



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

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

OFFICE USE ONLY

**APPLICATION #: OSP-0515**

**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 60 and cBoxX 70

General Description: Chiller systems for cool fluid using air cooled refrigerant.

Mounting Description: See Certified Product Tables

Tested Seismic Enhancements: None

**Applicant Information**

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

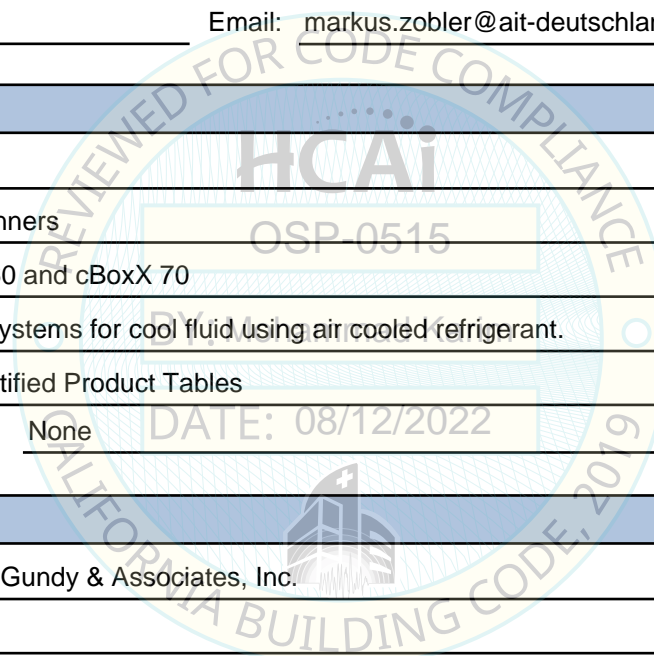
Contact Person: Travis Soppe

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

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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

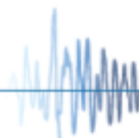
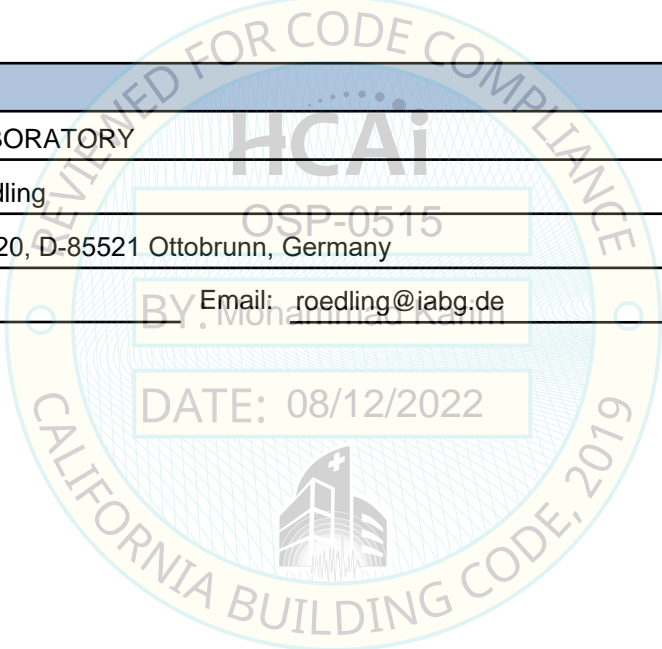
Company Name: W.E. GUNDY & ASSOCIATES INC.  
Name: Travis Soppe California License Number: S6115  
Mailing Address: P.O. Box 9121, Boise, ID 83707  
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

**Certification Method**

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

**Testing Laboratory**

Company Name: 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





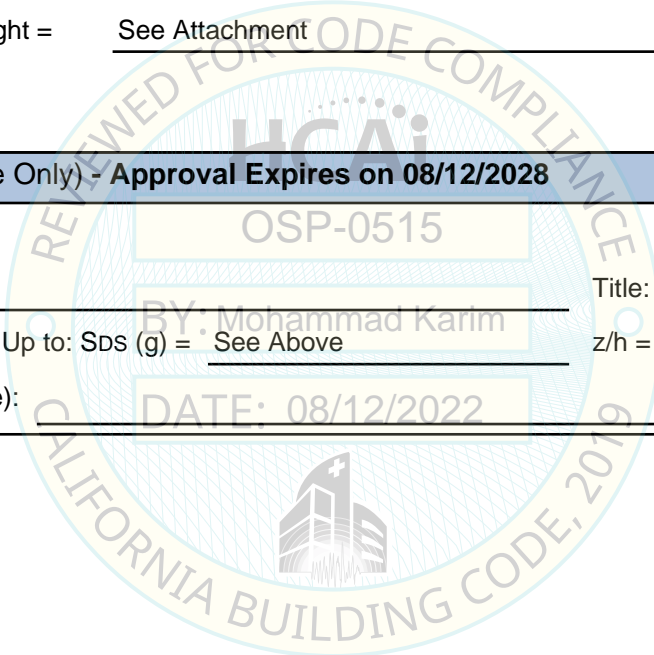
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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) =	See Attachments
SDS (Design spectral response acceleration at short period, g) =	2.0 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-0515
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:** KKT Compact Chillers

System Component	KKT Chillers ID Number <sup>3</sup>	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Length	Height			
cBoxX 60 Chiller	909060-00244 909060-00244z 909060-00424 909060-00424z	79.9	48.8	32.7	1,300 <sup>2)</sup>	flexible floor	UUT-1
cBoxX 70 Chiller	909070-00249 909070-00249z 909070-00425 909070-00425z	79.9	72.4	32.7	1,620 <sup>2)</sup>	flexible floor	UUT-2
Chiller Interface Panel (CIP)	909000.0072	43.3	24.0	13.6	120	rigid wall	UUT-3
Remote Control Panel (RCP)	909000.0071	11.8	12.0	4.7	11	rigid wall	UUT-4

<sup>1)</sup> All components are manufactured by AIT Deutschland GmbH unless noted otherwise. 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> The identified chillers each have two internal KKT identification numbers that are used for marketing and an additional z designation for identifying different cooling liquids (same density of tested cooling liquid). The chillers listed with the two identification numbers and additional z designations are identical in design and construction.

**SEISMIC CERTIFICATION LIMITS**

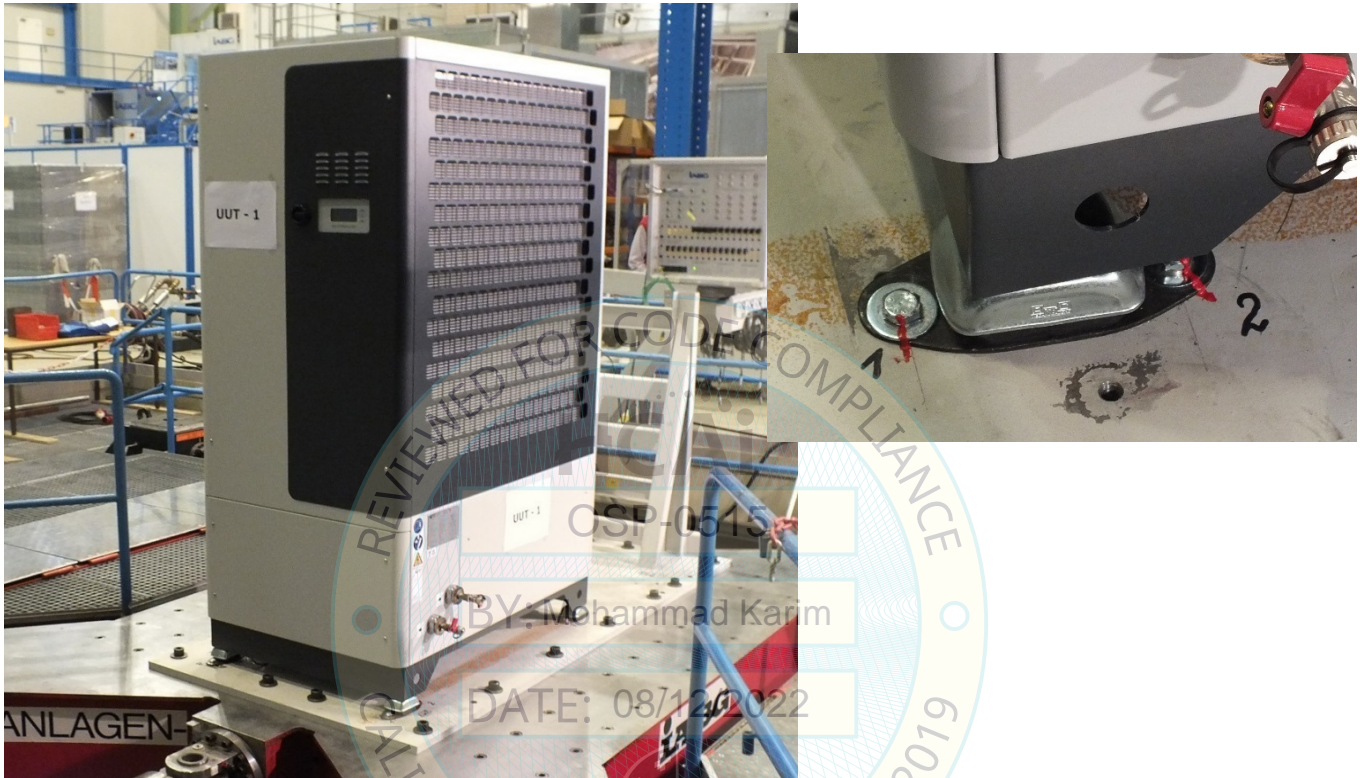
System Component	Code	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	a <sub>p</sub>	R <sub>p</sub>	Ω <sub>0</sub>	F <sub>p</sub> / W <sub>p</sub>
cBoxX 60 Chiller	CBC 2019	2.0	1.0	1.50	2.5	2.5	2.0	3.60
		2.5	0					1.50
cBoxX 70 Chiller	CBC 2019	2.0	1.0	1.50	2.5	2.5	2.0	3.60
		2.5	0					1.50
Chiller Interface Panel (CIP)	CBC 2019	2.0	1.0	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13
Remote Control Panel (RCP)	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:** Compact Chiller cBoxX 60

**SAP Number:** 909060-00244

**UUT Function:** Cools liquids using an air cooled refrigerant system

**UUT Description:** KKT Compact Chiller with 66kW net cooling capacity. Unit is floor mounted on vibration isolators as detailed above.

**Test Location:** IABG mbH, Germany

**Test Date:** November 2016

**UUT PROPERTIES**

Weight (lb) *	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,300	79.9	48.8	32.7	4.2	3.0	9.4

\*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

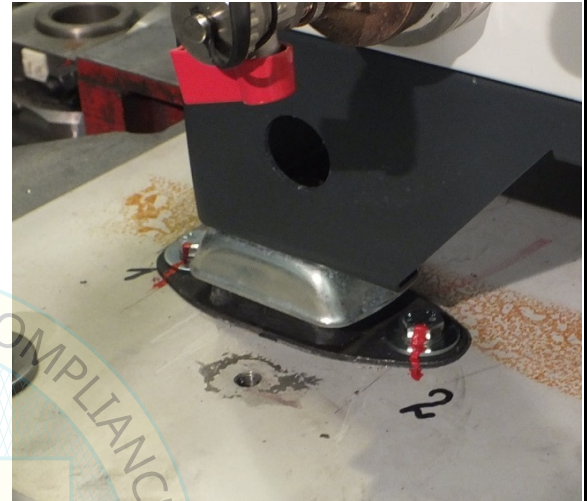
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

**UUT-2**

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



**Mounting Details:** 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:** Compact Chiller cBoxX 70

**SAP Number:** 909070-00249

**UUT Function:** Cools liquids using an air cooled refrigerant system

**UUT Description:** KKT Compact Chiller with 79kW net cooling capacity. Unit is floor mounted on vibration isolators as detailed above.

**Test Location:** IABG mbH, Germany

**Test Date:** November 2016

**UUT PROPERTIES**

Weight (lb) *	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,620	79.9	72.4	32.7	4.8	2.6	8.5

\*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

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 wall mounted with 3 - M8 Grade 8.8 bolts



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

**Component:** Chiller Interface Panel (CIP)

**SAP Number:** 909000.0072

**UUT Function:** Serves as interface between connecting fluid lines and chiller

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

**Test Location:** IABG mbH, Germany

**Test Date:** April 2016

**UUT PROPERTIES**

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
120	43.3	24	13.6	NA	NA	NA

**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: 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 wall mounted with 4 - M8 Grade 8.8 bolts



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

**Component:** Remote Control Panel (RCP) | **SAP Number:** 909000.0071

**UUT Function:** Remotely controls the KKT Compact Chillers

**UUT Description:** Remote control unit for KKT Compact Chiller configurations

**Test Location:** IABG mbH, Germany | **Test Date:** April 2016

**UUT PROPERTIES**

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
11	11.8	12	4.7	NA	NA	NA

**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: 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.