



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

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

OFFICE USE ONLY

**APPLICATION #: OSP-0592**

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Ametek Powervar

Manufacturer's Technical Representative: Peter Huss

Mailing Address: 1450 S Lakeside Dr, Waukegan, IL 60085

Telephone: (847) 596-7040

Email: Peter.Huss@ametek.com

**Product Information**

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: See attachments

General Description: 420 to 3,000 VA units containing batteries, transformer and PCB.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

DATE: 12/13/2022

**Applicant Information**

Applicant Company Name: Dynamic Certification Laboratories

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Pkwy # 109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: kelly@shaketest.com

Title: Business Manager





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

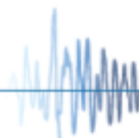
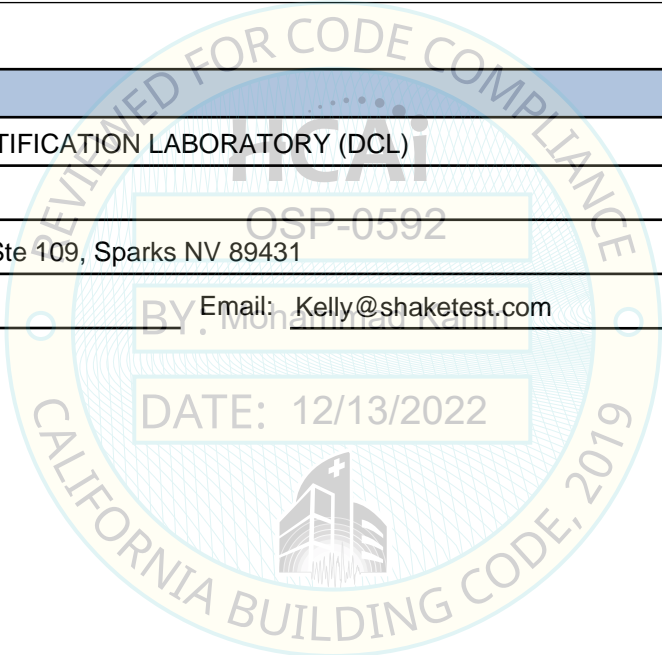
Company Name: THE VMC GROUP  
Name: Kenneth Tarlow California License Number: S2851  
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814  
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

**Certification Method**

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

**Testing Laboratory**

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)  
Contact Person: Kelly Laplace  
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431  
Telephone: (775) 358-5085 Email: Kelly@shaketest.com





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.44 (z/h=1); 1.13 (z/h=0)

SDS (Design spectral response acceleration at short period, g) = Sds 2.0g, z/h=1; Sds 2.5g, z/h=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

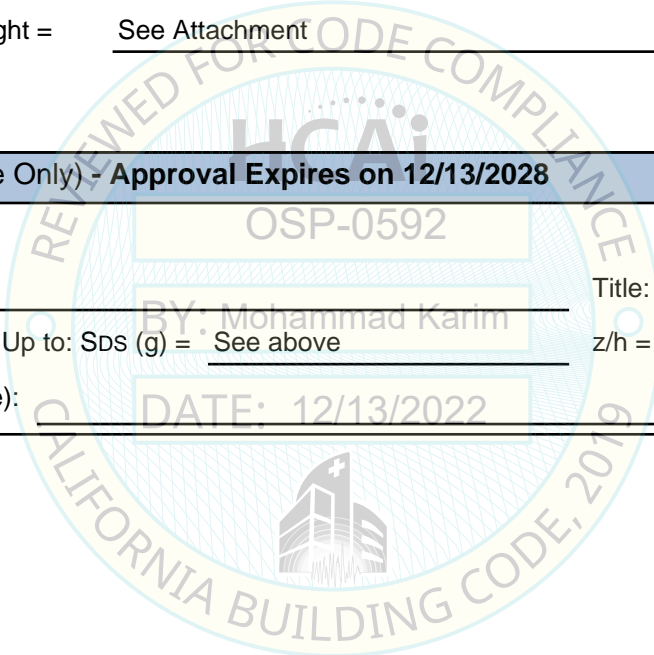
**HCAI Approval (For Office Use Only) - Approval Expires on 12/13/2028**

Date: 12/13/2022

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: 12/13/2022



**Table 1 - Special Seismic Certification  
Certified Components**



**DCL Project Number:** 32193-2201

**Product Line:** Security II UPM

**Mounting Description:** Rigid Base Mounted

**Certification Level:**  $S_{DS}=2.00g, z/h=1.0$ ;  $S_{DS}=2.50g, z/h=0.0$

Standard Model Number	Medical Model Number	Manufacturer	Max. Dimensions (in)			Max. Weight (lb)	Unit
			Depth	Width	Height		
ABCE422-11	ABCE422-11MED	Ametek Powervar	18.0	5.5	7.0	31	UUT 1
ABCE602-11	ABCE602-11MED	Ametek Powervar	18.0	6.0	8.5	45	Interpolated
ABCE802-11	ABCE802-11MED	Ametek Powervar	18.0	6.0	8.5	49	Interpolated
ABCE1102-11	ABCE1102-11MED	Ametek Powervar	20.0	8.0	9.0	70	Interpolated
ABCE1442-11	ABCE1442-11MED	Ametek Powervar	20.0	8.0	9.0	70	UUT 2
ABCE2202-11	ABCE2202-11MED	Ametek Powervar	22.0	8.0	20.0	140	Interpolated
ABCE3002-11	ABCE3002-11MED	Ametek Powervar	22.0	8.0	20.0	140	UUT 3

**Table 2 - Special Seismic Certification  
Certified Subcomponents**



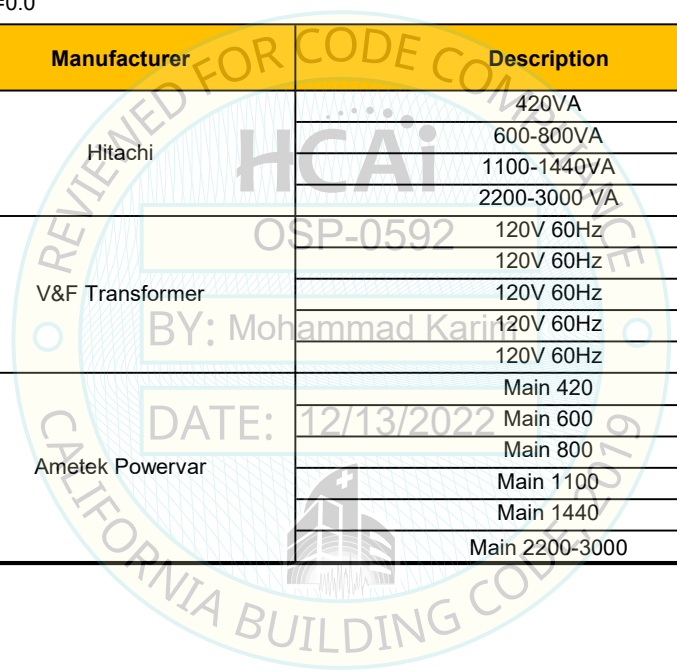
**DCL Project Number:** 32193-2201

**Product Line:** Security II UPM

**Mounting Description:** Rigid Base Mounted

**Certification Level:** S<sub>DS</sub>=2.00g, z/h=1.0; S<sub>DS</sub>=2.50g, z/h=0.0

Model Number	Subcomponent	Manufacturer	Description	Material	Weight (lb)	Unit
A99-00520	Battery	Hitachi	420VA	Lead Acid	7.8	UUT 1
A99-00525			600-800VA	Lead Acid	11.1	Interpolated
A99-00526			1100-1440VA	Lead Acid	22.4	UUT 2
A14-00014			2200-3000 VA	Lead Acid	45.0	UUT 3
A07-00108	Transformer	V&F Transformer	120V 60Hz	Copper	12.4	UUT 1
A07-00127			120V 60Hz	Copper	14.0	Interpolated
A07-00107			120V 60Hz	Copper	20.0	Interpolated
A07-00102			120V 60Hz	Copper	32.0	UUT 2
A07-00143			120V 60Hz	Copper	55.0	UUT 3
A26-00107	PCB	Ametek Powervar	Main 420	PCB	<1.0	UUT 1
A26-00108			Main 600	PCB	<1.0	Interpolated
A26-00109			Main 800	PCB	<1.0	Interpolated
A26-00110			Main 1100	PCB	<1.0	Interpolated
A26-00111			Main 1440	PCB	<1.0	UUT 2
A26-00192			Main 2200-3000	PCB	<1.0	UUT 3



### Table 3 - Special Seismic Certification Tested Units



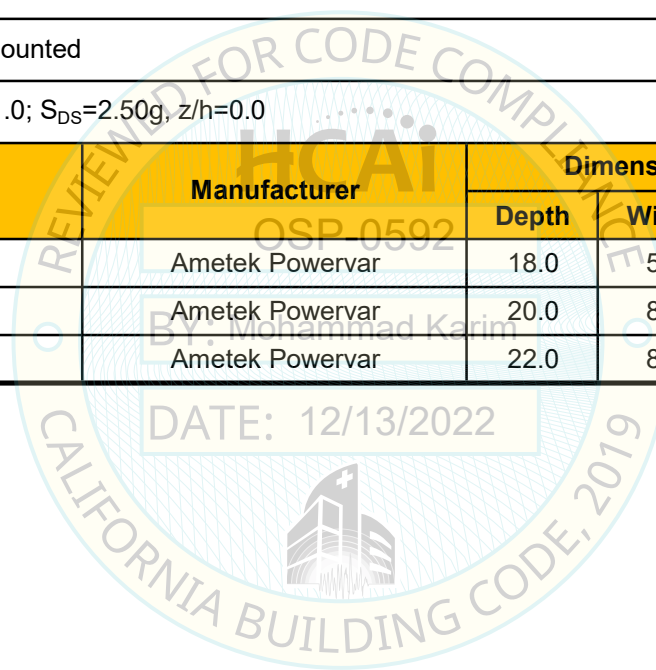
**DCL Project Number:** 32193-2201

**Product Line:** Security II UPM

**Mounting Description:** Rigid Base Mounted

**Certification Level:**  $S_{DS}=2.00g, z/h=1.0$ ;  $S_{DS}=2.50g, z/h=0.0$

Model Number	Manufacturer	Dimensions (in)			Weight (lb)	Unit
		Depth	Width	Height		
ABCE422-11	Ametek Powervar	18.0	5.5	7.0	31	UUT 1
ABCE1442-11	Ametek Powervar	20.0	8.0	9.0	70	UUT 2
ABCE3002-11	Ametek Powervar	22.0	8.0	20.0	140	UUT 3



# UUT1

## DCL Test Report 24398-1801

### UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 32193-2201

Manufacturer: Ametek Powervar

Product Line: Security II UPM

Model Number: ACBE422-11

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

#### UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
	UUT	Length	Width	Height	Front-Back	Side-Side	Vertical
31	UUT1	18.0	5.5	7.0	>33.3	>33.3	>33.3

#### Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

#### Unit Mounting Description:

UUT 1 was base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 14" lengthwise and 8" widthwise on center.



UUT 1 Overall View

# UUT2

## DCL Test Report 24398-1801

### UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 32193-2201

Manufacturer: Ametek Powervar

Product Line: Security II UPM

Model Number: ACBE1442-11

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

#### UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
	UUT	Length	Width	Height	Front-Back	Side-Side	Vertical
70	UUT 2	20.0	8.0	9.0	>33.3	>33.3	>33.3

#### Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

#### Unit Mounting Description:

UUT 2 was base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 16" lengthwise and 11" widthwise on center.



UUT 2 Overall View



# UUT3

## DCL Test Report 24398-1801

### UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 32193-2201

Manufacturer: Ametek Powervar

Product Line: Security II UPM

Model Number: ACBE3002-11

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

#### UUT Properties

Operating Weight (lb)	Dimensions (in)				Lowest Natural Frequency (Hz)		
	UUT	Length	Width	Height	Front-Back	Side-Side	Vertical
140	UUT 3	22.0	8.0	20.0	>33.3	>33.3	>33.3

#### Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

#### Unit Mounting Description:

UUT 3 was base mounted to the DCL interface fixture with a strap assembly at front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 16.5" lengthwise and 11" widthwise on center. The unit was installed with (4) seismic spacers in place of casters provided by Ametek Powervar (Part Number A05-00925) and (2) seismic support brackets provided by Ametek Powervar (Part Number A05-00926).



UUT 3 Overall View