



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT**

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

OFFICE USE ONLY

APPLICATION #: OSP-0187

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Phoenix Products

Manufacturer's Technical Representative: Alex Munoz

Mailing Address: 1544 East *th Street, Jacksonville, FL 32206

Telephone: (904) 354-1858

Email: alex.munoz@phoenixprods.com

Product Information

Product Name: Phoenix Products Stand Alone Fuel Day Tanks and Pump Racks

Product Model Number(s): DD-50, DD-75, DD-250, DD-1000, SPR, DPR, TPR

Product Category: Emergency and Standby Power Systems

Product Sub-Category: Fuel Tanks

General Description: Fuel Tanks without Control Boxes and with Integral Stand-Alone Pump System

Mounting Description: Fuel Tanks and Racks were Base Mounted Rigid. Controllers were surface mounted to racks.

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thevmcgroup.com

Title: President





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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

Company Name: Pacific Earthquake Engineering Research Center (PEER)
Contact Person: Amarnath Kasalanati
Mailing Address: 1301 South 46th St., Bldg. 420, Richmond CA 94720-1729
Telephone: (510) 642-3437 Email: Amarnath1@berkeley.edu

Company Name: STORK GARWOOD LABORATORIES
Contact Person: Jerry Cederstrom
Mailing Address: 7829 Industry Ave, Rico Rivera CA 90660
Telephone: (562) 699-4159 Email: Jerry.Cederstrom@us.stork.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.13

SDS (Design spectral response acceleration at short period, g) = 2.5

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 04/14/2031

Date: 4/14/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 0

Condition of Approval (if applicable): DATE: 04/14/2025

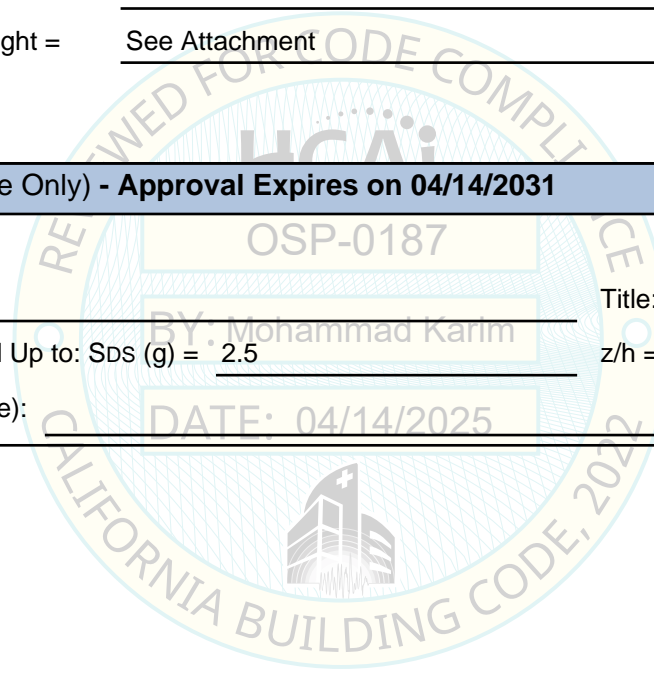


Table 1 - Certified Fuel DayTank

Model	Capacity [Gallons]	Max Dimensions [in]			Operating Weight [lbs]	UUT
		Length	Width	Height		
DD50	50	31	29	25	741	UUT 1
DD75	75	31	29	38	1,026	Interpolated
DD100	100	33	29	45	1,325	Interpolated
DD150	150	46	29	45	1,867	Interpolated
DD200	200	56	29	45	2,330	Interpolated
DD250	250	67	29	45	2,835	UUT 2
DD1000	1024	120	62	48	10,955	UUT 4

Table 2 - Certified Pump Racks

Model	Notes	Max Dimensions [in]			Weight [lbs]	UUT
		Length	Width	Height		
SPR	Single Pump Rack	23.25	13.56	38.30	105	Extrapolated
DPR	Double Pump Rack	23.25	13.56	38.30	111	Extrapolated
TPR ¹	Triple Pump Rack	24.00	30.60	38.30	180	UUT-5, UUT-6

Notes:

¹Pump Rack was tested as a subcomponent of UUT-1, UUT-2.

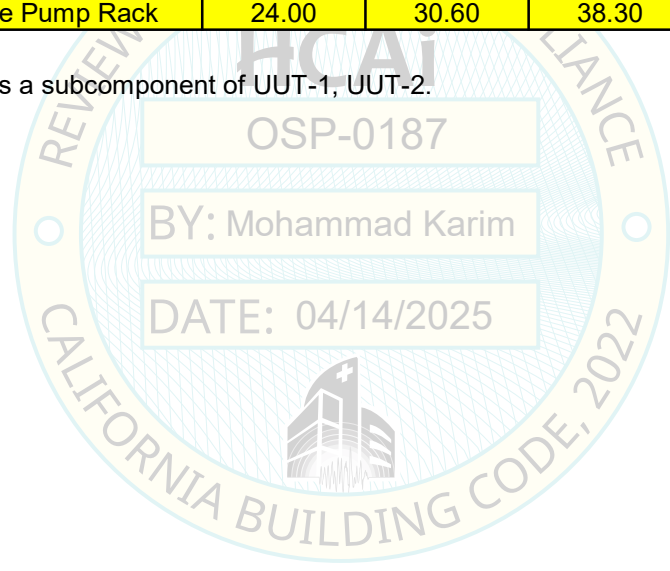


Table 3 - Certified Subcomponents: Pumps

Part or Model Number	Notes	Manufacturer	Weight [lbs]	UUT
2 GPM Pump	1/3 H.P - 120/240V	Baldor Motor & Parker Pump	35	UUT-1, UUT-2
4 GPM Pump	1/2 H.P - 120/240V	Baldor Motor & Parker Pump	37	UUT-1, UUT-2
7 GPM Pump	1/2 H.P - 120/240V	Baldor Motor & Parker Pump	37	UUT-1, UUT-2
8 GPM Pump	1 H.P - 120/240V	Baldor Motor & Parker Pump	45	UUT-1, UUT-2
10 GPM Pump	1 H.P - 120/240V	Baldor Motor & Parker Pump	46	UUT-1, UUT-2
16 GPM Pump	1 H.P - 120/240V	Baldor Motor & Parker Pump	50	UUT-1, UUT-2

Table 4 - Certified Subcomponents: Probes

Part or Model Number	Notes	Manufacturer	Weight [lbs]	UUT
DDCHP	Critical High Fuel Level Probe	Madison	3.25	UUT-1, UUT-2, UUT4
DDHP	High Fuel Level Probe	Madison	6	UUT-1, UUT-2, UUT4
DDCLP	Critical Low Fuel Level Probe	Madison	6	UUT-1, UUT-2, UUT4
DDLSP	Leak Sensor Probe	Madison	3.25	UUT-1, UUT-2, UUT4
DDSP1OP	Supply Pump #1 on Probe	Madison	6	UUT-1, UUT-2, UUT4
DDSP2OP	Supply Pump #2 on Probe	Madison	6	UUT-1, UUT-2, UUT4
DDRPOP	Return Pump on Probe	Madison	6	UUT-1, UUT-2, UUT4
DDPOFP	Pump Off Probe	Madison	6	UUT-1, UUT-2, UUT4

Table 5 - Certified Subcomponents: Valves

Part or Model Number	Notes	Manufacturer	Weight [lbs]	UUT
DDBV	Ball Valve	Morrison Bros.	1.17	UUT-1, UUT-2, UUT4
DDCV	Check Valve	Apollo Valves	2.18	UUT-1, UUT-2, UUT4
DDSV	Solenoid Valve	ASCO	6.80	UUT-1, UUT-2, UUT4

Table 6 - Certified Subcomponents: Vents

Part or Model Number	Notes	Manufacturer	Weight [lbs]	UUT
DDUV	Updraft Vent	Morrison Bros.	2	UUT-1, UUT-2, UUT4
DDPRV	Pressure Relief Vent	Morrison Bros.	36	UUT-1, UUT-2, UUT4

Table 7 - Certified Subcomponents: Miscellaneous

Part or Model Number	Notes	Manufacturer	Weight [lbs]	UUT
DDWS	WYE Stainer	Titan Flow Control	4	UUT-1, UUT-2, UUT4
DDSDA	Siphon Drain Assy	Phoenix Products	5	UUT-1, UUT-2, UUT4
DDM1HP	Manual Hand Pump	Fill-Rite	10	UUT-1, UUT-2, UUT4
24Q001A	Control Box	ECC	60	UUT-5, UUT-6



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: R003710; UUT-1 (Configuration 3)

Model Line	Model Number	Manufacturer
Fuel Day Tanks	DD-50	Phoenix Products

Product Construction Summary

Welded ASTM A36 steel plates and structural steel C and L sections.

Options / Subcomponent Summary

50 gallon day tank with pump rack configuration.

UUT Properties

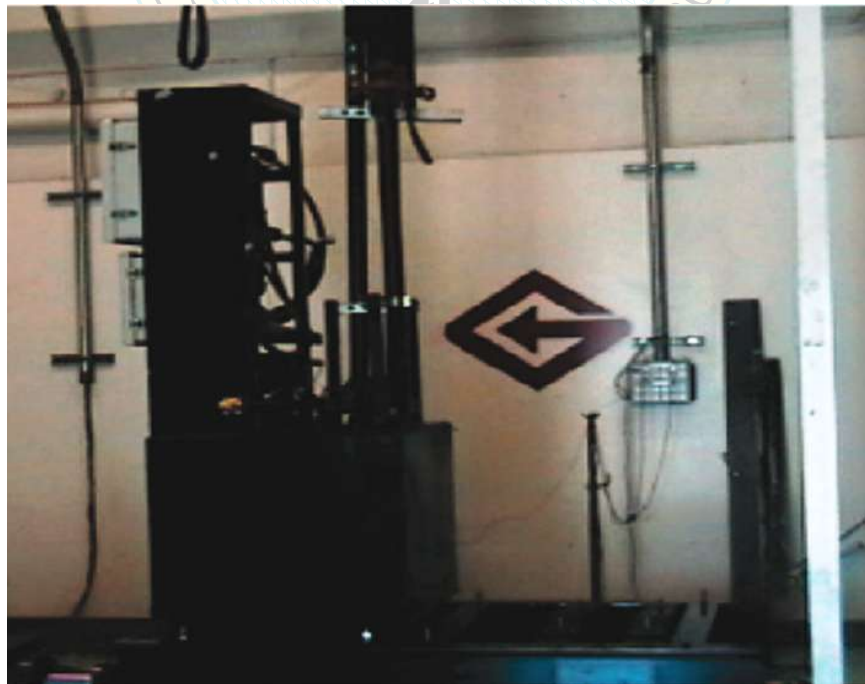
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
742	31.0	29.0	25.0	7.2	33.0	23.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.50	0.0	1.5	2.50	1.00	1.68	0.68

Test Mounting Details

UUT-1 was rigidly mounted to the shake table using (4) 3/4" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-2

Test Report: R003710; UUT-2 (Configuration 3)

Model Line	Model Number	Manufacturer
Fuel Day Tanks	DD-250	Phoenix Products

Product Construction Summary

Welded ASTM A36 steel plates and structural steel C and L sections.

Options / Subcomponent Summary

250 gallon day tank with pump rack configuration.

UUT Properties

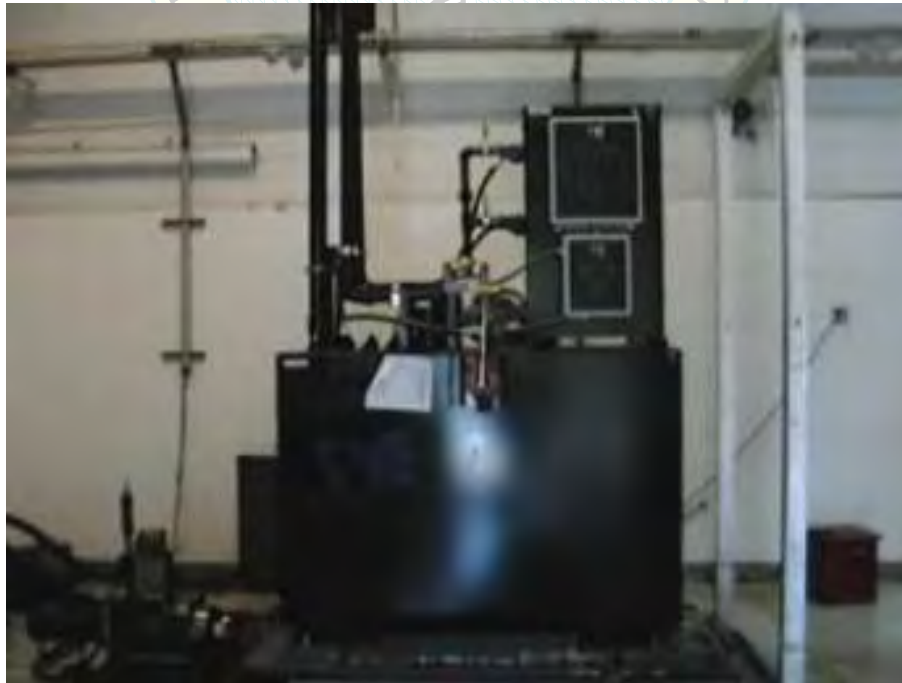
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,835	67.0	29.0	45.0	12.7	N/A	33.2

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.50	0.0	1.5	2.50	1.00	1.68	0.68

Test Mounting Details

UUT-2 was rigidly mounted to the shake table using (6) 3/4" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-4

Test Report: PEI-PEER-PPP-123

Model Line	Model Number	Manufacturer
Fuel Day Tanks	DD-1000	Phoenix Products

Product Construction Summary

Welded ASTM A36 steel plates and structural steel C and L sections.

Options / Subcomponent Summary

1,000 gallon day tank with pump rack configuration.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
10,955	120.4	48.0	62.0	17.6	11.1	11.1

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.50	0.0	1.5	2.50	1.00	1.68	0.68
		-	-	-	-	-	-	-

Test Mounting Details

UUT-4 was rigidly mounted to the shake table using (8) 3/4" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-5

Test Report: DCL 22765-2301

Model Line	Model Number	Manufacturer
Day Tank Controller	24Q001A	ECC

Product Construction Summary

3/16" Polycarbonate control panel enclosure

Options / Subcomponent Summary

Controller: ECC; Triple Pump Rack: Phoenix Products

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
180 [Total Assembly]	24.0	30.6	38.3	23.0	23.5	22.5
60 [Control Panel Only]	20.0	17.0	27.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	6.25	0.0	1.5	6.25	2.50	4.17	1.67

Test Mounting Details

UUT-5 was vertical surface mounted with 4-1/2" Grade 5 threaded rod, nuts, flat washer, and McMaster-Carr 440K699 isolators. Manufacturer provided Triple Pump Rack was rigid mounted at the base using 4-3/4" Grade 5 bolts and flat washers.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-6

Test Report: DCL22765-2301

Model Line	Model Number	Manufacturer
Day Tank Controller	24Q001A	ECC

Product Construction Summary

3/16" Polycarbonate control panel enclosure

Options / Subcomponent Summary

Controller: ECC; Triple Pump Rack: Phoenix Products

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
180 [Total Assembly]	24.0	30.6	38.3	23.0	26.0	23.5
60 [Control Panel Only]	20.0	17.0	27.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information								
Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	6.25	0.0	1.5	6.25	2.50	4.17	1.67

Test Mounting Details

UUT-5 was vertical surface mounted with 4-1/2" Grade 5 threaded rod, nuts, flat washer, and McMaster-Carr 440K699 isolators. Manufacturer provided Triple Pump Rack was rigid mounted at the base using 4-3/4" Grade 5 bolts and flat washers.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.