



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0549 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: ait-deutschland GmbH

Manufacturer's Technical Representative: Markus Zobler

Mailing Address: Industriestrasse 3; 95359 Kasendorf

Telephone: +49-9228-9906-1580

Email: markus.zobler@ait-deutschland.eu

Product Information

Product Name: cBoxX 100 Compact Chiller and Chiller Interface Panel (CIP)

Product Type: Water Chiller

Product Model Number: See Attachment

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

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

Mounting Description: Flexible floor mounted chiller and rigid wall mounted Chiller Interface Panel (CIP)

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) 342-5989 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.

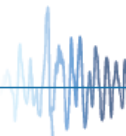
Signature of Applicant: 

Date: 01-24-2018

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): _____

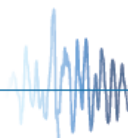
Testing Laboratory

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: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = See Attachment

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.50 (z/h = 0)

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = See Attachment

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1 (SDS = 2.00); 0 (SDS = 2.50)

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 [X] No

Design Basis of Equipment or Components (V/W) =

SDS (Design spectral response acceleration at short period, g) =

SD1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (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 [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): Certified System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

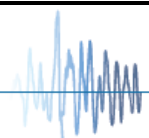
OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2022

Signature: [Handwritten Signature] Date: May 14, 2018

Print Name: Timothy J. Piland Title: SSE

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: cBoxX 100 Compact Chiller System

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

¹ 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.

² Weight includes normal operating fluid used during seismic test.

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

SEISMIC CERTIFICATION LIMITS

| System Component | Code | S _{DS} (g) | z / h | I _p | a _p | R _p | Ω ₀ | F _p / W _p |
|-------------------------------|-----------------------|---------------------|-------|----------------|----------------|----------------|----------------|---------------------------------|
| cBoxX 100 | CBC 2016 ASCE 7-10 | 2.0 | 1.0 | 1.50 | 2.5 | 2.5 | 2.0 | 3.60 |
| | | 2.5 | 0 | | | | | 1.50 |
| Chiller Interface Panel (CIP) | | 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 _{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 |

Notes: ¹⁾ The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. ²⁾ The unit maintained structural integrity during and after the ICC-ES AC156 Test. ³⁾ 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 _{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: ¹⁾ The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. ²⁾ The unit maintained structural integrity during and after the ICC-ES AC156 Test.