APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0643

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: AMETEK Powervar

Manufacturer's Technical Representative: Mike Herzog

Mailing Address: 1450 Lakeside Drive, Waukegan, IL 60085

Telephone: (800) 369-7179 Email: mike.herzog@ametek.com

Product Information

Product Name: Security Plus II and III UPS

Product Model Number(s): See attached

Product Category: UPS and Batteries

Product Sub-Category: UPS

General Description: 2-6kVA and 8-10kVA UPS systems with carbon steel enclosures. The enclosures contain fans, circuit boards, breakers, fuses, transformers, batteries, input plugs, and receptacles.

Mounting Description: Base Mounted Rigid

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: DCL Labs, LLC

Contact Person: Nastya Veyngerova

Mailing Address: 1315 Greg St, Sparks, NV 89431

Telephone: (775) 358-5085 Email: nastya.veyngerova@shaketest.com

Title: Seismic Test Engineer

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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: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (800) 569-8423 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: Josh Sailer

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

Telephone: (775) 358-5085 Email: josh@shaketest.com

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Seismic Parameters

Certified Response Spectral Acceleration Factors:(F_p/W_p)

Horizontal	(A Flx-H), g=	3.20	(A Rig-H), g=	2.15
Vertical	(A Flx-V), g=	1.67	(A Rig-V), g=	0.67

S_{DS} (Design spectral response acceleration at short period, g) = 2.0 (z/h = 1.0), 2.5 (z/h = 0.0)

Hf (Force amplification height factor) = 3.5 at z/h=1.0; 1.0 at z/h=0

Ru (Structure ductility redution factor) = 1.3 at z/h=1.0; 1.0 at z/h=0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0 and 1

HCAI Approval (For Office Use Only) - **Approval Expires on 11/08/2032**

Date: 11/6/2026

Name: Mohammad Karim Title: Supervisor, Health Facilities

Condition of Approval (if applicable):

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Special Seismic Certification
Table 1 - Certified Components

DCL Project Number: 21113-2601

Manufacturer: AMETEK Powerwar

Product Line: Security Plus II and III UPS

Certified Product Construction: Painted Carbon Steel

Mounting: Rigid Base Mounted

Certified Seismic Levels: Sds = 2.0g, z/h = 1.0; Sds = 2.5g, z/h = 0.0

Factors for Force Amplification and Structure Ductility Reduction: H_f = 3.5 at z/h=1.0; 1.0 at z/h=0 and R_μ = 1.3 at z/h=1.0; 1.0 at z/h=0

Model Number	Input-Output Voltage (VAC)	Load Power (kVA)	Max. Dimensions [in.]			Max. Weight [lb.]	Unit
			Height	Width	Length		
ABCDEF2002-11	120-100/120	2.0	32.5	9.8	28.3	302	Extrapolated[1]
ABCDEF3002-11	120-100/120	3.0	32.5	9.8	28.3	302	Extrapolated[1]
ABCDEF2002-22	208/240-200/240	2.0	32.5	9.8	28.3	302	UUT1[2]
ABCDEF3002-22	208/240-200/240	3.0	32.5	9.8	28.3	302-352	Interpolated
ABCDEF4002-22	208/240-104/240	4.0	32.5	9.8	28.3		Interpolated
ABCDEF5002-22	208/240-104/240	5.0	32.5	9.8	28.3		Interpolated
ABCDEF6002-22	208/240-104/240	6.0	32.5	9.8	28.3		Interpolated
ABCDEF8002-22	208/240-104/240	8.0	32.5	9.8	28.3		Interpolated
ABCDEF10.2-22	208/240-104/240	10.0	32.5	9.8	28.3	352	UUT2[2]
ABCDEF2003-22	120-100/120	2.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF2003-22	208/240-200/240	2.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF3003-22	120-100/120	3.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF3003-22	208/240-200/240	3.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF4003-22	208/240-200/240	4.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF5203-22	208/240-200/240	5.0	27.9	11.9	32.1	321	Extrapolated[3]
ABCDEF6003-22	208/240-200/240	6.0	27.9	11.9	32.1	321	UUT3, UUT4

1. Extrapolated units are identical to UUT1. Extrapolated units differ by software only, as verified by the manufacturer.
2. UUT1 and UUT2 were tested with the maximum receptacle configurations.
3. Extrapolated units are identical to UUT3 and UUT4. Extrapolated units differ by software only, as verified by the manufacturer.

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Special Seismic Certification
Table 2 - Certified Subcomponents

DCL Project Number: 21113-2601

Product Line: Security Plus II and III UPS

Part Number	Manufacturer	Description	Material	Unit
Enclosures				
SecurityPlusII-ENCLOSURE	Ametek Powervar	Dimensions: 28.3" L x 9.8" W x 32.5" H	Painted Carbon Steel	UUT1, UUT2
SecurityPlusIII-ENCLOSURE		Dimensions: 32" L x 11.8" W x 27.5" H		UUT3, UUT4
Fans				
A37-00099	Ametek Powervar	Rear Fans for transformer (117CFM/230VAC)	Plastic	UUT1, UUT2
A37-00060		Rear Fans for SPS-CHARGER Board (55CFM/12VDC)		UUT1, UUT2
A37-00061		Rear Fans for 6k Main Board (70CFM/12VDC)		UUT1
A37-00062		Inside Fans for 10k Main Board (70CFM/12VDC)		UUT2
A37-00063		Rear Fans for 10k Main Board (72CFM/12VDC)		UUT2
A37-00087		Rear Fans for 6k Main Board (73CFM/24VDC)		UUT3, UUT4
A37-00088		Front Fans for SPS-CHARGER Board (73CFM/24VDC)		UUT3, UUT4
Circuit Boards				
A26-00311	Ametek Powervar	6k 10kVA Main Control PCB	Printed Circuit Board	UUT1, UUT2
A26-00252		6kVA Main Control PCB		UUT3, UUT4
A26-00249		6kVA Main Power PCB		UUT3, UUT4
A26-00312		10kVA Main Power PCB		UUT2
A26-00319		EMI Filter PCB (6kVA)		UUT1
A26-00253		EMI Filter PCB (6kVA)		UUT3, UUT4
A26-00314		X/Y CAP BOARD (6/10kVA)		UUT1, UUT2
A26-00315		X BOARD (10kVA)		UUT2
A26-00316		EMI Filter PCB (10kVA)		UUT2
A26-00402		COMM PCB		UUT3, UUT4
A26-00317		COMM PCB		UUT1, UUT2
A26-00308		Display PCB		UUT1, UUT2
A26-00254		Display PCB		UUT3, UUT4
A26-00318		SPS-CHARGER PCB		UUT1, UUT2
A26-00250		Logic Power Supply PCBA		UUT3, UUT4
Breakers				
A36-00295	Ametek Powervar	DC Breaker 500V, 50A, 2 pole	Plastic and Copper Alloy	UUT1, UUT2
A36-00353		DC Breaker 500V, 50A, 2 pole		UUT3, UUT4
A50-00042		Maintenance Bypass Switch		UUT1, UUT2
A50-00061		Maintenance Bypass Switch		UUT3, UUT4
A36-00296		Input Breaker (6 kVA) 40A/400VAC		UUT1
A36-00354		Input Breaker (6 kVA) 40A/400VAC		UUT3, UUT4
A36-00297		Input Breaker (10 kVA) 63A/400VAC		UUT2
Fuses				
A35-00095	Ametek Powervar	Battery Fuses (500VDC/20A)	Copper, Fiberglass, Ceramic	UUT1, UUT3, UUT4
A35-00096		Battery Fuses (500VDC/30A)		UUT2
Transformers				
A07-00229	Likitha Transformers	6kVA / 208-240V/ 25A Dry Type Transformer	Iron	UUT3, UUT4*
41-040363-01G	Voltronic Power	6kVA / 208-240V/ 25A Dry Type Transformer	Iron	UUT1
41-040364-01G		10kVA / 208-240V/ 41.7A Dry Type Transformer		UUT2
Batteries				
A14-00015	CSB	12V 460W sealed VRLA non-spillable battery	Lead Acid with ABS (UL 94-HB) Container	UUT1, UUT2, UUT3, UUT4
Input Plug				
LP-30P	Ametek Powervar	10' Input Line Cord 3/c #10 AWG Type SOOW Cord	Plastic	UUT1, UUT2, UUT3, UUT4
Receptacles				
L6-30R	Ametek Powervar	Rear Panel Top Row Receptacle	Plastic	UUT1, UUT2, UUT3, UUT4
5-20R		Rear Panel Bottom Row Duplex Receptacles	Plastic	UUT1, UUT2, UUT3, UUT4

* Likitha Transformers transformer was tested on both UUT3 and UUT4 due to Likitha Transformers not being ISO9001 certified.

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OSP-0049
BY: Mohammad Karim
DATE: 11/06/2026
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Special Seismic Certification
Table 3 - Tested Units

DCL Project Number: 21113-2601

Manufacturer: AMETEK Powerwar

Product Line: Security Plus II and III UPS

Certified Product Construction: Painted Carbon Steel

Mounting: Rigid Base Mounted

Certified Seismic Levels: Sds = 2.0g, z/h = 1.0; Sds = 2.5g, z/h = 0.0

Factors for Force Amplification and Structure Ductility Reduction: H_f = 3.5 at z/h=1.0; 1.0 at z/h=0 and R_μ = 1.3 at z/h=1.0; 1.0 at z/h=0

Model Number	Input-Output Voltage (VAC)	Load Power (kVA)	Max. Dimensions [in.]			Max. Weight [lb.]	Unit
			Height	Width	Length		
ABCDEF2002-22	208/240-200/240	2.0	32.5	9.8	28.3	302	UUT1
ABCDEF10.2-22	208/240-104/240	10.0	32.5	9.8	28.3	352	UUT2
ABCDEF6003-22	208/240-104/240	6.0	27.9	11.9	32.1	321	UUT3, UUT4

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HCAi
OSP-0643
BY: Mohammad Karim
DATE: 11/06/2026
CALIFORNIA BUILDING CODE, 2025

UNIT UNDER TEST (UUT) Summary Sheet

UUT1

DCL Report Number: 26606-2001

Test Dates: Jan 21, 2020

Manufacturer: AMETEK Powervar

Product Line: 2kVA Security Plus II UPS

Model Number: ABCDEF2002-22

Product Construction Summary: Painted Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
302	28.3	9.8	32.5	>33.3	20.0	33.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H_f	Rμ	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description: UUT1 was rigidly base mounted to the shake table interface plate using the manufacturer's designed mounting brackets. The carbon steel brackets were mounted to UUT1 through the manufacturer's bolt-hole locations using (12) M4-0.7x14mm Zinc-plated machine screws, star washers, and round washers. The screws were spaced 7.75 inches vertically, and 22.5 inches horizontally. Four screws were used to mount the brackets at the base of UUT1 and were spaced 11 inches horizontally. The mounting brackets were mounted directly to the shake table interface plate using (8) 5/16" Grade 5 bolts, round washers and 1.5"x1.5"x0.25" Carbon Steel square washers. The bolts used for the rear mounting brackets were spaced 6 inches apart length-wise and 12.5 inches width-wise, while the bolts used for the front mounting brackets were spaced 9 inches apart length-wise, and 12.5 inches width-wise. In addition, two 1" wide x 8' long straps were used to secure UUT1 to the mounting brackets. The straps are manufactured by Strapworks (Model Number: CS1H8PB) and are constructed of heavyweight polypropylene webbing.

Seismic Mounting Brackets:
The manufacturer's seismic mounting brackets are constructed of carbon steel and consist of four brackets per each UUT. The front mounting brackets measure 12" length-wise and 15.5" height-wise. The rear mounting brackets measure 9" length-wise and 15.5" height-wise. A 3" flange on both the front and rear mounting brackets consist of the 3/8" holes that allow the brackets to be mounted to the shake table interface plate. The AMETEK Powervar model numbers for the Seismic Mounting Brackets are as follows: Front Left Bracket (A05-00995), Front Right Bracket: A05-00996, Rear Left Bracket: A05-00997, and Rear Right Bracket: A05-00998.





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UNIT UNDER TEST (UUT) Summary Sheet

UUT1

Options / Component Summary:

Part Number	Manufacturer	Material
Enclosures		
SecurityPlusII-ENCLOSURE	Ametek Powervar	Painted Carbon Steel
Fans		
A37-00099	Ametek Powervar	Plastic
A37-00060		
A37-00061		
Circuit Boards		
A26-00311	Ametek Powervar	Printed Circuit Board
A26-00319		
A26-00314		
A26-00317		
A26-00308		
A26-00318		
Breakers		
A36-00295	Ametek Powervar	Plastic and Copper Alloy
A50-00042		
A36-00296		
Fuses		
A35-00095	Ametek Powervar	Copper, Fiberglass, Ceramic
Transformers		
41-040363-01G	Voltronic Power	Iron
Batteries		
A14-00015	CSB	Lead Acid with ABS (UL 94-HB) Container
Input Plug		
LP-30P	Ametek Powervar	Plastic
Receptacles		
L6-30R	Ametek Powervar	Plastic
5-20R	Ametek Powervar	Plastic

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OSP-0643
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DATE: 11/06/2026
CALIFORNIA BUILDING CODE 2025

UNIT UNDER TEST (UUT) Summary Sheet

UUT2

DCL Report Number: 26606-2001

Test Dates: Jan 21, 2020

Manufacturer: AMETEK Powervar

Product Line: 10kVA Security Plus II UPS

Model Number: ABCDEF10.2-22

Product Construction Summary: Painted Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

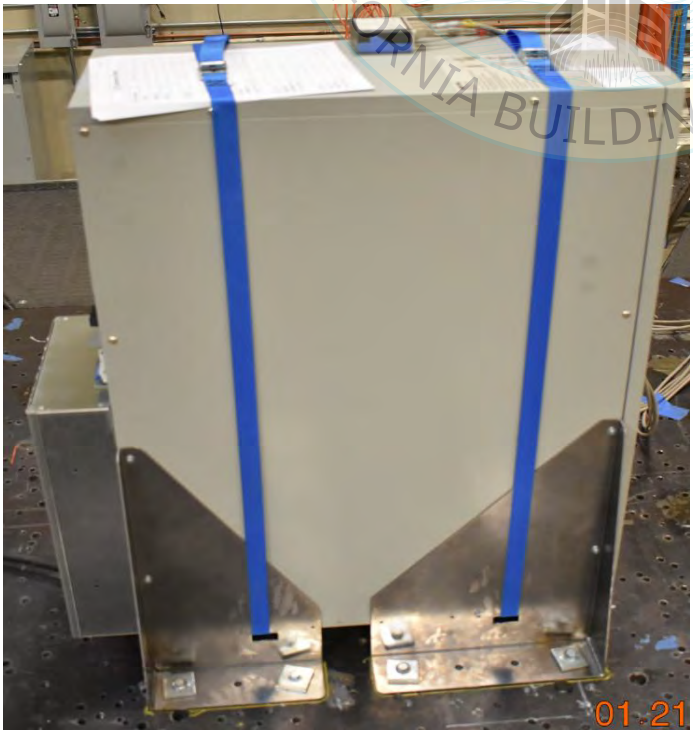
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
352	28.3	9.8	32.5	>33.3	13.0	>33.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H_f	Rμ	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description: UUT2 was rigidly base mounted to the shake table interface plate using the manufacturer's designed mounting brackets. The carbon steel brackets were mounted to UUT2 through the manufacturer's bolt-hole locations using (12) M4-0.7x14mm Zinc-plated machine screws, star washers, and round washers. The screws were spaced 7.75 inches vertically, and 22.5 inches horizontally. Four screws were used to mount the brackets at the base of UUT2 and were spaced 11 inches horizontally. The mounting brackets were mounted directly to the shake table interface plate using (8) 5/16" Grade 5 bolts, round washers and 1.5"x1.5"x0.25" Carbon Steel square washers. The bolts used for the rear mounting brackets were spaced 6 inches apart length-wise and 12.5 inches width-wise, while the bolts used for the front mounting brackets were spaced 9 inches apart length-wise, and 12.5 inches width-wise. In addition, two 1" wide x 8' long straps were used to secure UUT2 to the mounting brackets. The straps are manufactured by Strapworks (Model Number: CS1H8PB) and are constructed of heavyweight polypropylene webbing.

Seismic Mounting Brackets:
The manufacturer's seismic mounting brackets are constructed of carbon steel and consist of four brackets per each UUT. The front mounting brackets measure 12" length-wise and 15.5" height-wise. The rear mounting brackets measure 9" length-wise and 15.5" height-wise. A 3" flange on both the front and rear mounting brackets consist of the 3/8" holes that allow the brackets to be mounted to the shake table interface plate. The AMETEK Powervar model numbers for the Seismic Mounting Brackets are as follows: Front Left Bracket (A05-00995), Front Right Bracket: A05-00996, Rear Left Bracket: A05-00997, and Rear Right Bracket: A05-00998.





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OSP 0643
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DATE: 11/06/2025
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UNIT UNDER TEST (UUT) Summary Sheet

UUT2

Options / Component Summary:

Part Number	Manufacturer	Material
Enclosures		
SecurityPlusII-ENCLOSURE	Ametek Powervar	Painted Carbon Steel
Fans		
A37-00099	Ametek Powervar	Plastic
A37-00060		
A37-00062		
A37-00063		
Circuit Boards		
A26-00311	Ametek Powervar	Printed Circuit Board
A26-00312		
A26-00314		
A26-00315		
A26-00316		
A26-00317		
A26-00308		
A26-00318		
Breakers		
A36-00295	Ametek Powervar	Plastic and Copper Alloy
A50-00042		
A36-00297		
Fuses		
A35-00096	Ametek Powervar	Copper, Fiberglass, Ceramic
Transformers		
41-040364-01G	Voltronic Power	Iron
Batteries		
A14-00015	CSB	Lead Acid with ABS (UL 94-HB) Container
Input Plug		
LP-30P	Ametek Powervar	Plastic
Receptacles		
L6-30R	Ametek Powervar	Plastic
5-20R	Ametek Powervar	Plastic

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UNIT UNDER TEST (UUT) Summary Sheet

UUT3 and UUT4

DCL Report Number: 21113-2601

Test Dates: Sept 17, 2026

Manufacturer: AMETEK Powervar

Product Line: 6kVA Security Plus III UPS

Model Number: ABCDEF6003-22

Product Construction Summary: Painted Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
321	32.1	11.9	27.9	32.5	18.0	>33.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H_f	Rμ	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description: UUT3 and UUT4 were identical units and were rigid base mounted to the DCL shake table interface plate using (2) manufacturer-provided brackets. Each bracket was attached to the unit using (4) A307 bolts, flat washers and split lock washers. Each bracket was attached to the shake table interface plate using (4) 3/8'' Grade 8 bolts, flat washers and split lock washers. The lengthwise distance between the bolts was 9.5'' measured on-center.

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OSP-0643
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UNIT UNDER TEST (UUT) Summary Sheet

UUT3 and UUT4

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
SecurityPlusIII-ENCLOSURE	Ametek Powervar	Painted Carbon Steel
Fans		
A37-00087	Ametek Powervar	Plastic
A37-00088		
Circuit Boards		
A26-00252	Ametek Powervar	Printed Circuit Board
A26-00249		
A26-00253		
A26-00402		
A26-00254		
A26-00250		
Breakers		
A36-00353	Ametek Powervar	Plastic and Copper Alloy
A50-00061		
A36-00354		
Fuses		
A35-00095	Ametek Powervar	Copper, Fiberglass, Ceramic
Transformers		
A07-00229	Likitha Transformers	Iron
Batteries		
A14-00015	CSB	Lead Acid with ABS (UL 94-HB) Container
Input Plug		
LP-30P	Ametek Powervar	Plastic
Receptacles		
L6-30R	Ametek Powervar	Plastic
5-20R		

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