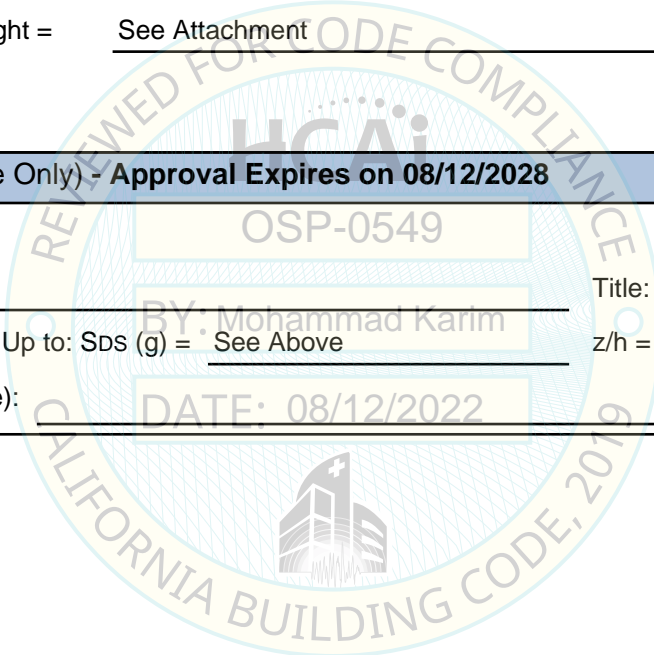
**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION**

**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 2.5 at z/h = 0
$a_p$ (Amplification factor) =	See attachments
$R_p$ (Response modification factor) =	See attachments
$\Omega_0$ (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

**HCAI Approval (For Office Use Only) - Approval Expires on 08/12/2028**

Date:	8/12/2022	OSP-0549
Name:	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: 08/12/2022	



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



**Manufacturer:** KKT Chillers - AIT Deutschland GmbH

**System:** cBoxX 100 Compact Chiller System

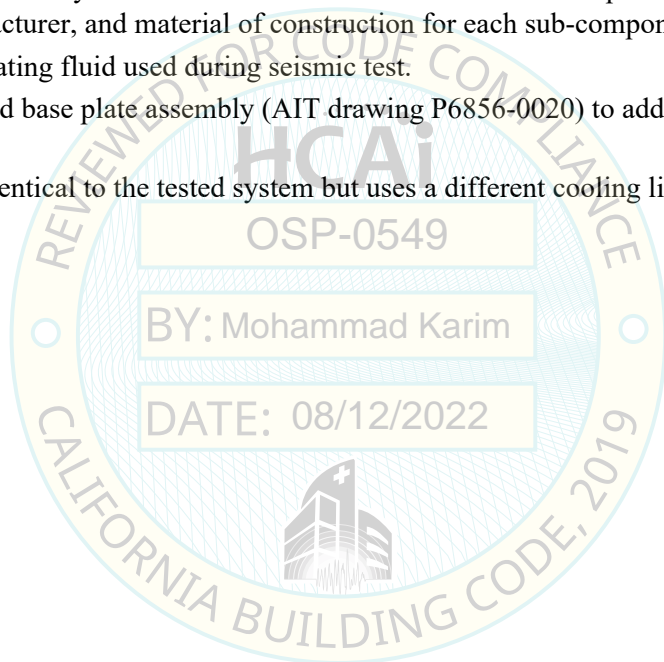
System Component <sup>1</sup>	Siemens Part Number <sup>4</sup>	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			
cBoxX 100 <sup>3</sup>	909100-00469 909100-00469z	32.7"	72.4"	79.9"	1740 <sup>2</sup>	flexible floor	UUT-1
Chiller Interface Panel (CIP)	909000.0107	13.6"	25.4"	52.2"	171	rigid wall	UUT-2

<sup>1</sup> All components are manufactured by 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.

<sup>2</sup> Weight includes normal operating fluid used during seismic test.

<sup>3</sup> cBoxX100 shall include added base plate assembly (AIT drawing P6856-0020) to address anomalies observed during test.

<sup>4</sup> The z designated system is identical to the tested system but uses a different cooling liquid (same density of tested cooling liquid).



**SEISMIC CERTIFICATION LIMITS**

System Component	Code	S <sub>DS</sub> (g)	z / h	I <sub>P</sub>	a <sub>P</sub>	R <sub>P</sub>	Ω <sub>0</sub>	F <sub>P</sub> / W <sub>P</sub>
cBoxX 100	CBC 2019	2.0	1.0	1.50	2.5	2.5	2.0	3.60
		2.5	0					1.50
Chiller Interface Panel (CIP)	CBC 2019	2.0	1.0	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13

**UUT-1**

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



**Mounting Details:** Flexible floor mounted on 4 - AMC Mecanocaucho Marinelager S/N:136024 isolation devices. Each isolator connects to the UUT with one M16 Grade 8.8 bolt and mounts to the table with 2 - M12 Grade 8.8 bolts.



**Manufacturer:** KKT Chillers - AIT Deutschland GmbH

**Component:** cBoxX 100      **Model / Serial Number:** 909100-00469 / 91001235

**UUT Function:** Cools liquid using an air chilled refrigerant system

**UUT Description:** KKT Compact Chiller with 75kW net cooling capacity. Unit is floor mounted on vibration isolators as detailed above.

**Test Location:** IABG mbH, Germany      **Test Date:** September 2017

**UUT PROPERTIES**

Weight (lb)*	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,740	32.7"	72.4"	79.9"	4.5	2.6	7.9

\*Weight includes normal operating fluid.

**SEISMIC TEST PARAMETERS**

Building Code / Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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

Notes: <sup>1)</sup> The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. <sup>2)</sup> The unit maintained structural integrity during and after the ICC-ES AC156 Test. <sup>3)</sup> Modification to the base of the unit (add base plates - AIT drawing #P6856-0020) are required to address anomalies observed during the test.

**UUT-2**

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



**Mounting Details:** Rigid wall mounted with 3 - M8 Grade 8.8 bolts



**Manufacturer:** KKT Chillers - AIT Deutschland GmbH

**Component:** Chiller Interface Panel (CIP) | **Model / Serial Number:** 909000.0107 / Z910701

**UUT Function:** Serves as Chiller Interface and Fluid Line connection

**UUT Description:** Component of cBoxX 100 Chiller configuration. Contains pressure gauges, manual shut off valve, flow meter, and thermometer.

**Test Location:** IABG mbH, Germany | **Test Date:** September 2017

**UUT PROPERTIES**

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
171	13.6"	25.4"	52.2"	15.4	16.4	32.8

**SEISMIC TEST PARAMETERS**

Building Code / Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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: <sup>1)</sup> The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. <sup>2)</sup> The unit maintained structural integrity during and after the ICC-ES AC156 Test.