



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0561**

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Nailor Industries, Inc.

Manufacturer's Technical Representative: John Carlile

Mailing Address: 4714 Winfield Road, Houston, TX 77039

Telephone: 281-590-1172 Email: [jcarlile@nailor.com](mailto:jcarlile@nailor.com)

**Product Information**

Product Name: Single Duct Terminal Units, Dual Duct Terminal Units, Fan Powered Terminal Units

Product Type: Variable or Constant Volume Terminal Unit, Fan Powered Terminal Units

Product Model Number: Single Duct Model 3000, 3001, 30; Dual Duct Model 3200; Fan Powered Model 33SZ, 35S, 35N, 37S; -  
Various sizes and options per certified tables  
(List all unique product identification numbers and/or part numbers)

General Description: VAV terminal units and Fan Powered terminal units (FPTU) with controller, damper, and coils.

Mounting Description: VAV are rigid suspended mounted. FPTU are spring isolated suspended mounted

**Applicant Information**

Applicant Company Name: Petra Seismic Design, LLC

Contact Person: Robert Simmons

Mailing Address: 14525 FM529, suite 205, Houston, TX 77095

Telephone: 281-656-1439 Email: [rsimmons@petraseismicdesign.com](mailto:rsimmons@petraseismicdesign.com)

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: February 13, 2020

Title: CEO Company Name: Petra Seismic Design, LLC

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic 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: Response Structural Engineering

Name: Todd Kemen California License Number: S5409

Mailing Address: 1455441 Fair Oaks BLVD Suite G2, Carmichael, CA 95608

Telephone: 916-680-9922 Email: [toddk@response-eng.com](mailto:toddk@response-eng.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 – strut supports and threaded rod

**Certification Method**

Testing in accordance with:  ICC-ES AC156

Other (Please Specify): OSP-0561

**Testing Laboratory**

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas, TX 75229

Telephone: 972-247-9657 Email: [Jeremy@etldallas.com](mailto:Jeremy@etldallas.com)

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 12/16/15)



**OSHPD**

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**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 ( $F_p/W_p$ ) = 1.50 (rigid VAV); 3.60 (Isolated FPTU)

$S_{DS}$  (Design spectral response acceleration at short period, g) = 2.00

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

$R_p$  (Equipment or component response modification factor) = 6.0 (rigid VAV); 2.5 (isolated FPTU)

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachments

Overall dimensions and weight (or range thereof) = See Attachments

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) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = BY: Timothy J. Piland

$C_d$  (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, 2015:  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 April 17, 2029**

Signature:  Date: April 17, 2023

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to:  $S_{DS}$  (g) = See Above  $z/h$  = See Above

Condition of Approval (if applicable): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_





**TABLE 1 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single Duct Terminal Units with Water coils/Electric heat and silencers

**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Heat/Cool (W, E, N) <sup>(2)</sup>	Silencer (I, Q, N) <sup>(3)</sup>	Sds (g), z/h = 1	UUT
		Length <sub>1,2 Coil(3,4)</sub>	Width	Height	Inlet						
Single Duct Terminal Units, Model 31RW With Coils	#31RW-4	28.5	10	8	3.875	4	34.5	W	N	2.5	13
	#31RW-5	26(28.5)	10	8	4.875	5	35	W	N		Interpolate
	#31RW-6	26(28.5)	10	8	5.875	6		W	N		Interpolate
	#31RW-7	26(28.5)	12	12.5	6.875	7	75	W	N		Interpolate
	#31RW-8	26(28.5)	12	12.5	7.875	8		W	N		Interpolate
	#31RW-9	26(28.5)	14	12.5	8.875	9		W	N		Interpolate
	#31RW-10	26(28.5)	14	12.5	9.875	10	89	W	N		Interpolate
	#31RW-12	26(28.5)	18	12.5	12.9375 x 9.0.8125	12		W	N		Interpolate
	#31RW-14	26(28.5)	24	12.5	16.0625 x 9.8125	14		W	N		Interpolate
	#31RW-16	28.5	28	18	19.1875 x 9.8125	16		W	N		14
#31RW-24	26(28.5)	38	18	23.875 x 15.875	24 x 16	155	W	N	Interpolate		
Single Duct Terminal Units, Model 30RW With Coils	#30RW-4	26(28.5)	10	10	3.875	4	35	W	N	2.5	Interpolate
	#30RW-5	26(28.5)	10	10	4.875	5		W	N		Interpolate
	#30RW-6	26(28.5)	10	10	5.875	6		W	N		Interpolate
	#30RW-7	26(28.5)	12	12.5	6.875	7	75	W	N		Interpolate
	#30RW-8	26(28.5)	12	12.5	7.875	8		W	N		Interpolate
	#30RW-9	26(28.5)	14	12.5	8.875	9		W	N		Interpolate
	#30RW-10	26(28.5)	14	12.5	9.875	10	89	W	N		Interpolate
	#30RW-12	26(28.5)	18	12.5	12.9375 x 9.0.8125	12		W	N		Interpolate
	#30RW-14	26(28.5)	24	12.5	16.0625 x 9.8125	14		W	N		Interpolate
	#30RW-16	26(28.5)	28	12.5	19.1875 x 9.8125	16		W	N		Interpolate
#30RW-24	28.5	38	18	23.875 x 15.875	24 x 16	155	W	N	Interpolate		
Single Duct Terminal Units, Model 30RW With Integral Attenuator & Coils	#30RW-4-I	62(64.5)	10	10	3.875	4	42	W	I	2.5	Interpolate
	#30RW-5-I	62(64.5)	10	10	4.875	5		W	I		Interpolate
	#30RW-6-I	62(64.5)	10	10	5.875	6		W	I		Interpolate
	#30RW-7-I	62(64.5)	12	12.5	6.875	7	82	W	I		Interpolate
	#30RW-8-I	62(64.5)	12	12.5	7.875	8		W	I		Interpolate
	#30RW-9-I	62(64.5)	14	12.5	8.875	9		W	I		Interpolate
	#30RW-10-I	64.5	14	12.5	9.875	10	122	W	I		1
	#30RW-12-I	62(64.5)	18	12.5	12.9375 x 9.0.8125	12		W	I		Interpolate
	#30RW-14-I	62(64.5)	24	12.5	16.0625 x 9.8125	14		W	I		Interpolate
	#30RW-16-I	64.5	28	12.5	19.1875 x 9.8125	16		W	I		2
#30RW-24-I	64.5	38	18	23.875 x 15.875	24 x 16	167	W	I	3		
Single Duct Terminal Units, Model 31RW With Integral Attenuator & Coils	#31RW-4-I	62(64.5)	10	10	3.875	4	42	W	I	2.5	Interpolate
	#31RW-5-I	62(64.5)	10	10	4.875	5		W	I		Interpolate
	#31RW-6-I	62(64.5)	10	10	5.875	6		W	I		Interpolate
	#31RW-7-I	62(64.5)	12	12.5	6.875	7	82	W	I		Interpolate
	#31RW-8-I	62(64.5)	12	12.5	7.875	8		W	I		Interpolate
	#31RW-9-I	62(64.5)	14	12.5	8.875	9		W	I		Interpolate
	#31RW-10-I	62(64.5)	14	12.5	9.875	10	122	W	I		Interpolate
	#31RW-12-I	62(64.5)	18	12.5	12.9375 x 9.0.8125	12		W	I		Interpolate
	#31RW-14-I	62(64.5)	24	12.5	16.0625 x 9.8125	14		W	I		Interpolate
	#31RW-16-I	62(64.5)	28	12.5	19.1875 x 9.8125	16		W	I		Interpolate
#31RW-24-I	62(64.5)	38	18	23.875 x 15.875	24 x 16	167	W	I	Interpolate		

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil, E=Electric heat, N=No heat or cool
  - (3) I=Integral Silencer, Q=Silencer/Attenuator option added
  - (4) Supports are mounted so that Length to width ratio is no less than 1.5. See Page 34 of 35



**TABLE 1 - CERTIFIED PRODUCT CONT'D**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single Duct Terminal Units with Water coils/Electric heat and silencers

**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Heat/Cool (W, E, N) <sup>(2)</sup>	Silencer (I, Q, N) <sup>(3)</sup>	Sds (g), z/h = 1	UUT
		Length	Width	Height	Inlet						
Single Duct Terminal Units, Model: 30RE	#30RE-4	36.5	10	10	3.875	4	35	E	N	2.5	Interpolate
	#30RE-5		10	10	4.875	5		E	N		Interpolate
	#30RE-6		10	10	5.875	6		E	N		Interpolate
	#30RE-7		12	12.5	6.875	7	71	E	N		Interpolate
	#30RE-8		12	12.5	7.875	8		E	N		Interpolate
	#30RE-9		14	12.5	8.875	9		E	N		Interpolate
	#30RE-10		14	12.5	9.875	10	98	E	N		4
	#30RE-12		18	12.5	12.9375 x 9.0.8125	12		E	N		Interpolate
	#30RE-14		24	12.5	16.0625 x 9.8125	14		E	N		Interpolate
	#30RE-16		28	12.5	19.1875 x 9.8125	16		E	N		5
#30RE-24	38	18	23.875 x 15.875	24 x 16	145	E	N	6			
Single Duct Terminal Units, Model: 30RE With Integrated Silencer	#30RE-4-I	36.5	10	10	3.875	4	48	E	I	2.5	Interpolate
	#30RE-5-I		10	10	4.875	5		E	I		Interpolate
	#30RE-6-I		10	10	5.875	6		E	I		Interpolate
	#30RE-7-I		12	12.5	6.875	7	97	E	I		Interpolate
	#30RE-8-I		12	12.5	7.875	8		E	I		Interpolate
	#30RE-9-I		14	12.5	8.875	9		E	I		Interpolate
	#30RE-10-I		14	12.5	9.875	10	136	E	I		Interpolate
	#30RE-12-I		18	12.5	12.9375 x 9.0.8125	12		E	I		Interpolate
	#30RE-14-I		24	12.5	16.0625 x 9.8125	14		E	I		Interpolate
	#30RE-16-I		28	12.5	19.1875 x 9.8125	16		E	I		Interpolate
#30RE-24-I	38	18	23.875 x 15.875	24 x 16	166	E	I	Interpolate			
Single Duct Terminal Units, Model: 31RE	#31RE-4	36.5	10	10	3.875	4	35	E	N	2.5	Interpolate
	#31RE-5		10	10	4.875	5		E	N		Interpolate
	#31RE-6		10	10	5.875	6		E	N		Interpolate
	#31RE-7		12	12.5	6.875	7	71	E	N		Interpolate
	#31RE-8		12	12.5	7.875	8		E	N		Interpolate
	#31RE-9		14	12.5	8.875	9		E	N		Interpolate
	#31RE-10		14	12.5	9.875	10	98	E	N		Interpolate
	#31RE-12		18	12.5	12.9375 x 9.0.8125	12		E	N		Interpolate
	#31RE-14		24	12.5	16.0625 x 9.8125	14		E	N		Interpolate
	#31RE-16		28	12.5	19.1875 x 9.8125	16		E	N		Interpolate
#31RE-24	38	18	23.875 x 15.875	24 x 16	145	E	N	Interpolate			
Single Duct Terminal Units, Model: 31RE With Integrated Silencer	#31RE-4-I	36.5	10	10	3.875	4	48	E	I	2.5	Interpolate
	#31RE-5-I		10	10	4.875	5		E	I		Interpolate
	#31RE-6-I		10	10	5.875	6		E	I		Interpolate
	#31RE-7-I		12	12.5	6.875	7	97	E	I		Interpolate
	#31RE-8-I		12	12.5	7.875	8		E	I		Interpolate
	#31RE-9-I		14	12.5	8.875	9		E	I		Interpolate
	#31RE-10-I		14	12.5	9.875	10	136	E	I		Interpolate
	#31RE-12-I		18	12.5	12.9375 x 9.0.8125	12		E	I		Interpolate
	#31RE-14-I		24	12.5	16.0625 x 9.8125	14		E	I		Interpolate
	#31RE-16-I		28	12.5	19.1875 x 9.8125	16		E	I		Interpolate
#31RE-24-I	38	18	23.875 x 15.875	24 x 16	166	E	I	Interpolate			

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil, E=Electric heat, N=No heat or cool
  - (3) I=Integral Silencer, Q=Silencer/Attenuator option added
  - (4) Supports are mounted so that Length to width ratio is no less than 1.5. See Page 34 of 35

**TABLE 1 - CERTIFIED PRODUCT CONT'D**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single Duct Terminal Units with Water coils/Electric heat and silencer

**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Heat/Cool (W, E, N) <sup>(2)</sup>	Silencer (I, Q, N) <sup>(3)</sup>	Sds (g), z/h = 1	UUT	
		Length <sub>1,2 Coil(3,4)</sub>	Width	Height	Inlet							
Single Duct Terminal Units, Model: 30RWQ, 30HQW RWQ=Silencer/coil HQW=Hospital grade silencer/coil	#30RWQ/HQW-4	74(76.5)	10	10	3.875	4	71	W	Q	2.5	Interpolate	
	#30RWQ/HQW-5		10	10	4.875	5		W	Q		Interpolate	
	#30RWQ/HQW-6		10	10	5.875	6		W	Q		Interpolate	
	#30RWQ/HQW-7		12	12.5	6.875	7		W	Q		Interpolate	
	#30RWQ/HQW-8		12	12.5	7.875	8		W	Q		Interpolate	
	#30RWQ/HQW-9		14	12.5	8.875	9		W	Q		Interpolate	
	#30RWQ/HQW-10	76.5	14	12.5	9.875	10	104	W	Q		7	
	#30RWQ/HQW-12	74(76.5)	18	12.5	12.9375 x 9.0.8125	12	151	W	Q		Interpolate	
	#30RWQ/HQW-14		24	12.5	16.0625 x 9.8125	14		W	Q		Interpolate	
	#30RWQ/HQW-16		28	12.5	19.1875 x 9.8125	16		W	Q		8	
	#30RWQ/HQW-24	76.5	38	18	23.875 x 15.875	24 x 16	213	W	Q		9	
	Single Duct Terminal Units, Model: 30REQ, 30HQE REQ=Silencer/Electric heat HQE=Hospital grade silencer/electric heat	#30REQ/HQE-4	84.5	10	10	3.875	4	70	W		Q	2.5
#30REQ/HQE-5		10		10	4.875	5	W		Q	Interpolate		
#30REQ/HQE-6		10		10	5.875	6	W		Q	Interpolate		
#30REQ/HQE-7		12		12.5	6.875	7	W		Q	Interpolate		
#30REQ/HQE-8		12		12.5	7.875	8	103		W	Q	Interpolate	
#30REQ/HQE-9		14		12.5	8.875	9	W		Q	Interpolate		
#30REQ/HQE-10		14		12.5	9.875	10	97	W	Q	10		
#30REQ/HQE-12		18		12.5	12.9375 x 9.0.8125	12	136	W	Q	Interpolate		
#30REQ/HQE-14		24		12.5	16.0625 x 9.8125	14		W	Q	Interpolate		
#30REQ/HQE-16		28		12.5	19.1875 x 9.8125	16		136	W	Q	11	
#30REQ/HQE-24		38		18	23.875 x 15.875	24 x 16	164	164	W	Q	12	
Single Duct Terminal Units, Model: 31RWQ, 31HQW RWQ=Silencer/coil HQW=Hospital grade silencer/coil		#31RWQ/HQW-4		74(76.5)	10	10	3.875	4	71	W	Q	
	#31RWQ/HQW-5	10	10		4.875	5	W	Q		Interpolate		
	#31RWQ/HQW-6	10	10		5.875	6	W	Q		Interpolate		
	#31RWQ/HQW-7	12	12.5		6.875	7	W	Q		Interpolate		
	#31RWQ/HQW-8	12	12.5		7.875	8	103	W		Q	Interpolate	
	#31RWQ/HQW-9	14	12.5		8.875	9	W	Q		Interpolate		
	#31RWQ/HQW-10	14	12.5		9.875	10	103	W	Q	Interpolate		
	#31RWQ/HQW-12	18	12.5		12.9375 x 9.0.8125	12	151	W	Q	Interpolate		
	#31RWQ/HQW-14	24	12.5		16.0625 x 9.8125	14		W	Q	Interpolate		
	#31RWQ/HQW-16	28	12.5		19.1875 x 9.8125	16		W	Q	Interpolate		
	#31RWQ/HQW-24	38	18		23.875 x 15.875	24 x 16	213	213	W	Q	Interpolate	
	Single Duct Terminal Units, Model: 31REQ, 31HQE REQ=Silencer/Electric heat HQE=Hospital grade silencer/electric heat	#31REQ/HQE-4	84.5		10	10	3.875	4	70	W	Q	2.5
#31REQ/HQE-5		10		10	4.875	5	W	Q		Interpolate		
#31REQ/HQE-6		10		10	5.875	6	W	Q		Interpolate		
#31REQ/HQE-7		12		12.5	6.875	7	W	Q		Interpolate		
#31REQ/HQE-8		12		12.5	7.875	8	103	W		Q	Interpolate	
#31REQ/HQE-9		14		12.5	8.875	9	W	Q		Interpolate		
#31REQ/HQE-10		14		12.5	9.875	10	103	W	Q	Interpolate		
#31REQ/HQE-12		18		12.5	12.9375 x 9.0.8125	12	136	W	Q	Interpolate		
#31REQ/HQE-14		24		12.5	16.0625 x 9.8125	14		W	Q	Interpolate		
#31REQ/HQE-16		28		12.5	19.1875 x 9.8125	16		W	Q	Interpolate		
#31REQ/HQE-24		38		18	23.875 x 15.875	24 x 16	164	164	W	Q	Interpolate	

Notes: (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic  
(2) W=Water Coil, E=Electric heat, N=No heat or cool  
(3) I=Integral Silencer, Q=Silencer/Attenuator option added  
(4) Supports are mounted so that Length to width ratio is no less than 1.5. See Page 34 of 35



**TABLE 1 - CERTIFIED PRODUCT CONT**

**Manufacturer :** Nailor Industries  
**Product Family :** 3001/3101 VAV Single Duct Terminal Units  
**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet  
**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Heat/Cool (W, E, N) <sup>(2)</sup>	Silencer (I, Q, N) <sup>(3)</sup>	Sds (g), z/h = 1	UUT
		Length	Width	Height	Inlet						
Single Duct VAV Terminal Units, Model: 3001	#3001-4	21	10	10	3.875	4	34	N	N	2.5	Interpolate
	#3001-5	21	10	10	4.875	5		N	N		Interpolate
	#3001-6	21	10	10	5.875	6		N	N		Interpolate
	#3001-7	21	12	12.5	6.875	7	40	N	N		Interpolate
	#3001-8	21	12	12.5	7.875	8		N	N		Interpolate
	#3001-9	21	14	12.5	8.875	9	70	N	N		Interpolate
	#3001-10	21	14	12.5	9.875	10		N	N		Interpolate-4
	#3001-12	21	18	12.5	12.9375 x 9.0.8125	12	75	N	N		Interpolate
	#3001-14	21	24	12.5	16.0625 x 9.8125	14		N	N		Interpolate
	#3001-16	21	28	12.5	19.1875 x 9.8125	16	98	N	N		Interpolate-5
#3001-24	21	38	18	23.875 x 15.875	24 x 16	126		N	N	Interpolate-6	
Single Duct VAV Terminal Units, Model: 3001 With Integral Attenuator	#3001-4-I	57	10	10	3.875	4	69	N	I	2.5	Interpolate-21
	#3001-5-I	57	10	10	4.875	5		N	I		Interpolate
	#3001-6-I	57	10	10	5.875	6		N	I		Interpolate
	#3001-7-I	57	12	12.5	6.875	7	80	N	I		Interpolate
	#3001-8-I	57	12	12.5	7.875	8		N	I		Interpolate
	#3001-9-I	57	14	12.5	8.875	9	82	N	I		Interpolate
	#3001-10-I	57	14	12.5	9.875	10		N	I		Interpolate-1
	#3001-12-I	57	18	12.5	12.9375 x 9.0.8125	12	110	N	I		Interpolate
	#3001-14	57	24	12.5	16.0625 x 9.8125	14		117	N		I
	#3001-16-I	57	28	12.5	19.1875 x 9.8125	16	122	N	I		Interpolate-2
#3001-24-I	57	38	18	23.875 x 15.875	24 x 16	167		N	I	Interpolate-3	
Single Duct VAV Terminal Units, Model: 3001Q(HQ) With Added Dissipative Silencer Q=Silencer HQ=Hospital grade silencer	#3001Q(HQ)-4	57	10	10	3.875	4	71	N	Q	2.5	Interpolate-21
	#3001Q(HQ)-5	57	10	10	4.875	5		N	Q		Interpolate
	#3001Q(HQ)-6	57	10	10	5.875	6		N	Q		Interpolate
	#3001Q(HQ)-7	57	12	12.5	6.875	7	100	N	Q		Interpolate
	#3001Q(HQ)-8	57	12	12.5	7.875	8		N	Q		Interpolate
	#3001Q(HQ)-9	57	14	12.5	8.875	9	100	N	Q		Interpolate
	#3001Q(HQ)-10	57	14	12.5	9.875	10		N	Q		Interpolate-7
	#3001Q(HQ)-12	57	18	12.5	12.9375 x 9.0.8125	12	148	N	Q		Interpolate
	#3001Q(HQ)-14	57	24	12.5	16.0625 x 9.8125	14		N	Q		Interpolate
	#3001Q(HQ)-16	57	28	12.5	19.1875 x 9.8125	16	164	N	Q		Interpolate-8
#3001Q(HQ)-24	57	38	18	23.875 x 15.875	24 x 16	164		N	Q	Interpolate-12	
Single Duct VAV Terminal Units, Model: 3101	#3101-4	21	10	10	3.875	4	65	N	N	2.5	Interpolate-13
	#3101-5	21	10	10	4.875	5		N	N		Interpolate
	#3101-6	21	10	10	5.875	6		N	N		Interpolate
	#3101-7	21	12	12.5	6.875	7	65	N	N		Interpolate
	#3101-8	21	12	12.5	7.875	8		N	N		Interpolate
	#3101-9	21	14	12.5	8.875	9	65	N	N		Interpolate
	#3101-10	21	14	12.5	9.875	10		N	N		Interpolate-4
	#3101-12	21	18	12.5	12.9375 x 9.0.8125	12	98	N	N		Interpolate
	#3101-14	21	24	12.5	16.0625 x 9.8125	14		N	N		Interpolate
	#3101-16	21	28	12.5	19.1875 x 9.8125	16	98	N	N		Interpolate-5
#3101-24	21	38	18	23.875 x 15.875	24 x 16	126		N	N	Interpolate-6	
Single Duct VAV Terminal Units, Model: 3101 With Integral Attenuator	#3101-4-I	57	10	10	3.875	4	71	N	I	2.5	Interpolate-21
	#3101-5-I	57	10	10	4.875	5		N	I		Interpolate
	#3101-6-I	57	10	10	5.875	6		N	I		Interpolate
	#3101-7-I	57	12	12.5	6.875	7	82	N	I		Interpolate
	#3101-8-I	57	12	12.5	7.875	8		N	I		Interpolate
	#3101-9-I	57	14	12.5	8.875	9	82	N	I		Interpolate
	#3101-10-I	57	14	12.5	9.875	10		N	I		Interpolate-1
	#3101-12-I	57	18	12.5	12.9375 x 9.0.8125	12	122	N	I		Interpolate
	#3101-14-I	57	24	12.5	16.0625 x 9.8125	14		N	I		Interpolate
	#3101-16-I	57	28	12.5	19.1875 x 9.8125	16	122	N	I		Interpolate-2
#3101-24-I	57	38	18	23.875 x 15.875	24 x 16	167		N	I	Interpolate-3	

**Notes:** (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic  
(2) W=Water Coil, E=Electric heat, N=No heat or cool  
(3) I=Integral Silencer, Q=Silencer/Attenuator option added  
(4) Supports are mounted so that Length to width ratio is no less than 1.5. See Page 34 of 35  
(5) All the Basic Unit sizes without heating or cooling are extrapolated from same model units tested with heating and cooling.  
(6) The VAV box of the tested models 30 & 31 and interpolated model 3001 & 3101 units are identical. Tested units (30RE, 30RW) are heavier than the interpolated unit (D3001, 3101) due to the weight of the electric heater or coils added to tested unit discharge.

**TABLE 2 - CERTIFIED PRODUCT**

**Product Family :** VAV Single Duct Terminal Units - EXHAUST

**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Heat/Cool (W, E, N) <sup>(2)</sup>	Silencer (I, Q, N) <sup>(3)</sup>	Sds (g), z/h = 1	UUT
		Length	Width	Height	Inlet						
Single Duct Terminal Units, Model : 3000 EXHAUST	#30X-4	30	10	10	equals WxH	4	65	N	N	2.5	Extrapolate <sup>5</sup> From UUT21 AND UUT22
	#30X-5		10	10	equals WxH	5		N	N		
	#30X-6		10	10	equals WxH	6		N	N		
	#30X-7		12	12.5	equals WxH	7	75	N	N		
	#30X-8		12	12.5	equals WxH	8		N	N		
	#30X-9		14	12.5	equals WxH	9	80	N	N		
	#30X-10		14	12.5	equals WxH	10		N	N		
	#30X-12		18	12.5	equals WxH	12	91	N	N		
	#30X-14		24	12.5	equals WxH	14	109	N	N		
	#30X-16		28	12.5	equals WxH	16	121	N	N		
	#30X-24	38	18	equals WxH	24 x 16	155	N	N			
	#30HQX-4	66	10	10	equals WxH	4	71	N	Q	2.5	21
	#30HQX-5		10	10	equals WxH	5		N	Q		Interpolate
	#30HQX-6		10	10	equals WxH	6		N	Q		Interpolate
	#30HQX-7		12	12.5	equals WxH	7	83	N	Q		Interpolate
	#30HQX-8		12	12.5	equals WxH	8		N	Q		Interpolate
	#30HQX-9		14	12.5	equals WxH	9	90	N	Q		Interpolate
	#30HQX-10		14	12.5	equals WxH	10		N	Q		Interpolate
	#30HQX-12		18	12.5	equals WxH	12	105	N	Q		Interpolate
	#30HQX-14		24	12.5	equals WxH	14	130	N	Q		Interpolate
	#30HQX-16		28	12.5	equals WxH	16	140	N	Q		Interpolate
	#30HQX-24		38	18	equals WxH	24 x 16	188.5	N	Q		22

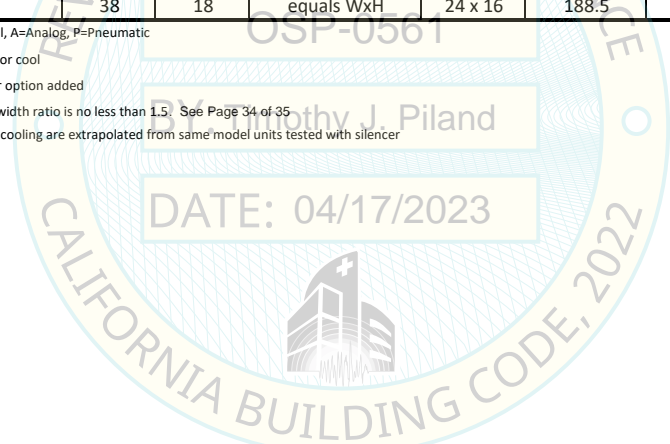
Notes: (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic

(2) W=Water Coil, E=Electric heat, N=No heat or cool

(3) I=Integral Silencer, Q=Silencer/Attenuator option added

(4) Supports are mounted so that Length to width ratio is no less than 1.5. See Page 34 of 35

(5) All the basic unit sizes without heating or cooling are extrapolated from same model units tested with silencer





**TABLE 3 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV DUEL Duct Terminal Units

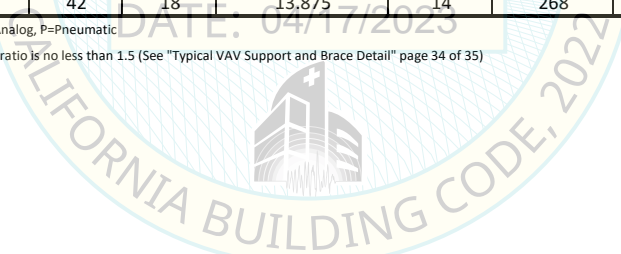
**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(2)</sup>

Product Family	Nailor Model Number <sup>(1)</sup>	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Mixing (Y/N)	Attenuator (Y/N)	Sds (g), z/h = 1	UUT
		Length	Width	Height	Inlet						
Dual Duct Terminal Units, Standard Model: 3200	#3210-4	21	21	10	3.875	4	70	N	N	2.5	EXTRAPOLATE
	#3210-5		21	10	4.875	5		N	N		
	#3210-6		21	10	5.875	6		N	N		
	#3210-7		25	12.5	6.875	7		N	N		
	#3210-8		25	12.5	7.875	8		N	N		
	#3210-9		29	12.5	8.875	9		N	N		
	#3210-10		29	12.5	9.875	10	N	N			
	#3210-12		37	12.5	12.875 x 9.8125	12	99	N	N		INTERPOLATE
	#3210-14		49	12.5	16.0625 x 9.8125	14		N	N		
#3210-16	57	12.5	19.1875 x 9.8125	16	N	N					
Dual Duct Terminal Units, Model: 3200 With Compact Integral mixing Attenuator	#3230-4	24	24	10	3.875	4	69.5	Y	Y	2.5	17
	#3230-5	24-28	24	10	4.875	5	70	Y	Y		INTERPOLATE
	#3230-6		24	10	5.875	6		Y	Y		
	#3230-7		24	12.5	6.875	7		Y	Y		
	#3230-8		24	12.5	7.875	8		Y	Y		
	#3230-9		34	14	8.875	9		Y	Y		
	#3230-10		34	14	9.875	10		Y	Y		
	#3230-12	34	16	11.875	12	99	Y	Y	INTERPOLATE		
	#3230-14	42	18	13.875	14		Y	Y			
#3230-16	42	18	15.875	16	Y		Y				
#3230-16	38	42	18	15.875	16	159	Y	Y	18		
Dual Duct Terminal Units, Model: 3200 With High Efficiency Mixing Attenuator	#3240-4	47	24	10	3.875	4	108	Y	Y	2.5	19
	#3240-5	42-72	24	10	4.875	5	70	Y	Y		INTERPOLATE
	#3240-6		24	10	5.875	6		Y	Y		
	#3240-7		24	12.5	6.875	7		Y	Y		
	#3240-8		24	12.5	7.875	8		Y	Y		
	#3240-9		34	14	8.875	9		Y	Y		
	#3240-10		34	14	9.875	10		Y	Y		
	#3240-12	34	16	11.875	12	99	Y	Y	INTERPOLATE		
#3240-14	72	42	18	13.875	14		268	Y		Y	

Notes: (1) "H" indicates the controller type. D=Digital, A=Analog, P=Pneumatic

(2) Supports are mounted so that Length to width ratio is no less than 1.5 (See "Typical VAV Support and Brace Detail" page 34 of 35)



**TABLE 4 - CERTIFIED SUBCOMPONENT**

**Product Family :** VAV Single Duct Terminal Units

**Certified Subcomponent :** Water Coils

**Certified Product Construction :** Galvanized steel case, Aluminum Sine wave fin material 0.0045" @ 10 fpi, copper header and 1/2" copper tubing(.016" wall)

Product Family	Unit Size	DIMENSIONS, (in)				UUT	Sds (g), z/h = 1	Coil Weight (lbs)
		Length	Width	Height	Manufacturer			
30RW, 31RW 1 & 2 Row Coils	4	5	10	10	Great American Coil	13	2.5	7.05
	5	5	10	10		Interpolate		7.05
	6	5	10	10		Interpolate		7.05
	7	5	12	12 1/2		Interpolate		8.15
	8	5	12	12 1/2		Interpolate		8.15
	9	5	14	12 1/2		Interpolate		8.55
	10	5	14	12 1/2		1		8.55
	12	5	18	12 1/2		Interpolate		13.58
	14	5	24	12 1/2		Interpolate		18.26
	16	5	28	12 1/2		2		20.65
24X16	5	38	18	3	27.99			
30RW, 31RW 3 & 4 Row Coils	4	7 1/2	10	10	Great American Coil	Interpolate	2.5	11.64
	5	7 1/2	10	10		Interpolate		11.64
	6	7 1/2	10	10		Interpolate		11.64
	7	7 1/2	12	12 1/2		Interpolate		14.8
	8	7 1/2	12	12 1/2		Interpolate		14.8
	9	7 1/2	14	12 1/2		Interpolate		13.51
	10	7 1/2	14	12 1/2		7		13.51
	12	7 1/2	18	12 1/2		Interpolate		22.47
	14	7 1/2	24	12 1/2		Interpolate		30.87
	16	7 1/2	28	12 1/2		8		33.46
24 x 16	7 1/2	38	18	9, 14	50.96			

**TABLE 5 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single and Duel Duct Terminal Units

**Certified Subcomponent :** Insulation

Product Family	UUT	Sds (g), z/h = 1
Steri-Liner	Interpolate	2.5
Steri-liner with perforated metal	7, 9, 10, 11, 12	
Steri-liner with Solid metal	1, 2, 3, 8	
Fiber-Free Liner	Interpolate	
Duct board with perforated metal	Interpolate	
Fiber Glass Liner	Inyerpolate	

**TABLE 6 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** KMC

**Product Family :** VAV Single & Duel Duct Terminal Units

**Certified Subcomponent: Controllers**

**Certified Mounting Description :** Side Mounted

Product Family	Nailor Model Number	DIMENSIONS, (in)				Unit Size	Max Weight, (lb)	Voltage	Sds (g), z/h = 1	UUT
		Length	Width	Height	Inlet					
Single & Duel Duct Terminal Unit Controls	KMC-MCP-3631 Pneumatic	14	6	11	4,5,6,7,8,9,10,12, 14,16,24x16	4,5,6,7,8,9, 10,12,14, 16,24	5	N/A	2.5	1, 2, 3
	KMC-MEP-4000, Analog Electronic	14	6	11	4,5,6,7,8,9,10,12, 14,16,24x16	4,5,6,7,8,9, 10,12,14, 16,24	5	24	2.5	10, 11, 12
	KMC - Digital Electronic	14.5	5.75	6.5	4,5,6,7,8,9,10,12, 14,16,24x16	4,5,6,7,8,9, 10,12,14, 16,24	5	24	2.5	4 TO 9, 13 TO 22

Notes: KMC controllers listed above used on the tested units. All controllers are less than 4pounds and less than 10amps

**TABLE 7 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single Duct Terminal Units

**Certified SUBCOMPONENT :** SILENCERS

**Certified Construction :** 20ga galvanized steel

**Certified Mounting Description :** Slip and Drive mounted to end of box

Product Family	Nailor Model Number	Length	Unit Size	Sds (g), z/h = 1	UUT
Single Duct Terminal Unit Attenuator/ Silencer Sections	30HQ	48"	4, 10, 16, 24	2.5	7, 8, 9
Single Duct Terminal Unit Attenuator/ Silencer Sections	30Q	48"	10, 16, 24	2.5	10, 11, 12
Single Duct Terminal Unit Attenuator/ Silencer Sections	AT303/AT305	48"	4, 16	2.5	21, 22

**TABLE 8 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single & Dual Duct Terminal Units

**Certified Subcomponent :** Dampers

**Certified Subcomponent Construction :** 16Ga galvanized sheet metal casing. Blades are either 16Ga galvanized steel or 6063-T6 aluminum extrusion.

Damper	Unit Size	DIMENSIONS, (in)				Sds (g), z/h = 1	UUT
		Height	Width	W1	Diameter		
Circular Dampers	4	N/A	N/A	N/A	3.875	2.5	13
	5	N/A	N/A	N/A	4.875		
	6	N/A	N/A	N/A	5.875		
	7	N/A	N/A	N/A	6.875		
	8	N/A	N/A	N/A	7.875		
	9	N/A	N/A	N/A	8.875		
	10	N/A	N/A	N/A	9.875		
	12	N/A	N/A	N/A	11.875		
	14	N/A	N/A	N/A	13.875		
	16	N/A	N/A	N/A	15.875	14	
Opposed Blade Dampers, Double Blade	4	8.75	8.187	7.063	N/A	2.5	17, 18, 21
	5	8.75	8.187	7.063	N/A		Interpolate
	6	8.75	8.187	7.063	N/A		
	7	10.75	10.187	9.063	N/A		
	8	10.75	10.187	9.063	N/A		
	9	10.75	12.187	11.063	N/A		
	10	10.75	12.187	11.063	N/A		
	12	10.75	16.187	15.063	N/A		
	14	10.75	26.187	25.063	N/A		
	16	10.75	26.187	25.063	N/A		
	24X16	15	24.9375	N/A	N/A	1, 4, 7, 10, 15	
						Interpolate	
						20	
						2, 5, 8, 11, 16, 18	
						22	
Triple	24 x 16	15	24.9375	N/A	N/A	3, 6, 9, 12	

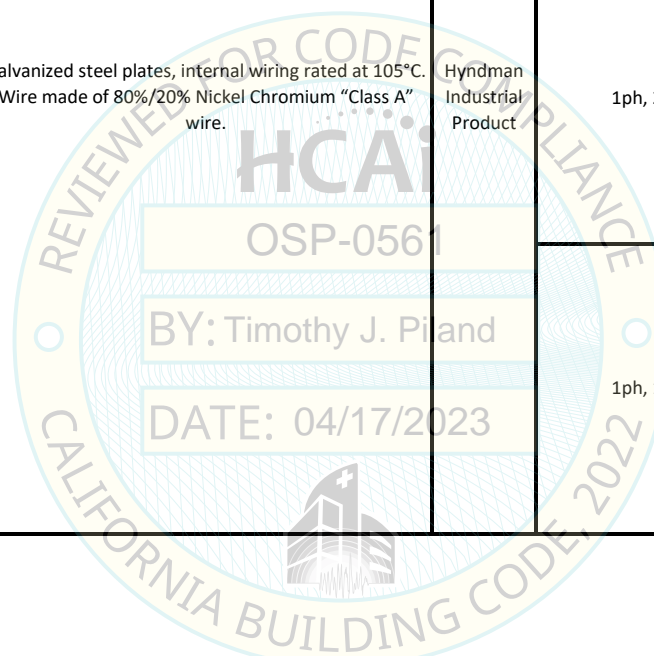
**TABLE 9 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single Duct Terminal Units

**Certified Subcomponent :** Electric Heat, Heater Element Wires

Product Family	Unit size	Wire Construction Wire Construction Details	Wire MFG.	Voltage	KW output	UUT
30RE, 30REQ, 30HQE MAX Kw, Electric Heat, 480V/3PHASE	4	Galvanized steel plates, internal wiring rated at 105°C. Wire made of 80%/20% Nickel Chromium "Class A" wire.	Hyndman Industrial Product	3Ph, 480V	3	Interpolate
	5				5	Interpolate
	6				7.5	Interpolate
	7				9.5	Interpolate
	8				13	Interpolate
	9				16	Interpolate
	10				21	10
	12				30	Interpolate
	14				31	Interpolate
	16				31	11
	24 x 16				31	12
30RE, 30REQ, 30HQE MAX kW, Electric Heat, 120V/1PHASE	4	Galvanized steel plates, internal wiring rated at 105°C. Wire made of 80%/20% Nickel Chromium "Class A" wire.	Hyndman Industrial Product	1ph, 277V	0.5	Interpolate
	5				0.5	Interpolate
	6				0.5	Interpolate
	7				0.5	Interpolate
	8				0.5	Interpolate
	9				0.5	Interpolate
	10				0.5	4
	12				0.5	Interpolate
	14				0.5	Interpolate
	16				0.5	5
	24 x 16				0.5	6
30RE, 30REQ, 30HQE MAX kW, Electric Heat, 120V/1PHASE	4	Galvanized steel plates, internal wiring rated at 105°C. Wire made of 80%/20% Nickel Chromium "Class A" wire.	Hyndman Industrial Product	1ph, 120V	3	Interpolate
	5				5	Interpolate
	6				5.5	Interpolate
	7				5.5	Interpolate
	8				5.5	Interpolate
	9				5.5	Interpolate
	10				5.5	Interpolate
	12				5.5	Interpolate
	14				5.5	Interpolate
	16				5.5	Interpolate
	24 x 16				5.5	Interpolate



**TABLE 10 - NOT USED**

**TABLE 11 - CERTIFIED SUBCOMPONENT**

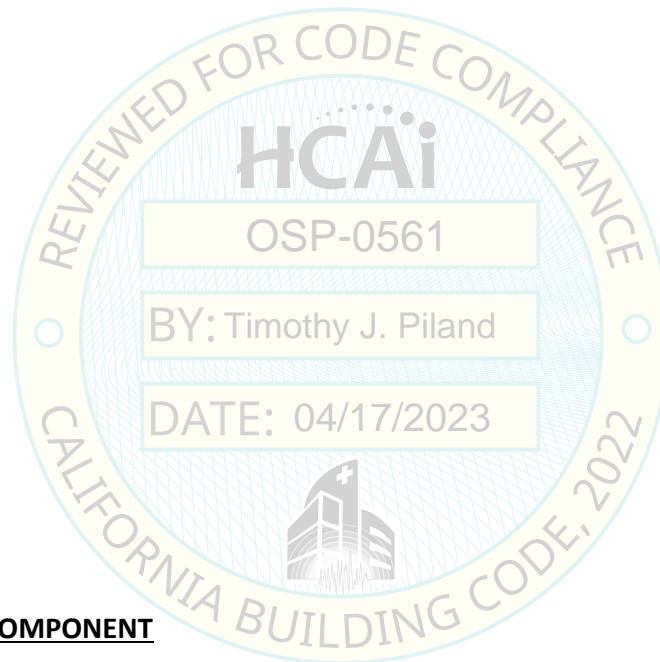
**Manufacturer :** Nailor Industries

**Product Family :** VAV Single & Duel Duct Terminal Units

**Certified Subcomponent :** Disconnect

Controls	Type	Model	Voltage	Amp	Manufacturer	UUT	Sds (g), z/h = 1
Non-Fusible, 3 poles	90deg	OT40FT3	600	40	ABB Control Inc	10	2.5
Non-Fusible, 3 poles	Flat	OT63F3/B	600	60	ABB Control Inc	11,12	2.5
Non-Fusible, 1 pole	Flat	OC25G01PN BN00NB1	600	25	ABB Control Inc	Interpolate	2.5
Non-Fusible, 3 poles	Flat	OT25F3/B	600	25	ABB Control Inc	4,5,6	2.5
Non-Fusible, 3 poles	Flat	OT63FT3	600	60	ABB Control Inc	Interpolate	2.5
Non-Fusible, 3 poles	Flat	OT25F3/B	600	25	ABB Control Inc	Interpolate	2.5

**TABLE 12 - NOT USED**



**TABLE 13 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single & Duel Duct Terminal Units

**Certified Subcomponent :** Relays

Type	Model	Voltage	Amp	Manufacturer	UUT	Sds (g), z/h = 1
SCR Electric Heat Controller	EHS45-600-10	24	4-20mA	Neptronic	UUT - 10,11,12	2.5
SSR Electric Heat Controller	DW SSR50A1B	24	4-20mA	Neptronic	UUT - 10,11,12	2.5

**TABLE 14 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** VAV Single & Duel Duct Terminal Units

**Certified Subcomponent :** Air Flow Switch

Type	Model	Voltage	Amp	Manufacturer	UUT	Sds (g), z/h = 1
Airflow Switch	DFS-221-112	277	15	Cleveland Controls	UUT 1 to -22	2.5



**TABLE 15 - SUMMARY OF TESTED UNITS**

**Manufacturer :** Nailor Industries

**Product Family :** Single Duct Model 30, 31, and Duel Duct Model 32 VAV Duct Terminal Units

**Certified Product Construction :** Zinc Coated 22ga Steel Casing Cabinet

**Certified Mounting Description :** Rigid Ceiling Suspended <sup>(4)</sup>

UUT	MODEL	CONTROLLER	WEIGHT	INLET SIZE	Damper	W (in)	L (in)	H (in)	TITLE	HEAT/COOL (N,E,W1,W2) <sup>1</sup>	SILENCER (N, I,A,Q, H) <sup>2</sup>	Sds (g), z/h = 1	CABLE BRACE		
													MODEL	SIZE	QTY
1	P30RW-10	Pneumatic	82.0	10" Round	OBD	14	64.5	12.5	3001 BOX W/HOT WATER HEAT	W1	I	2.5	GS-12	1/8"	4
2	P30RW-16	Pneumatic	122.0	16" Oval	OBD	28	64.5	12.5	3001 BOX W/HOT WATER HEAT	W1	I	2.5	GS-12	1/8"	4
3	P30RW-24	Pneumatic	167.0	24"x16" RECT.	OBD	38	64.5	18	3001 BOX W/HOT WATER HEAT	W1	I	2.5	GS-19	3/16"	4
4	D30RE-10 <sup>4</sup>	DIGITAL	71.0	10" Round	OBD	14	36.5	12.5	3001 BOX W/ELECTRIC HEAT	E	N	2.5	SCB-0	3/32"	4
5	D30RE-16 <sup>4</sup>	DIGITAL	98.0	16" Oval	OBD	28	36.5	12.5	3001 BOX W/ELECTRIC HEAT	E	N	2.5	SCB-1	1/8"	4
6	D30RE-24 <sup>4</sup>	DIGITAL	145.0	24"x16" RECT.	OBD	38	36.5	18	3001 BOX W/ELECTRIC HEAT	E	N	2.5	SCB-2	3/16"	4
7	D30HQW/RWQ-ULC-LT-10 <sup>3</sup>	DIGITAL	104.0	10" Round	OBD	14	76.5	12.5	3001 BOX W/HOT WATER HEAT & HOSPITAL GRADE SILENCER	W4	H	2.5	SCB-1	1/8"	4
8	D30HQW/RWQ-ULC-LT-16 <sup>3</sup>	DIGITAL	151.0	16" Oval	OBD	28	76.5	12.5	3001 BOX W/HOT WATER HEAT & HOSPITAL GRADE SILENCER	W4	H	2.5	SCB-1	1/8"	4
9	D30HQW/RWQ-ULC-LT-24 <sup>3</sup>	DIGITAL	213	24"x16" RECT.	OBD	38	76.5	18	3001 BOX W/HOT WATER HEAT & HOSPITAL GRADE SILENCER	W4	H	2.5	SCB-2	3/16"	4
10	A30HQE/REQ-10 <sup>5</sup>	DIGITAL	97	10" Round	OBD	14	84.5	12.5	3001 BOX W/ELECTRIC HEAT & STANDARD SILENCER	E	Q	2.5	GS-12	1/8"	4
11	A30HQE/REQ-16 <sup>5</sup>	DIGITAL	136	16" Oval	OBD	28	84.5	12.5	3001 BOX W/ELECTRIC HEAT & STANDARD SILENCER	E	Q	2.5	GS-12	1/8"	4
12	A30HQE/REQ-24 <sup>5</sup>	DIGITAL	164	24"x16" RECT.	OBD	38	84.5	18	3001 BOX W/ELECTRIC HEAT & STANDARD SILENCER	E	Q	2.5	SCB-2	3/16"	4
13	D31RW-4	DIGITAL	35.0	4" ROUND	BUTTERFLY	10	28.5	10	3101 BOX W/HOT WATER HEAT	W1	N	2.5	GS-10	3/32"	4
14	D31RW-16	DIGITAL	89.0	16" ROUND	BUTTERFLY	28	28.5	12.5	3101 BOX W/HOT WATER HEAT	W4	N	2.5	SCB-1	1/8"	4
15	D3210-10	DIGITAL	70.0	10" Round	OBD	29	21	12.5	3210 DUEL DUCT INLET NON-MIXING BOX	N	N	2.5	GS-10	3/32"	4
16	D3210-16	DIGITAL	99.0	16" Oval	OBD	57	21	12.5	3210 DUEL DUCT INLET NON-MIXING BOX	N	N	2.5	SCB-1	1/8"	4
17	D3230-4	DIGITAL	70.0	4" Round	OBD	24	24	10	3230 DUEL DUCT INLET W/INTEGRAL MIXING ATTENUATOR	N	I	2.5	SCB-0	3/32"	4
18	D3230-16	DIGITAL	159.0	16" ROUND	OBD	42	38	18	3230 DUEL DUCT INLET W/INTEGRAL MIXING ATTENUATOR	N	I	2.5	SCB-2	3/16"	4
19	D3240-4	DIGITAL	108.0	4" ROUND	OBD	24	47	10	3240 DUEL DUCT INLET W/INTEGRAL HIGH PERFORMANCE BLEND MASTER ATTENUATOR	N	I	2.5	SCB-1	1/8"	4
20	D3240-14	DIGITAL	268.0	14" ROUND	OBD	42	72	18	3240 DUEL DUCT INLET W/INTEGRAL HIGH PERFORMANCE BLEND MASTER ATTENUATOR	N	I	2.5	SCB-2	3/16"	4
21	D30HQX-4	DIGITAL	71.0	-	OBD	10	66	10	3001 EXHAUST DUCT VAV BOX W/SILENCER	N	A	2.5	SCB-0	3/32"	4
22	D30HQX-24X16	DIGITAL	189.0	-	OBD	38	66	18	3001 EXHAUST DUCT VAV BOX W/SILENCER	N	A	2.5	SCB-2	3/16"	4

NOTES: 1) "N" = No water coil cool/heat or electric heat; "E" = Electric reheat; "W1" = Water coil (1-row); "W4" = Water coil (4-row)  
 2) "N" = No silencer; "I" = Integral silencer; "A" = AT303/AT305 standard attenuator option; "Q" = Standard FCL silencer option with steril liner; "H" = Hospital grade silencer option with solid metal liner  
 Hospital grade silencer may have dual density material. The heaviest acoustic material will be used.  
 3) Units 7, 8, 9 will be hospital grade with a ULC and LT option to test the heaviest box construction available. The Hospital grade units have a duel wall box construction.  
 ULC Option is a ultra low leak option with all seams sealed with caulk and a larger access door with extra gasketin. LT is low temp inlet option with 1/4" elastomeric gasket between the collar and the box opening.  
 4) UUTs 4-6 will be supplied with 277v/1 Phase heaters at 0.5 kW, 1-stage binary heat. This will provide lightest electric heat.  
 5) UUTs 10 will be supplied with 480v/3Phase heater at 21kW, SCR modulating heat ( MAX for size 10 @ specified voltage. Phase). UUT 11 will be supplied with 480v/3Phase heaters at 31 kW, SCR modulating heat (MAX for size 16 @ specified voltage/phase). UUT 12 will be supplied with 480V/3Phase heaters at 31 kW, SCR modulating heat (MAX for size 24 @ specified voltage/phase). This will provide heaviest electric heat.

## UUT-1 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: P30RW-10

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 10" round

Options/ Component Summary

- Controller: Pneumatic
- Damper: Double blade opposed damper
- Coils: Single row water coil
- Silencer: Integral
- Airflow Switches
- Disconnect
- transformer
- Relay
- Diamond Flow Sensor

### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
82	14	64.5	12.5	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



UUT-1

### Unit Mounting Description:

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (4)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-2 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: P30RW-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Oval

Options/ Component Summary	-Airflow Switch
-Controller: Pneumatic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: Single row water coil	-Relay
-Silencer: Integral	-Diamond Flow Sensor

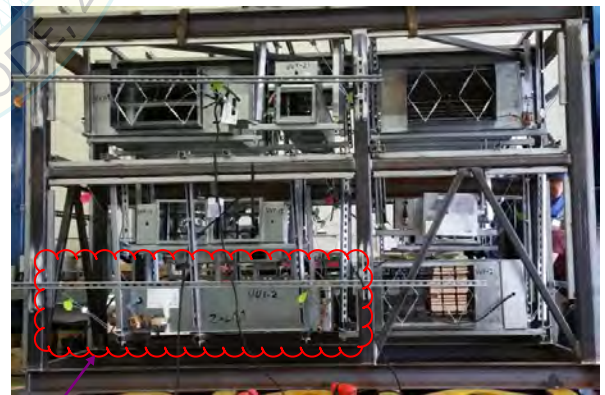
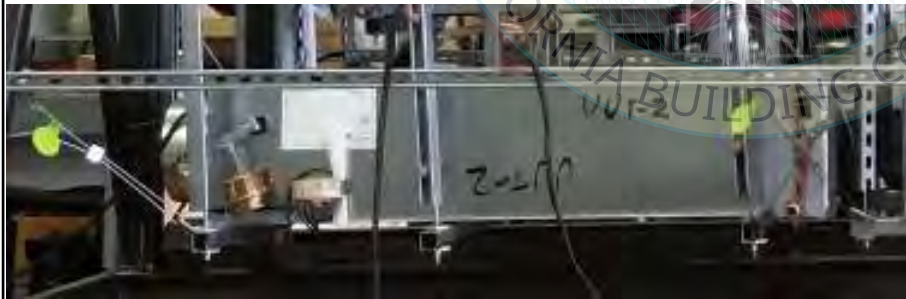
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
122	28	64.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



UUT-2

**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.



### UUT-3 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: P30RW-24

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 24"x16" Rectangular

Options/ Component Summary	-Airflow Switch
-Controller: Pneumatic	-Disconnect
-Damper: Triple blade opposed damper	-Transformer
-Coils: Single row water coil	-Relay
-Silencer: Integral	-Diamond Flow Sensor

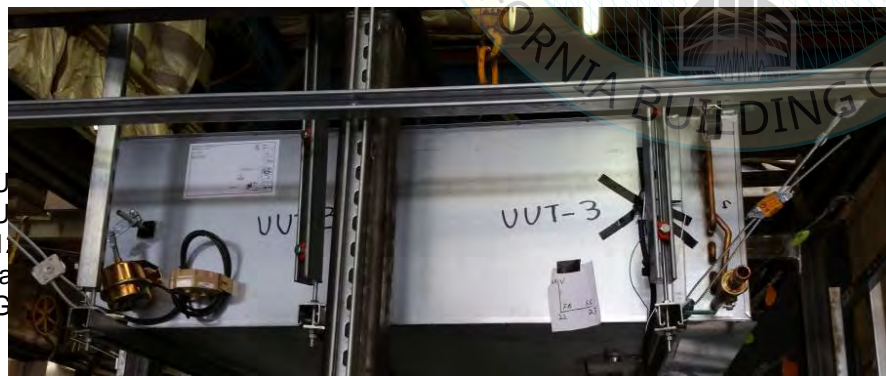
#### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
167	38	64.5	18	N/A	N/A	N/A

#### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



#### Unit Mounting Description:

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (15)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-4 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30RE-10

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 10" Round

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: 1 phase 277V Electric Heat	-Relay
-Silencer: No Silencer	-Diamond Flow Sensor

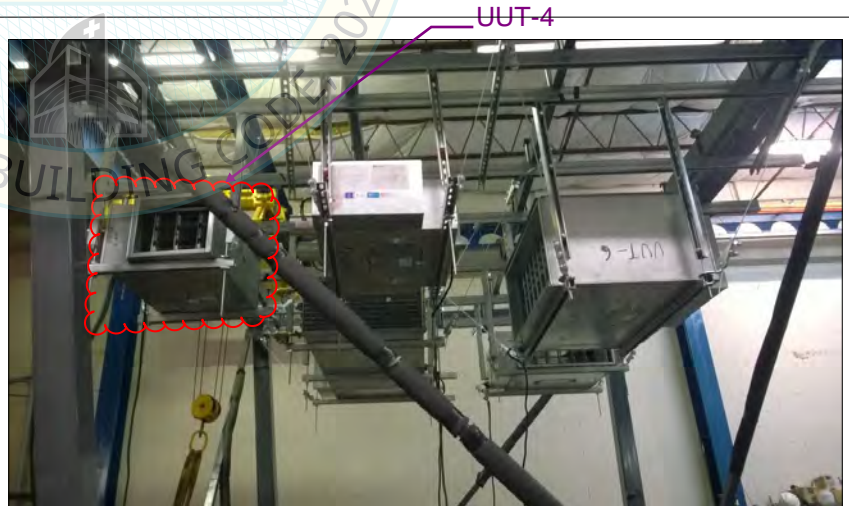
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
71	14	36.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-0 brace with 3/32-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (4)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-5 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30RE-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Oval

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: 1 phase 277V Electric Heat
- Silencer: No Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

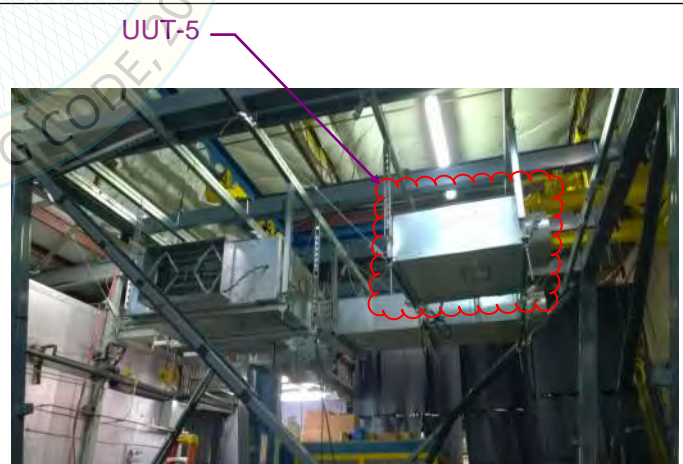
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
98	28	36.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (8)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-6 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30RE-24

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 24"X16" Rectangular

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Triple blade opposed damper	-Transformer
-Coils: 1 phase 277V Electric Heat	-Relay
-Silencer: No Silencer	-Diamond Flow Sensor

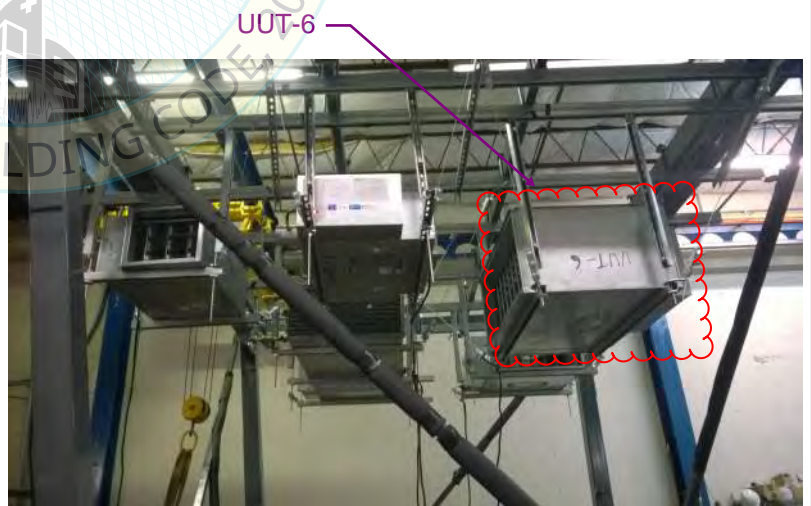
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
145	38	36.5	18	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (10)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## UUT-7 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30HQW/RWQ-ULC-LT-10

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 10" Round

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: Four rows water coil	-Relay
-Silencer: Hospital Grade	-Diamond Flow Sensor

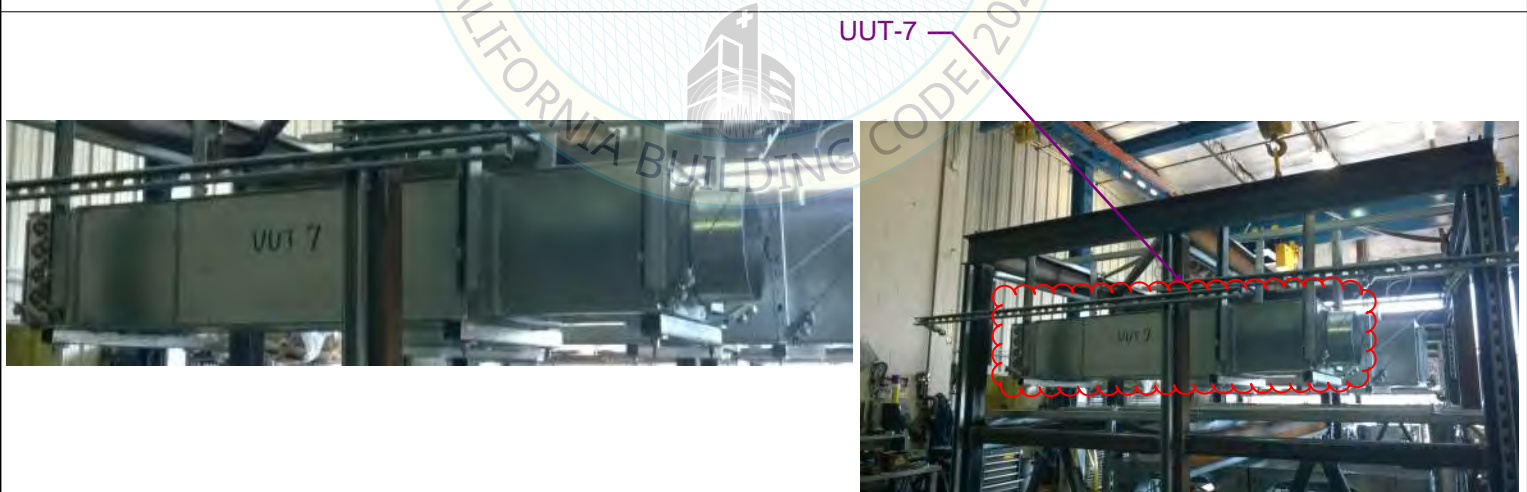
### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
104	14	76.5	12.5	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality		PASS			

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



### Unit Mounting Description:

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (6)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-8 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30HQW/RWQ-ULC-LT-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Oval

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: Four rows water coil	-Relay
-Silencer: Hospital Grade	-Diamond Flow Sensor

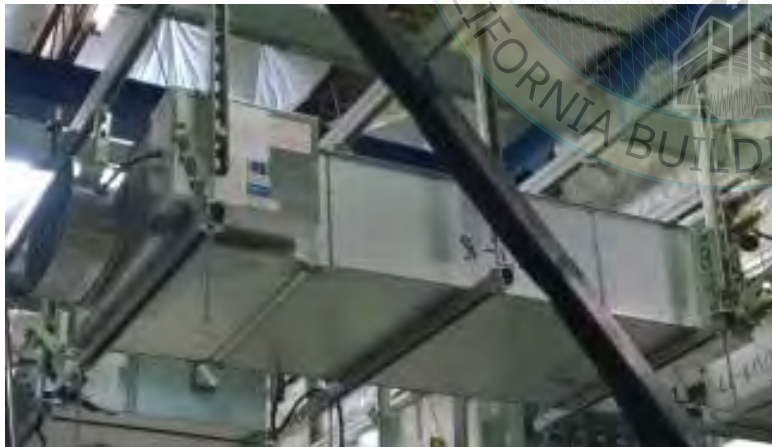
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
151	28	76.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-9 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30HQW/RWQ-ULC-LT-24

Product Construction Summary  
Cabinet: 20 gauge zinc coated  
Inlet Size: 24"X16" Rectangular

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Triple blade opposed damper	-Transformer
-Coils: Four rows water coil	-Relay
-Silencer: Hospital Grade	-Diamond Flow Sensor

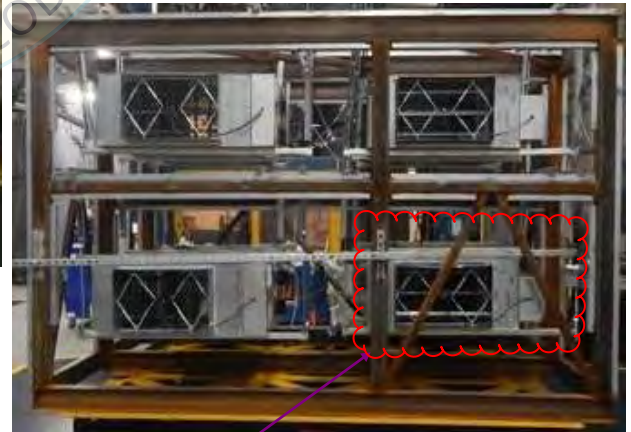
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
213	38	76.5	18	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (15)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## UUT-10 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: A30HQE/REQ-10

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 10" Round

Options/ Component Summary

- Controller: Analog Electronic
- Damper: Double blade opposed damper
- Coils: 3 phase, 480V Electric
- Silencer: Standard Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
97	14	84.5	12.5	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



UUT-10

### Unit Mounting Description:

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (4)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.



**UUT-11 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: A30HQE/REQ-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Oval

Options/ Component Summary

- Controller: Analog Electronic
- Damper: Double blade opposed damper
- Coils: 3 phase, 480V Electric
- Silencer: Standard Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
136	28	84.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

UUT-11

## UUT-12 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: A30HQE/REQ-24

Product Construction Summary  
Cabinet: 20 gauge zinc coated  
Inlet Size: 24"x16" Rectangular

Options/ Component Summary

- Controller: Analog Electronic
- Damper: Double blade opposed damper
- Coils: 3 phase, 480V Electric
- Silencer: Standard Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

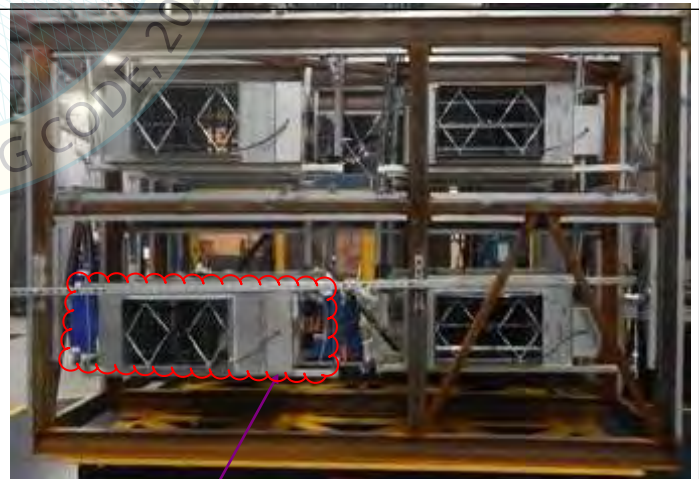
### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
164	38	84.5	18	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit and element wires maintained structural integrity during and after the ICC-ES- AC156 test



UUT-12

### Unit Mounting Description:

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (15)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-13 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3100 Single Duct VAV

Model Number: D31RW-4

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 4" Round

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: 1-row water coil
- Silencer: No Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

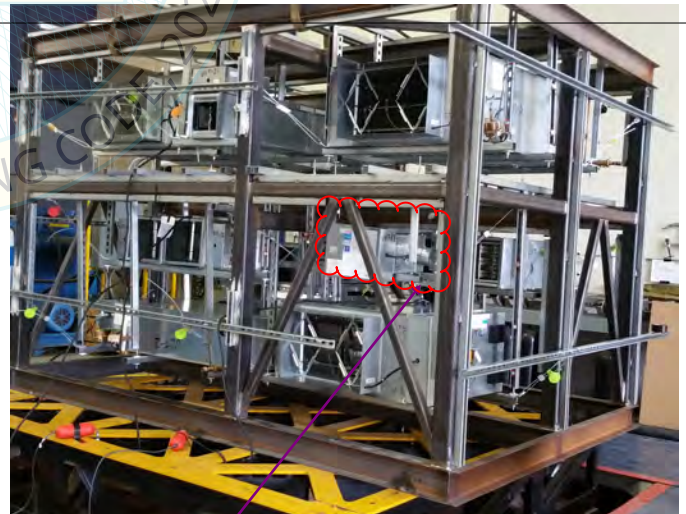
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
34.5	10	28.5	10	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-10 brace with 3/32-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-14 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3100 Single Duct VAV

Model Number: D31RW-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Round

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: 4-rows water coil
- Silencer: No Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

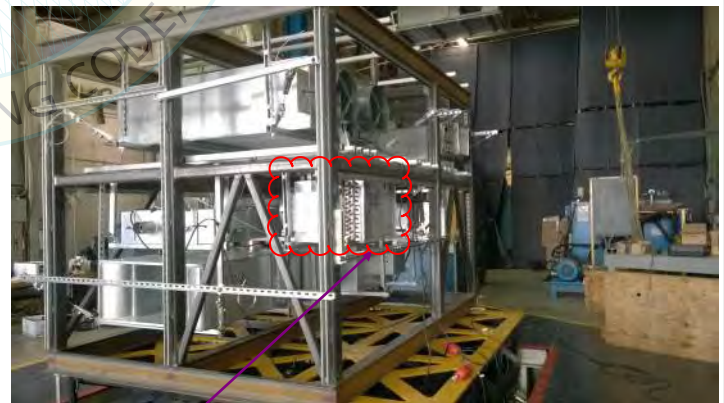
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
88.5	28	28.5	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



UUT-14

**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (8)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-15 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3200 Dual Duct VAV

Model Number: D3210-10

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 10" Round

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: No
- Silencer: No Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

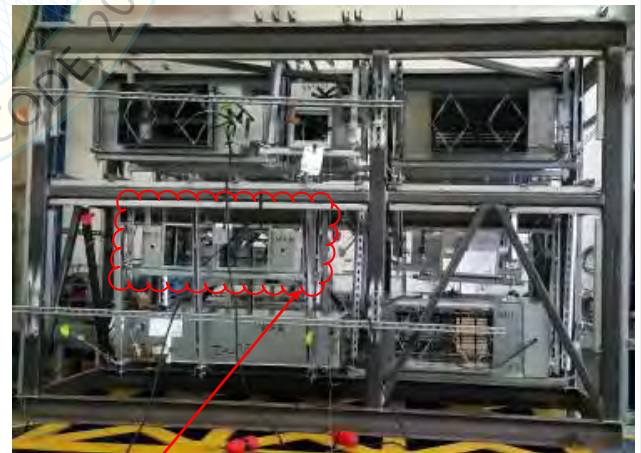
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
70	29	21	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



UUT-15

**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-10 brace with 3/32-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-16 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3200 Dual Duct VAV

Model Number: D3210-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Oval

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: No Coil
- Silencer: No Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
99	57	21	12.5	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## UUT-17 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3200 Dual Duct VAV

Model Number: D3230-4

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 4" Round

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: No Coil	-Relay
-Silencer: Integrated Silencer	-Diamond Flow Sensor

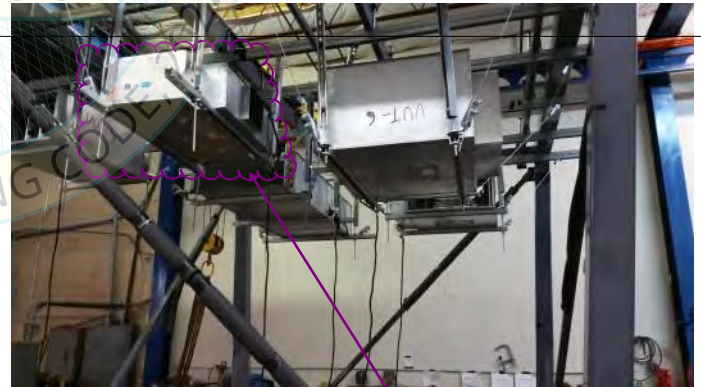
### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
69.5	24	24	10	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



UUT-17

### Unit Mounting Description:

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-0 brace with 3/32-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (10)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-18 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3230 Dual Duct VAV

Model Number: D3230-16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 16" Round

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: No Coil
- Silencer: Integrated Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
159	42	38	18	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality		PASS			

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



**Unit Mounting Description:**

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.



### UUT-19 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3200 Dual Duct VAV

Model Number: D3240-4

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 4" Round

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: No Coil	-Relay
-Silencer: Integrated Silencer	-Diamond Flow Sensor

#### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
108	24	47	10	N/A	N/A	N/A

#### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



UUT-19

#### Unit Mounting Description:

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-1 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (10)#10 TEK ASTM ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## UUT-20 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3200 Dual Duct VAV

Model Number: D3240-14

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: 14" Round

Options/ Component Summary	-Airflow Switch
-Controller: Digital Electronic	-Disconnect
-Damper: Double blade opposed damper	-Transformer
-Coils: No Coil	-Relay
-Silencer: Integrated Silencer	-Diamond Flow Sensor

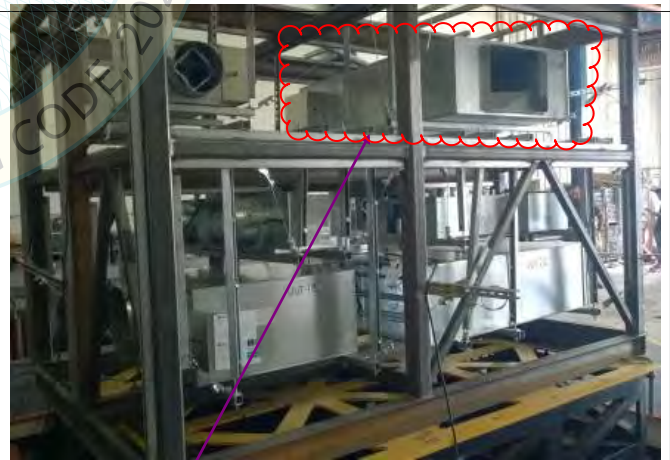
### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
268	42	72	18	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



### Unit Mounting Description:

Rigid suspended unit on (2) 1-5/8" Unistrut P1000 trapeze. (4) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (12)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## UUT-21 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30HQX-4

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: ---

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: No Coil
- Silencer: AT303/AT305 Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
71	10	66	10	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES-AC156 test



UUT-21

### Unit Mounting Description:

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-0 brace with 3/32-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (6)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

**UUT-22 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 3000 Single Duct VAV

Model Number: D30HQX-24X16

Product Construction Summary  
Cabinet: 22 gauge zinc coated  
Inlet Size: ---

Options/ Component Summary

- Controller: Digital Electronic
- Damper: Double blade opposed damper
- Coils: No Coil
- Silencer: AT303/AT305 Silencer
- Airflow Switch
- Disconnect
- Transformer
- Relay
- Diamond Flow Sensor

UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Width	Length	Height	Front-Back	Side-Side	Vertical
188.5	38	66	18	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

DATE: 04/17/2023

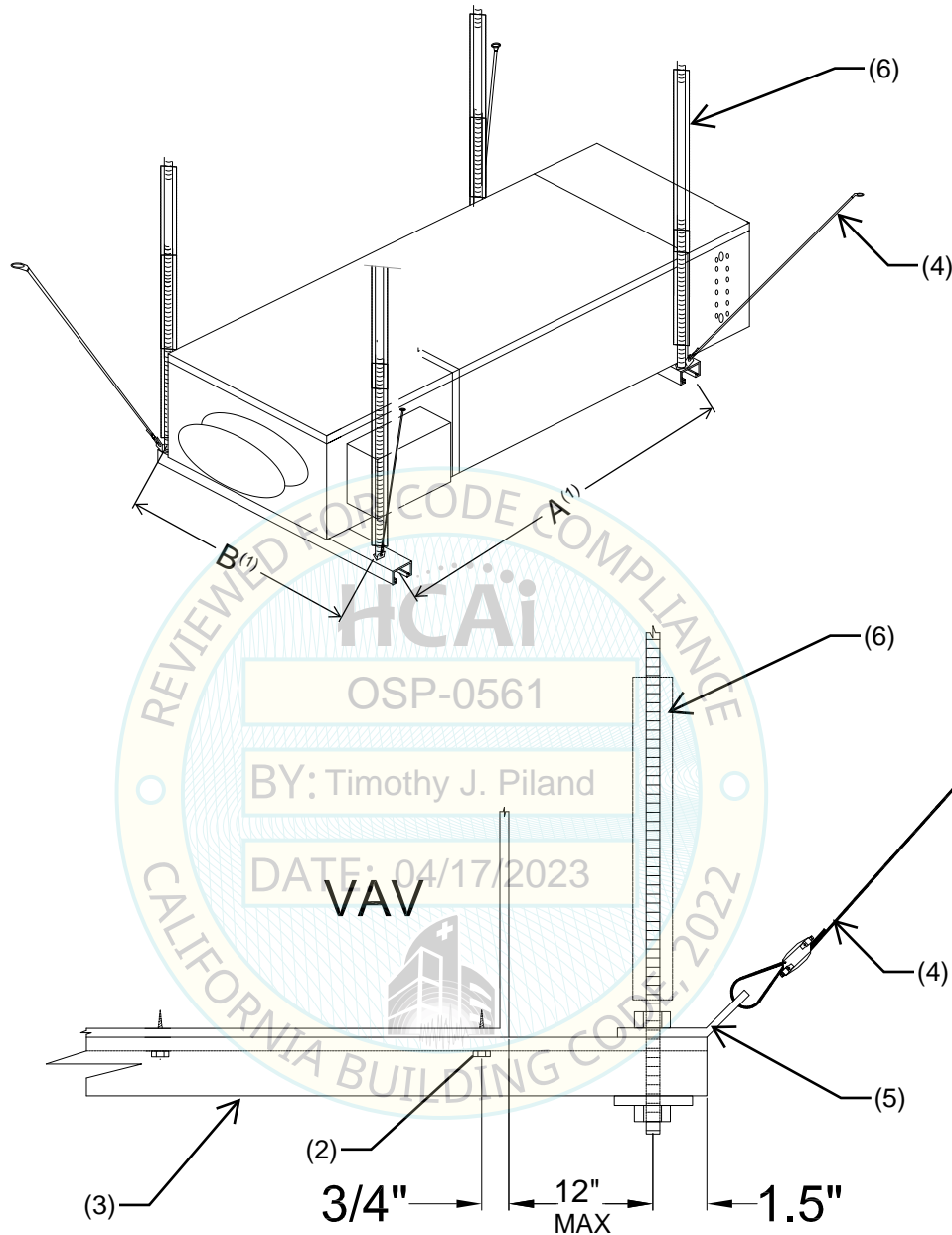


UUT-22

**Unit Mounting Description:**

Rigid suspended unit on (3) 1-5/8" Unistrut P1000 trapeze. (6) 3/8" ASTM-A307 rods at no less than 1.5 aspect ratio support the trapeze to the fixture, fastened with 3/8" square washers and nuts. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Mason SCB-2 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Unit was attached to the 1-5/8" Unistrut P1000 trapeze with (15)#10 TEK ASTM A510 Grade 1018-1022, at ea. corner and evenly spaced @ 12" O.C max along the trapeze. See page 34 for support details.

## TYPICAL VAV SUPPORT AND BRACE DETAIL



- NOTES:
- (1) A TO B RATIO MUST BE 1.5 OR GREATER. IF A TO B IS LESS THAN 1.5, THEN EIGHT (8) CABLES MUST BE USED. FOUR BRACING THE UNIT LATERALLY AND FOUR BRACING THE UNIT LONGITUDINALLY
  - (2) UNIT SUPPORTED WITH UNISTRUT P1000 TRAPEZE.
  - (3) FASTEN UNIT TO TRAPEZE WITH MINIMUM #10 TEK ASTM A510 Grade 1018-1022 AT EACH CORNER AND EVENLY SPACED AT 12" O.C.
  - (4) SEISMIC CABLE BRACE. SEE TABLE 15 FOR MODEL, SIZE AND QUANTITY.
  - (5) SEISMIC CABLE BRACE ATTACHMENT BRACKET CORRESPONDING TO CABLE BRACE. SEE TABLE 15 FOR MODEL, SIZE AND QUANTITY. INSTALL PER BRACE MANUFACTURERS INSTRUCTIONS.
  - (6) RIGID SUSPENDED UNIT WITH 3/8" ASTM-A307 RODS FASTENED TO TRAPEZE WITH 3/8" SQUARE WASHERS AND NUTS. ROD STIFFENED WITH UNISTRUT P1000 CLIPPED TO ROD WITH MASON UC-1 ROD STIFFENING CLAMPS. INSTALL PER MANUFACTURERS INSTRUCTIONS.

## VAV DUCT TERMINAL NOMENCLATURE

D30RWQ-10

REHEAT & SILENCER OPTIONS	
RW	Water coil reheat
RE	Electric reheat
Q	Silencer
HQ	Hospital Grade Silencer
RWQ	Water coil reheat + Silencer
REQ	Electric reheat+ Silencer
HQW	Water coil reheat + Hospital Grade Silencer
HQE	Electric reheat+ Hospital Grade Silencer
X	Exhaust Duct
HQX	Exhaust Duct +Hospital Grade Silencer

SIZE OF DUCT INLET	
4 to 10	4" to 10" round duct for Model 3001
12 to 16	12" to 16" oval duct for Model 3001
24	24" x 16" rectangle duct
4 to 16	4" to 16" round duct for Model 3101

VAV BOX MODEL	
3001	Standard single duct opposed damper VAV box w/o options
3101	Standard single duct single blade damper VAV box w/o options
30	Standard single duct opposed damper VAV box with added options
31	Standard single duct single blade damper VAV box with added options
3210	Non-Mixing Duel Duct
3230	Mixing Attenuator Duel Duct VAV
3240	Blendmaster Duel Duct VAV

CONTROLLER OPTIONS	
D	Digital electrical controller
A	Analog electrical controller
P	Pneumatic controller

**TABLE 16 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** Model 33SZ Fan Powered Terminal Units - Constant or Variable Volume

**Certified Product Construction :** Zinc Coated 20ga Steel Casing Cabinet, 18ga Modular Frame for size 40 to 55

**Certified Mounting Description :** Vibration Isolated Ceiling Suspended <sup>(4)</sup> with Seismic Cable restraints

Product Family	Model <sup>(2)</sup>	Unit Size	Inlet	Max Length (in.)	Max Width (in.)	Max Height (in.)	Maximum Weight (lb.)	No. Support Hangers	No. Seismic Cable Brace <sup>(4)</sup>	SDS (z/h = 1.0)	UUT
#33SZ Fan Powered Terminal Units	33SZ	30	4 through 8	40.25	36	11	163	4	4	2.0	Interpolate-1 <sup>(3)</sup>
	33SZ	40	4 through 10	36	27.5	18	218	4	8	2.0	Interpolated
	33SZ	50	5 through 12	41	35.5	18	233	4	8	2.0	Interpolated
	33SZ	55	5 through 12	55	35.5	18	248	4	8	2.0	Interpolate-3 <sup>(3)</sup>
	33SZW	30	4 through 8	52	36	11	189	4	4	2.0	1
	33SZW	40	4 through 10	48	27.5	18	218	4	8	2.0	Interpolated
	33SZW	50	5 through 12	53	35.5	18	240	4	8	2.0	Interpolated
	33SZW	55	5 through 12	67	81.25	18	347	4	8	2.0	3
	33SZE	30	4 through 8	52	36	11	163	4	4	2.0	2
	33SZE	40	4 through 10	51.25	27.5	18	218	4	8	2.0	Interpolated
	33SZE	50	5 through 12	56.25	35.5	18	233	4	8	2.0	Interpolated
33SZE	55	5 through 12	70.25	43.25	18	248	4	8	2.0	4	

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil on discharge, E=Electric heat on discharge
  - (3) Box Model interpolated from indicated UUT which was same box with larger mass option added, providing least resistant seismic combination.
  - (4) If (4) cables are used, Supports must be mounted so that Length to width ratio is no less than 1.5

**TABLE 17 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** Model 35S - Series Flow Fan Powered Terminal Units

**Certified Product Construction :** Zinc Coated 20ga Steel Casing Cabinet with 18ga Modular Frame

**Certified Mounting Description :** Vibration Isolated Ceiling Suspended <sup>(4)</sup> with Seismic Cable restraints

Product Family	Model <sup>(2)</sup>	Unit Size	Inlet	Max Length (in.)	Max Width (in.)	Max Height (in.)	Maximum Weight (lb.)	No. Support Hangers	No. Seismic Cable Brace <sup>(4)</sup>	SDS (z/h = 1.0)	UUT
#35S Fan Powered Terminal Units	35S, 35SST	1, 2, 3	5 through 12	36	29	18	170	4	4	2.0	Interpolate
	35S, 35SST	4, 5, 6	8 through 16	44	47.5	19	221	4	8	2.0	Interpolate-5 <sup>(3)</sup>
	35SW, 35SWST	1, 2, 3	5 through 12	48	29	18	180	4	4	2.0	Interpolate
	35SW, 35SWST	4, 5, 6	8 through 16	56	47.5	19	221	4	8	2.0	Interpolate-5 <sup>(3)</sup>
	35SWST	6	8 through 16	56	65	19	221	4	8	2.0	5
	35SE, 35SEST	1, 2, 3	5 through 12	51.25	29	18	180	4	4	2.0	Interpolate
	35SE, 35SEST	4, 5, 6	8 through 16	59.25	47.5	19	249	4	8	2.0	Interpolate
	35S, 35SST	7	14, 16, 18	57.25	84	18	350	4	8	2.0	Interpolate
	35SW, 35SWST	7	14, 16, 18	69.25	84	18	359	4	8	2.0	Interpolate
	35SE	7	14, 16, 18	72.5	84	18	359	4	8	2.0	Interpolate-10 <sup>(3)</sup>
	35SEST	7	14, 16, 18	73	84	18	359	4	8	2.0	10
#35S - OAI Fan Powered Terminal Units	35S-OAI, 35ST-OAI	2, 3	6 through 10	51.5	29	18	180	4	4	2.0	Interpolate
	35S-OAI, 35ST-OAI	4, 5, 6	8 through 14	59.5	47.5	19	231	4	8	2.0	Interpolate
	35SW-OAI, 35SWST-OAI	2, 3	6 through 10	63.5	29	18	189	4	4	2.0	Interpolate
	35SW-OAI, 35SWST-OAI	4, 5, 6	8 through 14	71.5	47.5	19	231	4	8	2.0	Interpolate
	35SE-OAI, 35SEST-OAI	2, 3	6 through 10	67	29	18	189	4	4	2.0	Interpolate
	35SE-OAI, 35SEST-OAI	4, 5, 6	8 through 14	75	47.5	19	259	4	8	2.0	Interpolate
	35S-OAI	7	12 through 16	56.5	52	18	359	4	8	2.0	Interpolate
	35SW-OAI	7	12 through 16	69	68	18	369	4	8	2.0	11
35SE-OAI	7	12 through 16	72	52	18	369	4	8	2.0	Interpolate	

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil on discharge, E=Electric heat on discharge
  - (3) Box Model interpolated from indicated UUT which was same box with larger mass option added, providing least resistant seismic combination.  
The Model 35S is captured with UUT-5, 10, and 11. The only difference between the 35S and the 35S-OAI is that a dual inlet box (return + outside air) is added to the front of the standard box. The largest size OAI box is the largest mass option tested. Thus, the smaller OAI box option will survive since the largest survived, and the weights of the other sizes fall between the smaller UUT 5 and the largest UUT-11, capturing the range
  - (4) If (4) cables are used, Supports must be mounted so that Length to width ratio is no less than 1.5

**TABLE 18 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** Model 35N - Parallel Flow Fan Powered Terminal Units

**Certified Product Construction :** Zinc Coated 20ga Steel Casing Cabinet

**Certified Mounting Description :** Vibration Isolated Ceiling Suspended <sup>(4)</sup> with Seismic Cable restraints

Product Family	Model <sup>(2)</sup>	Unit Size	Inlet	Max Length (in.)	Max Width (in.)	Max Height (in.)	Maximum Weight (lb.)	No. Support Hangers	No. Seismic Cable Brace <sup>(4)</sup>	SDS (z/h = 1.0)	UUT
#35N Fan Powered Terminal Units	35N	2, 3	6 through 14	38.5	29	18	160	4	4	2.0	Interpolate
	35N	5, 6	10 through 16	51	36	20	225	4	8	2.0	Interpolate-8 <sup>(3)</sup>
	35NW	2, 3	6 through 14	38.5	36	18	180	4	4	2.0	Interpolate
	35NW	5, 6	10 through 16	51	43	20	236	4	8	2.0	Interpolate-8 <sup>(3)</sup>
	35NE	2, 3	6 through 14	38.5	44.25	18	180	4	4	2.0	Interpolate
	35NE	5	10 through 16	51	51.25	20	236	4	8	2.0	Interpolate
	35NE	6	10 through 16	36	80	20	236	4	8	2.0	8

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil on discharge, E=Electric heat on discharge
  - (3) Box Model interpolated from indicated UUT which was same box with larger mass option added, providing least resistant seismic combination.
  - (4) If (4) cables are used, Supports must be mounted so that Length to width ratio is no less than 1.5

**TABLE 19 - CERTIFIED PRODUCT**

**Manufacturer :** Nailor Industries

**Product Family :** Model 37S - Low Profile Series Flow Fan Powered Terminal Units

**Certified Product Construction :** Zinc Coated 20ga Steel Casing Cabinet

**Certified Mounting Description :** Vibration Isolated Ceiling Suspended <sup>(4)</sup> with Seismic Cable restraints

Product Family	Model <sup>(2)</sup>	Unit Size	Inlet	Max Length (in.)	Max Width (in.)	Max Height (in.)	Maximum Weight (lb.)	No. Support Hangers	No. Seismic Cable Brace <sup>(4)</sup>	SDS (z/h = 1.0)	UUT
#37S Low Profile Fan Powered Terminal Units	37S	1 through 3	4 through 10	40.5	26.5	11	163	4	4	2.0	Interpolate-2 <sup>(3)</sup>
	37S	4	10, 14x10	83	49.75	11	220	4	8	2.5	Interpolate-7 (11-5-21) <sup>(3)</sup>
	37SW	1 through 3	4 through 10	52.5	29.5	11	189	4	4	2.0	Interpolate-1 <sup>(3)</sup>
	37SW	4	10, 14x10	83	49.75	11	220	4	8	2.5	Interpolate-7 (11-5-21) <sup>(3)</sup>
	37SE	1 through 3	4 through 10	52	28.5	11	163	4	4	2.0	Interpolate-2 <sup>(3)</sup>
	37SE	4	10, 14x10	83	49.75	11	220	4	8	2.5	Interpolate-7 (11-5-21) <sup>(3)</sup>
	37SST	1 through 3	4 through 10	40.5	38.5	11	163	4	4	2.0	Interpolate-2 <sup>(3)</sup>
	37SST	4	10, 14x10	83	49.75	11	220	4	8	2.5	Interpolate-7 (11-5-21) <sup>(3)</sup>
	37SWST	1 through 3	4 through 10	52.5	41.5	11	189	4	4	2.0	Interpolate-1 <sup>(3)</sup>
	37SWST	4	10, 14x10	83	49.75	11	229	4	8	2.5	7 (11-5-21)
	37SEST	1 through 3	4 through 10	52	40.5	11	163	4	4	2.0	Interpolate-2 <sup>(3)</sup>
	37SEST	4	10, 14x10	83	49.75	11	220	4	8	2.5	Interpolate-7 (11-5-21) <sup>(3)</sup>

- Notes:
- (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic
  - (2) W=Water Coil on discharge, E=Electric heat on discharge
  - (3) Box Model interpolated from indicated UUT which was same box with larger mass option added, providing least resistant seismic combination. Manufacturing of the tested and interpolated units is the same. The Models 33SZ, 37S, and 37SST all have the same main box. For 37S and 37ST, sizes 1 to 3, the 33SZ was tested as the worst case of the three models. The Model 33SZ has a chilled water coil that is added to the side. The tested unit (33SZE size 30) is heavier than the interpolated unit (37S size 1-3) due to the weight of the extra chilled water coil. For Model 37S, size 4, the 37SWST-size 4 was tested as worst case. All the 37S and 37ST have the same box. The tested 37SWST has an added attenuator and hot water coil that which provides the worst case mass option for all the interpolated 37S units.
  - (4) If (4) cables are used, Supports must be mounted so that Length to width ratio is no less than 1.5



**TABLE 20 - CERTIFIED SUBCOMPONENT**

**Product Family :** Fan Powered Terminal Units

**Certified Subcomponent :** Motors

Product Family	Model	Phase	Rated HP	Voltage	Manufacturer	Max Weight (lbs)	Sds (g), z/h = 1	UUT
Models 33SZ, 35S, 37S, 35N	ECM	1	1/2	120	Regal Beloit Corp	10	2.0	1
	ECM	1	1/2	240	Regal Beloit Corp	10	2.0	2
	ECM	1	3/4	120	Regal Beloit Corp	10	2.0	3, 4, (2)11
	ECM	1	3/4	240	Regal Beloit Corp	10	2.0	(2)10
	ECM	1	1	120	Regal Beloit Corp	10	2.0	5,8
	ECM	1	1	240	Regal Beloit Corp	10	2.0	7(11-5-21)

**TABLE 21 - CERTIFIED SUBCOMPONENT**

**Product Family :** Fan Powered Terminal Units

**Certified Subcomponent :** Fans

**Certified Product Construction :** Galvanized steel case wheel material, Gavanized steel housing

Product Family	Model	Diameter	Width	Manufacturer	Sds (g), z/h = 1	UUT
Models 33SZ, 35S, 37S, 35N	10x10T	10	10	Morrison	2.0	3,4,10(2), 11(2)
	10x10R	10	10	Morrison	2.0	5,8
	11x4R	11	4	Morrison	2.0	1,2
	10x4R	10	4	Morrison	2.0	7(11-5-21)
	11x11R	11	11	Morrison	2.0	Interpolate
	9x7T	9	7	Morrison	2.0	Interpolate
	9x7R	9	7	Morrison	2.0	Interpolate
	9x4T	9	4	Morrison	2.0	Interpolate
	9x9R	9	9	Morrison	2.0	Interpolate
	10x6R	10	6	Morrison	2.0	Interpolate
	9.87x2	9.87	2	Morrison	2.0	Interpolate

**TABLE 22 - CERTIFIED SUBCOMPONENT**

**Product Family** : Fan Powered Terminal Units

**Certified Subcomponent** : Water Coils

**Certified Product Construction** : Galvanized steel case, Aluminum Sine wave fin material 0.0045" @ 10 fpi, copper header and 1/2" copper tubing(.016" wall)

Product Family	Manufacturer	Max DIMENSIONS, (in)				Sds (g), z/h = 1	UUT
		No. Rows	Width	Height	Depth		
Models 33SZ, 37S	Great American Coil	2,4,6	36	8.75	5.125, 7.313, 9.5	2.0	1, 2
		2, 4, 6	19	15	5.125, 7.313, 9.5	2.0	Interpolate
		2, 4, 6	31	15	5.125, 7.313, 9.5	2.0	Interpolate
		2, 4, 6	33	15	5.125, 7.313, 9.5	2.0	Interpolate
		2, 4, 6	36	15	5.125, 7.313, 9.5	2.0	Interpolate
		2, 4, 6, 8	55	15	5.125, 7.313, 9.5, 11.5	2.0	3, 4, 7(11-5-21)
Models 33SZ, 35S, 35ST, 35N, 37S, 37ST	Great American Coil	1, 2, 3	14	8.75	12	2.0	Interpolate
		1, 2, 3	16	12.5	12	2.0	1
		1, 2, 3	16	15	12	2.0	Interpolate
		1, 2, 3	24	8.75	12	2.0	Interpolate
		1, 2, 3	24	15	12	2.0	Interpolate
		1, 2, 3	28	17.5	12	2.0	5
		1, 2, 3	41	9	12	2.0	Interpolate
		1, 2, 3	50	15	12	2.0	3, 11

**TABLE 23 - CERTIFIED SUBCOMPONENT**

**Product Family** : Fan Powered Terminal Units

**Certified Subcomponent** : Electric Heat, Heater Element Wires

**Certified Product Construction** : Galvanized steel plates, internal wiring rated at 105°C. Wire made of 80%/20% Nickel Chromium "Class A" wire.

Product Family	Manufacturer	Voltage	KW	Max DIMENSIONS, (in)		Sds (g), z/h = 1	UUT
				Width	Height		
Models 33SZ, 35S, 37S, 35N	Nailor, wire by Hyndman Industrial Product	1Ph: 120, 208, 240, 277, 3ph:208, 480, 600	15	12.375	9	2.0	2
			15	10.25	10.5	2.0	Interpolate
			16	13	10.5	2.0	Interpolate
			26	14.25	11.75	2.0	4
			26	17	12	2.0	Interpolate
			26	17	16	2.0	Interpolate
			26	25	16	2.0	Interpolate
			26	29	16	2.0	8
			30	40.25	11.75	2.0	10, 7(11-5-21)

**TABLE 24 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Various

**Product Family :** Fan Powered Terminal Units

**Certified Subcomponent:** Controllers

**Certified Mounting Description :** Side Mounted with minimum (4) 10ga. Sheet metal screws. Mounting may be flat or at 90 degrees

Product Family	Model	Type	Manufacturer	Mounting Orientation	Max L	Max W	Max H	Max Wt. (lbs)	Sds (g), z/h = 1	UUT
Models 33SZ, 35S, 37S, 35N	P-EZVAV	Digital	Nailor	Flat	16	6	14	8	2.0	8
	P-EZVAV	Digital	Nailor	90 degrees	16	6	14	8	2.0	5, 7, 10
	BAC-8005-36	Digital	KMC	Flat	16	6	14	8	2.0	1-4, 11

**TABLE 25- CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** 33, 35, 37 FPTU

**Certified SUBCOMPONENT :** SILENCERS

**Certified Construction :** 20ga galvanized steel

Product Family	Nailor Model Description	Sds (g), z/h = 1	UUT
Models 33SZ, 35S, 37S, 35N	ST-Stealth induced air inlet attenuator	2	5, 6, 10, 7(11-5-21)
	Q option Induced air inlet attenuator	2	8, 11
	Independent Dissipative air silencer	2	3

**TABLE 26 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** 33, 35, 37 FPTU

**Certified Subcomponent :** Dampers

**Certified Subcomponent Construction :** 16Ga galvanized sheet metal casing. Blades are either 16Ga galvanized steel or 6063-T6 aluminum extrusion.

Product Family	Nailor Model Description	Sizes	Sds (g), z/h = 1	UUT
Models 35N	Circular Damper	6, 8, 10, 12, 14	2.0	Interpolate
	Circular Damper	16	2.0	8
Models 33SZ (Size 30, 40, 50), 35S, 37S	Opposed Blade Damper – Double Blade	4, 6	2.0	Interpolate
	Opposed Blade Damper – Double Blade	8	2.0	1, 2
	Opposed Blade Damper – Double Blade	10	2.0	10
	Opposed Blade Damper – Double Blade	12, 14	2.0	Interpolate
	Opposed Blade Damper – Double Blade	16	2.0	5, 11
	Opposed Blade Damper – Double Blade	14 x 10	2.0	7(11/5/21)
Models 33SZ (Size 55)	Opposed Blade Damper – Triple Blade	12	2.0	3, 4

**TABLE 27 - NOT USED**

**TABLE 28 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** 33, 35, 37 FPTU

**Certified Subcomponent :** Disconnect

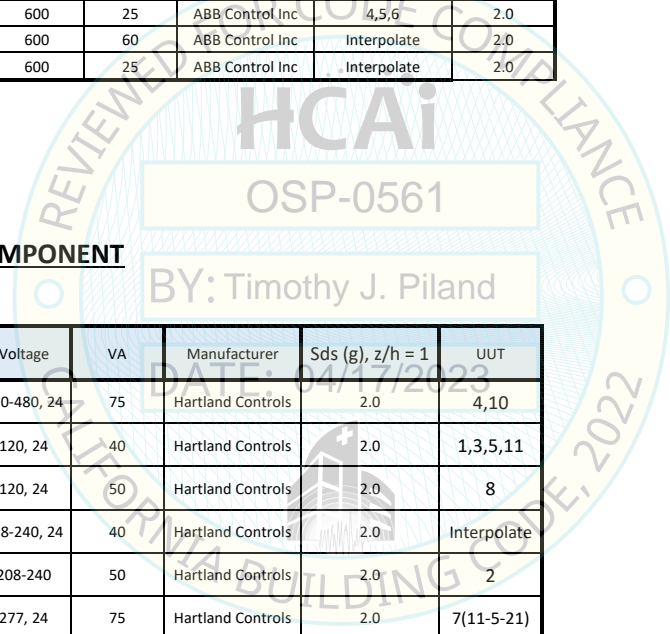
Type	Model	Voltage	Amp	Manufacturer	UUT	Sds (g), z/h = 1
Non-Fusible, 3 poles	OT40FT3	600	40	ABB Control Inc	7(11-5-21), 10	2.0
Non-Fusible, 3 poles	OT63F3/B	600	60	ABB Control Inc	11	2.0
Non-Fusible, 1 pole	OC25G01PNBN00 NB1	600	25	ABB Control Inc	Interpolate	2.0
Non-Fusible, 3 poles	OT25F3/B	600	25	ABB Control Inc	4,5,6	2.0
Non-Fusible, 3 poles	OT63FT3	600	60	ABB Control Inc	Interpolate	2.0
Non-Fusible, 3 poles	OT25F3/B	600	25	ABB Control Inc	Interpolate	2.0

**TABLE 29 - CERTIFIED SUBCOMPONENT**

**Product Family :** 33, 35, 37 FPTU

**Certified Subcomponent :** Transformers

Product Family	Model	Voltage	VA	Manufacturer	Sds (g), z/h = 1	UUT
Models 33SZ, 35S, 37S, 35N, 35FH	HCT-08H2AF02	120-480, 24	75	Hartland Controls	2.0	4,10
	HCT-01E0BB06	120, 24	40	Hartland Controls	2.0	1,3,5,11
	HCT-01D0BB06	120, 24	50	Hartland Controls	2.0	8
	HCT-09E0BB06	208-240, 24	40	Hartland Controls	2.0	Interpolate
	HCT-09D0BB06	208-240	50	Hartland Controls	2.0	2
	HCT-03J2BB07	277, 24	75	Hartland Controls	2.0	7(11-5-21)
	HCT-03E0BB06	277, 24	50	Hartland Controls	2.0	Interpolate
	HTC-04D0BB06	480, 24	50	Hartland Controls	2.0	Interpolate
	HCT-60D0BB06	24, 24	50	Hartland Controls	2.0	Interpolate



**TABLE 30 - CERTIFIED SUBCOMPONENT**

**Product Family :** 33, 35, 37 FPTU

**Certified Subcomponent :** Relays

Type	Model	Voltage	Amp	Manufacturer	Sds (g), z/h = 1	UUT
SCR Electric Heat Controller	EHS45-600-10	600	45	Neptronic	2.0	2, 8, 7(11-5-21)
SSR Electric Heat Controller	DW SSR50A1B	600	45	Neptronic	2.0	8 7(11-5-21)

**TABLE 31 - CERTIFIED SUBCOMPONENT**

**Product Family :** 33, 35, 37 FPTU

**Certified Subcomponent :** Air Flow Switch

Type	Model	Voltage	Amp	Manufacturer	Sds (g), z/h = 1	UUT
Airflow Switch	DFS-221-112	277	15	Cleveland Controls	2.0	1 to 5, 7(11-5-21), 8, 10, 11

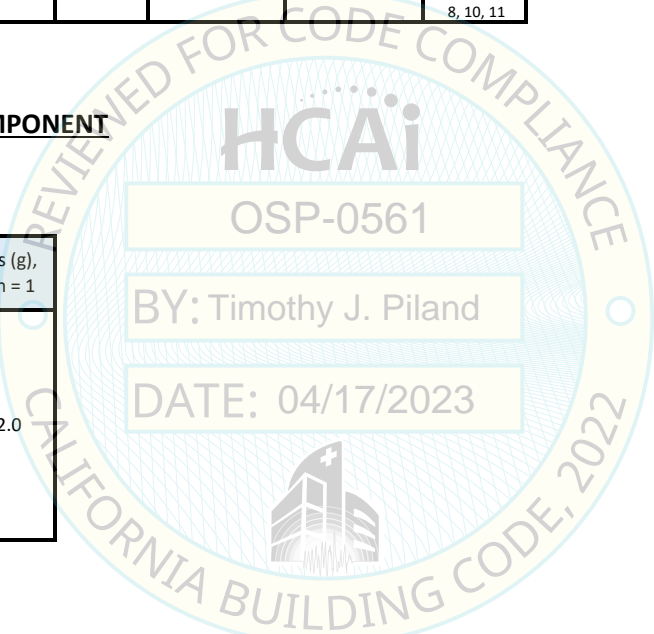
**TABLE 32 - CERTIFIED SUBCOMPONENT**

**Manufacturer :** Nailor Industries

**Product Family :** 33, 35, 37 FPTU and FCU

**Certified Subcomponent :** Insulation

Product Family	UUT	Sds (g), z/h = 1
Steri-Liner	2	2.0
Steri-liner with perforated metal	1, 4	
Steri-liner with Solid metal	3	
Fiber-Free Liner	5, 8, 10, 11	
UVL	Interpolate	
Dual Density Fiberglass	7(11-5-21)	



### TABLE 33 - SUMMARY OF TESTED UNITS

**Manufacturer :** Nailor Industries

**Product Family :** Models 33Z, 35S, 37S, 35N Fan Powered Terminal Units

**Certified Product Construction :** Zinc Coated 20ga Steel Casing Cabinet, 18ga Modular Frame

**Certified Mounting Description :** Vibration Isolated Ceiling Suspended with Seismic Cable restraints <sup>(4)</sup>

UUT	Model	SIZE	INLET	L	W	H	Weight (lb.)	Actual Wt. (lb.)	# Cables <sup>(4)</sup>	SDS; z/h = 1.0
1	#33SZW	30	8	52	36	11	160	189	(4) GS-12, 1/8"	2
2	#33SZE	30	8	52	36	11	138	163	(4) GS-12, 1/8"	2
3	#33SZW	55	12	67	81.25	18	266	347	(8) GS-19, 3/16" on UUT; (4)GS-12,1/8" on Silencer	2
4	#33SZE	55	12	70.25	43.25	18	224	248	(8) GS-19, 3/16"	2
5	#35SWST	6	16	56	65	19	234	221	(8) GS-19, 3/16"	2
6	Lower Sds Not Used									
7 (11-5-21)	#37SWST	4	14X10	49.75	83	11	235	229	(8) GS-12, 1/8"	2.5
8	#35NE	6	16	36	80	20	242	236	(8) GS-19, 3/16"	2
9	Lower Sds Not Used									
10	#35SEST	7	10	73	84	18	320	359	(8) GS-19, 3/16"	2
11	#35SW-OAI	7	16	69	68	18	384	369	(8) GS-19, 3/16"	2

UUT	SIZE	INLET	FAN MTR HP/A/V	Space Frame	OAI	Housing GA	Heat E or W	Cool Coil Rows	Liner	Silencer N, Q, S <sup>(3)</sup>	Controller
1	30	8	0.5/7.5/120	N	N	20	W2	6	PML	N	DDC
2	30	8	0.5/5/240	N	N	20	E	2	Steri Liner	N	DDC
3	55	12	0.75/9.5/120	Y	N	18/20	W2	6	STO	AS	DDC
4	55	12	0.75/9.5/120	Y	N	18/20	E	2	PML	N	DDC
5	6	16	1.0/12.2/120	Y	N	18/20	W3	-	STD	S	90°/DDC
7 (11-5-21)	4	14X10	2/240	N	N	20	W3	-	PML	S	DDC/FN2
8	6	16	1.0/13.7/120	N	N	20	E	-	STD	Q	DDC
10	7	16	(2)0.75/17.5/240	Y	N	18/20	E	-	STD	S	90°/FN2
11	7	16	(2)0.75/10/120	Y	Y	18/20	W3	-	STD	Q	DDC

**Notes:** (1) "#" indicates the controller type. D=Digital, A=Analog, P=Pneumatic

(2) W=Water Coil on discharge, E=Electric heat on discharge

(3) For Silencers N=no silencer; S= Stealth side mounted silencer; Q= Induced Air inlet attenuator; AS= Separated Dissapative silencer attached to inlet

(4) If (4) cables are used, Supports must be mounted so that Length to width ratio is no less than 1.5

**UUT-1 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 33SZ Fan Powered Terminal Units

Model Number: D33SZW-30

Product Construction Summary  
Cabinet: 20 gauge zinc coated  
Unit Size: 30

Options/ Component Summary

- Fan with 1/2 Hp (120v) Motor
- Controller: Digital
- Damper: Double blade opposed damper
- Coils: 6 row inlet water coil; 2 row discharge
- Liner: PML
- Diamond Flow Sensor
- Airflow Switches
- Disconnect
- transformer
- Relay

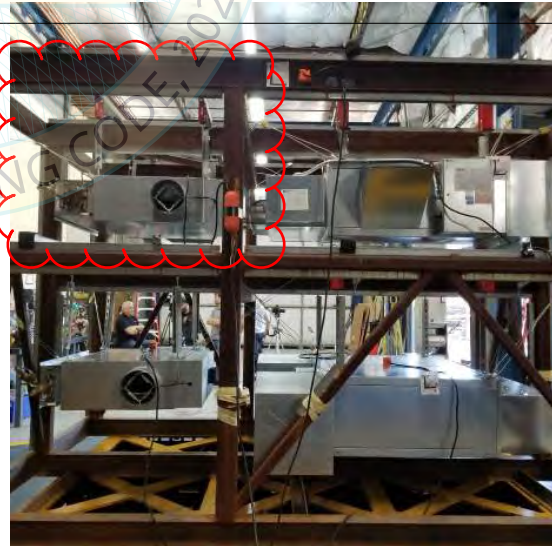
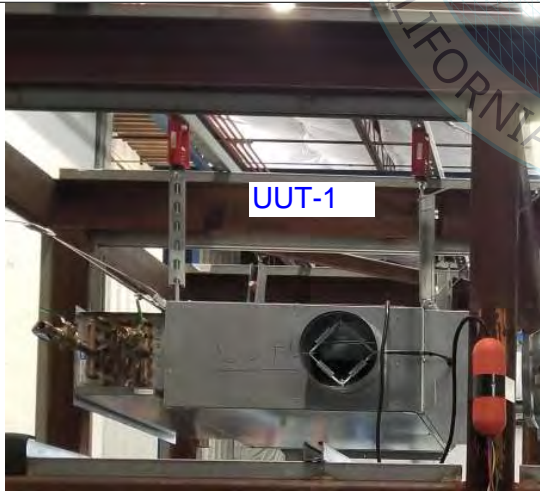
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
189	52	36	11	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSF-HM-043 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

**UUT-2 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 33SZ Fan Powered Terminal Units

Model Number: D33SZE-30

Product Construction Summary  
Cabinet: 20 gauge zinc coated  
Unit Size: 30

Options/ Component Summary

- Fan with 1/2 Hp (240v) Motor
- Controller: Digital
- Damper: Double blade opposed damper
- Coils: 2 row inlet water coil
- Electric Heat Discharge
- Diamond Flow Sensor
- Airflow Switches
- Disconnect
- transformer
- Relay
- Liner: Steriliner

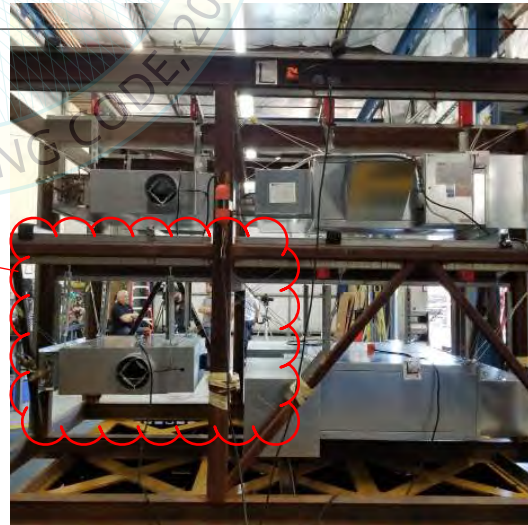
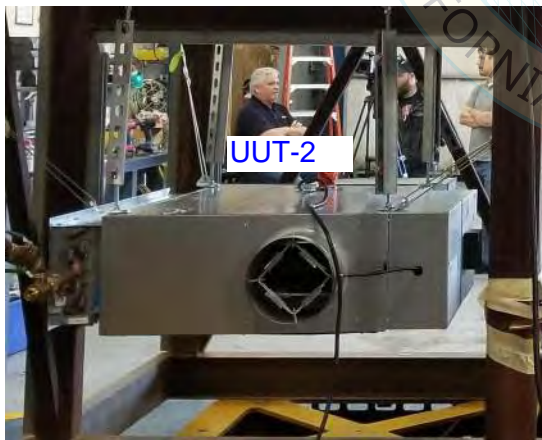
UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
163	52	36	11	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSF-HM-043 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (4) Gripple GS-12 brace with 1/8-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.



**UUT-3 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 33SZ Fan Powered Terminal Units

Model Number: D33SZW-55

**Product Construction Summary**

Cabinet: 20 gauge zinc coated, and 18gauge space frame  
Unit Size: 55

**Options/ Component Summary**

- Fan with 3/4 Hp (120v) Motor
- Controller: Digital
- Damper: Double blade opposed damper
- Coils: 8 row inlet water coil
- 2 row water Coil discharge
- Diamond Flow Sensor
- Airflow Switches
- Disconnect
- transformer
- Relay
- Liner: Solid Metal
- Inlet Dissipative Silencer

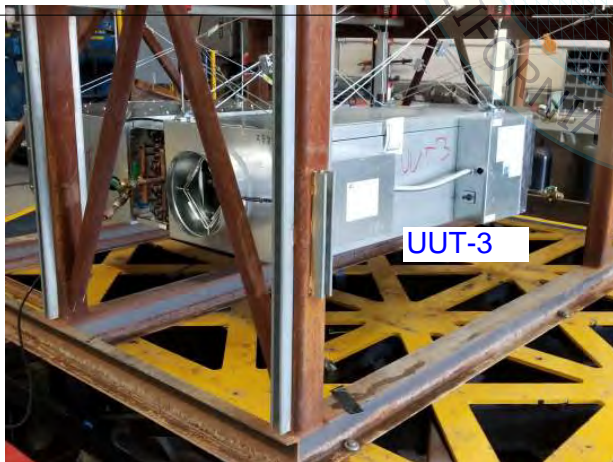
**UUT Properties**

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
347	67	81.25	18	N/A	N/A	N/A

**Seismic Test Parameter**

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Spring suspended unit with (8) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut ((4) for FPTU and (4) for silencer). Rods hanging from VIMCO HNSF-HM-045 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable for the FPTU and (4)Gripple GS-12 brace with 1/8-inch diameter cable for the silencer. Each brace attached to structure using 1/2" A307 hardware. Brace attached to top of unit and silencer with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

## UUT-4 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 33SZ Fan Powered Terminal Units

Model Number: D33SZE-55

### Product Construction Summary

Cabinet: 20 gauge zinc coated, and 18gauge space frame  
Unit Size: 55

### Options/ Component Summary

- Fan with 3/4 Hp (120v)Motor	-Diamond Flow Sensor	-Liner: Solid Metal
-Controller: Digital	-Airflow Switches	- Inlet Dissipative Silencer
-Damper: Double blade opposed damper	-Disconnect	
-Coils: 2 row inlet water coil	-transformer	
-Electric Heat Discharge	-Relay	

### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
248	70.25	43.25	18	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



### Unit Mounting Description:

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rods hanging from VIMCO HNSF-HM-045 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 34 for support details.

## UUT-5 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 35S Fan Powered Terminal Units

Model Number: D35SWST-6

### Product Construction Summary

Cabinet: 20 gauge zinc coated w/ 18 guage space frame  
Unit Size: 6

### Options/ Component Summary

- Fan with 1 Hp (120v) Motor	-Diamond Flow Sensor	- Stealth Induced air inlet Silencer
-Controller: Digital Mounted 90 degrees	-Airflow Switches	
-Damper: Double blade opposed damper	-Disconnect	
-Coils: 3 row discharge water coil	-transformer	
-Liner: PML	-Relay	

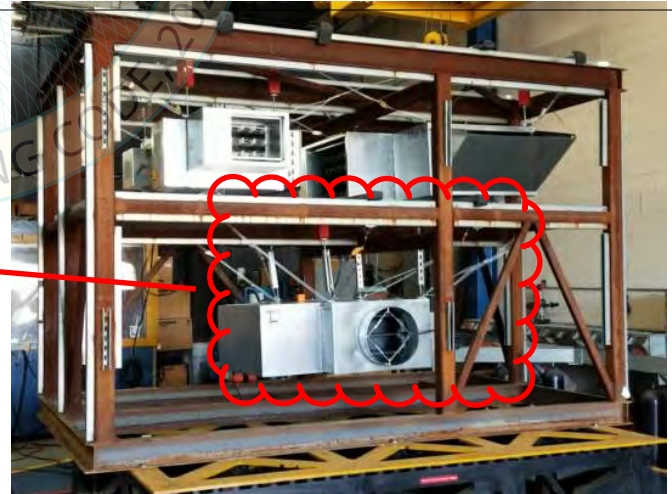
### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
221	56	65	19	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



### Unit Mounting Description:

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSF-HM-044 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

**UUT-7(11-5-21) TEST RESULTS SUMMARY** (THIS UNIT WAS RETESTED ON 11-5-21 WITH REINFORCE FASTENING OF INLET ATTENUATORS)

Manufacturer: Nailor Industries, Inc.

Model: 37S Low Profile Flow Fan Powered Terminal Unit

Model Number: D37SWST-4

Product Construction Summary  
Cabinet: 20 gauge zinc coated  
Unit Size: 4

Options/ Component Summary

-Fan with (240v) 11.5A Motor (EPIC ECM)	-Airflow Switches
-Controller: Digital	- Disconnect
-Coils: 3 Hot Water Coil; 0 Chill Water	- Transformer
- Reinforced inlet attenuator attachment	- Relay

UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
229	49.75	83	11	N/A	N/A	N/A

Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.5	1.0	1.5	3.2	2.4	1.68	0.68
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



Unit Mounting Description:  
Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSF-HM-044 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-12 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

## UUT-8 TEST RESULTS SUMMARY

Manufacturer: Nailor Industries, Inc.

Model: 35N Fan Powered Terminal Units - Parallel flow

Model Number: D35NE-6

### Product Construction Summary

Cabinet: 20 gauge zinc coated w/ 18 gauge space frame  
Unit Size: 6

### Options/ Component Summary

- Fan with 1 Hp (120v) Motor	-Diamond Flow Sensor	- Induced Air inlet Attenuator
-Controller: Digital	-Airflow Switches	
-Damper: Circular damper	-Disconnect	
-Electric Heat discharge coil	-transformer	
-Liner: Fiber Free	-Relay	

### UUT Properties

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
236	36	80	20	N/A	N/A	N/A

### Seismic Test Parameter

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



### Unit Mounting Description:

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSA-B1-123 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

**UUT-10 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 35S Fan Powered Terminal Units

Model Number: D35SEST-7

**Product Construction Summary**

Cabinet: 20 gauge zinc coated w/ 18 guage space frame  
Unit Size: 7

**Options/ Component Summary**

- Fan with (2)3/4 Hp (240v) Motor
- Controller: Digital Mounted 90 degrees
- Damper: Double blade opposed damper
- Electric Heat discharge coil
- Liner: Fiber Free
- Diamond Flow Sensor
- Airflow Switches
- Disconnect transformer
- Relay
- Stealth Induced air inlet Silencer

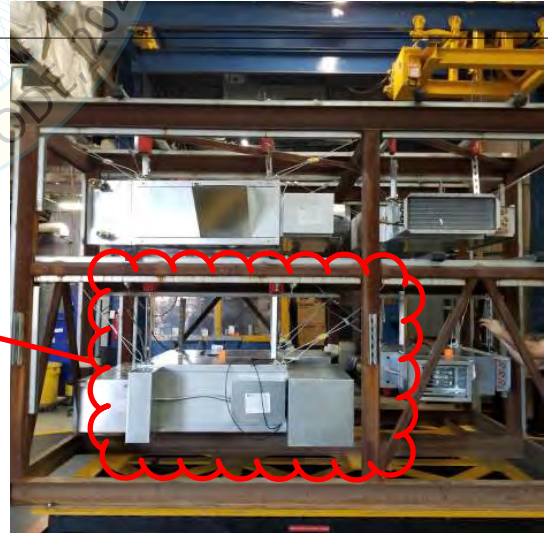
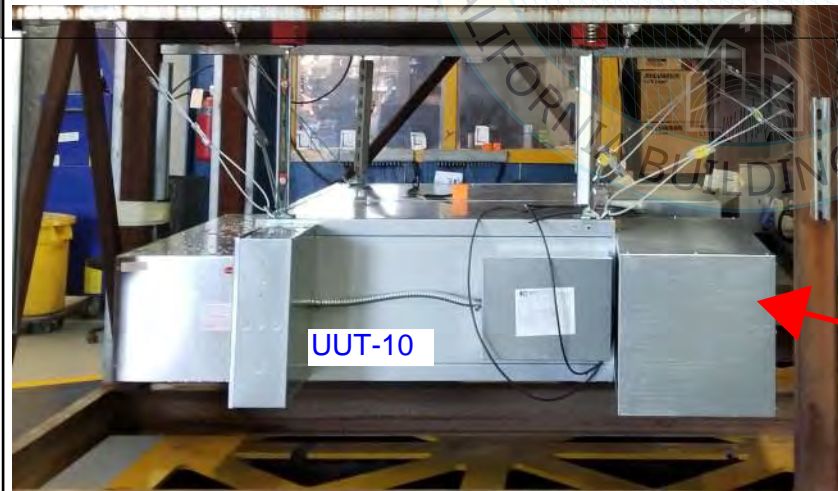
**UUT Properties**

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
359	73	84	18	N/A	N/A	N/A

**Seismic Test Parameter**

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

The unit heating element wires remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



**Unit Mounting Description:**

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO HNSA-B1-123 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 34 for support details.

**UUT-11 TEST RESULTS SUMMARY**

Manufacturer: Nailor Industries, Inc.

Model: 35S Fan Powered Terminal Units

Model Number: D35SW-OAI-7

**Product Construction Summary**

Cabinet: 20 gauge zinc coated w/ 18 guage space frame  
Unit Size: 7

**Options/ Component Summary**

- |   |                      |   |
|---|----------------------|---|
| - Fan with (2)3/4 Hp (120v) Motor       | -Diamond Flow Sensor | - Induced air inlet Attenuator                      |
| -Controller: Digital Mounted 90 degrees | -Airflow Switches    | - Outside Air Inlet (1"x1"x20ga supplementary angle |
| -Damper: Double blade opposed damper    | -Disconnect          | top and bottom attached with (4)#8 SMS to unit and  |
| -3 row discharge water coil             | -transformer         | OAI)  |
| -Liner: Fiber Free                      | -Relay               |   |

**UUT Properties**

Operating Weight (lb)	Dimensions (Inches)			Lowest Natural Frequency (Hz)		
	Length	Width	Height	Front-Back	Side-Side	Vertical
369	69	68	18	N/A	N/A	N/A

**Seismic Test Parameter**

Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
ICC-ES AC 156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Pre Test Functionality	PASS	Post Test Functionality	PASS				

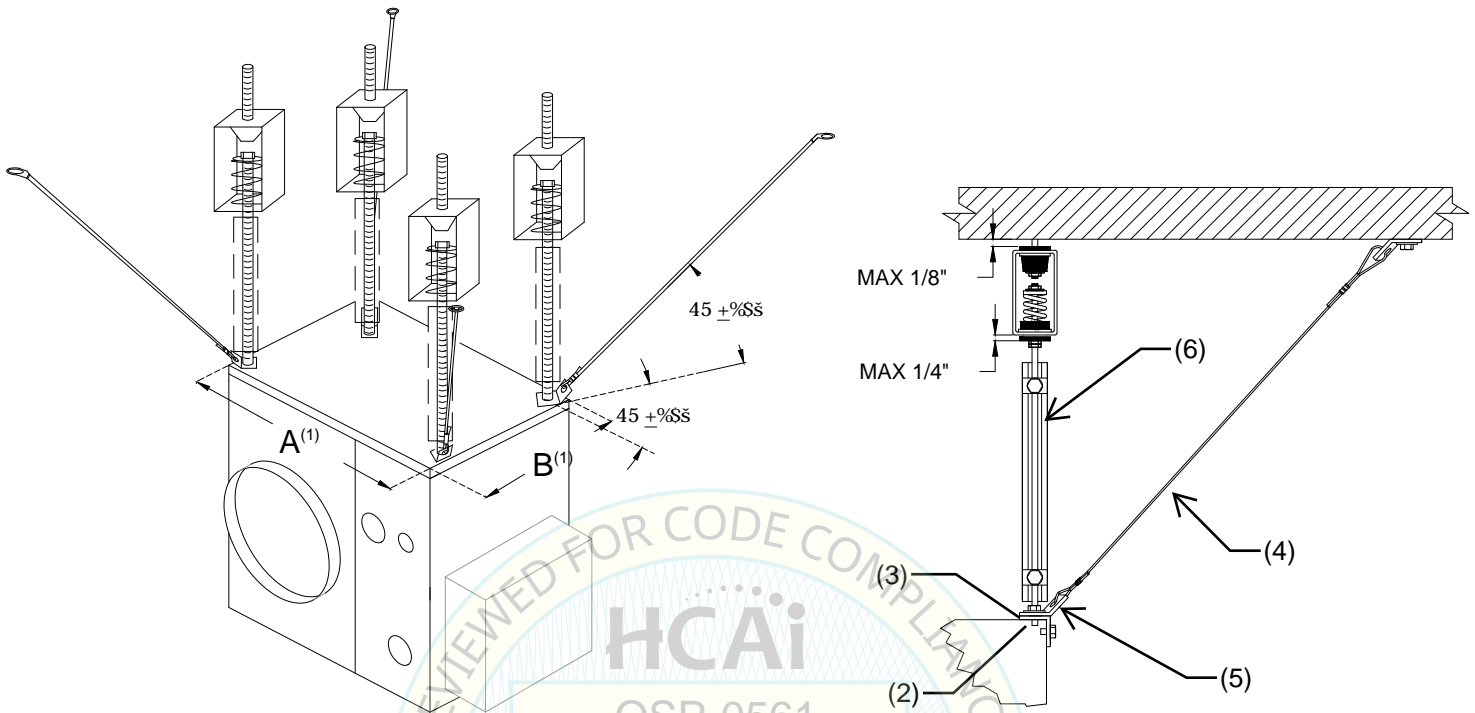
The unit coil was full of water at approximately 40psi, and remained functional before and after the ICC-ES AC 156 test. The unit maintained structural integrity during and after the ICC-ES- AC156 test



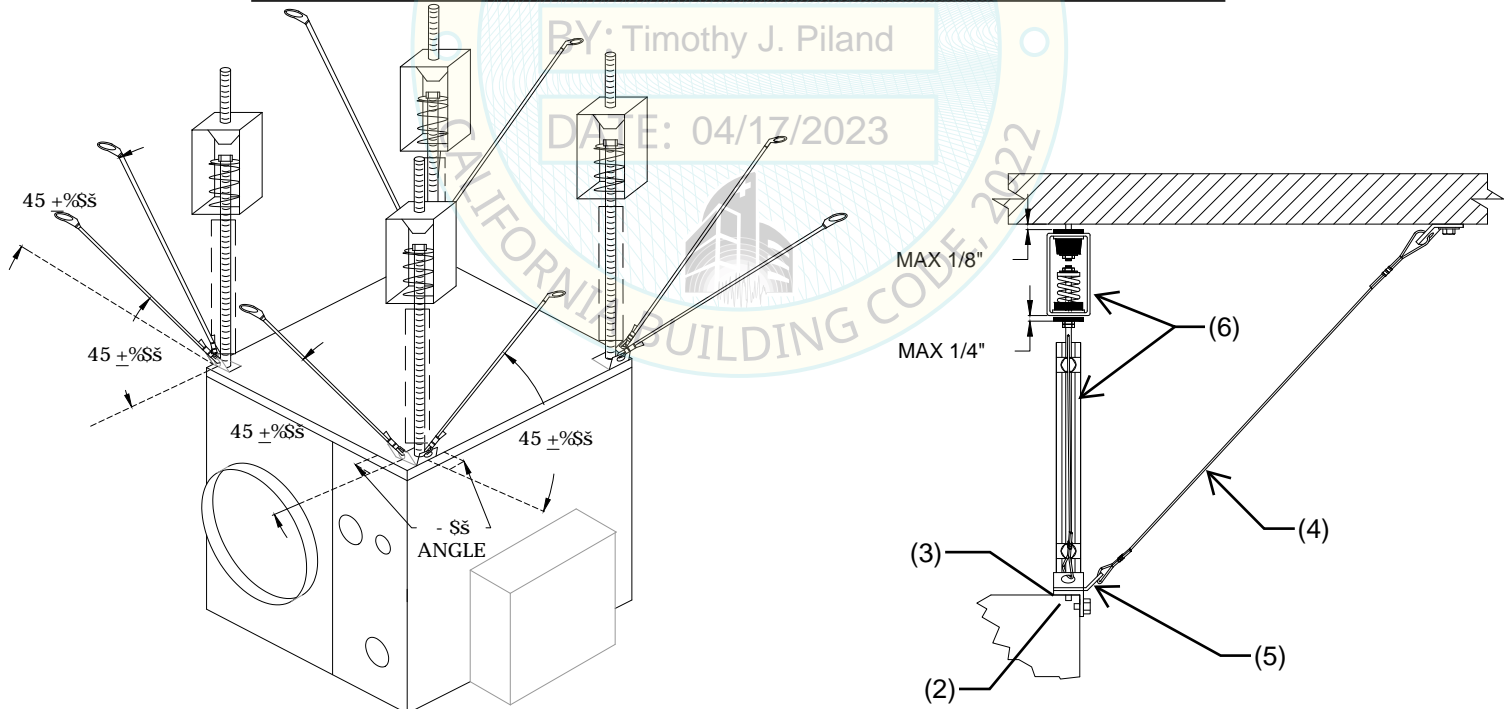
**Unit Mounting Description:**

Spring suspended unit with (4) 3/8" ASTM-A307 rods fastened to the top of the housing through factory swaged 3/8" Rivnut and secured with 3/8" nut. Rod hanging from VIMCO VIMCO HNSA-B1-124 spring hanger with rebound plate below hanger box with max 1/4" gap. Top of Hanger box mounted to the fixture with 3/8" bolt, square washers and nuts. Max 1/8" gap between top of hanger box and fixture. Unistrut P1000 used to stiffen the rods were fastened with Mason (2 per rod) UC-1 Rod Stiffening Clamps. Seismic bracing with (8) Gripple GS-19 brace with 3/16-inch diameter cable attached to structure using 1/2" A307 hardware. Brace attached to top of unit with 3/8" rod through Gripple R4 bracket. See page 18 of 19 for support details.

### TYPICAL INSTALLATION DIAGRAM WITH FOUR CABLE BRACE



### TYPICAL INSTALLATION DIAGRAM WITH FOUR CABLE BRACE

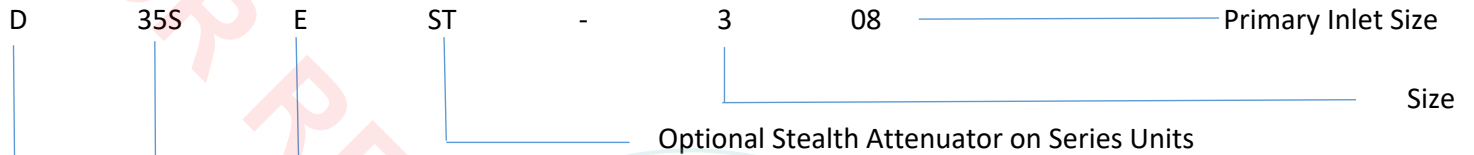


**NOTES:**

- (1) A TO B RATIO MUST BE 1.5 OR GREATER. IF A TO B IS LESS THAN 1.5, THEN EIGHT (8) CABLES MUST BE USED.
- (2) UNIT SUPPORTED 3/8" RIVNUT FACTORY SWAGED THROUGH CORNER BRACKET.
- (3) 2 X 2 X 12GA FACTORY SWAGED TO TO UNIT WITH TWO (2) 3/8" RIVNUT.
- (4) SEISMIC CABLE BRACE. SEE TABLE 33 FOR MODEL, SIZE AND QUANTITY.
- (5) SEISMIC CABLE BRACE ATTACHMENT BRACKET CORRESPONDING TO CABLE BRACE. SEE TABLE 33 FOR MODEL, SIZE AND QUANTITY. CLAMP TO TOP OF UNIT WITH 3/8" NUT. INSTALL PER BRACE MANUFACTURERS INSTRUCTIONS.
- (6) SPRING ISOLATOR SUSPENDED UNIT WITH 3/8" ASTM-A307 RODS FASTENED TO WITH 3/8" RIVNUT AND NUT. SEE UUT SHEETS FOR SPRING HANGER MODEL AND SIZE. ROD STIFFENED WITH UNISTRUT P1000 CLIPPED TO ROD WITH MASON UC-1 ROD STIFFENING CLAMPS. INSTALL PER MANUFACTURERS INSTRUCTIONS.



## Fan Powered Terminal Unit Nomenclature



Supplemental Heat	
E	Electric Heat
W	Hot Water Heat
--	None

FPTU Model	
35S	Standard Series Fan Unit with induced air
35N	Standard Parallel Fan Unit with induced air
37S	Low profile Series Fan Unit with induced air
37N	Low profile Parallel Fan Unit with induced air
33SZ	Series Fan Unit with sensible cooled induced air

Controller Options	
D	Digital electronic control
A	Analog electric control
P	Pneumatic control