



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0788

HCAI Special Seismic Certification Preapproval (OSP)

Type:  New  Renewal

Manufacturer Information

Manufacturer: Lochinvar, LLC

Manufacturer's Technical Representative: Cindy Maxwell

Mailing Address: 300 Maddox Simpson Parkway, Lebanon, TN 37090

Telephone: (615) 889-8901

Email: cmaxwell@lochinvar.com

Product Information

Product Name: Other

Product Type: Heat Pump Water Heater

Product Model Number: Veritus Air Source Heat Pump Water Heater

General Description: Heat Pump Water Heaters

Mounting Description: Rigid, Floor Mounted

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: Pre Compliance

Contact Person: Katie Braman

Mailing Address: 36 SW Wall St, Bend, OR 97702

Telephone: (541) 241-2310

Email: katie@go-pre.com

Title: Principal and Program Manager





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

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

Company Name: PRE COMPLIANCE

Name: Andrew Coughlin California License Number: S6082

Mailing Address: 36 SW Wall Street, Bend, OR 97702

Telephone: (415) 635-8461 Email: Andy@go-pre.com

**Certification Method**

GR-63-Core  ICC-ES AC156  IEEE 344  IEEE 693  NEBS 3

Other (Please Specify): \_\_\_\_\_

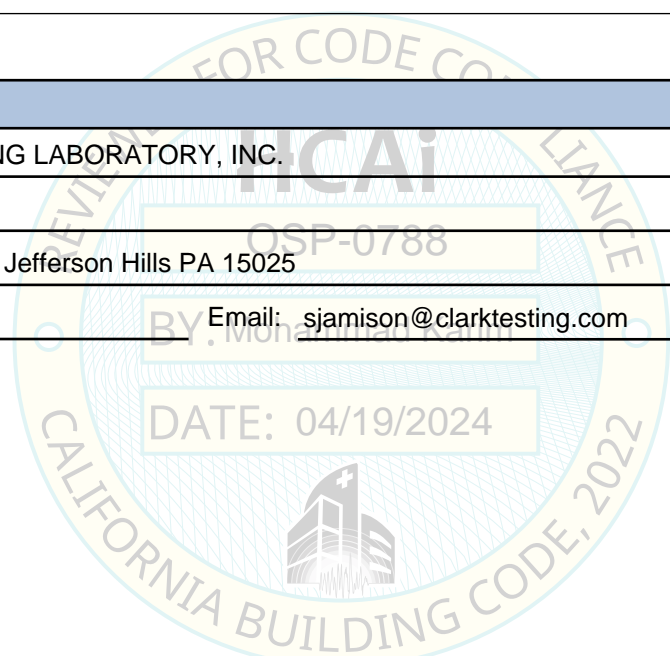
**Testing Laboratory**

Company Name: CLARK TESTING LABORATORY, INC.

Contact Person: Scott Jamison

Mailing Address: 1801 Route 51, Jefferson Hills PA 15025

Telephone: (412) 387-1676 Email: sjamison@clarktesting.com



*"A healthier California where all receive equitable, affordable, and quality health care"*



**STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY**



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

**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 0.9 at z/h=0, 1.44 at z/h=1

SDS (Design spectral response acceleration at short period, g) = 2.0

$a_p$  (Amplification factor) = 1.0

$R_p$  (Response modification factor) = 2.5

$\Omega_0$  (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

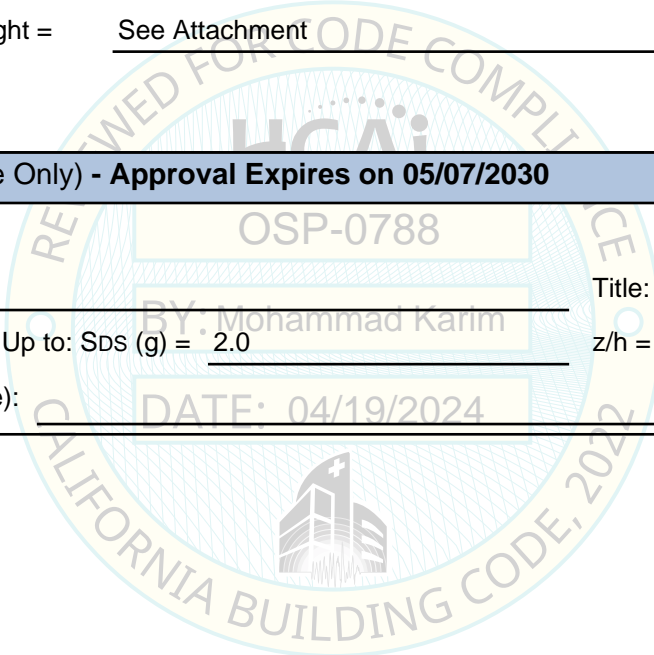
**HCAI Approval (For Office Use Only) - Approval Expires on 05/07/2030**

Date: 4/19/2024

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 04/19/2024



**Manufacturer:** Lochinvar, LLC  
**Product Type:** Heat Pump Water Heaters  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.0g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 1      Mounting Configuration: Base Mounted - Rigid

**Construction Summary**

Carbon steel enclosure

**Options Summary**

AHP060 & AHP140 can be installed in series to achieve greater capacity (AHP200, AHP280, & AHP350).

Model Line	Model	Max. Dimensions (in)			Wt. (lb)	Notes	UUT
		D	W	H			
Veritus Heat Pump Water Heater	AHP060	34	30	72	722		1
	AHP140	34	41	72	924		2
	AHP200 <sup>1</sup>	34	71	72	1646	AHP060+AHP140	Extrap.
	AHP280 <sup>1</sup>	34	82	72	1848	AHP140+AHP140	Extrap.
	AHP350 <sup>1</sup>	34	112	72	2570	AHP140+AHP140+AHP060	Extrap.
	AHPA060 <sup>2</sup>	34	30	72	722		Extrap.
	AHPA140 <sup>2</sup>	34	41	72	924		Extrap.
	AHPA200 <sup>1,2</sup>	34	71	72	1646	AHPA060+AHPA140	Extrap.
	AHPA280 <sup>1,2</sup>	34	82	72	1848	AHPA140+AHPA140	Extrap.
	AHPA350 <sup>1,2</sup>	34	112	72	2570	AHPA140+AHPA140+AHPA060	Extrap.
	SHPA060 <sup>3</sup>	34	30	72	722		Extrap.
	SHPA140 <sup>3</sup>	34	41	72	924		Extrap.
	SHPA200 <sup>1,3</sup>	34	71	72	1646	SHPA060+SHPA140	Extrap.
	SHPA280 <sup>1,3</sup>	34	82	72	1848	SHPA140+SHPA140	Extrap.
SHPA350 <sup>1,3</sup>	34	112	72	2570	SHPA140+SHPA140+SHPA060	Extrap.	

**Note:**

<sup>1</sup> Capacity based on a combination of tested units used in series. Units are not ganged (bolted together) but connected in series by piping/wiring.

<sup>2</sup> Alternate branding, models identical to tested units. Lochinvar AHP### is identical to AO Smith AHPA###.

<sup>3</sup> Alternate branding, models identical to tested units. Lochinvar AHP### is identical to State Industries SHPA###.

Pre No. CC231320-01-R1

**Manufacturer:** Lochinvar, LLC  
**Product Type:** Heat Pump Water Heaters  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater

**Seismic Parameters**

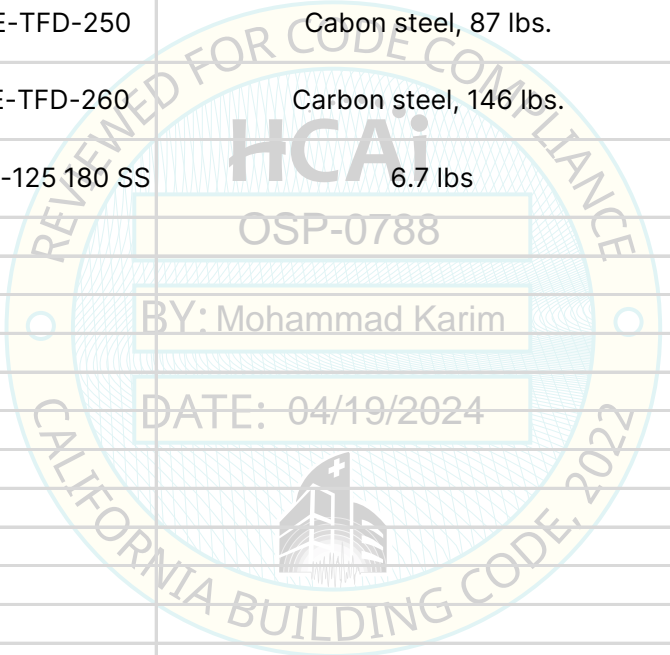
$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.0g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 2      Compressor & Pump

Component (Manufacturer)	Model	Description	Notes	UUT
Scroll Compressor (Copeland)	ZB45KCE-TFD-250	Carbon steel, 87 lbs.		1
	ZB95K5E-TFD-260	Carbon steel, 146 lbs.		2
Pump (Grundfos)	UPMXL 25-125 180 SS	6.7 lbs		1,2





# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Pre No. CC231320-01-R1

**Manufacturer:** Lochinvar, LLC  
**Product Type:** Heat Pump Water Heaters  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$       $I_p = 1.5$   
 $S_{DS} = 2.0g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 3 Evaporator

Component (Manufacturer)	Model	Description	Notes	UUT
Evaporator Fan (Multi Wing)	C0710-001-COM-10-V2	56 lbs.		1,2
Evaporator Fan Motor (Regal)	E56Y42TRA2210	23.8 lbs		1,2
Evaporator Coil (Changfa)	100360811	Copper Tubbing, Aluminum Fins, 37.7 lbs.		1
	100346636	Copper Tubbing, Aluminum Fins, 42.7 lbs.		1
	100360815	Copper Tubbing, Aluminum Fins, 49.4 lbs.		2
	100360816	Copper Tubbing, Aluminum Fins, 66.4 lbs.		2
BY: Mohammad Karim				
DATE: 04/19/2024				
CALIFORNIA BUILDING CODE, 2022				





# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Pre No. CC231320-01-R1

**Manufacturer:** Lochinvar, LLC  
**Product Type:** Heat Pump Water Heaters  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater

## Seismic Parameters

$S_{DS} = 2.0g$  for  $z/h=1$   
 $S_{DS} = 2.0g$  for  $z/h=0$       $I_p = 1.5$

## Building Codes

**CBC 2022**

### TABLE 5

## Valves

Component (Manufacturer)	Model	Description	Notes	UUT
Reversing Valve (Saginomiya)	STF-07U12G	2.85 lbs.		1
	STF-20U11G	3.30 lbs.		2

**REVIEWED FOR CODE COMPLIANCE**

**HCAi**

OSP-0788

BY: Mohammad Karim

DATE: 04/19/2024

CALIFORNIA BUILDING CODE 2022





## UUT 1

Test Report# JID 23-00579-R1

**Manufacturer:** Lochinvar, LLC  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater  
**Model Number:** AHP060  
**Serial Number:** TX000002165

Highest Passed Test Level							
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>	A <sub>flx-v</sub>
2.0	1 0	1.5	3.2	2.4	1.33	0.53	

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
34	30	72	722

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
16.6	4.5	21.5

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Carbon steel

### UUT Mounting Details:



UUT 1 was mounted to seismic table using a total of four (4) 3/8"-16 SAE grade 5 hex bolts with washers and lock washers and torqued to 25ft-lb. One bolts was used per each angle brackets. Bracket details on next page.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

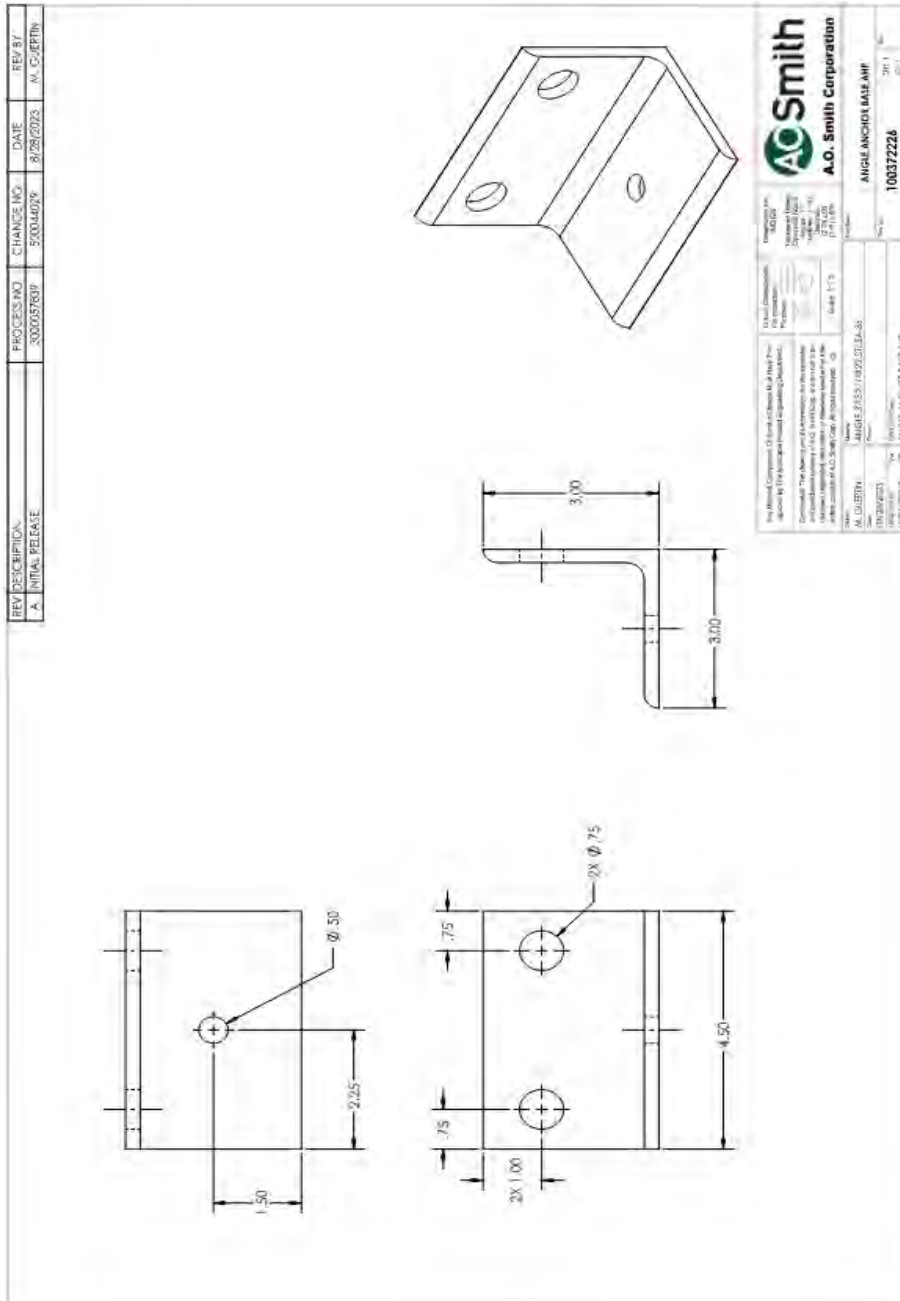
Description	Model Number	Wt. (lbs.)
Scroll Compressor	ZB45KCE-TFD-250	87
Evaporator Fan	C0710-001-COM-10-V2	56
Evaporator Fan Motor	E56Y42TRA2210	23.8
Evaporator Coil	100360811	42.7
Evaporator Coil	100346636	37.7
Condenser	BPDW 415-34	49.4
Pump	UPMXL 25-125 180 SS	6.7
Reversing Valve	STF-07U12G	2.9

## UUT 1

Test Report# JID 23-00579-R1

### Mounting Bracket Details

Four (4) brackets used and attached to the unit with two (2) 5/8-11 SAE grade 5 bolts with washers and lock washers. Each bolt torqued to 120ft-lbs.



## UUT 2

Test Report# JID 23-00579-R1

**Manufacturer:** Lochinvar, LLC  
**Model Line:** Veritus™ Air Source Heat Pump Water Heater  
**Model Number:** AHP140  
**Serial Number:** TX000002172

Highest Passed Test Level							
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>	
2.0	1 0	1.5	3.2	2.4	1.33	0.53	

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
34	41	72	924

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
17.4	8.2	>33.3

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Carbon steel

### UUT Mounting Details:



UUT 2 was mounted to seismic table using a total of four (4) 3/8"-16 SAE grade 5 hex bolts with washers and lock washers and torqued to 25ft-lb. One bolts was used per each angle.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model Number	Wt. (lbs.)
Scroll Compressor	ZB95KCE-TFD-25=60	143
Evaporator Fan	C0710-001-COM-10-V2	56
Evaporator Fan Motor	E56Y42TRA2210	23.8
Evaporator Coil	100360815	66.4
Evaporator Coil	100360816	49.4
Condenser	BPDW 415-64	72.5
Pump	UPMXL 25-125 180 SS	6.7
Reversing Valve	STF-20U11G	3.3
Control Panel	100370141	18

## UUT 2

Test Report# JID 23-00579-R1

### Mounting Bracket Details

Four (4) brackets used and attached to the unit with two (2) 5/8-11 SAE grade 5 bolts with washers and lock washers. Each bolt torqued to 120ft-lbs.

