



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

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

OFFICE USE ONLY

APPLICATION #: **OSP-0348-10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: The Reliable Automatic Sprinkler Co., Inc.

Manufacturer's Technical Representative: Paul A. Sasser

Mailing Address: 1470 Smith Grove Road, Liberty, SC 29657

Telephone: (864) 843-5216 Email: psasser@reliablesprinkler.com

Product Information

Product Name: Model DDX PrePAK Types D & F, Model DDX DryPAK

Product Type: Integrated Fire Protection Systems

Product Model Number: See I. Certified Product Table attached

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

General Description: Model DDX PrePAK Types D & F & Model DDX DryPAK valve systems are pre-action and dry pipe integrated fire protection systems, with an air compressor, air tank, valves and switches. They are enclosed, indoor floor-mounted units.

Mounting Description: Rigid floor mounted

Applicant Information

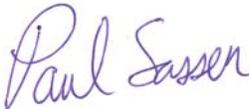
Applicant Company Name: The Reliable Automatic Sprinkler Co., Inc

Contact Person: Paul A. Sasser

Mailing Address: 1470 Smith Grove Road, Liberty, SC 29657

Telephone: (864) 843-5216 Email: psasser@reliablesprinkler.com

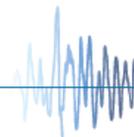
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: 

Date: 7/16/2013

Title: Vice President of Engineering Company Name: Reliable Automatic Sprinkler Co.

"Access to Safe. Quality Healthcare Environments that Meet California's Diverse and Dvnamic 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: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.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): _____

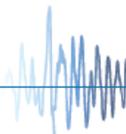
Testing Laboratory

Company Name: National Technical Systems

Contact Name: John Ngo

Mailing Address: 1701 East Plano Parkway Suite # 150, Plano, Texas 75074

Telephone: (972) 509-2566 Email: john.ngo@nts.com





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

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.88

S_{DS} (Design spectral response acceleration at short period, g) = 2.5

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

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, "I. Certified Product Table"

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

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

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (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, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): _____

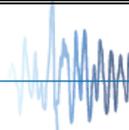
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature:  Date: 7/16/2013

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.5 z/h = 1.0

Condition of Approval (if applicable): _____



The Reliable Automatic Sprinkler Co., Inc. - Integrated Fire Protection Systems

ENCLOSURES

Model	Width	Depth	Height	Material	Weight	Test
DDX 2" - 3"	24.0 in	27.0 in	68.0 in	12 ga cold-formed carbon steel	480 lbs	
	DDX 2" Deluge Valve w/ DryPAK Interlock Preaction Trim					extrapolated
	DDX 2.5" Deluge Valve w/ DryPAK Interlock Preaction Trim					extrapolated
	DDX 3" Deluge Valve w/ DryPAK Interlock Preaction Trim					extrapolated
	DDX 2" Deluge Valve w/ Type D Dbl. Interlock Preaction Trim					UUT1
	DDX 2.5" Deluge Valve w/ Type D Dbl. Interlock Preaction Trim					interpolated
	DDX 3" Deluge Valve w/ Type D Dbl. Interlock Preaction Trim					interpolated
	DDX 2" Deluge Valve w/ Type F Dbl. Interlock Preaction Trim					interpolated
	DDX 2.5" Deluge Valve w/ Type F Dbl. Interlock Preaction Trim					interpolated
	DDX 3" Deluge Valve w/ Type F Dbl. Interlock Preaction Trim					interpolated
DDX 4" - 6"	25.7 in	28.9 in	68.0 in	12 ga cold-formed carbon steel	760 lbs	
	DDX 4" Deluge Valve w/ DryPAK Interlock Preaction Trim					extrapolated
	DDX 6" Deluge Valve w/ DryPAK Interlock Preaction Trim					extrapolated
	DDX 4" Deluge Valve w/ Type D Dbl. Interlock Preaction Trim					interpolated
	DDX 6" Deluge Valve w/ Type D Dbl. Interlock Preaction Trim					interpolated
	DDX 4" Deluge Valve w/ Type F Dbl. Interlock Preaction Trim					interpolated
	DDX 6" Deluge Valve w/ Type F Dbl. Interlock Preaction Trim					UUT2

INTERNAL COMPONENTS

Manufacturer	Model	Part No.	Test
Gast	1/6 hp Air Compressor + 2 gal Air Tank, 1HAB	6702001001	UUT1
Gast	1/3 hp Air Compressor + 2 gal Air Tank, 3HEB	6702001003	interpolated
Gast	3/4 hp Air Compressor, 5HCD	6702001005	interpolated
Gast	1.5 hp Air Compressor, 7HDD	6702001007	UUT2
Reliable	8 gal Air Tank	98023002	UUT2
Skinner	175 psi Solenoid Valve	6871020030	UUT1
Skinner	250 psi Solenoid Valve	6871020031	UUT2
Reliable	Model LP Pneumatic Actuator	71030010	UUT1
Reliable	Manual Solenoid Release	78653000	UUT1 & 2
Reliable	Water Control Valve	98840235	UUT1 & 2
Reliable	Alarm Line Valve	98840109	UUT1 & 2
System Sensor	System Pressure Switch	6999991340	UUT1 & 2
System Sensor	Nitrogen Pressure Switch	6999991340	UUT2
System Sensor	Alarm Pressure Switch	6999991212	UUT1 & 2
Reliable	Pressure Maintenance Device w/ Rapid-Fill	6304000100	UUT2
Reliable	B1 Accelerator Kit	6516000006	UUT2
Potter	Releasing/Control Panel, PFC-4410-RC	98020011	UUT1 & 2
Reliable	24 VCD Terminal Box	77000116	UUT1 & 2
Reliable	120/220 VAC Terminal Box	77000114	UUT1 & 2

OSP APPLICATION
 The Reliable Automatic Sprinkler Co., Inc. – Integrated Fire Protection Systems
 UUT Summary Sheets

FE 00100 UUT1

Model DDX 2" Type D PrePAK Preaction System
 24"W x 27"D x 68"H 12ga cold-formed carbon steel
 480 lbs
 Rigid Floor Mounted with (4) ½" bolts
 and seismic mounting kit



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2013	ICC-ES AC 156	2.50	1.0	4.0	3.0	1.67	0.67
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test.				
14.8	11.2	42.2					

UUT1 was full of content during the test.

Subcomponent	Manufacturer	Part No.
1/6 hp Air Compressor + 2 gal Air Tank, 1HAB	Gast	6702001001
175 psi Solenoid Valve	Skinner	6871020030
Model LP Pneumatic Actuator	Reliable	71030010
Manual Solenoid Release	Reliable	78653000
Water Control Valve	Reliable	98840235
Alarm Line Valve	Reliable	98840109
System Pressure Switch	System Sensor	6999991340
Alarm Pressure Switch	System Sensor	6999991212
Releasing/Control Panel, PFC-4410-RC	Potter	98020011
24 VCD Terminal Box	Reliable	77000116
120/220 VAC Terminal Box	Reliable	77000114

OSP APPLICATION
The Reliable Automatic Sprinkler Co., Inc. – Integrated Fire Protection Systems
UUT Summary Sheets

FE 00100 UUT2

Model DDX 6" Type F PrePAK Preaction System
25.7"W x 28.9"D x 68"H 12ga cold-formed carbon steel
760 lbs
Rigid Floor Mounted with (4) ½" bolts
and seismic mounting kit



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-H}
CBC 2013	ICC-ES AC 156	2.50	1.0	4.0	3.0	1.67	0.67
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test.				
9.6	8.1	29.9					

UUT2 was full of content during the test.

Subcomponent	Manufacturer	Part No.
1.5 hp Air Compressor, 7HDD	Gast	6702001007
8 gal Air Tank	Reliable	98023002
250 psi Solenoid Valve	Skinner	6871020031
Manual Solenoid Release	Reliable	78653000
Water Control Valve	Reliable	98840235
Alarm Line Valve	Reliable	98840109
System Pressure Switch	System Sensor	6999991340
Nitrogen Pressure Switch	System Sensor	6999991340
Alarm Pressure Switch	System Sensor	6999991212
Pressure Maintenance Device w/ Rapid-Fill	Reliable	6304000100
B1 Accelerator Kit	Reliable	6516000006
Releasing/Control Panel, PFC-4410-RC	Potter	98020011
24 VCD Terminal Box	Reliable	77000116
120/220 VAC Terminal Box	Reliable	77000114